2024 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT CLASS 3 LANDFILL AREA 1 WINYAH GENERATING STATION

by Santee Cooper
Moncks Corner, South Carolina

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1. Annual Groundwater Monitoring Report Summary

The South Carolina Public Service Authority (Santee Cooper) has prepared this 2024 Annual Groundwater Monitoring Corrective Action Report for the closed coal combustion residuals (CCR) management unit referred to as Class 3 Landfill Area 1 located at the Winyah Generating Station (WGS) in Georgetown, South Carolina. This 2024 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 April 17, 2015 (CCR Rule), specifically subsection § 257.90(e)(1) through (6).

The WGS Class 3 Landfill Area 1 is a CCR unit with a shared footprint within a former CCR unit, the closed Unit 2 Slurry Pond. Of note, the Unit 2 Slurry Pond was an inactive CCR Pond as defined by 40 CFR § 257.53 prior to, and following, the effective date of the CCR Rule. 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 Environmental Services (SCDES), formerly the South Carolina Department of Health and Environmental Control (SCDHEC), certified closure by removal was complete in accordance with SCDES regulations on November 9, 2017. Afterwards, Santee Cooper constructed the Class 3 Landfill Area 1 within the footprint of the excavated and closed Unit 2 Slurry Pond. Because both units occupy the same space, the groundwater monitoring network installed to monitor the Class 3 Landfill Area 1 was also appropriate for the closed Unit 2 Slurry Pond and complied with § 257.91. Santee Cooper certified closure by removal on July 10, 2023, for the closed Unit 2 Slurry Pond in accordance with § 257.102(c). Therefore, beginning with the 2024 annual reporting period, the closed Unit 2 Slurry Pond no longer requires groundwater monitoring or annual reporting.

As background on the Class 3 Landfill Area 1, construction was completed in 2018 and operations commenced November 2, 2018, with the initial placement of waste. The initial statistical analysis conducted following the first round of detection monitoring identified statistically significant increases (SSIs) above background levels of one or more Appendix III constituents. Since Landfill Area 1 was constructed in the excavated footprint of a previously existing industrial wastewater pond, the Closed Unit 2 Slurry Pond, and Appendix III constituents were detected during baseline sampling prior to the initial placement of waste in the landfill, an ASD was conducted in 2019, as defined in 40 CFR §257.94(e)(2). The initial 2019 ASD found the Closed Unit 2 Slurry Pond was the alternate source of the SSIs identified during 2019 detection monitoring. The ASD compared groundwater quality conditions downgradient of Landfill Area 1 (prior to receiving CCRs) to the Appendix III constituent concentrations detected after Landfill Area 1 began operations. The ASD's conclusion was not unexpected because the Appendix III constituents contributed to the Closed Unit 2 Slurry Pond were identified in groundwater prior to initial placement of CCRs in Landfill Area 1. Of note, the Closed Unit 2 Slurry Pond is now closed by removal with state regulatory approvals and certified closed by removal on July 10, 2023, in accordance with § 257.102(c).

On June 14, 2024, all CCR material placement into the Class 3 Landfill Area 1 ceased, which officially initiated closure. Santee Cooper placed a Notice of Intent to Initiate Closure of the landfill in the operating record and on the public website dated June 28, 2024, in accordance with §257.102(g) and §257.107(i)(1). Additionally, a Notice of Intent to Close was submitted to SCDES on February 7, 2024, to comply with the state Class 3 Landfill Permit #LF3-00042 requirements. The Class 3 Landfill Area 1 ceased closure activities on July 24, 2024. Santee Cooper provided a Notification of Closure on August 20, 2024, in accordance with §257.102(h). A Certification of Closure was also provided to SCDES on August 23, 2024. SCDES approved final closure of the Class 3 Landfill Area 1 on October 9, 2024.

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, 2024), the Class 3 Landfill Area 1 continued to operate under a detection monitoring program in accordance with § 257.94. As a result of successful alternate source demonstrations (ASDs), Appendix III constituents were analyzed for the Class 3 Landfill Area 1 for SSIs using an intrawell statistical test consistent with the Unified Guidance.

An SSI of calcium at monitoring well WLF-A1-2 and an SSI for chloride was identified in monitoring well WLF-A1-5 during the 2024 groundwater monitoring. A successful ASD was completed in October 2024 which provided evidence that the SSIs continued to be due to the Closed Unit 2 Slurry Pond and also due to statistical limitations for the calcium SSI. Therefore, at the end of the current annual reporting period (December 31, 2024), the Class 3 Landfill Area 1 remained in detection monitoring.

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) and (c)

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.

Once a groundwater monitoring system and groundwater monitoring program has been established at the CCR unit as required by this subpart, the owner or operator must conduct groundwater monitoring and, if necessary, corrective action through the active life and post-closure care period of the CCR unit.

The Class 3 Landfill Area 1 at the WGS is 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 2024 for the Class 3 Landfill Area 1 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

With the initial detection monitoring event for the Class 3 Landfill Area 1, SSIs of Appendix III constituents (boron, calcium, chloride, pH, sulfate, and total dissolved solids) were identified in multiple downgradient wells; therefore, notification was provided and an evaluation of alternate sources was conducted for the Class 3 Landfill Area 1. The successful ASD completed in October 2019 concluded that the excavated and closed Unit 2 Slurry Pond was responsible for the Appendix III SSIs and the Class 3 Landfill Area 1 was not the source. Thus, the Class 3 Landfill Area 1 continued in detection monitoring.

New SSIs of boron, chloride, and fluoride were identified for the Class 3 Landfill Area 1 in 2022. Thus, a second ASD was conducted to evaluate the potential of Class 3 Landfill Area 1 as a contributing source to the SSIs. The second successful ASD supported the findings of the initial ASD and provided evidence that the Class 3 Landfill Area 1 was not a contributing source. This successful ASD, which again identified the closed Unit 2 Slurry Pond as the source of the Class 3 Landfill Area 1's Appendix III SSIs, was completed and placed in the operating record on October 25, 2022, and the Class 3 Landfill Area 1 remained in detection monitoring pursuant to § 257.94(e)(2).

An SSI of calcium at monitoring well WLF-A1-2 and an SSI for chloride was identified in monitoring well WLF-A1-5 during the 2024 groundwater monitoring program's statistical analyses. A successful ASD was completed in October 2024 which again provided evidence that the SSIs continued to be due to the Closed Unit 2 Slurry Pond. Additionally, statistical limitations were an alternate source regarding the calcium SSI. Therefore, at the end of the current annual reporting period (December 31, 2024), the Class 3 Landfill Area 1 remained in detection monitoring. The statistical analyses are provided in Appendix A and the 2024 ASD is provided in Appendix C.

2.2.2 Key Actions Completed

The following key actions were completed in 2024:

- Prepared 2023 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 (February and July) 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.

- Completed statistical evaluations to determine statistically significant increases for Appendix III constituents in accordance with § 257.93(h)(2) (Appendix A).
- Ceased all CCR material placement into the Class 3 Landfill Area 1 and initiated closure by capping the landfill on June 14, 2024.
- Placed a Notice of Intent to Initiate Closure of the landfill in the operating record and on the public website dated June 28, 2024, in accordance with §257.102(g) and §257.107(i)(1).
- Submitted a Notice of Intent to Close to SCDES on February 7, 2024.
- The Class 3 Landfill Area 1 ceased closure activities on July 24, 2024.
- Provided a Notification of Closure on August 20, 2024, in accordance with §257.102(h).
- Provided a Certification of Closure to SCDES on August 23, 2024.
- Received final closure approval from SCDES for the Class 3 Landfill Area 1 on October 9, 2024.
- Recorded a Landfill Notation to Deed on the property of the Class 3 Landfill Area 1 on November 1, 2024, in accordance with §257.102(i).
- Provided notification of the recording of the Landfill Notation to Deed on December 16, 2024, in accordance with §257.106(i)(9).
- Continued with improved potentiometric surface characterization of the uppermost aquifer given changing site conditions by completing sitewide synoptic water level measurements on an approximately quarterly basis to continue to evaluate temporal changes.
- Continued evaluation of turbidity, oxidation-reduction potential, and well screen submersion trends sitewide in wells and to identify wells to be redeveloped by a certified well driller to remove buildup of sediment fines and suspected biofouling on the well screens. A submersible camera was also used where applicable to investigate wells with unsubmerged screens prior to redevelopment.

2.2.3 Problems Encountered

No problems were encountered.

2.2.4 Actions to Resolve Problems

No actions were required.

2.2.5 Project Key Activities for Upcoming Year

Key activities to be completed in 2025 include the following:

- Prepare the 2024 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)].
- Conduct semi-annual groundwater monitoring as required by § 257.94.
- Conduct statistical analysis of the detection monitoring analytical data to determine if SSIs of the detected Appendix III constituents are present for the Class 3 Landfill Area 1 and verify on-going validity of the certified October 2019, October 2022, and October 2024 ASDs.
- Continue improving the potentiometric surface characterization of the uppermost aquifer given changing site conditions by expanding the number of locations for collecting surface water elevations from unlined ponds.

- Conduct redevelopment on any wells that were identified during the 2024 well investigation program.

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 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;

Monitoring wells were neither installed nor decommissioned during 2024.

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. 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 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), Haley & Aldrich performed a statistical analysis of the Appendix III constituents detected in groundwater downgradient of the Class 3 Landfill Area 1 to evaluate the potential for SSIs. A summary of the statistical evaluation is provided in Appendix A of this report.

As noted earlier in this Annual Report, new SSIs of boron, chloride, and fluoride were identified for the Class 3 Landfill Area 1 in 2022. Because these were new SSIs associated with monitoring the Class 3 Landfill Area 1, a second ASD was conducted to evaluate the potential of Class 3 Landfill Area 1 as a contributing source to the SSIs. The second successful ASD supported the findings of the initial ASD and provided evidence that the Class 3 Landfill Area 1 was not a contributing source. This successful ASD, which again identified the closed Unit 2 Slurry Pond as the source of the Class 3 Landfill Area 1's Appendix III SSIs, was completed and placed in the operating record on October 25, 2022. SSIs in the 2023 groundwater monitoring events are supported by these two successful ASDs. Additional SSIs of calcium and chloride were identified during the February and July sampling events of 2024, respectively. A third ASD was completed in October 2024, successfully attributing these new SSIs to statistical limitations and again, to the previously existing Closed Unit 2 Slurry Pond. The statistical analyses are provided in Appendix A and the ASD is provided in Appendix C.

Therefore, the Class 3 Landfill Area 1 remains in the detection monitoring program as required by § 257.94(e)(2).

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.

This Annual Report documents activities conducted to comply with Sections § 257.90 through § 257.94 of the CCR Rule. There are no applicable requirements from Sections § 257.95 through § 257.98.

Groundwater flow rate and direction are provided as Figures 2, 3, 4, and 5 for each synoptic water level event as specified in § 257.93(c).

TABLES

Table 1 - Summary of Analytical Results
Winyah Generating Station Class 3 Landfill Area 1 Detection Monitoring 2024

					Appendix III Constituents							Field Parameters							
Well ID	Purpose	Date of Sample Event	Laboratory Sample ID Number		Boron	Calcium	Chloride	Fluoride	Sulfate	Total Dissolved Solids	pH	Depth to Groundwater	Groundwater Elevation	pH	Specific Conductivity	Temperature	Oxidation Reduction Potential	Turbidity	Dissolved Oxygen
				Unit	ug/L	mg/L	mg/L	mg/L	mg/L	mg/L	SU	Feet	Feet	SU	uS	C	mv	NTU	ppm
				Method	EPA 6010D	EPA 6020B	EPA 300.0	EPA 300.0	EPA 300.0	SM 2540C							SM2580		
				GWPS/ US EPA MCL/RSL	----	----	----	4.00	----	----	----	----	----	----	----	----	----	----	----
Site Background Wells																			
WBW-A1-1	Background	2/14/24	AF90635		45.1	74.7	12.1	<0.10	186	297.5	4.72	5.54	22.60	4.72	466	18.70	76.0	0	0.950
WBW-A1-1	Background	7/2/24	AG03767		66.1	92.8	13.2	<0.10	252	378.8	4.48	7.34	20.80	4.48	575	21.68	-64.0	0.300	1.16
WBW-A1-1	**total samples**				2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Class 3 Landfill Area 1 Wells																			
WAP-7	Detection	2/6/24	AF90602		1420	383	41.3	<0.10	759	1396	5.96	9.28	20.66	5.96	1690	15.98	20.0	0.400	1.62
WAP-7	Detection	7/1/24	AG03731		3590	601	39.2	<0.10	1400	2242	6.43	10.31	19.63	6.43	2470	25.20	-305	0	0.820
WAP-7	**total samples**				2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
WLF-A1-1	Detection	2/13/24	AF90636		456	324	10.1	<0.10	671	1248	6.05	16.32	25.03	6.05	1600	16.62	20.0	0	0.900
WLF-A1-1	Detection	7/11/24	AG03768		455	316	12.4	<0.10	695	1196	6.01	18.10	23.25	6.01	1460	27.77	-64.0	0	0.840
WLF-A1-1	**total samples**				2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
WLF-A1-2	Detection	2/8/24	AF90637		1640	188	80.0	<0.10	381	838.8	5.91	5.51	23.70	5.91	1030	17.02	-106	0	0.680
WLF-A1-2	Detection	7/11/24	AG03769		1220	151	96.9	<0.10	300	666.2	5.71	6.95	22.26	5.71	783	22.40	-217	0	1.00
WLF-A1-2	**total samples**				2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
WLF-A1-3	Detection	2/14/24	AF90638		169	18.4	4.53	<0.10	65.5	91.25	4.42	3.80	24.51	4.42	180	14.70	53.0	0	1.02
WLF-A1-3	Detection	7/11/24	AG03771		131	18.0	4.02	<0.10	69.0	103.8	4.23	6.76	21.55	4.23	179	25.01	-73.0	0	0.970
WLF-A1-3	**total samples**				2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
WLF-A1-4	Detection	2/14/24	AF90639		150	39.8	6.77	<0.10	63.7	187.5	6.19	3.23	25.01	6.19	247	16.09	46.0	0	0.980
WLF-A1-4	Duplicate	2/14/24	AF90640		153	42.3	6.67	<0.10	63.3	182.5	***	***	***	***	***	***	***	***	***
WLF-A1-4	Detection	7/11/24	AG03772		156	43.5	5.99	<0.10	70.9	193.8	5.89	6.35	21.89	5.89	268	22.76	-121	0	0.890
WLF-A1-4	Duplicate	7/11/24	AG03773		160	45.0	5.92	<0.10	70.6	200.0	***	***	***	***	***	***	***	***	***
WLF-A1-4	**total samples**				4	4	4	4	4	4	2	2	2	2	2	2	2	2	2
WLF-A1-5	Detection	2/12/24	AF90641		1910	252	129	<0.10	348	1100	6.88	15.82	21.82	6.88	1520	19.03	24.0	0	0.880
WLF-A1-5	Detection	7/11/24	AG03774		2200	279	183	<0.10	410	1264	6.91	16.61	21.03	6.91	1640	23.61	-140	0	0.930
WLF-A1-5	**total samples**				2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

Notes:

1. All groundwater samples collected from the monitoring wells were analyzed by South Carolina Certified laboratories: Santee Cooper Analytical Services (Certification # 08552), GEL Laboratories, LLC (Certification # 10120), Eurofins (Certification # 98001), Davis & Brown (Certification # 21117), Shealy Environmental Services, Inc (Certification # 32010), Test America Laboratories Inc. Savannah (Certification # 98001), Rogers & Callcot, Inc. (Certification # 23105001), and Pace Analytical Services LLC (Certification #99030).
2. All Background and Detection Monitoring compliance wells have been sampled to meet § 257.94.
3. Due to challenges with laboratory delays, all groundwater samples were not analyzed by a single laboratory. This accounts for the majority of the reporting limit variability. Matrix interference also contributed to variable RLs.
4. Depth to groundwater is measured below the top of the casing (btoc) to the water surface. Elevation is shown relative to mean sea level (msl).
5. *** means not collected. Mainly pertinant for duplicate samples.

Table 2
Cross Generating Station
2024 Synoptic Water Levels for Groundwater Monitoring Wells

		1st Event - 1/3/2024		2nd Event - 4/9/2024		3rd Event - 6/3/2024		4th Event - 11/6/2024	
Well Name	Top of Casing Elevation (ft msl)	Depth to Groundwater (ft btoc)	GW Elevation (ft msl)	Depth to Groundwater (ft btoc)	GW Elevation (ft msl)	Depth to Groundwater (ft btoc)	GW Elevation (ft msl)	Depth to Groundwater (ft btoc)	GW Elevation (ft msl)
PM-1	83.24	7.75	75.49	8.14	83.24	8.50	74.74	9.13	74.11
CBW-1	85.80	8.50	77.30	9.12	85.80	10.41	75.39	11.47	74.33
CAP-1	82.70	8.50	74.20	6.61	82.70	7.66	75.04	8.40	74.30
CAP-2	89.70	15.10	74.60	15.91	89.70	16.98	72.72	17.69	72.01
CAP-3	91.49	14.70	76.79	15.47	91.49	16.54	74.95	17.34	74.15
CAP-4	91.77	15.05	76.72	15.77	91.77	16.97	74.80	17.81	73.96
CAP-5	91.78	14.60	77.18	15.26	91.78	17.66	74.12	18.67	73.11
CAP-6	91.82	14.65	77.17	15.89	91.82	18.05	73.77	18.94	72.88
CAP-7	91.64	14.75	76.89	15.19	91.64	17.57	74.07	18.52	73.12
CAP-8	91.61	15.95	75.66	16.67	91.61	18.30	73.31	18.98	72.63
CAP-9	91.59	14.35	77.24	14.62	91.59	17.82	73.77	18.73	72.86
CAP-10	95.68	20.25	75.43	21.12	95.68	22.40	73.28	13.11	82.57
CAP-11	95.55	19.20	76.35	18.72	95.55	20.71	74.84	21.31	74.24
CAP-12	98.33	22.25	76.08	23.72	98.33	24.13	74.20	24.73	73.60
CAP-13	80.77	4.35	76.42	4.83	80.77	7.65	73.12	8.76	72.01
CAP-14	80.77	4.15	76.62	4.78	80.77	7.77	73.00	8.93	71.84
CCMLF-1	80.86	3.45	77.41	4.00	80.86	7.11	73.75	7.95	72.91
CCMLF-1D	80.65	3.20	77.45	3.74	80.65	6.89	73.76	7.74	72.91
CCMLF-2	84.08	6.75	77.33	7.43	84.08	11.53	72.55	12.74	71.34
POZ-3	82.61	4.30	78.31	4.98	82.61	7.80	74.81	8.98	73.63
POZ-4	82.73	3.95	78.78	5.07	82.73	8.34	74.39	9.35	73.38
POZ-5D	82.49	4.15	78.34	5.21	82.49	8.56	73.93	9.57	72.92
POZ-6	83.84	5.80	78.04	6.44	83.84	9.86	73.98	10.93	72.91
POZ-7	82.02	3.95	78.07	4.77	82.02	7.44	74.58	8.29	73.73
POZ-8	83.13	4.80	78.33	5.84	83.13	9.12	74.01	10.15	72.98
CLF1B-1	83.76	6.00	77.76	6.66	83.76	8.70	75.06	9.68	74.08
CLF1B-2	82.04	4.35	77.69	5.05	82.04	7.18	74.86	8.19	73.85
CLF1B-3	82.75	3.95	78.80	5.82	82.75	8.18	74.57	9.18	73.57
CLF1B-4	82.74	3.85	78.89	5.80	82.74	8.55	74.19	9.59	73.15
CLF1B-5	81.09	3.40	77.69	4.23	81.09	7.32	73.77	8.31	72.78
CLF1B-5D	80.93	3.85	77.08	4.55	80.93	7.72	73.21	8.82	72.11
CCMAP-1	80.21	4.50	75.71	5.10	80.21	7.61	72.60	8.45	71.76
CCMAP-2	81.24	6.50	74.74	7.14	81.24	8.02	73.22	8.55	72.69
CCMAP-3	81.91	6.15	75.76	6.92	81.91	8.58	73.33	8.95	72.96
CCMAP-4	81.83	4.45	77.38	5.19	81.83	7.64	74.19	8.60	73.23
CCMAP-5	83.71	6.15	77.56	6.93	83.71	9.33	74.38	10.29	73.42
CCMAP-6	84.41	7.90	76.51	8.45	84.41	11.61	72.80	12.57	71.84
CCMAP-7	81.57	7.05	74.52	7.59	81.57	8.21	73.36	8.93	72.64
CCMAP-8	82.89	6.40	76.49	6.99	82.89	9.80	73.09	10.72	72.17
CCMAP-9	82.51	6.00	76.51	6.62	82.51	9.75	72.76	10.80	71.71
CCMAP-10	81.80	5.55	76.25	6.08	81.80	9.10	72.70	10.01	71.79
CCMAP-11	80.29	4.00	76.29	5.01	80.29	8.11	72.18	9.10	71.19
CCMAP-12	80.58	4.75	75.83	5.71	80.58	7.42	73.16	8.00	72.58
CCMAP-13	80.11	4.55	75.56	5.36	80.11	6.93	73.18	7.60	72.51
CCMAP-14	78.64	4.40	74.24	4.71	78.64	5.43	73.21	6.04	72.60
CGYP-1	91.89	15.95	75.94	19.69	91.89	17.56	74.33	17.98	73.91
CGYP-2	84.88	8.50	76.38	13.20	84.88	10.56	74.32	11.01	73.87
CGYP-3	83.95	6.95	77.00	9.41	83.95	9.37	74.58	9.84	74.11
CGYP-4	83.49	6.65	76.84	8.27	83.49	8.20	75.29	8.60	74.89
CGYP-5	84.12	7.90	76.22	9.09	84.12	8.14	75.98	8.35	75.77
CGYP-6	83.93	7.15	76.08	-	-	9.46	74.47	9.91	74.02
CGYP-7	85.37	9.20	76.17	13.10	85.37	10.97	74.40	11.42	73.95
CGSPZ-1	83.31	7.45	75.86	8.64	83.31	8.61	74.70	9.22	74.09
CGSPZ-2	82.56	6.70	75.86	9.38	82.56	8.29	74.27	8.55	74.01
CGSPZ-3	82.85	4.75	78.10	6.19	82.85	9.91	72.94	10.51	72.34
CGSPZ-4	81.28	3.80	77.48	4.82	81.28	7.68	73.60	8.73	72.55
CGSPZ-5	80.56	2.75	77.81	5.39	80.56	8.27	72.29	9.62	70.94
CCMGP-1	84.30	8.15	76.15	13.43	84.30	10.07	74.23	10.53	73.77
CCMGP-2	96.73	20.05	76.68	24.20	96.73	22.54	74.19	22.97	73.76
CCMGP-3	84.44	8.45	75.99	12.38	84.44	10.54	73.90	10.97	73.47
CCMGP-4	84.82	8.50	76.32	12.78	84.82	10.31	74.51	10.79	74.03
CCMGP-5	79.91	4.70	75.21	6.06	79.91	6.56	73.35	7.08	72.83
CGS-PSE-1	-	-	75.07	-	75.27	-	74.97	-	74.80
CGS-PSE-2	-	-	81.99	-	80.27	-	79.30	-	76.85
CGS-PSE-3	-	-	79.52	-	76.88	-	76.49	-	76.52
CGS-PSE-4	-	-	76.37	-	75.64	-	74.88	-	75.43
CGS-PSE-5	-	-	78.50	-	77.28	-	76.57	-	76.49
CGS-PSE-6	-	-	74.71	-	74.58	-	74.46	-	74.21
CGS-PSE-7	-	-	83.35	-	85.75	-	85.30	-	86.29
CGYPSW-1-WSE	-	-	75.13	-	75.16	-	74.88	-	74.93
CGYPSW-2-WSE	-	-	75.15	-	75.18	-	75.02	-	75.01
CGYPSW-3-WSE	-	-	75.49	-	75.37	-	75.45	-	75.26
CGYPSW-4-WSE	-	-	75.83	-	75.69	-	75.76	-	75.75
CGYPSW-6-WSE	-	-	75.12	-	75.17	-	74.85	-	74.70
CGYPSW-7-WSE	-	-	75.15	-	75.20	-	74.83	-	74.76
CGYPSW-8-WSE	-	-	75.14	-	75.23	-	74.86	-	74.79
GMPSW-WET-1SWE	-	-	75.98	-	75.81	-	74.35	-	74.24
GMPSW-WET-2SWE	-	-	75.55	-	75.34	-	74.49	-	74.50
GMPSW-CPD-1SWE	-	-	78.47	-	77.62	-	77.38	-	77.74
STAFF GAUGE	-	-	76.80	-	76.45	-	-	-	-
STAFF GAUGE	-	-	76.63	-	76.48	-	-	-	-

Notes:

1. Additional groundwater monitoring wells used for development of potentiometric maps. These wells monitor groundwater constituent concentrations under the SCDES NPDES Permit #SC0037401 and are not used for CCR constituent concentrations.

2. Depth to Groundwater is measured below the top of casing (btoc) to the water surface. The Top of Casing Elevation and GW Elevation are shown relative to the mean sea level (msl).

3. Pond surface elevations (PSE) and staff gauge elevations were collected to aid in the potentiometric surface interpretation elevation.

FIGURES

LEGEND

- CLASS 3 LANDFILL AREA 1 BACKGROUND WELL
- UNIT 2 SLURRY POND/CLASS 3 LANDFILL AREA 1 WELL
- CCR UNIT BOUNDARY
- PROPERTY BOUNDARY
- POND WATER SURFACE ELEVATION MEASUREMENT LOCATION

NOTES

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

N

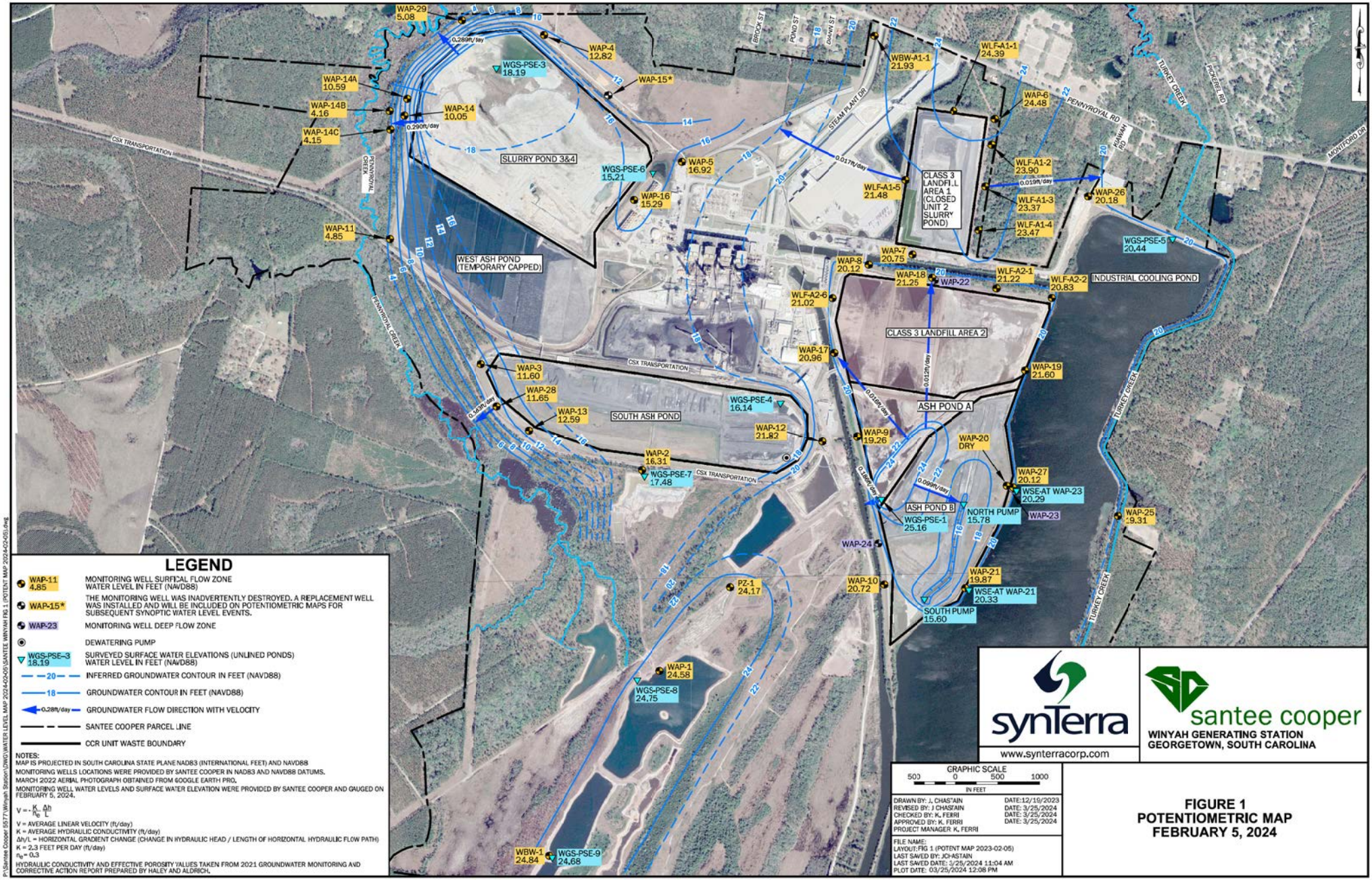
0 370 740
SCALE IN FEET

SANTEE COOPER
WINYAH GENERATING STATION
GEORGETOWN, SOUTH CAROLINA

LOCATION OF CLASS 3 LANDFILL AREA 1 GROUNDWATER MONITORING WELLS FOR CCR COMPLIANCE

JANUARY 2024

FIGURE 1



LEGEND

- WAP-11 4.85 — MONITORING WELL SURFICAL FLOW ZONE WATER LEVEL IN FEET (NAVD88)
- WAP-15* — THE MONITORING WELL WAS INADVERTENTLY DESTROYED. A REPLACEMENT WELL WAS INSTALLED AND WILL BE INCLUDED ON POTENTIOMETRIC MAPS FOR SUBSEQUENT SYNOPTIC WATER LEVEL EVENTS.
- WAP-23 — MONITORING WELL DEEP FLOW ZONE
- DEWATERING PUMP
- WGS-PSE-3 18.19 — SURVEYED SURFACE WATER ELEVATIONS (UNLINED PONDS) WATER LEVEL IN FEET (NAVD88)
- 20 — INFERRED GROUNDWATER CONTOUR IN FEET (NAVD88)
- 18 — GROUNDWATER CONTOUR IN FEET (NAVD88)
- 0.28ft/day — GROUNDWATER FLOW DIRECTION WITH VELOCITY
- SANTEE COOPER PARCEL LINE
- CCR UNIT WASTE BOUNDARY

NOTES:
MAP IS PROJECTED IN SOUTH CAROLINA STATE PLANE NAD83 (INTERNATIONAL FEET) AND NAVD88
MONITORING WELLS LOCATIONS WERE PROVIDED BY SANTEE COOPER IN NAD83 AND NAVD88 DATUMS.
MARCH 2022 AERIAL PHOTOGRAPH OBTAINED FROM GOOGLE EARTH PRO.
MONITORING WELL WATER LEVELS AND SURFACE WATER ELEVATION WERE PROVIDED BY SANTEE COOPER AND GAUGED ON FEBRUARY 5, 2024.

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

V = AVERAGE LINEAR VELOCITY (ft/day)
K = AVERAGE HYDRAULIC CONDUCTIVITY (ft/day)
Δh/L = HORIZONTAL GRADIENT CHANGE (CHANGE IN HYDRAULIC HEAD / LENGTH OF HORIZONTAL HYDRAULIC FLOW PATH)
K = 2.3 FEET PER DAY (ft/day)
n_e = 0.3
HYDRAULIC CONDUCTIVITY AND EFFECTIVE POROSITY VALUES TAKEN FROM 2021 GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT PREPARED BY HALEY AND ALDRICH.

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santee cooper
WINYAH GENERATING STATION
GEORGETOWN, SOUTH CAROLINA

GRAPHIC SCALE
500 0 500 1000
IN FEET

DRAWN BY: J. CHASTAIN	DATE:12/19/2023
REVISED BY: J CHASTAIN	DATE: 3/25/2024
CHECKED BY: K. FERRI	DATE: 3/25/2024
APPROVED BY: K. FERRI	DATE: 3/25/2024
PROJECT MANAGER: K. FERRI	

FILE NAME:
LAYOUT: FIG 1 (POTENT MAP 2023-02-05)
LAST SAVED BY: JCHASTAIN
LAST SAVED DATE: 3/25/2024 11:04 AM
PLOT DATE: 03/25/2024 12:08 PM

FIGURE 1
POTENTIOMETRIC MAP
FEBRUARY 5, 2024

P:\Santee Cooper 5577\Winyah Station\DWG\WATER LEVEL MAP 2024-02-05\SANTEE WINYAH FIG 1 (POTENT MAP 2024-02-05).dwg

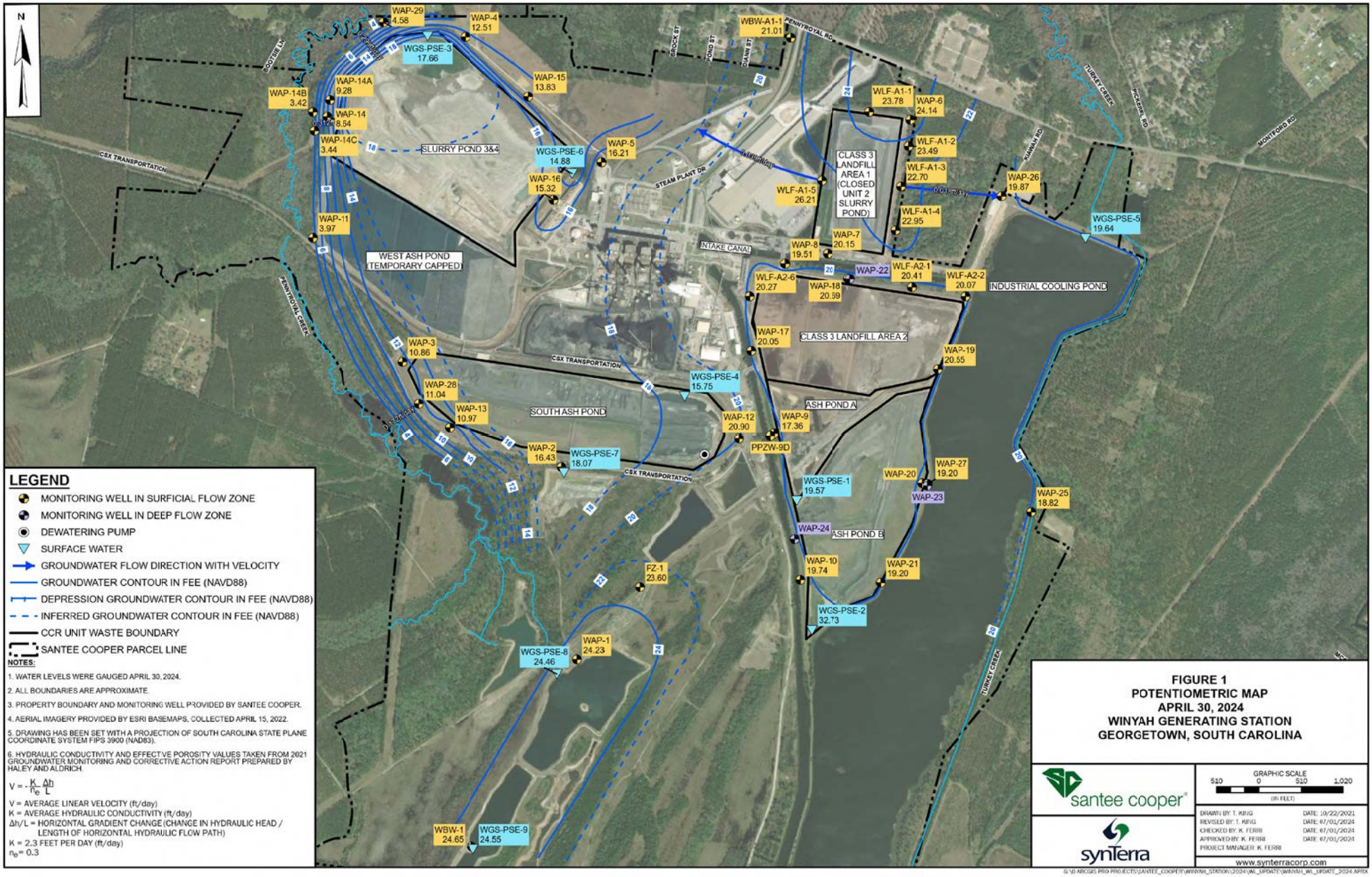

FIGURE 1
POTENTIOMETRIC MAP
APRIL 30, 2024
WINYAH GENERATING STATION
GEORGETOWN, SOUTH CAROLINA

santee cooper

synTerra

GRAPHIC SCALE
510 0 510 1,020
(IN FEET)

DRAWN BY: T. KING	DATE: 10/22/2021
REVISED BY: T. KING	DATE: 07/01/2024
CHECKED BY: K. FERRI	DATE: 07/01/2024
APPROVED BY: K. FERRI	DATE: 07/01/2024
PROJECT MANAGER: K. FERRI	

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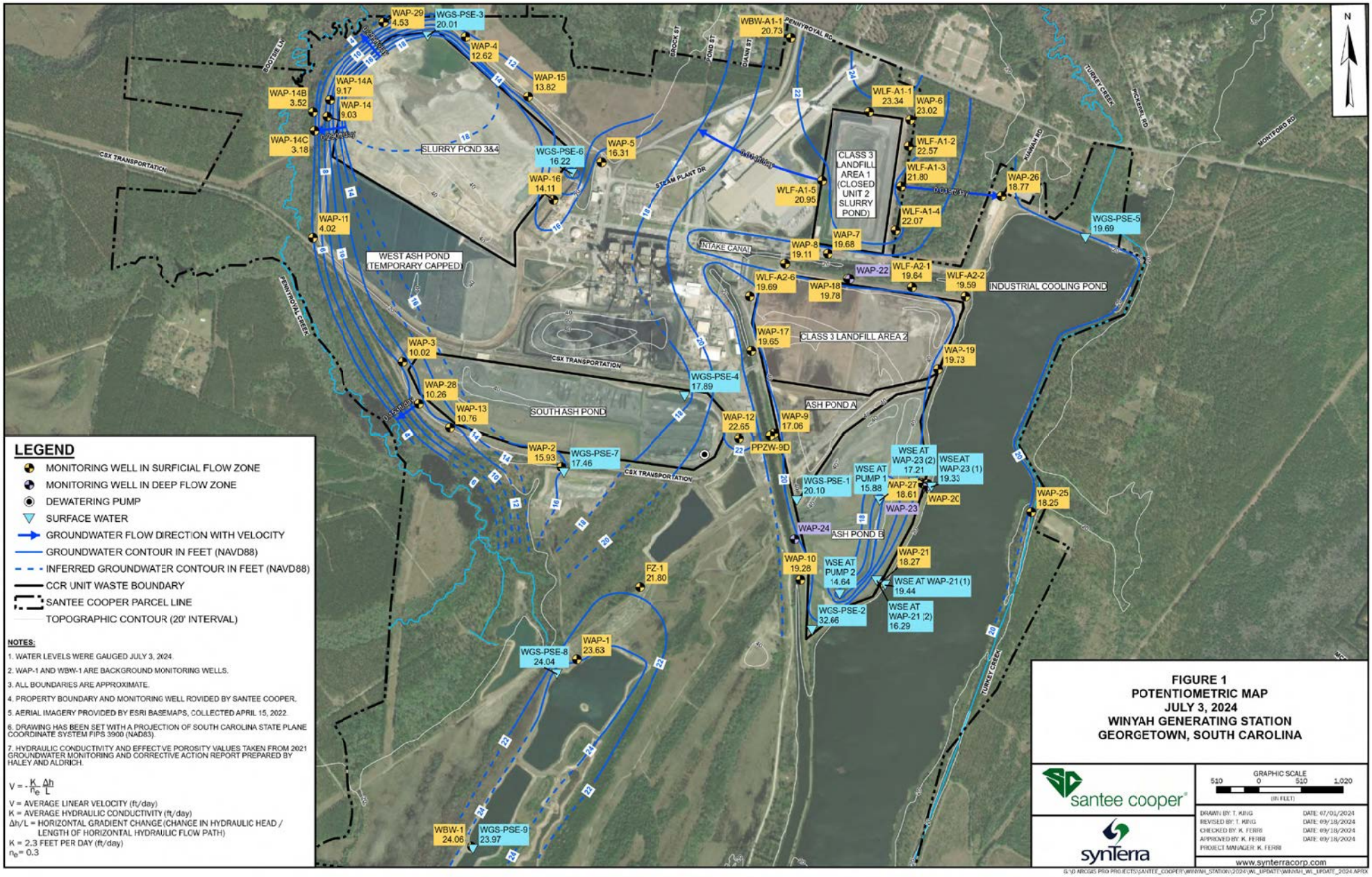

LEGEND

- MONITORING WELL IN SURFICIAL FLOW ZONE
- MONITORING WELL IN DEEP FLOW ZONE
- DEWATERING PUMP
- SURFACE WATER
- GROUNDWATER FLOW DIRECTION WITH VELOCITY
- GROUNDWATER CONTOUR IN FEET (NAVD88)
- INFERRED GROUNDWATER CONTOUR IN FEET (NAVD88)
- CCR UNIT WASTE BOUNDARY
- SANTEE COOPER PARCEL LINE
- TOPOGRAPHIC CONTOUR (20' INTERVAL)

NOTES:

1. WATER LEVELS WERE GAUGED JULY 3, 2024.
2. WAP-1 AND WBW-1 ARE BACKGROUND MONITORING WELLS.
3. ALL BOUNDARIES ARE APPROXIMATE.
4. PROPERTY BOUNDARY AND MONITORING WELL ROVIDED BY SANTEE COOPER.
5. AERIAL IMAGERY PROVIDED BY ESRI BASEMAPS, COLLECTED APRIL 15, 2022.
6. DRAWING HAS BEEN SET WITH A PROJECTION OF SOUTH CAROLINA STATE PLANE COORDINATE SYSTEM FIPS 3900 (NAD83).
7. HYDRAULIC CONDUCTIVITY AND EFFECTVE POROSITY VALUES TAKEN FROM 2021 GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT PREPARED BY HALEY AND ALDRICH.

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

V = AVERAGE LINEAR VELOCITY (ft/day)
K = AVERAGE HYDRAULIC CONDUCTIVITY (ft/day)
Δh/L = HORIZONTAL GRADIENT CHANGE (CHANGE IN HYDRAULIC HEAD / LENGTH OF HORIZONTAL HYDRAULIC FLOW PATH)
K = 2.3 FEET PER DAY (ft/day)
n_e = 0.3

FIGURE 1
POTENTIOMETRIC MAP
JULY 3, 2024
WINYAH GENERATING STATION
GEORGETOWN, SOUTH CAROLINA

santee cooper

synTerra

GRAPHIC SCALE
510 0 510 1,020
(IN FEET)

DRAWN BY: T. KING	DATE: 07/01/2024
REVISED BY: T. KING	DATE: 09/18/2024
CHECKED BY: K. FERRI	DATE: 09/18/2024
APPROVED BY: K. FERRI	DATE: 09/18/2024
PROJECT MANAGER: K. FERRI	

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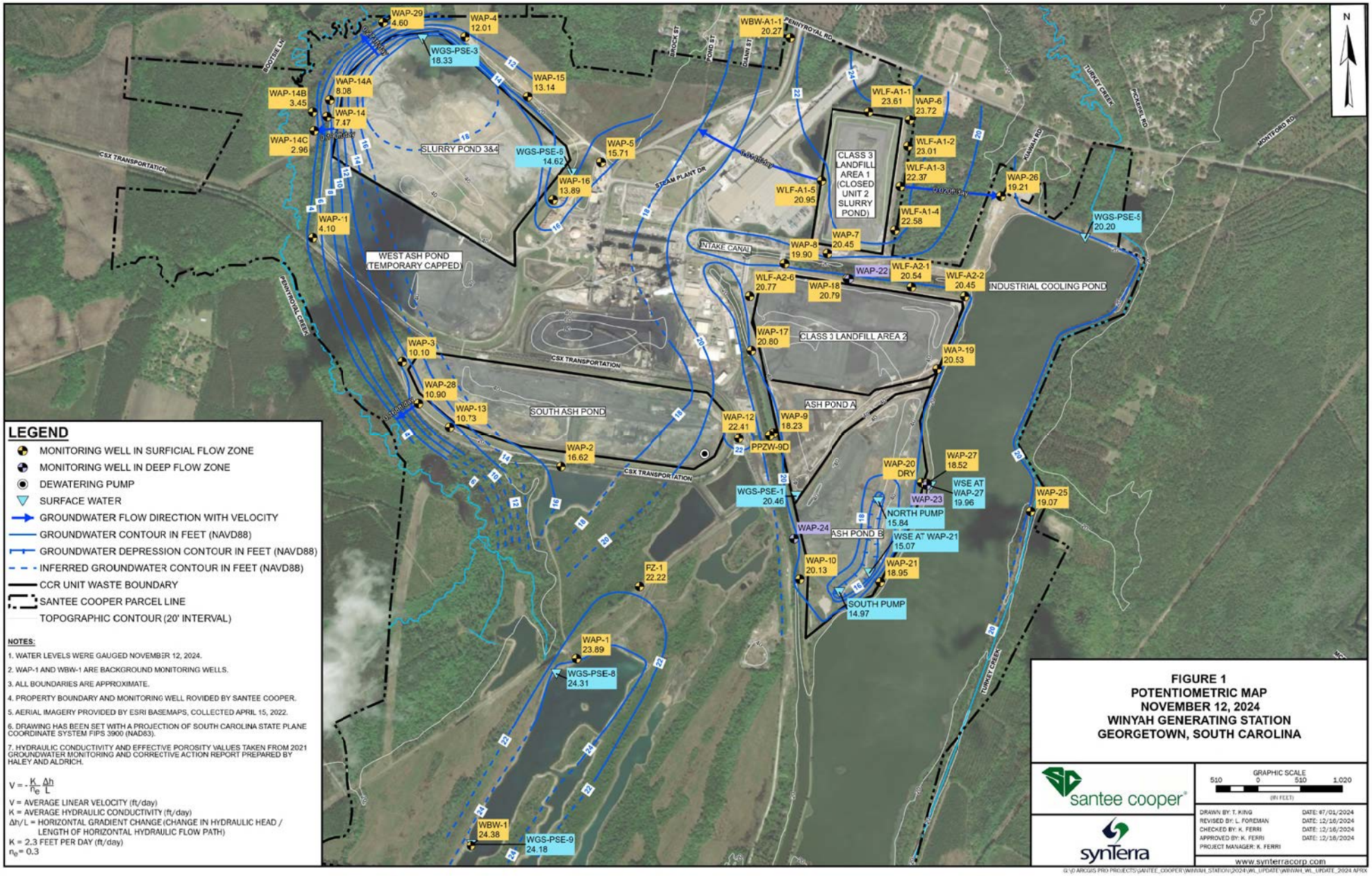

LEGEND

- MONITORING WELL IN SURFICIAL FLOW ZONE
- MONITORING WELL IN DEEP FLOW ZONE
- DEWATERING PUMP
- SURFACE WATER
- GROUNDWATER FLOW DIRECTION WITH VELOCITY
- GROUNDWATER CONTOUR IN FEET (NAVD88)
- GROUNDWATER DEPRESSION CONTOUR IN FEET (NAVD88)
- INFERRED GROUNDWATER CONTOUR IN FEET (NAVD88)
- CCR UNIT WASTE BOUNDARY
- SANTEE COOPER PARCEL LINE
- TOPOGRAPHIC CONTOUR (20' INTERVAL)

NOTES:

1. WATER LEVELS WERE GAUGED NOVEMBER 12, 2024.
2. WAP-1 AND WBW-1 ARE BACKGROUND MONITORING WELLS.
3. ALL BOUNDARIES ARE APPROXIMATE.
4. PROPERTY BOUNDARY AND MONITORING WELL ROVIDED BY SANTEE COOPER.
5. AERIAL IMAGERY PROVIDED BY ESRI BASEMAPS, COLLECTED APRIL 15, 2022.
6. DRAWING HAS BEEN SET WITH A PROJECTION OF SOUTH CAROLINA STATE PLANE COORDINATE SYSTEM FIPS 3900 (NAD83).
7. HYDRAULIC CONDUCTIVITY AND EFFECTIVE POROSITY VALUES TAKEN FROM 2021 GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT PREPARED BY HALEY AND ALDRICH.

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

V = AVERAGE LINEAR VELOCITY (ft/day)
K = AVERAGE HYDRAULIC CONDUCTIVITY (ft/day)
$\Delta h/L$ = HORIZONTAL GRADIENT CHANGE (CHANGE IN HYDRAULIC HEAD / LENGTH OF HORIZONTAL HYDRAULIC FLOW PATH)
K = 2.3 FEET PER DAY (ft/day)
n_e = 0.3

FIGURE 1
POTENTIOMETRIC MAP
NOVEMBER 12, 2024
WINYAH GENERATING STATION
GEORGETOWN, SOUTH CAROLINA

santee cooper

GRAPHIC SCALE
510 0 510 1,020
(IN FEET)

synTerra

DRAWN BY: T. KING	DATE: 07/01/2024
REVISED BY: L. FOREMAN	DATE: 12/16/2024
CHECKED BY: K. FERRI	DATE: 12/16/2024
APPROVED BY: K. FERRI	DATE: 12/16/2024
PROJECT MANAGER: K. FERRI	

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Appendix A – Statistical Analysis

HALEY & ALDRICH, INC.
400 Augusta Street
Suite 100
Greenville, SC 29601
864.214.8750

TECHNICAL MEMORANDUM

July 15, 2024
File No. 132892-001-007-02

SUBJECT: Statistical Evaluation of the February 2024 Semiannual Groundwater Detection Monitoring Data, Winyah Generating Station, Class 3 Landfill Area 1

Pursuant to Title 40 Code of Federal Regulations (40 CFR) §257.93 and §257.94 (Rule), this memorandum summarizes the statistical evaluation of the groundwater analytical results obtained from the February 2024 semiannual detection monitoring event for the Winyah Generating Station (WGS) Class 3 Landfill Area 1. Data for this groundwater sampling event were validated on April 16, 2024 by Santee Cooper.

BACKGROUND

After completion of baseline sampling, the initial statistical analysis identified statistically significant increases (SSIs) for one or more Appendix III constituents downgradient of the Class 3 Landfill Area 1. During the previous groundwater sampling event fluoride was the only Appendix III constituent detected as an SSI. Recognizing the Unit 2 Slurry Pond was located in the footprint of the Class 3 Landfill Area 1 and had been closed by removal of coal combustion residuals (CCR) pursuant to state regulatory requirements, alternate source demonstrations (ASDs) were completed in September 2019 and again in October 2022. The September 2019 ASD concluded that the closed Unit 2 Slurry Pond was the alternate source of the Appendix III constituents which had SSIs at that time. The October 2022 ASD again concluded that the Unit 2 Slurry Pond was the source for the Appendix III SSIs, and accordingly, the Class 3 Landfill Area 1 was not the source of the fluoride, boron, and chloride SSIs. As a result of the successful ASDs, the Class 3 Landfill Area 1 remains in detection monitoring. Subsequently, intrawell statistical evaluations have been conducted for the Appendix III constituents.

STATISTICAL EVALUATION

The Rule provides four specific options to statistically evaluate whether water quality downgradient of the CCR unit (§257.93(f) (1-4)) represents a SSI of Appendix III parameters compared to background groundwater quality of the CCR Unit. The intrawell evaluation compares the most recent values from each compliance well against a background dataset composed of its own historical data.

To statistically evaluate the analytical results, the background upper prediction limit (UPL), which is a type of prediction interval method, was selected to evaluate the data. The prediction interval method is one of the methods outlined in the Rule. A prediction interval procedure is where a concentration limit 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 UPL. Depending on the background data distribution, parametric or non-parametric prediction limit

procedures are used to evaluate groundwater monitoring data using this method. Parametric prediction limits use normally distributed data or normalized data via a transformation of the sample background data.

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 UPL. We note that depending on the available sample size, UPLs generated from non-parametric or maximum reporting limits may not achieve the same target statistical confidence limits as the parametric UPLs. In the case of the Class 3 Landfill Area 1, the statistical analysis was conducted using both parametric and non-parametric prediction limits.

Per the document *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance, March 2009* (the Unified Guidance), background concentrations were based on statistical evaluation of analytical results collected through February2023 and updated in the Chemstat output. The background dataset will be updated in Table 1 again after four additional data points are collected (first semiannual event of 2025) in accordance with the Unified Guidance.

TREND ANALYSIS

Mann-Kendall trend analyses were performed on datasets of sufficient sample size. Results of the trend analysis are included on Table 1. In summary, approximately 94 percent of trends analyzed are identified as stable or decreasing for the compliance wells. No compliance wells with a SSI demonstrated increasing trends for Appendix III constituents. It is important to note that increasing trends are not part of the comparison criteria for triggering a SSI. Trend analysis will continue to be used to monitor and evaluate concentrations in the context of overall site conditions.

RESULTS OF DETECTION MONITORING DOWNGRADIENT STATISTICAL COMPARISONS

Analytical results for each Appendix III constituent were compared to the background value of that constituent to determine whether a SSI has occurred (Table 1). A sample concentration greater than the UPL (or less than Lower Protection Limit [LPL] for pH) would indicate a SSI over background. Based on these comparisons, one SSI is detected using intrawell analysis for this event:

- Calcium SSI at WLF-A1-2

This is the first SSI for calcium at WLF-A2-2. The intrawell UPL was estimated using the non-parametric procedure based on the background data distribution. The UPL generated from non-parametric method achieved only 81% confidence level for calcium at WLF-A1-2 with the available background sample size

of seventeen (17) samples. The February 2024 is the second compliance point for the intrawell comparison. An ASD will be determined for the calcium exceedance to control false positive error.

Enclosures:

Table 1 – WGS Class 3 Landfill Area 1 February 2024 Semiannual Groundwater Detection Monitoring Data

TABLE

TABLE 1

WGS CLASS 3 LANDFILL AREA 1

FEBRUARY 2024 SEMIANNUAL GROUNDWATER DETECTION MONITORING AREA

																					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	Distribution Well*	February 2024 Concentration (mg/L)	Detect?	Background Limit (Upper Prediction Limit) mg/L	SSI
CCR Appendix-III: Boron, Total (mg/L)																								
WBW-A1-1	19/19	0%	-	0.0412	0.038	0.06198	0.078	0.0001878	0.0137	0.3326	NA	mg/L	N	0	0	no	No	Stable	parametric	Non-parametric				
WAP-7	18/18	0%	-	1.3	0.87	4	4	1.714	1.309	1.005	NA	mg/L	N	0	0	No	No	Increasing		Non-parametric	1.42	Y	4.00	No
WLF-A1-1	20/20	0%	-	2.47	2.7	4.005	4.1	2.03	1.425	0.5764	NA	mg/L	N	0	0	No	No	Decreasing		Non-parametric	0.46	Y	4.10	No
WLF-A1-2	20/20	0%	-	0.541	0.325	1.648	1.8	0.2779	0.5271	0.9746	NA	mg/L	N	0	0	No	No	Stable	Non-parametric	Non-parametric	1.64	Y	1.80	No
WLF-A1-3	20/20	0%	-	0.143	0.0985	0.2881	0.48	0.01049	0.1024	0.7163	NA	mg/L	N	0	0	Yes	No	Stable		Non-parametric	0.17	Y	0.48	No
WLF-A1-4	20/20	0%	-	0.344	0.27	0.592	1.2	0.05428	0.233	0.6776	NA	mg/L	N	0	0	Yes	No	Decreasing		Non-parametric	0.15	Y	1.20	No
WLF-A1-5	20/20	0%	-	2.08	1.965	3	3	0.2827	0.5317	0.2562	NA	mg/L	N	0	0	No	No	Decreasing		Normal	1.91	Y	4.00	No
CCR Appendix-III: Calcium, Total (mg/L)																								
WBW-A1-1	20/20	0%	-	53.4	46.15	93.45	121	714.8	26.74	0.5009	NA	mg/L	N	0	0	Yes	Yes	Stable	parametric	Normal				
WAP-7	21/21	0%	-	341	313	683	690	50090	223.8	0.6557	NA	mg/L	N	0	0	Yes	Yes	Stable		Normal	383	Y	690.00	No
WLF-A1-1	20/20	0%	-	436	429.5	615.8	746	23410	153	0.3508	NA	mg/L	N	0	0	Yes	Yes	Decreasing		Normal	324	Y	882.95	No
WLF-A1-2	20/20	0%	-	79.8	56.95	187.1	188	4160	64.49	0.8084	NA	mg/L	N	0	0	Yes	Yes	Stable	Non-parametric	Normal	188.0	Y	187.00	Yes
WLF-A1-3	20/20	0%	-	15.5	18	26.11	26.3	52.85	7.27	0.4703	NA	mg/L	N	0	0	Yes	Yes	Increasing		Normal	18.4	Y	39.81	No
WLF-A1-4	20/20	0%	-	103	89.55	187.3	212	2479	49.79	0.4844	NA	mg/L	N	0	0	Yes	Yes	Decreasing		Normal	39.8	Y	266.14	No
WLF-A1-5	20/20	0%	-	242	258.5	310.5	321	5042	71.01	0.2935	NA	mg/L	N	0	0	Yes	Yes	Stable		Normal	252	Y	416.50	No
CCR Appendix-III: Chloride (mg/L)																								
WBW-A1-1	20/20	0%	-	15.8	12.2	41.19	67.5	194.2	13.93	0.8796	NA	mg/L	N	0	0	Yes	No	Stable	parametric	Non-parametric				
WAP-7	21/21	0%	-	39.3	21.8	109	123	1361	36.89	0.938	NA	mg/L	N	0	0	No	No	Decreasing		Non-parametric	41.3	Y	123.00	No
WLF-A1-1	20/20	0%	-	106	88.95	253.9	270	6575	81.08	0.7677	NA	mg/L	N	0	0	No	No	Decreasing		Normal	10.1	Y	389.11	No
WLF-A1-2	19/19	0%	-	41.7	24.6	130.9	211	2729	52.24	1.254	NA	mg/L	N	0	0	Yes	No	Decreasing	Non-parametric	Non-parametric	80.0	Y	211.00	No
WLF-A1-3	20/20	0%	-	7.14	4.49	9.216	59.3	151.6	12.31	1.724	NA	mg/L	N	0	0	Yes	No	Stable		Non-parametric	4.5	Y	59.30	No
WLF-A1-4	20/20	0%	-	9.62	7.255	17.26	41.3	65.56	8.097	0.8418	NA	mg/L	N	0	0	Yes	No	Stable		Non-parametric	6.8	Y	41.30	No
WLF-A1-5	20/20	0%	-	131	138.5	174.1	175	1332	36.5	0.2779	NA	mg/L	N	0	0	No	No	Stable		Normal	129.0	Y	175.00	No
CCR Appendix-III: Fluoride (mg/L)																								
WBW-A1-1	0/19	100%	0.1-0.1	0.1	0.1	0.1		0	0	0	4	mg/L	N	0	0	NA	NA	N/A	NA	NA				
WAP-7	1/19	95%	0.1-0.1	0.103	0.1	0.105	0.15	0.0001316	0.01147	0.1118	4	mg/L	N	0	0	NA	NA	N/A	NA	NA	0.1	N	0.10	No
WLF-A1-1	0/20	100%	0.1-0.1	0.1	0.1	0.1		1.461E-18	1.209E-09	1.209E-08	4	mg/L	N	0	0	NA	NA	N/A	NA	NA	0.1	N	0.10	No
WLF-A1-2	4/20	80%	0.1-0.1	0.105	0.1	0.1305	0.14	0.0001316	0.01147	0.1092	4	mg/L	N	0	0	Yes	No	N/A	NA	Non-parametric	0.1	N	0.14	No
WLF-A1-3	1/20	95%	0.1-0.1	0.103	0.1	0.1025	0.15	0.000125	0.01118	0.1091	4	mg/L	N	0	0	NA	NA	N/A	NA	NA	0.1	N	0.15	No
WLF-A1-4	0/20	100%	0.1-0.1	0.1	0.1	0.1		1.461E-18	1.209E-09	1.209E-08	4	mg/L	N	0	0	NA	NA	N/A	NA	NA	0.1	N	0.10	No
WLF-A1-5	1/20	95%	0.1-0.1	0.101	0.1	0.1005	0.11	0.000005	0.002236	0.02225	4	mg/L	N	0	0	NA	NA	N/A	NA	NA	0.1	N	0.11	No
CCR Appendix-III: pH, Field (pH units)																								
WBW-A1-1	20/20	0%	-	4.52	4.57	4.701	4.72	0.02236	0.1495	0.03305	NA	pH units	N	0	0	No	No	Stable	parametric	Normal				
WAP-7	21/21	0%	-	6.01	5.99	6.57	6.69	0.1932	0.4396	0.07309	NA	pH units	N	0	0	No	No	Stable		Normal	5.96	Y	4.34, 7.66	No
WLF-A1-1	20/20	0%	-	6.27	6.3	6.47	6.47	0.03457	0.1859	0.02966	NA	pH units	N	0	0	Yes	No	Decreasing		Non-parametric	6.05	Y	5.79, 6.47	No
WLF-A1-2	20/20	0%	-	5.6	5.715	6.603	6.67	0.6673	0.8169	0.1459	NA	pH units	N	0	0	No	No	Decreasing	Non-parametric	Normal	5.91	Y	4.49, 6.67	No
WLF-A1-3	21/21	0%	-	4.25	4.23	4.46	4.58	0.02888	0.17	0.04003	NA	pH units	N	0	0	No	No	Stable		Normal	4.42	Y	3.64, 4.83	No
WLF-A1-4	20/20	0%	-	6.33	6.33	6.626	6.74	0.05097	0.1258	0.03566	NA	pH units	N	0	0	No	No	Stable		Normal	6.19	Y	5.47, 7.21	No
WLF-A1-5	20/20	0%	-	6.88	6.88	7.032	7.07	0.01713	0.1309	0.01902	NA	pH units	N	0	0	Yes	No	Stable		Normal	6.88	Y	6.46, 7.07	No
CCR Appendix-III: Sulfate (mg/L)																								
WBW-A1-1	20/20	0%	-	156	132	253.1	349	4230	65.04	0.4176	NA	mg/L	N	0	0	Yes	No	Increasing	parametric	Normal				
WAP-7	21/21	0%	-	746	707	1380	1440	204700	452.4	0.6068	NA	mg/L	N	0	0	No	No	Stable		Normal	759	Y	1440	No
WLF-A1-1	20/20	0%	-	820	883	1061	1070	41180	202.9	0.2474	NA	mg/L	N	0	0	No	No	Decreasing		Non-parametric	671	Y	1070	No
WLF-A1-2	19/19	0%	-	199	101	446.9	1040	54490	233.4	1.173	NA	mg/L	N	0	0	Yes	No	Stable	Non-parametric	Non-parametric	381	Y	1040	No
WLF-A1-3	20/20	0%	-	74.8	71.8	159.1	160	1072	31.74	0.4376	NA	mg/L	N	0	0	Yes	No	Stable		Non-parametric	65.5	Y	160	No
WLF-A1-4	20/20	0%	-	128	104	251.1	366	5940	77.07	0.5999	NA	mg/L	N	0	0	Yes	No	Decreasing		Normal	63.7	Y	366	No
WLF-A1-5	20/20	0%	-	401	382	531.3	575	8161	90.34	0.2251	NA	mg/L	N	0	0	No	No	Stable		Normal	348	Y	732	No
CCR Appendix-III: Total Dissolved Solids (TDS) (mg/L)																								
WBW-A1-1	20/20	0%	-	265	251.9	396.2	536.2	11010	104.9	0.3961	NA	mg/L	N	0	0	Yes	No	Stable	parametric	Normal				
WAP-7	21/21	0%	-	1270	1151	2362	2531	562600	750	0.5898	NA	mg/L	N	0	0	No	No	Stable		Normal	1396	Y	2531	N
WLF-A1-1	20/20	0%	-	1770	1672	2396	2480	212900	461.5	0.2613	NA	mg/L	N	0	0	No	No	Decreasing		Normal	1248	Y	3423	N
WLF-A1-2	20/20	0%	-	381	331.6	841.4	890	66020	256.9	0.6741	NA	mg/L	N	0	0	No	No	Stable	Non-parametric	Normal	839	Y	1194	N
WLF-A1-3	20/20	0%	-	112	101.2	139.2	241.2	1195	34.57	0.3096	NA	mg/L	N	0	0	Yes	No	Stable		Non-parametric	91.3	Y	241	N
WLF-A1-4	20/20	0%	-	406	360	620.9	755	21340	146.1	0.36	NA	mg/L	N	0	0	No	No	Decreasing		Normal	188	Y	917	N
WLF-A1-5	20/20	0%	-	1110	1131	1344	1456	35970	189.7	0.1706	NA	mg/L	N	0	0	No	No	Stable		Normal	1100	Y	1805	N

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TECHNICAL MEMORANDUM

December 9, 2024
File No. 132892-102

SUBJECT: Statistical Evaluation of the July 2024 Semiannual Groundwater Detection Monitoring Data, Winyah Generating Station, Class 3 Landfill Area 1

Pursuant to Title 40 Code of Federal Regulations (40 CFR) §257.93 and §257.94 (Rule), this memorandum summarizes the statistical evaluation of the groundwater analytical results obtained from the July 2024 semiannual detection monitoring event for the Winyah Generating Station (WGS) Class 3 Landfill Area 1. Data for this groundwater sampling event were validated on October 9, 2024 by Santee Cooper and provided to Haley & Aldrich.

BACKGROUND

After completion of baseline sampling, the initial statistical analysis identified statistically significant increases (SSIs) for one or more Appendix III constituents downgradient of the Class 3 Landfill Area 1. During the previous groundwater sampling event, calcium was the only Appendix III constituent detected as a SSI. Recognizing the Unit 2 Slurry Pond was previously located in the footprint of Class 3 Landfill Area 1 and had been closed by removal of coal combustion residuals (CCR) pursuant to state regulatory requirements, alternate source demonstrations (ASDs) were completed in September 2019, October 2022, and again in October 2024. The September 2019 ASD concluded that the closed Unit 2 Slurry Pond was the alternate source of the Appendix III constituents which had SSIs at that time. The October 2022 ASD again concluded that the Unit 2 Slurry Pond was the source for the Appendix III SSIs, and accordingly, the Class 3 Landfill Area 1 was not the source of the fluoride, boron, and chloride SSIs. The October 2024 ASD concluded that prior SSIs associated with Appendix III constituents continued to be directly associated with the Unit 2 Slurry Pond, and the SSI specific to calcium was due to a statistical limitation. As a result of the successful ASDs, the Class 3 Landfill Area 1 remains in detection monitoring. Subsequently, intrawell statistical evaluations have been conducted for the Appendix III constituents.

STATISTICAL EVALUATION

The Rule provides four specific options to statistically evaluate whether water quality downgradient of the CCR unit (§257.93(f) (1-4)) represents a SSI of Appendix III parameters compared to background groundwater quality of the CCR Unit. The intrawell evaluation compares the most recent values from each compliance well against a background dataset composed of its own historical data.

To statistically evaluate the analytical results, the background upper prediction limit (UPL), which is a type of prediction interval method, was selected to evaluate the data. The prediction interval method is one of the methods outlined in the Rule. A prediction interval procedure is where a concentration limit 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 UPL. Depending on the background data distribution, parametric or non-parametric prediction limit procedures are used to evaluate groundwater monitoring data using this method. Parametric prediction limits use normally distributed data or normalized data via a transformation of the sample background data.

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 UPL. We note that depending on the available sample size, UPLs generated from non-parametric or maximum reporting limits may not achieve the same target statistical confidence limits as the parametric UPLs. In the case of the Class 3 Landfill Area 1, the statistical analysis was conducted using both parametric and non-parametric prediction limits.

Per the document *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance, March 2009* (the Unified Guidance), background concentrations were based on statistical evaluation of analytical results collected through July 2023 and updated in the Chemstat output. The background dataset will be updated in Table 1 again after four additional data points are collected (first semiannual event of 2025) in accordance with the Unified Guidance.

TREND ANALYSIS

Mann-Kendall trend analyses were performed on datasets of sufficient sample size. Results of the trend analysis are included on Table 1. In summary, approximately 92 percent of trends analyzed are identified as stable or decreasing for the compliance wells. No compliance wells with a SSI demonstrated increasing trends for Appendix III constituents. It is important to note that increasing trends are not part of the comparison criteria for triggering a SSI. Trend analysis will continue to be used to monitor and evaluate concentrations in the context of overall site conditions.

RESULTS OF DETECTION MONITORING DOWNGRADIENT STATISTICAL COMPARISONS

Analytical results for each Appendix III constituent were compared to the background value of that constituent to determine whether a SSI has occurred (Table 1). A sample concentration greater than the UPL (or less than Lower Protection Limit [LPL] for pH) would indicate a SSI over background. Based on these comparisons, one SSI is detected using intrawell analysis for this event:

- Chloride SSI at WLF-A1-5

Notably, calcium was noted as a SSI at WLF-A1-2 during the previous reporting event and the cause was evaluated in the successful October 13, 2024 ASD. The ASD demonstrated that the calcium SSI was not related to a release from Landfill Area 1. Rather, the February 2024 calcium SSI was a function of a limitation of a non-parametric statistical evaluation, as calcium remains within typical concentrations found for this unit. Even though calcium was not considered a SSI during this July 2024 event, the chloride was a SSI due to the same statistical limitations of a non-parametric evaluation and chloride also remains within typical concentrations. This July 2024 SSI at WLF-A1-5 for chloride was determined based on an intrawell comparison using a non-parametric background limit. The background dataset

consisted of 18 samples, and a normality test suggested that the data follow a non-parametric distribution at a Type I error rate of 0.05 and a normal distribution at a Type I error rate of 0.01.

Enclosures:

Table 1 – WGS Class 3 Landfill Area 1 July 2024 Semiannual Groundwater Detection Monitoring Data

TABLE

TABLE 1
WGS CLASS 3 LANDFILL AREA 1
JULY 2024 SEMIANNUAL GROUNDWATER DETECTION MONITORING DATA

																					Intra-well Anaysis	
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	Distribution Well	July 2024 Concentration (mg/L)	Detect?	Background Limit (Upper Prediction Limit) mg/L	SSI
CCR Appendix-III: Boron, Total (mg/L)																								
WBW-A1-1	20/20	0%	-	0.0425	0.04	0.06669	0.078	0.0002089	0.01445	0.3405	NA	mg/L	N	0	0	No	No	Stable	Non-parametric	Non-parametric				No
WAP-7	19/19	0%	-	1.42	0.89	4	4	1.894	1.376	0.9672	NA	mg/L	N	0	0	No	No	Increasing	Non-parametric	Non-parametric	3.59	Y	4.00	No
WLF-A1-1	21/21	0%	-	2.38	2.5	4	4.1	2.122	1.457	0.6132	NA	mg/L	N	0	0	No	No	Decreasing	Non-parametric	Non-parametric	0.46	Y	4.10	No
WLF-A1-2	21/21	0%	-	0.573	0.37	1.64	1.8	0.2859	0.5347	0.9329	NA	mg/L	N	0	0	No	No	Stable	Non-parametric	Non-parametric	1.22	Y	1.80	No
WLF-A1-3	21/21	0%	-	0.142	0.1	0.278	0.48	0.009968	0.09984	0.7012	NA	mg/L	N	0	0	Yes	No	Stable	Non-parametric	Non-parametric	0.13	Y	0.48	No
WLF-A1-4	21/21	0%	-	0.335	0.27	0.56	1.2	0.05324	0.2307	0.689	NA	mg/L	N	0	0	Yes	No	Decreasing	Non-parametric	Non-parametric	0.16	Y	1.20	No
WLF-A1-5	21/21	0%	-	2.08	2	3	3	0.2693	0.519	0.2493	NA	mg/L	N	0	0	No	No	Stable	Non-parametric	Normal	2.20	Y	4.00	No
CCR Appendix-III: Calcium, Total (mg/L)																								No
WBW-A1-1	21/21	0%	-	55.3	47.2	92.8	121	753.1	27.44	0.4967	NA	mg/L	N	0	0	Yes	Yes	Stable	Non-parametric	Normal				No
WAP-7	22/22	0%	-	353	329.5	679.1	690	50770	225.3	0.6381	NA	mg/L	N	0	0	Yes	Yes	Stable	Non-parametric	Normal	601	Y	690.00	No
WLF-A1-1	21/21	0%	-	431	426	609	746	22930	151.4	0.3517	NA	mg/L	N	0	0	Yes	Yes	Decreasing	Non-parametric	Normal	316	Y	882.95	No
WLF-A1-2	22/22	0%	-	82.2	62.75	185.6	188	4013	63.35	0.7703	NA	mg/L	N	0	0	Yes	Yes	Stable	Non-parametric	Normal	151	Y	187.00	No
WLF-A1-3	21/21	0%	-	15.6	18	26.1	26.3	50.51	7.107	0.4562	NA	mg/L	N	0	0	Yes	Yes	Increasing	Non-parametric	Normal	18.0	Y	39.81	No
WLF-A1-4	21/21	0%	-	99.9	88.9	186	212	2522	50.22	0.5025	NA	mg/L	N	0	0	Yes	Yes	Decreasing	Non-parametric	Normal	43.5	Y	266.14	No
WLF-A1-5	21/21	0%	-	244	259	310	321	4855	69.68	0.286	NA	mg/L	N	0	0	Yes	Yes	Stable	Non-parametric	Normal	279	Y	416.50	No
CCR Appendix-III: Chloride (mg/L)																								No
WBW-A1-1	21/21	0%	-	15.7	12.3	39.8	67.5	184.8	13.59	0.8649	NA	mg/L	N	0	0	Yes	No	Stable	Non-parametric	Non-parametric				No
WAP-7	22/22	0%	-	39.3	22.45	108.4	123	1296	36	0.9155	NA	mg/L	N	0	0	No	No	Stable	Non-parametric	Non-parametric	39.2	Y	123.00	No
WLF-A1-1	21/21	0%	-	101	83	253	270	6660	81.61	0.8065	NA	mg/L	N	0	0	No	No	Decreasing	Non-parametric	Normal	12.4	Y	389.11	No
WLF-A1-2	20/20	0%	-	44.4	25.85	126.4	211	2738	52.33	1.178	NA	mg/L	N	0	0	Yes	No	Decreasing	Non-parametric	Non-parametric	96.9	Y	211.00	No
WLF-A1-3	21/21	0%	-	6.99	4.48	6.58	59.3	144.5	12.02	1.719	NA	mg/L	N	0	0	Yes	No	Stable	Non-parametric	Non-parametric	4.02	Y	59.30	No
WLF-A1-4	21/21	0%	-	9.45	6.96	16	41.3	62.91	7.932	0.8397	NA	mg/L	N	0	0	Yes	No	Stable	Non-parametric	Non-parametric	5.99	Y	41.30	No
WLF-A1-5	21/21	0%	-	134	148	175	183	1393	37.32	0.279	NA	mg/L	N	0	0	No	No	Stable	Non-parametric	Normal	183.0	Y	175.00	Yes
CCR Appendix-III: fluoride (mg/L)																								No
WBW-A1-1	0/20	100%	0.1-0.1	0.1	0.1	0.1		1.461E-18	1.209E-09	1.209E-08	4	mg/L	N	0	0	NA	NA	NA	NA	NA				No
WAP-7	1/20	95%	0.1-0.1	0.103	0.1	0.1025	0.15	0.000125	0.01118	0.1091	4	mg/L	N	0	0	NA	NA	NA	NA	NA	0.1	N	0.10	No
WLF-A1-1	0/21	100%	0.1-0.1	0.1	0.1	0.1		1.388E-18	1.178E-09	1.178E-08	4	mg/L	N	0	0	NA	NA	NA	NA	NA	0.1	N	0.10	No
WLF-A1-2	4/21	81%	0.1-0.1	0.105	0.1	0.13	0.14	0.0001262	0.01123	0.1072	4	mg/L	N	0	0	Yes	No	NA	NA	Non-parametric	0.1	N	0.14	No
WLF-A1-3	1/21	95%	0.1-0.1	0.102	0.1	0.1	0.15	0.000119	0.01091	0.1066	4	mg/L	N	0	0	NA	NA	NA	NA	NA	0.1	N	0.15	No
WLF-A1-4	0/21	100%	0.1-0.1	0.1	0.1	0.1		1.388E-18	1.178E-09	1.178E-08	4	mg/L	N	0	0	NA	NA	NA	NA	NA	0.1	N	0.10	No
WLF-A1-5	1/21	95%	0.1-0.1	0.1	0.1	0.1	0.11	0.000004762	0.002182	0.02172	4	mg/L	N	0	0	NA	NA	NA	NA	NA	0.1	N	0.11	No
CCR Appendix-III: pH, Field (pH units)																								No
WBW-A1-1	21/21	0%	-	4.52	4.56	4.7	4.72	0.02134	0.1461	0.0323	NA	pH units	N	0	0	No	No	Stable	Non-parametric	Normal				No
WAP-7	22/22	0%	-	6.03	6.045	6.568	6.69	0.1919	0.438	0.07261	NA	pH units	N	0	0	No	No	Stable	Non-parametric	Normal	6.4	Y	4.34, 7.66	No
WLF-A1-1	21/21	0%	-	6.26	6.3	6.47	6.47	0.03603	0.1898	0.03034	NA	pH units	N	0	0	No	No	Decreasing	Non-parametric	Non-parametric	6.0	Y	5.79, 6.47	No
WLF-A1-2	22/22	0%	-	5.59	5.615	6.597	6.67	0.6085	0.7801	0.1396	NA	pH units	N	0	0	No	No	Decreasing	Non-parametric	Normal	5.70	Y	4.49, 6.67	No
WLF-A1-3	22/22	0%	-	4.25	4.23	4.459	4.58	0.02752	0.1659	0.03908	NA	pH units	N	0	0	No	No	Stable	Non-parametric	Normal	4.2	Y	3.64, 4.83	No
WLF-A1-4	21/21	0%	-	6.31	6.29	6.62	6.74	0.05773	0.2403	0.03807	NA	pH units	N	0	0	No	No	Decreasing	Non-parametric	Normal	5.9	Y	5.47, 7.21	No
WLF-A1-5	21/21	0%	-	6.88	6.88	7.03	7.07	0.01631	0.1277	0.01856	NA	pH units	N	0	0	Yes	No	Stable	Non-parametric	Normal	6.9	Y	6.46, 7.07	No
CCR Appendix-III: Sulfate (mg/L)																								No
WBW-A1-1	21/21	0%	-	160	138	252	349	4459	66.78	0.4165	NA	mg/L	N	0	0	Yes	No	Increasing	Non-parametric	Normal				No
WAP-7	22/22	0%	-	775	733	1399	1440	214400	463	0.5972	NA	mg/L	N	0	0	No	No	Stable	Non-parametric	Normal	1400	Y	1440	No
WLF-A1-1	21/21	0%	-	814	849	1060	1070	39870	199.7	0.2452	NA	mg/L	N	0	0	No	No	Decreasing	Non-parametric	Non-parametric	695	Y	1070	No
WLF-A1-2	20/20	0%	-	204	122.5	414	1040	52130	228.3	1.119	NA	mg/L	N	0	0	Yes	No	Stable	Non-parametric	Non-parametric	300	Y	1040	No
WLF-A1-3	21/21	0%	-	74.5	69	159	160	1020	31.93	0.4284	NA	mg/L	N	0	0	Yes	No	Stable	Non-parametric	Non-parametric	69	Y	160	No
WLF-A1-4	21/21	0%	-	126	103	245	366	5801	76.16	0.6058	NA	mg/L	N	0	0	Yes	No	Decreasing	Non-parametric	Normal	71	Y	366	No
WLF-A1-5	21/21	0%	-	402	384	529	575	7757	88.07	0.2192	NA	mg/L	N	0	0	No	No	Stable	Non-parametric	Normal	410	Y	732	No
CCR Appendix-III: Total Dissolved Solids (TDS) (mg/L)																								No
WBW-A1-1	21/21	0%	-	270	256.2	388.8	536.2	11070	105.2	0.3893	NA	mg/L	N	0	0	Yes	No	Stable	Non-parametric	Normal				No
WAP-7	22/22	0%	-	1320	1220	2359	2531	578600	760.6	0.5781	NA	mg/L	N	0	0	No	No	Stable	Non-parametric	Normal	2242	Y	2531	No
WLF-A1-1	21/21	0%	-	1740	1622	2392	2480	217800	466.7	0.2683	NA	mg/L	N	0	0	No	No	Decreasing	Non-parametric	Normal	1196	Y	3423	No
WLF-A1-2	21/21	0%	-	395	359.4	838.8	890	66590	258.1	0.6537	NA	mg/L	N	0	0	No	No	Stable	Non-parametric	Normal	666	Y	1194	No
WLF-A1-3	21/21	0%	-	111	101.2	133.8	241.2	1138	33.74	0.3032	NA	mg/L	N	0	0	Yes	No	Stable	Non-parametric	Non-parametric	104	Y	241	No
WLF-A1-4	21/21	0%	-	396	353.8	613.8	755	22410	149.7	0.3784	NA	mg/L	N	0	0	No	No	Decreasing	Non-parametric	Normal	194	Y	917	No
WLF-A1-5	21/21	0%	-	1120	1132	1338	1456	35270	187.8	0.1678	NA	mg/L	N	0	0	No	No	Increasing	Non-parametric	Normal	1264	Y	1805	No

Appendix B:

Certificates of Analysis, External Lab Reports, & Field Parameters

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SANTEE COOPER ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AF90635 **Location:** WGS well WBW A1 **Date:** 02/14/2024 **Sample Collector:** WJK/BM

Loc. Code WBW-A1-1 **Time:** 12:19

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Barium	52.9	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Beryllium	<0.5	ug/L	03/05/2024	SKJACOBS	EPA 6020B
Calcium	74.7	mg/L	03/01/2024	SKJACOBS	EPA 6020B
Cadmium	<0.5	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Cobalt	0.73	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Chromium	<5.0	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Iron	5740	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Lead	<1.0	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Antimony	<5.0	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Selenium	<10.0	ug/L	03/05/2024	SKJACOBS	EPA 6020B
Thallium	<1.0	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Copper	<5.0	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Nickel	<0.5	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Zinc	<10.0	ug/L	03/05/2024	SKJACOBS	EPA 6020B
Boron	45.1	ug/L	02/21/2024	SKJACOBS	EPA 6010D
Lithium	<5.0	ug/L	02/21/2024	SKJACOBS	EPA 6010D
Molybdenum	<5.0	ug/L	02/21/2024	SKJACOBS	EPA 6010D
Mercury	<0.2	ug/L	02/23/2024	EUROFINS SAV	EPA 7470
Fluoride	<0.10	mg/L	02/16/2024	KCWELLS	EPA 300.0
Chloride	12.1	mg/L	02/16/2024	KCWELLS	EPA 300.0
Sulfate	186	mg/L	02/16/2024	KCWELLS	EPA 300.0
Total Dissolved Solids	297.5	mg/L	02/16/2024	KCWELLS	SM 2540C
pH	4.72	SU	02/14/2024	WJK/BM	
Radium 226	1.24	pCi/L	03/13/2024	GEL	EPA 903.1 Mod
Radium 228	0.394	pCi/L	03/08/2024	GEL	EPA 904.0
Radium 226/228 Combined Calculation	1.634	pCi/L	03/21/2024	SJLEVY	EPA 903.1 Mod

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

Sample Validated: Linda Williams - Manager, Analytical Services

Final Validation Date: 4/15/24

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CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AF90602 **Location:** GW Well WAP-7 **Date:** 02/06/2024 **Sample Collector:** WJK/BB

Loc. Code WAP-7 **Time:** 09:24

Analysis	Result	Units	Test Date	Analyst	Method
Aluminum	0.1	mg/L	02/13/2024	SKJACOBS	EPA 6020B
Arsenic	<5.0	ug/L	02/13/2024	SKJACOBS	EPA 6020B
Barium	26.5	ug/L	02/13/2024	SKJACOBS	EPA 6020B
Beryllium	<0.5	ug/L	02/13/2024	SKJACOBS	EPA 6020B
Calcium	383	mg/L	02/13/2024	SKJACOBS	EPA 6020B
Cadmium	<0.5	ug/L	02/13/2024	SKJACOBS	EPA 6020B
Cobalt	<0.5	ug/L	02/13/2024	SKJACOBS	EPA 6020B
Chromium	<5.0	ug/L	02/13/2024	SKJACOBS	EPA 6020B
Iron	173	ug/L	02/13/2024	SKJACOBS	EPA 6020B
Magnesium	7.8	mg/L	02/13/2024	SKJACOBS	EPA 6020B
Lead	<1.0	ug/L	02/13/2024	SKJACOBS	EPA 6020B
Antimony	<5.0	ug/L	02/13/2024	SKJACOBS	EPA 6020B
Selenium	15.1	ug/L	02/13/2024	SKJACOBS	EPA 6020B
Thallium	<1.0	ug/L	02/13/2024	SKJACOBS	EPA 6020B
Boron	1420	ug/L	02/14/2024	SKJACOBS	EPA 6010D
Lithium	<5.0	ug/L	02/14/2024	SKJACOBS	EPA 6010D
Molybdenum	<5.0	ug/L	02/14/2024	SKJACOBS	EPA 6010D
Mercury	<0.2	ug/L	02/20/2024	EUROFINS SAV	EPA 7470
Zinc	<10.0	ug/L	02/13/2024	SKJACOBS	EPA 6020B
Fluoride	<0.10	mg/L	02/22/2024	KCWELLS	EPA 300.0
Chloride	41.3	mg/L	02/22/2024	KCWELLS	EPA 300.0
Sulfate	759	mg/L	02/22/2024	KCWELLS	EPA 300.0
Total Dissolved Solids	1396	mg/L	02/09/2024	KCWELLS	SM 2540C
Radium 226	1.30	pCi/L	03/05/2024	GEL	EPA 903.1 Mod
Radium 228	-0.0579	pCi/L	02/23/2024	GEL	EPA 904.0
Radium 226/228 Combined Calculation	1.30	pCi/L	03/21/2024	SJLEVY	EPA 903.1 Mod
pH	5.96	SU	02/06/2024	WJK/BB	
Copper	<5.0	ug/L	02/13/2024	SKJACOBS	EPA 6020B
Nickel	<0.5	ug/L	02/13/2024	SKJACOBS	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: Validation date: 4/15/24

Linda Williams - Manager Analytical Services

Authorized Signature Only- Not Valid Unless Signed

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CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AF90636 **Location:** WGS well WLF A1-1 **Date:** 02/13/2024 **Sample Collector:** WJK/BM

Loc. Code WLF-A1-1 **Time:** 10:13

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Barium	48.9	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Beryllium	<0.5	ug/L	03/05/2024	SKJACOBS	EPA 6020B
Calcium	324	mg/L	03/01/2024	SKJACOBS	EPA 6020B
Cadmium	<0.5	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Cobalt	<0.5	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Chromium	<5.0	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Iron	41100	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Lead	<1.0	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Antimony	<5.0	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Selenium	<10.0	ug/L	03/05/2024	SKJACOBS	EPA 6020B
Thallium	<1.0	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Copper	<5.0	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Nickel	<0.5	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Zinc	<10.0	ug/L	03/05/2024	SKJACOBS	EPA 6020B
Boron	456	ug/L	02/21/2024	SKJACOBS	EPA 6010D
Lithium	<5.0	ug/L	02/21/2024	SKJACOBS	EPA 6010D
Molybdenum	<5.0	ug/L	02/21/2024	SKJACOBS	EPA 6010D
Mercury	<0.2	ug/L	02/23/2024	EUROFINS SAV	EPA 7470
Fluoride	<0.10	mg/L	02/16/2024	KCWELLS	EPA 300.0
Chloride	10.1	mg/L	02/16/2024	KCWELLS	EPA 300.0
Sulfate	671	mg/L	02/16/2024	KCWELLS	EPA 300.0
Total Dissolved Solids	1248	mg/L	02/16/2024	KCWELLS	SM 2540C
pH	6.05	SU	02/13/2024	WJK/BM	
Radium 226	1.47	pCi/L	03/13/2024	GEL	EPA 903.1 Mod
Radium 228	1.51	pCi/L	03/08/2024	GEL	EPA 904.0
Radium 226/228 Combined Calculation	2.98	pCi/L	03/21/2024	SJLEVY	EPA 903.1 Mod

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

Sample Validated: Linda Williams - Manager, Analytical Services

Final Validation Date: 4/15/24

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CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AF90637 **Location:** WGS well WLF A1-2 **Date:** 02/08/2024 **Sample Collector:** WJK/BM

Loc. Code WLF-A1-2 **Time:** 13:20

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	02/29/2024	SKJACOBS	EPA 6020B
Barium	44.7	ug/L	02/29/2024	SKJACOBS	EPA 6020B
Beryllium	<0.5	ug/L	02/21/2024	SKJACOBS	EPA 6020B
Calcium	188	mg/L	02/29/2024	SKJACOBS	EPA 6020B
Cadmium	<0.5	ug/L	02/29/2024	SKJACOBS	EPA 6020B
Cobalt	<0.5	ug/L	02/29/2024	SKJACOBS	EPA 6020B
Chromium	<5.0	ug/L	02/29/2024	SKJACOBS	EPA 6020B
Iron	1330	ug/L	02/29/2024	SKJACOBS	EPA 6020B
Lead	<1.0	ug/L	02/29/2024	SKJACOBS	EPA 6020B
Antimony	<5.0	ug/L	02/29/2024	SKJACOBS	EPA 6020B
Selenium	<10.0	ug/L	02/29/2024	SKJACOBS	EPA 6020B
Thallium	<1.0	ug/L	02/29/2024	SKJACOBS	EPA 6020B
Copper	<5.0	ug/L	02/29/2024	SKJACOBS	EPA 6020B
Nickel	<0.5	ug/L	02/29/2024	SKJACOBS	EPA 6020B
Zinc	<10.0	ug/L	02/29/2024	SKJACOBS	EPA 6020B
Boron	1640	ug/L	02/20/2024	SKJACOBS	EPA 6010D
Lithium	<5.0	ug/L	02/20/2024	SKJACOBS	EPA 6010D
Molybdenum	<5.0	ug/L	02/20/2024	SKJACOBS	EPA 6010D
Mercury	<0.2	ug/L	02/20/2024	EUROFINS SAV	EPA 7470
Fluoride	<0.10	mg/L	02/16/2024	KCWELLS	EPA 300.0
Chloride	80.0	mg/L	02/16/2024	KCWELLS	EPA 300.0
Sulfate	381	mg/L	02/16/2024	KCWELLS	EPA 300.0
Total Dissolved Solids	838.8	mg/L	02/09/2024	KCWELLS	SM 2540C
pH	5.91	SU	02/08/2024	WJK/BM	
Radium 226	2.02	pCi/L	03/13/2024	GEL	EPA 903.1 Mod
Radium 228	1.26	pCi/L	03/08/2024	GEL	EPA 904.0
Radium 226/228 Combined Calculation	3.28	pCi/L	03/13/2024	SJLEVY	EPA 903.1 Mod

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

Sample Validated: Linda Williams - Manager, Analytical Services

Final Validation Date: 4/15/24

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CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AF90638 **Location:** WGS well WLF A1-3 **Date:** 02/14/2024 **Sample Collector:** WJK/BM

Loc. Code WLF-A1-3 **Time:** 10:10

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Barium	26.7	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Beryllium	<0.5	ug/L	03/05/2024	SKJACOBS	EPA 6020B
Calcium	18.4	mg/L	03/01/2024	SKJACOBS	EPA 6020B
Cadmium	<0.5	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Cobalt	0.66	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Chromium	<5.0	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Iron	526	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Lead	<1.0	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Antimony	<5.0	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Selenium	<10.0	ug/L	03/05/2024	SKJACOBS	EPA 6020B
Thallium	<1.0	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Copper	<5.0	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Nickel	0.75	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Zinc	<10.0	ug/L	03/05/2024	SKJACOBS	EPA 6020B
Boron	169	ug/L	02/21/2024	SKJACOBS	EPA 6010D
Lithium	<5.0	ug/L	02/21/2024	SKJACOBS	EPA 6010D
Molybdenum	<5.0	ug/L	02/21/2024	SKJACOBS	EPA 6010D
Mercury	<0.2	ug/L	02/23/2024	EUROFINS SAV	EPA 7470
Fluoride	<0.10	mg/L	02/23/2024	KCWELLS	EPA 300.0
Chloride	4.53	mg/L	02/23/2024	KCWELLS	EPA 300.0
Sulfate	65.5	mg/L	02/23/2024	KCWELLS	EPA 300.0
Total Dissolved Solids	91.25	mg/L	02/15/2024	KCWELLS	SM 2540C
pH	4.42	SU	02/14/2024	WJK/BM	
Radium 226	1.33	pCi/L	03/13/2024	GEL	EPA 903.1 Mod
Radium 228	0.639	pCi/L	03/08/2024	GEL	EPA 904.0
Radium 226/228 Combined Calculation	1.969	pCi/L	03/21/2024	SJLEVY	EPA 903.1 Mod

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

Sample Validated _____ Final Validation Date: 4/15/24

Linda Williams - Manager, Analytical Services

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CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AF90639 **Location:** WGS well WLF A1-4 **Date:** 02/14/2024 **Sample Collector:** WJK/BM

Loc. Code WLF-A1-4 **Time:** 11:05

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Barium	24.9	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Beryllium	<0.5	ug/L	03/05/2024	SKJACOBS	EPA 6020B
Calcium	39.8	mg/L	03/01/2024	SKJACOBS	EPA 6020B
Cadmium	<0.5	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Cobalt	<0.5	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Chromium	<5.0	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Iron	2070	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Lead	<1.0	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Antimony	<5.0	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Selenium	<10.0	ug/L	03/05/2024	SKJACOBS	EPA 6020B
Thallium	<1.0	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Copper	<5.0	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Nickel	<0.5	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Zinc	<10.0	ug/L	03/05/2024	SKJACOBS	EPA 6020B
Boron	150	ug/L	02/21/2024	SKJACOBS	EPA 6010D
Lithium	<5.0	ug/L	02/21/2024	SKJACOBS	EPA 6010D
Molybdenum	<5.0	ug/L	02/21/2024	SKJACOBS	EPA 6010D
Mercury	<0.2	ug/L	02/23/2024	EUROFINS SAV	EPA 7470
Fluoride	<0.10	mg/L	02/16/2024	KCWELLS	EPA 300.0
Chloride	6.77	mg/L	02/16/2024	KCWELLS	EPA 300.0
Sulfate	63.7	mg/L	02/16/2024	KCWELLS	EPA 300.0
Total Dissolved Solids	187.5	mg/L	02/16/2024	KCWELLS	SM 2540C
pH	6.19	SU	02/14/2024	WJK/BM	
Radium 226	0.491	pCi/L	03/13/2024	GEL	EPA 903.1 Mod
Radium 228	0.184	pCi/L	03/08/2024	GEL	EPA 904.0
Radium 226/228 Combined Calculation	0.675	pCi/L	03/21/2024	SJLEVY	EPA 903.1 Mod

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

Sample Validated: _____ Final Validation Date: 4/15/24

Linda Williams - Manager, Analytical Services

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CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AF90640 **Location:** WGS well WLF A1-4 **Date:** 02/14/2024 **Sample Collector:** WJK/BM

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

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Barium	25.1	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Beryllium	<0.5	ug/L	03/05/2024	SKJACOBS	EPA 6020B
Calcium	42.3	mg/L	03/01/2024	SKJACOBS	EPA 6020B
Cadmium	<0.5	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Cobalt	<0.5	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Chromium	<5.0	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Iron	2000	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Lead	<1.0	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Antimony	<5.0	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Selenium	<10.0	ug/L	03/05/2024	SKJACOBS	EPA 6020B
Thallium	<1.0	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Copper	<5.0	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Nickel	<0.5	ug/L	03/01/2024	SKJACOBS	EPA 6020B
Zinc	<10.0	ug/L	03/05/2024	SKJACOBS	EPA 6020B
Boron	153	ug/L	02/21/2024	SKJACOBS	EPA 6010D
Lithium	<5.0	ug/L	02/21/2024	SKJACOBS	EPA 6010D
Molybdenum	<5.0	ug/L	02/21/2024	SKJACOBS	EPA 6010D
Mercury	<0.2	ug/L	02/23/2024	EUROFINS SAV	EPA 7470
Fluoride	<0.10	mg/L	02/16/2024	KCWELLS	EPA 300.0
Chloride	6.67	mg/L	02/16/2024	KCWELLS	EPA 300.0
Sulfate	63.3	mg/L	02/16/2024	KCWELLS	EPA 300.0
Total Dissolved Solids	182.5	mg/L	02/16/2024	KCWELLS	SM 2540C
Radium 226	0.528	pCi/L	03/13/2024	GEL	EPA 903.1 Mod
Radium 228	1.24	pCi/L	03/08/2024	GEL	EPA 904.0
Radium 226/228 Combined Calculation	1.768	pCi/L	03/21/2024	SJLEVY	EPA 903.1 Mod

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

Sample Validated: Linda Williams - Manager, Analytical Services

Final Validation Date: 4/15/24

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CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AF90641 **Location:** WGS well WLF A1-5 **Date:** 02/12/2024 **Sample Collector:**

Loc. Code WLF-A1-5 **Time:** 14:05

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	02/29/2024	SKJACOBS	EPA 6020B
Barium	30.0	ug/L	02/29/2024	SKJACOBS	EPA 6020B
Beryllium	<0.5	ug/L	02/21/2024	SKJACOBS	EPA 6020B
Calcium	252	mg/L	02/29/2024	SKJACOBS	EPA 6020B
Cadmium	<0.5	ug/L	02/29/2024	SKJACOBS	EPA 6020B
Cobalt	<0.5	ug/L	02/29/2024	SKJACOBS	EPA 6020B
Chromium	<5.0	ug/L	02/29/2024	SKJACOBS	EPA 6020B
Iron	1460	ug/L	02/29/2024	SKJACOBS	EPA 6020B
Lead	<1.0	ug/L	02/29/2024	SKJACOBS	EPA 6020B
Antimony	<5.0	ug/L	02/29/2024	SKJACOBS	EPA 6020B
Selenium	<10.0	ug/L	02/29/2024	SKJACOBS	EPA 6020B
Thallium	<1.0	ug/L	02/29/2024	SKJACOBS	EPA 6020B
Copper	<5.0	ug/L	02/29/2024	SKJACOBS	EPA 6020B
Nickel	<0.5	ug/L	02/29/2024	SKJACOBS	EPA 6020B
Zinc	<10.0	ug/L	02/29/2024	SKJACOBS	EPA 6020B
Boron	1910	ug/L	02/20/2024	SKJACOBS	EPA 6010D
Lithium	6.03	ug/L	02/20/2024	SKJACOBS	EPA 6010D
Molybdenum	<5.0	ug/L	02/20/2024	SKJACOBS	EPA 6010D
Mercury	<0.2	ug/L	02/23/2024	EUROFINS SAV	EPA 7470
Fluoride	<0.10	mg/L	02/16/2024	KCWELLS	EPA 300.0
Chloride	129	mg/L	02/16/2024	KCWELLS	EPA 300.0
Sulfate	348	mg/L	02/16/2024	KCWELLS	EPA 300.0
Total Dissolved Solids	1100	mg/L	02/16/2024	KCWELLS	SM 2540C
pH	6.88	SU	02/12/2024	WJK/BM	
Radium 226	0.548	pCi/L	03/13/2024	GEL	EPA 903.1 Mod
Radium 228	-0.125	pCi/L	03/08/2024	GEL	EPA 904.0
Radium 226/228 Combined Calculation	0.548	pCi/L	03/21/2024	SJLEVY	EPA 903.1 Mod

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

Sample Validated: Linda Williams - Manager, Analytical Services

Final Validation Date: 4/15/24

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SANTEE COOPER ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AG03767 **Location:** WGS well WBW A1 **Date:** 07/02/2024 **Sample Collector:** ZM/BM

Loc. Code WBW-A1-1 **Time:** 09:44

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Barium	52.5	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Beryllium	<0.5	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Calcium	92.8	mg/L	07/23/2024	SKJACOBS	EPA 6020B
Cadmium	<0.5	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Cobalt	0.53	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Chromium	<5.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Lead	<1.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Antimony	<5.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Selenium	<10.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Thallium	<1.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Copper	<5.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Iron	3410	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Nickel	<0.5	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Zinc	<10.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Boron	66.1	ug/L	07/18/2024	SKJACOBS	EPA 6010D
Lithium	<5.0	ug/L	07/18/2024	SKJACOBS	EPA 6010D
Molybdenum	<5.0	ug/L	07/18/2024	SKJACOBS	EPA 6010D
Mercury	<0.2	ug/L	07/20/2024	EUROFINS SAV	EPA 7470
Radium 226	4.76	pCi/L	08/07/2024	GEL	EPA 903.1 Mod
Radium 228	1.82	pCi/L	08/02/2024	GEL	EPA 904.0
Radium 226/228 Combined Calculation	6.58	pCi/L	08/14/2024	SJLEVY	EPA 903.1 Mod
Fluoride	<0.10	mg/L	07/12/2024	KCWELLS	EPA 300.0
Chloride	13.2	mg/L	07/12/2024	KCWELLS	EPA 300.0
Sulfate	252	mg/L	07/12/2024	KCWELLS	EPA 300.0
Total Dissolved Solids	378.8	mg/L	07/08/2024	KRMATHER	SM 2540C
pH	4.48	SU	07/02/2024	ZM/BM	

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

Sample Validated: Linda Williams - Manager, Analytical Services

Final Validation Date: 9/30/24

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SANTEE COOPER ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AG03731 **Location:** GW Well WAP-7 **Date:** 07/01/2024 **Sample Collector:** ZM/BM

Loc. Code WAP-7 **Time:** 12:20

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	07/19/2024	SKJACOBS	EPA 6020B
Barium	33.3	ug/L	07/19/2024	SKJACOBS	EPA 6020B
Beryllium	<0.5	ug/L	07/22/2024	SKJACOBS	EPA 6020B
Calcium	601	mg/L	07/19/2024	SKJACOBS	EPA 6020B
Cadmium	<0.5	ug/L	07/19/2024	SKJACOBS	EPA 6020B
Cobalt	<0.5	ug/L	07/19/2024	SKJACOBS	EPA 6020B
Chromium	<5.0	ug/L	07/19/2024	SKJACOBS	EPA 6020B
Lead	<1.0	ug/L	07/19/2024	SKJACOBS	EPA 6020B
Antimony	<5.0	ug/L	07/19/2024	SKJACOBS	EPA 6020B
Selenium	<10.0	ug/L	07/19/2024	SKJACOBS	EPA 6020B
Thallium	<1.0	ug/L	07/19/2024	SKJACOBS	EPA 6020B
Boron	3590	ug/L	07/19/2024	SKJACOBS	EPA 6010D
Lithium	<5.0	ug/L	07/19/2024	SKJACOBS	EPA 6010D
Molybdenum	<5.0	ug/L	07/19/2024	SKJACOBS	EPA 6010D
Mercury	<0.2	ug/L	07/19/2024	EUROFINS SAV	EPA 7470
Fluoride	<0.10	mg/L	07/12/2024	KCWELLS	EPA 300.0
Chloride	39.2	mg/L	07/12/2024	KCWELLS	EPA 300.0
Sulfate	1400	mg/L	07/12/2024	KCWELLS	EPA 300.0
Total Dissolved Solids	2242	mg/L	07/03/2024	KRMATHER	SM 2540C
Radium 226	0.841	pCi/L	08/07/2024	GEL	EPA 903.1 Mod
Radium 228	0.346	pCi/L	08/02/2024	GEL	EPA 904.0
Radium 226/228 Combined Calculation	1.187	pCi/L	08/14/2024	SJLEVY	EPA 903.1 Mod
pH	6.43	SU	07/01/2024	ZM/BM	

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: Validation date: 9/30/24

Linda Williams - Manager Analytical Services

Authorized Signature Only- Not Valid Unless Signed

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SANTEE COOPER ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AG03768 **Location:** WGS well WLF A1-1 **Date:** 07/11/2024 **Sample Collector:** ZM/BM

Loc. Code WLF-A1-1 **Time:** 13:14

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Barium	41.4	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Beryllium	<0.5	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Calcium	316	mg/L	07/23/2024	SKJACOBS	EPA 6020B
Cadmium	<0.5	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Cobalt	<0.5	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Chromium	<5.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Lead	<1.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Antimony	<5.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Selenium	<10.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Thallium	<1.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Copper	<5.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Iron	34900	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Nickel	<0.5	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Zinc	<10.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Boron	455	ug/L	07/22/2024	SKJACOBS	EPA 6010D
Lithium	<5.0	ug/L	07/22/2024	SKJACOBS	EPA 6010D
Molybdenum	<5.0	ug/L	07/22/2024	SKJACOBS	EPA 6010D
Mercury	<0.2	ug/L	07/20/2024	EUROFINS SAV	EPA 7470
Radium 226	0.403	pCi/L	08/13/2024	GEL	EPA 903.1 Mod
Radium 228	0.001	pCi/L	08/07/2024	GEL	EPA 904.0
Radium 226/228 Combined Calculation	0.404	pCi/L	08/19/2024	SJLEVY	EPA 903.1 Mod
Fluoride	<0.10	mg/L	07/19/2024	LCWILLIA	EPA 300.0
Chloride	12.4	mg/L	07/19/2024	LCWILLIA	EPA 300.0
Sulfate	695	mg/L	07/19/2024	LCWILLIA	EPA 300.0
Total Dissolved Solids	1196	mg/L	07/17/2024	KRMATHER	SM 2540C
pH	6.01	SU	07/11/2024	ZM/BM	

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

Sample Validated: LW Final Validation Date: 9/30/24

Linda Williams - Manager, Analytical Services

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SANTEE COOPER ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AG03769 **Location:** WGS well WLF A1-2 **Date:** 07/11/2024 **Sample Collector:** ZM/BM

Loc. Code WLF-A1-2 **Time:** 09:22

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Barium	38.5	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Beryllium	<0.5	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Calcium	151	mg/L	07/23/2024	SKJACOBS	EPA 6020B
Cadmium	<0.5	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Cobalt	0.57	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Chromium	<5.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Lead	<1.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Antimony	<5.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Selenium	<10.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Thallium	<1.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Copper	<5.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Iron	629	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Nickel	<0.5	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Zinc	<10.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Boron	1220	ug/L	07/22/2024	SKJACOBS	EPA 6010D
Lithium	<5.0	ug/L	07/22/2024	SKJACOBS	EPA 6010D
Molybdenum	<5.0	ug/L	07/22/2024	SKJACOBS	EPA 6010D
Mercury	<0.2	ug/L	07/20/2024	EUROFINS SAV	EPA 7470
Radium 226	1.10	pCi/L	08/13/2024	GEL	EPA 903.1 Mod
Radium 228	1.42	pCi/L	08/07/2024	GEL	EPA 904.0
Radium 226/228 Combined Calculation	2.52	pCi/L	08/19/2024	SJLEVY	EPA 903.1 Mod
Fluoride	<0.10	mg/L	07/19/2024	LCWILLIA	EPA 300.0
Chloride	96.9	mg/L	07/19/2024	LCWILLIA	EPA 300.0
Sulfate	300	mg/L	07/19/2024	LCWILLIA	EPA 300.0
Total Dissolved Solids	666.2	mg/L	07/17/2024	KRMATHER	SM 2540C
pH	5.71	SU	07/11/2024	ZM/BM	

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

Sample Validated: Linda Williams - Manager, Analytical Services

Final Validation Date: 9/30/24

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SANTEE COOPER ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AG03770 **Location:** WGS well WLF A1-2F **Date:** 07/11/2024 **Sample Collector:** ZM/BM

Loc. Code WLF-A1-2F **Time:** 09:27

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Barium	<5.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Beryllium	<0.5	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Calcium	<0.5	mg/L	07/23/2024	SKJACOBS	EPA 6020B
Cadmium	<0.5	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Cobalt	<0.5	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Chromium	<5.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Lead	<1.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Antimony	<5.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Selenium	<10.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Thallium	<1.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Copper	<5.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Iron	<50.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Nickel	<0.5	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Zinc	<10.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Boron	<10.0	ug/L	07/22/2024	SKJACOBS	EPA 6010D
Lithium	<5.0	ug/L	07/22/2024	SKJACOBS	EPA 6010D
Molybdenum	<5.0	ug/L	07/22/2024	SKJACOBS	EPA 6010D
Mercury	<0.2	ug/L	07/20/2024	EUROFINS SAV	EPA 7470
Radium 226	0.821	pCi/L	08/13/2024	GEL	EPA 903.1 Mod
Radium 228	0.914	pCi/L	08/07/2024	GEL	EPA 904.0
Radium 226/228 Combined Calculation	1.735	pCi/L	08/19/2024	SJLEVY	EPA 903.1 Mod
Fluoride	<0.10	mg/L	07/22/2024	LCWILLIA	EPA 300.0
Chloride	<2.00	mg/L	07/22/2024	LCWILLIA	EPA 300.0
Sulfate	<2.00	mg/L	07/22/2024	LCWILLIA	EPA 300.0
Total Dissolved Solids	<25	mg/L	07/17/2024	KRMATHER	SM 2540C

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

Sample Validated: Linda Williams - Manager, Analytical Services

Final Validation Date: 9/30/24

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SANTEE COOPER ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AG03771 **Location:** WGS well WLF A1-3 **Date:** 07/11/2024 **Sample Collector:** ZM/BM

Loc. Code WLF-A1-3 **Time:** 10:09

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	5.6	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Barium	31.9	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Beryllium	<0.5	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Calcium	18.0	mg/L	07/23/2024	SKJACOBS	EPA 6020B
Cadmium	<0.5	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Cobalt	0.85	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Chromium	<5.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Lead	<1.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Antimony	5.4	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Selenium	<10.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Thallium	<1.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Copper	<5.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Iron	855	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Nickel	<0.5	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Zinc	<10.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Boron	131	ug/L	07/22/2024	SKJACOBS	EPA 6010D
Lithium	<5.0	ug/L	07/22/2024	SKJACOBS	EPA 6010D
Molybdenum	<5.0	ug/L	07/22/2024	SKJACOBS	EPA 6010D
Mercury	<0.2	ug/L	07/20/2024	EUROFINS SAV	EPA 7470
Radium 226	0.929	pCi/L	08/13/2024	GEL	EPA 903.1 Mod
Radium 228	0.527	pCi/L	08/07/2024	GEL	EPA 904.0
Radium 226/228 Combined Calculation	1.456	pCi/L	08/19/2024	SJLEVY	EPA 903.1 Mod
Fluoride	<0.10	mg/L	07/22/2024	LCWILLIA	EPA 300.0
Chloride	4.02	mg/L	07/22/2024	LCWILLIA	EPA 300.0
Sulfate	69.0	mg/L	07/22/2024	LCWILLIA	EPA 300.0
Total Dissolved Solids	103.8	mg/L	07/17/2024	KRMATHER	SM 2540C
pH	4.23	SU	07/11/2024	ZM/BM	

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

Sample Validated: Linda Williams - Manager, Analytical Services

Final Validation Date: 9/30/24

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SANTEE COOPER ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AG03772 **Location:** WGS well WLF A1-4 **Date:** 07/11/2024 **Sample Collector:** ZM/BM

Loc. Code WLF-A1-4 **Time:** 11:09

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Barium	27.5	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Beryllium	<0.5	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Calcium	43.5	mg/L	07/23/2024	SKJACOBS	EPA 6020B
Cadmium	<0.5	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Cobalt	<0.5	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Chromium	<5.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Lead	<1.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Antimony	<5.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Selenium	<10.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Thallium	<1.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Copper	<5.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Iron	2230	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Nickel	<0.5	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Zinc	<10.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Boron	156	ug/L	07/22/2024	SKJACOBS	EPA 6010D
Lithium	<5.0	ug/L	07/22/2024	SKJACOBS	EPA 6010D
Molybdenum	<5.0	ug/L	07/22/2024	SKJACOBS	EPA 6010D
Mercury	<0.2	ug/L	07/20/2024	EUROFINS SAV	EPA 7470
Radium 226	0.922	pCi/L	08/13/2024	GEL	EPA 903.1 Mod
Radium 228	1.28	pCi/L	08/07/2024	GEL	EPA 904.0
Radium 226/228 Combined Calculation	2.202	pCi/L	08/19/2024	SJLEVY	EPA 903.1 Mod
Fluoride	<0.10	mg/L	07/22/2024	LCWILLIA	EPA 300.0
Chloride	5.99	mg/L	07/22/2024	LCWILLIA	EPA 300.0
Sulfate	70.9	mg/L	07/22/2024	LCWILLIA	EPA 300.0
Total Dissolved Solids	193.8	mg/L	07/17/2024	KRMATHER	SM 2540C
pH	5.89	SU	07/11/2024	ZM/BM	

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

Sample Validated: Linda Williams - Manager, Analytical Services

Final Validation Date: 9/30/24

santee cooper

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

SANTEE COOPER ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AG03773 **Location:** WGS well WLF A1-4 **Date:** 07/11/2024 **Sample Collector:** ZM/BM

Loc. Code WLF-A1-4 DUP **Time:** 11:14

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Barium	28.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Beryllium	<0.5	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Calcium	45.0	mg/L	07/23/2024	SKJACOBS	EPA 6020B
Cadmium	<0.5	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Cobalt	<0.5	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Chromium	<5.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Lead	<1.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Antimony	5.1	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Selenium	<10.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Thallium	<1.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Copper	<5.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Iron	2240	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Nickel	<0.5	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Zinc	<10.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Boron	160	ug/L	07/22/2024	SKJACOBS	EPA 6010D
Lithium	<5.0	ug/L	07/22/2024	SKJACOBS	EPA 6010D
Molybdenum	<5.0	ug/L	07/22/2024	SKJACOBS	EPA 6010D
Mercury	<0.2	ug/L	07/20/2024	EUROFINS SAV	EPA 7470
Radium 226	0.758	pCi/L	08/13/2024	GEL	EPA 903.1 Mod
Radium 228	0.538	pCi/L	08/07/2024	GEL	EPA 904.0
Radium 226/228 Combined Calculation	1.296	pCi/L	08/19/2024	SJLEVY	EPA 903.1 Mod
Fluoride	<0.10	mg/L	07/22/2024	LCWILLIA	EPA 300.0
Chloride	5.92	mg/L	07/22/2024	LCWILLIA	EPA 300.0
Sulfate	70.6	mg/L	07/22/2024	LCWILLIA	EPA 300.0
Total Dissolved Solids	200.0	mg/L	07/17/2024	KRMATHER	SM 2540C

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

Sample Validated: Linda Williams - Manager, Analytical Services

Final Validation Date: 9/30/24

santee cooper

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

SANTEE COOPER ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AG03774 **Location:** WGS well WLF A1-5 **Date:** 07/11/2024 **Sample Collector:** ZM/BM

Loc. Code WLF-A1-5 **Time:** 12:19

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Barium	31.4	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Beryllium	<0.5	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Calcium	279	mg/L	07/23/2024	SKJACOBS	EPA 6020B
Cadmium	<0.5	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Cobalt	<0.5	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Chromium	<5.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Lead	<1.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Antimony	5.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Selenium	<10.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Thallium	<1.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Copper	<5.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Iron	2250	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Nickel	<0.5	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Zinc	<10.0	ug/L	07/23/2024	SKJACOBS	EPA 6020B
Boron	2200	ug/L	07/22/2024	SKJACOBS	EPA 6010D
Lithium	7.85	ug/L	07/22/2024	SKJACOBS	EPA 6010D
Molybdenum	<5.0	ug/L	07/22/2024	SKJACOBS	EPA 6010D
Mercury	<0.2	ug/L	07/20/2024	EUROFINS SAV	EPA 7470
Radium 226	1.40	pCi/L	08/13/2024	GEL	EPA 903.1 Mod
Radium 228	0.337	pCi/L	08/07/2024	GEL	EPA 904.0
Radium 226/228 Combined Calculation	1.737	pCi/L	08/19/2024	SJLEVY	EPA 903.1 Mod
Fluoride	<0.10	mg/L	07/22/2024	LCWILLIA	EPA 300.0
Chloride	183	mg/L	07/22/2024	LCWILLIA	EPA 300.0
Sulfate	410	mg/L	07/22/2024	LCWILLIA	EPA 300.0
Total Dissolved Solids	1264	mg/L	07/17/2024	KRMATHER	SM 2540C
pH	6.91	SU	07/11/2024	ZM/BM	

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

Sample Validated: Linda Williams - Manager, Analytical Services

Final Validation Date: 9/30/24

GEL Laboratories LLC
a member of The GEL Group INC

2040 Savage Road | Charleston, SC 29407
843.556.8171
gel.com

March 06, 2024

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

Re: ABS Lab Analytical
Work Order: 654972

Dear Ms. Gilmetti:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on February 09, 2024. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. There are no additional comments concerning sample receipt.

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,

Jordan Melton

Jordan Melton for
Julie Robinson
Project Manager

Purchase Order: 125915/JM02.08.G01.3/36500
Enclosures

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

Certificate of Analysis Report
for

SOOP001 Santee Cooper

Client SDG: 654972 GEL Work Order: 654972

The Qualifiers in this report are defined as follows:

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

** Analyte is a Tracer compound

** Analyte is a surrogate compound

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

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

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

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

Reviewed by Jordan Melton

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

Certificate of Analysis

Report Date: March 6, 2024

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: AF90605
Sample ID: 654972001
Matrix: GW
Collect Date: 07-FEB-24 10:07
Receive Date: 09-FEB-24
Collector: Client

Project: SOOP00119
Client ID: SOOP001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228	U	0.936	+/-0.907	1.49	3.00	pCi/L			JE1	02/23/24	1110	2568526	1
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		2.11	+/-0.917	0.840	1.00	pCi/L			LXP1	03/05/24	0913	2571356	2

The following Analytical Methods were performed:

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

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			90.7	(15%-125%)

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

Column headers are defined as follows:

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

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

Certificate of Analysis

Report Date: March 6, 2024

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: AF90606
Sample ID: 654972002
Matrix: GW
Collect Date: 07-FEB-24 10:12
Receive Date: 09-FEB-24
Collector: Client

Project: SOOP00119
Client ID: SOOP001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228	U	0.147	+/-0.989	1.81	3.00	pCi/L			JE1	02/23/24	1110	2568526	1
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		1.69	+/-0.674	0.577	1.00	pCi/L			LXP1	03/05/24	0913	2571356	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	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
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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

Certificate of Analysis

Report Date: March 6, 2024

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:	AF90604	Project:	SOOP00119
Sample ID:	654972003	Client ID:	SOOP001
Matrix:	GW		
Collect Date:	07-FEB-24 11:12		
Receive Date:	09-FEB-24		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228		2.17	+/-0.887	1.13	3.00	pCi/L			JE1	02/23/24	1110	2568526	1
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		2.13	+/-0.867	0.754	1.00	pCi/L			LXP1	03/05/24	0913	2571356	2

The following Analytical Methods were performed:

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

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			92.8	(15%-125%)

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

Column headers are defined as follows:

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

GEL LABORATORIES LLC
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Certificate of Analysis

Report Date: March 6, 2024

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:	AF90596	Project:	SOOP00119
Sample ID:	654972004	Client ID:	SOOP001
Matrix:	GW		
Collect Date:	06-FEB-24 10:25		
Receive Date:	09-FEB-24		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228		1.51	+/-0.814	1.16	3.00	pCi/L			JE1	02/23/24	1110	2568526	1
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		4.23	+/-1.22	0.752	1.00	pCi/L			LXP1	03/05/24	0913	2571356	2

The following Analytical Methods were performed:

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

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			92.2	(15%-125%)

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

Column headers are defined as follows:

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

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

Certificate of Analysis

Report Date: March 6, 2024

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:	AF90597	Project:	SOOP00119
Sample ID:	654972005	Client ID:	SOOP001
Matrix:	GW		
Collect Date:	06-FEB-24 11:19		
Receive Date:	09-FEB-24		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228		3.16	+/-1.37	2.00	3.00	pCi/L			JE1	02/23/24	1111	2568526	1
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		4.72	+/-1.18	0.676	1.00	pCi/L			LXP1	03/05/24	0948	2571356	2

The following Analytical Methods were performed:

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

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			90.6	(15%-125%)

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

Column headers are defined as follows:

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

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

Certificate of Analysis

Report Date: March 6, 2024

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:	AF90599	Project:	SOOP00119
Sample ID:	654972006	Client ID:	SOOP001
Matrix:	GW		
Collect Date:	06-FEB-24 12:45		
Receive Date:	09-FEB-24		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228	U	0.0789	+/-1.34	2.47	3.00	pCi/L			JE1	02/23/24	1225	2568526	1
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226	U	0.470	+/-0.485	0.761	1.00	pCi/L			LXP1	03/05/24	0948	2571356	2

The following Analytical Methods were performed:

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

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

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

Column headers are defined as follows:

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

GEL LABORATORIES LLC
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Certificate of Analysis

Report Date: March 6, 2024

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:	AF90602	Project:	SOOP00119
Sample ID:	654972007	Client ID:	SOOP001
Matrix:	GW		
Collect Date:	06-FEB-24 09:24		
Receive Date:	09-FEB-24		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228	U	-0.0579	+/-0.881	1.66	3.00	pCi/L			JE1	02/23/24	1111	2568526	1
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		1.30	+/-0.721	0.811	1.00	pCi/L			LXP1	03/05/24	0948	2571356	2

The following Analytical Methods were performed:

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

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			92.1	(15%-125%)

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

Column headers are defined as follows:

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

GEL LABORATORIES LLC
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Certificate of Analysis

Report Date: March 6, 2024

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:	AF90634	Project:	SOOP00119
Sample ID:	654972008	Client ID:	SOOP001
Matrix:	GW		
Collect Date:	06-FEB-24 14:12		
Receive Date:	09-FEB-24		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228		2.16	+/-0.884	1.10	3.00	pCi/L			JE1	02/23/24	1111	2568526	1
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226	U	0.0320	+/-0.140	0.374	1.00	pCi/L			LXP1	03/05/24	0948	2571356	2

The following Analytical Methods were performed:

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

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

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

Column headers are defined as follows:

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

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

Certificate of Analysis

Report Date: March 6, 2024

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:	AF90595	Project:	SOOP00119
Sample ID:	654972009	Client ID:	SOOP001
Matrix:	GW		
Collect Date:	05-FEB-24 14:35		
Receive Date:	09-FEB-24		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228	U	0.185	+/-0.587	1.09	3.00	pCi/L			JE1	02/23/24	1111	2568526	1
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		2.03	+/-0.764	0.653	1.00	pCi/L			LXP1	03/05/24	0948	2571356	2

The following Analytical Methods were performed:

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

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			90.3	(15%-125%)

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

Column headers are defined as follows:

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

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

QC Summary

Report Date: March 6, 2024

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

Contact: **Ms. Jeanette Gilmetti**

Workorder: **654972**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gas Flow										
Batch 2568526										
QC1205650263 654136001 DUP										
Radium-228	U	0.712		1.52	pCi/L	72.3		(0% - 100%)	JE1	02/23/24 11:11
	Uncertainty	+/-1.28		+/-0.944						
QC1205650264 LCS										
Radium-228	72.0			71.4	pCi/L		99.2	(75%-125%)		02/23/24 11:11
	Uncertainty			+/-3.83						
QC1205650262 MB										
Radium-228			U	0.536	pCi/L					02/23/24 11:11
	Uncertainty			+/-0.599						
Rad Ra-226										
Batch 2571356										
QC1205655691 654972001 DUP										
Radium-226		2.11		1.74	pCi/L	19.2		(0% - 100%)	LXP1	03/05/24 10:05
	Uncertainty	+/-0.917		+/-0.865						
QC1205655693 LCS										
Radium-226	26.4			31.4	pCi/L		119	(75%-125%)		03/05/24 10:05
	Uncertainty			+/-3.08						
QC1205655690 MB										
Radium-226			U	0.318	pCi/L					03/05/24 10:05
	Uncertainty			+/-0.318						
QC1205655692 654972001 MS										
Radium-226	137	2.11		130	pCi/L		93.5	(75%-125%)		03/05/24 10:05
	Uncertainty	+/-0.917		+/-13.6						

Notes:

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

The Qualifiers in this report are defined as follows:

- U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
- J Value is estimated
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- H Analytical holding time was exceeded
- < Result is less than value reported

QC Summary

Workorder: 654972

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

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

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

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

Radiochemistry
Technical Case Narrative
Santee Cooper
SDG #: 654972

Product: **GFPC, Ra228, Liquid**
Analytical Method: EPA 904.0/SW846 9320 Modified
Analytical Procedure: GL-RAD-A-063 REV# 5
Analytical Batch: 2568526

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

GEL Sample ID#	Client Sample Identification
654972001	AF90605
654972002	AF90606
654972003	AF90604
654972004	AF90596
654972005	AF90597
654972006	AF90599
654972007	AF90602
654972008	AF90634
654972009	AF90595
1205650262	Method Blank (MB)
1205650263	654136001(AF87814) Sample Duplicate (DUP)
1205650264	Laboratory Control Sample (LCS)

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

Data Summary:

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

Preparation Information

Homogenous Matrix
Sample 654972003 (AF90604) was non-homogenous matrix. yellow liquid 654972003 (AF90604).

Technical Information

Recounts
Sample 654972006 (AF90599) was recounted due to a suspected false positive. The recount is reported.

Product: **Lucas Cell, Ra226, Liquid**
Analytical Method: EPA 903.1 Modified
Analytical Procedure: GL-RAD-A-008 REV# 15
Analytical Batch: 2571356

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

GEL Sample ID#	Client Sample Identification
654972001	AF90605
654972002	AF90606
654972003	AF90604
654972004	AF90596
654972005	AF90597
654972006	AF90599
654972007	AF90602
654972008	AF90634
654972009	AF90595
1205655690	Method Blank (MB)
1205655691	654972001(AF90605) Sample Duplicate (DUP)
1205655692	654972001(AF90605) Matrix Spike (MS)
1205655693	Laboratory Control Sample (LCS)

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

Data Summary:

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

Preparation Information

Aliquot Reduced
1205655691 (AF90605DUP), 1205655692 (AF90605MS) and 654972001 (AF90605) Aliquots were reduced due to limited 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.

654972

Contract Lab Info: GEL Contract Lab Due Date (Lab Only): 3 / 8 / 24 Send report to lcwillia@santeecooper.com & sherri.levy@santeecooper.com

Chain of Custody

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

Customer Email/Report Recipient: LINDA.WILLIAMS@santeecooper.com

Date Results Needed by: ___/___/___

Project/Task/Unit #: 125915 / JM02.08.G01.3 / 36500

Rerun request for any flagged QC (Yes) No

Analysis Group

Labworks ID # (Internal use only)	Sample Location/ Description	Collection Date	Collection Time	Sample Collector	Total # of containers	Bottle type: (Glass-G/Plastic-P)	Grab (G) or Composite (C)	Matrix(see below)	Preservative (see below)	Comments • Method # • Reporting limit • Misc. sample info • Any other notes	RAD 226	RAD 228		
AF90665	WAP-10	2/7/24	1007	WJK BM	2	P	G	GW	2		1	1		
06	WAP-10 DUP		1012											
04	WAP-9		1112											
AF90596	WAP-2	2/6/24	1025	WJK BB										
97	WAP-2R		1119											
99	WAP-4		1245											
AF90602	WAP-7		0924											
34	WBW-1		1412											
AF90595	WAP-1	2/5/24	1435	WJK BB										

Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
SHevy	35594	2/9/24	0951		GEL	2/9/24	0951
Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
	GEL	2-9-24	1550		GEL	2/9/24	1550
Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time

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

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

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

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

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

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

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

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

NPDES
- ☐ Oil & Grease
- ☐ As
- ☐ TSS

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

Matrix codes: GW-groundwater, DW-drinking water, SW-surface water, WW-waste water, BW-boiler water, L-limestone, Oil-oil, S-Soil, SL-solid, C-coal, G-gypsum, FA-flyash, BA-bottom ash, M-misc (describe in comment section)
Preservative code: 1=<4°C 2=HNO_3 3=H_2SO_4 4-HCl 5=$Na_2S_2O_3$ 6-Other (Specify)

JR

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: SOOP	SDG/AR/COC/Work Order: 654972
Received By: CLM	Date Received: 2/9/24
Carrier and Tracking Number	Circle Applicable: FedEx Express FedEx Ground UPS Field Services Courier Other Cooler 1 - 19° (RCHEM) Cooler 3 - 4° Cooler 2 - 3° Cooler 4 - 0°

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

Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1 Shipping containers received intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2 Chain of custody documents included with shipment?	✓			Circle Applicable: Client contacted and provided COC COC created upon receipt
3 Samples requiring cold preservation within (0 ≤ 6 deg. C)*	✓			Preservation Method: (Wet Ice) Ice Packs Dry Ice (None) Other *all temperatures are recorded in Celsius TEMP: See above with coolers
4 Daily check performed and passed on IR temperature gun?	✓			Temperature Device Serial #: IR8-23 Secondary Temperature Device Serial # (If Applicable):
5 Sample containers intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
6 Samples requiring chemical preservation at proper pH?	✓			Sample ID's and Containers Affected: If Preservation added, Lot#:
7 Do any samples require Volatile Analysis?	✓			If Yes, are Encores or Soil Kits present for solids? Yes___ No___ NA✓ (If yes, take to VOA Freezer) Do liquid VOA vials contain acid preservation? Yes___ No___ NA✓ (If unknown, select No) Are liquid VOA vials free of headspace? Yes___ No___ NA✓ Sample ID's and containers affected:
8 Samples received within holding time?	✓			ID's and tests affected:
9 Sample ID's on COC match ID's on bottles?	✓			ID's and containers affected:
10 Date & time on COC match date & time on bottles?			✓	Circle Applicable: No dates on containers No times on containers COC missing info Other (describe) Times are different on sample ID's: AF91624-629
11 Number of containers received match number indicated on COC?	✓			Circle Applicable: No container count on COC Other (describe)
12 Are sample containers identifiable as GEL provided by use of GEL labels?	✓			
13 COC form is properly signed in relinquished/received sections?	✓			Circle Applicable: Not relinquished Other (describe)

Comments (Use Continuation Form if needed):
and also on sample ID: AF91632 compared to the COC.
* 654978 + 654976

PM (or PMA) review: Initials MEA Date 2/12/24 Page 1 of 1

GL-CHL-SR-C01 Rev 7

List of current GEL Certifications as of 06 March 2024

State	Certification
Alabama	42200
Alaska	17-018
Alaska Drinking Water	SC00012
Arkansas	88-00651
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	KY90129
Kentucky Wastewater	KY90129
Louisiana Drinking Water	LA024
Louisiana NELAP	03046 (AI33904)
Maine	2023019
Maryland	270
Massachusetts	M-SC012
Massachusetts PFAS Approv	Letter
Michigan	9976
Mississippi	SC00012
Nebraska	NE-OS-26-13
Nevada	SC000122024-05
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	2023-152
Pennsylvania NELAP	68-00485
Pucrto Rico	SC00012
S. Carolina Radiochem	10120002
Sanitation Districts of L	9255651
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235-23-21
Utah NELAP	SC000122023-38
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

GEL Laboratories LLC
a member of The GEL Group INC

2040 Savage Road | Charleston, SC 29407
843.556.8171
gel.com

March 13, 2024

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

Re: ABS Lab Analytical
Work Order: 655802

Dear Ms. Gilmetti:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on February 16, 2024. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. There are no additional comments concerning sample receipt.

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,

Max Gloth for
Julie Robinson
Project Manager

Purchase Order: 125915/JM02.08.G01.1/36500
Enclosures

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

Certificate of Analysis Report
for

SOOP001 Santee Cooper

Client SDG: 655802 GEL Work Order: 655802

The Qualifiers in this report are defined as follows:

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

** Analyte is a Tracer compound

** Analyte is a surrogate compound

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

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

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

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

Reviewed by 

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

Certificate of Analysis

Report Date: March 13, 2024

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:	AF90636	Project:	SOOP00119
Sample ID:	655802001	Client ID:	SOOP001
Matrix:	GW		
Collect Date:	13-FEB-24 10:13		
Receive Date:	16-FEB-24		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228		1.51	+/-0.822	1.16	3.00	pCi/L			JE1	03/08/24	0946	2572476	1
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		1.47	+/-0.594	0.456	1.00	pCi/L			MJ2	03/13/24	0753	2571365	2

The following Analytical Methods were performed:

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

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			91.5	(15%-125%)

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

Column headers are defined as follows:

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

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

Certificate of Analysis

Report Date: March 13, 2024

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:	AF90641	Project:	SOOP00119
Sample ID:	655802002	Client ID:	SOOP001
Matrix:	GW		
Collect Date:	12-FEB-24 14:05		
Receive Date:	16-FEB-24		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228	U	-0.125	+/-0.626	1.26	3.00	pCi/L			JE1	03/08/24	0946	2572476	1
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		0.548	+/-0.327	0.279	1.00	pCi/L			MJ2	03/13/24	0753	2571365	2

The following Analytical Methods were performed:

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

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			85.7	(15%-125%)

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

Column headers are defined as follows:

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

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

Certificate of Analysis

Report Date: March 13, 2024

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:	AF90620	Project:	SOOP00119
Sample ID:	655802003	Client ID:	SOOP001
Matrix:	GW		
Collect Date:	12-FEB-24 12:45		
Receive Date:	16-FEB-24		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228	U	0.211	+/-0.607	1.12	3.00	pCi/L			JE1	03/08/24	0946	2572476	1
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		0.591	+/-0.416	0.528	1.00	pCi/L			MJ2	03/13/24	0753	2571365	2

The following Analytical Methods were performed:

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

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			93.1	(15%-125%)

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

Column headers are defined as follows:

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

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

Certificate of Analysis

Report Date: March 13, 2024

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:	AF90644	Project:	SOOP00119
Sample ID:	655802004	Client ID:	SOOP001
Matrix:	GW		
Collect Date:	08-FEB-24 09:48		
Receive Date:	16-FEB-24		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228	U	0.781	+/-0.759	1.24	3.00	pCi/L			JE1	03/08/24	0946	2572476	1
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226	U	0.169	+/-0.241	0.421	1.00	pCi/L			MJ2	03/13/24	0753	2571365	2

The following Analytical Methods were performed:

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

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			84.9	(15%-125%)

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

Column headers are defined as follows:

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

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

Certificate of Analysis

Report Date: March 13, 2024

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:	AF90645	Project:	SOOP00119
Sample ID:	655802005	Client ID:	SOOP001
Matrix:	GW		
Collect Date:	08-FEB-24 09:53		
Receive Date:	16-FEB-24		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228	U	0.515	+/-0.562	0.927	3.00	pCi/L			JE1	03/08/24	0946	2572476	1
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		0.503	+/-0.356	0.438	1.00	pCi/L			MJ2	03/13/24	0753	2571365	2

The following Analytical Methods were performed:

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

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			91.8	(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: March 13, 2024

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:	AF90621	Project:	SOOP00119
Sample ID:	655802006	Client ID:	SOOP001
Matrix:	GW		
Collect Date:	08-FEB-24 11:05		
Receive Date:	16-FEB-24		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228		1.78	+/-0.945	1.35	3.00	pCi/L			JE1	03/08/24	0946	2572476	1
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		0.922	+/-0.428	0.291	1.00	pCi/L			MJ2	03/13/24	0753	2571365	2

The following Analytical Methods were performed:

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

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

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

Column headers are defined as follows:

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

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Certificate of Analysis

Report Date: March 13, 2024

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:	AF90638	Project:	SOOP00119
Sample ID:	655802007	Client ID:	SOOP001
Matrix:	GW		
Collect Date:	14-FEB-24 10:10		
Receive Date:	16-FEB-24		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228	U	0.639	+/-1.00	1.73	3.00	pCi/L			JE1	03/08/24	0947	2572476	1
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		1.33	+/-0.579	0.530	1.00	pCi/L			MJ2	03/13/24	0753	2571365	2

The following Analytical Methods were performed:

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

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			80.2	(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: March 13, 2024

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:	AF90639	Project:	SOOP00119
Sample ID:	655802008	Client ID:	SOOP001
Matrix:	GW		
Collect Date:	14-FEB-24 11:05		
Receive Date:	16-FEB-24		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228	U	0.184	+/-0.870	1.60	3.00	pCi/L			JE1	03/08/24	0947	2572476	1
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		0.491	+/-0.345	0.338	1.00	pCi/L			MJ2	03/13/24	0753	2571365	2

The following Analytical Methods were performed:

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

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

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

Column headers are defined as follows:

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

GEL LABORATORIES LLC
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Certificate of Analysis

Report Date: March 13, 2024

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:	AF90640	Project:	SOOP00119
Sample ID:	655802009	Client ID:	SOOP001
Matrix:	GW		
Collect Date:	14-FEB-24 11:10		
Receive Date:	16-FEB-24		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228	U	1.24	+/-1.04	1.67	3.00	pCi/L			JE1	03/08/24	0947	2572476	1
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		0.528	+/-0.374	0.441	1.00	pCi/L			MJ2	03/13/24	0826	2571365	2

The following Analytical Methods were performed:

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

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			85.3	(15%-125%)

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

Column headers are defined as follows:

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

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

Certificate of Analysis

Report Date: March 13, 2024

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:	AF90635	Project:	SOOP00119
Sample ID:	655802010	Client ID:	SOOP001
Matrix:	GW		
Collect Date:	14-FEB-24 12:19		
Receive Date:	16-FEB-24		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228	U	0.394	+/-0.951	1.70	3.00	pCi/L			JE1	03/08/24	0947	2572476	1
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		1.24	+/-0.502	0.386	1.00	pCi/L			MJ2	03/13/24	0826	2571365	2

The following Analytical Methods were performed:

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

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			78.3	(15%-125%)

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

Column headers are defined as follows:

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

GEL LABORATORIES LLC
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QC Summary

Report Date: March 13, 2024

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

Workorder: **655802**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gas Flow										
Batch 2572476										
QC1205657971 655802001 DUP										
Radium-228		1.51		1.40	pCi/L	7.46		(0% - 100%)	JE1	03/08/24 09:46
	Uncertainty	+/-0.822		+/-0.907						
QC1205657972 LCS										
Radium-228	73.2			66.6	pCi/L		91	(75%-125%)		03/08/24 09:46
	Uncertainty			+/-4.09						
QC1205657970 MB										
Radium-228			U	0.608	pCi/L					03/08/24 09:46
	Uncertainty			+/-0.873						
Rad Ra-226										
Batch 2571365										
QC1205655728 655802001 DUP										
Radium-226		1.47		1.29	pCi/L	12.8		(0% - 100%)	MJ2	03/13/24 09:02
	Uncertainty	+/-0.594		+/-0.569						
QC1205655730 LCS										
Radium-226	26.9			25.2	pCi/L		93.7	(75%-125%)		03/13/24 09:02
	Uncertainty			+/-2.32						
QC1205655727 MB										
Radium-226			U	0.112	pCi/L					03/13/24 09:02
	Uncertainty			+/-0.191						
QC1205655729 655802001 MS										
Radium-226	135	1.47		110	pCi/L		80.5	(75%-125%)		03/13/24 09:02
	Uncertainty	+/-0.594		+/-9.77						

Notes:

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

The Qualifiers in this report are defined as follows:

- U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
- J Value is estimated
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- H Analytical holding time was exceeded
- < Result is less than value reported

QC Summary

Workorder: **655802**

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

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

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

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

Radiochemistry
Technical Case Narrative
Santee Cooper
SDG #: 655802

Product: **GFPC, Ra228, Liquid**
Analytical Method: EPA 904.0/SW846 9320 Modified
Analytical Procedure: GL-RAD-A-063 REV# 5
Analytical Batch: 2572476

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

GEL Sample ID#	Client Sample Identification
655802001	AF90636
655802002	AF90641
655802003	AF90620
655802004	AF90644
655802005	AF90645
655802006	AF90621
655802007	AF90638
655802008	AF90639
655802009	AF90640
655802010	AF90635
1205657970	Method Blank (MB)
1205657971	655802001(AF90636) Sample Duplicate (DUP)
1205657972	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: 2571365

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

GEL Sample ID#	Client Sample Identification
655802001	AF90636
655802002	AF90641
655802003	AF90620
655802004	AF90644
655802005	AF90645
655802006	AF90621
655802007	AF90638
655802008	AF90639

655802009	AF90640
655802010	AF90635
1205655727	Method Blank (MB)
1205655728	655802001(AF90636) Sample Duplicate (DUP)
1205655729	655802001(AF90636) Matrix Spike (MS)
1205655730	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, 1205655729 (AF90636MS), 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.

655802

Contract Lab Info: GEL Contract Lab Due Date (Lab Only): 3 / 15 / 24 Send report to lcwillia@santeecooper.com & sherri.levy@santeecooper.com

Chain of Custody

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

Customer Email/Report Recipient: LINDA.WILLIAMS@santeecooper.com

Date Results Needed by: ___/___/___

Project/Task/Unit #: 125915 / JM02.08.E01.1 / 36500

Rerun request for any flagged QC (Yes) No

Analysis Group

Labworks ID # (Internal use only)	Sample Location/ Description	Collection Date	Collection Time	Sample Collector	Total # of containers	Bottle type: (Glass-G/Plastic-P)	Grab (G) or Composite (C)	Matrix(see below)	Preservative (see below)	Comments • Method # • Reporting limit • Misc. sample info • Any other notes	RAD 226	RAD 228		
AF90636	WLF-A1-1	2/13/24	1013	WJTK BM	2	P	G	GW	2		X	X		
AF90641	WLF-A1-5	2/12/24	1405	〃	〃	〃	〃	〃	〃		〃	〃		
20	WAP-18	〃	1245	〃	〃	〃	〃	〃	〃		〃	〃		
44	WLF-A2-6	2/8/24	0948	〃	〃	〃	〃	〃	〃		〃	〃		
45	WLF-A2-6 DUP	〃	0953	〃	〃	〃	〃	〃	〃		〃	〃		
21	WAP-19	〃	1105	〃	〃	〃	〃	〃	〃		〃	〃		
AF90638	WLF-A1-3	2/14/24	1010	〃	〃	〃	〃	〃	〃		〃	〃		
39	WLF-A1-4	〃	1105	〃	〃	〃	〃	〃	〃		〃	〃		
40	WLF-A1-4 DUP	〃	1110	〃	〃	〃	〃	〃	〃		〃	〃		
35	WBW-A1-1	〃	1219	〃	〃	〃	〃	〃	〃		〃	〃		

Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
[signature]	36851	2/16/24	0925	[signature]	GEL	2/16/24	0925
Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
[signature]	GEL	2/16/24	1450	[signature]	GEL	2/16/24	1450
Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time

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

☐ METALS (all)

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

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

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

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

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

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

NPDES
☐ Oil & Grease
☐ As
☐ TSS

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

Matrix codes: GW-groundwater, DW-drinking water, SW-surface water, WW-waste water, BW-boiler water, L-limestone, Oil-oil, S-Soil, SL-solid, C-coal, G-gypsum, FA-flyash, BA-bottom ash, M-misc (describe in comment section)
Preservative code- 1=<4°C 2=HNO_3 3=H_2SO_4 4-HCl 5=$Na_2S_2O_3$ 6-Other (Specify)

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: SOOP	SDG/AR/COC/Work Order: 655802
Received By: QG	Date Received: 2/16/24
Carrier and Tracking Number	Circle Applicable: FedEx Express FedEx Ground UPS Field Services Courier Other

n/a

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

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2	Chain of custody documents included with shipment?	✓			Circle Applicable: Client contacted and provided COC COC created upon receipt
3	Samples requiring cold preservation within (0 ≤ 6 deg. C)?*			✓	Preservation Method: Wet Ice Ice Packs Dry ice None Other: *all temperatures are recorded in Celsius TEMP: 12°C
4	Daily check performed and passed on IR temperature gun?	✓			Temperature Device Serial #: IR1-23 Secondary Temperature Device Serial # (If Applicable):
5	Sample containers intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
6	Samples requiring chemical preservation at proper pH?		✓		Sample ID's and Containers Affected: If Preservation added, Lot#:
7	Do any samples require Volatile Analysis?			✓	If Yes, are Encores or Soil Kits present for solids? Yes___ No___ NA___(If yes, take to VOA Freezer) Do liquid VOA vials contain acid preservation? Yes___ No___ NA___(If unknown, select No) Are liquid VOA vials free of headspace? Yes___ No___ NA___ Sample ID's and containers affected:
8	Samples received within holding time?	✓			ID's and tests affected:
9	Sample ID's on COC match ID's on bottles?	✓			ID's and containers affected:
10	Date & time on COC match date & time on bottles?	✓			Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
11	Number of containers received match number indicated on COC?	✓			Circle Applicable: No container count on COC Other (describe)
12	Are sample containers identifiable as GEL provided by use of GEL labels?	✓			client and GEL labels
13	COC form is properly signed in relinquished/received sections?	✓			Circle Applicable: Not relinquished Other (describe)

Comments (Use Continuation Form if needed):

PM (or PMA) review: Initials MCR Date 2/19/24 Page 1 of 1

List of current GEL Certifications as of 13 March 2024

State	Certification
Alabama	42200
Alaska	17-018
Alaska Drinking Water	SC00012
Arkansas	88-00651
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	KY90129
Kentucky Wastewater	KY90129
Louisiana Drinking Water	LA024
Louisiana NELAP	03046 (AI33904)
Maine	2023019
Maryland	270
Massachusetts	M-SC012
Massachusetts PFAS Approv	Letter
Michigan	9976
Mississippi	SC00012
Nebraska	NE-OS-26-13
Nevada	SC000122024-05
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	2023-152
Pennsylvania NELAP	68-00485
Pucrto Rico	SC00012
S. Carolina Radiochem	10120002
Sanitation Districts of L	9255651
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235-23-21
Utah NELAP	SC000122023-38
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

GEL Laboratories LLC
a member of The GEL Group INC

2040 Savage Road | Charleston, SC 29407
843.556.8171
gel.com

March 13, 2024

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

Re: ABS Lab Analytical
Work Order: 655804

Dear Ms. Gilmetti:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on February 16, 2024. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. There are no additional comments concerning sample receipt.

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,

Max Gloth for
Julie Robinson
Project Manager

Purchase Order: 125915/JM02.09.G01.1/36500
Enclosures

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

Certificate of Analysis Report
for

SOOP001 Santee Cooper

Client SDG: 655804 GEL Work Order: 655804

The Qualifiers in this report are defined as follows:

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

** Analyte is a Tracer compound

** Analyte is a surrogate compound

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

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

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

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

Reviewed by 

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

Certificate of Analysis

Report Date: March 13, 2024

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:	AF90624	Project:	SOOP00119
Sample ID:	655804001	Client ID:	SOOP001
Matrix:	GW		
Collect Date:	12-FEB-24 11:47		
Receive Date:	16-FEB-24		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228	U	-0.535	+/-0.788	1.64	3.00	pCi/L			JE1	03/08/24	1059	2572465	1
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		1.35	+/-0.542	0.322	1.00	pCi/L			MJ2	03/13/24	0826	2571365	2

The following Analytical Methods were performed:

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

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			82.3	(15%-125%)

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

Column headers are defined as follows:

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

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Certificate of Analysis

Report Date: March 13, 2024

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:	AF90608	Project:	SOOP00119
Sample ID:	655804002	Client ID:	SOOP001
Matrix:	GW		
Collect Date:	14-FEB-24 14:04		
Receive Date:	16-FEB-24		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228	U	1.32	+/-0.890	1.35	3.00	pCi/L			JE1	03/08/24	1100	2572465	1
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		0.578	+/-0.333	0.340	1.00	pCi/L			MJ2	03/13/24	0826	2571365	2

The following Analytical Methods were performed:

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

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			81.9	(15%-125%)

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

Column headers are defined as follows:

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

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

Certificate of Analysis

Report Date: March 13, 2024

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:	AF90609	Project:	SOOP00119
Sample ID:	655804003	Client ID:	SOOP001
Matrix:	GW		
Collect Date:	14-FEB-24 14:09		
Receive Date:	16-FEB-24		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228	U	1.10	+/-1.01	1.63	3.00	pCi/L			JE1	03/08/24	1100	2572465	1
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226	U	0.320	+/-0.323	0.506	1.00	pCi/L			MJ2	03/13/24	0826	2571365	2

The following Analytical Methods were performed:

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

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			64.3	(15%-125%)

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

Column headers are defined as follows:

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

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Certificate of Analysis

Report Date: March 13, 2024

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:	AF90642	Project:	SOOP00119
Sample ID:	655804004	Client ID:	SOOP001
Matrix:	GW		
Collect Date:	13-FEB-24 11:35		
Receive Date:	16-FEB-24		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228	U	1.83	+/-1.29	2.03	3.00	pCi/L			JE1	03/12/24	1000	2572465	1
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		1.03	+/-0.460	0.429	1.00	pCi/L			MJ2	03/13/24	0826	2571365	2

The following Analytical Methods were performed:

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

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			71.8	(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: March 13, 2024

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:	AF90643	Project:	SOOP00119
Sample ID:	655804005	Client ID:	SOOP001
Matrix:	GW		
Collect Date:	13-FEB-24 12:41		
Receive Date:	16-FEB-24		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228		4.91	+/-1.51	1.89	3.00	pCi/L			JE1	03/12/24	1000	2572465	1
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226	U	0.0278	+/-0.261	0.585	1.00	pCi/L			MJ2	03/13/24	0826	2571365	2

The following Analytical Methods were performed:

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

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			72.6	(15%-125%)

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

Column headers are defined as follows:

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

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Certificate of Analysis

Report Date: March 13, 2024

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:	AF90618	Project:	SOOP00119
Sample ID:	655804006	Client ID:	SOOP001
Matrix:	GW		
Collect Date:	13-FEB-24 13:48		
Receive Date:	16-FEB-24		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228	U	1.29	+/-1.11	1.79	3.00	pCi/L			JE1	03/08/24	1100	2572465	1
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		0.899	+/-0.461	0.395	1.00	pCi/L			MJ2	03/13/24	0826	2571365	2

The following Analytical Methods were performed:

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

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			80	(15%-125%)

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

Column headers are defined as follows:

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

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Certificate of Analysis

Report Date: March 13, 2024

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:	AF90619	Project:	SOOP00119
Sample ID:	655804007	Client ID:	SOOP001
Matrix:	GW		
Collect Date:	13-FEB-24 13:53		
Receive Date:	16-FEB-24		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228	U	0.681	+/-0.716	1.18	3.00	pCi/L			JE1	03/08/24	1100	2572465	1
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		0.878	+/-0.468	0.450	1.00	pCi/L			MJ2	03/13/24	0902	2571365	2

The following Analytical Methods were performed:

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

GEL LABORATORIES LLC
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Certificate of Analysis

Report Date: March 13, 2024

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:	AF90598	Project:	SOOP00119
Sample ID:	655804008	Client ID:	SOOP001
Matrix:	GW		
Collect Date:	08-FEB-24 14:39		
Receive Date:	16-FEB-24		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228		1.44	+/-0.813	1.17	3.00	pCi/L			JE1	03/08/24	1100	2572465	1
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		0.879	+/-0.454	0.471	1.00	pCi/L			MJ2	03/13/24	0902	2571365	2

The following Analytical Methods were performed:

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

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

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

Column headers are defined as follows:

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

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

Certificate of Analysis

Report Date: March 13, 2024

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:	AF90637	Project:	SOOP00119
Sample ID:	655804009	Client ID:	SOOP001
Matrix:	GW		
Collect Date:	08-FEB-24 13:20		
Receive Date:	16-FEB-24		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228		1.26	+/-0.783	1.14	3.00	pCi/L			JE1	03/08/24	1100	2572465	1
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		2.02	+/-0.672	0.333	1.00	pCi/L			MJ2	03/13/24	0902	2571365	2

The following Analytical Methods were performed:

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

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			86.9	(15%-125%)

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

Column headers are defined as follows:

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

QC Summary

Report Date: March 13, 2024

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

Contact: Ms. Jeanette Gilmetti

Workorder: 655804

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gas Flow										
Batch 2572465										
QC1205657933 655804001 DUP										
Radium-228	U	-0.535	U	0.00679	pCi/L	N/A		N/A	JE1	03/08/24 11:00
	Uncertainty	+/-0.788		+/-0.454						
QC1205657934 LCS										
Radium-228	73.0			63.6	pCi/L		87.1	(75%-125%)		03/08/24 11:00
	Uncertainty			+/-3.85						
QC1205657932 MB										
Radium-228			U	1.35	pCi/L					03/08/24 12:18
	Uncertainty			+/-1.28						
Rad Ra-226										
Batch 2571365										
QC1205655728 655802001 DUP										
Radium-226		1.47		1.29	pCi/L	12.8		(0% - 100%)	MJ2	03/13/24 09:02
	Uncertainty	+/-0.594		+/-0.569						
QC1205655730 LCS										
Radium-226	26.9			25.2	pCi/L		93.7	(75%-125%)		03/13/24 09:02
	Uncertainty			+/-2.32						
QC1205655727 MB										
Radium-226			U	0.112	pCi/L					03/13/24 09:02
	Uncertainty			+/-0.191						
QC1205655729 655802001 MS										
Radium-226	135	1.47		110	pCi/L		80.5	(75%-125%)		03/13/24 09:02
	Uncertainty	+/-0.594		+/-9.77						

Notes:

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

The Qualifiers in this report are defined as follows:

- U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
- J Value is estimated
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- H Analytical holding time was exceeded
- < Result is less than value reported

QC Summary

Workorder: **655804**

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

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

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

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

Radiochemistry
Technical Case Narrative
Santee Cooper
SDG #: 655804

Product: **GFPC, Ra228, Liquid**
Analytical Method: EPA 904.0/SW846 9320 Modified
Analytical Procedure: GL-RAD-A-063 REV# 5
Analytical Batch: 2572465

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

GEL Sample ID#	Client Sample Identification
655804001	AF90624
655804002	AF90608
655804003	AF90609
655804004	AF90642
655804005	AF90643
655804006	AF90618
655804007	AF90619
655804008	AF90598
655804009	AF90637
1205657932	Method Blank (MB)
1205657933	655804001(AF90624) Sample Duplicate (DUP)
1205657934	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 1205657932 (MB) was recounted due to a suspected blank false positive. The recount is reported. Samples 655804004 (AF90642) and 655804005 (AF90643) were re-eluted and recounted to verify sample results. The recounts are reported.

Product: **Lucas Cell, Ra226, Liquid**
Analytical Method: EPA 903.1 Modified
Analytical Procedure: GL-RAD-A-008 REV# 15
Analytical Batch: 2571365

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

GEL Sample ID#	Client Sample Identification
655804001	AF90624
655804002	AF90608

655804003	AF90609
655804004	AF90642
655804005	AF90643
655804006	AF90618
655804007	AF90619
655804008	AF90598
655804009	AF90637
1205655727	Method Blank (MB)
1205655728	655802001(AF90636) Sample Duplicate (DUP)
1205655729	655802001(AF90636) Matrix Spike (MS)
1205655730	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, 1205655729 (AF90636MS), 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.

655804

Contract Lab Info: GEL Contract Lab Due Date (Lab Only): 3 / 15 / 24 Send report to lcwillia@santeecooper.com & sherri.levy@santeecooper.com

Chain of Custody

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

Customer Email/Report Recipient: LINDA.WILLIAMS@santeecooper.com

Date Results Needed by: ___/___/___

Project/Task/Unit #: 125915 / JM02.09.G001.1 / 36500

Rerun request for any flagged QC: (Yes) No

Analysis Group

Labworks ID # (Internal use only)	Sample Location/ Description	Collection Date	Collection Time	Sample Collector	Total # of containers	Bottle type: (Glass-G/Plastic-P)	Grab (G) or Composite (C)	Matrix(see below)	Preservative (see below)	Comments • Method # • Reporting limit • Misc. sample info • Any other notes	RAD 226	RAD 228		
AF90624	WAP-22	2/12/24	1147	WJK BM	2	P	G	GW	2		X	X		
AF90608	WAP-12	2/14/24	1404											
AF90609	WAP-12 DUP	1	1409											
AF90642	WLF-A2-1	2/13/24	1135											
43	WLF-A2-2		1241											
18	WAP-17		1348											
19	WAP-17 DUP		1353											
AF90598	WAP-3	2/8/24	1439											
AF90637	WLF-A1-2	2/8/24	1320											

Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
	36851	2/16/24	0925		GEL	2/16/24	0925
Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
		2/16/24	1550		GEL	2/16/24	1550
Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time

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

☐ METALS (all)

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

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

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

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

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

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

NPDES
☐ Oil & Grease
☐ As
☐ TSS

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

Matrix codes: GW-groundwater, DW-drinking water, SW-surface water, WW-waste water, BW-boiler water, L-limestone, Oil-oil, S-Soil, SL-solid, C-coal, G-gypsum, FA-flyash, BA-bottom ash, M-misc (describe in comment section)
Preservative code- 1=<4°C 2=HNO_3 3=H_2SO_4 4-HCl 5=$Na_2S_2O_3$ 6-Other (Specify)

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: SOOP	SDG/AR/COC/Work Order: 655804
Received By: QG	Date Received: 2/16/24
Carrier and Tracking Number	Circle Applicable: FedEx Express FedEx Ground UPS Field Services Courier Other

n/a

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

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2	Chain of custody documents included with shipment?	✓			Circle Applicable: Client contacted and provided COC COC created upon receipt
3	Samples requiring cold preservation within (0 ≤ 6 deg. C)?*			✓	Preservation Method: Wet Ice Ice Packs Dry ice None Other: *all temperatures are recorded in Celsius TEMP: 12°C
4	Daily check performed and passed on IR temperature gun?	✓			Temperature Device Serial #: IR1-23 Secondary Temperature Device Serial # (If Applicable):
5	Sample containers intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
6	Samples requiring chemical preservation at proper pH?	✓			Sample ID's and Containers Affected: If Preservation added, Lot#:
7	Do any samples require Volatile Analysis?			✓	If Yes, are Encores or Soil Kits present for solids? Yes___ No___ NA___(If yes, take to VOA Freezer) Do liquid VOA vials contain acid preservation? Yes___ No___ NA___(If unknown, select No) Are liquid VOA vials free of headspace? Yes___ No___ NA___ Sample ID's and containers affected:
8	Samples received within holding time?	✓			ID's and tests affected:
9	Sample ID's on COC match ID's on bottles?	✓			ID's and containers affected:
10	Date & time on COC match date & time on bottles?	✓			Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
11	Number of containers received match number indicated on COC?	✓			Circle Applicable: No container count on COC Other (describe)
12	Are sample containers identifiable as GEL provided by use of GEL labels?	✓			client and GEL labels
13	COC form is properly signed in relinquished/received sections?	✓			Circle Applicable: Not relinquished Other (describe)

Comments (Use Continuation Form if needed):

PM (or PMA) review: Initials MCD Date 2/19/24 Page 1 of 1

List of current GEL Certifications as of 13 March 2024

State	Certification
Alabama	42200
Alaska	17-018
Alaska Drinking Water	SC00012
Arkansas	88-00651
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	KY90129
Kentucky Wastewater	KY90129
Louisiana Drinking Water	LA024
Louisiana NELAP	03046 (AI33904)
Maine	2023019
Maryland	270
Massachusetts	M-SC012
Massachusetts PFAS Approv	Letter
Michigan	9976
Mississippi	SC00012
Nebraska	NE-OS-26-13
Nevada	SC000122024-05
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	2023-152
Pennsylvania NELAP	68-00485
Pucrto Rico	SC00012
S. Carolina Radiochem	10120002
Sanitation Districts of L	9255651
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235-23-21
Utah NELAP	SC000122023-38
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

eurofins | Environment Testing

1 2 3 4 5 6 7 8 9 10 11 12 13 14

ANALYTICAL REPORT

PREPARED FOR

Attn: Linda Williams
South Carolina Public Service Authority
Santee Cooper
PO BOX 2946101
Moncks Corner, South Carolina 29461-2901

Generated 2/21/2024 10:43:07 AM

JOB DESCRIPTION

125915/JM02.08.G01.1/26500

JOB NUMBER

680-246792-1

Eurofins Savannah
5102 LaRoche Avenue
Savannah GA 31404

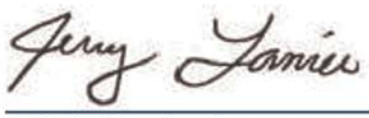
See page two for job notes and contact information.

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

Authorization



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2/21/2024 10:43:07 AM

Authorized for release by
Jerry Lanier, Project Manager I
Jerry.Lanier@et.eurofinsus.com
(912)250-0281

Table of Contents

Job ID: 680-246792-1 — Eurofins Savannah

Job Narrative
680-246792-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 2/15/2024 10:30 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 14.8°C.

Metals
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Sample Summary

Client: South Carolina Public Service Authority
Project/Site: 125915/JM02.08.G01.1/26500

Job ID: 680-246792-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-246792-1	AF90644	GW	02/08/24 09:48	02/15/24 10:30
680-246792-2	AF90645	GW	02/08/24 09:53	02/15/24 10:30
680-246792-3	AF90621	GW	02/08/24 11:05	02/15/24 10:30
680-246792-4	AF90637	GW	02/08/24 13:20	02/15/24 10:30
680-246792-5	AF90602	GW	02/06/24 09:24	02/15/24 10:30
680-246792-6	AF90634	GW	02/06/24 14:12	02/15/24 10:30
680-246792-7	AF90595	GW	02/05/24 14:35	02/15/24 10:30

Method Summary

Client: South Carolina Public Service Authority
Project/Site: 125915/JM02.08.G01.1/26500

Job ID: 680-246792-1

Method	Method Description	Protocol	Laboratory
7470A	Mercury (CVAA)	SW846	EET SAV
7470A	Preparation, Mercury	SW846	EET SAV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET SAV = Eurofins Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Client: South Carolina Public Service Authority
Project/Site: 125915/JM02.08.G01.1/26500

Job ID: 680-246792-1

Qualifiers

Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Detection Summary

Client: South Carolina Public Service Authority
Project/Site: 125915/JM02.08.G01.1/26500

Job ID: 680-246792-1

Client Sample ID: AF90644 — Lab Sample ID: 680-246792-1

No Detections.

Client Sample ID: AF90645 — Lab Sample ID: 680-246792-2

No Detections.

Client Sample ID: AF90621 — Lab Sample ID: 680-246792-3

No Detections.

Client Sample ID: AF90637 — Lab Sample ID: 680-246792-4

No Detections.

Client Sample ID: AF90602 — Lab Sample ID: 680-246792-5

No Detections.

Client Sample ID: AF90634 — Lab Sample ID: 680-246792-6

No Detections.

Client Sample ID: AF90595 — Lab Sample ID: 680-246792-7

No Detections.

This Detection Summary does not include radiochemical test results.

Client: South Carolina Public Service Authority
Project/Site: 125915/JM02.08.G01.1/26500

Job ID: 680-246792-1

Client Sample ID: AF90644
Date Collected: 02/08/24 09:48
Date Received: 02/15/24 10:30

Lab Sample ID: 680-246792-1
Matrix: GW

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.200	U	0.200		ug/L		02/20/24 10:58	02/20/24 16:08	1

Client: South Carolina Public Service Authority
Project/Site: 125915/JM02.08.G01.1/26500

Job ID: 680-246792-1

Client Sample ID: AF90645
Date Collected: 02/08/24 09:53
Date Received: 02/15/24 10:30

Lab Sample ID: 680-246792-2
Matrix: GW

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.200	U	0.200		ug/L		02/20/24 10:58	02/20/24 16:16	1

Client: South Carolina Public Service Authority
Project/Site: 125915/JM02.08.G01.1/26500

Job ID: 680-246792-1

Client Sample ID: AF90621
Date Collected: 02/08/24 11:05
Date Received: 02/15/24 10:30

Lab Sample ID: 680-246792-3
Matrix: GW

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.200	U	0.200		ug/L		02/20/24 10:58	02/20/24 16:18	1

Client: South Carolina Public Service Authority
Project/Site: 125915/JM02.08.G01.1/26500

Job ID: 680-246792-1

Client Sample ID: AF90637
Date Collected: 02/08/24 13:20
Date Received: 02/15/24 10:30

Lab Sample ID: 680-246792-4
Matrix: GW

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.200	U	0.200		ug/L		02/20/24 10:58	02/20/24 16:21	1

Client: South Carolina Public Service Authority
Project/Site: 125915/JM02.08.G01.1/26500

Job ID: 680-246792-1

Client Sample ID: AF90602
Date Collected: 02/06/24 09:24
Date Received: 02/15/24 10:30

Lab Sample ID: 680-246792-5
Matrix: GW

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.200	U	0.200		ug/L		02/20/24 10:58	02/20/24 16:48	1

Client: South Carolina Public Service Authority
Project/Site: 125915/JM02.08.G01.1/26500

Job ID: 680-246792-1

Client Sample ID: AF90634
Date Collected: 02/06/24 14:12
Date Received: 02/15/24 10:30

Lab Sample ID: 680-246792-6
Matrix: GW

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.200	U	0.200		ug/L		02/20/24 10:58	02/20/24 16:27	1

Client: South Carolina Public Service Authority
Project/Site: 125915/JM02.08.G01.1/26500

Job ID: 680-246792-1

Client Sample ID: AF90595
Date Collected: 02/05/24 14:35
Date Received: 02/15/24 10:30

Lab Sample ID: 680-246792-7
Matrix: GW

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.200	U	0.200		ug/L		02/20/24 10:58	02/20/24 16:29	1

Client: South Carolina Public Service Authority
Project/Site: 125915/JM02.08.G01.1/26500

Job ID: 680-246792-1

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 680-823551/1-A
Matrix: Water
Analysis Batch: 823745

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 823551

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.200	U	0.200		ug/L		02/20/24 10:58	02/20/24 15:49	1

Lab Sample ID: LCS 680-823551/2-A
Matrix: Water
Analysis Batch: 823745

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 823551

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Mercury			2.50	2.542		ug/L		102	80 - 120		

Lab Sample ID: 400-251111-H-1-C MS
Matrix: Water
Analysis Batch: 823745

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 823551

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Mercury	0.200	U	1.00	0.9942		ug/L		99	80 - 120		

Lab Sample ID: 400-251111-H-1-D MSD
Matrix: Water
Analysis Batch: 823745

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 823551

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	0.200	U	1.00	0.9929		ug/L		99	80 - 120	0	20

Metals

Prep Batch: 823551

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-246792-1	AF90644	Total/NA	GW	7470A	
680-246792-2	AF90645	Total/NA	GW	7470A	
680-246792-3	AF90621	Total/NA	GW	7470A	
680-246792-4	AF90637	Total/NA	GW	7470A	
680-246792-5	AF90602	Total/NA	GW	7470A	
680-246792-6	AF90634	Total/NA	GW	7470A	
680-246792-7	AF90595	Total/NA	GW	7470A	
MB 680-823551/1-A	Method Blank	Total/NA	Water	7470A	
LCS 680-823551/2-A	Lab Control Sample	Total/NA	Water	7470A	
400-251111-H-1-C MS	Matrix Spike	Total/NA	Water	7470A	
400-251111-H-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	

Analysis Batch: 823745

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-246792-1	AF90644	Total/NA	GW	7470A	823551
680-246792-2	AF90645	Total/NA	GW	7470A	823551
680-246792-3	AF90621	Total/NA	GW	7470A	823551
680-246792-4	AF90637	Total/NA	GW	7470A	823551
680-246792-5	AF90602	Total/NA	GW	7470A	823551
680-246792-6	AF90634	Total/NA	GW	7470A	823551
680-246792-7	AF90595	Total/NA	GW	7470A	823551
MB 680-823551/1-A	Method Blank	Total/NA	Water	7470A	823551
LCS 680-823551/2-A	Lab Control Sample	Total/NA	Water	7470A	823551
400-251111-H-1-C MS	Matrix Spike	Total/NA	Water	7470A	823551
400-251111-H-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	823551

Lab Chronicle

Client: South Carolina Public Service Authority
Project/Site: 125915/JM02.08.G01.1/26500

Job ID: 680-246792-1

Client Sample ID: AF90644
Date Collected: 02/08/24 09:48
Date Received: 02/15/24 10:30

Lab Sample ID: 680-246792-1
Matrix: GW

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	7470A			823551	DW	EET SAV	02/20/24 10:58
Total/NA	Analysis	7470A		1	823745	DW	EET SAV	02/20/24 16:08

Client Sample ID: AF90645
Date Collected: 02/08/24 09:53
Date Received: 02/15/24 10:30

Lab Sample ID: 680-246792-2
Matrix: GW

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	7470A			823551	DW	EET SAV	02/20/24 10:58
Total/NA	Analysis	7470A		1	823745	DW	EET SAV	02/20/24 16:16

Client Sample ID: AF90621
Date Collected: 02/08/24 11:05
Date Received: 02/15/24 10:30

Lab Sample ID: 680-246792-3
Matrix: GW

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	7470A			823551	DW	EET SAV	02/20/24 10:58
Total/NA	Analysis	7470A		1	823745	DW	EET SAV	02/20/24 16:18

Client Sample ID: AF90637
Date Collected: 02/08/24 13:20
Date Received: 02/15/24 10:30

Lab Sample ID: 680-246792-4
Matrix: GW

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	7470A			823551	DW	EET SAV	02/20/24 10:58
Total/NA	Analysis	7470A		1	823745	DW	EET SAV	02/20/24 16:21

Client Sample ID: AF90602
Date Collected: 02/06/24 09:24
Date Received: 02/15/24 10:30

Lab Sample ID: 680-246792-5
Matrix: GW

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	7470A			823551	DW	EET SAV	02/20/24 10:58
Total/NA	Analysis	7470A		1	823745	DW	EET SAV	02/20/24 16:48

Client Sample ID: AF90634
Date Collected: 02/06/24 14:12
Date Received: 02/15/24 10:30

Lab Sample ID: 680-246792-6
Matrix: GW

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	7470A			823551	DW	EET SAV	02/20/24 10:58
Total/NA	Analysis	7470A		1	823745	DW	EET SAV	02/20/24 16:27

Lab Chronicle

Client: South Carolina Public Service Authority
Project/Site: 125915/JM02.08.G01.1/26500

Job ID: 680-246792-1

Client Sample ID: AF90595
Date Collected: 02/05/24 14:35
Date Received: 02/15/24 10:30

Lab Sample ID: 680-246792-7
Matrix: GW

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	7470A			823551	DW	EET SAV	02/20/24 10:58
Total/NA	Analysis	7470A		1	823745	DW	EET SAV	02/20/24 16:29

Laboratory References:

EET SAV = Eurofins Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Contract Lab Info: TA-SAV Contract Lab Due Date (Lab Only): 2/22/24 Send report to lcwillia@santeecooper.com & sherri.levy@santeecooper.com

2/21/2024

Chain of Custody

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

Customer Email/Report Recipient: LINDA.WILLIAMS@santeecooper.com

Date Results Needed by: ___/___/___

Project/Task/Unit #: 125915 / JM02.08.G01.1 / 36500

Rerun request for any flagged QC (Yes) No

Analysis Group

Labworks ID # (Internal use only)	Sample Location/ Description	Collection Date	Collection Time	Sample Collector	Total # of containers	Bottle type: (Glass-G/Plastic-P)	Grab (G) or Composite (C)	Matrix(see below)	Preservative (see below)	Comments • Method # • Reporting limit • Misc. sample info • Any other notes	Hg			
AF90644	WLF-A2-6	2/8/24	0948	WJK BM	1	P	G	GW	2	7470 RL= 0.2 ug/L	X			
45	WLF-A2-6 DUP	"	0953	"	"	"	"	"	"		"			
21	WAP-19	"	1105	"	"	"	"	"	"		"			
AF90637	WLF-A1-2	"	1320	"	"	"	"	"	"		"			
AF90602	WAP-7	2/6/24	0924	WJK BB	"	"	"	"	"		"			
34	WBW-1	"	1412	"	"	"	"	"	"		"			
AF90595	WAP-1	2/5/24	1435	"	"	"	"	"	"		"			

680-246792 Chain of Custody

Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
Sherry	35594	2/14/24	1000				
Relinquished by:	**Employee#**	**Date**	**Time**	**Received by:**	**Employee #**	**Date**	**Time**
Relinquished by:	**Employee#**	**Date**	**Time**	**Received by:**	**Employee #**	**Date**	**Time**
				[signature]		2/15/24	1030

Sample Receiving (Internal Use Only)
TEMP (°C): _____ Initial: _____
Correct pH: Yes No
Preservative Lot#: 14.8/14.8
Date/Time/Init for preservative:

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

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

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

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

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

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

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

NPDES
- ☐ Oil & Grease
- ☐ As
- ☐ TSS

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

Matrix codes: GW-groundwater, DW-drinking water, SW-surface water, WW-waste water, BW-boiler water, L-limestone, Oil-oil, S-Soil, SL-solid, C-coal, G-gypsum, FA-flyash, BA-bottom ash, M-misc (describe in comment section)
Preservative code- 1=<4°C 2=HNO_3 3=H_2SO_4 4-HCl 5=$Na_2S_2O_3$ 6-Other (Specify)

Login Sample Receipt Checklist

Client: South Carolina Public Service Authority

Job Number: 680-246792-1

Login Number: 246792

List Source: Eurofins Savannah

List Number: 1

Creator: Munro, Caroline

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	False	Thermal preservation not required.
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: South Carolina Public Service Authority
Job ID: 680-246792-1
Project/Site: 125915/JM02.08.G01.1/26500

Laboratory: Eurofins Savannah

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
South Carolina	State	98001	06-30-24

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Linda Williams
South Carolina Public Service Authority
Santee Cooper
PO BOX 2946101
Moncks Corner, South Carolina 29461-2901

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JOB DESCRIPTION

125915/JM02.08.G01.1/36500

JOB NUMBER

680-246968-1

Eurofins Savannah
5102 LaRoche Avenue
Savannah GA 31404

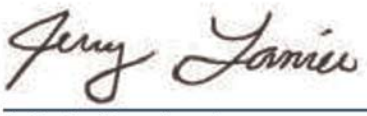
See page two for job notes and contact information.

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

Authorization



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Authorized for release by
Jerry Lanier, Project Manager I
Jerry.Lanier@et.eurofinsus.com
(912)250-0281

Table of Contents

Job ID: 680-246968-1 — Eurofins Savannah

Job Narrative
680-246968-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 2/21/2024 10:05 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 14.2°C.

Metals
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Sample Summary

Client: South Carolina Public Service Authority
Project/Site: 125915/JM02.08.G01.1/36500

Job ID: 680-246968-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-246968-1	AF90642	Water	02/13/24 11:35	02/21/24 10:05
680-246968-2	AF90643	Water	02/13/24 12:41	02/21/24 10:05
680-246968-3	AF90618	Water	02/13/24 13:48	02/21/24 10:05
680-246968-4	AF90619	Water	02/13/24 13:53	02/21/24 10:05
680-246968-5	AF90641	Water	02/12/24 14:05	02/21/24 10:05
680-246968-6	AF90636	Water	02/13/24 10:13	02/21/24 10:05
680-246968-7	AF90638	Water	02/14/24 10:10	02/21/24 10:05
680-246968-8	AF90639	Water	02/14/24 11:05	02/21/24 10:05
680-246968-9	AF90640	Water	02/14/24 11:10	02/21/24 10:05
680-246968-10	AF90635	Water	02/14/24 12:19	02/21/24 10:05
680-246968-11	AF90608	Water	02/14/24 14:04	02/21/24 10:05
680-246968-12	AF90609	Water	02/14/24 14:09	02/21/24 10:05
680-246968-13	AF90630	Water	02/15/24 11:25	02/21/24 10:05
680-246968-14	AF90623	Water	02/15/24 12:20	02/21/24 10:05
680-246968-15	AF90633	Water	02/15/24 14:12	02/21/24 10:05
680-246968-16	AF90625	Water	02/15/24 10:35	02/21/24 10:05
680-246968-17	AF90613	Water	02/15/24 13:31	02/21/24 10:05
680-246968-18	AF90620	Water	02/12/24 12:45	02/21/24 10:05
680-246968-19	AF90624	Water	02/12/24 11:47	02/21/24 10:05

Method Summary

Client: South Carolina Public Service Authority
Project/Site: 125915/JM02.08.G01.1/36500

Job ID: 680-246968-1

Method	Method Description	Protocol	Laboratory
7470A	Mercury (CVAA)	SW846	EET SAV
7470A	Preparation, Mercury	SW846	EET SAV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET SAV = Eurofins Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Client: South Carolina Public Service Authority
Project/Site: 125915/JM02.08.G01.1/36500

Job ID: 680-246968-1

Qualifiers

Metals

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Detection Summary

Client: South Carolina Public Service Authority
Job ID: 680-246968-1
Project/Site: 125915/JM02.08.G01.1/36500

Client Sample ID: AF90642 **Lab Sample ID: 680-246968-1**

No Detections.

Client Sample ID: AF90643 **Lab Sample ID: 680-246968-2**

No Detections.

Client Sample ID: AF90618 **Lab Sample ID: 680-246968-3**

No Detections.

Client Sample ID: AF90619 **Lab Sample ID: 680-246968-4**

No Detections.

Client Sample ID: AF90641 **Lab Sample ID: 680-246968-5**

No Detections.

Client Sample ID: AF90636 **Lab Sample ID: 680-246968-6**

No Detections.

Client Sample ID: AF90638 **Lab Sample ID: 680-246968-7**

No Detections.

Client Sample ID: AF90639 **Lab Sample ID: 680-246968-8**

No Detections.

Client Sample ID: AF90640 **Lab Sample ID: 680-246968-9**

No Detections.

Client Sample ID: AF90635 **Lab Sample ID: 680-246968-10**

No Detections.

Client Sample ID: AF90608 **Lab Sample ID: 680-246968-11**

No Detections.

Client Sample ID: AF90609 **Lab Sample ID: 680-246968-12**

No Detections.

Client Sample ID: AF90630 **Lab Sample ID: 680-246968-13**

No Detections.

Client Sample ID: AF90623 **Lab Sample ID: 680-246968-14**

No Detections.

Client Sample ID: AF90633 **Lab Sample ID: 680-246968-15**

No Detections.

Client Sample ID: AF90625 **Lab Sample ID: 680-246968-16**

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Savannah

Detection Summary

Client: South Carolina Public Service Authority
Job ID: 680-246968-1
Project/Site: 125915/JM02.08.G01.1/36500

Client Sample ID: AF90613
Lab Sample ID: 680-246968-17

No Detections.

Client Sample ID: AF90620
Lab Sample ID: 680-246968-18

No Detections.

Client Sample ID: AF90624
Lab Sample ID: 680-246968-19

No Detections.

This Detection Summary does not include radiochemical test results.

Client: South Carolina Public Service Authority
Project/Site: 125915/JM02.08.G01.1/36500

Job ID: 680-246968-1

Client Sample ID: AF90642
Date Collected: 02/13/24 11:35
Date Received: 02/21/24 10:05

Lab Sample ID: 680-246968-1
Matrix: Water

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.200	U	0.200		ug/L		02/22/24 15:20	02/23/24 17:33	1

Client: South Carolina Public Service Authority
Project/Site: 125915/JM02.08.G01.1/36500

Job ID: 680-246968-1

Client Sample ID: AF90643
Date Collected: 02/13/24 12:41
Date Received: 02/21/24 10:05

Lab Sample ID: 680-246968-2
Matrix: Water

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.200	U	0.200		ug/L		02/22/24 15:20	02/23/24 17:39	1

Client: South Carolina Public Service Authority
Project/Site: 125915/JM02.08.G01.1/36500

Job ID: 680-246968-1

Client Sample ID: AF90618
Date Collected: 02/13/24 13:48
Date Received: 02/21/24 10:05

Lab Sample ID: 680-246968-3
Matrix: Water

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.200	U	0.200		ug/L		02/22/24 15:20	02/23/24 17:42	1

Client: South Carolina Public Service Authority
Project/Site: 125915/JM02.08.G01.1/36500

Job ID: 680-246968-1

Client Sample ID: AF90619
Date Collected: 02/13/24 13:53
Date Received: 02/21/24 10:05

Lab Sample ID: 680-246968-4
Matrix: Water

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.200	U	0.200		ug/L		02/22/24 15:20	02/23/24 17:44	1

Client: South Carolina Public Service Authority
Project/Site: 125915/JM02.08.G01.1/36500

Job ID: 680-246968-1

Client Sample ID: AF90641
Date Collected: 02/12/24 14:05
Date Received: 02/21/24 10:05

Lab Sample ID: 680-246968-5
Matrix: Water

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.200	U	0.200		ug/L		02/22/24 15:20	02/23/24 17:46	1

Client: South Carolina Public Service Authority
Project/Site: 125915/JM02.08.G01.1/36500

Job ID: 680-246968-1

Client Sample ID: AF90636
Date Collected: 02/13/24 10:13
Date Received: 02/21/24 10:05

Lab Sample ID: 680-246968-6
Matrix: Water

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.200	U	0.200		ug/L		02/22/24 15:20	02/23/24 17:48	1

Client: South Carolina Public Service Authority
Project/Site: 125915/JM02.08.G01.1/36500

Job ID: 680-246968-1

Client Sample ID: AF90638
Date Collected: 02/14/24 10:10
Date Received: 02/21/24 10:05

Lab Sample ID: 680-246968-7
Matrix: Water

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.200	U	0.200		ug/L		02/22/24 15:20	02/23/24 17:50	1

Client: South Carolina Public Service Authority
Project/Site: 125915/JM02.08.G01.1/36500

Job ID: 680-246968-1

Client Sample ID: AF90639
Date Collected: 02/14/24 11:05
Date Received: 02/21/24 10:05

Lab Sample ID: 680-246968-8
Matrix: Water

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.200	U	0.200		ug/L		02/22/24 15:20	02/23/24 17:52	1

Client: South Carolina Public Service Authority
Project/Site: 125915/JM02.08.G01.1/36500

Job ID: 680-246968-1

Client Sample ID: AF90640
Date Collected: 02/14/24 11:10
Date Received: 02/21/24 10:05

Lab Sample ID: 680-246968-9
Matrix: Water

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.200	U	0.200		ug/L		02/22/24 15:20	02/23/24 17:54	1

Client: South Carolina Public Service Authority
Project/Site: 125915/JM02.08.G01.1/36500

Job ID: 680-246968-1

Client Sample ID: AF90635
Date Collected: 02/14/24 12:19
Date Received: 02/21/24 10:05

Lab Sample ID: 680-246968-10
Matrix: Water

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.200	U	0.200		ug/L		02/22/24 15:20	02/23/24 17:56	1

Client: South Carolina Public Service Authority
Project/Site: 125915/JM02.08.G01.1/36500

Job ID: 680-246968-1

Client Sample ID: AF90608
Date Collected: 02/14/24 14:04
Date Received: 02/21/24 10:05

Lab Sample ID: 680-246968-11
Matrix: Water

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.200	U	0.200		ug/L		02/26/24 11:43	02/26/24 17:12	1

Client: South Carolina Public Service Authority
Project/Site: 125915/JM02.08.G01.1/36500

Job ID: 680-246968-1

Client Sample ID: AF90609
Date Collected: 02/14/24 14:09
Date Received: 02/21/24 10:05

Lab Sample ID: 680-246968-12
Matrix: Water

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.200	U	0.200		ug/L		02/26/24 11:43	02/26/24 17:18	1

Client: South Carolina Public Service Authority
Project/Site: 125915/JM02.08.G01.1/36500

Job ID: 680-246968-1

Client Sample ID: AF90630
Date Collected: 02/15/24 11:25
Date Received: 02/21/24 10:05

Lab Sample ID: 680-246968-13
Matrix: Water

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.200	U	0.200		ug/L		02/26/24 11:43	02/26/24 17:20	1

Client: South Carolina Public Service Authority
Project/Site: 125915/JM02.08.G01.1/36500

Job ID: 680-246968-1

Client Sample ID: AF90623
Date Collected: 02/15/24 12:20
Date Received: 02/21/24 10:05

Lab Sample ID: 680-246968-14
Matrix: Water

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.200	U	0.200		ug/L		02/26/24 11:43	02/26/24 17:22	1

Client: South Carolina Public Service Authority
Project/Site: 125915/JM02.08.G01.1/36500

Job ID: 680-246968-1

Client Sample ID: AF90633
Date Collected: 02/15/24 14:12
Date Received: 02/21/24 10:05

Lab Sample ID: 680-246968-15
Matrix: Water

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.200	U	0.200		ug/L		02/26/24 11:43	02/26/24 17:24	1

Client: South Carolina Public Service Authority
Project/Site: 125915/JM02.08.G01.1/36500

Job ID: 680-246968-1

Client Sample ID: AF90625
Date Collected: 02/15/24 10:35
Date Received: 02/21/24 10:05

Lab Sample ID: 680-246968-16
Matrix: Water

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.200	U	0.200		ug/L		02/26/24 11:43	02/26/24 17:26	1

Client: South Carolina Public Service Authority
Project/Site: 125915/JM02.08.G01.1/36500

Job ID: 680-246968-1

Client Sample ID: AF90613
Date Collected: 02/15/24 13:31
Date Received: 02/21/24 10:05

Lab Sample ID: 680-246968-17
Matrix: Water

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.200	U	0.200		ug/L		02/26/24 11:43	02/26/24 17:32	1

Client: South Carolina Public Service Authority
Project/Site: 125915/JM02.08.G01.1/36500

Job ID: 680-246968-1

Client Sample ID: AF90620
Date Collected: 02/12/24 12:45
Date Received: 02/21/24 10:05

Lab Sample ID: 680-246968-18
Matrix: Water

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.200	U	0.200		ug/L		02/26/24 11:43	02/26/24 17:34	1

Client: South Carolina Public Service Authority
Project/Site: 125915/JM02.08.G01.1/36500

Job ID: 680-246968-1

Client Sample ID: AF90624
Date Collected: 02/12/24 11:47
Date Received: 02/21/24 10:05

Lab Sample ID: 680-246968-19
Matrix: Water

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.200	U	0.200		ug/L		02/26/24 11:43	02/26/24 17:36	1

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 680-824088/1-A
Matrix: Water
Analysis Batch: 824292

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 824088

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.200	U	0.200		ug/L		02/22/24 15:20	02/23/24 17:00	1

Lab Sample ID: LCS 680-824088/2-A
Matrix: Water
Analysis Batch: 824292

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 824088

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	2.50	2.384		ug/L		95	80 - 120

Lab Sample ID: 680-246896-E-1-E MS
Matrix: Water
Analysis Batch: 824292

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 824088

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.200	U F1	1.00	0.5773	F1	ug/L		58	80 - 120

Lab Sample ID: 680-246896-E-1-F MSD
Matrix: Water
Analysis Batch: 824292

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 824088

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	0.200	U F1	1.00	0.6176	F1	ug/L		62	80 - 120	7	20

Lab Sample ID: MB 680-824551/1-A
Matrix: Water
Analysis Batch: 824780

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 824551

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.200	U	0.200		ug/L		02/26/24 11:43	02/26/24 17:08	1

Lab Sample ID: LCS 680-824551/2-A
Matrix: Water
Analysis Batch: 824780

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 824551

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	2.50	2.120		ug/L		85	80 - 120

Lab Sample ID: 680-246968-11 MS
Matrix: Water
Analysis Batch: 824780

Client Sample ID: AF90608
Prep Type: Total/NA
Prep Batch: 824551

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.200	U	1.00	0.8729		ug/L		87	80 - 120

Lab Sample ID: 680-246968-11 MSD
Matrix: Water
Analysis Batch: 824780

Client Sample ID: AF90608
Prep Type: Total/NA
Prep Batch: 824551

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	0.200	U	1.00	0.8121		ug/L		81	80 - 120	7	20

Metals

Prep Batch: 824088

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-246968-1	AF90642	Total/NA	Water	7470A	
680-246968-2	AF90643	Total/NA	Water	7470A	
680-246968-3	AF90618	Total/NA	Water	7470A	
680-246968-4	AF90619	Total/NA	Water	7470A	
680-246968-5	AF90641	Total/NA	Water	7470A	
680-246968-6	AF90636	Total/NA	Water	7470A	
680-246968-7	AF90638	Total/NA	Water	7470A	
680-246968-8	AF90639	Total/NA	Water	7470A	
680-246968-9	AF90640	Total/NA	Water	7470A	
680-246968-10	AF90635	Total/NA	Water	7470A	
MB 680-824088/1-A	Method Blank	Total/NA	Water	7470A	
LCS 680-824088/2-A	Lab Control Sample	Total/NA	Water	7470A	
680-246896-E-1-E MS	Matrix Spike	Total/NA	Water	7470A	
680-246896-E-1-F MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	

Analysis Batch: 824292

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-246968-1	AF90642	Total/NA	Water	7470A	824088
680-246968-2	AF90643	Total/NA	Water	7470A	824088
680-246968-3	AF90618	Total/NA	Water	7470A	824088
680-246968-4	AF90619	Total/NA	Water	7470A	824088
680-246968-5	AF90641	Total/NA	Water	7470A	824088
680-246968-6	AF90636	Total/NA	Water	7470A	824088
680-246968-7	AF90638	Total/NA	Water	7470A	824088
680-246968-8	AF90639	Total/NA	Water	7470A	824088
680-246968-9	AF90640	Total/NA	Water	7470A	824088
680-246968-10	AF90635	Total/NA	Water	7470A	824088
MB 680-824088/1-A	Method Blank	Total/NA	Water	7470A	824088
LCS 680-824088/2-A	Lab Control Sample	Total/NA	Water	7470A	824088
680-246896-E-1-E MS	Matrix Spike	Total/NA	Water	7470A	824088
680-246896-E-1-F MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	824088

Prep Batch: 824551

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-246968-11	AF90608	Total/NA	Water	7470A	
680-246968-12	AF90609	Total/NA	Water	7470A	
680-246968-13	AF90630	Total/NA	Water	7470A	
680-246968-14	AF90623	Total/NA	Water	7470A	
680-246968-15	AF90633	Total/NA	Water	7470A	
680-246968-16	AF90625	Total/NA	Water	7470A	
680-246968-17	AF90613	Total/NA	Water	7470A	
680-246968-18	AF90620	Total/NA	Water	7470A	
680-246968-19	AF90624	Total/NA	Water	7470A	
MB 680-824551/1-A	Method Blank	Total/NA	Water	7470A	
LCS 680-824551/2-A	Lab Control Sample	Total/NA	Water	7470A	
680-246968-11 MS	AF90608	Total/NA	Water	7470A	
680-246968-11 MSD	AF90608	Total/NA	Water	7470A	

Analysis Batch: 824780

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-246968-11	AF90608	Total/NA	Water	7470A	824551

Metals (Continued)

Analysis Batch: 824780 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-246968-12	AF90609	Total/NA	Water	7470A	824551
680-246968-13	AF90630	Total/NA	Water	7470A	824551
680-246968-14	AF90623	Total/NA	Water	7470A	824551
680-246968-15	AF90633	Total/NA	Water	7470A	824551
680-246968-16	AF90625	Total/NA	Water	7470A	824551
680-246968-17	AF90613	Total/NA	Water	7470A	824551
680-246968-18	AF90620	Total/NA	Water	7470A	824551
680-246968-19	AF90624	Total/NA	Water	7470A	824551
MB 680-824551/1-A	Method Blank	Total/NA	Water	7470A	824551
LCS 680-824551/2-A	Lab Control Sample	Total/NA	Water	7470A	824551
680-246968-11 MS	AF90608	Total/NA	Water	7470A	824551
680-246968-11 MSD	AF90608	Total/NA	Water	7470A	824551

Lab Chronicle

Client: South Carolina Public Service Authority
Project/Site: 125915/JM02.08.G01.1/36500

Job ID: 680-246968-1

Client Sample ID: AF90642
Date Collected: 02/13/24 11:35
Date Received: 02/21/24 10:05

Lab Sample ID: 680-246968-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	7470A			824088	DW	EET SAV	02/22/24 15:20
Total/NA	Analysis	7470A		1	824292	DW	EET SAV	02/23/24 17:33

Client Sample ID: AF90643
Date Collected: 02/13/24 12:41
Date Received: 02/21/24 10:05

Lab Sample ID: 680-246968-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	7470A			824088	DW	EET SAV	02/22/24 15:20
Total/NA	Analysis	7470A		1	824292	DW	EET SAV	02/23/24 17:39

Client Sample ID: AF90618
Date Collected: 02/13/24 13:48
Date Received: 02/21/24 10:05

Lab Sample ID: 680-246968-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	7470A			824088	DW	EET SAV	02/22/24 15:20
Total/NA	Analysis	7470A		1	824292	DW	EET SAV	02/23/24 17:42

Client Sample ID: AF90619
Date Collected: 02/13/24 13:53
Date Received: 02/21/24 10:05

Lab Sample ID: 680-246968-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	7470A			824088	DW	EET SAV	02/22/24 15:20
Total/NA	Analysis	7470A		1	824292	DW	EET SAV	02/23/24 17:44

Client Sample ID: AF90641
Date Collected: 02/12/24 14:05
Date Received: 02/21/24 10:05

Lab Sample ID: 680-246968-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	7470A			824088	DW	EET SAV	02/22/24 15:20
Total/NA	Analysis	7470A		1	824292	DW	EET SAV	02/23/24 17:46

Client Sample ID: AF90636
Date Collected: 02/13/24 10:13
Date Received: 02/21/24 10:05

Lab Sample ID: 680-246968-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	7470A			824088	DW	EET SAV	02/22/24 15:20
Total/NA	Analysis	7470A		1	824292	DW	EET SAV	02/23/24 17:48

Lab Chronicle

Client: South Carolina Public Service Authority
Project/Site: 125915/JM02.08.G01.1/36500

Job ID: 680-246968-1

Client Sample ID: AF90638

Lab Sample ID: 680-246968-7

Date Collected: 02/14/24 10:10

Matrix: Water

Date Received: 02/21/24 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	7470A			824088	DW	EET SAV	02/22/24 15:20
Total/NA	Analysis	7470A		1	824292	DW	EET SAV	02/23/24 17:50

Client Sample ID: AF90639

Lab Sample ID: 680-246968-8

Date Collected: 02/14/24 11:05

Matrix: Water

Date Received: 02/21/24 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	7470A			824088	DW	EET SAV	02/22/24 15:20
Total/NA	Analysis	7470A		1	824292	DW	EET SAV	02/23/24 17:52

Client Sample ID: AF90640

Lab Sample ID: 680-246968-9

Date Collected: 02/14/24 11:10

Matrix: Water

Date Received: 02/21/24 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	7470A			824088	DW	EET SAV	02/22/24 15:20
Total/NA	Analysis	7470A		1	824292	DW	EET SAV	02/23/24 17:54

Client Sample ID: AF90635

Lab Sample ID: 680-246968-10

Date Collected: 02/14/24 12:19

Matrix: Water

Date Received: 02/21/24 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	7470A			824088	DW	EET SAV	02/22/24 15:20
Total/NA	Analysis	7470A		1	824292	DW	EET SAV	02/23/24 17:56

Client Sample ID: AF90608

Lab Sample ID: 680-246968-11

Date Collected: 02/14/24 14:04

Matrix: Water

Date Received: 02/21/24 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	7470A			824551	DW	EET SAV	02/26/24 11:43
Total/NA	Analysis	7470A		1	824780	DW	EET SAV	02/26/24 17:12

Client Sample ID: AF90609

Lab Sample ID: 680-246968-12

Date Collected: 02/14/24 14:09

Matrix: Water

Date Received: 02/21/24 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	7470A			824551	DW	EET SAV	02/26/24 11:43
Total/NA	Analysis	7470A		1	824780	DW	EET SAV	02/26/24 17:18

Client Sample ID: AF90630

Lab Sample ID: 680-246968-13

Date Collected: 02/15/24 11:25

Matrix: Water

Date Received: 02/21/24 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	7470A			824551	DW	EET SAV	02/26/24 11:43
Total/NA	Analysis	7470A		1	824780	DW	EET SAV	02/26/24 17:20

Client Sample ID: AF90623

Lab Sample ID: 680-246968-14

Date Collected: 02/15/24 12:20

Matrix: Water

Date Received: 02/21/24 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	7470A			824551	DW	EET SAV	02/26/24 11:43
Total/NA	Analysis	7470A		1	824780	DW	EET SAV	02/26/24 17:22

Client Sample ID: AF90633

Lab Sample ID: 680-246968-15

Date Collected: 02/15/24 14:12

Matrix: Water

Date Received: 02/21/24 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	7470A			824551	DW	EET SAV	02/26/24 11:43
Total/NA	Analysis	7470A		1	824780	DW	EET SAV	02/26/24 17:24

Client Sample ID: AF90625

Lab Sample ID: 680-246968-16

Date Collected: 02/15/24 10:35

Matrix: Water

Date Received: 02/21/24 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	7470A			824551	DW	EET SAV	02/26/24 11:43
Total/NA	Analysis	7470A		1	824780	DW	EET SAV	02/26/24 17:26

Client Sample ID: AF90613

Lab Sample ID: 680-246968-17

Date Collected: 02/15/24 13:31

Matrix: Water

Date Received: 02/21/24 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	7470A			824551	DW	EET SAV	02/26/24 11:43
Total/NA	Analysis	7470A		1	824780	DW	EET SAV	02/26/24 17:32

Client Sample ID: AF90620

Lab Sample ID: 680-246968-18

Date Collected: 02/12/24 12:45

Matrix: Water

Date Received: 02/21/24 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	7470A			824551	DW	EET SAV	02/26/24 11:43
Total/NA	Analysis	7470A		1	824780	DW	EET SAV	02/26/24 17:34

Client: South Carolina Public Service Authority
Project/Site: 125915/JM02.08.G01.1/36500

Job ID: 680-246968-1

Client Sample ID: AF90624
Date Collected: 02/12/24 11:47
Date Received: 02/21/24 10:05

Lab Sample ID: 680-246968-19
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	7470A			824551	DW	EET SAV	02/26/24 11:43
Total/NA	Analysis	7470A		1	824780	DW	EET SAV	02/26/24 17:36

Laboratory References:

EET SAV = Eurofins Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Contract Lab Info: TA-SAV Contract Lab Due Date (Lab Only): 2 / 29 / 24 Send report to lcwillia@santeecooper.com & sherri.levy@santeecooper.com

Chain of Custody

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

Customer Email/Report Recipient: LCWILLIA @santeecooper.com

Date Results Needed by: ___/___/___

Project/Task/Unit #: 125915 / JM02.08.G01.1 / 36500

Rerun request for any flagged QC (Yes) No

Analysis Group

Labworks ID # (Internal use only)	Sample Location/ Description	Collection Date	Collection Time	Sample Collector	Total # of containers	Bottle type: (Glass-G/Plastic-P)	Grab (G) or Composite (C)	Matrix(see below)	Preservative (see below)	Comments • Method # • Reporting limit • Misc. sample info • Any other notes	HG
AF90642	WLF-A2-1	2/13/24	1135	WJK BM	1	P	G	GW	2	7470 RL = 0.2 mg/L	X
43	WLF-A2-2		1241								
18	WAP-17		1348								
19	WAP-17 DUP		1353								
AF90641	WLF-A1-5	2/12/24	1405								
AF90636	WLF-A1-1	2/13/24	1013								
AF90638	WLF-A1-3	2/14/24	1010								
39	WLF-A1-4		1105								
40	WLF-A1-4 DUP		1110								
35	WBW-A1-1		1219								1

680-246968 Chain of Custody

Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
SLevy	35594	2/20/24	1300			2/21/24	1005
Relinquished by:	**Employee#**	**Date**	**Time**	**Received by:**	**Employee #**	**Date**	**Time**
Relinquished by:	**Employee#**	**Date**	**Time**	**Received by:**	**Employee #**	**Date**	**Time**

Sample Receiving (Internal Use Only)
TEMP (°C): 14.2/14.2 Initial: ____
Correct pH: Yes No
Preservative Lot#:
Date/Time/Init for preservative:

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

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

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

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

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

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

NPDES
☐ Oil & Grease
☐ As
☐ TSS

Matrix codes: GW-groundwater, DW-drinking water, SW-surface water, WW-waste water, BW-boiler water, L-limestone, Oil-oil, S-Soil, SL-solid, C-coal, G-gypsum, FA-flyash, BA-bottom ash, M-misc (describe in comment section)
Preservative code- 1=<4°C 2=HNO_3 3=H_2SO_4 4-HCl 5=$Na_2S_2O_3$ 6-Other (Specify)

2/27/2024

Contract Lab Info: TA-SAV Contract Lab Due Date (Lab Only): 2 / 29 / 24 Send report to lcwillia@santeecooper.com & sherri.levy@santeecooper.com

Chain of Custody

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

Customer Email/Report Recipient: LCWILLIA @santeecooper.com

Date Results Needed by: ___/___/___

Project/Task/Unit #: 125915 / JM02.09.G01.1 / 36500

Rerun request for any flagged QC (Yes) No

Analysis Group

Labworks ID # (Internal use only)	Sample Location/ Description	Collection Date	Collection Time	Sample Collector	Total # of containers	Bottle type: (Glass-G/Plastic-P)	Grab (G) or Composite (C)	Matrix(see below)	Preservative (see below)	Comments • Method # • Reporting limit • Misc. sample info • Any other notes	Hg			
AF90608	WAP-12	2/14/24	1404	WJK BM	1	P	G	GW	2	7470 RL= 0.2 ug/L	X			
09	WAP-12 DUP	〃	1409	〃	〃	〃	〃	〃	〃		〃			
AF90630	WAP-27	2/15/24	1125	〃	〃	〃	〃	〃	〃		〃			
23	WAP-21	〃	1220	〃	〃	〃	〃	〃	〃		〃			
33	WAP-29	〃	1412	〃	〃	〃	〃	〃	〃		〃			
AF90625	WAP-23	〃	1035	〃	〃	〃	〃	〃	〃		〃			
13	WAP-14A	〃	1331	〃	〃	〃	〃	〃	〃		〃			
AF90620	WAP-18	2/12/24	1245	〃	〃	〃	〃	〃	〃		〃			
AF90624	WAP-22	〃	1147	〃	〃	〃	〃	〃	〃		〃			

Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
Slevy	35594	2/20/24	1300			2/21/24	1005
Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time

Sample Receiving (Internal Use Only)
TEMP (°C): 11.2 / 14.2 Initial: ____
Correct pH: Yes No
Preservative Lot#:
Date/Time/Init for preservative:

☐ METALS (all)

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

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

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

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

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

NPDES
☐ Oil & Grease
☐ As
☐ TSS

Matrix codes: GW-groundwater, DW-drinking water, SW-surface water, WW-waste water, BW-boiler water, L-limestone, Oil-oil, S-Soil, SL-solid, C-coal, G-gypsum, FA-flyash, BA-bottom ash, M-misc (describe in comment section)
Preservative code- 1=<4°C 2=HNO_3 3=H_2SO_4 4-HCl 5=$Na_2S_2O_3$ 6-Other (Specify)

Login Sample Receipt Checklist

Client: South Carolina Public Service Authority

Job Number: 680-246968-1

Login Number: 246968

List Source: Eurofins Savannah

List Number: 1

Creator: Stewart, Rendaisha

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: South Carolina Public Service Authority
Job ID: 680-246968-1
Project/Site: 125915/JM02.08.G01.1/36500

Laboratory: Eurofins Savannah

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
South Carolina	State	98001	06-30-24

Appendix C – Alternate Source Demonstration

HALEY ALDRICH

www.haleyaldrich.com

REPORT ON

ALTERNATE SOURCE DEMONSTRATION (ASD)

WINYAH GENERATING STATION
CLASS 3 LANDFILL AREA 1
GEORGETOWN, SOUTH CAROLINA

by Haley & Aldrich, Inc.
Greenville, South Carolina

for South Carolina Public Service Authority (Santee Cooper)
Moncks Corner, South Carolina

File No: 0132892-002
October 2024

Certification Page

SANTEE COOPER
WINYAH GENERATING STATION; CLASS 3 LANDFILL AREA 1 APPENDIX III SSI ALTERNATE SOURCE DEMONSTRATION

Pursuant to Title 40 Code of Federal Regulations §257.94(e)(2), Haley & Aldrich, Inc., on behalf of Santee Cooper, conducted an alternate source evaluation to demonstrate that a source other than the Class 3 Landfill Area 1 caused the statistically significant increase over background identified during detection monitoring. I certify that this report and all attachments were prepared by me or under my supervision. I am a professional engineer who is registered in the State of South Carolina.

This certification and the underlying data support the conclusion that a source other than Class 3 Landfill Area 1 is the cause of the statistically significant increase over background levels for Appendix III constituents detected during detection monitoring of this unit.

The information contained in this evaluation is, to the best of my knowledge, true, accurate, and complete.

HALEY & ALDRICH, INC.

Susan W Jackson, P.E.
Susan Jackson, P.E.
South Carolina Professional Engineer
Registration Number 25476

October 13, 2024

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1. Introduction

On behalf of Santee Cooper, Haley & Aldrich, Inc. (Haley & Aldrich) prepared this Alternate Source Demonstration (ASD) pursuant to the Title 40 Code of Federal Regulations (40 CFR) Part §257.94 (e)(2) to demonstrate that a source other than the Winyah Generating Station (WGS) Class 3 Landfill Area 1 (Landfill Area 1) caused a statistically significant increase (SSI) over background levels for multiple Appendix III constituents.

Santee Cooper is the owner and operator of the WGS, which consists of four coal-fired generating units and associated ancillary equipment, including coal combustion residual (CCR) impoundments and landfills. WGS is located approximately 10 miles from the Atlantic Ocean, between Pennyroyal Creek and Turkey Creek in Georgetown, South Carolina. WGS is located within the Lower Coastal Plain of the Atlantic Coastal Plain physiographic province in South Carolina, and the site and surrounding area are relatively flat, with natural ground surface elevations between approximately 15 and 30 feet above mean sea level.

Landfill Area 1 located at the WGS is located within the footprint of the Closed Unit 2 Slurry Pond which had previously been closed by removal with state regulatory approvals. Construction was completed in 2018 for Landfill Area 1, which began operations on November 2, 2018, with the initial placement of waste. The initial statistical analysis conducted following the first round of detection monitoring identified SSIs above background levels of one or more Appendix III constituents. Since Landfill Area 1 is in the footprint of the Closed Unit 2 Slurry Pond (which was at that time in assessment monitoring), and the Appendix III constituents were identified during baseline sampling prior to the placement of waste, an ASD was conducted in 2019, as defined in 40 CFR §257.94(e)(2) (Haley & Aldrich, 2019). The 2019 ASD is available on the CCR Rule Compliance Data and Information website for the WGS.

The initial 2019 ASD found the Closed Unit 2 Slurry Pond was the alternate source of the SSIs identified during 2019 detection monitoring (Haley & Aldrich, 2019). The 2019 ASD compared groundwater quality conditions downgradient of Landfill Area 1 (prior to receiving CCRs) to the Appendix III constituent concentrations detected after Landfill Area 1 began operations. As stated above, this conclusion was not unexpected because of the location of Landfill Area 1 and the Appendix III constituents contributed to the Closed Unit 2 Slurry Pond were identified in groundwater prior to the placement of CCRs in Landfill Area 1. Pursuant to South Carolina Department of Environmental Services (SCDES) regulations, the Closed Unit 2 Slurry Pond was certified as closed by removal in 2017. Landfill Area 1 remained in detection monitoring, and intrawell statistics were used to evaluate Appendix III constituents following the ASD submittal.

Following completion of detection groundwater monitoring in January 2022, SSIs of fluoride, boron, and chloride were identified. Accordingly, Santee Cooper elected to reassess the previously identified alternate source (Closed Unit 2 Slurry Pond) and assess the possibility of additional sources that could be the cause of the SSIs at Landfill Area 1. Haley & Aldrich was retained by Santee Cooper to conduct an ASD to demonstrate that a source other than Landfill Area 1 caused the SSIs of fluoride, boron, and chloride. This ASD, which was completed in October 2022, also evaluated the potential for Landfill Area 1 to be a contributing source to the SSIs. Based on the findings of the second ASD, Landfill Area 1 remained in detection monitoring and intrawell statistics continued to be used to evaluate Appendix III constituents.

In 2024, after completion of the February 2024 detection monitoring event and corresponding July 2024 statistical report, a SSI for calcium was identified for groundwater monitoring well WFL-A1-2 using intrawell statistics. Haley & Aldrich was retained by Santee Cooper to conduct an ASD to demonstrate that the SSI resulted from an "error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality" (40 CFR §257.94(e)(2)) due primarily to a limitation of non-parametric statistical methods and Landfill Area 1 did not cause the calcium SSI.

1.1 SCOPE AND OBJECTIVE

The objective of this ASD is to present the data and technical evaluation to determine if an alternate source other than Landfill Area 1 exists (Closed Unit 2 Slurry Pond) and describe reasons for the calcium SSI related to the limitation in the statistical evaluation and natural variation observed in the aquifer. This ASD also evaluates semiannual monitoring data available after the prior ASD to determine if the data aligns with the findings of earlier ASDs. The evaluation is based on groundwater quality and hydrogeology, statistical results, and landfill operations since completion of the October 2022 ASD.

1.2 CCR RULE REQUIREMENTS

The U.S. Environmental Protection Agency (USEPA) regulations regarding assessment monitoring programs for CCR units, including landfills and surface impoundments, provide owners and operators with the option to conduct an ASD when an Appendix III constituent is identified as a SSI (40 CFR §257.94(e)(2)).

According to the CCR Rule, an owner or operator may "demonstrate that a source other than the CCR unit caused the SSI over background levels for a constituent or that the SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. The owner or operator must complete the written demonstration within 90 days of detecting a statistically significant increase over background levels to include obtaining a certification from a qualified professional engineer […]."

Additionally, the USEPA Part A Determinations issued in January 2022 commented that ASDs should meet the lines of evidence as outlined in the *EPA Solid Waste Disposal Facility Criteria Technical Manual (1993)*. These lines of evidence include the following:

1. Existence of an alternative source.
2. A hydraulic connection exists between the alternative source and the groundwater well with the significant increase.
3. Constituent(s) (or precursor constituents) are present at the alternative source or along the flow path from the alternative source prior to possible release from the unit.
4. Relative concentration and distribution of constituents in the zone of contamination are more strongly linked to the alternative source than to the unit when the fate and transport characteristics of the constituents are considered.
5. Concentration observed in groundwater could not have resulted from the unit, given the waste constituents and concentrations in the unit leachate and wastes, and the site's hydrogeologic conditions.
6. Data supporting conclusions regarding the alternative source are historically consistent with hydrogeologic conditions and findings of the monitoring program.

1.3 MONITORING WELL NETWORK FOR THE WGS LANDFILL AREA 1

The monitoring well network for Landfill Area 1 was installed during landfill construction in May 2018. Design of the Landfill Area 1 groundwater monitoring well network considered the existing groundwater monitoring networks of the Closed Unit 2 Slurry Pond, specifically the federal CCR Rule and the SCDES's National Pollutant Discharge Elimination System permit groundwater monitoring wells.

The resulting monitoring well network for Landfill Area 1 includes one upgradient monitoring well (WBW-A1-1), and six downgradient monitoring wells (WAP-7, WLF-A1-1, WLF-A1-2, WLF-A1-3, WLF-A1-4, and WLF-A1-5). Groundwater monitoring wells WLF-A1-1, WLF-A1-2, WLF-A1-3, WLF-A1-4, and WLF-A1-5 were installed to monitor groundwater quality in the uppermost aquifer and are screened in the same hydrostratigraphic unit as other existing wells that had been used for groundwater monitoring for the Closed Unit 2 Slurry Pond since 1995 pursuant to SCDES regulations.

Since the October 2022 ASD, groundwater monitoring wells were neither installed, reconditioned, nor decommissioned (Figure 1). However, the potentiometric surface characterization of the uppermost aquifer was improved given the changing site conditions.

1.4 SITE HISTORY FOR THE WGS CLOSED UNIT 2 SLURRY POND AND LANDFILL AREA 1

A detailed summary of the site history of the WGS Closed Unit 2 Slurry Pond and Landfill Area 1 was incorporated into the October 2022 ASD evaluation because of its relevance in determining the source of the SSIs. As noted earlier, site closure for the Closed Unit 2 Slurry Pond was completed in 2017 pursuant to state regulations, then in July 2023, it was certified as closed by removal in accordance with 40 CFR §257.102(c) and §257.102(f)(3).

Closure activities were completed for Landfill Area 1 as of July 24, 2024, pursuant to the closure performance standards cited in 40 CFR §257.102(d). Santee Cooper received Approval of Final Closure from the SCDES Bureau of Land and Waste Management (BLWM) on October 9, 2024.

2. Alternate Source Demonstration

Consistent with the CCR Rule, this ASD evaluates multiple lines of evidence to address prior identified SSIs collectively and the February 2024 calcium SSI in WFL-A1-2. As presented below, this ASD identified contributing factors in the statistical analysis of calcium other than Landfill Area 1. The ASD activities performed by Haley & Aldrich included a review of landfill operations and hydrogeological, statistical, and laboratory analytical data evaluations in consideration of the location, contents, construction, and operations of Landfill Area 1.

The findings of this ASD demonstrate that the calcium SSI was not related to a release from Landfill Area 1. Rather, the February 2024 calcium ASD evaluation demonstrates that the calcium SSI is a function of a limitation of a non-parametric statistical evaluation (see Section 2.5), as calcium remains within typical concentrations found for this unit. Furthermore, a review of landfill construction and operations, a review of Santee Cooper's response to a release of CCRs from Landfill Area 1, and a review of the available monitoring data after the prior ASDs does not contradict prior ASD findings that attribute Appendix III concentrations, including calcium, to the Closed Unit 2 Slurry Pond (see Sections 2.3 and 2.4).

The findings of the ASD evaluations and the lines of evidence that support this determination are described below.

2.1 WGS CLOSED UNIT 2 SLURRY POND CONTENTS

The contents of the Closed Unit 2 Slurry Pond, which is located within the footprint of the new Landfill Area 1, are summarized in this section since they were identified as the alternate source in the prior ASDs and further demonstrate that measurable amounts of residual calcium are present in subsurface soils. The Closed Unit 2 Slurry Pond was used exclusively as an industrial wastewater treatment pond for the disposal of flue gas desulfurization (FGD) waste and wastewater. Contents of the pond were largely calcium sulfite and unreacted limestone (calcium carbonate). Because of the inefficiencies of the early FGD systems, the limestone was not always exhausted in the FGD process; therefore, residual limestone was present in wastewater. Additionally, chlorides and fluoride were present in the FGD wastewater.

The Closed Unit 2 Slurry Pond did not receive ash sluice water or direct discharge of fly ash or bottom ash. Even though CCR contents in the pond were fully excavated during closure along with subsurface soil, testing of the residual subsurface soils showed measurable concentrations of multiple Appendix III constituents, including calcium. Appendix A provides calcium data for multiple discrete and composite soil samples collected in May 2017 in the footprint of the Closed Unit 2 Slurry Pond. The samples were collected prior to landfill construction. Every sample result shows that calcium in the soil is greater than three times the background calcium.

There have been no physical changes to the subsurface soil conditions that were impacted by the Closed Unit 2 Slurry Pond since the prior ASD; thus, the Closed Unit 2 Slurry Pond continues as an alternate source of Appendix III constituent SSIs.

2.2 WGS CLASS 3 LANDFILL AREA 1 CONTENTS

A technical engineering evaluation of the contents, construction, and operations of Landfill Area 1 was conducted with the October 2022 ASD to determine the potential of a release to groundwater from this

relatively new landfill. The findings demonstrated the improbability that Landfill Area 1 is an additional contributing source of the detected Appendix III constituent SSIs.

Landfill Area 1 contains primarily ponded ash from WGS Ash Ponds A and B that are undergoing closure by removal. Landfill Area 1 also contains a small percentage of non-specification gypsum, non-marketable bottom ash generated at WGS, and some subsurface soils from Santee Cooper's closure of the Grainger ash ponds.

2.3 WGS CLASS 3 LANDFILL AREA 1 CONSTRUCTION AND OPERATIONS

Landfill Area 1 is a permitted Class 3 Industrial Solid Waste Landfill designed, constructed, and operated to meet requirements of the CCR Rule (40 CFR Part §257) and SCDES landfill regulations. The Landfill Operator-in-Charge and WGS employee (Richie Mills) was interviewed regarding landfill operations for this ASD. Based on the construction design, operations, a review of a weather event that resulted in a short-term release of CCRs and CCR contact water from the landfill, and ongoing inspections of this relatively new landfill as described in subsequent sections, it is unlikely Landfill Area 1 is a contributing source of the detected Appendix III constituents SSIs, including a calcium SSI.

As noted in a previous ASD, Landfill Area 1 was constructed so that waste was placed with greater than 5 feet of separation from the seasonal high-water table. The landfill was constructed with a composite liner system, a leachate collection system (LCS), and a contact stormwater collection system. It was designed and constructed to prohibit the release of materials, including CCRs, CCR contact stormwater, and CCR leachate into the environment. However, with a December 17 to 18, 2023 extreme weather event, a release of CCRs and CCR contact stormwater occurred and this is discussed in more detail in Section 2.3.5.

Throughout the construction process, Santee Cooper engineers oversaw the construction to ensure it was completed in accordance with the permitted construction drawings. Construction quality assurance was contracted to consultants who performed industry-standard testing to ensure and certify that the construction was completed as designed and permitted. The Construction Quality Assurance Report was reviewed and approved by SCDES BLWM as part of the approval of final closure of Landfill Area 1. A review of the landfill construction was a component of the previous October 2022 ASD. Since then, there has been no further landfill construction for waste placement areas and the associated prior ASD findings remain valid. Subsequent construction activities since the prior ASD were limited to capping and other closure activities that were completed on July 24, 2024. Santee Cooper continues to conduct routine inspections. The Landfill Operator-in-Charge works full time at WGS and is a certified Class 3 landfill manager authorized by the state of South Carolina.

Landfill Area 1 was designed with an internal drain system, a decant structure, which allowed rainwater that contacted CCRs to be collected within active (or open) waste placement areas and drained directly to the leachate management system. All decant structures were designed to drain contact stormwater using a contact water attenuation basin which temporarily stored the contact water. The operational grading plans and fill sequencing were designed to channel stormwater within active areas to the attenuation basin/decant structure, then to the permitted leachate management system (Geosyntec Consultants [Geosyntec], 2016 and the design calculations completed by Geosyntec and finalized by Santee Cooper in the Run-on and Run-off Control System Plan for New Class 3 CCR Landfill Area 1 [Geosyntec, 2018b]).

Landfill Area 1 began operations receiving CCR material November 2, 2018, and it is now closed in place with an engineered cover system, ClosureTurf®. Closure activities were completed on July 24, 2024. The

cover system is based on an alternate cap design that consists of (bottom to top) prepared CCR surface, a geosynthetic clay liner (conductivity of not more than 1 X 10^{-5} centimeters per second permeability), a 50-mil-thick, liner-low density polyethylene geomembrane, and topped with ClosureTurf®. Partial ClosureTurf® closure areas were completed June 2022 which encompassed the entire lower slop interval and waste boundary of Landfill Area 1; 11.85 acres of the total landfill area of 31.3-acre footprint. The remaining "open" areas were composed of partially vegetated and graded CCR.

2.3.1 Placement of Waste

The CCR Rule under 40 CFR §257.60(a) states that new CCR landfills "must be constructed with a base that is located no less than 1.52 meters (5 feet) above the upper limit of the uppermost aquifer." As noted in the October 2022 ASD, the *Location Restrictions Compliance Demonstration* (Geosyntec, 2018a) reviewed the design and construction and determined that it complies with the requirements of 40 CFR §257.60(a) due to its placement above the uppermost aquifer. According to the Operator-in-Charge, all waste placements, including any since the October 2022 ASD, were into previously constructed landfill areas meeting the 5-foot criterion.

2.3.2 Composite Liner and Leachate Collection and Removal System

The Landfill Area 1 liner system was designed and constructed to meet the design criteria requirements. The Construction Project Manager-of-Record, a Professional Engineer, certified that the design of the composite liner and the leachate collection and removal system (LCRS) meets the design criteria requirements of 40 CFR §257.70 (Geosyntec, 2017a; 2017b). The *Construction Quality Assurance Report* documents that the Landfill Area 1 liner system and LCRS were constructed in accordance with the permit drawings and the permitted technical specifications (Santee Cooper, 2018). Landfill Area 1 has a LCS consisting of:

- a 2-foot-thick protective cover/drainage layer underlain with a geocomposite drainage layer;
- a leachate collection corridor composed of a perforated high-density polyethylene pipe surrounded by coarse aggregate and a filter; and
- a leachate sump at the low point filled with coarse aggregate, surrounded by a filter and equipped with a riser pipe from which collected leachate will be withdrawn via pumps.

Leachate generated in the landfill flows into the geocomposite drainage layer component of the liner system, either flowing directly toward and into the leachate collection sumps, or to the leachate collection corridor where it is conveyed to the lined sump(s). Landfill Area 1 has six leachate pumps with two large pipes that convey the collected leachate to the discharge point, which is the WGS Cooling Pond Complex, a permitted wastewater treatment unit. These pumps operate on a regular basis to handle and discharge the leachate. According to the Operator-in-Charge, there has been no significant change in the operations or construction of the leachate pumps and pipe system, and they appear to typically operate continuously.

2.3.3 Contact Stormwater Management

Contact water is stormwater runoff that has been in contact with exposed CCR waste in the active areas of Landfill Area 1. Prior to closure, the contact water was managed through sequential management as ongoing lifts of waste were placed in a landfill area cell. Initially, when the waste elevation was below the landfill perimeter's elevation, contact water was removed via pumps and discharged to the WGS Cooling Pond Complex. After the CCR waste elevation was raised above the landfill perimeter, a chimney

drain decant structure was installed. The chimney drain consisted of a perforated vertical concrete riser pipe surrounded by attenuating basins. The attenuating basin was a depressed area around the decant structure intended to help filter the contact water. The entire active area, including the attenuating basin, was graded to drain toward the decant structure. The vertical decant structure pipe connects to a horizontal connector pipe at the base, which conveyed contact water by gravity through the LCS to the WGS Cooling Pond Complex, a permitted industrial cooling pond. The leachate system is enclosed and lined until it discharges into the WGS Cooling Pond Complex (Geosyntec, 2021).

During the extreme weather in December 2023, an estimated 12 to 13 inches of rain were received in an approximate 24-hour period; the decant structure was overwhelmed and CCR contact stormwater and CCRs left the landfill boundary.

2.3.4 Annual Inspections

Landfill Area 1 is formally inspected weekly by trained landfill operators supervised by the Operator-in-Charge. It is also inspected annually by Santee Cooper professional civil engineers. From a compliance perspective, the landfill is inspected approximately monthly by SCDES. To date, there have been no landfill violations resulting from the regulatory inspections. Additional inspections include routine fugitive dust inspections of the site and weekly stormwater pollution prevention inspections by Santee Cooper employees.

The October 2022 ASD included a review of the operations of Landfill Area 1, and the finding was that there was no evidence of a release directly from the landfill, nor was the landfill contributing to the detected SSIs. Since the prior ASD, there has been one known short-term release as noted earlier that was due to an extreme weather event. Since the October 2022 ASD, a review of subsequent inspections was completed with the following observations.

2.3.4.1 Class 3 Landfill Area 1 2022 and 2023 Fugitive Dust Control Reports

The 2022 and 2023 Fugitive Dust Control inspection reports both noted that there were no citizen complaints to report in 2022 or 2023 and standard controls were sufficient; therefore, corrective actions were not taken. Both inspections were conducted in compliance with Santee Cooper's CCR Fugitive Dust Plan. These documents are publicly available on Santee Cooper's CCR website. Based on a review of these reports and an interview with the Operator-in-Charge, there is no indication of severe fugitive dust issues that could be contributing to groundwater impacts.

2.3.4.2 CCR Class 3 Area 1 2022 and 2023 Landfill Inspections

The 2022 annual inspection was conducted to assess the stability and functionality of the WGS CCR landfills and was certified by a Professional Engineer, Alfred D. Manalac, on October 24, 2022. The report stated: "In summary, the WGS CCR Class 3 Landfills Area 1 and Area 2 were generally found in satisfactory condition. No recognized existing or potential management unit safety deficiencies were noted at the time of inspection within the parameters of design and operation." The physical site inspection was conducted on September 27, 2022. Landfill Area 1 contained an estimated 1,662,577 cubic yards of material at the time of the inspection. Landfill Area 1 is 850 feet wide and 1,600 feet long, with a 3 horizontal to 1 vertical (3H:1V) side slope by design. Landfill Area 1 began receiving material in November 2018, including contact soil from Santee Cooper's Grainger site and CCRs from the WGS ponds.

The 2023 annual inspection was conducted to assess the stability and functionality of the WGS CCR landfills and was certified by a Professional Engineer, Alfred D. Manalac, on September 14, 2023. The report stated: "In summary, the WGS CCR Class 3 Landfills Area 1 and Area 2 were generally found in satisfactory condition. No recognized existing or potential management unit safety deficiencies were noted at the time of inspection within the parameters of design and operation." Landfill Area 1 contained an estimated 1,662,577 cubic yards of material at the time of the inspection. Only 10,220 tons of CCRs were added to Landfill Area 1 in 2023.

The annual inspections were made by conducting file reviews in the operating record and conducting a physical site inspection. The inspector reviewed weekly inspections conducted by WGS personnel that indicated no major structural or operational problems. The overall condition was found to be satisfactory. The weekly inspections are conducted by staff working for the Operator-in-Charge and signed by the WGS manager. SCDES inspects the WGS landfills approximately monthly. According to the Operator-in-Charge, there have been no violations and the SCDES inspection records reflect no periods of non-compliance.

Based on a review of the inspection records provided and an interview with the Operator-in-Charge, there is no indication of ongoing operational issues or non-compliance that could indicate a long-term or systematic issue that could be contributing to Appendix III SSIs.

2.3.5 Extreme Weather Event

The following are pertinent observations from Santee Cooper's Report to File regarding the December 2023 extreme weather event which resulted in a one-time release of CCRs and CCR contact water. This reference is provided in Appendix B.

- The event occurred between December 17 and 18, 2023, when Georgetown County, South Carolina received an estimated 12 to 13 inches of rainfall within an approximate 24-hour period. This 24-hour precipitation total falls between the 100-year and the 200-year storm interval for the areas as published in the National Oceanic and Atmospheric Administration Precipitation-Frequency tables.
- The result was a release of both CCRs and ash-contact stormwater. Even though there was not a breach in the dike associated with the Closed Unit 2 Slurry Pond, CCRs and water were released beyond the waste boundary and ultimately into a borrow pit on the adjacent property.
- Landfill Area 1 sustained various amounts of CCRs and side slope erosion that required correction action to mitigate further slope stability concerns and/or further release of CCRs outside the permitted waste boundaries. Santee Cooper estimated from aerial area measures that CCRs encroached on less than 0.75 acres of the east-adjoining property that was largely contained in a 0.15- to 0.3-foot soil borrow pit. Discharges of CCRs along the southwest waste boundary were also identified with discharges extending into an exterior stormwater ditch on the WGS property. The volume of CCRs and CCR contact stormwater that was released are unknown.
- Corrective action included removal of visible CCRs from December 18 through 26, 2023. The CCRs were fully recovered within less than one week after the incident, according to the Operator-in-Charge. Corrective action included removal of visible CCRs from the borrow pit and woodland areas and from areas outside the waste boundary along the south and southwest stormwater ditches.

- Ash contact stormwater was not recovered due to the infeasibility of such an action. However, the WGS stormwater ditches in the area ultimately drain to the Industrial Cooling Pond, which is the same location that landfill leachate and ash contact stormwater goes during normal operations. With the prompt action by Santee Cooper to recover the released CCRs within a relatively short period of time, it is unlikely that the released CCRs and CCR contact water appreciably impacted the groundwater through direct infiltration.

2.4 HYDROGEOLOGICAL EVALUATION

As discussed in prior ASDs, Appendix III constituents, including calcium, were present in the footprint of the Closed Unit 2 Slurry Pond and downgradient monitoring wells for this unit at similar concentrations to those that prompted the calcium SSI. The reported calcium concentration of 188 milligrams per liter (mg/L) at downgradient well WLF-A1-2 prompted the SSI during the first semiannual event; however, this concentration is well within the range of reported concentrations found at the unit prior to Landfill Area 1 operations commencing. Table 1 below shows average concentrations of calcium found in monitoring wells downgradient from Landfill Area 1 from June to August 2018, before the start of operations in Landfill Area 1 in 2019.

Table 1. Calcium Concentrations Prior to Operation

Well ID	Average Calcium Concentrations (mg/L)
WAP-7	335.75
WLF-A1-1	586.50
WLF-A1-2	146.63
WLF-A1-3	8.53
WLF-A1-4	153.87
WLF-A1-5	229.75

The potentiometric maps are used to interpret groundwater flow direction and approximate flow rates (velocity). Based on review of recent potentiometric maps (Appendix C), groundwater flow direction in the vicinity of Landfill Area 1 and the Closed Unit 2 Slurry Pond has varied in response to changing site conditions, surrounding changes in water head from nearby water bodies, and extreme weather events. Based on the prior ASDs and updated potentiometric maps from 2023 and 2024, flow patterns have remained generally radial, with flow away from the unit to the south toward the Intake Canal, west toward the plant, and east toward the Cooling Pond Complex.

Groundwater flow velocity for this portion of the WGS site is approximately 6.4 to 10.4 feet per year (ft/year) based on average flow velocities calculated from the February and April 2024 water table elevations and interpreted groundwater flow direction from SynTerra Corporation. This is generally consistent with the findings from the prior ASD which were calculated at 7 ft/year. Since the Closed Unit 2 Slurry Pond was constructed in 1977, sufficient time has passed for a release to have migrated to the downgradient groundwater monitoring locations. The distance between the southern edge of the Closed Unit 2 Slurry Pond and well WAP-7, which monitors the southern boundary of both Landfill Area 1 and the Closed Unit 2 Slurry Pond, is over 50 feet on the outer edge of the landfill access road. Based on the location of WAP-7, the groundwater flow rate, and the location of the CCR in Landfill Area 1, it is unlikely that a release directly from the landfill, which opened on November 2, 2018, would have culminated in the monitoring area of the well during the first six years of landfill operations.

Additionally, the length of the groundwater flow path from WLF-A1-1 to WAP-7 is approximately 1,500 feet, which represents approximately 200 years for constituents to migrate from WLF-A1-1 beneath the northern portion of the unit to WAP-7 and completely flush through the system. Based on

the calculated groundwater flow velocity and levels of constituent concentrations, elevated concentrations could continue to flow through the Landfill Area 1 monitoring wells for many years. Fluctuations in these concentrations resulting from extreme weather events and other dynamic site conditions are expected.

This also does not take into consideration localized inflow via stormwater management ditches between the landfill and well network or the calculated head from the Closed Unit 2 Slurry Pond prior to closure, which may present a hydraulic barrier or other hydrogeologic variables. Stormwater management ditches surround the perimeter of the Closed Unit 2 Slurry Pond and Landfill Area 1 as discussed in Section 2.3.3. Therefore, based on the above, Appendix III concentrations through February 2024 do not indicate a release from Landfill Area 1, as the increases appear to originate from a pre-existing condition. As previously noted, during the extreme weather in December 2023, an estimated 12 to 13 inches of precipitation were received in an approximate 24-hour period at WGS, and the decant structure was overwhelmed, thus CCR contact stormwater and CCRs left the landfill boundary.

Furthermore, historical weather events have likely contributed to variability observed at the WGS and Landfill Area 1 over time. Since the Closed Unit 2 Slurry Pond's construction in 1977, the South Carolina coast has had 13 notable hurricane or tropical storm landfalls near the Georgetown area, each bringing significant rainfall. Over a three-day period in September 2016, precipitation from Hurricane Hermine brought over 14 inches of rainfall to the Georgetown area. The prior year, October 1 through October 5, 2015, Hurricane Joaquin caused historical flooding in the Georgetown area. According to the National Weather Service, Georgetown County received nearly 20 inches of rainfall over this five-day period.

Because of the relatively slow draining lowlands, the Black River and lower tributaries, including those flowing toward the Waccamaw River, remained in a flood stage for nearly two weeks in October. At the time of these major storm events, Landfill Area 1 had not been constructed and had not begun receiving waste. As depicted in the hydrograph (Appendix D), a potentiometric high was gauged following the storm event which may have mobilized impacts from the Closed Unit 2 Slurry Pond. Significant precipitation amounts may have percolated through the unit and likely created a slug of impacted groundwater from the Closed Unit 2 Slurry Pond. Based on the time between the historical rain event and current flow velocities for the area, the recent increases in constituent concentrations may represent a release attributable to historical weather events from residual mass of Appendix III constituents from the Closed Unit 2 Slurry Pond. During significant wet weather events, mass is likely transported out of the capillary fringe from the vadose zone, and more mobile Appendix III compounds may show increases in a variable pattern.

2.5 CALCIUM EVALUATION

The statistical evaluation of the February 2024 sampling event identified a SSI for calcium at monitoring well WLF-A1-2. Groundwater calcium concentrations at WLF-A1-2 vary considerably within the well. Based on a Shapiro-Wilks normality test, a non-parametric intrawell upper prediction limit for background was developed to statistically evaluate the February 2024 data. The measured value of 188 mg/L exceeded the intrawell upper prediction limit of 187 mg/L, as the result was identified as a SSI. While a confirmation resample was not collected in February 2024 following the sampling event, subsequent sampling conducted in July 2024 was below the intrawell background limit, with a measured value of 62.6 mg/L. The following section further describes the calcium concentration variability at the WLF-A1-2 and site-wide downgradient wells. The concentrations used as the sample set in this assessment are provided in Table 2.

Table 2: WLF-A1-2 Data Used in Statistical Evaluation			
Location	**Sample Date**	**Chemical**	**Concentration**
WLF-A1-2	7/11/2018	Calcium	104
WLF-A1-2	7/17/2018	Calcium	102
WLF-A1-2	7/26/2018	Calcium	151
WLF-A1-2	7/31/2018	Calcium	153
WLF-A1-2	8/7/2018	Calcium	187
WLF-A1-2	8/15/2018	Calcium	160
WLF-A1-2	8/23/2018	Calcium	152
WLF-A1-2	1/23/2019	Calcium	51
WLF-A1-2	2/5/2020	Calcium	27.1
WLF-A1-2	6/16/2020	Calcium	12
WLF-A1-2	3/1/2021	Calcium	21
WLF-A1-2	8/11/2021	Calcium	15.8
WLF-A1-2	3/2/2022	Calcium	90.7
WLF-A1-2	7/11/2022	Calcium	32
WLF-A1-2	8/8/2022	Calcium	33
WLF-A1-2	2/27/2023	Calcium	62.9
WLF-A1-2	7/10/2023	Calcium	25
WLF-A1-2	2/8/2024	Calcium	188

A box plot of calcium concentrations observed in groundwater samples collected from WLF-A1-2 between July 2018 and February 2024 is shown in Figure 2 below. A total 18 samples were used to construct the box plot at WLF-A1-2. Calcium concentrations ranged from 12 to 188 mg/L, and the average and median concentrations were 76.8 and 87 mg/L, respectively. Calcium concentrations were most often between 27 mg/L (first quartile) and 152 mg/L (third quartile).

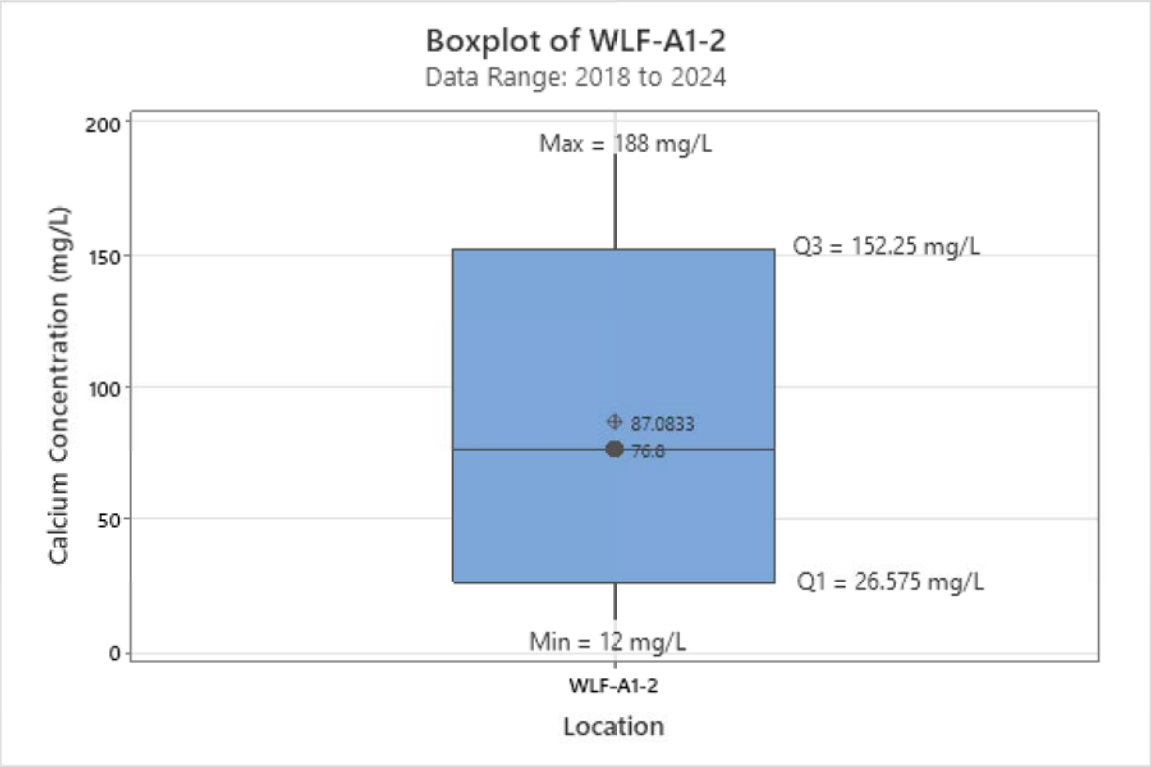

Figure 2: Boxplot of WLF-A1-2

A comparison box plot of calcium concentrations in all downgradient monitoring wells WAP-7, WLF-A-1, WLF-A1-2, WLF-A-3, WLF-A-4, and WLF-A-5 are shown in Figure 3 below. The average calcium concentrations observed in downgradient monitoring wells WAP-7, WLF-A-1, WLF-A-3, WLF-A-4, WLF-A-5 were at 313, 429.5, 16.06, 76.8, 91.6, and 257.667 mg/L, respectively.

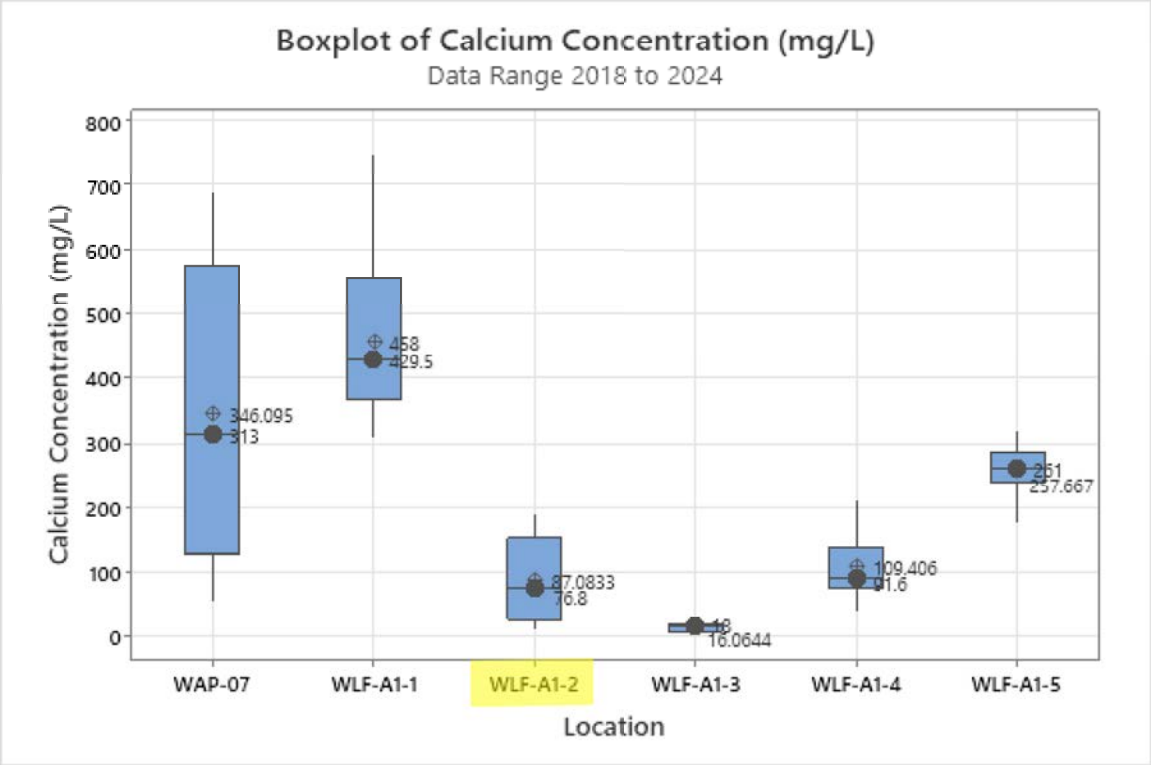

Figure 3: Boxplot of Calcium Concentrations for Class 3 Landfill Area 1 Compliance Network
**Highlighted well contains calcium SSI*

From the box plots, it is evident that the groundwater calcium concentrations at the site vary considerably within each well, including the downgradient monitoring wells. The February 2024 calcium concentrations from downgradient wells vary from 18.4 mg/L at WLF-A1-3 to 383 mg/L at WAP-7. Additionally, during operation of the Closed Unit 2 Slurry Pond, calcium concentrations in the downgradient wells averaged 185 mg/L, with a maximum detected concentration of 746 mg/L. The range of calcium concentrations observed at WLF-A1-2 is within the variability of historical concentrations present before waste was placed into Landfill Area 1. The box and whisker plots also suggest that, despite the Shapiro-Wilks normality tests, the data from WLF-A1-2 visually approximates a normal distribution.

2.5.1 Intrawell Statistical Evaluation

The intrawell background limit was calculated using non-parametric upper prediction limit using 17 data points collected between July 2018 and February 2023. The non-parametric test was used since the Shapiro-Wilks normality test determined that the data do not follow a normal distribution at a 5 percent significant level (Type I error of 0.05) and follow a normal distribution at a 1 percent significance level (Type I error of 0.01). The Unified Guidance recommends a Type I error rate of 0.1 for smaller datasets ($n < 10$), 0.05 for moderate datasets ($10 \leq n < 20$), and 0.01 for larger-sized datasets ($n \geq 20$).

Therefore, the maximum concentration of the background dataset was utilized as the non-parametric intrawell background limit, as per the Unified Guidance recommendation, which represents a statistical confidence level of 81 percent. The February 2024 sampling event is the second compliance sample at the well, and the reported calcium concentration of 188 mg/L at downgradient well WLF-A1-2, which was identified as an exceedance, was only 1 mg/L above the previous maximum of 187 mg/L.
As described in the previous section, high variability was observed at WLF-A1-2, and this can lead to a skewed or asymmetric distribution and can significantly impact the distribution of the data. The non-parametric tests have several limitations when the confidence level is lower than the desired 95 percent, especially if the sample size is small. The non-parametric tests are generally less powerful than parametric tests and often require large sample sizes to achieve the same level of precision as parametric tests. In this case, approximately 59 samples are required to achieve the desired 95 percent confidence level.

Alternatively, if a normal test procedure is used, then the following background limits would have been estimated:

- The Shapiro-Wilks normality tests show that the data follow a normal distribution at a 1-percent significance level. The calculated intrawell upper prediction limit would be at 291.8 mg/L using the normal distribution.
- Applying the data transformation, the Shapiro-Wilks normality test indicated that the data follow a lognormal and gamma distribution at a 5-percent significant level. The calculated background limits would have been estimated as 1,370 and 408 mg/L, respectively, using the appropriate data transformation.

In the above cases, the parametric intrawell background limits are greater than the previous maximum of 187 mg/L, and the reported February 2024 concentration is less than the parametric intrawell background limit.

In this supplemental ASD, Haley & Aldrich concludes that the limitations of this statistical evaluation is the cause of the Appendix III SSI for calcium detected at downgradient well WLF-A1-2.

2.5.1.1 Summary of Findings for the Laboratory Analytical Data Evaluation

To confirm the calcium concentration in WLF-A1-2, Haley & Aldrich collected a groundwater sample from this monitoring well location using low-flow sampling techniques in accordance with USEPA Technical Instructions and Santee Cooper standard protocols. Contact stormwater and leachate samples were also collected from the Landfill Area 1 system for verification purposes. Samples were shipped on ice to Pace Analytical National Laboratory in Mt. Juliet, Tennessee using standard chain of custody procedures. WLF-A1-2 was analyzed for calcium via USEPA Method 6010D and the contact water/leachate sample was analyzed for Appendix III constituents via USEPA Methods 2540 C-2011 (total dissolved solids), 9040C (pH), 9056A (chloride, fluoride, and sulfate), and 6010D (boron and calcium). Field data sheets and laboratory analytical data are provided Appendix E.

Upon review of the laboratory analytical data, the confirmation sample demonstrated a notable decrease in calcium during the subsequent sampling event (188 to 62.6 mg/L), which triggered the SSI during the February 2024 sampling event. This further supports that the SSI triggered in first semiannual sampling event was the result of an outlier, combined with a statistical non-parametric test limitation, which is not reflective of a release from Landfill Area 1.

The leachate sample collected from Landfill Area 1, noted as "Area 1-Leachate" on the chain of custody, contained relatively higher concentrations of Appendix III constituents in direct comparison to prior groundwater sampling data derived from downgradient groundwater monitoring wells. This was anticipated based on the nature of the stormwater and LCS.

One field blank was also collected using laboratory-provided deionized water near Landfill Area 1 to indicate the potential for surrounding site contributions during groundwater sample collection. The field blank contained estimated concentrations (J) of fluoride (64.1 J micrograms per liter [µg/L]) and calcium (98.1 J µg/L); however, these concentrations are not considered to impact the overall useability of this data or impact the conclusions of this ASD.

As noted, the calcium concentration in WLF-A1-2 was the only intrawell SSI triggered in the first semiannual statistical analysis for Landfill Area 1. Fluoride, boron, chloride, and calcium, which have each prompted SSIs in the past in compliance wells, are primarily decreasing or stable and generally remain within historical ranges. As impacts from the Closed Unit 2 Slurry Pond are anticipated to continue moving toward WAP-7, increases or variability in trends over time are also anticipated at this monitoring well location and others.

3. Findings and Conclusions

In the prior ASDs for Landfill Area 1, Haley & Aldrich concluded that the Closed Unit 2 Slurry Pond is the alternate source for the Appendix III SSIs detected downgradient of Landfill Area 1.

In this ASD, Haley & Aldrich concludes the calcium SSI was the result of statistical limitations and that there is no additional evidence refuting the prior findings that residual constituents in soil and groundwater beneath the excavated Closed Unit 2 Slurry Pond remain the alternate source for prior Appendix III SSIs detected downgradient of Landfill Area 1. For the reasons outlined in this ASD, there is no new evidence indicating that Landfill Area 1 is a contributing source. Consistent with 40 CFR §257.94(e)(2), this written successful demonstration, which includes obtaining a certification from a qualified professional engineer, has been completed within 90 days of detecting a SSI above background levels. As a result, and consistent with 40 CFR §257.94(e)(2), Landfill Area 1 at the WGS will remain in detection monitoring.

- **An alternative source exists for Appendix III constituents, including fluoride, boron, chloride, and calcium:** Each were known to exist in areas of remaining soil after excavation of the Closed Unit 2 Slurry Pond and prior to construction of Landfill Area 1. Appendix III constituents, including calcium, were shown to exist in groundwater prior to construction of Landfill Area 1. Landfill Area 1 is located within the footprint of Closed Unit 2 Slurry Pond. The Closed Unit 2 Slurry Pond was constructed in 1977 and was inactive for many years prior to the excavation and subsequent construction of Landfill Area 1.
- **A hydraulic connection exists between the alternative source and the groundwater wells that have had significant increases for Appendix III constituents, including fluoride, boron, chloride, and calcium**: The monitoring well network used to monitor shallow groundwater for Landfill Area 1 is the same that was used for the Closed Unit 2 Slurry Pond, as they are within the same footprint. The monitoring wells installed in 2018 are screened in the same hydrostratigraphic unit as the existing wells that have historically monitored groundwater for the Closed Unit 2 Slurry Pond (WAP-7) since 1995. The Closed Unit 2 Slurry Pond was hydraulically connected to groundwater, as evidenced by the detection of Appendix III constituents, whereas Landfill Area 1 was purposefully designed and constructed to not be hydraulically connected to groundwater. Based on storm events which took place prior to placement of waste for the Class 3 Landfill Area 1 and the calculated flow velocities, impacts from the Closed Unit 2 Slurry Pond of Appendix III constituents may be observed for approximately 200 years at varying intervals.
- **Constituent(s) (or precursor constituents) are present at the alternative source or along the flow path from the alternative source prior to possible release from the unit.**
  - Calcium: As demonstrated in Appendix A, soil sampling data collected for the Closed Unit 2 Slurry Pond indicate calcium was already present in concentrations that may contribute to the increases observed in the area like other Appendix III SSIs observed at this unit. Downgradient well locations also showed comparable concentrations of calcium in 2018, prior to the placement of CCRs in Landfill Area 1.
  - Fluoride: As discussed in the prior ASD, downgradient wells WLF-A1-2 and WLF-A1-5 showed comparable concentrations of fluoride in 2018 prior to the placement of CCRs in Landfill Area 1, with results slightly above the reporting limit, ranging from 0.110 to 0.140 mg/L. As mentioned previously, fluoride is known to exist in areas of remaining soil after excavation of the Closed Unit 2 Slurry Pond and prior to construction of Landfill Area 1.

- Boron and chloride: The Closed Unit 2 Slurry Pond was constructed in 1977 and was inactive for many years prior to excavation and the subsequent construction of Landfill Area 1 in the same footprint of the Closed Unit 2 Slurry Pond. While an inactive unit, the Closed Unit 2 Slurry Pond was not capped and was capable of impounding water, resulting in hydraulic loading. Potentiometric maps show that groundwater has consistently flowed in a radial pattern away from the unit to the south, southwest, or southeast across Landfill Area 1 and the Closed Unit 2 Slurry Pond. As discussed in the prior ASD, the June 2018 isoconcentration map shows that plumes of boron and chloride existed at the site before waste was placed in Landfill Area 1. The 2018 concentrations of boron and chloride at WLF-A1-1 are similar to 2022 concentrations in WAP-7. Isoconcentration maps show that the plumes are migrating in the direction of groundwater flow toward well WAP-7.

- **Relative concentration and distribution of constituents in the zone of contamination are more strongly linked to the alternative source than to the unit when the fate and transport characteristics of the constituents are considered.**
  - Calcium: Resulted in a SSI after the first semiannual event of 2024 due to a limitation of the non-parametric statistical method, with a higher concentration detected. Subsequent confirmation sampling verified lower concentrations that would not prompt a SSI. Additionally, based on review of soil sampling data collected for the Closed Unit 2 Slurry Pond, calcium was already present in concentrations that may contribute to the increases observed in the area similar to other Appendix III SSIs observed at this unit. Furthermore, ongoing storm events are likely mobilizing mobile Appendix IIIs via capillary fringe from the vadose zone.
  - Fluoride: As discussed in the prior ASD, the detection of fluoride at WLF-A1-3 above the reporting limit of 0.1 mg/L and the measured concentration of 0.15 mg/L are below the Groundwater Protection Standard of 4 mg/L. The slightly elevated turbidity in the sample represents a potential source of error contributing to the initial detection of fluoride that resulted in a SSI.
  - Boron and chloride: As discussed in the prior ASD, the June 2018 isoconcentration maps show a boron and chloride plume in shallow groundwater before waste was placed in Landfill Area 1. Boron and chloride were reported at concentrations similar to WAP-7 and were observed in WLF-A1-1 in 2018. Boron is notably decreasing at WLF-A1-1, while an upward trend of boron has been observed at WAP-7, as the boron and chloride plume migrates through the shallow groundwater system. Additionally, the concentrations of boron and chloride in WLF-A1-1 in 2018 are higher than concentrations of boron and chloride currently observed in the Landfill Area 1 leachate. This strongly indicates that the groundwater affected by the Closed Unit 2 Slurry Pond is the source of boron and chloride and not Landfill Area 1. Statistical evaluations also show that the current concentrations of boron and chloride are within the range of representative groundwater concentrations for wells at the site, including concentrations prior to the construction of Landfill Area 1.

- **Concentration observed in groundwater could not have resulted from the unit given the waste constituents and concentrations in the unit leachate and wastes, and site hydrogeologic conditions for Appendix III constituents, including fluoride, boron, chloride, and calcium:** The June 2018 isoconcentration map presented in the prior ASD and the calcium data provided herein show that plumes of boron, chloride, and calcium existed at the site before waste was placed in Landfill Area 1. Subsequent isoconcentration maps demonstrate how the plumes are

migrating to the south in the direction of groundwater flow. The distance between the southern edge of the Closed Unit 2 Slurry Pond and well WAP-7, which monitors the southern boundary of both Landfill Area 1 and the Closed Unit 2 Slurry Pond, is over 50 feet on the outer edge of the landfill access road. Based on the location of WAP-7, the groundwater flow rate, and the location of the CCR in Landfill Area 1, it is unlikely that a release directly from the landfill would have culminated in the monitoring area of the well during the first four years of landfill operations. The prior isoconcentration maps show that fluoride detections are sporadic near the reporting limit of 0.1 mg/L. Additionally, leachate samples from the Landfill Area 1 leachate discharge were collected on September 15, 2022 and July 9, 2024. The samples were non-detect (<0.1 mg/L) for fluoride. This indicates that Landfill Area 1 is not the source of fluoride.

- **Data supporting conclusions regarding the alternative source are historically consistent with hydrogeologic conditions and findings of the monitoring program for Appendix III constituents, including fluoride, boron, chloride, and calcium**: The potentiometric maps used for the hydrogeologic evaluation (2018 through 2024) show that groundwater has consistently flowed in a radial pattern away from the unit to the south, southwest, or southeast across Landfill Area 1 and Closed Unit 2 Slurry Pond. The series of isoconcentration maps provided in the prior ASD for boron and chloride demonstrate how the plumes are migrating to the south in the direction of groundwater flow toward well WAP-7. Finally, based on the review of the construction and operations of the relatively new Landfill Area 1, there is no obvious evidence of a release directly from the landfill to groundwater, as the long-term construction and operational inspections of the landfills remain satisfactory.

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FIGURES

LEGEND

- CCR MONITORING WELL
- BACKGROUND WELL
- UNLINED POND
- CCR UNIT BOUNDARY
- PROPERTY BOUNDARY

NOTES

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

N

0 400 800

SCALE IN FEET

HALEY ALDRICH

SANTEE COOPER
WINYAH GENERATING STATION
GEORGETOWN, SOUTH CAROLINA

CLASS 3 LANDFILL AREA 1 GROUNDWATER MONITORING WELLS FOR CCR COMPLIANCE

SEPTEMBER 2024

FIGURE 1

APPENDIX A
Closed Unit 2 Slurry Pond Calcium Soil Data

santee cooper

Analytical Services

TARGETS	3X Background				72.2
	EPA Eco.Soil				--
	EPA Eco Sed				--
	EPA Worker Soil				--
	Sample ID	Location Code	Description	Sample Date	Calcium
					mg/kg
					SW846 6010D
DISCRETE SAMPLES (1 per 2 acre decision unit)	AD81662	WGS_CCP	Discrete - 1	5/15/17	3570
	AD81663	WGS_CCP	Discrete - 2	5/15/17	9210
	AD81664	WGS_CCP	Discrete - 3	5/15/17	5090
	AD81665	WGS_CCP	Discrete - 4	5/15/17	7330
	AD81666	WGS_CCP	Discrete - 5	5/15/17	824
	AD81667	WGS_CCP	Discrete - 6	5/15/17	2450
	AD81668	WGS_CCP	Discrete - 7	5/15/17	1860
	AD81669	WGS_CCP	Discrete - 8	5/15/17	8910
	AD81670	WGS_CCP	Discrete - 9	5/15/17	1640
	AD81671	WGS_CCP	Discrete - 10	5/15/17	8190
	AD81672	WGS_CCP	Discrete - 11	5/15/17	1180
	AD81673	WGS_CCP	Discrete - 12	5/15/17	255
	AD81674	WGS_CCP	Discrete - 13	5/15/17	27800
	AD81675	WGS_CCP	Discrete - 14	5/15/17	466
				Mean	5626.79
3 Composite Samples - Decision Unit 1	AD81676	WGS_CCP	WGS U2 1-ISM-1	5/15/17	12300
	AD81677	WGS_CCP	WGS U2 1-ISM-2	5/15/17	25100
	AD81678	WGS_CCP	WGS U2 1-ISM-3	5/15/17	15600
3 Composite Samples - Decision Unit 2	AD81679	WGS_CCP	WGS U2 2-ISM-1	5/15/17	22000
	AD81680	WGS_CCP	WGS U2 2-ISM-2	5/15/17	34000
	AD81681	WGS_CCP	WGS U2 2-ISM-3	5/15/17	18000
				Mean	
3 Composite Samples - Decision Unit 3	AD81682	WGS_CCP	WGS U2 3-ISM-1	5/15/17	17000
	AD81683	WGS_CCP	WGS U2 3-ISM-2	5/15/17	4910
	AD81684	WGS_CCP	WGS U2 3-ISM-3	5/15/17	6350
3 Composite Samples - Decision Unit 4	AD81685	WGS_CCP	WGS U2 4-ISM-1	5/15/17	14500
	AD81686	WGS_CCP	WGS U2 4-ISM-2	5/15/17	10100
	AD81687	WGS_CCP	WGS U2 4-ISM-3	5/15/17	8520
3 Composite Samples - Decision Unit 5	AD81688	WGS_CCP	WGS U2 5-ISM-1	5/15/17	11500
	AD81689	WGS_CCP	WGS U2 5-ISM-2	5/15/17	19300
	AD81690	WGS_CCP	WGS U2 5-ISM-3	5/15/17	19600
3 Composite Samples - Decision Unit 6	AD81691	WGS_CCP	WGS U2 6-ISM-1	5/15/17	8600
	AD81692	WGS_CCP	WGS U2 6-ISM-2	5/15/17	47000
	AD81693	WGS_CCP	WGS U2 6-ISM-3	5/15/17	9670

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Analytical Services

				TARGETS: 3X Background	72.2
				TARGETS: EPA Eco.Soil	--
				TARGETS: EPA Eco Sed	--
				TARGETS: EPA Worker Soil	--
	Sample ID	Location Code	Description	Sample Date	Calcium
					mg/kg
					SW846 6010D
3 Composite Samples - Decision Unit 7	AD81694	WGS_CCP	WGS U2 7-ISM-1	5/15/17	14900
	AD81695	WGS_CCP	WGS U2 7-ISM-2	5/15/17	12300
	AD81696	WGS_CCP	WGS U2 7-ISM-3	5/15/17	9910
3 Composite Samples - Decision Unit 8	AD81697	WGS_CCP	WGS U2 8-ISM-1	5/15/17	14100
	AD81698	WGS_CCP	WGS U2 8-ISM-2	5/15/17	22600
	AD81699	WGS_CCP	WGS U2 8-ISM-3	5/15/17	3950
3 Composite Samples - Decision Unit 9	AD81700	WGS_CCP	WGS U2 9-ISM-1	5/15/17	16800
	AD81701	WGS_CCP	WGS U2 9-ISM-2	5/15/17	11200
	AD81702	WGS_CCP	WGS U2 9-ISM-3	5/15/17	15400
3 Composite Samples - Decision Unit 10	AD81703	WGS_CCP	WGS U2 10-ISM-1	5/15/17	34700
	AD81704	WGS_CCP	WGS U2 10-ISM-2	5/15/17	40000
	AD81705	WGS_CCP	WGS U2 10-ISM-3	5/15/17	23700
3 Composite Samples - Decision Unit 11	AD81706	WGS_CCP	WGS U2 11-ISM-1	5/15/17	33700
	AD81707	WGS_CCP	WGS U2 11-ISM-2	5/15/17	12800
	AD81708	WGS_CCP	WGS U2 11-ISM-3	5/15/17	8690
3 Composite Samples - Decision Unit 12	AD81709	WGS_CCP	WGS U2 12-ISM-1	5/15/17	19100
	AD81710	WGS_CCP	WGS U2 12-ISM-2	5/15/17	14900
	AD81711	WGS_CCP	WGS U2 12-ISM-3	5/15/17	12900
3 Composite Samples - Decision Unit 13	AD81712	WGS_CCP	WGS U2 13-ISM-1	5/15/17	16400
	AD81713	WGS_CCP	WGS U2 13-ISM-2	5/15/17	15400
	AD81714	WGS_CCP	WGS U2 13-ISM-3	5/15/17	24800
3 Composite Samples - Decision Unit 14	AD81715	WGS_CCP	WGS U2 14-ISM-1	5/15/17	21100
	AD81716	WGS_CCP	WGS U2 14-ISM-2	5/15/17	35400
	AD81717	WGS_CCP	WGS U2 14-ISM-3	5/15/17	27300
				Mean	

APPENDIX B
Santee Cooper June 19, 2024, Internal Note to File: December 17-18, 2023 – Landfill Area 1 & Area 2 Weather Impacts

WGS Class 3 Landfill Area 1 Construction and Operations

The Winyah Generating Station (WGS) Class 3 Landfill Area 1 (Landfill 1) is a permitted Class 3 Industrial Solid Waste Landfill designed, constructed, and operated to meet requirements of the federal coal-combustion residual (CCR) Rule (Title 40 Code of Federal Regulations (40 CFR) §Part 257) and South Carolina Department of Environmental Services (SCDES) state landfill regulations. The Landfill Operator-in-Charge and WGS employee, Richie Mills, was interviewed regarding landfill operations for this Alternate Source Demonstration (ASD). Based on the construction design, operations, a review of a weather event that resulted in a release from the landfill, and ongoing inspections of this relatively new landfill as described in subsequent sections, it is unlikely the WGS Landfill Area 1 is contributing to the statistically significant increase (SSIs) of Appendix III constituents, including a calcium SSI.

As noted in a previous ASD, Landfill Area 1 was constructed so that waste is placed with greater than 5 feet of separation from the seasonal high-water table. The landfill was constructed with a composite liner system, a leachate collection system (LCS), and a contact stormwater collection system. It was designed and constructed to prohibit the release of materials, including CCR, CCR contact stormwater, and CCR leachate, into the environment. However, with a December 17 to 18, 2023, extreme weather event, a release of CCR and CCR contact stormwater occurred and this is discussed in more detail in a later section.

Throughout the construction process, Santee Cooper engineers oversaw the construction to ensure it was completed in accordance with the permitted construction drawings. Construction quality assurance was contracted to a third-party team of consultants who performed industry-standard testing to ensure and certify construction was completed as designed and permitted. A review of the landfill construction was a component of the previous October 2022 ASD. Since that time, there has been no further landfill construction for waste placement areas and the prior ASD findings remain valid. Subsequent construction activities since the prior ASD were capping and other closure activities. Santee Cooper continues to oversee the operation of the landfill and oversees or conducts routine inspections. The Landfill Operator-in-Charge works full time at WGS and is a certified Class 3 landfill manager authorized by the state of South Carolina.

LANDFILL DESIGN

Landfill Area 1 was designed with internal drain system, a decant structure, that allows rainwater that contacts CCR to be collected withing active (or open) waste placement areas and drain directly to the leachate management system. All decant structures are designed to drain contact stormwater using a contact water attenuation basin to temporarily store the contact water. The operational grading plans and fill sequencing were designed to channel stormwater within active areas to the attenuation basin/decant structure and then to the permitted leachate management system. *(2 Ref, Winyah Generating Station, Class Three Landfill Permit Application drawings signed by Geosyntec Consultants June 8, 2017, and design calculations completed by Geosyntec Consultants and finalized by Santee Cooper in the Run-on and Run-off Control System Plan for New Class 3 CCR Landfill Area 1 on November 2018)*

Landfill Area 1 started receiving CCR material in August 2019. Landfill Area 1 is partially closed and capped with an alternate cap design that consists of (bottom to top) prepared CCR surface, geosynthetic clay liner (GCL) (conductivity of not more than 1 X 10-5 centimeters per second permeability, a 50-mil thick liner-low density polyethylene geomembrane and topped with ClosureTurf®. Partial ClosureTurf®

closure areas were completed June 2022 which encompassed the entire lower slop interval and waste boundary of Landfill Area 1, 11.85 acres of the total landfill area of 31.3-acre footprint. The remaining "open" areas were composed of partially vegetated and graded CCR. Since that date, capping with the ClosureTurf® system has commenced for the remaining portions, including the top surface of the landfill, and will be complete over the entire footprint of Landfill Area 1 by year end 2024 according to Santee Cooper.

PLACEMENT OF WASTE

The CCR Rule under 40 CFR §257.60(a) states that new CCR landfills "must be constructed with a base that is located no less than 1.52 meters (5 feet) above the upper limit of the uppermost aquifer." As noted in the October 2022 ASD, the Location Restrictions Compliance Demonstration (Geosyntec, 2018) reviewed the design and construction and judged that it complies with the requirements of 40 CFR §257.60(a) due to its placement above the uppermost aquifer. According to Santee Cooper's Landfill Operator-in-Charge, all waste placements including any since the October 2022 ASD was into previously constructed landfill areas meeting the 5 feet criteria.

COMPOSITE LINER AND LEACHATE COLLECTION AND REMOVAL SYSTEM

The Landfill Area 1 liner system was designed and constructed to meet the design criteria requirements. The Construction Project Manager-of-Record Professional Engineer-certified that the design of the composite liner and the leachate collection and removal system meets the design criteria requirements of 40 CFR §257.70 (GeoSyntec, 2017). The *Construction Quality Assurance Report* documents that the WGS Landfill Area 1 liner system and leachate collection and removal system was constructed in accordance with the permit drawings and the permitted technical specifications (Santee Cooper, 2018). Landfill Area 1 has a LCS consisting of:

- a 2-foot-thick protective cover/drainage layer underlain with a geocomposite drainage layer;
- a leachate collection corridor composed of a perforated high-density polyethylene pipe surrounded by coarse aggregate and a filter; and
- a leachate sump at the low point filled with coarse aggregate surrounded by a filter and equipped with a riser pipe from which collected leachate will be withdrawn via pumps.

Leachate generated in the landfill flows in the geocomposite drainage layer component of the liner system either flowed directly toward and into the leachate collection sumps, or to the leachate collection corridor where it is conveyed to the lined sump(s). Landfill Area 1 has six leachate pumps with two large pipes that convey the collected leachate to the discharge point, which is the WGS Cooling Pond Complex, a permitted wastewater treatment unit. These pumps operate on a regular basis to handle and discharge leachate and ash contact stormwater. According to the Operator-in-Charge, there has been no change in the operations or construction of the leachate pumps and pipe system, and they appear to typically operate continuously on a 24/7 basis.

CONTACT STORMWATER MANAGEMENT

Contact water is stormwater runoff that has been in contact with exposed CCR waste in the active areas of Landfill Area 1. The contact water is managed through sequential management as ongoing lifts of waste are placed in a landfill area cell. Initially, when the waste elevation was below the landfill perimeter's elevation, contact water was removed via pumps and discharged to the WGS Cooling Pond Complex. After the CCR waste elevation was raised above the landfill perimeter, a chimney drain decant structure was installed. The chimney drain consists of a perforated vertical concrete riser pipe and is

surrounded by attenuating basins. The attenuating basin is a depressed area around the decant structure intended to help filter the contact water. The entire active area, including the attenuating basin, is graded to drain toward the decant structure. The vertical decant structure pipe connects to a horizontal connector pipe at the base, which conveys contact water by gravity through the leachate collection system to the WGS Cooling Pond Complex, a permitted industrial cooling pond. Again, the leachate system is enclosed and lined until it discharges into the WGS Cooling Pond Complex (Geosyntec, 2021).

During the extreme weather in December 2023, an estimated 12 to 13 inches of rain was received in an approximate 24-hour period, and the decant structure was overwhelmed thus CCR contact stormwater and CCR left the landfill boundary.

ANNUAL INSPECTIONS

The landfill is formally inspected weekly by trained landfill operators supervised by the Operator-in-Charge. It is also inspected annually by Santee Cooper professional civil engineers. From a compliance perspective, the landfill is inspected approximately monthly by the South Carolina Department of Environmental Services (SCDES). To date, there have been no landfill violations based resulting from these SCDES regulatory inspections. Additional inspections include routine fugitive dust inspections of the site and weekly stormwater pollution prevention inspections by Santee Cooper employees.

The October 2022 ASD included a review of the operations of Landfill Area 1, and the finding was that there was no evidence of a release directly from the landfill nor was the landfill contributing to the detected SSIs. Since the October 2022 ASD, a review of subsequent inspections was completed with the following observations:

- Class 3 Landfill Area 1 2022 and 2023 Fugitive Dust Control Reports. The 2022 Fugitive Dust Control inspection report noted that there were no citizen complaints to report in 2022 and standard controls were sufficient, therefore corrective actions were not taken. As with the 2022 report, the 2023 Fugitive Dust Control report noted there were no citizen complaints to report and standard controls were sufficient, therefore no corrective action taken. Both inspections were conducted in compliance with Santee Cooper's CCR Fugitive Dust Plan. These documents are publicly available on Santee Cooper's CCR website. Based on a review of these reports and an interview with the Landfill Operator-in-Charge, there is no indication of severe fugitive dust issues which could be contributing to groundwater impacts.
- CCR Class 3 Area 1 2022 and 2023 Landfill Inspections. The 2022 annual inspection was conducted to assess the stability and functionality of the WGS CCR landfills and was certified by a professional engineer, Alfred D. Manalac, on October 24, 2022. The report stated: "In summary, the WGS CCR Class 3 Landfills Area 1 and Area 2 were generally found in satisfactory condition. No recognized existing or potential management unit safety deficiencies were noted at the time of inspection within the parameters of design and operation. The physical site inspection was conducted September 27, 2022. Landfill Area 1 contained an estimate 1,662,577 cubic yards of material at the time of the inspection. Landfill Area 1 is 850 feet wide, 1,600 feet long with a 3H:1V side slope by design. Landfill Area 1 began receiving material in November 2018, including contact soil from Santee Cooper's Grainger site and CCR from WGS CCR ponds.
- The 2023 annual inspection was conducted to assess the stability and functionality of the WGS CCR landfills and was certified by a Professional Engineer, Alfred D. Manalac, on September 14, 2023. The report stated: "In summary, the WGS CCR Class 3 Landfills Area 1 and Area 2 were

generally found in satisfactory condition. No recognized existing or potential management unit safety deficiencies were noted at the time of inspection within the parameters of design and operation." Landfill Area 1 contained an estimated 1,662,577 cubic yards of material at the time of the inspection. No additional CCR was added in 2023

- The annual inspections were made by conducting file reviews in the operating record and conducting a physical site inspection. The inspector reviewed weekly inspections conducted by WGS personnel that indicated no major structural or operational problems. The overall condition was found to be satisfactory. The weekly inspections are conducted by staff working for the Operator-in-Charge and signed by the WGS Station Manager. A review of these reports reflects no significant issues.
- SCDES inspects the WGS landfills approximately monthly. According to the Operator-in-Charge there have been no violations and the SCDES inspection records reflect no periods of non-compliance. Based on a review of the inspection records provided and an interview with the Operator-in-Charge, there is no indication of on-going operational issues or non-compliance which could contribute to groundwater impacts.

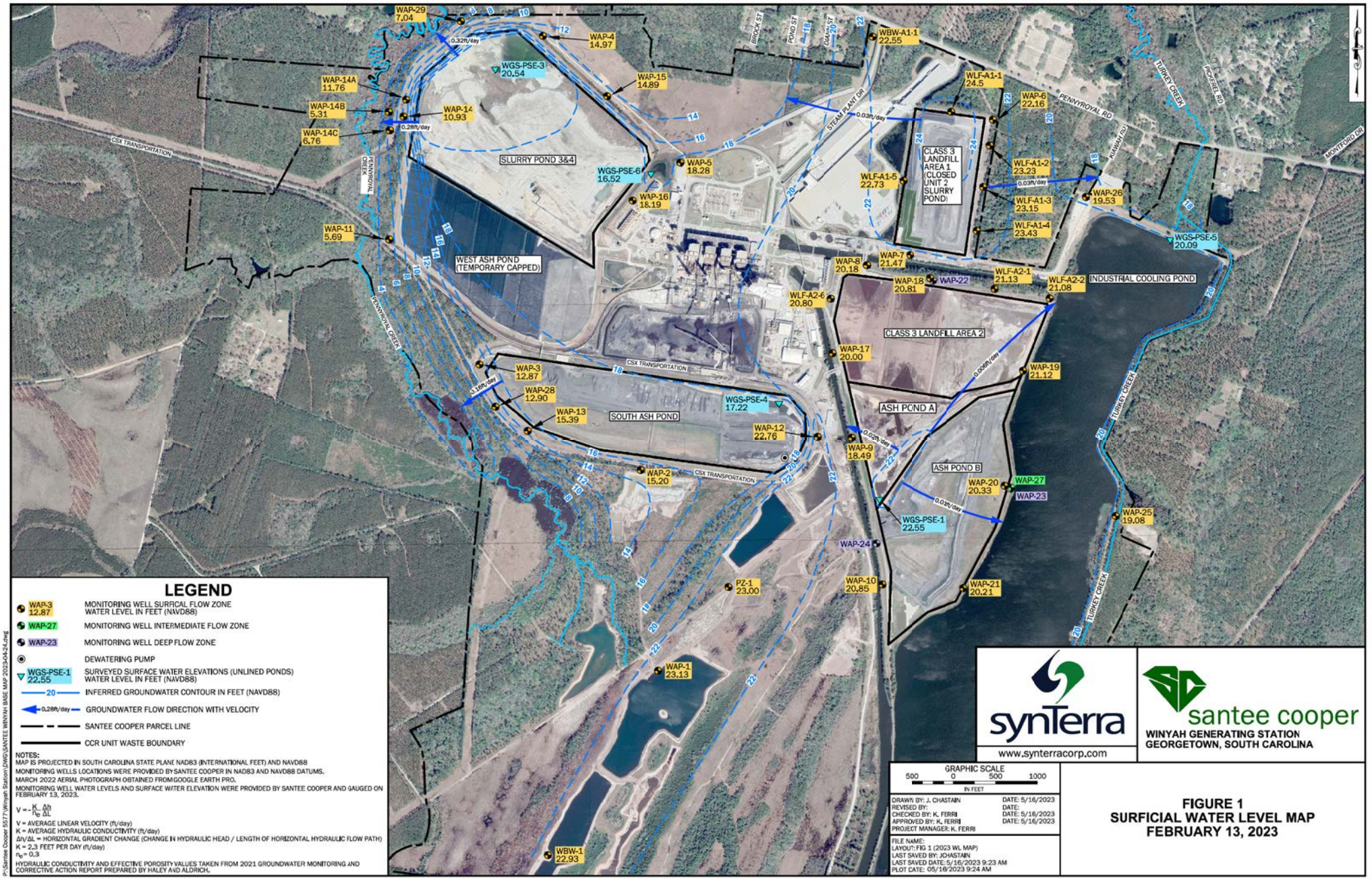
EXTREME WEATHER EVENT

The following are pertinent observations from Santee Cooper's Report to File regarding the December 2023 extreme weather event. Reference Landfill Area 1 and 2 Weather Impacts/Incident *(1 ref: December 17-80, 2023- Landfill Area 1 and Area 2 Weather Impacts, Santee Cooper Note to File, Jermey Poetzscher and Domenic Ciccolella), June 19, 2024*

- The event occurred between December 17 and 18, 2023, when Georgetown County, South Carolina received an estimated 12 to 13 inches of rainfall within an approximate 24-hour period. This 24-hour precipitation total falls between the 100-year and the 200-year storm interval for the areas as published in the National Oceanic and Atmospheric Administration Precipitation-Frequency tables.
- The result was a release of both CCR and ash-contact stormwater. Even though there was not a breach in the dike associated with the Closed Unit 2 Slurry Pond, CCR and water was released beyond the waste boundary and ultimately into a borrow pit on adjacent property.
- Landfill Area 1 sustained various amounts of CCR and side slope erosion that require correction action to mitigate further slope stability concerns and/or further release of CCR outside the permitted waste boundaries. Santee Cooper estimated from aerial area measures that CCR encroached on less than 0.75 acres of the east adjoining property was largely contained in a from 0.15 to 0.3 soil borrow pit. Discharges of CCR along the southwest waste boundary were also identified with discharges extending into an exterior stormwater ditch on the WGS property. The volume of CCR and CCR contact stormwater that was released are unknown.
- Corrective action included removal of visible CCR from December 18 through 26, 2023. The CCR was fully recovered within less than a week after the incident according to the Operator-in-Charge. Corrective action included removal of visible CCR from the borrow pit and woodland areas and from areas outside the waste boundary along the south and southwest stormwater ditches.
- Ash contact stormwater was not recovered due to the infeasibility of such an action. However, the WGS stormwater ditches in the area ultimately drain to the Industrial Cooling Pond, which is the same location that landfill leachate and ash contact stormwater goes to during normal operations. With the prompt action by Santee Cooper to recover the released CCR within a

relatively short period of time, it is unlikely that the released CCR and CCR contact water appreciably impacted the groundwater through direct infiltration.

APPENDIX C
SynTerra 2023 and 2024 Potentiometric Maps



LEGEND

- WAP-3 12.87 — MONITORING WELL SURFICAL FLOW ZONE WATER LEVEL IN FEET (NAVD88)
- WAP-27 — MONITORING WELL INTERMEDIATE FLOW ZONE
- WAP-23 — MONITORING WELL DEEP FLOW ZONE
- DEWATERING PUMP
- WGS-PSE-1 22.55 — SURVEYED SURFACE WATER ELEVATIONS (UNLINED PONDS) WATER LEVEL IN FEET (NAVD88)
- 20 — INFERRED GROUNDWATER CONTOUR IN FEET (NAVD88)
- 0.28ft/day — GROUNDWATER FLOW DIRECTION WITH VELOCITY
- SANTEE COOPER PARCEL LINE
- CCR UNIT WASTE BOUNDARY

NOTES:
MAP IS PROJECTED IN SOUTH CAROLINA STATE PLANE NAD83 (INTERNATIONAL FEET) AND NAVD88
MONITORING WELLS LOCATIONS WERE PROVIDED BY SANTEE COOPER IN NAD83 AND NAVD88 DATUMS.
MARCH 2022 AERIAL PHOTOGRAPH OBTAINED FROM GOOGLE EARTH PRO.
MONITORING WELL WATER LEVELS AND SURFACE WATER ELEVATION WERE PROVIDED BY SANTEE COOPER AND GAUGED ON FEBRUARY 13, 2023.

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

V = AVERAGE LINEAR VELOCITY (ft/day)
K = AVERAGE HYDRAULIC CONDUCTIVITY (ft/day)
$\Delta h/\Delta L$ = HORIZONTAL GRADIENT CHANGE (CHANGE IN HYDRAULIC HEAD / LENGTH OF HORIZONTAL HYDRAULIC FLOW PATH)
K = 2.3 FEET PER DAY (ft/day)
n_e = 0.3
HYDRAULIC CONDUCTIVITY AND EFFECTIVE POROSITY VALUES TAKEN FROM 2021 GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT PREPARED BY HALEY AND ALDRICH.

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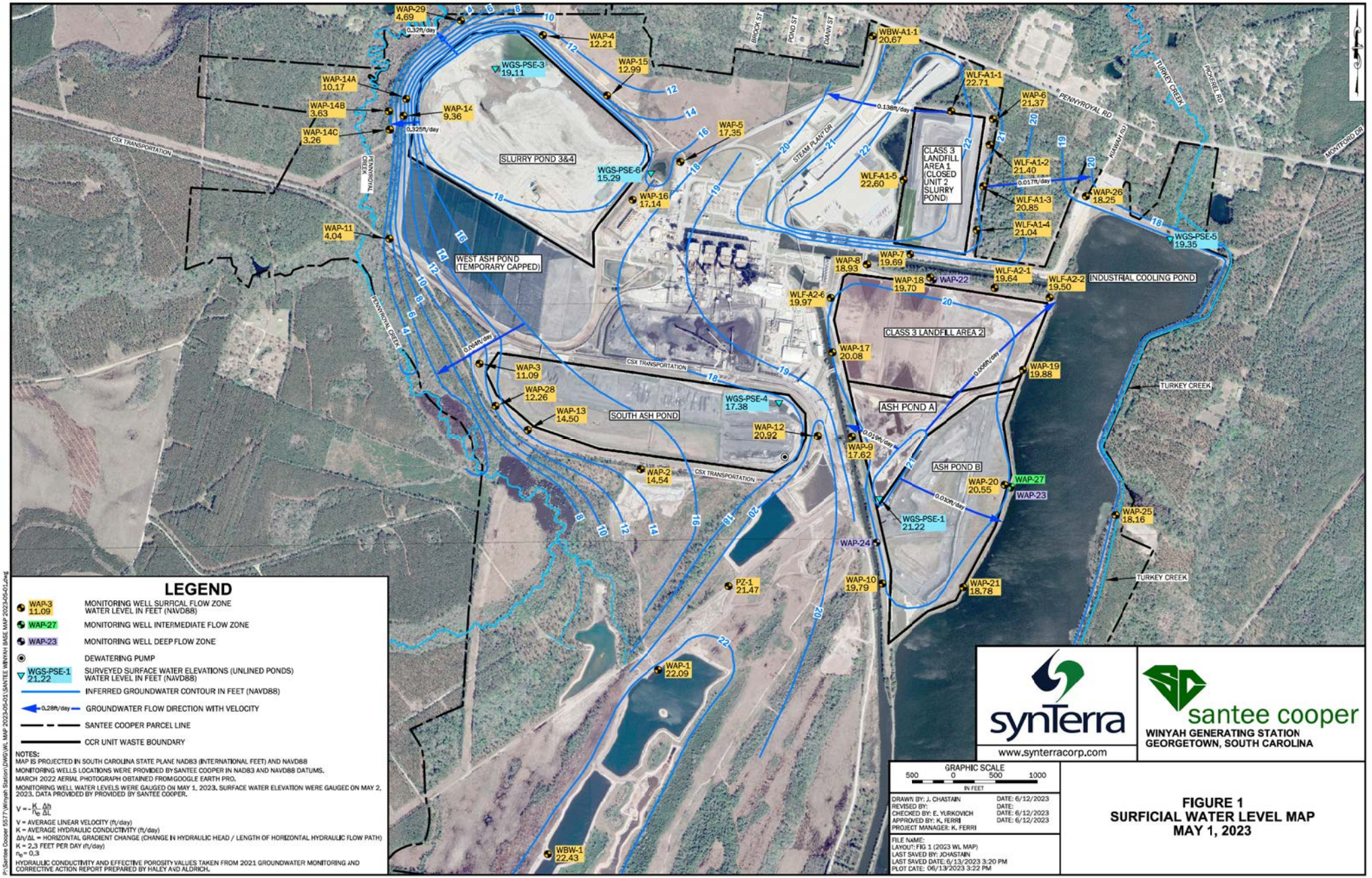
GRAPHIC SCALE
500 0 500 1000
IN FEET

DRAWN BY: J. CHASTAIN DATE: 5/16/2023
REVISED BY: DATE:
CHECKED BY: K. FERRI DATE: 5/16/2023
APPROVED BY: K. FERRI DATE: 5/16/2023
PROJECT MANAGER: K. FERRI

FILE NAME:
LAYOUT: FIG 1 (2023 WL MAP)
LAST SAVED BY: JCHASTAIN
LAST SAVED DATE: 5/16/2023 9:23 AM
PLOT DATE: 05/16/2023 9:24 AM

FIGURE 1
SURFICIAL WATER LEVEL MAP
FEBRUARY 13, 2023

P:\Santee Cooper 5577\Winyah Station\DWG\SANTEE WINYAH BASE MAP 2023-04-24.dwg



LEGEND

- WAP-3 11.09 — MONITORING WELL SURFICAL FLOW ZONE WATER LEVEL IN FEET (NAVD88)
- WAP-27 — MONITORING WELL INTERMEDIATE FLOW ZONE
- WAP-23 — MONITORING WELL DEEP FLOW ZONE
- DEWATERING PUMP
- WGS-PSE-1 21.22 — SURVEYED SURFACE WATER ELEVATIONS (UNLINED PONDS) WATER LEVEL IN FEET (NAVD88)
- INFERRED GROUNDWATER CONTOUR IN FEET (NAVD88)
- 0.28ft/day — GROUNDWATER FLOW DIRECTION WITH VELOCITY
- SANTEE COOPER PARCEL LINE
- CCR UNIT WASTE BOUNDARY

NOTES:
MAP IS PROJECTED IN SOUTH CAROLINA STATE PLANE NAD83 (INTERNATIONAL FEET) AND NAVD88
MONITORING WELLS LOCATIONS WERE PROVIDED BY SANTEE COOPER IN NAD83 AND NAVD88 DATUMS.
MARCH 2022 AERIAL PHOTOGRAPH OBTAINED FROM GOOGLE EARTH PRO.
MONITORING WELL WATER LEVELS WERE GAUGED ON MAY 1, 2023. SURFACE WATER ELEVATION WERE GAUGED ON MAY 2, 2023. DATA PROVIDED BY PROVIDED BY SANTEE COOPER.

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

V = AVERAGE LINEAR VELOCITY (ft/day)
K = AVERAGE HYDRAULIC CONDUCTIVITY (ft/day)
$\Delta h/\Delta L$ = HORIZONTAL GRADIENT CHANGE (CHANGE IN HYDRAULIC HEAD / LENGTH OF HORIZONTAL HYDRAULIC FLOW PATH)
K = 2.3 FEET PER DAY (ft/day)
n_e = 0.3
HYDRAULIC CONDUCTIVITY AND EFFECTIVE POROSITY VALUES TAKEN FROM 2021 GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT PREPARED BY HALEY AND ALDRICH.

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REVISED BY: DATE:
CHECKED BY: E. YURKOVICH DATE: 6/12/2023
APPROVED BY: K. FERRI DATE: 6/12/2023
PROJECT MANAGER: K. FERRI

FILE NAME:
LAYOUT: FIG 1 (2023 WL MAP)
LAST SAVED BY: JCHASTAIN
LAST SAVED DATE: 6/13/2023 3:20 PM
PLOT DATE: 06/13/2023 3:22 PM

FIGURE 1
SURFICIAL WATER LEVEL MAP
MAY 1, 2023

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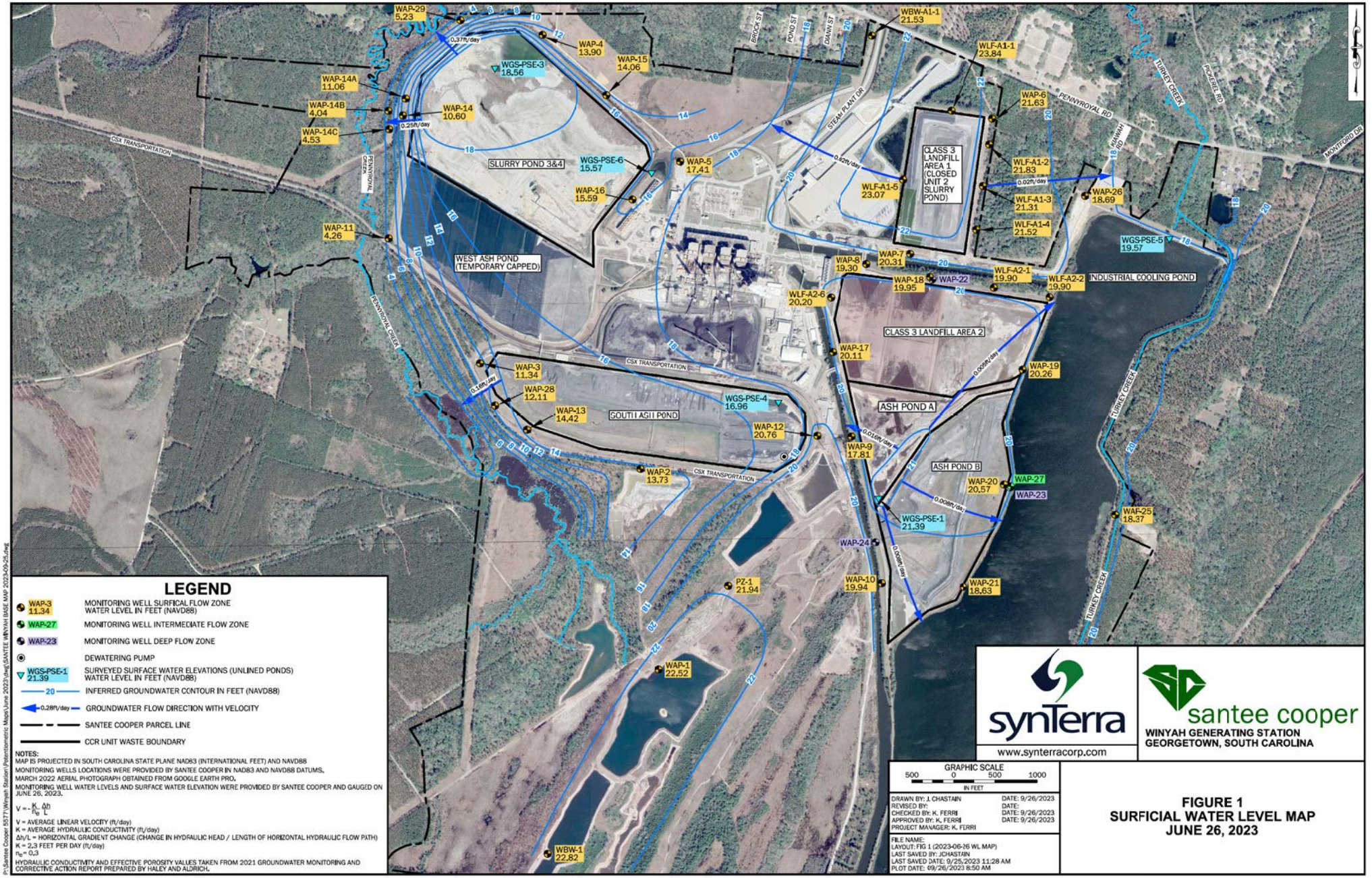

LEGEND

- WAP-3 11.34 — MONITORING WELL SURFICAL FLOW ZONE WATER LEVEL IN FEET (NAVD88)
- WAP-27 — MONITORING WELL INTERMEDIATE FLOW ZONE
- WAP-23 — MONITORING WELL DEEP FLOW ZONE
- DEWATERING PUMP
- WGS-PSE-1 21.39 — SURVEYED SURFACE WATER ELEVATIONS (UNLINED PONDS) WATER LEVEL IN FEET (NAVD88)
- 20 — INFERRED GROUNDWATER CONTOUR IN FEET (NAVD88)
- 0.28ft/day — GROUNDWATER FLOW DIRECTION WITH VELOCITY
- SANTEE COOPER PARCEL LINE
- CCR UNIT WASTE BOUNDARY

NOTES:
MAP IS PROJECTED IN SOUTH CAROLINA STATE PLANE NAD83 (INTERNATIONAL FEET) AND NAVD88
MONITORING WELLS LOCATIONS WERE PROVIDED BY SANTEE COOPER IN NAD83 AND NAVD88 DATUMS.
MARCH 2022 AERIAL PHOTOGRAPH OBTAINED FROM GOOGLE EARTH PRO.
MONITORING WELL WATER LEVELS AND SURFACE WATER ELEVATION WERE PROVIDED BY SANTEE COOPER AND GAUGED ON JUNE 26, 2023.

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

V = AVERAGE LINEAR VELOCITY (ft/day)
K = AVERAGE HYDRAULIC CONDUCTIVITY (ft/day)
Δh/L = HORIZONTAL GRADIENT CHANGE (CHANGE IN HYDRAULIC HEAD / LENGTH OF HORIZONTAL HYDRAULIC FLOW PATH)
K = 2.3 FEET PER DAY (ft/day)
n_e = 0.3
HYDRAULIC CONDUCTIVITY AND EFFECTIVE POROSITY VALUES TAKEN FROM 2021 GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT PREPARED BY HALEY AND ALDRICH.

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GRAPHIC SCALE
500 0 500 1000
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DRAWN BY: J. CHASTAIN DATE: 9/26/2023
REVISED BY: DATE:
CHECKED BY: K. FERRI DATE: 9/26/2023
APPROVED BY: K. FERRI DATE: 9/26/2023
PROJECT MANAGER: K. FERRI

FILE NAME:
LAYOUT: FIG 1 (2023-06-26 WL MAP)
LAST SAVED BY: JCHASTAIN
LAST SAVED DATE: 9/25/2023 11:28 AM
PLOT DATE: 09/26/2023 8:50 AM

FIGURE 1
SURFICIAL WATER LEVEL MAP
JUNE 26, 2023

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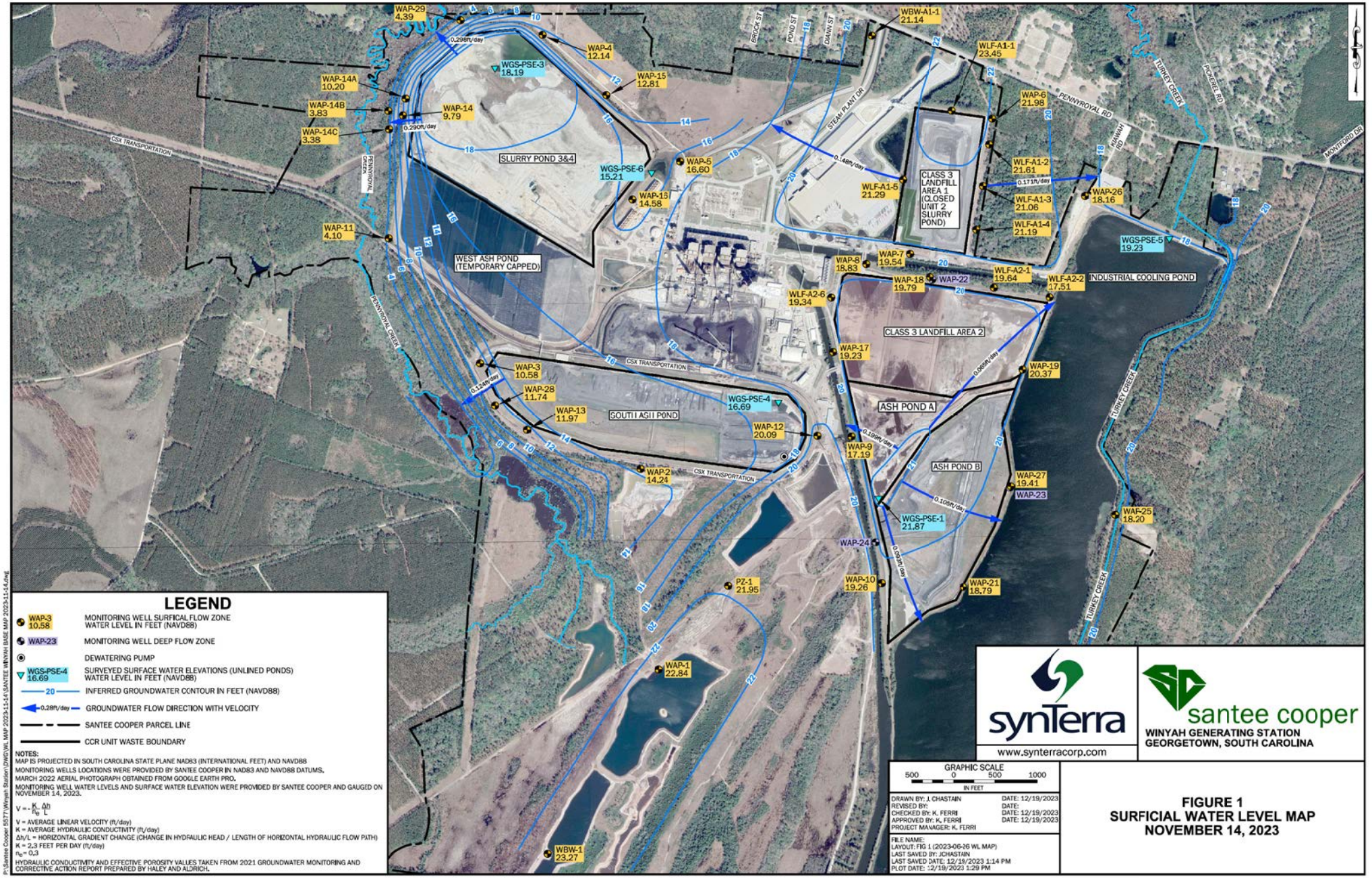

LEGEND

- WAP-3 10.58 — MONITORING WELL SURFICAL FLOW ZONE WATER LEVEL IN FEET (NAVD88)
- WAP-23 — MONITORING WELL DEEP FLOW ZONE
- DEWATERING PUMP
- WGS-PSE-4 16.69 — SURVEYED SURFACE WATER ELEVATIONS (UNLINED PONDS) WATER LEVEL IN FEET (NAVD88)
- 20 — INFERRED GROUNDWATER CONTOUR IN FEET (NAVD88)
- 0.28ft/day — GROUNDWATER FLOW DIRECTION WITH VELOCITY
- SANTEE COOPER PARCEL LINE
- CCR UNIT WASTE BOUNDARY

NOTES:
MAP IS PROJECTED IN SOUTH CAROLINA STATE PLANE NAD83 (INTERNATIONAL FEET) AND NAVD88
MONITORING WELLS LOCATIONS WERE PROVIDED BY SANTEE COOPER IN NAD83 AND NAVD88 DATUMS.
MARCH 2022 AERIAL PHOTOGRAPH OBTAINED FROM GOOGLE EARTH PRO.
MONITORING WELL WATER LEVELS AND SURFACE WATER ELEVATION WERE PROVIDED BY SANTEE COOPER AND GAUGED ON NOVEMBER 14, 2023.

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

V = AVERAGE LINEAR VELOCITY (ft/day)
K = AVERAGE HYDRAULIC CONDUCTIVITY (ft/day)
Δh/L = HORIZONTAL GRADIENT CHANGE (CHANGE IN HYDRAULIC HEAD / LENGTH OF HORIZONTAL HYDRAULIC FLOW PATH)
K = 2.3 FEET PER DAY (ft/day)
n_e = 0.3
HYDRAULIC CONDUCTIVITY AND EFFECTIVE POROSITY VALUES TAKEN FROM 2021 GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT PREPARED BY HALEY AND ALDRICH.

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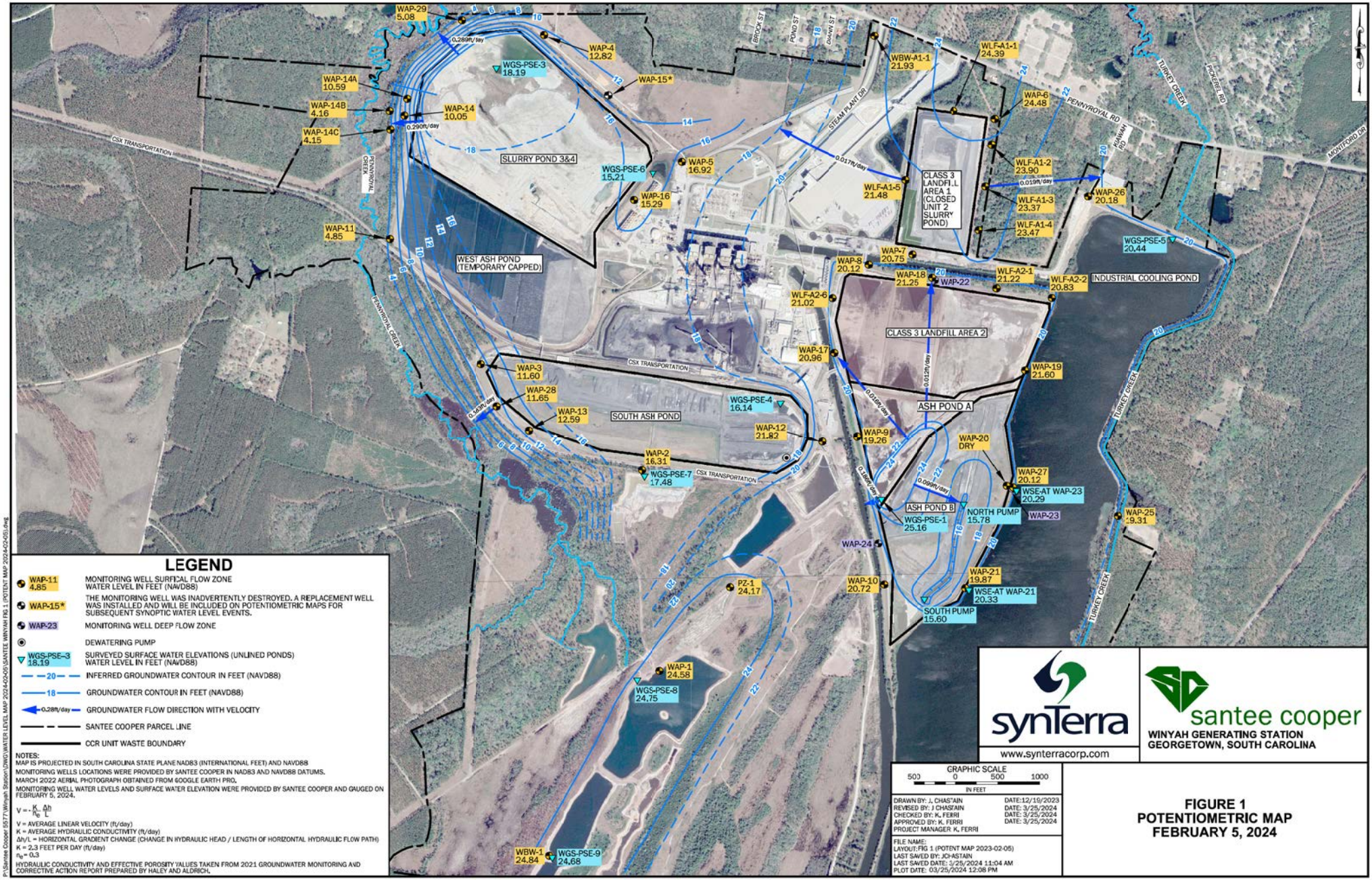
REVISED BY: — DATE:
CHECKED BY: K. FERRI — DATE: 12/19/2023
APPROVED BY: K. FERRI — DATE: 12/19/2023
PROJECT MANAGER: K. FERRI

FILE NAME:
LAYOUT: FIG 1 (2023-06-16 WL MAP)
LAST SAVED BY: JCHASTAIN
LAST SAVED DATE: 12/19/2023 1:14 PM
PLOT DATE: 12/19/2023 1:29 PM

FIGURE 1
SURFICIAL WATER LEVEL MAP
NOVEMBER 14, 2023

P:\Santee Cooper 5577\Winyah Station\DWG\WL MAP 2023-11-14\SANTEE WINYAH BASE MAP 2023-11-14.dwg



LEGEND

- WAP-11 4.85 — MONITORING WELL SURFICAL FLOW ZONE WATER LEVEL IN FEET (NAVD88)
- WAP-15* — THE MONITORING WELL WAS INADVERTENTLY DESTROYED. A REPLACEMENT WELL WAS INSTALLED AND WILL BE INCLUDED ON POTENTIOMETRIC MAPS FOR SUBSEQUENT SYNOPTIC WATER LEVEL EVENTS.
- WAP-23 — MONITORING WELL DEEP FLOW ZONE
- DEWATERING PUMP
- WGS-PSE-3 18.19 — SURVEYED SURFACE WATER ELEVATIONS (UNLINED PONDS) WATER LEVEL IN FEET (NAVD88)
- 20 — INFERRED GROUNDWATER CONTOUR IN FEET (NAVD88)
- 18 — GROUNDWATER CONTOUR IN FEET (NAVD88)
- 0.28ft/day — GROUNDWATER FLOW DIRECTION WITH VELOCITY
- SANTEE COOPER PARCEL LINE
- CCR UNIT WASTE BOUNDARY

NOTES:
MAP IS PROJECTED IN SOUTH CAROLINA STATE PLANE NAD83 (INTERNATIONAL FEET) AND NAVD88
MONITORING WELLS LOCATIONS WERE PROVIDED BY SANTEE COOPER IN NAD83 AND NAVD88 DATUMS.
MARCH 2022 AERIAL PHOTOGRAPH OBTAINED FROM GOOGLE EARTH PRO.
MONITORING WELL WATER LEVELS AND SURFACE WATER ELEVATION WERE PROVIDED BY SANTEE COOPER AND GAUGED ON FEBRUARY 5, 2024.

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

V = AVERAGE LINEAR VELOCITY (ft/day)
K = AVERAGE HYDRAULIC CONDUCTIVITY (ft/day)
Δh/L = HORIZONTAL GRADIENT CHANGE (CHANGE IN HYDRAULIC HEAD / LENGTH OF HORIZONTAL HYDRAULIC FLOW PATH)
K = 2.3 FEET PER DAY (ft/day)
n_e = 0.3
HYDRAULIC CONDUCTIVITY AND EFFECTIVE POROSITY VALUES TAKEN FROM 2021 GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT PREPARED BY HALEY AND ALDRICH.

synTerra
www.synterracorp.com

santee cooper
WINYAH GENERATING STATION
GEORGETOWN, SOUTH CAROLINA

GRAPHIC SCALE
500 0 500 1000
IN FEET

DRAWN BY: J. CHASTAIN	DATE:12/19/2023
REVISED BY: J CHASTAIN	DATE: 3/25/2024
CHECKED BY: K. FERRI	DATE: 3/25/2024
APPROVED BY: K. FERRI	DATE: 3/25/2024
PROJECT MANAGER: K. FERRI	

FILE NAME:
LAYOUT: FIG 1 (POTENT MAP 2023-02-05)
LAST SAVED BY: JCHASTAIN
LAST SAVED DATE: 3/25/2024 11:04 AM
PLOT DATE: 03/25/2024 12:08 PM

FIGURE 1
POTENTIOMETRIC MAP
FEBRUARY 5, 2024

P:\Santee Cooper 5577\Winyah Station\DWG\WATER LEVEL MAP 2024-02-05\SANTEE WINYAH FIG 1 (POTENT MAP 2024-02-05).dwg

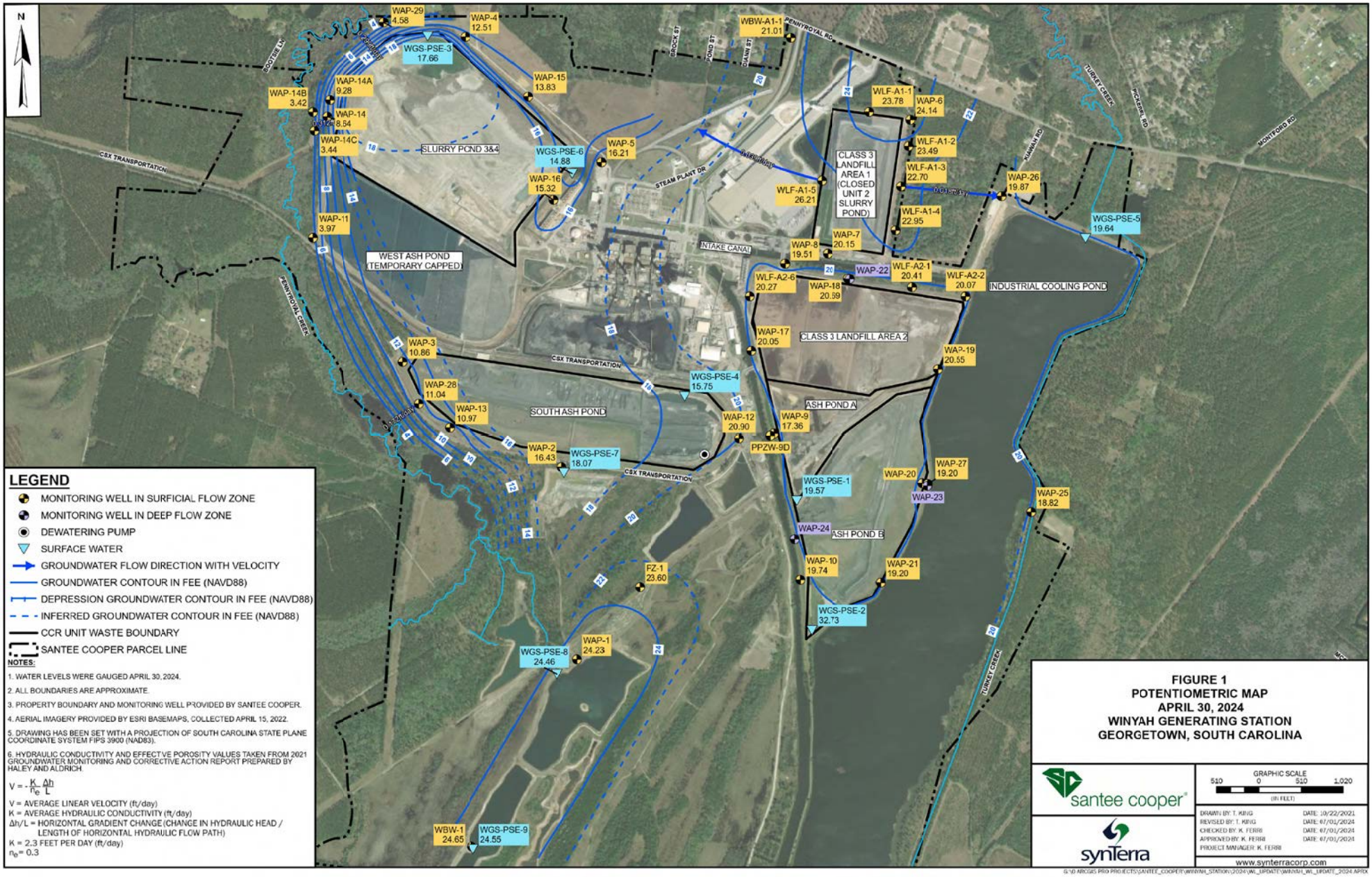


FIGURE 1
POTENTIOMETRIC MAP
APRIL 30, 2024
WINYAH GENERATING STATION
GEORGETOWN, SOUTH CAROLINA

santee cooper

synTerra

GRAPHIC SCALE
510 0 510 1,020
(IN FEET)

DRAWN BY: T. KING	DATE: 10/22/2021
REVISED BY: T. KING	DATE: 07/01/2024
CHECKED BY: K. FERRI	DATE: 07/01/2024
APPROVED BY: K. FERRI	DATE: 07/01/2024
PROJECT MANAGER: K. FERRI	

www.synterracorp.com

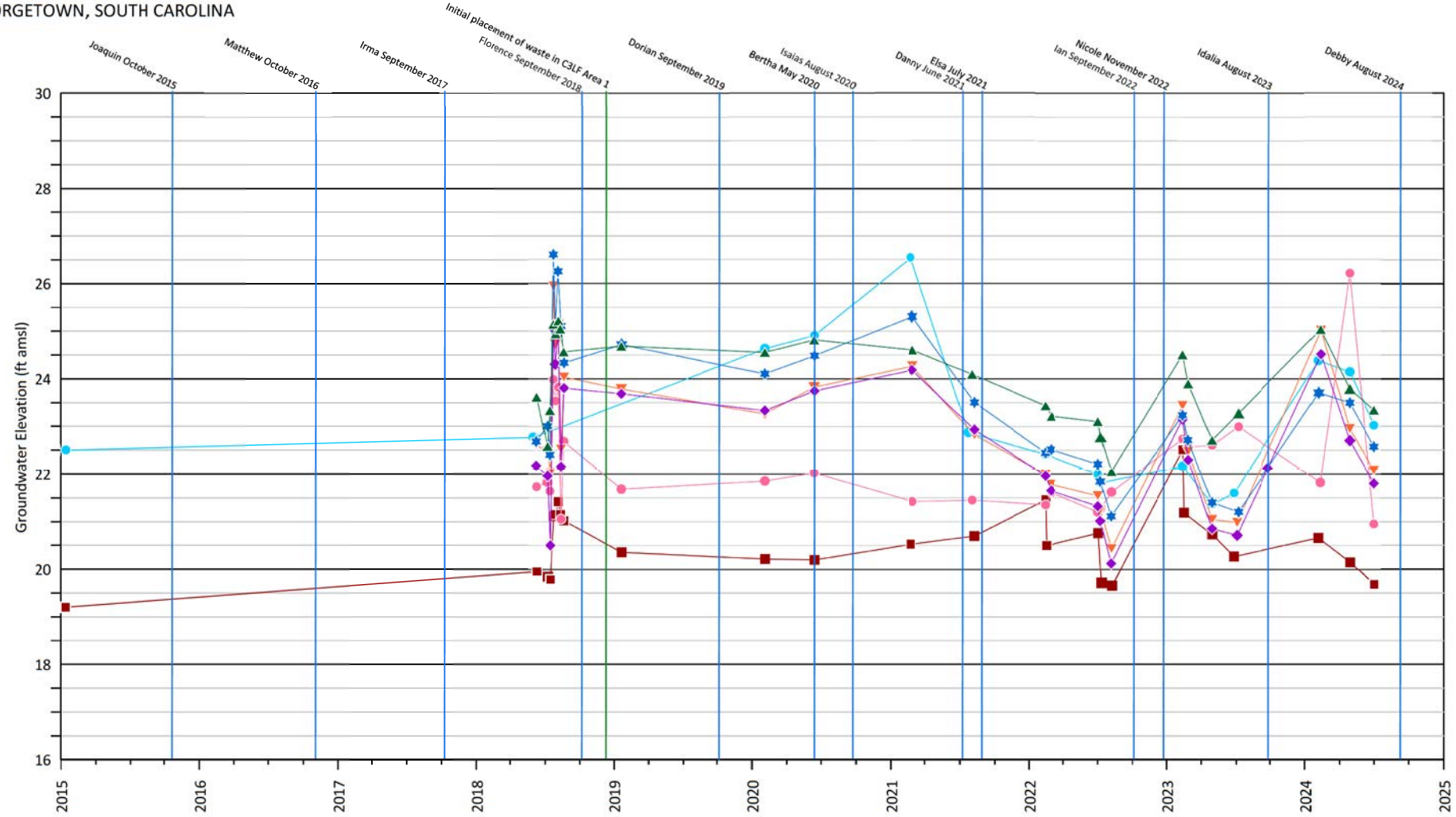
G:\D ARCGIS PRO PROJECTS\SANTEE_COOPER\WINYAH_STATION\2024\WL_UPDATE\WINYAH_WL_UPDATE_2024.APRX

APPENDIX D
Hydrograph with Significant Storm Events

CLASS III LANDFILL TREND GRAPHS
WINYAH GENERATING STATION
GEORGETOWN, SOUTH CAROLINA

DRAFT

GROUNDWATER ELEVATION



NOTES:
1. FT AMSL = FEET ABOVE MEAN SEA LEVEL

LEGEND:
WAP-6, WAP-7, WLF-A1-1, WLF-A1-2, WLF-A1-3, WLF-A1-4, WLF-A1-5

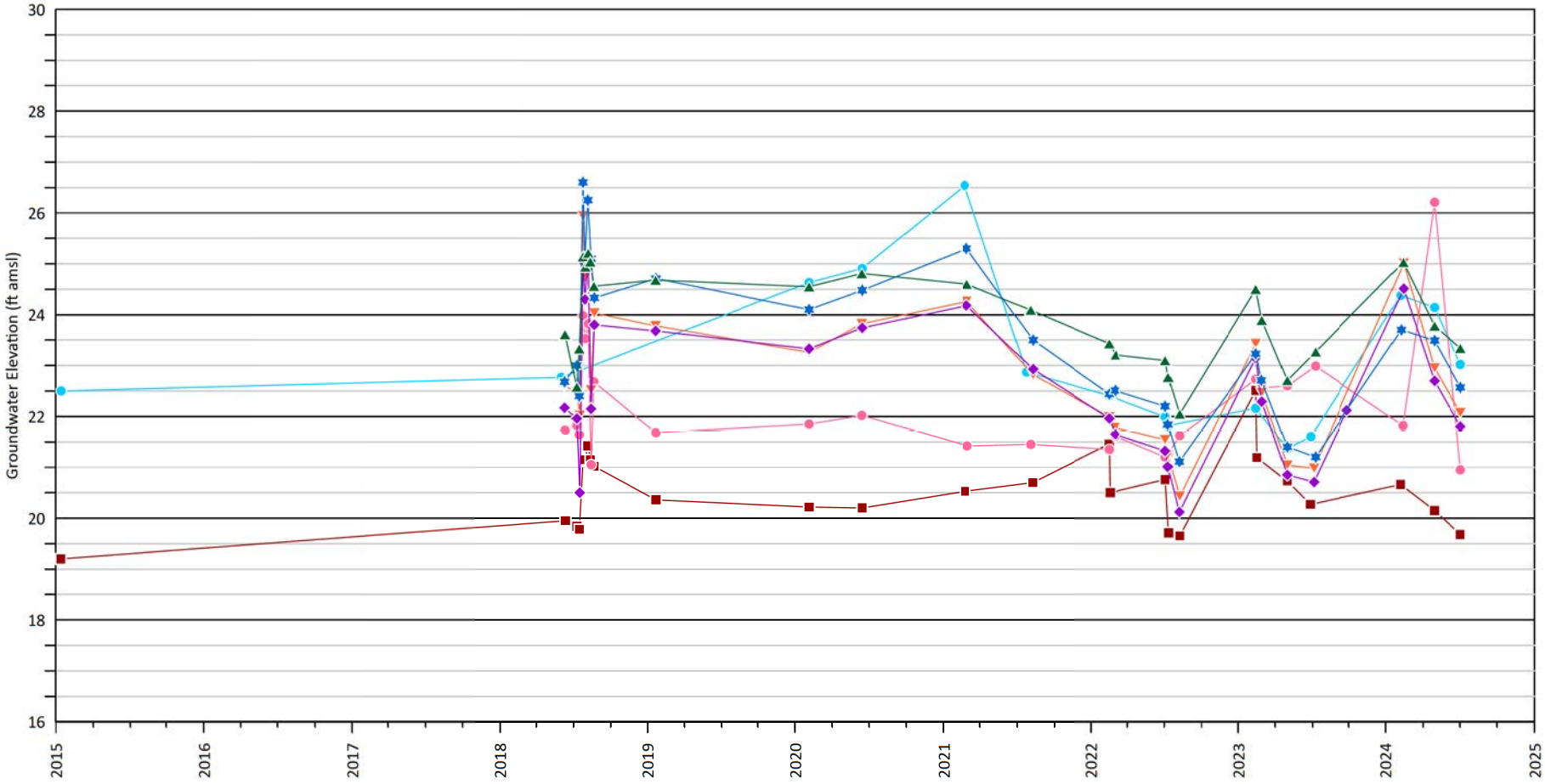
HALEY ALDRICH

September 2024

CLASS III LANDFILL TREND GRAPHS
WINYAH GENERATING STATION
GEORGETOWN, SOUTH CAROLINA

DRAFT

GROUNDWATER ELEVATION



NOTES:
1. FT AMSL = FEET ABOVE MEAN SEA LEVEL

LEGEND:
WAP-6
WAP-7
WLF-A1-1
WLF-A1-2
WLF-A1-3
WLF-A1-4
WLF-A1-5

HALEY ALDRICH

September 2024

APPENDIX E
Field Data Sheets and Laboratory Analytical Data

Santee Cooper

LOW-FLOW GROUNDWATER SAMPLING RECORD

PROJECT	Winyah Sampling Santee Cooper	FILE NO.	0132892-102
LOCATION	Georgetown, SC	PROJECT MGR.	H. Spillane
CLIENT	Santee Cooper	FIELD REP	D. Pamy
CONTRACTOR	Haley and Aldrich	DATE	07-08-2024

LOW-FLOW GROUNDWATER SAMPLING INFORMATION

Well ID	WLF-A1-2	Depth to Top Of Well Screen	12.0
Depth Of Well (ft.) per Log	22.0	Depth to Bottom of Well Screen	22.0
Reference Mark	NA	Depth of Pump or Tubing Intake:	19.0
Depth to Water from Reference Mark (ft.)	7.01	Date Well Installed:	5/23/2018
Time Started	13:00	Tubing Present in Well?	NO
Depth to Product (ft.)	NA	Tubing Replaced in Well?	NO
Field Measured Depth Of Well (ft.)	22.0	Tubing Type/Lot Number	1/4" polyethylene
Inside Well Diameter (in.)	2.0	Additional Comments:	
Static Water Depth (ft.)	7.01		
Volume Of Water In Well (gallons/liters)	2.44		
Purging Device	peristaltic		
Volume of Bailer/Pump Capacity	200 mL/min		
Cleaning Procedure	Alconox/DI water		
Volume Removed	~1/2 gal		
Time Purging Started	13:00		
Time Purging Stopped	13:58		
Instrument Used to Monitor Field Parameters	Horiba U-50		
Sampling Device	peristaltic		
Cleaning Procedure	Alconox/DI water		
Color	Clear		
Odor	no odor		

TIME SAMPLES COLLECTED	
	sampled @ 14:02
	–
	–
	–
	–
	–

PARAMETERS													
Time (24 hour)	13:05	13:09	13:13	13:17	13:21	13:25	13:33	13:38	13:43	13:52	13:58		
Temp, C (+/- 3%)	24.63	24.20	24.02	23.99	23.70	23.58	23.58	23.45	23.53	24.14	24.20		
Conductivity, us/cm (+/- 3%)	0.238	0.250	.258	.247	.253	.254	.242	.242	.256	.325	.358		
Dissolved Oxygen, mg/L (+/- 10%)	1.22	1.31	0.87	1.02	0.77	0.29	.05	0.0	0.0	0.0	0.0		
pH (+/- 0.1)	5.04	5.11	5.15	5.15	5.10	5.08	5.12	5.13	5.24	5.34	5.30		
ORP/eH, mv (+/- 10mv)	57	40	34	29	28	22	13	-1	-20	-51	-57		
Turbidity, NTU (<5 NTU)	10.0	4.8	2.8	2.8	2.2	3.6	2.5	2.9	2.1	1.0	1.6		
Volume purged, gallons	0.26	0.21	0.21	0.21	0.37	0.26	0.26	0.26	0.48	0.32	–		
Depth To Water from Casing, ft	7.30	7.31	7.31	7.31	7.31	7.31	7.31	7.31	7.30	7.25	7.5		
Purge Rate, ml/min	200	200	200	200	200	200	200	200	200	150	150		

Remarks: (ie: field filtrations, persons communicated with at site, activities nearby during sampling, etc.)

Santee Cooper

LOW-FLOW GROUNDWATER SAMPLING RECORD

Page 1 of 1

PROJECT	Winyah Sampling Santee Cooper	FILE NO.	0132892-102
LOCATION	Georgetown, SC	PROJECT MGR.	H. Spillane
CLIENT	Santee Cooper	FIELD REP	D. Parry / T. Vaughn
CONTRACTOR	Haley and Aldrich	DATE	03-09-2024

LOW-FLOW GROUNDWATER SAMPLING INFORMATION

Well ID	Sample Area 11 Leachate	Depth to Top Of Well Screen	NA
Depth Of Well (ft.) per Log	NA	Depth to Bottom of Well Screen	" "
Reference Mark	NA	Depth of Pump or Tubing Intake:	" "
Depth to Water from Reference Mark (ft.)	NA	Date Well Installed:	" "
Time Started	9:50	Tubing Present in Well?	" "
Depth to Product (ft.)	NA	Tubing Replaced in Well?	" "
Field Measured Depth Of Well (ft.)	NA	Tubing Type/Lot Number	" "
Inside Well Diameter (in.)	NA	Additional Comments:	
Static Water Depth (ft.)	NA		
Volume Of Water In Well (gallons/liters)	NA		
Purging Device	NA		
Volume of Bailer/Pump Capacity	~1 Liter		
Cleaning Procedure	Alconox / Di water		
Volume Removed	NA		
Time Purging Started	NA		
Time Purging Stopped	NA		
Instrument Used to Monitor Field Parameters	Horiba U-50		
Sampling Device	dipper w/ cup		
Cleaning Procedure	Alconox / Di water		
Color	Clear		
Odor	no odor		

TIME SAMPLES COLLECTED		
	samples collected @ 10:10	

PARAMETERS														
Time (24 hour)	9:56													
Temp, C (+/- 3%)	24.95													
Conductivity, us/cm (+/- 3%)	3.18													
Dissolved Oxygen, mg/L (+/- 10%)	6.09													
pH (+/- 0.1)	6.44													
ORP/eH, mv (+/- 10mv)	-23													
Turbidity, NTU (<5 NTU)	11.9													
Volume purged, gallons	NA													
Depth To Water from Casing, ft	NA													
Purge Rate, ml/min	NA													

Remarks: (ie: field filtrations, persons communicated with at site, activities nearby during sampling, etc.)

ANALYTICAL REPORT

July 23, 2024

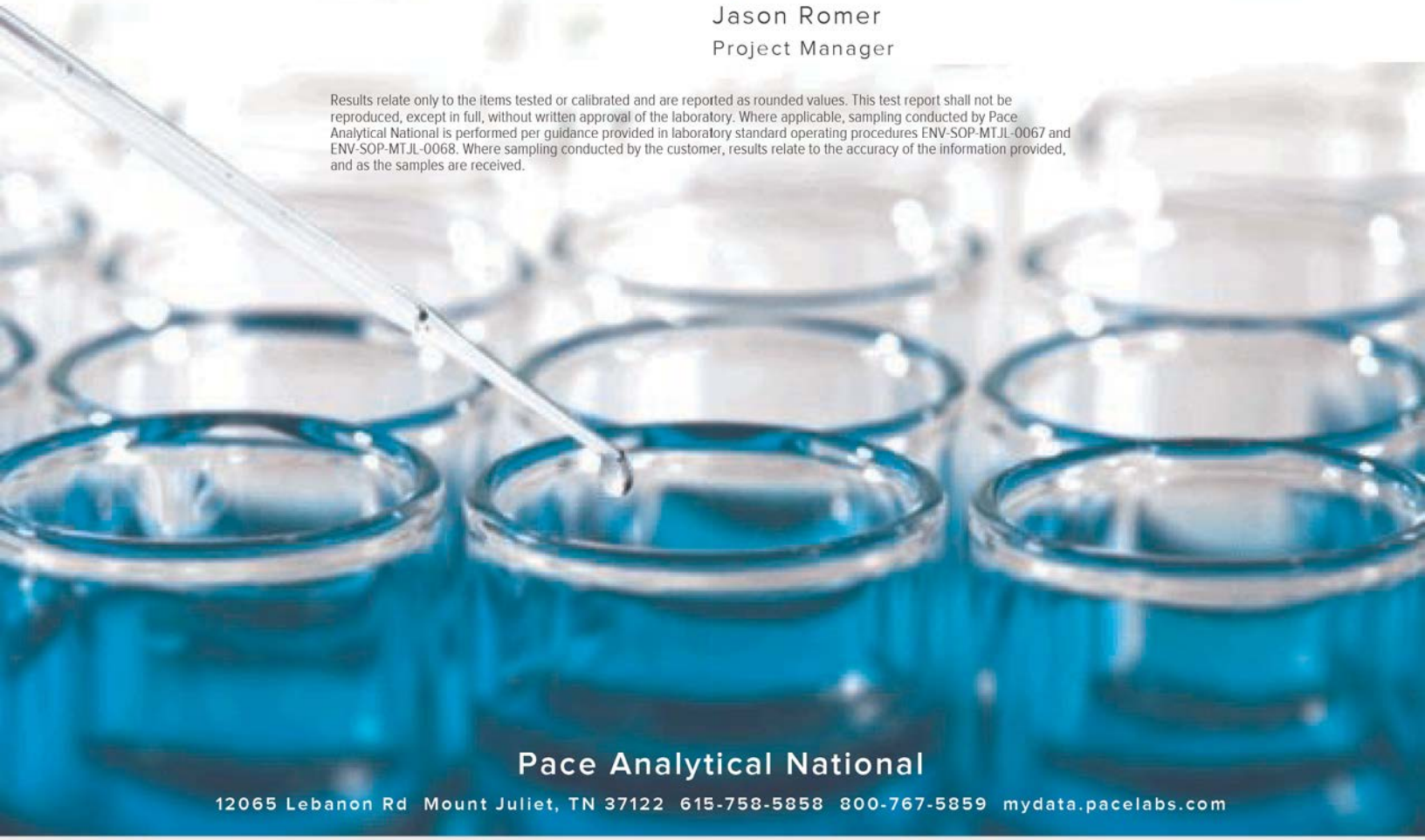
Haley & Aldrich-Greenville, SC

Sample Delivery Group:	L1755725
Samples Received:	07/11/2024
Project Number:	0132892-002
Description:	Santee Cooper

Report To: Montgomery Spillane
400 Augusta St.
Suite 100
Greenville, SC 29601

Entire Report Reviewed By:

Jason Romer
Project Manager



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

TABLE OF CONTENTS

SW-1 L1755725-01 GW

Collected by: Thomas V. | Collected date/time: 07/09/24 12:05 | Received date/time: 07/11/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2321734	1	07/12/24 09:43	07/12/24 15:34	DLS	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2321595	1	07/12/24 17:20	07/12/24 17:20	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2326376	10	07/22/24 21:46	07/22/24 21:46	DLH	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2323826	1	07/22/24 13:52	07/23/24 12:28	DJS	Mt. Juliet, TN

SW-2 L1755725-02 GW

Collected by: Thomas V. | Collected date/time: 07/09/24 11:45 | Received date/time: 07/11/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2321734	1	07/12/24 09:43	07/12/24 15:34	DLS	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2321595	1	07/12/24 17:20	07/12/24 17:20	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2326376	10	07/22/24 22:19	07/22/24 22:19	DLH	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2323826	1	07/22/24 13:52	07/23/24 12:35	DJS	Mt. Juliet, TN

SW-3 L1755725-03 GW

Collected by: Thomas V. | Collected date/time: 07/09/24 11:20 | Received date/time: 07/11/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2321734	1	07/12/24 09:43	07/12/24 15:34	DLS	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2321595	1	07/12/24 17:20	07/12/24 17:20	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2326376	10	07/22/24 22:53	07/22/24 22:53	DLH	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2323826	1	07/22/24 13:52	07/23/24 12:36	DJS	Mt. Juliet, TN

SW-4 L1755725-04 GW

Collected by: Thomas V. | Collected date/time: 07/09/24 10:45 | Received date/time: 07/11/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2321734	1	07/12/24 09:43	07/12/24 15:34	DLS	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2321595	1	07/12/24 17:20	07/12/24 17:20	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2326376	10	07/23/24 00:01	07/23/24 00:01	DLH	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2323826	1	07/22/24 13:52	07/23/24 12:38	DJS	Mt. Juliet, TN

SW-5 L1755725-05 GW

Collected by: Thomas V. | Collected date/time: 07/09/24 10:20 | Received date/time: 07/11/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2321765	1	07/12/24 08:51	07/12/24 18:13	DLS	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2321595	1	07/12/24 17:20	07/12/24 17:20	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2326376	10	07/23/24 00:35	07/23/24 00:35	DLH	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2323826	1	07/22/24 13:52	07/23/24 12:40	DJS	Mt. Juliet, TN

SW-6 L1755725-06 GW

Collected by: Thomas V. | Collected date/time: 07/09/24 14:05 | Received date/time: 07/11/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2321765	1	07/12/24 08:51	07/12/24 18:13	DLS	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2321595	1	07/12/24 17:20	07/12/24 17:20	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2326376	10	07/23/24 01:09	07/23/24 01:09	DLH	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2323826	1	07/22/24 13:52	07/23/24 12:45	DJS	Mt. Juliet, TN

SW-7 L1755725-07 GW

Collected by: Thomas V. | Collected date/time: 07/09/24 07:35 | Received date/time: 07/11/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2321765	1	07/12/24 08:51	07/12/24 18:13	DLS	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2321595	1	07/12/24 17:20	07/12/24 17:20	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2326376	10	07/23/24 01:43	07/23/24 01:43	DLH	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2323826	1	07/22/24 13:52	07/23/24 12:46	DJS	Mt. Juliet, TN

SW-8 L1755725-08 GW

Collected by: Thomas V. | Collected date/time: 07/09/24 09:10 | Received date/time: 07/11/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2321765	1	07/12/24 08:51	07/12/24 18:13	DLS	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2321595	1	07/12/24 17:20	07/12/24 17:20	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2326376	10	07/23/24 02:17	07/23/24 02:17	DLH	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2323826	1	07/22/24 13:52	07/23/24 12:48	DJS	Mt. Juliet, TN

SW-9 L1755725-09 GW

Collected by: Thomas V. | Collected date/time: 07/09/24 12:25 | Received date/time: 07/11/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2321765	1	07/12/24 08:51	07/12/24 18:13	DLS	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2321595	1	07/12/24 17:20	07/12/24 17:20	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2326376	10	07/23/24 03:24	07/23/24 03:24	DLH	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2323826	1	07/22/24 13:52	07/23/24 12:50	DJS	Mt. Juliet, TN

AREA 2-LEACHATE L1755725-10 GW

Collected by: Thomas V. | Collected date/time: 07/09/24 09:40 | Received date/time: 07/11/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2321765	1	07/12/24 08:51	07/12/24 18:13	DLS	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2321595	1	07/12/24 17:20	07/12/24 17:20	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2326376	10	07/23/24 03:58	07/23/24 03:58	DLH	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2323826	1	07/22/24 13:52	07/23/24 12:51	DJS	Mt. Juliet, TN

AREA 1-LEACHATE L1755725-11 GW

Collected by: Thomas V. | Collected date/time: 07/09/24 10:00 | Received date/time: 07/11/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2321765	1	07/12/24 08:51	07/12/24 18:13	DLS	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2321595	1	07/12/24 17:20	07/12/24 17:20	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2326376	10	07/23/24 04:32	07/23/24 04:32	DLH	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2323826	1	07/22/24 13:52	07/23/24 12:53	DJS	Mt. Juliet, TN

WAP-9 L1755725-12 GW

Collected by: Thomas V. | Collected date/time: 07/09/24 13:15 | Received date/time: 07/11/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2321765	1	07/12/24 08:51	07/12/24 18:13	DLS	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2321595	1	07/12/24 17:20	07/12/24 17:20	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2326376	10	07/23/24 05:06	07/23/24 05:06	DLH	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2323826	1	07/22/24 13:52	07/23/24 12:54	DJS	Mt. Juliet, TN

WAP-19 L1755725-13 GW

Collected by: Thomas V. | Collected date/time: 07/08/24 15:45 | Received date/time: 07/11/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2321765	1	07/12/24 08:51	07/12/24 18:13	DLS	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2321595	1	07/12/24 17:20	07/12/24 17:20	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2326376	10	07/23/24 05:40	07/23/24 05:40	DLH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2326376	100	07/23/24 05:57	07/23/24 05:57	DLH	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2323826	1	07/22/24 13:52	07/23/24 12:56	DJS	Mt. Juliet, TN

WLF-A2-6 L1755725-14 GW

Collected by: Thomas V. | Collected date/time: 07/09/24 08:00 | Received date/time: 07/11/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2321765	1	07/12/24 08:51	07/12/24 18:13	DLS	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2321595	1	07/12/24 17:20	07/12/24 17:20	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2326376	10	07/23/24 06:47	07/23/24 06:47	DLH	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2323826	1	07/22/24 13:52	07/23/24 12:58	DJS	Mt. Juliet, TN

WLF-A1-2 L1755725-15 GW

Collected by: Thomas V. | Collected date/time: 07/08/24 14:02 | Received date/time: 07/11/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010D	WG2323826	1	07/22/24 13:52	07/23/24 12:59	DJS	Mt. Juliet, TN

FIELD BLANK L1755725-16 GW

Collected by: Thomas V. | Collected date/time: 07/09/24 15:00 | Received date/time: 07/11/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2323165	1	07/15/24 11:52	07/15/24 14:43	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2321595	1	07/12/24 17:20	07/12/24 17:20	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2326376	1	07/23/24 07:21	07/23/24 07:21	DLH	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2323826	1	07/22/24 13:52	07/23/24 13:04	DJS	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Jason Romer
Project Manager

DETECTION SUMMARY

Gravimetric Analysis by Method 2540 C-2011

Client ID	Lab Sample ID	Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
SW-1	L1755725-01	Dissolved Solids	5490000		100000	1	07/12/2024 15:34	WG2321734
SW-2	L1755725-02	Dissolved Solids	5450000		100000	1	07/12/2024 15:34	WG2321734
SW-3	L1755725-03	Dissolved Solids	5460000		100000	1	07/12/2024 15:34	WG2321734
SW-4	L1755725-04	Dissolved Solids	5730000		100000	1	07/12/2024 15:34	WG2321734
SW-5	L1755725-05	Dissolved Solids	5050000		100000	1	07/12/2024 18:13	WG2321765
SW-6	L1755725-06	Dissolved Solids	5160000		100000	1	07/12/2024 18:13	WG2321765
SW-7	L1755725-07	Dissolved Solids	5770000		100000	1	07/12/2024 18:13	WG2321765
SW-8	L1755725-08	Dissolved Solids	5290000		100000	1	07/12/2024 18:13	WG2321765
SW-9	L1755725-09	Dissolved Solids	5360000		100000	1	07/12/2024 18:13	WG2321765
AREA 2-LEACHATE	L1755725-10	Dissolved Solids	2870000		50000	1	07/12/2024 18:13	WG2321765
AREA 1-LEACHATE	L1755725-11	Dissolved Solids	2870000		50000	1	07/12/2024 18:13	WG2321765
WAP-9	L1755725-12	Dissolved Solids	1230000		20000	1	07/12/2024 18:13	WG2321765
WAP-19	L1755725-13	Dissolved Solids	2810000		50000	1	07/12/2024 18:13	WG2321765
WLF-A2-6	L1755725-14	Dissolved Solids	891000		13300	1	07/12/2024 18:13	WG2321765

Wet Chemistry by Method 9056A

Client ID	Lab Sample ID	Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
SW-1	L1755725-01	Chloride	1500000		3790	10000	10	07/22/2024 21:46	WG2326376
SW-1	L1755725-01	Fluoride	3620		640	1500	10	07/22/2024 21:46	WG2326376
SW-1	L1755725-01	Sulfate	1190000		5940	50000	10	07/22/2024 21:46	WG2326376
SW-2	L1755725-02	Chloride	1470000		3790	10000	10	07/22/2024 22:19	WG2326376
SW-2	L1755725-02	Fluoride	3300		640	1500	10	07/22/2024 22:19	WG2326376
SW-2	L1755725-02	Sulfate	1170000		5940	50000	10	07/22/2024 22:19	WG2326376
SW-3	L1755725-03	Chloride	1470000		3790	10000	10	07/22/2024 22:53	WG2326376
SW-3	L1755725-03	Fluoride	3430		640	1500	10	07/22/2024 22:53	WG2326376
SW-3	L1755725-03	Sulfate	1180000		5940	50000	10	07/22/2024 22:53	WG2326376
SW-4	L1755725-04	Chloride	1470000		3790	10000	10	07/23/2024 00:01	WG2326376
SW-4	L1755725-04	Fluoride	4250		640	1500	10	07/23/2024 00:01	WG2326376
SW-4	L1755725-04	Sulfate	1180000		5940	50000	10	07/23/2024 00:01	WG2326376
SW-5	L1755725-05	Chloride	1480000		3790	10000	10	07/23/2024 00:35	WG2326376
SW-5	L1755725-05	Fluoride	3300		640	1500	10	07/23/2024 00:35	WG2326376
SW-5	L1755725-05	Sulfate	1190000		5940	50000	10	07/23/2024 00:35	WG2326376
SW-6	L1755725-06	Chloride	1420000		3790	10000	10	07/23/2024 01:09	WG2326376
SW-6	L1755725-06	Fluoride	4280		640	1500	10	07/23/2024 01:09	WG2326376
SW-6	L1755725-06	Sulfate	1140000		5940	50000	10	07/23/2024 01:09	WG2326376
SW-7	L1755725-07	Chloride	1480000		3790	10000	10	07/23/2024 01:43	WG2326376
SW-7	L1755725-07	Fluoride	3340		640	1500	10	07/23/2024 01:43	WG2326376
SW-7	L1755725-07	Sulfate	1190000		5940	50000	10	07/23/2024 01:43	WG2326376
SW-8	L1755725-08	Chloride	1470000		3790	10000	10	07/23/2024 02:17	WG2326376
SW-8	L1755725-08	Fluoride	3260		640	1500	10	07/23/2024 02:17	WG2326376
SW-8	L1755725-08	Sulfate	1180000		5940	50000	10	07/23/2024 02:17	WG2326376
SW-9	L1755725-09	Chloride	1470000		3790	10000	10	07/23/2024 03:24	WG2326376
SW-9	L1755725-09	Fluoride	4400		640	1500	10	07/23/2024 03:24	WG2326376
SW-9	L1755725-09	Sulfate	1190000		5940	50000	10	07/23/2024 03:24	WG2326376
AREA 2-LEACHATE	L1755725-10	Chloride	396000		3790	10000	10	07/23/2024 03:58	WG2326376
AREA 2-LEACHATE	L1755725-10	Sulfate	1530000		5940	50000	10	07/23/2024 03:58	WG2326376
AREA 1-LEACHATE	L1755725-11	Chloride	228000		3790	10000	10	07/23/2024 04:32	WG2326376
AREA 1-LEACHATE	L1755725-11	Sulfate	1630000		5940	50000	10	07/23/2024 04:32	WG2326376
WAP-9	L1755725-12	Chloride	162000		3790	10000	10	07/23/2024 05:06	WG2326376
WAP-9	L1755725-12	Sulfate	509000		5940	50000	10	07/23/2024 05:06	WG2326376
WAP-19	L1755725-13	Chloride	37700		3790	10000	10	07/23/2024 05:40	WG2326376
WAP-19	L1755725-13	Sulfate	2320000		59400	500000	100	07/23/2024 05:57	WG2326376
WLF-A2-6	L1755725-14	Chloride	87000		3790	10000	10	07/23/2024 06:47	WG2326376
WLF-A2-6	L1755725-14	Sulfate	283000		5940	50000	10	07/23/2024 06:47	WG2326376

Wet Chemistry by Method 9056A

Client ID	Lab Sample ID	Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
FIELD BLANK	L1755725-16	Fluoride	64.1	J	64.0	150	1	07/23/2024 07:21	WG2326376

Metals (ICP) by Method 6010D

Client ID	Lab Sample ID	Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
SW-1	L1755725-01	Boron	26900		20.0	200	1	07/23/2024 12:28	WG2323826
SW-1	L1755725-01	Calcium	771000	V	79.3	1000	1	07/23/2024 12:28	WG2323826
SW-2	L1755725-02	Boron	26900		20.0	200	1	07/23/2024 12:35	WG2323826
SW-2	L1755725-02	Calcium	774000		79.3	1000	1	07/23/2024 12:35	WG2323826
SW-3	L1755725-03	Boron	26800		20.0	200	1	07/23/2024 12:36	WG2323826
SW-3	L1755725-03	Calcium	772000		79.3	1000	1	07/23/2024 12:36	WG2323826
SW-4	L1755725-04	Boron	26900		20.0	200	1	07/23/2024 12:38	WG2323826
SW-4	L1755725-04	Calcium	778000		79.3	1000	1	07/23/2024 12:38	WG2323826
SW-5	L1755725-05	Boron	27000		20.0	200	1	07/23/2024 12:40	WG2323826
SW-5	L1755725-05	Calcium	775000		79.3	1000	1	07/23/2024 12:40	WG2323826
SW-6	L1755725-06	Boron	26500		20.0	200	1	07/23/2024 12:45	WG2323826
SW-6	L1755725-06	Calcium	770000		79.3	1000	1	07/23/2024 12:45	WG2323826
SW-7	L1755725-07	Boron	26700		20.0	200	1	07/23/2024 12:46	WG2323826
SW-7	L1755725-07	Calcium	775000		79.3	1000	1	07/23/2024 12:46	WG2323826
SW-8	L1755725-08	Boron	26700		20.0	200	1	07/23/2024 12:48	WG2323826
SW-8	L1755725-08	Calcium	785000		79.3	1000	1	07/23/2024 12:48	WG2323826
SW-9	L1755725-09	Boron	26800		20.0	200	1	07/23/2024 12:50	WG2323826
SW-9	L1755725-09	Calcium	777000		79.3	1000	1	07/23/2024 12:50	WG2323826
AREA 2-LEACHATE	L1755725-10	Boron	7650		20.0	200	1	07/23/2024 12:51	WG2323826
AREA 2-LEACHATE	L1755725-10	Calcium	618000		79.3	1000	1	07/23/2024 12:51	WG2323826
AREA 1-LEACHATE	L1755725-11	Boron	4800		20.0	200	1	07/23/2024 12:53	WG2323826
AREA 1-LEACHATE	L1755725-11	Calcium	697000		79.3	1000	1	07/23/2024 12:53	WG2323826
WAP-9	L1755725-12	Boron	4330		20.0	200	1	07/23/2024 12:54	WG2323826
WAP-9	L1755725-12	Calcium	250000		79.3	1000	1	07/23/2024 12:54	WG2323826
WAP-19	L1755725-13	Boron	4450		20.0	200	1	07/23/2024 12:56	WG2323826
WAP-19	L1755725-13	Calcium	676000		79.3	1000	1	07/23/2024 12:56	WG2323826
WLF-A2-6	L1755725-14	Boron	391		20.0	200	1	07/23/2024 12:58	WG2323826
WLF-A2-6	L1755725-14	Calcium	234000		79.3	1000	1	07/23/2024 12:58	WG2323826
WLF-A1-2	L1755725-15	Calcium	62600		79.3	1000	1	07/23/2024 12:59	WG2323826
FIELD BLANK	L1755725-16	Calcium	98.1	J	79.3	1000	1	07/23/2024 13:04	WG2323826

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	5490000		100000	1	07/12/2024 15:34	WG2321734

Wet Chemistry by Method 9040C

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.85	T8	1	07/12/2024 17:20	WG2321595

Sample Narrative:

L1755725-01 WG2321595: 7.85 at 21.9C

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	1500000		3790	10000	10	07/22/2024 21:46	WG2326376
Fluoride	3620		640	1500	10	07/22/2024 21:46	WG2326376
Sulfate	1190000		5940	50000	10	07/22/2024 21:46	WG2326376

Metals (ICP) by Method 6010D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	26900		20.0	200	1	07/23/2024 12:28	WG2323826
Calcium	771000	V	79.3	1000	1	07/23/2024 12:28	WG2323826

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	5450000		100000	1	07/12/2024 15:34	WG2321734

Wet Chemistry by Method 9040C

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.81	T8	1	07/12/2024 17:20	WG2321595

Sample Narrative:

L1755725-02 WG2321595: 7.81 at 21.7C

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	1470000		3790	10000	10	07/22/2024 22:19	WG2326376
Fluoride	3300		640	1500	10	07/22/2024 22:19	WG2326376
Sulfate	1170000		5940	50000	10	07/22/2024 22:19	WG2326376

Metals (ICP) by Method 6010D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	26900		20.0	200	1	07/23/2024 12:35	WG2323826
Calcium	774000		79.3	1000	1	07/23/2024 12:35	WG2323826

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	5460000		100000	1	07/12/2024 15:34	WG2321734

Wet Chemistry by Method 9040C

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.79	T8	1	07/12/2024 17:20	WG2321595

Sample Narrative:

L1755725-03 WG2321595: 7.79 at 21.6C

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	1470000		3790	10000	10	07/22/2024 22:53	WG2326376
Fluoride	3430		640	1500	10	07/22/2024 22:53	WG2326376
Sulfate	1180000		5940	50000	10	07/22/2024 22:53	WG2326376

Metals (ICP) by Method 6010D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	26800		20.0	200	1	07/23/2024 12:36	WG2323826
Calcium	772000		79.3	1000	1	07/23/2024 12:36	WG2323826

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	5730000		100000	1	07/12/2024 15:34	WG2321734

Wet Chemistry by Method 9040C

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.80	T8	1	07/12/2024 17:20	WG2321595

Sample Narrative:

L1755725-04 WG2321595: 7.8 at 21.6C

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	1470000		3790	10000	10	07/23/2024 00:01	WG2326376
Fluoride	4250		640	1500	10	07/23/2024 00:01	WG2326376
Sulfate	1180000		5940	50000	10	07/23/2024 00:01	WG2326376

Metals (ICP) by Method 6010D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	26900		20.0	200	1	07/23/2024 12:38	WG2323826
Calcium	778000		79.3	1000	1	07/23/2024 12:38	WG2323826

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	5050000		100000	1	07/12/2024 18:13	WG2321765

Wet Chemistry by Method 9040C

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.77	T8	1	07/12/2024 17:20	WG2321595

Sample Narrative:

L1755725-05 WG2321595: 7.77 at 21.8C

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	1480000		3790	10000	10	07/23/2024 00:35	WG2326376
Fluoride	3300		640	1500	10	07/23/2024 00:35	WG2326376
Sulfate	1190000		5940	50000	10	07/23/2024 00:35	WG2326376

Metals (ICP) by Method 6010D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	27000		20.0	200	1	07/23/2024 12:40	WG2323826
Calcium	775000		79.3	1000	1	07/23/2024 12:40	WG2323826

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	5160000		100000	1	07/12/2024 18:13	WG2321765

Wet Chemistry by Method 9040C

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.92	T8	1	07/12/2024 17:20	WG2321595

Sample Narrative:

L1755725-06 WG2321595: 7.92 at 21C

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	1420000		3790	10000	10	07/23/2024 01:09	WG2326376
Fluoride	4280		640	1500	10	07/23/2024 01:09	WG2326376
Sulfate	1140000		5940	50000	10	07/23/2024 01:09	WG2326376

Metals (ICP) by Method 6010D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	26500		20.0	200	1	07/23/2024 12:45	WG2323826
Calcium	770000		79.3	1000	1	07/23/2024 12:45	WG2323826

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	5770000		100000	1	07/12/2024 18:13	WG2321765

Wet Chemistry by Method 9040C

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.83	T8	1	07/12/2024 17:20	WG2321595

Sample Narrative:

L1755725-07 WG2321595: 7.83 at 20.9C

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	1480000		3790	10000	10	07/23/2024 01:43	WG2326376
Fluoride	3340		640	1500	10	07/23/2024 01:43	WG2326376
Sulfate	1190000		5940	50000	10	07/23/2024 01:43	WG2326376

Metals (ICP) by Method 6010D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	26700		20.0	200	1	07/23/2024 12:46	WG2323826
Calcium	775000		79.3	1000	1	07/23/2024 12:46	WG2323826

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	5290000		100000	1	07/12/2024 18:13	WG2321765

Wet Chemistry by Method 9040C

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.81	T8	1	07/12/2024 17:20	WG2321595

Sample Narrative:

L1755725-08 WG2321595: 7.81 at 21.1C

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	1470000		3790	10000	10	07/23/2024 02:17	WG2326376
Fluoride	3260		640	1500	10	07/23/2024 02:17	WG2326376
Sulfate	1180000		5940	50000	10	07/23/2024 02:17	WG2326376

Metals (ICP) by Method 6010D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	26700		20.0	200	1	07/23/2024 12:48	WG2323826
Calcium	785000		79.3	1000	1	07/23/2024 12:48	WG2323826

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	5360000		100000	1	07/12/2024 18:13	WG2321765

Wet Chemistry by Method 9040C

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.78	T8	1	07/12/2024 17:20	WG2321595

Sample Narrative:

L1755725-09 WG2321595: 7.78 at 21C

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	1470000		3790	10000	10	07/23/2024 03:24	WG2326376
Fluoride	4400		640	1500	10	07/23/2024 03:24	WG2326376
Sulfate	1190000		5940	50000	10	07/23/2024 03:24	WG2326376

Metals (ICP) by Method 6010D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	26800		20.0	200	1	07/23/2024 12:50	WG2323826
Calcium	777000		79.3	1000	1	07/23/2024 12:50	WG2323826

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	2870000		50000	1	07/12/2024 18:13	WG2321765

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.46	T8	1	07/12/2024 17:20	WG2321595

Sample Narrative:

L1755725-10 WG2321595: 6.46 at 21.1C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	396000		3790	10000	10	07/23/2024 03:58	WG2326376
Fluoride	U		640	1500	10	07/23/2024 03:58	WG2326376
Sulfate	1530000		5940	50000	10	07/23/2024 03:58	WG2326376

Sample Narrative:

L1755725-10 WG2326376: dilution due to high SO4

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	7650		20.0	200	1	07/23/2024 12:51	WG2323826
Calcium	618000		79.3	1000	1	07/23/2024 12:51	WG2323826

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	2870000		50000	1	07/12/2024 18:13	WG2321765

Wet Chemistry by Method 9040C

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	6.79	T8	1	07/12/2024 17:20	WG2321595

Sample Narrative:

L1755725-11 WG2321595: 6.79 at 21.1C

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	228000		3790	10000	10	07/23/2024 04:32	WG2326376
Fluoride	U		640	1500	10	07/23/2024 04:32	WG2326376
Sulfate	1630000		5940	50000	10	07/23/2024 04:32	WG2326376

Sample Narrative:

L1755725-11 WG2326376: dilution due to high SO4

Metals (ICP) by Method 6010D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	4800		20.0	200	1	07/23/2024 12:53	WG2323826
Calcium	697000		79.3	1000	1	07/23/2024 12:53	WG2323826

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	1230000		20000	1	07/12/2024 18:13	WG2321765

Wet Chemistry by Method 9040C

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	6.66	T8	1	07/12/2024 17:20	WG2321595

Sample Narrative:

L1755725-12 WG2321595: 6.66 at 21.2C

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	162000		3790	10000	10	07/23/2024 05:06	WG2326376
Fluoride	U		640	1500	10	07/23/2024 05:06	WG2326376
Sulfate	509000		5940	50000	10	07/23/2024 05:06	WG2326376

Sample Narrative:

L1755725-12 WG2326376: dilution due to high SO4

Metals (ICP) by Method 6010D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	4330		20.0	200	1	07/23/2024 12:54	WG2323826
Calcium	250000		79.3	1000	1	07/23/2024 12:54	WG2323826

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	2810000		50000	1	07/12/2024 18:13	WG2321765

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.89	T8	1	07/12/2024 17:20	WG2321595

Sample Narrative:

L1755725-13 WG2321595: 6.89 at 21.4C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	37700		3790	10000	10	07/23/2024 05:40	WG2326376
Fluoride	U		640	1500	10	07/23/2024 05:40	WG2326376
Sulfate	2320000		59400	500000	100	07/23/2024 05:57	WG2326376

Sample Narrative:

L1755725-13 WG2326376: dilution due to high SO4

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	4450		20.0	200	1	07/23/2024 12:56	WG2323826
Calcium	676000		79.3	1000	1	07/23/2024 12:56	WG2323826

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	891000		13300	1	07/12/2024 18:13	WG2321765

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.08	T8	1	07/12/2024 17:20	WG2321595

Sample Narrative:

L1755725-14 WG2321595: 7.08 at 21C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	87000		3790	10000	10	07/23/2024 06:47	WG2326376
Fluoride	U		640	1500	10	07/23/2024 06:47	WG2326376
Sulfate	283000		5940	50000	10	07/23/2024 06:47	WG2326376

Sample Narrative:

L1755725-14 WG2326376: dilution due to high SO4

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	391		20.0	200	1	07/23/2024 12:58	WG2323826
Calcium	234000		79.3	1000	1	07/23/2024 12:58	WG2323826

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Calcium	62600		79.3	1000	1	07/23/2024 12:59	WG2323826

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	ND		10000	1	07/15/2024 14:43	WG2323165

Wet Chemistry by Method 9040C

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.04	T8	1	07/12/2024 17:20	WG2321595

Sample Narrative:

L1755725-16 WG2321595: 7.04 at 21.8C

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	U		379	1000	1	07/23/2024 07:21	WG2326376
Fluoride	64.1	J	64.0	150	1	07/23/2024 07:21	WG2326376
Sulfate	U		594	5000	1	07/23/2024 07:21	WG2326376

Metals (ICP) by Method 6010D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	U		20.0	200	1	07/23/2024 13:04	WG2323826
Calcium	98.1	J	79.3	1000	1	07/23/2024 13:04	WG2323826

Method Blank (MB)

(MB) R4093630-1 07/12/24 15:34

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		10000	10000

L1755413-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1755413-02 07/12/24 15:34 • (DUP) R4093630-3 07/12/24 15:34

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	680000	681000	1	0.147		10

L1755488-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1755488-01 07/12/24 15:34 • (DUP) R4093630-4 07/12/24 15:34

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	239000	233000	1	2.54		10

Laboratory Control Sample (LCS)

(LCS) R4093630-2 07/12/24 15:34

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	8650000	98.3	85.0-115	

Method Blank (MB)

(MB) R4093656-1 07/12/24 18:13

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		10000	10000

L1755004-12 Original Sample (OS) • Duplicate (DUP)

(OS) L1755004-12 07/12/24 18:13 • (DUP) R4093656-3 07/12/24 18:13

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	1270000	1330000	1	4.04		10

L1755725-12 Original Sample (OS) • Duplicate (DUP)

(OS) L1755725-12 07/12/24 18:13 • (DUP) R4093656-4 07/12/24 18:13

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	1230000	1260000	1	2.25		10

Laboratory Control Sample (LCS)

(LCS) R4093656-2 07/12/24 18:13

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	8710000	99.0	85.0-115	

Method Blank (MB)

(MB) R4094522-1 07/15/24 14:43

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		10000	10000

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4094522-2 07/15/24 14:43 • (LCSD) R4094522-3 07/15/24 14:43

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Dissolved Solids	8800000	8670000	8760000	98.5	99.5	85.0-115			1.03	10

L1755703-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1755703-01 07/12/24 17:20 • (DUP) R4093282-2 07/12/24 17:20

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.88	7.88	1	0.000		1

Sample Narrative:
OS: 7.88 at 21.1C
DUP: 7.88 at 21.4C

L1755725-16 Original Sample (OS) • Duplicate (DUP)

(OS) L1755725-16 07/12/24 17:20 • (DUP) R4093282-3 07/12/24 17:20

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.04	7.04	1	0.000		1

Sample Narrative:
OS: 7.04 at 21.8C
DUP: 7.04 at 21.4C

Laboratory Control Sample (LCS)

(LCS) R4093282-1 07/12/24 17:20

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	su	su	%	%	
pH	10.0	10.0	100	99.0-101	

Sample Narrative:
LCS: 10.01 at 22.4C

Method Blank (MB)

(MB) R4097234-1 07/22/24 18:40

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Chloride	U		379	1000
Fluoride	U		64.0	150
Sulfate	U		594	5000

L1755080-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1755080-01 07/22/24 19:13 • (DUP) R4097234-3 07/22/24 19:30

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Chloride	9790	9580	1	2.14		15
Fluoride	125	131	1	0.000		15
Sulfate	11800	11700	1	0.0978		15

L1755080-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1755080-02 07/22/24 20:21 • (DUP) R4097234-6 07/22/24 20:38

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Chloride	2590	2630	1	1.49		15
Fluoride	7420	7490	1	1.04		15
Sulfate	31800	31800	1	0.0176		15

Laboratory Control Sample (LCS)

(LCS) R4097234-2 07/22/24 18:56

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Chloride	40000	39900	99.6	80.0-120	
Fluoride	8000	7950	99.3	80.0-120	
Sulfate	40000	39800	99.5	80.0-120	

L1755080-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1755080-01 07/22/24 19:13 • (MS) R4097234-4 07/22/24 19:47 • (MSD) R4097234-5 07/22/24 20:04

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	40000	9790	46500	47100	91.9	93.2	1	80.0-120			1.10	15
Fluoride	8000	125	7860	7960	96.6	97.9	1	80.0-120			1.28	15
Sulfate	40000	11800	48100	48500	90.9	91.9	1	80.0-120			0.830	15

L1755080-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1755080-02 07/22/24 20:21 • (MS) R4097234-7 07/22/24 20:55

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	40000	2590	41900	98.3	1	80.0-120	
Fluoride	8000	7420	13900	80.6	1	80.0-120	
Sulfate	40000	31800	64300	81.2	1	80.0-120	

Method Blank (MB)

(MB) R4097296-1 07/23/24 12:25

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Boron	U		20.0	200
Calcium	U		79.3	1000

Laboratory Control Sample (LCS)

(LCS) R4097296-2 07/23/24 12:26

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Boron	1000	943	94.3	80.0-120	
Calcium	10000	9700	97.0	80.0-120	

L1755725-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1755725-01 07/23/24 12:28 • (MS) R4097296-4 07/23/24 12:31 • (MSD) R4097296-5 07/23/24 12:33

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Boron	1000	26900	27700	27700	82.7	87.1	1	75.0-125			0.162	20
Calcium	10000	771000	782000	771000	110	0.000	1	75.0-125		V	1.42	20

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
T8	Sample(s) received past/too close to holding time expiration.
V	The sample concentration is too high to evaluate accurate spike recoveries.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mcld [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
Haley & Aldrich-Greenville, SC

400 Augusta St.
Suite 100
Greenville. SC 29601

Billing Information:
Attn: Accounts Payable
400 Augusta Street
Suite 100
Greenville, SC 29601

Pres Chk

Report to: **Montgomery Spillane**

Email To: **mspillane@haleyaldrich.com**

Project Description: **Santee Cooper**

City/State Collected: George Town SC

Please Circle: PT MT CT (ET)

Phone: **864-214-8765**

Client Project # **0132892-002**

Lab Project # **HALALDGSC-SANTEE**

Collected by (print): Thomas Vaughn

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Date Results Needed

Quote #

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	BICP,CAICP 250mlHDPE-HNO3	CAICP 250mlHDPE-HNO3	CL, F, SO4 125mlHDPE-NoPres	PH 125mlHDPE-NoPres	TDS 1L-HDPE NoPres					Remarks	Sample # (lab only)
SW-1	Grab	GW	—	7/9/24	1205	4	X	X	X	X	X						-01
SW-2		GW	—		1145	4	X	X	X	X	X						-02
SW-3		GW	—		1120	4	X	X	X	X	X						-03
SW-4		GW	—		1045	4	X	X	X	X	X						-04
SW-5		GW	—	↓	1020	4	X	X	X	X	X						-05
SW-6		GW	—	7/9/24	1405	4	X		X	X	X						-06
SW-7		GW	—	7/9/24	735	4	X		X	X	X						-07
SW-8		GW	—	7/9/24	910	4	X	X	X	X	X						-08
SW-9		GW	—	7/9/24	1225	4	X	X	X	X	X						-09
Area 2-Leachate	↓	GW	—	7/9/24	940	4	X	X	X	X	X						-10

Analysis / Container / Preservative

Chain of Custody Page 1 of 2

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1755725

E156

Acctnum: **HALALDGSC**
Template: **T256003**
Prelogin: **P1087252**
PM: **526 - Chris McCord**
PB: BW 7/2

Shipped Via: **FedEX Ground**

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: __ UPS X FedEx __ Courier _____

Tracking #

Sample Receipt Checklist

COC Seal Present/Intact:	NP	Y N
COC Signed/Accurate:		Y N
Bottles arrive intact:		Y N
Correct bottles used:		Y N
Sufficient volume sent:		Y N
If Applicable		
VOA Zero Headspace:		Y N
Preservation Correct/Checked:		Y N
RAD Screen <0.5 mR/hr:		Y N

7/11 MM

Relinquished by: (Signature)	Date: 7/10/24	Time:	Received by: (Signature)	Trip Blank Received: Yes / (No) HCL / MeoH TBR
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) Claser	Date: 7/11/24 Time: 0900

If preservation required by Login: Date/Time

Hold:

Condition: NCF / (OK)

Company Name/Address:
Haley & Aldrich-Greenville, SC

400 Augusta St.
Suite 100
Greenville. SC 29601

Billing Information:
Attn: Accounts Payable
400 Augusta Street
Suite 100
Greenville, SC 29601

Pres Chk

Report to:
Montgomery Spillane

Email To: **mspillane@haleyaldrich.com**

Project Description:
Santee Cooper

City/State Collected: Georgetown, SC

Please Circle: PT MT CT (ET)

Phone: **864-214-8765**

Client Project #
0132892-002

Lab Project #
HALALDGSC-SANTEE

Collected by (print):
Thomas Vaughan

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	BICP,CAICP 250mlHDPE-HNO3	CAICP 250mlHDPE-HNO3	CL, F, SO4 125mlHDPE-NoPres	PH 125mlHDPE-NoPres	TDS 1L-HDPE NoPres	Remarks	Sample # (lab only)
Area 1-Leachate	Grab	GW	—	7/9/24	1000	4	X	~~X~~	X	X	X		-11
WAP-9		GW	—	7/8/24	1315	4	X		X	X	X		-12
WAP-19		GW	—	7/8/24	1545	4	X	~~X~~	X	X	X		-13
~~WLF-A1-2~~	TMV	GW	—	7/8/24	1402	1		~~X~~	~~X~~			Just G	
WLF-A2-6		GW	—	7/9/24	800	4	X	X	X	X	X		-14
WLF-A1-2	Grab	GW	—	7/8/24	1402	1		X					-15
Field Blank	Grab	~~GW~~		7/9/24	1500	4	X		X	X	X		-16
		~~GW~~											
		~~GW~~											
		~~GW~~											

Analysis / Container / Preservative

Chain of Custody Page 2 of 2

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1755725

Table #

Acctnum: **HALALDGSC**

Template: **T256003**

Prelogin: **P1087252**

PM: **526 - Chris McCord**

PB: BW 7/2

Shipped Via: **FedEX Ground**

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx X Courier _____

Tracking #

Sample Receipt Checklist

~~COC Seal Present/Intact:~~	NP	Y N
COC Signed/Accurate:		Y N
Bottles arrive intact:		Y N
Correct bottles used:		Y N
Sufficient volume sent:		Y N
If Applicable		
VOA Zero Headspace:		Y N
Preservation Correct/Checked:		Y N
RAD Screen <0.5 mR/hr:		Y N

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No (HCL / MeoH TBR)	
	7/10/24				
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:	If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 7/11/24 Time: 0900	Hold: Condition: NCF / (OK)
			Chasen		

L1755725

Tracking Numbers		Temperature
4047 5488 2048		EDA84.1 +0.3 = 4.4
4047 5438 2037		EDA81.8 +0.3 = 2.1

Closen
Name

7/11/24
Date