

2024 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

CLASS 3 LANDFILL

CROSS GENERATING STATION

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January 31, 2025

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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 Class 3 Landfill at the Cross Generating Station (CGS). This 2024 Annual Report was prepared to comply with the United States Environmental Protection Agency (EPA) Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals (CCR) from Electric Utilities, Title 40 Code of Federal Regulations (CFR) Part 257, Subpart D dated April 17, 2015 (CCR Rule), specifically subsection § 257.90(e)(1) through (6).

The CGS Class 3 Landfill began operations and placement of CCR in December 2015 in accordance with permits and plans approved by the South Carolina Department of Environmental Services (SCDES), formerly the South Carolina Department of Health and Environmental Control (SCDHEC). The Class 3 Landfill is an existing CCR landfill that is located immediately adjacent to and abuts the eastern slope of the closed Class 2 Landfill. The Class 2 Landfill top deck and east and west slopes are covered by a high-density polyethylene (HDPE) liner that serves as the bottom liner of the Class 3 Landfill. In addition to the federal CCR Rule groundwater monitoring program discussed throughout, a SCDES-approved groundwater monitoring program is also being implemented to comply with the Class 3 Landfill SCDES Permit #LF3-00007.

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 CGS Class 3 Landfill continued to operate under a detection monitoring program in accordance with § 257.94. An initial successful alternate source demonstration (ASD) was certified in April 2018 which concluded the closed Class 2 Landfill, located immediately adjacent to and upgradient of the Class 3 Landfill, is responsible for the Appendix III statistically significant increases (SSIs). A second ASD certified in March 2023 concluded that the closed Class 2 Landfill continues to be an alternate source.

SSIs of chloride were identified in monitoring wells CLF1B-2 and CLF1B-4 during the January and June 2024 sampling events, which is consistent with previous historical findings and the conclusions outlined in the ASDs. SSIs were identified for boron in monitoring wells CLF1B-3 and CLF1B-5 and fluoride in monitoring well CLF1B-3 in the June 2024 sampling.

At the end of the current annual reporting period (December 31, 2024), the Class 3 Landfill 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 CGS Class 3 Landfill is subject to the groundwater monitoring and corrective action requirements set forth by the EPA in § 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(–) - SUMMARY

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

This Annual Report documents the activities completed in 2024 for the CGS Class 3 Landfill 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, is provided in this report.

2.2.1 Status of the Groundwater Monitoring Program and Corrective Action Program

SSIs of Appendix III constituents were initially identified downgradient of the Class 3 Landfill, and the notification was provided on January 15, 2018. Because this relatively new and fully lined landfill first received waste in 2015, an evaluation of alternate sources was conducted, and the successful ASD was certified in April 2018. The ASD concluded that the closed Class 2 Landfill, located immediately adjacent to and upgradient of the Class 3 Landfill, is responsible for the Appendix III SSIs. The Class 2 Landfill was a physical and pre-existing alternate source which began receiving waste over 40 years ago, well before construction and operations of the Class 3 Landfill. Groundwater impacts associated with the now closed Class 2 landfill were monitored under the state landfill permit compliance program prior to the CCR Rule and well before construction of the Class 3 Landfill.

In 2022, an SSI of chloride was identified in monitoring wells CLF1B-2 and CLF1B-4 during both the January and June 2022 sampling events, which was consistent with historical findings. New SSIs of boron were identified in monitoring wells CLF1B-3 and CLF1B-5 and for fluoride in monitoring well CLF1B-3 for the June 2022 sampling event based on an intrawell statistical analysis; however, boron in monitoring well CLF1B-5 and fluoride in monitoring well CLF1B-3 are not SSIs when based on an interwell statistical analysis. Also of note, all analytical results for fluoride remained below the MCL of 4.0 mg/L for all Class 3 Landfill CCR wells. Again, groundwater conditions observed following construction of the Class 3 Landfill are generally consistent with the pre-construction groundwater conditions observed at the closed Class 2 Landfill and with the current successful ASD and are not necessarily indicative of a release from the Class 3 Landfill. However, because of the new SSIs in several groundwater monitoring wells, an evaluation of

the original 2018 ASD was conducted within 90 days of completing the second 2022 statistical. The goal of this evaluation was to incorporate additional lines of evidence and a more robust hydrogeology assessment, evaluate the possibility of additional contributing sources, and validate the findings of the initial 2018 ASD. A second ASD certified in March 2023 concluded that the Class 2 Landfill continues to be an alternate source. Based on calculated groundwater flow velocity and levels of constituent concentrations, elevated Appendix III concentrations could continue to flow through the Class 3 Landfill monitoring wells until 2043.

For both of the January and June sampling events in 2024, Appendix III constituent detections from downgradient well samples were compared to their respective GWPS using introwell comparisons. One SSI was identified in January for boron at CLF1B-5, and SSIs were identified for TDS at CLF1B-1, CLF1B-2, and CLF1B-4, and for TDS, iron and sulfate at CLF1B-3 and CLF1B-5. This corresponds to observed increasing concentrations in downgradient wells as discussed in the 2018 and 2023 ASDs. Trends in concentrations will continue to be evaluated during subsequent sampling events. As the ASDs determined the source of the Class 3 Landfill SSIs are due to an alternate source, the Class 3 Landfill has remained in detection monitoring.

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 (2) rounds of groundwater monitoring results (January and June) in accordance with § 257.94 and recorded the concentrations in the facility's operating record as required by § 257.94(f). Groundwater monitoring results are summarized in Table 1 and Laboratory Analytical Results are provided in Appendix B.
- Completed statistical evaluations associated with the January 2024 and June 2024 sampling events to determine statistically significant increases for Appendix III constituents in accordance with § 257.93(h)(2). Statistical results are summarized in Appendix A.
- Continued with potentiometric surface characterization of the uppermost aquifer given changing site conditions by completing sitewide synoptic water level measurements on an approximately quarterly basis to further 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. Plans to conduct redevelopment will be finalized in 2025 and reported in the 2025 Annual Report.

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 record as required by § 257.105(h)(1); notify the Relevant State Director [§ 257.106(d)]; and post to the facility's publicly available CCR website [§ 257.107(d)].
- Conduct semi-annual groundwater monitoring and subsequent statistical analysis as required by § 257.94 and in accordance with the CGS GMP.
- Update the statistical upper tolerance limits for background wells PM-1 and CBW-1 after the second semiannual sampling event of 2025 in accordance with the Unified Guidance.
- The CGS Sampling and Analysis Plan was updated in 2023 to make general revisions and improvements to reflect changes in site conditions and procedures. It will be revised in 2025 to reflect additional nature and extent and other groundwater monitoring wells which were subsequently incorporated into the groundwater monitoring network.
- Continue improving the potentiometric surface characterization of the uppermost aquifer given changing site conditions.

2.3 40 CFR § 257.90(E) – INFORMATION

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

2.3.1 40 CFR § 257.90(e)(1)

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

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

2.3.2 40 CFR § 257.90(e)(2)

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

No wells for groundwater monitoring of constituent concentrations were decommissioned in 2024.

2.3.3 40 CFR § 257.90(e)(3)

In addition to all the monitoring data obtained under § 257.90 through § 257.98, a summary including the number of groundwater samples that were collected for analysis for each

background and downgradient well, the dates the samples were collected, and whether the sample was required by the detection monitoring or assessment monitoring programs;

In accordance with § 257.94(b) and § 257.94(d), at least two independent samples from each background and downgradient monitoring well were collected and analyzed. A summary table including the sample names, dates of sample collection, reason for sample collection (e.g., detection), and monitoring data obtained for the groundwater monitoring program for the Class 3 Landfill 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 data reports, along with field sampling forms, are provided in Appendix B to this report.

2.3.4 40 CFR § 257.90(e)(4)

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

For 2024, there has been no transition between monitoring programs. As noted previously, one SSI was identified for boron at CLF1B-5 for only the January sampling event. Then in June, SSIs were identified for TDS at CLF1B-1, CLF1B-2, and CLF1B-4, and for TDS, iron, and sulfate at CLF1B-3 and CLF1B-5. All of these correspond to observed increasing concentrations in downgradient wells as discussed in the 2018 and 2023 ASDs. Findings of the most recent ASD conclude SSIs identified in 2022 were the result of physical and pre-existing alternative sources, specifically the CGS Class 2 Landfill, which began receiving waste 40 years ago, and possible residual impacts from temporary gypsum marketing storage areas which no longer exist. Based on calculated groundwater flow velocity and levels of constituent concentrations, elevated concentrations could continue to flow through the Class 3 Landfill monitoring wells until 2043. The findings of the March 2023 ASD and consistency with the 2024 groundwater monitoring data and statistical results support the unit continuing in detection monitoring.

2.3.5 40 CFR § 257.90(e)(5)

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

This 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
Cross Generating Station Class 3 Landfill Detection Monitoring 2024

Well ID	Purpose	Date of Sample Event	Laboratory Sample ID Number	Appendix III Constituents							Field Parameters							
				Unit	Boron ug/L	Calcium mg/L	Chloride mg/L	Fluoride mg/L	Sulfate mg/L	Total Dissolved Solids mg/L	pH SU	Depth to Groundwater Feet	Groundwater Elevation Feet	pH	Specific Conductivity uS	Temperature C	Oxidation Potential mv	
				Method	EPA 6010D	EPA 6020B	EPA 3000.0	EPA 3000.0	SM 2540C						SM2580			
Site Background Wells																		
PM-1	Background	1/8/24	AF37807		14.2	119	12.8	<0.10	7.62	193.8	5.73	8.03	75.21	5.13	143	15.90	6.00	0
PM-1	Background	6/4/24	AG01476		12.4	10.5	12.1	<0.10	7.75	143.8	5.20	8.51	74.73	5.20	127	24.34	-35.0	0
PM-1	total samples				2	2	2	2	2	2	2	2	2	2	2	2	2	2
CBW-1	Background	1/8/24	AF37768		19.3	25.0	3.48	0.14	8.36	188.8	4.44	8.89	76.91	4.44	250	15.14	354	0
CBW-1	Background	6/4/24	AG01438		19.6	24.7	3.22	0.13	8.96	170.0	4.54	10.41	75.39	4.54	264	20.26	202	0
CBW-1	total samples				2	2	2	2	2	2	2	2	2	2	2	2	2	2
Class 3 Landfill Wells																		
CLF1B-1	Detection	1/22/24	AF37800		15.6	181	28.2	<0.10	155	617.5	6.55	6.62	77.14	6.55	1010	14.28	33.0	1.50
CLF1B-1	Duplicate	1/22/24	AF37801		16.2	178	28.1	<0.10	159	610.0	***	***	***	***	***	***	***	***
CLF1B-1	Detection	6/4/24	AG01469		14.5	192	30.4	<0.10	160	607.5	6.27	8.69	75.07	6.27	941	24.88	71.0	0
CLF1B-1	Duplicate	6/4/24	AG01470		15.3	193	30.1	<0.10	158	673.8	***	***	***	***	***	***	***	***
CLF1B-1	total samples				4	4	4	4	4	2	2	2	2	2	2	2	2	2
CLF1B-2	Detection	1/22/24	AF37802		24.1	143	93.1	<0.10	16.5	610.0	6.78	4.96	77.08	6.78	844	14.53	49.0	7.80
CLF1B-2	Detection	6/4/24	AG01471		24.7	144	93.2	<0.10	15.0	626.2	6.50	7.22	74.82	6.50	749	25.01	9.00	0
CLF1B-2	total samples				2	2	2	2	2	2	2	2	2	2	2	2	2	2
CLF1B-3	Detection	1/22/24	AF37803		96.8	187	18.8	<0.10	247	642.5	6.61	5.50	77.25	6.61	940	15.87	-43.0	0
CLF1B-3	Resample	5/7/24	AF38793		***	***	***	***	***	***	***	6.64	76.11	6.53	1130	20.12	-21	6.1
CLF1B-3	Detection	6/5/24	AG01472		101	210	42.3	0.12	270	810.0	6.69	8.25	74.50	6.69	1130	20.26	-48.0	0
CLF1B-3	total samples				2	2	2	2	2	2	2	2	2	2	2	2	2	2
CLF1B-4	Detection	1/22/24	AF37804		25.3	128	100	<0.10	19.4	603.8	7.04	5.34	77.40	7.04	760	16.53	115	0
CLF1B-4	Detection	6/5/24	AG01473		29.5	142	98.1	<0.10	29.0	586.2	6.90	8.70	74.04	6.90	849	20.39	68.0	0
CLF1B-4	total samples				2	2	2	2	2	2	2	2	2	2	2	2	2	2
CLF1B-5	Detection	1/22/24	AF37805		27.3	278	168	<0.10	256	1131	6.64	3.71	77.38	6.64	1510	16.92	9.00	4.50
CLF1B-5	Detection	6/5/24	AG01474		27.1	287	176	<0.10	256	1222	6.64	7.50	73.59	6.64	1020	33.77	-56.0	0
CLF1B-5	total samples				2	2	2	2	2	2	2	2	2	2	2	2	2	2

Notes:

- All groundwater samples collected from the monitoring wells for Assessment & Corrective Action Monitoring in 2024 for the constituents listed in Appendix III of the EPA CCR Rule (40 CFR) were analyzed by South Carolina Certified laboratories: Santee Cooper Analytical Services (Certification # 08552), GEI Laboratories, LLC (Certification # 10120), Test America Laboratories Inc. (Certification # 98001), Rogers & Calicot, Inc. (Certification # 23105001), Davis & Brown (Certification # 21117), and Shealy Environmental Services, Inc (Certification # 32010).
- All background and downgradient compliance wells have been sampled to meet §257.94.
- 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.
- 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).
- *** means not collected. Mainly pertinent for duplicate samples.

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

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

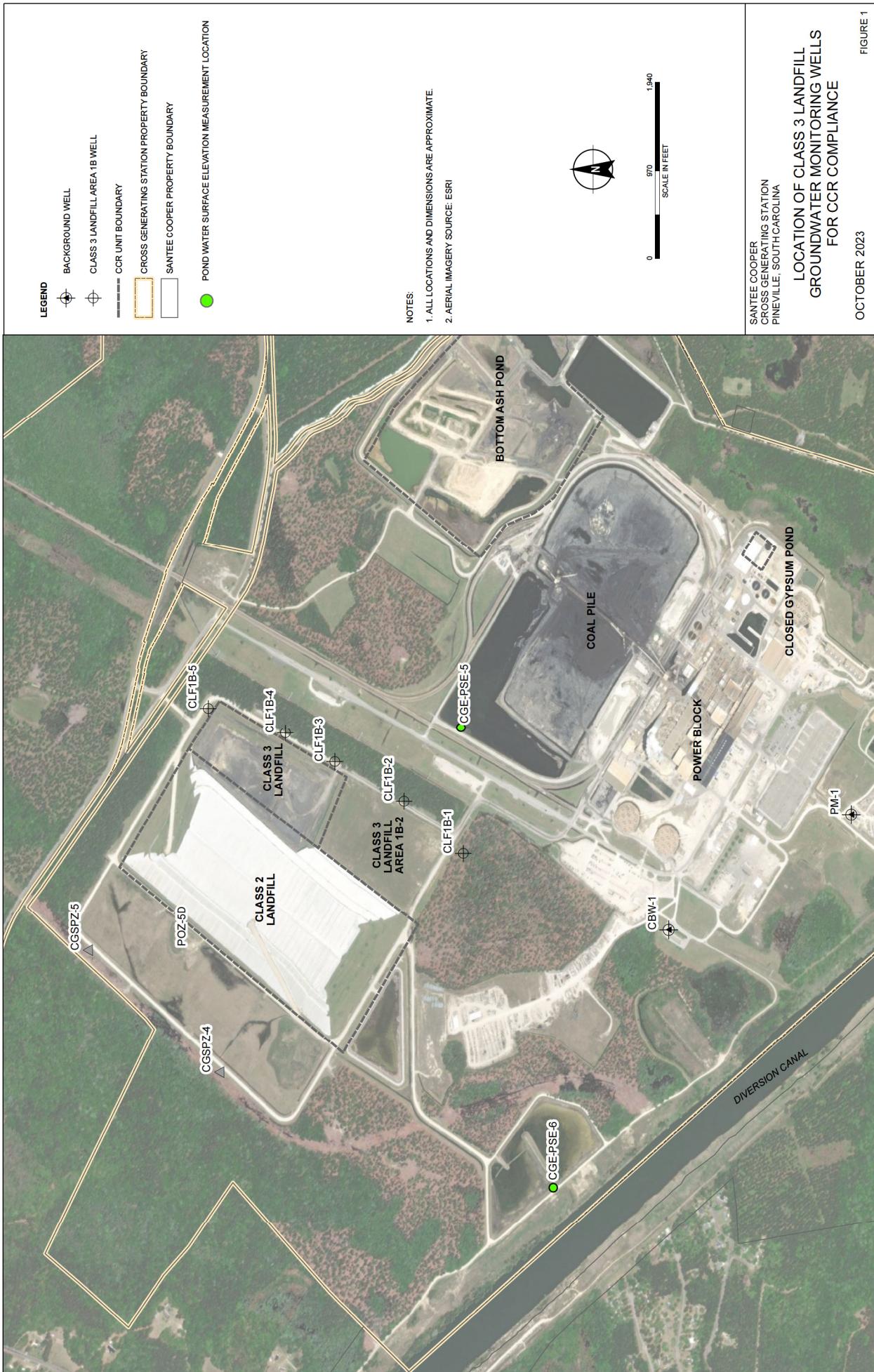
Notes:

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



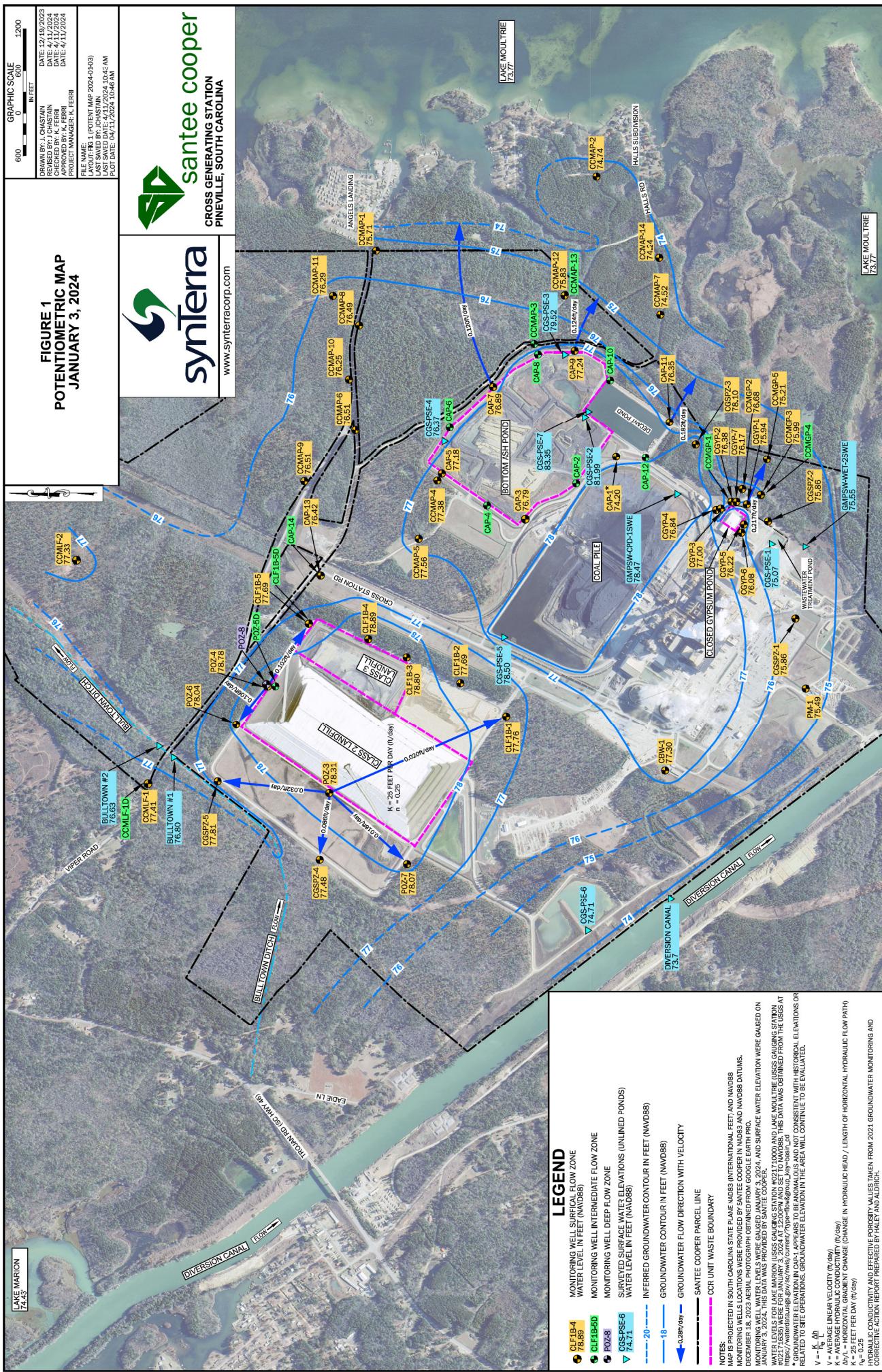
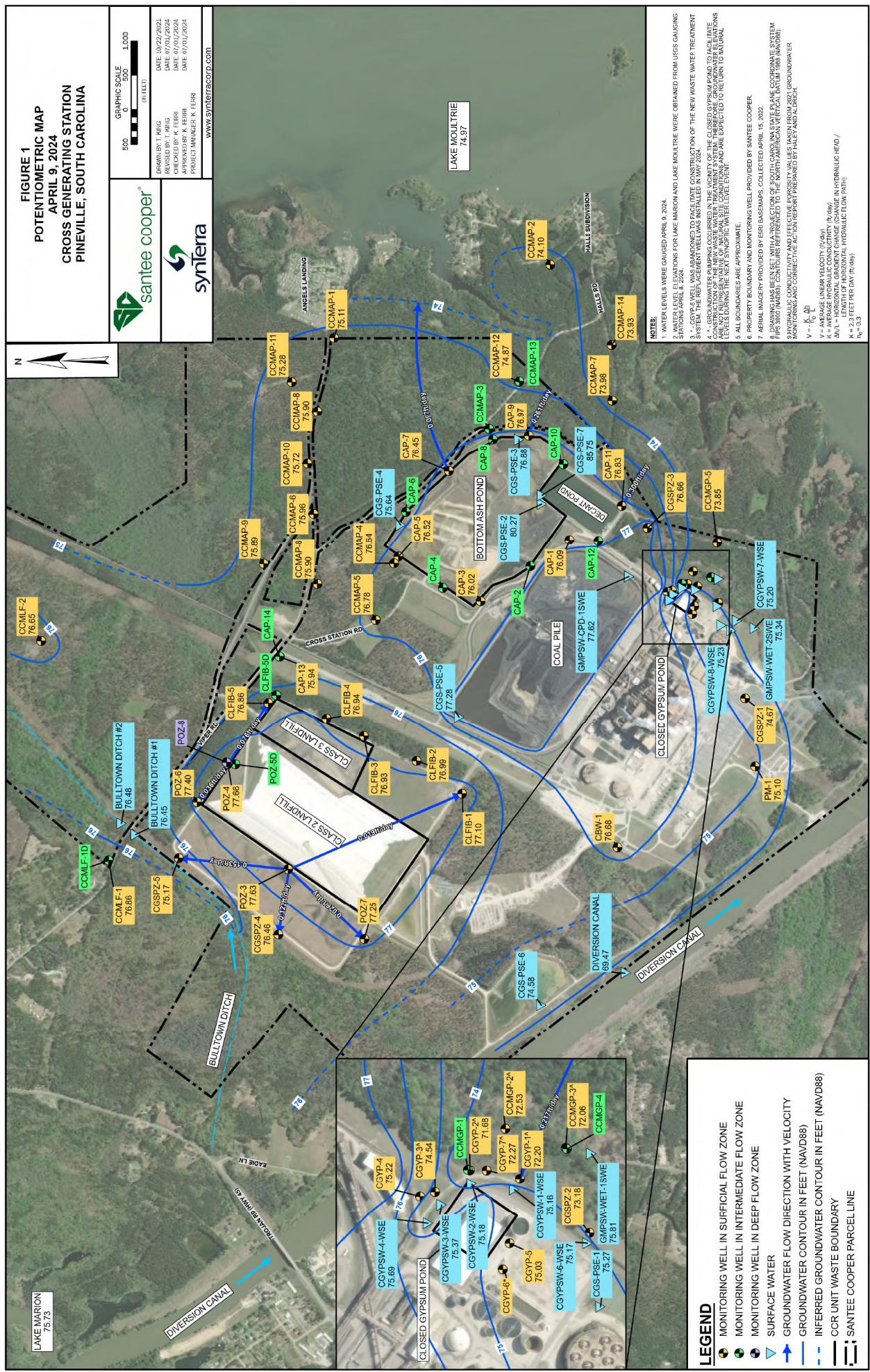
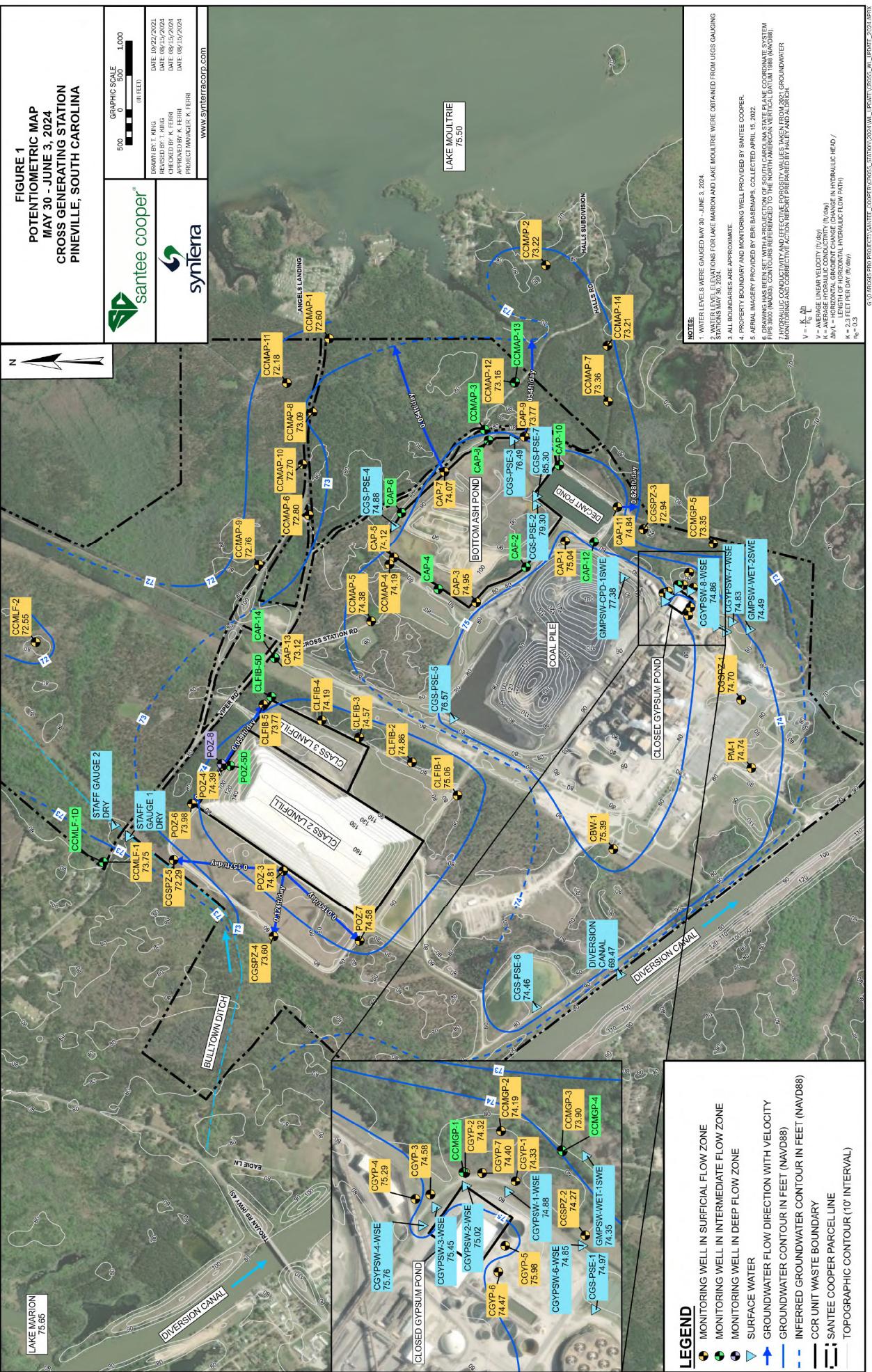
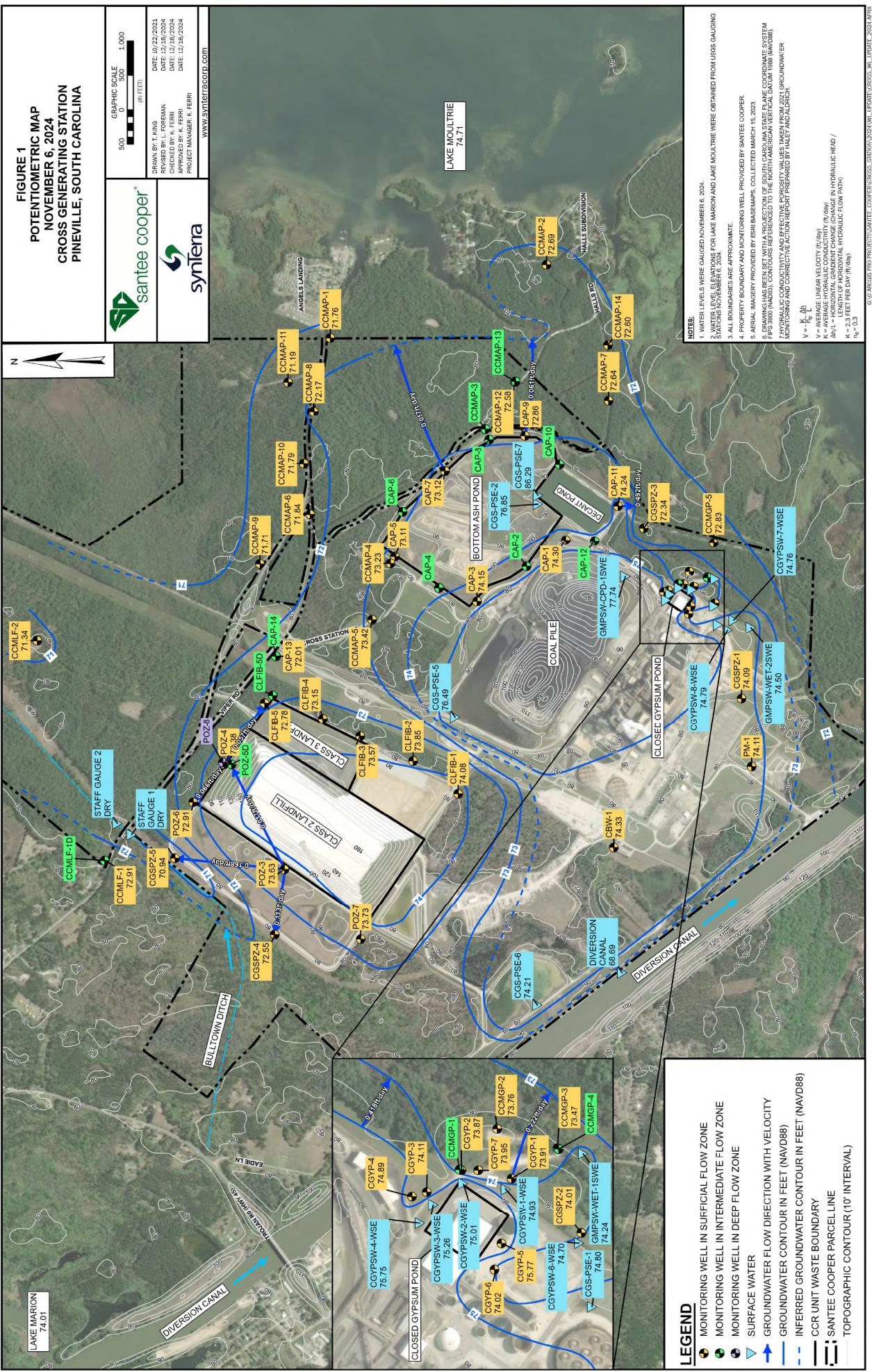


FIGURE 1
POTENTIOMETRIC MAP
APRIL 9, 2024
CROSS GENERATING STATION
PINEVILLE, SOUTH CAROLINA







Appendix A – Statistical Analysis



HALEY & ALDRICH, INC.
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TECHNICAL MEMORANDUM

July 3, 2024
File No. 132892-102-001-02

SUBJECT: Statistical Evaluation of the January 2024 Groundwater Detection Monitoring Data
Cross Generating Station
Class 3 Landfill

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 for the January 2024 detection monitoring event for the Cross Generating Station (CGS) Class 3 Landfill. Data for this groundwater sampling event were validated on April 4, 2024 by Santee Cooper.

BACKGROUND

The CGS Class 3 Landfill began receiving waste in December 2015. After completion of baseline sampling, the initial statistical analysis for the CGS Class 3 Landfill identified statistically significant increases (SSIs) above the Groundwater Protection Standards (GWPS) for Appendix III constituents in downgradient monitoring wells. Subsequently, alternate source demonstrations (ASDs) completed in April 2018 and March 2023 concluded the closed Class 2 Landfill and former temporary gypsum marketing areas, which are adjacent to the Class 3 Landfill, are the source for the Appendix III SSIs (boron, calcium, chloride, pH, sulfate, and total dissolved solids [TDS]) as opposed to the Class 3 Landfill. As a result, the Class 3 Landfill remained in detection monitoring. Intrawell statistical evaluations have been conducted for the Appendix III constituents since the 2018 ASD.

Recent analytical testing results were evaluated to determine if SSIs of Appendix III groundwater monitoring constituents exist above the GWPS. Using intrawell evaluations, data from the semiannual sampling event for downgradient monitoring wells were compared to background values.

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 Appendix III data, and additionally, the lower prediction limit (LPL) was selected to evaluate the pH. The prediction interval method is one of the options outlined in the Rule. A prediction interval procedure establishes a concentration limit for each constituent from the distribution of the background data, with a specified confidence level (e.g., 95

percent). The upper endpoint of a concentration limit is termed the UPL, and the lower endpoint of a concentration limit is called the LPL. Depending on the background data distribution, parametric or non-parametric prediction limits procedures are used to evaluate groundwater monitoring data using this method. Parametric prediction limits use normally distributed data or normalized data via 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.

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 June 2023 and updated in the Chemstat output. The background dataset will be updated in the summary table 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, 52 percent of trends analyzed are identified as stable or decreasing in the compliance wells, whereas 48 percent of compliance wells demonstrated increasing trends for one or more 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 APPENDIX III DOWNGRADIENT STATISTICAL COMPARISONS

As stated, Appendix III constituent detections from downgradient well samples were compared to their respective GWPS (Table 1) using introwell comparisons. One SSI was identified for boron at CLF1B-5 which corresponds to observed increasing concentrations in downgradient wells as discussed in the 2018 and 2023 ASDs. Findings of the most recent ASD conclude SSIs identified in 2022 were the result of physical and pre-existing alternative sources, specifically the CGS Class 2 Landfill, which began receiving waste 40 years ago, and possible residual impacts from temporary gypsum marketing storage areas which no longer exist. Based on calculated groundwater flow velocity and levels of constituent concentrations, elevated concentrations could continue to flow through the Class 3 Landfill monitoring wells until 2043.

Trends in concentrations will continue to be evaluated during subsequent sampling events. Based on these results, the Class 3 Landfill will continue in detection monitoring.

Enclosures:

Table 1 – CGS Class 3 Landfill January 2024 Detection Monitoring Data

TABLE

TABLE 1
JANUARY 2024 CORRECTIVE ACTION MONITORING DATA



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TECHNICAL MEMORANDUM

4 October 2024
File No. 0132892-102-001-02

SUBJECT: Summary of Groundwater Monitoring Statistical Analysis
South Carolina Department of Environmental Services (SCDES) – June 2024 Sampling Results
Cross Generating Station, Class 3 Landfill, Permit #LF3-00007

The results of analytical testing performed on samples collected in June 2024 from the groundwater monitoring network at the Cross Generating Station Class 3 Landfill were evaluated to determine whether there has been a Statistically Significant Increase (SSI) over background for one or more monitored constituents. The statistical evaluation was performed in accordance with the South Carolina (SC) Regulations R.61-107.19 Part V, Subpart E, Section 258.53.g and SCDES Permit #LF3-00007. Data for this groundwater sampling event were validated by Santee Cooper on August 6, 2024.

To statistically evaluate the analytical results, the upper tolerance limit (UTL) was selected to assess the data. The UTL method is one of the five methods outlined in Part V, Subpart E, Section 258.53.g of SC Regulation R.61-107.19. A tolerance limit procedure is one in which a concentration limit for each constituent is established from the distribution of the background data with a specified confidence level (e.g., 99 percent). The upper endpoint of a concentration limit is called the UTL. Depending on the background data distribution, parametric or non-parametric tolerance limit procedures are used to evaluate groundwater monitoring data using this method.

Parametric tolerance limits use normally distributed data or normalized data via a transformation of the sample background data used to construct the limit. If the data are non-normal and a transformation is not indicated, non-parametric procedures (order statistics or bootstrap methods) are used to calculate the tolerance limit. If all the background data are non-detect, a maximum reporting limit (RL) may serve as an approximate UTL. In the case of the Class 3 Landfill, the statistical analysis was conducted using parametric and non-parametric tolerance limits (Table 1).

Per the United States Environmental Protection Agency document *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance* (Unified Guidance, March 2009), interwell background limits are updated when a minimum of four new, valid data points are collected. Background concentrations were updated after the January 2023 sampling event in accordance with the Unified Guidance. With the June 2024 sampling event, there are now three new valid data points.

After establishing background conditions, the June 2024 analytical results for each constituent at each downgradient monitoring well were compared to the UTL of that constituent to ascertain whether a SSI has occurred. Table 2 presents the statistical analysis summary for the downgradient monitoring wells.

Based on the comparison of the June 2024 sample results to their respective UTLs, and either the Maximum Concentration Limit (MCL) or Secondary MCLs for the Class 3 Landfill at the Cross Generating Station, the following observations are noted for the June 2024 sample event results:

- CLF1B-1, CLF1B-2, and CLF1B-4: total dissolved solids (TDS) exceeded the UTL and secondary MCL; and
- CLF1B-3 and CLF1B-5: TDS, iron and sulfate exceeded the UTL and secondary MCL.

Generally consistent with previous sampling results, measured concentrations of iron, sulfate, and TDS remain within the range of historical concentrations detected downgradient of the Class 2 Landfill (e.g., POZ-1) prior to the construction of the Class 3 Landfill, indicating an alternate source for these constituents. This is consistent with findings of both the initial alternate source demonstration (ASD) completed in April 2018 and the second ASD completed March 2023 for Appendix III constituents of the CCR Rule for the Class 3 Landfill. Therefore, conditions observed post-construction and operations appear to be consistent with the pre-construction conditions and do not indicate a contribution from the Class 3 Landfill.

Semiannual groundwater monitoring of the Class 3 Landfill will continue with the next sampling event scheduled for January 2025. The next update to the background concentrations will be completed after the January 2025 sampling event in accordance with the Unified Guidance.

Attachments:

Table 1 – Upper Tolerance Limit and Summary Statistical Evaluations for June 2024 Background Well Data

Table 2 – Comparison of June 2024 Groundwater Sample Results to Drinking Water Criteria and Upper Tolerance Limits

TABLES

TABLE I
UPPER TOLERANCE LIMIT AND SUMMARY STATISTICAL EVALUATIONS FOR JUNE 2024 BACKGROUND WELL DATA
CROSS GENERATING STATION
CGS CLASS 3 LANDFILL, SOLID WASTE PERMIT # E-00007

Background Well	Sample Date	Arsenic	Barium	Boron	Cadmium	Chloride	Chromium	Iron	Lead	pH	Nitrate	Selenium	Spec. Cond.	Total Dissolved Solids	Total Organic Carbon	Turbidity	Zinc	
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	-	µg/L	µg/L	µS	mg/L	mg/L	NTU	µg/L	
CBW-1	10/19/2015	16	32	61	ND<0.5	3.21	5900	11	ND<0.0	4.46	ND<20.0	243	2136	150	2.94	8.4		
CBW-1	1/28/2016	6.7	44	21.8	ND<0.5	2.95	ND<0.0	54	3.6	ND<0.1	4.13	ND<20.0	240	17.09	120	-	ND<20.0	
CBW-1	4/19/2016	ND<5.0	43.8	18.3	ND<0.5	2.33	ND<0.0	ND<0.0	2.8	ND<0.1	4.33	ND<20.0	220	86.2	18.73	120	-	
CBW-1	7/18/2016	ND<5.0	37.8	21.7	ND<0.5	2.95	ND<0.0	66.4	3.18	ND<0.1	4.39	ND<20.0	230	86.1	22.89	132	-	
CBW-1	10/11/2016	5.37	47.3	30.2	ND<0.5	3	ND<0.0	ND<0.0	3.75	ND<0.1	4.15	ND<20.0	197	73.7	19.9	151.7	4.6	
CBW-1	1/23/2017	ND<5.0	42.1	24.9	ND<0.5	2.45	ND<0.0	ND<0.0	3.1	ND<0.1	4.32	ND<20.0	214	77.7	148	269	2.1	
CBW-1	4/17/2017	ND<5.0	18	ND<0.5	2.96	ND<0.0	ND<0.0	95.5	2.8	ND<0.1	4.26	ND<20.0	201	71.2	22.56	62	-	
CBW-1	7/25/2017	ND<5.0	42.1	22	ND<0.5	2.61	ND<0.0	ND<0.0	90	3.2	ND<0.1	4.22	ND<20.0	191	73.3	24.35	92	2.39
CBW-1	9/25/2017	ND<5.0	44	24	ND<0.5	2.51	ND<0.0	ND<0.0	32	-	4.34	ND<20.0	182	74.5	25.12	ND<40.0	-	
CBW-1	10/9/2017	ND<5.0	23	ND<0.5	2.73	ND<0.0	ND<0.0	65.7	2.7	ND<0.1	4.25	ND<20.0	203	76.8	25.06	115	-	
CBW-1	2/7/2018	43.6	18	ND<0.5	2.88	ND<0.0	ND<0.0	82	3	ND<0.1	4.42	ND<20.0	199	68.1	19.15	92	ND<10.0	
CBW-1	6/20/2018	ND<5.0	43	20	ND<0.5	3	ND<0.0	ND<0.0	ND<0.0	-	4.32	ND<20.0	196	67.9	22.69	138.8	24	
CBW-1	10/12/2018	ND<5.0	42.8	25	ND<0.5	2.71	ND<0.0	ND<0.0	3.1	-	4.09	ND<20.0	196	65.5	23.78	107.5	-	
CBW-1	2/12/2019	ND<5.0	42.7	ND<15.0	ND<0.5	2.68	ND<0.0	87.3	2.5	0.14	4.5	ND<20.0	202	116	18.04	135	ND<10.0	
CBW-1	5/20/2019	-	-	-	ND<0.5	2.9	ND<0.0	141	-	-	4.5	ND<20.0	202	116	18.04	181.2	2.71	
CBW-1	2/24/2020	ND<5.0	41.3	17	ND<0.5	3.25	ND<0.0	ND<0.0	2.7	ND<0.0	4.09	ND<20.0	231	78.8	17.01	107.5	2.47	
CBW-1	6/22/2020	ND<5.0	43.3	18	ND<0.5	3.44	ND<0.0	79.8	2.6	0.43	4.48	ND<20.0	218	78.9	25.75	147.5	2.1	
CBW-1	1/26/2021	ND<5.0	46.6	18	ND<0.5	3.22	ND<0.0	64.6	2.5	ND<0.1	4.25	ND<20.0	203	76.8	25.06	115	-	
CBW-1	6/21/2021	ND<5.0	46.3	ND<40.0	ND<0.5	3.05	ND<0.0	135	2.6	0.35	4.31	ND<20.0	199	68.1	19.15	92	ND<10.0	
CBW-1	1/24/2022	ND<3.0	37.7	13.9	ND<0.5	3.21	ND<0.0	66	2.6	0.29	4.26	ND<20.0	194	67.9	22.69	138.8	24	
CBW-1	6/20/2022	ND<5.0	33	15	ND<0.5	3.21	ND<0.0	ND<0.0	3.79	ND<0.1	4.45	ND<20.0	222	68.1	23.78	107.5	-	
CBW-1	10/25/2022	ND<5.0	46.6	20.3	ND<0.5	3.76	ND<0.0	ND<0.0	3.76	ND<0.1	4.31	ND<20.0	190	80.4	24.3	110	ND<10.0	
CBW-1	1/24/2023	ND<3.0	42.5	17.5	ND<0.5	3.3	ND<0.0	ND<0.0	ND<0.0	0.71	4.23	ND<20.0	181	84.2	18.2	142.5	2.28	
Assumed Data Distribution for Calculation of UTL		Normal	Non-parametric	Normal	Non-parametric	Normal	Non-parametric	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	
95% Upper Tolerance Limit with 95% coverage		Normal	Non-parametric	Normal	Non-parametric	Normal	Non-parametric	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	
Minimum Detection		4	3.64	5	3.58	141	0.97	4.52	50	231.53	88.72	26.58	3.01	90.3	241	-	-	
Maximum Detection		ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	
Mean Detection		ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	
Frequency of Detection		6.70	48.21	31.50	13.9	N/A	2.33	N/A	54	2.5	0.14	4.09	N/A	66.5	18.73	0	24	
		5.37	ND<0.5	30.2	N/A	3.79	N/A	141	3.75	0.97	4.5	N/A	230	11.5	181.2	90.3	241	
		6.7	47.3	20.35	2.97	N/A	89.70	2.45	4.30	N/A	50	233.73	79.58	21.39	237	6.04	132.50	
		6.04	42.42	10.9%	0%	ND<0.5	65.5%	ND<0.5	50%	ND<0.5	100%	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	100%	

Notes:

The results for background well CBW-1 dated October 19, 2015 were omitted from the background calculations because elevated turbidity in the sample caused elevated metals concentrations that were not representative of groundwater conditions

Red text: Removed as an outlier passed on Dicrom's Ondier test at 5% significance level

TABLE 2
CROSS-GENERATING GROUNDWATER SAMPLE RESULTS TO DRINKING WATER CRITERIA AND UPPER TOLERANCE LIMITS
CES CLASS: LANDFILL SOLID WASTE PERMIT #E-00007

Downdraught Well	Sample Type	Sample Date	Arsenic	Barium	Boron	Cadmium	Chloride	Iron	Lead	Nitrate	pH	Sulfur	Specific Conductivity (µmho/cm)	Sulfate	Temperature	Total Dissolved Solids (TDS)	Total Organic Carbon (TOC)	Turbidity	Zinc	
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	µg/L	mg/L	mg/L	Deg C	mg/L	mg/L	NTU	µg/L	
			99% Upper Tolerance Limit with 99% coverage	Maximum Contaminant Level	10	230	<3	<15	<10.5	38.7	<5	<2.5	<50	<2.5	<0.1	64.4	<2.0	96.1	23.3	2.23
CLFIB-1	Normal	10/19/2016	<3	210	48.21	31.50	4	36.4	5	25.0	-	-	-	-	-	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Normal	4/19/2016	<3	232	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Duplicate	4/19/2016	<3	241	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Normal	7/19/2016	<5	198	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Duplicate	7/19/2016	<5	203	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Normal	10/19/2016	<5	206	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Duplicate	10/19/2016	<5	202	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Normal	1/19/2017	<5	192	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Duplicate	1/19/2017	<5	194	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Normal	4/17/2017	<5	181	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Duplicate	4/17/2017	<5	182	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Normal	9/29/2017	<5	158	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Duplicate	9/29/2017	<5	162	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Normal	10/19/2017	<5	-	-	-	-	-	-	-	-	-	-	-	-	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Duplicate	10/19/2017	<5	-	-	-	-	-	-	-	-	-	-	-	-	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Normal	1/19/2018	<5	171	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Duplicate	1/19/2018	<5	170	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Normal	2/19/2019	<5	155	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Duplicate	2/19/2019	<5	158	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Normal	7/20/2019	<5	160	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Duplicate	7/20/2019	<5	159	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Normal	1/20/2020	<5	153	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Duplicate	1/20/2020	<5	157	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Normal	6/22/2020	<5	170	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Duplicate	6/22/2020	<5	167	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Normal	2/19/2019	<5	155	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Duplicate	2/19/2019	<5	158	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Normal	6/19/2019	<5	160	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Duplicate	6/19/2019	<5	159	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Normal	1/20/2022	<5	129	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Duplicate	1/20/2022	<5	130	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Normal	6/22/2022	<5	139	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Duplicate	6/22/2022	<5	134	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Normal	1/20/2021	<5	136	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Duplicate	1/20/2021	<5	144	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Normal	6/22/2021	<5	135	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Duplicate	6/22/2021	<5	130	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Normal	1/20/2022	<5	129	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Duplicate	1/20/2022	<5	134	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Normal	10/31/2022	<5	134	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Duplicate	10/31/2022	<5	135	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Normal	6/19/2023	<5	135	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Duplicate	6/19/2023	<5	136	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Normal	1/19/2024	<5	137	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Duplicate	1/19/2024	<5	138	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Normal	10/31/2022	<5	134	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Duplicate	10/31/2022	<5	135	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Normal	6/19/2023	<5	135	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Duplicate	6/19/2023	<5	136	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Normal	1/19/2024	<5	137	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Duplicate	1/19/2024	<5	138	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Normal	6/19/2023	<5	135	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Duplicate	6/19/2023	<5	136	<15	<10.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.1	65.5	<2.0	95.9	18.8	2.23
CLFIB-1	Normal	1/19/2024	<5	137	<15	<10.5	<5	<5												

TABLE 2
CROSS GENERATING GROUNDWATER SAMPLE RESULTS TO DRINKING WATER CRITERIA AND UPPER TOLERANCE LIMITS
CES CLASS 1 LANDFILL SOLID WASTE PERMIT #E-00007

Downdriven Well	Sample Type	Sample Date	Arsenic	Barium	Boron	Cadmium	Chloride	Iron	Lead	Nitrate	pH	Selenium	Specific Conductivity (µmho/cm)	Sulfate	Total Dissolved Solids (TDS)	Total Organic Carbon (TOC)	Turbidity	Zinc
			µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µmho/cm	mg/L	mg/L	NTU	µg/L	
99% Upper Tolerance Limit with 99% coverage			6.70	31.50	48.21	-	-	-	-	-	-	-	-	-	-	-	-	
Maximum Contaminant Level		10	2000	5	4	3.64	5	100	141	3.58	0.97	-	50	231.53	182.96	-	241	
Secondary Maximum Contaminant Level			-	-	-	34.02	<5	-	-	0.15	6.67	<1.0	93.16	65.92	3.25	0	20	
CLFIB3	Normal	6/2/2016	<5	122	48	<0.5	21.00	<1	<1	0.3	6.67	<1.0	93.16	65.92	3.25	0	<10	
CLFIB3	Normal	7/6/2019	<5	114	44	<0.5	81.2	<5	<1	<1	6.67	<1.0	100.00	13	7.15	0	<10	
CLFIB3	Normal	9/2/2020	<5	143	40	<0.5	1230	<1	<1	<0.1	6.45	<1.0	65.83	14.44	2.16	5	<10	
CLFIB3	Normal	6/2/2020	<5	94.5	37	<0.5	1880	<5	<1	<0.1	6.79	<1.0	83.99	58.88	2.4	20.3	20	
CLFIB3	Normal	12/6/2021	<5	115	39	<0.5	23.6	<5	<1	<0.1	6.76	<1.0	72.21	17.77	20.38	0	<10	
CLFIB3	Normal	6/2/2021	<5	97.8	34	<0.5	322	<1	<1	<0.1	6.61	<1.0	1020	34.9	2.42	2.5	2.5	
CLFIB3	Normal	12/6/2022	<5	107	80	<0.5	7030	<1	<1	<0.1	6.61	<1.0	21.74	83.75	1.37	1.37	10	
CLFIB3	Normal	6/2/2022	<5	72	57	<0.5	2260	<5	<1	<0.1	6.62	<5	245	22.75	84.88	2.47	28.3	
CLFIB3	Primary	6/2/2022	<5	76	50	<0.5	2260	<5	<1	<0.1	6.73	<2.0	1050	355	2.35	4.9	<10	
CLFIB3	Primary	6/2/2022	<5	80	44	<0.5	2000	<5	<1	<0.1	6.69	<2.5	90.7	246	65.75	2.47	<10	
CLFIB3	Primary	6/2/2022	<5	64.5	40	<0.5	2140	<5	<1	<0.1	6.61	<10	110	88.86	2.30	7	<10	
CLFIB3	Primary	6/1/2023	<5	181	45	<0.5	18.8	<5	<1	<0.1	6.67	<10	940	247	15.87	152	<10	
CLFIB3	Primary	12/2/2024	<5	52	96.8	<0.5	2500	<1	<1	<0.1	6.61	<10	1150	270	20.25	0	<10	
CLFIB4	Normal	6/2/2014	<5	45	27.2	<0.5	51.1	<5	<1	<0.1	7.47	<20	610	34.3	30.0	2.16	0	
CLFIB4	Normal	7/2/2016	<5	45	47	<0.5	51.9	<5	<1	<0.1	7.18	<20	469	31.1	2.24	20.4	<20	
CLFIB4	Normal	7/18/2016	<5	44.6	40.2	<0.5	50.9	<5	<1	<0.1	7.18	<20	469	31.1	2.24	20.4	<20	
CLFIB4	Normal	10/3/2016	<5	51.4	21.4	<0.5	50.7	<5	<1	<0.1	6.97	<10	487	15.3	3.20	0	<10	
CLFIB4	Normal	13/9/2017	<5	48.4	21.7	<0.5	49.1	<5	<1	<0.1	7.22	<10	523	16.3	34.4	1.51	<10	
CLFIB4	Normal	4/17/2017	<5	45.4	19	<0.5	47.4	<5	<1	<0.1	5.94	<10	514	16.1	25.11	0	<10	
CLFIB4	Normal	7/2/2017	<5	45.9	20	<0.5	56	<5	<1	<0.1	7.02	<10	539	14.8	22.26	3.86	15	
CLFIB4	Normal	9/2/2017	<5	52	17	<0.5	53.1	<5	<1	<0.1	5.67	<10	549	14.3	25.49	0	<10	
CLFIB4	Normal	10/1/2017	<5	46.7	20	<0.5	49	<5	<1	<0.1	5.90	<10	530	13.7	29.00	0	<10	
CLFIB4	Normal	10/2/2018	<5	48.1	17	<0.5	50	<5	<1	<0.1	7.23	<10	551	16.6	3.08	1.6	<10	
CLFIB4	Normal	6/2/2018	<5	48.1	18	<0.5	54.4	<5	<1	<0.1	7.01	<10	551	13.4	33.70	1.18	<10	
CLFIB4	Normal	7/6/2019	<5	48.1	19	<0.5	54.4	<5	<1	<0.1	7.38	<10	551	13.7	23.25	1.17	<10	
CLFIB4	Normal	10/1/2020	<5	51.5	23	<0.5	57.7	<5	<1	<0.1	6.93	<10	589	13.9	20.95	4.72	<10	
CLFIB4	Normal	12/2/2020	<5	51.5	23	<0.5	57.7	<5	<1	<0.1	6.93	<10	651	14.6	42.68	1.19	2	
CLFIB4	Normal	6/2/2021	<5	52.1	23	<0.5	52.2	<5	<1	<0.1	6.98	<10	634	17.1	20.74	1.19	<10	
CLFIB4	Normal	6/2/2021	<5	52.1	23	<0.5	52.2	<5	<1	<0.1	6.98	<10	534	17.2	41.88	1.15	4.9	
CLFIB4	Normal	6/2/2021	<5	52.1	23	<0.5	52.2	<5	<1	<0.1	6.98	<10	534	17.2	41.88	1.15	<10	
CLFIB4	Normal	6/2/2022	<5	55.7	18.3	<0.5	88.3	<5	<1	<0.1	7.05	<5	666	18.1	41.75	1.17	<10	
CLFIB4	Normal	6/2/2022	<5	56	27	<0.5	100	<5	<1	<0.1	6.93	<20	766	26.6	20.8	4.98	12.2	
CLFIB4	Normal	6/2/2022	<5	61.6	21.5	<0.5	93.5	<5	<1	<0.1	6.96	<2.5	566	23.8	27.36	5.5	<10	
CLFIB4	Normal	6/1/2023	<5	56.6	21.5	<0.5	93.5	<5	<1	<0.1	7.02	<2.5	564	16.5	20.29	5.52	1.24	
CLFIB4	Normal	12/2/2024	<5	55.5	25.6	<0.5	98.3	<5	<1	<0.1	6.99	<10	697	13.9	20.95	5.52	<10	
CLFIB4	Normal	6/1/2025	<5	61.5	25.3	<0.5	100	<5	<1	<0.1	6.99	<10	704	19.4	16.53	5.1	<10	
CLFIB4	Normal	10/2/2025	<5	55.5	25.3	<0.5	100	<5	<1	<0.1	6.99	<10	639	13.9	20.95	5.52	<10	
CLFIB4	Normal	12/2/2025	<5	55.5	25.3	<0.5	100	<5	<1	<0.1	6.99	<10	639	13.9	20.95	5.52	<10	
CLFIB4	Normal	6/2/2026	<5	61.5	25.3	<0.5	100	<5	<1	<0.1	6.99	<10	639	13.9	20.95	5.52	<10	
CLFIB4	Normal	12/2/2026	<5	55.5	25.3	<0.5	100	<5	<1	<0.1	6.99	<10	639	13.9	20.95	5.52	<10	
CLFIB4	Normal	6/2/2027	<5	61.5	25.3	<0.5	100	<5	<1	<0.1	6.99	<10	639	13.9	20.95	5.52	<10	
CLFIB4	Normal	12/2/2027	<5	55.5	25.3	<0.5	100	<5	<1	<0.1	6.99	<10	639	13.9	20.95	5.52	<10	
CLFIB4	Normal	6/2/2028	<5	61.5	25.3	<0.5	100	<5	<1	<0.1	6.99	<10	639	13.9	20.95	5.52	<10	
CLFIB4	Normal	12/2/2028	<5	55.5	25.3	<0.5	100	<5	<1	<0.1	6.99	<10	639	13.9	20.95	5.52	<10	
CLFIB4	Normal	6/2/2029	<5	61.5	25.3	<0.5	100	<5	<1	<0.1	6.99	<10	639	13.9	20.95	5.52	<10	
CLFIB4	Normal	12/2/2029	<5	55.5	25.3	<0.5	100	<5	<1	<0.1	6.99	<10	639	13.9	20.95	5.52	<10	
CLFIB4	Normal	6/2/2030	<5	61.5	25.3	<0.5	100	<5	<1	<0.1	6.99	<10	639	13.9	20.95	5.52	<10	
CLFIB4	Normal	12/2/2030	<5	55.5	25.3	<0.5	100	<5	<1	<0.1	6.99	<10	639	13.9	20.95	5.52	<10	
CLFIB4	Normal	6/2/2031	<5	61.5	25.3	<0.5	100	<5	<1	<0.1	6.99	<10	639	13.9	20.95	5.52	<10	
CLFIB4	Normal	12/2/2031	<5	55.5	25.3	<0.5	100	<5	<1	<0.1	6.99	<10	639	13.9	20.95	5.52	<10	
CLFIB4	Normal	6/2/2032	<5	61.5	25.3	<0.5	100	<5	<1	<0.1	6.99	<10	639	13.9	20.95	5.52	<10	
CLFIB4	Normal	12/2/2032	<5	55.5	25.3	<0.5	100	<5	<1	<0.1	6.99	<10	639	13.9	20.95	5.52	<10	
CLFIB4	Normal	6/2/2033	<5	61.5	25.3	<0.5	100	<5	<1	<0.1	6.99	<10	639	13.9	20.95	5.52	<10	
CLFIB4	Normal	12/2/2033	<5	55.5	25.3	<0.5	100	<5	<1	<0.1	6.99	<10	639	13.9	20.95	5.52	<10	
CLFIB4	Normal	6/2/2034	<5	61.5	25.3	<0.5	100	<5	<1	<0.1	6.99	<10	639	13.9	20.95	5.52	<10	
CLFIB4	Normal	12/2/2034	<5	55.5	25.3	<0.5	100	<5	<1	<0.1	6.99	<10	639	13.9	20.95	5.52	<10	
CLFIB4	Normal	6/2/2035	<5	61.5	25.3	<0.5	100	<5	<1	<0.1	6.99	<10	639	13.9	20.95	5.52	<10	
CLFIB4	Normal	12/2/2035	<5	55.5	25.3	<0.5	100	<5	<1	<0.1	6.99	<10	639	13.9	20.95	5.52	<10	
CLFIB4	Normal	6/2/2036	<5	61.5	25.3	<0.5	100	<5	<1	<0.1	6.99	<10	639	13.9	20.95	5.52	<10	
CLFIB4	Normal	12/2/2036	<5	55.5	25.3	<0.5	100	<5	<1	<0.1	6.99	<10	639	13.9	20.95	5.52	<10	
CLFIB4	Normal	6/2/2037	<5	61.5	25.3	<0.5	100	<5	<1	<0.1	6.99	<10	639	13.9	20.95	5.52	<10	
CLFIB4	Normal	12/2/2037	<5	55.5	25.3	<0.5	100	<5										

Appendix B:

**Certificates of Analysis, External Lab Reports,
& Field Parameters**

SANTEE COOPER ANALYTICAL SERVICES
CERTIFICATE OF ANALYSIS
LAB CERTIFICATION #08552

Sample # AF87807 Location: GW Well PM-1 Date: 01/08/2024 Sample Collector: WJK/ML

Loc. Code PM-1

Time: 10:48

Analysis	Result	Units	Test Date	Analyst	Method
Aluminum	0.86	mg/L	01/19/2024	SKJACOBS	EPA 6020B
Arsenic	<5.0	ug/L	01/19/2024	SKJACOBS	EPA 6020B
Arsenic Dissolved	<5.0	ug/L	01/12/2024	SKJACOBS	EPA 6020B
Barium	77.8	ug/L	01/19/2024	SKJACOBS	EPA 6020B
Beryllium	<0.5	ug/L	01/19/2024	SKJACOBS	EPA 6020B
Calcium	119	mg/L	01/19/2024	SKJACOBS	EPA 6020B
Cadmium	<0.5	ug/L	01/19/2024	SKJACOBS	EPA 6020B
Cobalt	1.6	ug/L	01/19/2024	SKJACOBS	EPA 6020B
Chromium	<5.0	ug/L	01/19/2024	SKJACOBS	EPA 6020B
Iron	11400	ug/L	01/19/2024	SKJACOBS	EPA 6020B
Potassium	0.65	mg/L	01/19/2024	SKJACOBS	EPA 6020B
Magnesium	0.70	mg/L	01/19/2024	SKJACOBS	EPA 6020B
Sodium	5.8	mg/L	01/19/2024	SKJACOBS	EPA 6020B
Lead	<1.0	ug/L	01/19/2024	SKJACOBS	EPA 6020B
Antimony	<5.0	ug/L	01/19/2024	SKJACOBS	EPA 6020B
Selenium	<10.0	ug/L	01/19/2024	SKJACOBS	EPA 6020B
Thallium	<1.0	ug/L	01/19/2024	SKJACOBS	EPA 6020B
Boron	14.2	ug/L	01/11/2024	SKJACOBS	EPA 6010D
Lithium	5.26	ug/L	01/11/2024	SKJACOBS	EPA 6010D
Molybdenum	<5.0	ug/L	01/11/2024	SKJACOBS	EPA 6010D
Mercury	<0.2	ug/L	01/22/2024	EUROFINS SAV	EPA 7470
Zinc	<10.0	ug/L	01/19/2024		EPA 6020B
Total Organic Carbon	5.49	mg/L	01/17/2024	GEL	SM 5310B
Nitrate	<0.10	mg/L	01/10/2024	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	01/10/2024	KCWELLS	EPA 300.0
Chloride	12.8	mg/L	01/10/2024	KCWELLS	EPA 300.0
Sulfate	7.62	mg/L	01/10/2024	KCWELLS	EPA 300.0
Total Dissolved Solids	193.8	mg/L	01/12/2024	SJBROWN	SM 2540C
Radium 226	0.612	pCi/L	01/24/2024	GEL	EPA 903.1 Mod
Radium 228	1.24	pCi/L	01/23/2024	GEL	EPA 904.0
Radium 226/228 Combined Calculation	1.852	pCi/L	02/12/2024	SJLEVY	EPA 903.1 Mod
pH	5.13	SU	01/08/2024	WJK/ML	

Comments:

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

Analysis Validated:



Linda Williams - Manager Analytical Services

 Validation date: 3/27/24
Authorized Signature Only- Not Valid Unless Signed



santee cooper

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Moncks Corner, SC 29461-2901
(843) 761-8000

SANTEE COOPER ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Analysis	Result	Units	Test Date	Analyst	Method
Aluminum	0.60	mg/L	01/19/2024	SKJACOBS	EPA 6020B
Arsenic	<5.0	ug/L	01/19/2024	SKJACOBS	EPA 6020B
Arsenic Dissolved	<5.0	ug/L	01/12/2024	SKJACOBS	EPA 6020B
Barium	41.3	ug/L	01/19/2024	SKJACOBS	EPA 6020B
Beryllium	<0.5	ug/L	01/19/2024	SKJACOBS	EPA 6020B
Calcium	25.0	mg/L	01/19/2024	SKJACOBS	EPA 6020B
Cadmium	<0.5	ug/L	01/19/2024	SKJACOBS	EPA 6020B
Cobalt	0.87	ug/L	01/19/2024	SKJACOBS	EPA 6020B
Chromium	<5.0	ug/L	01/19/2024	SKJACOBS	EPA 6020B
Iron	<50.0	ug/L	01/19/2024	SKJACOBS	EPA 6020B
Potassium	0.73	mg/L	01/19/2024	SKJACOBS	EPA 6020B
Magnesium	1.9	mg/L	01/19/2024	SKJACOBS	EPA 6020B
Sodium	13.4	mg/L	01/19/2024	SKJACOBS	EPA 6020B
Lead	2.4	ug/L	01/19/2024	SKJACOBS	EPA 6020B
Antimony	<5.0	ug/L	01/19/2024	SKJACOBS	EPA 6020B
Selenium	<10.0	ug/L	01/19/2024	SKJACOBS	EPA 6020B
Thallium	<1.0	ug/L	01/19/2024	SKJACOBS	EPA 6020B
Boron	19.3	ug/L	01/11/2024	SKJACOBS	EPA 6010D
Lithium	<5.0	ug/L	01/11/2024	SKJACOBS	EPA 6010D
Molybdenum	<5.0	ug/L	01/11/2024	SKJACOBS	EPA 6010D
Mercury	<0.2	ug/L	01/22/2024	EUROFINS SAV	EPA 7470
Zinc	<10.0	ug/L	01/19/2024		EPA 6020B
Total Organic Carbon	2.19	mg/L	01/17/2024	GEL	SM 5310B
Nitrate	0.72	mg/L	01/10/2024	KCWELLS	EPA 300.0
Fluoride	0.14	mg/L	01/10/2024	KCWELLS	EPA 300.0
Chloride	3.48	mg/L	01/10/2024	KCWELLS	EPA 300.0
Sulfate	83.6	mg/L	01/10/2024	KCWELLS	EPA 300.0
Total Dissolved Solids	188.8	mg/L	01/12/2024	SJBROWN	SM 2540C
Radium 226	0.278	pCi/L	01/24/2024	GEL	EPA 903.1 Mod
Radium 228	1.22	pCi/L	01/23/2024	GEL	EPA 904.0
Radium 226/228 Combined Calculation	1.498	pCi/L	02/12/2024	SJLEVY	EPA 903.1 Mod
pH	4.44	SU	01/08/2024	WJK/ML	

Comments:

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

Analysis Validated:

Linda Williams - Manager Analytical Services

Validation date: 3/27/24

Authorized Signature Only- Not Valid Unless Signed

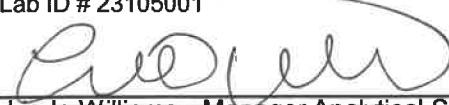
SANTEE COOPER ANALYTICAL SERVICES
CERTIFICATE OF ANALYSIS
LAB CERTIFICATION #08552
Sample # AF87800 Location: GW Well CLF1B-1 Date: 01/22/2024 Sample Collector: WJK/ML
Loc. Code CLF1B-1
Time: 09:15

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Arsenic Dissolved	<5.0	ug/L	02/06/2024	SKJACOBS	EPA 6020B
Barium	130	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Calcium	181	mg/L	02/01/2024	SKJACOBS	EPA 6020B
Cadmium	<0.5	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Cobalt	2.3	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Chromium	<5.0	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Iron	<50.0	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Lead	<1.0	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Selenium	<10.0	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Boron	15.6	ug/L	01/24/2024	SKJACOBS	EPA 6010D
Zinc	<10.0	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Total Organic Carbon	2.48	mg/L	01/30/2024	GEL	SM 5310B
Nitrate	<0.10	mg/L	01/23/2024	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	01/23/2024	KCWELLS	EPA 300.0
Chloride	28.2	mg/L	01/23/2024	KCWELLS	EPA 300.0
Sulfate	155	mg/L	01/23/2024	KCWELLS	EPA 300.0
Total Dissolved Solids	617.5	mg/L	01/23/2024	KCWELLS	SM 2540C
pH	6.55	SU	01/22/2024	WJK/ML	

Comments:

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

Analysis Validated:



Linda Williams - Manager Analytical Services

Validation date: 3/27/24

Authorized Signature Only- Not Valid Unless Signed

SANTEE COOPER ANALYTICAL SERVICES
CERTIFICATE OF ANALYSIS
LAB CERTIFICATION #08552
Sample # AF87801 Location: GW Well CLF1B-1 Date: 01/22/2024 Sample Collector: WJK/ML
Loc. Code CLF1B-1 DUP Time: 09:20

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Arsenic Dissolved	<5.0	ug/L	02/06/2024	SKJACOBS	EPA 6020B
Barium	125	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Calcium	178	mg/L	02/01/2024	SKJACOBS	EPA 6020B
Cadmium	<0.5	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Cobalt	2.1	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Chromium	<5.0	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Iron	<50.0	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Lead	<1.0	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Selenium	<10.0	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Boron	16.2	ug/L	01/24/2024	SKJACOBS	EPA 6010D
Zinc	<10.0	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Total Organic Carbon	2.38	mg/L	01/30/2024	GEL	SM 5310B
Nitrate	<0.10	mg/L	01/23/2024	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	01/23/2024	KCWELLS	EPA 300.0
Chloride	28.1	mg/L	01/23/2024	KCWELLS	EPA 300.0
Sulfate	159	mg/L	01/23/2024	KCWELLS	EPA 300.0
Total Dissolved Solids	610.0	mg/L	01/23/2024	KCWELLS	SM 2540C

Comments:

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

Analysis Validated:



Linda Williams - Manager Analytical Services

 Validation date: 3/27/24
Authorized Signature Only- Not Valid Unless Signed

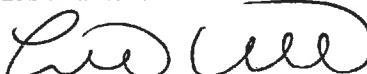
SANTEE COOPER ANALYTICAL SERVICES
CERTIFICATE OF ANALYSIS
LAB CERTIFICATION #08552
Sample # AF87802 Location: GW Well CLF1B-2 Date: 01/22/2024 Sample Collector: WJK/ML
Loc. Code CLF1B-2
Time: 10:57

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Arsenic Dissolved	<5.0	ug/L	02/06/2024	SKJACOBS	EPA 6020B
Barium	178	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Calcium	143	mg/L	02/01/2024	SKJACOBS	EPA 6020B
Cadmium	<0.5	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Cobalt	1.9	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Chromium	<5.0	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Iron	163	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Lead	<1.0	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Selenium	<10.0	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Boron	24.1	ug/L	01/24/2024	SKJACOBS	EPA 6010D
Zinc	<10.0	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Total Organic Carbon	1.01	mg/L	01/30/2024	GEL	SM 5310B
Nitrate	<0.10	mg/L	01/23/2024	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	01/23/2024	KCWELLS	EPA 300.0
Chloride	93.1	mg/L	01/23/2024	KCWELLS	EPA 300.0
Sulfate	16.5	mg/L	01/23/2024	KCWELLS	EPA 300.0
Total Dissolved Solids	610.0	mg/L	01/23/2024	KCWELLS	SM 2540C
pH	6.78	SU	01/22/2024	WJK/ML	

Comments:

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

Analysis Validated:



Linda Williams - Manager Analytical Services

Validation date: 3/27/24

Authorized Signature Only- Not Valid Unless Signed

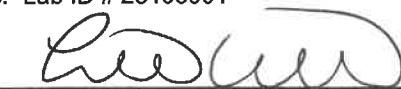
SANTEE COOPER ANALYTICAL SERVICES
CERTIFICATE OF ANALYSIS
LAB CERTIFICATION #08552
Sample # AF87803 Location: GW Well CLF1B-3 Date: 01/22/2024 Sample Collector: WJK/ML
Loc. Code CLF1B-3
Time: 11:46

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Arsenic Dissolved	<5.0	ug/L	02/06/2024	SKJACOBS	EPA 6020B
Barium	52.0	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Calcium	187	mg/L	02/01/2024	SKJACOBS	EPA 6020B
Cadmium	<0.5	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Cobalt	25.0	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Chromium	<5.0	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Iron	2500	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Lead	<1.0	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Selenium	<10.0	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Boron	96.8	ug/L	01/24/2024	SKJACOBS	EPA 6010D
Zinc	<10.0	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Total Organic Carbon	2.16	mg/L	01/31/2024	GEL	SM 5310B
Nitrate	<0.10	mg/L	01/23/2024	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	01/23/2024	KCWELLS	EPA 300.0
Chloride	18.8	mg/L	01/23/2024	KCWELLS	EPA 300.0
Sulfate	247	mg/L	01/23/2024	KCWELLS	EPA 300.0
Total Dissolved Solids	642.5	mg/L	01/23/2024	KCWELLS	SM 2540C
pH	6.61	SU	01/22/2024	WJK/ML	

Comments:

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

Analysis Validated:



Linda Williams - Manager Analytical Services

 Validation date: 3/27/24
Authorized Signature Only- Not Valid Unless Signed



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SANTEE COOPER ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AF87804 Location: GW Well CLF1B-4 Date: 01/22/2024 Sample Collector: WJK/ML

Loc. Code CLF1B-4

Time: 13:03

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Arsenic Dissolved	<5.0	ug/L	02/06/2024	SKJACOBS	EPA 6020B
Barium	61.5	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Calcium	128	mg/L	02/01/2024	SKJACOBS	EPA 6020B
Cadmium	<0.5	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Cobalt	<0.5	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Chromium	<5.0	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Iron	<50.0	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Lead	<1.0	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Selenium	<10.0	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Boron	25.3	ug/L	01/24/2024	SKJACOBS	EPA 6010D
Zinc	<10.0	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Total Organic Carbon	<1	mg/L	01/31/2024	GEL	SM 5310B
Nitrate	<0.10	mg/L	01/23/2024	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	01/23/2024	KCWELLS	EPA 300.0
Chloride	100	mg/L	01/25/2024	KCWELLS	EPA 300.0
Sulfate	19.4	mg/L	01/23/2024	KCWELLS	EPA 300.0
Total Dissolved Solids	603.8	mg/L	01/23/2024	KCWELLS	SM 2540C
pH	7.04	SU	01/22/2024	WJK/ML	

Comments:

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

Analysis Validated:

Linda Williams - Manager Analytical Services

Validation date: 3/27/24

Authorized Signature Only- Not Valid Unless Signed

SANTEE COOPER ANALYTICAL SERVICES
CERTIFICATE OF ANALYSIS
LAB CERTIFICATION #08552
Sample # AF87805 Location: GW Well CLF1B-5 Date: 01/22/2024 Sample Collector: WJK/ML
Loc. Code CLF1B-5
Time: 14:05

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Arsenic Dissolved	<5.0	ug/L	02/06/2024	SKJACOBS	EPA 6020B
Barium	114	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Calcium	278	mg/L	02/01/2024	SKJACOBS	EPA 6020B
Cadmium	<0.5	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Cobalt	2.9	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Chromium	<5.0	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Iron	1780	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Lead	<1.0	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Selenium	<10.0	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Boron	27.3	ug/L	01/24/2024	SKJACOBS	EPA 6010D
Zinc	<10.0	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Total Organic Carbon	1.66	mg/L	01/31/2024	GEL	SM 5310B
Nitrate	<0.10	mg/L	01/23/2024	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	01/23/2024	KCWELLS	EPA 300.0
Chloride	168	mg/L	01/23/2024	KCWELLS	EPA 300.0
Sulfate	256	mg/L	01/23/2024	KCWELLS	EPA 300.0
Total Dissolved Solids	1131	mg/L	01/23/2024	KCWELLS	SM 2540C
pH	6.64	SU	01/22/2024	WJK/ML	

Comments:

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

Analysis Validated:



Linda Williams - Manager Analytical Services

Validation date: 3/27/24

Authorized Signature Only- Not Valid Unless Signed

SANTEE COOPER ANALYTICAL SERVICES
CERTIFICATE OF ANALYSIS
LAB CERTIFICATION #08552

Sample # AF87806 **Location:** GW Well CLF1B-5D **Date:** 01/22/2024 **Sample Collector:** WJK/ML
Loc. Code CLF1B-5D **Time:** 14:43

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Arsenic Dissolved	<5.0	ug/L	02/06/2024	SKJACOBS	EPA 6020B
Barium	17.0	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Cadmium	<0.5	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Chromium	<5.0	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Iron	216	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Lead	<1.0	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Selenium	<10.0	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Zinc	<10.0	ug/L	02/01/2024	SKJACOBS	EPA 6020B
Boron	15.2	ug/L	01/24/2024	SKJACOBS	EPA 6010D
Total Organic Carbon	<1	mg/L	01/30/2024	GEL	SM 5310B
Chloride	5.21	mg/L	01/23/2024	KCWELLS	EPA 300.0
Nitrate	<0.10	mg/L	01/23/2024	KCWELLS	EPA 300.0
Sulfate	<2.0	mg/L	01/23/2024	KCWELLS	EPA 300.0
Total Dissolved Solids	201.2	mg/L	01/23/2024	KCWELLS	SM 2540C
pH	7.22	SU	01/22/2024	WJK/ML	

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:

3/27/24



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 # AF98793 Location: GW Well CLF1B-3 Date: 05/07/2024 Sample Collector: WJK/ML

Loc. Code CLF1B-3

Time: 11:47

Analysis	Result	Units	Test Date	Analyst	Method
Cobalt	7.8	ug/L	05/16/2024	SKJACOBS	EPA 6020B
pH	6.53	SU	05/07/2024	JK/ML	

Comments:

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

Analysis Validated:

Linda Williams - Manager Analytical Services

Validation date: 6/7/24

Authorized Signature Only- Not Valid Unless Signed

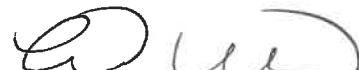
SANTEE COOPER ANALYTICAL SERVICES
CERTIFICATE OF ANALYSIS
LAB CERTIFICATION #08552
Sample # AG01476 Location: GW Well PM-1 Date: 06/04/2024 Sample Collector: ZM/BB
Loc. Code PM-1
Time: 09:58

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Barium	76.9	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Beryllium	<0.5	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Calcium	10.5	mg/L	06/11/2024	SKJACOBS	EPA 6020B
Cadmium	<0.5	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Cobalt	1.4	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Chromium	<5.0	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Iron	8890	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Lead	<1.0	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Selenium	<10.0	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Antimony	<5.0	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Thallium	<1.0	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Zinc	<10.0	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Boron	12.4	ug/L	06/12/2024	SKJACOBS	EPA 6010D
Lithium	<5.0	ug/L	06/12/2024	SKJACOBS	EPA 6010D
Molybdenum	<5.0	ug/L	06/12/2024	SKJACOBS	EPA 6010D
Mercury	<0.2	ug/L	06/17/2024	EUROFINS SAV	EPA 7470
Total Organic Carbon	4.48	mg/L	06/12/2024	GEL	SM 5310B
Fluoride	<0.10	mg/L	06/11/2024	KCWELLS	EPA 300.0
Chloride	12.1	mg/L	06/11/2024	KCWELLS	EPA 300.0
Nitrate	<0.10	mg/L	06/11/2024	KCWELLS	EPA 300.0
Sulfate	7.75	mg/L	06/11/2024	KCWELLS	EPA 300.0
Total Dissolved Solids	143.8	mg/L	06/07/2024	KCWELLS	SM 2540C
Radium 226	0.188	pCi/L	06/19/2024	GEL	EPA 903.1 Mod
Radium 228	1.46	pCi/L	06/25/2024	GEL	EPA 904.0
Radium 226/228 Combined Calculation	1.648	pCi/L	07/19/2024	SJLEVY	EPA 903.1 Mod
pH	5.20	SU	06/04/2024	ZM/BB	

Comments:

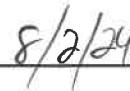
Independent Laboratory Results: "GEL" - GEL Laboratories LLC - Lab ID # 10120; "Test America" - TestAmerica Laboratories, Inc. - Lab ID# 98001; "DavisBrown"- Davis & Brown Lab ID # 21117 ; "Shealy"- Shealy Environmental Services, Inc.- Lab ID# 32010 "ROGERSCALLCO"- Rogers & Callcot, Inc.- Lab ID # 23105001

Analysis Validated:



Linda Williams - Manager Analytical Services

Validation date:


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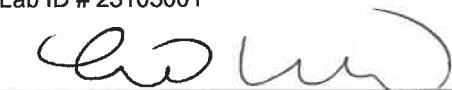
SANTEE COOPER ANALYTICAL SERVICES
CERTIFICATE OF ANALYSIS
LAB CERTIFICATION #08552
Sample # AG01438 Location: GW Well CBW-1 Date: 06/04/2024 Sample Collector: ZM/BB
Loc. Code CBW-1
Time: 08:53

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Barium	37.4	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Beryllium	<0.5	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Calcium	24.7	mg/L	06/11/2024	SKJACOBS	EPA 6020B
Cadmium	<0.5	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Cobalt	0.84	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Chromium	<5.0	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Iron	<50.0	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Lead	2.1	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Selenium	<10.0	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Antimony	<5.0	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Thallium	<1.0	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Zinc	<10.0	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Boron	19.6	ug/L	06/12/2024	SKJACOBS	EPA 6010D
Lithium	<5.0	ug/L	06/12/2024	SKJACOBS	EPA 6010D
Molybdenum	<5.0	ug/L	06/12/2024	SKJACOBS	EPA 6010D
Mercury	<0.2	ug/L	06/17/2024	EUROFINS SAV	EPA 7470
Total Organic Carbon	1.47	mg/L	06/12/2024	GEL	SM 5310B
Fluoride	0.13	mg/L	06/11/2024	KCWELLS	EPA 300.0
Chloride	3.22	mg/L	06/11/2024	KCWELLS	EPA 300.0
Nitrate	0.61	mg/L	06/11/2024	KCWELLS	EPA 300.0
Sulfate	89.6	mg/L	06/11/2024	KCWELLS	EPA 300.0
Total Dissolved Solids	170.0	mg/L	06/07/2024	KCWELLS	SM 2540C
Radium 226	0.0311	pCi/L	06/19/2024	GEL	EPA 903.1 Mod
Radium 228	2.79	pCi/L	06/25/2024	GEL	EPA 904.0
Radium 226/228 Combined Calculation	2.8211	pCi/L	07/19/2024	SJLEVY	EPA 903.1 Mod
pH	4.54	SU	06/04/2024	ZM/BB	

Comments:

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

Analysis Validated:



Linda Williams - Manager Analytical Services

 Validation date: 8/2/24
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SANTEE COOPER ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AG01469 Location: GW Well CLF1B-1 Date: 06/04/2024 Sample Collector: ZM/BB

Loc. Code CLF1B-1

Time: 11:09

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Arsenic Dissolved	<5.0	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Barium	129	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Calcium	192	mg/L	06/11/2024	SKJACOBS	EPA 6020B
Cadmium	<0.5	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Cobalt	2.4	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Chromium	<5.0	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Iron	70.5	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Lead	<1.0	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Selenium	<10.0	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Zinc	<10.0	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Boron	14.5	ug/L	06/12/2024	SKJACOBS	EPA 6010D
Total Organic Carbon	2.04	mg/L	06/12/2024	GEL	SM 5310B
Fluoride	<0.10	mg/L	06/11/2024	KCWELLS	EPA 300.0
Chloride	30.4	mg/L	06/11/2024	KCWELLS	EPA 300.0
Nitrate	<0.10	mg/L	06/11/2024	KCWELLS	EPA 300.0
Sulfate	160	mg/L	06/11/2024	KCWELLS	EPA 300.0
Total Dissolved Solids	607.5	mg/L	06/07/2024	KCWELLS	SM 2540C
pH	6.27	SU	06/04/2024	ZM/BB	

Comments:

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

Analysis Validated:

Linda Williams - Manager Analytical Services

Validation date: 8/2/24

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SANTEE COOPER ANALYTICAL SERVICES
CERTIFICATE OF ANALYSIS
LAB CERTIFICATION #08552
Sample # AG01470 Location: GW Well CLF1B-1 Date: 06/04/2024 Sample Collector: ZM/BB

Loc. Code	CLF1B-1	DUP		Time: 11:14		
Analysis		Result	Units	Test Date	Analyst	Method
Arsenic		<5.0	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Arsenic Dissolved		<5.0	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Barium		131	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Calcium		193	mg/L	06/11/2024	SKJACOBS	EPA 6020B
Cadmium		<0.5	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Cobalt		2.5	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Chromium		<5.0	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Iron		67.6	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Lead		<1.0	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Selenium		<10.0	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Zinc		<10.0	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Boron		15.3	ug/L	06/12/2024	SKJACOBS	EPA 6010D
Total Organic Carbon		2.14	mg/L	06/12/2024	GEL	SM 5310B
Fluoride		<0.10	mg/L	06/11/2024	KCWELLS	EPA 300.0
Chloride		30.1	mg/L	06/11/2024	KCWELLS	EPA 300.0
Nitrate		<0.10	mg/L	06/11/2024	KCWELLS	EPA 300.0
Sulfate		158	mg/L	06/11/2024	KCWELLS	EPA 300.0
Total Dissolved Solids		673.8	mg/L	06/07/2024	KCWELLS	SM 2540C
pH		***	SU	06/05/2024	ZDMCHENR	

Comments:

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

Analysis Validated:



Linda Williams - Manager Analytical Services

Validation date: 8/2/24

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SANTEE COOPER ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AG01471 Location: GW Well CLF1B-2 Date: 06/04/2024 Sample Collector: ZM/BB

Loc. Code CLF1B-2

Time: 14:17

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Arsenic Dissolved	<5.0	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Barium	167	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Calcium	144	mg/L	06/11/2024	SKJACOBS	EPA 6020B
Cadmium	<0.5	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Cobalt	3.3	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Chromium	<5.0	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Iron	224	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Lead	<1.0	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Selenium	<10.0	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Zinc	<10.0	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Boron	24.7	ug/L	06/12/2024	SKJACOBS	EPA 6010D
Total Organic Carbon	<1	mg/L	06/13/2024	GEL	SM 5310B
Fluoride	<0.10	mg/L	06/11/2024	KCWELLS	EPA 300.0
Chloride	93.2	mg/L	06/11/2024	KCWELLS	EPA 300.0
Nitrate	<0.10	mg/L	06/11/2024	KCWELLS	EPA 300.0
Sulfate	15.0	mg/L	06/11/2024	KCWELLS	EPA 300.0
Total Dissolved Solids	626.2	mg/L	06/07/2024	KCWELLS	SM 2540C
pH	6.50	SU	06/04/2024	ZM/BB	

Comments:

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

Analysis Validated:



Linda Williams - Manager Analytical Services

Validation date:

8/2/24

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SANTEE COOPER ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AG01472 Location: GW Well CLF1B-3 Date: 06/06/2024 Sample Collector: ZM/BB

Loc. Code CLF1B-3

Time: 10:02

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	06/14/2024	SKJACOBS	EPA 6020B
Arsenic Dissolved	<5.0	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Barium	67.5	ug/L	06/14/2024	SKJACOBS	EPA 6020B
Calcium	210	mg/L	06/14/2024	SKJACOBS	EPA 6020B
Cadmium	<0.5	ug/L	06/14/2024	SKJACOBS	EPA 6020B
Cobalt	6.5	ug/L	06/14/2024	SKJACOBS	EPA 6020B
Chromium	<5.0	ug/L	06/14/2024	SKJACOBS	EPA 6020B
Iron	2580	ug/L	06/14/2024	SKJACOBS	EPA 6020B
Lead	<1.0	ug/L	06/14/2024	SKJACOBS	EPA 6020B
Selenium	<10.0	ug/L	06/14/2024	SKJACOBS	EPA 6020B
Zinc	<10.0	ug/L	06/14/2024	SKJACOBS	EPA 6020B
Boron	101	ug/L	06/13/2024	SKJACOBS	EPA 6010D
Total Organic Carbon	2.16	mg/L	06/13/2024	GEL	SM 5310B
Fluoride	0.12	mg/L	06/07/2024	KCWELLS	EPA 300.0
Chloride	42.3	mg/L	06/07/2024	KCWELLS	EPA 300.0
Nitrate	<0.10	mg/L	06/07/2024	KCWELLS	EPA 300.0
Sulfate	270	mg/L	06/07/2024	KCWELLS	EPA 300.0
Total Dissolved Solids	810.0	mg/L	06/13/2024	KRMATHER	SM 2540C
pH	6.69	SU	06/06/2024	ZM/BB	

Comments:

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

Analysis Validated:

Linda Williams - Manager Analytical Services

Validation date:

8/2/24

Authorized Signature Only- Not Valid Unless Signed

SANTEE COOPER ANALYTICAL SERVICES
CERTIFICATE OF ANALYSIS
LAB CERTIFICATION #08552
Sample # AG01473 Location: GW Well CLF1B-4 Date: 06/06/2024 Sample Collector: ZM/BB
Loc. Code CLF1B-4
Time: 09:06

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	06/14/2024	SKJACOBS	EPA 6020B
Arsenic Dissolved	<5.0	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Barium	61.9	ug/L	06/14/2024	SKJACOBS	EPA 6020B
Calcium	142	mg/L	06/14/2024	SKJACOBS	EPA 6020B
Cadmium	<0.5	ug/L	06/14/2024	SKJACOBS	EPA 6020B
Cobalt	0.51	ug/L	06/14/2024	SKJACOBS	EPA 6020B
Chromium	<5.0	ug/L	06/14/2024	SKJACOBS	EPA 6020B
Iron	<50.0	ug/L	06/14/2024	SKJACOBS	EPA 6020B
Lead	<1.0	ug/L	06/14/2024	SKJACOBS	EPA 6020B
Selenium	<10.0	ug/L	06/14/2024	SKJACOBS	EPA 6020B
Zinc	<10.0	ug/L	06/14/2024	SKJACOBS	EPA 6020B
Boron	29.5	ug/L	06/13/2024	SKJACOBS	EPA 6010D
Total Organic Carbon	<1	mg/L	06/13/2024	GEL	SM 5310B
Fluoride	<0.10	mg/L	06/07/2024	KCWELLS	EPA 300.0
Chloride	98.1	mg/L	06/07/2024	KCWELLS	EPA 300.0
Nitrate	<0.10	mg/L	06/07/2024	KCWELLS	EPA 300.0
Sulfate	29.0	mg/L	06/07/2024	KCWELLS	EPA 300.0
Total Dissolved Solids	586.2	mg/L	06/07/2024	KCWELLS	SM 2540C
pH	6.90	SU	06/06/2024	ZM/BB	

Comments:

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

Analysis Validated:



Linda Williams - Manager Analytical Services

 Validation date: 8/2/24
Authorized Signature Only- Not Valid Unless Signed

SANTEE COOPER ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AG01474 Location: GW Well CLF1B-5 Date: 06/05/2024 Sample Collector: ZM/GK

Loc. Code CLF1B-5

Time: 14:52

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	06/14/2024	SKJACOBS	EPA 6020B
Arsenic Dissolved	<5.0	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Barium	114	ug/L	06/14/2024	SKJACOBS	EPA 6020B
Calcium	287	mg/L	06/14/2024	SKJACOBS	EPA 6020B
Cadmium	<0.5	ug/L	06/14/2024	SKJACOBS	EPA 6020B
Cobalt	3.6	ug/L	06/14/2024	SKJACOBS	EPA 6020B
Chromium	<5.0	ug/L	06/14/2024	SKJACOBS	EPA 6020B
Iron	2030	ug/L	06/14/2024	SKJACOBS	EPA 6020B
Lead	<1.0	ug/L	06/14/2024	SKJACOBS	EPA 6020B
Selenium	<10.0	ug/L	06/14/2024	SKJACOBS	EPA 6020B
Zinc	<10.0	ug/L	06/14/2024	SKJACOBS	EPA 6020B
Boron	27.1	ug/L	06/13/2024	SKJACOBS	EPA 6010D
Total Organic Carbon	1.51	mg/L	06/12/2024	GEL	SM 5310B
Fluoride	<0.10	mg/L	06/07/2024	KCWELLS	EPA 300.0
Chloride	176	mg/L	06/07/2024	KCWELLS	EPA 300.0
Nitrate	<0.10	mg/L	06/07/2024	KCWELLS	EPA 300.0
Sulfate	256	mg/L	06/07/2024	KCWELLS	EPA 300.0
Total Dissolved Solids	1222	mg/L	06/07/2024	KCWELLS	SM 2540C
pH	6.64	SU	06/05/2024	ZM/GK	

Comments:

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

Analysis Validated:



Linda Williams - Manager Analytical Services

Validation date: 8/2/24

Authorized Signature Only- Not Valid Unless Signed

SANTEE COOPER ANALYTICAL SERVICES
CERTIFICATE OF ANALYSIS
LAB CERTIFICATION #08552

Sample # AG01475 **Location:** GW Well CLF1B-5D **Date:** 06/05/2024 **Sample Collector:** ZM/GK

Loc. Code CLF1B-5D **Time:** 13:51

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	06/14/2024	SKJACOBS	EPA 6020B
Arsenic Dissolved	<5.0	ug/L	06/11/2024	SKJACOBS	EPA 6020B
Barium	16.6	ug/L	06/14/2024	SKJACOBS	EPA 6020B
Cadmium	<0.5	ug/L	06/14/2024	SKJACOBS	EPA 6020B
Cobalt	<0.5	ug/L	06/14/2024	SKJACOBS	EPA 6020B
Chromium	<5.0	ug/L	06/14/2024	SKJACOBS	EPA 6020B
Iron	218	ug/L	06/14/2024	SKJACOBS	EPA 6020B
Lead	<1.0	ug/L	06/14/2024	SKJACOBS	EPA 6020B
Selenium	<10.0	ug/L	06/14/2024	SKJACOBS	EPA 6020B
Zinc	<10.0	ug/L	06/14/2024	SKJACOBS	EPA 6020B
Boron	16.5	ug/L	06/13/2024	SKJACOBS	EPA 6010D
Total Organic Carbon	<1	mg/L	06/12/2024	GEL	SM 5310B
Chloride	5.21	mg/L	06/07/2024	KCWELLS	EPA 300.0
Nitrate	<0.10	mg/L	06/07/2024	KCWELLS	EPA 300.0
Sulfate	<2.0	mg/L	06/07/2024	KCWELLS	EPA 300.0
Total Dissolved Solids	220.0	mg/L	06/07/2024	KCWELLS	SM 2540C
pH	7.32	SU	06/05/2024	ZM/GK	

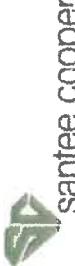
Independent Laboratory Results: "GEL" - GEL Laboratories LLC - Lab ID # 10120; "Test America" - TestAmerica Laboratories, Inc. - Lab ID# 98001; "DavisBrown"- Davis & Brown Lab ID # 21117; "Shealy"- Shealy Environmental Services, Inc.- Lab ID# 32010

Sample Validated:



Linda Williams - Manager, Analytical Services

Final Validation Date: 7/22/24



Chain of Custody

Cross
CCR/Class 3 LF

(CLF1B-1, CLF1B-2,
CLF1B-3, CLF1B-4,
CLF1B-5 and
Duplicate CLF1B-1)

Melanie Goings/A203 **2/20/24**
3 Weeks **125915 JM02.09.G011**

Sample Analysis Requested (Method)							Duplicate CLF1B-1
Preservative	1	1	1	1	1	1	
Bottle Type (Glass/Plastic)	G	G	L	P	P	P	Temperature Checks: Internal Use Only

Contract Lab Due Date (Last Only):							
Labworks ID Number		Sample Location / Description		Collection		Comments	
Date	Time	Day	Month	Date	Time	Day	Month
AF87806	CLF2B-2	1/22/24	9:15	Wednesday	6	6/20	8
AF87801	CLF2B-1 DnR	120					
AF87802	CLF2B-2	1057					
AF87803	CLF2B-3	1111a					
AF87804	CLF2B-4	1303					
AF87805	CLF2B-5	1405					
Preservation used: 1-4°C 2LH2O 4HCl 5% Na2SO4 Other Specified:							
Preservative Record							
Retain until by: (To Person / Lockbox)	Correct pH: TEC	Yes	No	If preserved, Lot#	APC14449	Date	Time
<i>John Green</i>				37481	1/23/24	0755	9:45 AM
Retain until by: (To Person / Lockbox)				Employee #		Date	Time
Retain until by: (To Person / Lockbox)				Employee #		Date	Time
Retain until by: (To Person / Lockbox)				Employee #		Date	Time

Available Analyses:	
TOC / DOC	Metals: Ag, Al, As, B, Be, Ba, Ca, Cd, Co, Cr Cu, Fe, Hg, K, Li, Mg, Mn, Mo, Na, Ni, Pb, Sb Se, Sn, Ti, V, Zn, P, S, SiO ₂ , Sr, Ti, CrVI
TP, TPO4, NH3-N	Wallboard Gyp: AIM, TOC, Total and Soluble Metals, Purity, % Moisture, Sulfites, pH, Chloride, Particle Size Daily Gyp: Free Moisture, Purity (CaSO ₄)
EF, Cl, Br, NO3, SO4, OPO4	Limestone Analysis: Acid Insoluble Matter, Total Metals, LOI, Purity (CaCO ₃), % Moisture
TSS	Flyash: Ammonia, LOI, % Carbon, Free CaO, Mineral Analysis
Sulfide	Dissolved Metals: As, Fe
BTEX	Coal Short Prox: % Moisture, Ash, Sulfur, BTUs Coal Ultimate: % Moisture, Ash, Sulfur, BTUs, Volatile Matter, CHN XRF Scan Hardgrove Grindability Index
Naphthalene, MTBE, VOC	Sieve Analysis Particulate Matter Analysis
Rad 226, Rad 228	pH
Oil & Grease	Togas: Dissolved Gases in Oil Metals (Oil): As, Cd, Cr, Ni, Pb, Hg Flash point, Total Halogens, PCB Gofer Oil#GOTER Used Oil#USED OIL
E. coli, Total Coliform	

**Cross
Class 2/3 LF**

Chain of Custody

Melanie Goings/A203

Customer/Send Report To:

Need Results By (Date Needed): 3 weeks 2/20/24

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

Contract Lab Due Date (Lab Only):

Labworks ID Number 1662P-5D

Sample Location / Description Bottom of Lake Michigan

Date 1/22/24 Time 10:43

Collection Employee # 37951

Preservative Record Correct pH: TEC Yes No If preserved, LOTS

Reinimbursed by: [Initials] [Checkmark]

Reimbursement by: [Initials] [Checkmark]

Reimbursed by: [Initials] [Checkmark]

(POZ-5D,
CLF1B-5D)

		Sample Analysis Requested (Method)					
Preservative	1	1	1	1/3	1	1	1
Bottle Type/Glass/Plastic	P						
Sample Type	Glass/Camp						
Number of Containers	1	2	3	4	5	6	7
Fill in the Number of Containers for each Part							
Comments							

TEMP (°C) 3.9
INTL STL

FILTERED IN LAB - KW

*Also, Co for POZ-3 and POZ-5D only.

Lot # 1122100
Batch # 033023-01
1:1 Nitric Acid (HNO3)
1/23/24 e 1159 STL
Same scope

Lot # GFS 22350117
NOS Batch # 030123-1
1:1 Sulfuric Acid (H2SO4)
1/23/24 e 016 STL
Same scope

Composite Sample#:

Start Date/Time:

End Date/Time:

Date

Time



Chain of Custody

Melanie Goings/A203

Customer/Send Report To:

3 Weeks 6/28

Need Results By (Date Needed):

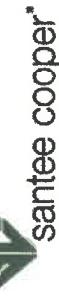
125915 JM02.09.G01.1 / 36500

Project/Task/Unit #:

Contract Lab Due Date (Lab Only):

Sample Analysis Requested (Method)																	
Preservative		1, 2		1, 2		1		1									
Bottle Type (Glass/Plastic)		P	P	G	P	P	P	P	P								
Sample Type		Number of Contaminates		TOC		dissolved As		Temperature Checks: Internal Use Only									
Grab/Composite		As, Fe, Pb, Cd, Zn, Cu, Ni, Mn, Mo, Na, S, Cl, NO3, SO4		TDS		TEMP (°C)		INIT									
Fill in the Number of Containers for each Test																	
Comments																	
Edited Date/Time Added Analysis																	
Filtered in LAB																	
Lot # GFS 24004929 Batch # 052024-1 1:1 Sulfuric Acid (H2SO4) 6/5/24 @ 1153 Sieve done																	
Lot # 1123070 Batch # 20240220-01 1:1 Nitric Acid (HNO3) 6/5/24 @ 1151 Sieve done																	
Lot # 1123070 Batch # 20240220-01 1:1 Nitric Acid (HNO3) 6/5/24 @ 1151 Sieve done																	
Composite Samples: Start Date/Time:																	
Sample Type: (G) Grab, (C) Composite																	
Date/Time/Int 5/31/24 G+L																	
End Date/Time:																	
Matrix Code: GW-Groundwater, DW-Drinking Water, WW-Wastewater, BW-Boiler Water, L-Limestone, O-Oil, S-Soil, SL-Solid, C-Coal, G-Gypsum, FA-Fly Ash, BA-Bottom Ash, M-Misc (Describe in Comments), Bottom Ash, M-Misc (Specify)																	
Preservation used: 1-4°C, 2-10°C, 3-H2O, 4-HCl, 5-Na2SO4, 6-Other (Specify)																	
Preservative Record																	
Correct pH: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		If preserved, Lot# 4G-BD974/APC1449		Date/Time/Int 5/31/24 G+L		Employee # 36851		Date/Time 6/14/24 1542									
Reinforced by: (To Person / Lockbox)		Employee # 38027		Date/Time 6/4/24 1542		Received by: (From Person / Lockbox)		Employee # 36851									
Reinforced by: (To Person / Lockbox)		Employee #		Date/Time		Received by: (From Person / Lockbox)		Employee #									
Reinforced by: (To Person / Lockbox)		Employee #		Date/Time		Received by: (From Person / Lockbox)		Employee #									
Available Analyses:																	
TOC / DOC																	
TP, TPO4, NH3-N																	
F, Cl, NO2, Br, NO3, SO4, OPO4																	
TDS, TSS																	
Sulfide																	
BTX, Naphthalene, MTBE, VOC																	
Rad 226, Rad 228																	
Oil & Grease																	
E. coli, Total Coliform																	
pH																	
XRF Scan																	
Hardglove Grindability Index																	
Pulverizer Fineness																	
Sieve Analysis																	
Particulate Matter Analysis																	

Cross
CCR/Class 3 LF



Chain of Custody

Customer/Send Report To:

Melanie Goings/A203
3 Weeks

Need Results By (Date Needed):

Project/Task/Unit #:

125915 JM02.09.G01.1 / 36500

Contract Lab Due Date (Lab Only):

Preservative	Sample Analysis Requested (Method)						Comments
	1	1,3	1	1	1	1	
	P	P	G ₁	P	P	P	
Bottle Type (Glass/Plastic)	P	P	G ₁	P	P	P	Temperature Checks: Internal Use Only
Sample Type	Number of Contaminants	TOC	As, Cl, NO ₃ , SO ₄	TDs	As dissolved As	TEMP (°C)	INIT
Grab/Comp	Matrix	W	Hg, Pb, Se, Zn, Cd, Cr, Fe, Ba, Cs, Co, Cu, Ni, As, B, Be, Ca, Cd, Co, Cr, Fe, Hg, K, Li, Mg, Mn, Mo, Na, Ni, Pb, Sb Daily Gyp: Wallboard Gyp: AIM, TOC, Total and Soluble Metals, Particle Size	S	5.5	5.5	5.5
Fill in the Number of Containers for each Test							
AG01472	CLF1B-3	6/6/2024	1002	2m	6	1	1
AG01473	CLF1B-4	1	906	BB	1	1	1
Matrix Code: GW-Groundwater, DW-Drinking Water, SW-Surface Water, WW-Wastewater, BW-Boiler Water, L-Limestone, O-Oil, S-Soil, SL-Sludge, C-Cement, S-Sediment, G-Glass, P-Plastic, M-Misc (Describe in Comments)							
Preservation used: 1-4°C, 2-HNO ₃ , 3-H ₂ SO ₄ , 4-HCl, 5-Na ₂ SO ₃ , 6-Other (Specify) Bottom Ash: M-Misc (Describe in Comments)							
Preservative Record	Correct pH: <input checked="" type="checkbox"/>	(Y)es	(N)o	If preserved, Lot#	4GBO174 AFPC149	Date/Time/Int	5/31/24 G-EEL
Relinquished by: (To Person / Lockbox)	Employee #	Date	Received by: (From Person / Lockbox)	Employee #	Date	Time	Time
<i>CMullen</i>	38027	6/6/24	<i>J. Harry</i>	35574	<i>6/6/24</i>	<i>6/6/24</i>	<i>6/6/24</i>
Relinquished by: (To Person / Lockbox)	Employee #	Date	Received by: (From Person / Lockbox)	Employee #	Date	Time	Time
Relinquished by: (To Person / Lockbox)	Employee #	Date	Received by: (From Person / Lockbox)	Employee #	Date	Time	Time
Available Analyses:							
TOC / DOC	Metals: Ag, Al, As, B, Be, Ba, Ca, Cd, Co, Cr, Cu, Fe, Hg, K, Li, Mg, Mn, Mo, Na, Ni, Pb, Sb Daily Gyp: Free Moisture, Purify (CaSO ₄)	Limestone Analysis: Acid Insoluble Matter, Total Metals, LOI, Purify (CaCO ₃), % Moisture	Oil Quality: % Moisture, Color, Acidity				
TP, TPO4, NH3-N	Se, Sn, Ti, V, Zn, P, S, SiO ₂ , Sr, Ti, CrVI Flyash: Ammonia, LOI, % Carbon, Free CaO, Mineral Analysis	Flyash: Ammonia, LOI, % Carbon, Free CaO, Mineral Analysis	Dielectric Strength, Interfacial Tension				
F, Cl, NO ₂ , Br, NO ₃ , SO ₄ , OPO4	Dissolved Metals: As, Fe	Sulfide	Density				
TDS, TSS	Coal Short Prox: % Moisture, Ash, Sulfur, BTUs	Tgas: Dissolved Gases in Oil	Metals (Oil): As, Cd, Cr, Ni, Pb, Hg				
Sulfide	Coal Ultimate: % Moisture, Ash, Sulfur, BTUs	Hardgrove Grindability Index	Flash point, Total Halogens, PCB				
BTEX, Naphthalene, MTBE, VOC	XRF Scan	Pulverizer Fineness	Gofer Oil:#GOFER Used Oil:#USED OIL				
Rad 226, Rad 228	pH	Particulate Matter Analysis					
Oil & Grease							
E.coli, Total Coliform							



Chain of Custody

Cross
CCR/Class 3 LF

(CLF1B-1, CLF1B-2,
CLF1B-3, CLF1B-4,
CLF1B-5 and
Duplicate CLF1B-1)

Melanie Goings/A203
3 Weeks *9/2/24*
125915 JM02.09.G01.1 / 36500

Customer/Send Report To:									
Need Results By (Date Needed): 3 Weeks 9/2/24									
Project/Task/Unit #: 125915 JM02.09.G01.1 / 365000									
Contract Lab Due Date (Lab Only): _____									
Melanie Goings/A203									
Sample Analysis Requested (Method)									
Preservative		1	1	1,3	1	1	1	1	
Bottle Type (Glass/Plastic)		P	P	G	P	P	P	P	P
Sample Type		dissolved As							
Matrix		F, Cl, NO ₃ , SO ₄							
Grb/Com		TOC							
Number of Containers		TDS							
Fill in the Number of Containers for each test									
Comments									
Temperature Checks: Internal Use Only INIT									
4.3 SJL									
Lot # GFS 24004929 Batch # 052024-1 1:1 Sulfuric Acid (H ₂ SO ₄) 6/6/24 e 132 SJL									
Edited Date & Time ADDED ANALYSIS Same as above									
Composite Samples: Start Date/Time: End Date/Time:									
Matrix Code: GW-Groundwater, DW-Drinking Water, SW-Surface Water, WW-Wastewater, BW-Boiler Water, L-Limestone, O-Oil, S-Soil, SL-Solid, C-Coal, G-Gypsum, FA-Fatty Acid, D-Diesel Bottom Ash, M-Misc (Describe in Comments) Bottle Type: (G) Glass, (P) Plastic Sample Type: (G) Grab, (C) Composite Date/Time/Int 5/31/24 GEL									
Preservative used: 1<4°C, 2-HNO ₃ , 3-H ₂ SO ₄ , 4-HCl, 5-Na ₂ SO ₄ , 6-Other (Specify)									
Preservative Record Correct pH: TOC (Yes) No Relinquished by: (No Person / Lockbox) Employee # 38027 Date 6/6/24 Time 0730 Received by: (From Person / Lockbox) Employee # 35874 Name Larry Relinquished by: (No Person / Lockbox) Employee # Date Time Received by: (From Person / Lockbox) Employee # Date Time Relinquished by: (No Person / Lockbox) Employee # Date Time Received by: (From Person / Lockbox) Employee # Date Time Relinquished by: (No Person / Lockbox) Employee # Date Time Received by: (From Person / Lockbox) Employee # Date Time									

Available Analyses:
 TOC / DOC
 TP, TPO₄, NH₃-N
 F, Cl, NO₂, Br, NO₃
 TDS, TSS
 Sulfide
 BTEX, Naphthalene, M
 Rad 226, Rad 228
 Oil & Grease
 E. coli, Total Coliform

Wallboard Gyp: AIM, TOC, Total and Soluble Metals, Purity, % Moisture, Sulfides, pH, Chloride, Particle Size	Daily Gyp: Free Moisture, Purity (CaSO4)	Limestone Analysis: Acid Insoluble Matter, Total Metals, LOI, Purity (CaCO3), % Moisture	Oil Quality: % Moisture, Color, Acidity	Dielectric Strength, Interfacial Tension
Ammonia, LOI, % Carbon, Free CaO, Mineral Analysis				

Coal Short Pror.	% Moisture	Ash	Sulfur	BTUs
Coal Ultimate:	% Moisture	Ash	Sulfur	BTUs
				Volatile Matter, CHN
XRF Scan				Hardgrove Grindability Index
				Pulverizer Fineness
				Sieve Analysis
				Particulate Matter Analysis
				Density
				Torsa: Dissolved Gases in Oil
				Metals (Oil): As, Cd, Cr, Ni, Pb, Hg
				Flash point: Total Halogens, PCB
				Gofor Oil:#GOFER Used Oil:#USED OIL

I:\97130\Groundwater\00 GW and Waste\01 GwChain of Custodies



Chain of Custody

Melanie Goings/A203

Customer/Send Report To:

Need Results By (Date Needed):

3 Weeks

Project/Task/Unit #:

125915 JM02.09.G01.1 / 36500

Contract Lab Due Date (Lab Only): _____

Sample Analysis Requested (Method)									
Preservative		1	1, 3	1	1	1	1	1	1
Bottle Type (Glass/Plastic)		P	G	P	P	P	P	P	Temperature Checks: Internal Use Only
Sample Type		Number of Containers		TOC		TEMP (°C)		INIT	
Grab/Composite		Matrix		a		CI, NO3, SO4		6.5 <i>STL</i>	
Comments									
Fill in the Number of Containers for each Test									
AG01472	CLF1B-3	6/6/24	1002	2m	6	1	1	1	<i>EDITED DATE + TIME!</i> <i>STL</i>
AG01473	CLF1B-4	1	906	1	1	1	1	1	<i>ADDED ANALYSIS</i> <i>STL</i>
Matrix Code: GW-Groundwater, DW-Drinking Water, SW-Surface Water, WW-Wastewater, BW-Boiler Water, L-Limestone, O-Oil, S-Soil, SL-Soil, C-Com, G-Glass, P-Plastic, M-Misc (Describe in Comments)									
Preservation used: 1- \times 9C, 2-HNO3, 3-H2SO4, 4-HCl, 5-Na2SO4, 6-Other (Specify) Bottom Ash, M-Misc									
Preservative Record		Correct ph: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If preserved, Lot# <input type="text" value="4GBO9T14/AFPC1449"/>	Date/Time/int <input type="text" value="5/31/24"/>	Date/Time/int <input type="text" value="5/31/24"/>	Sample Type: (G) Grab, (P) Plastic	(C) Composite	Start Date/Time:	
Relinquished by: (To Person / Lockbox)		Employee # <input type="text" value="38027"/>	Date <input type="text" value="6/6/24"/>	Time <input type="text" value="1604"/>	Received by: (From Person / Lockbox) <i>S.Kerry</i>	Employee # <input type="text" value="35594"/>	Date <input type="text" value="6/6/24"/>	Time <input type="text" value="1604"/>	
Relinquished by: (To Person / Lockbox)		Employee #	Date	Time	Received by: (From Person / Lockbox)	Employee #	Date	Time	
Relinquished by: (To Person / Lockbox)		Employee #	Date	Time	Received by: (From Person / Lockbox)	Employee #	Date	Time	
Available Analyses:									
TOC / DOC									
TP, TPO4, NH3-N									
F, Cl, NO2, Br, NO3, SO4, OPO4									
TDS, TSS									
Sulfide									
BTEX, Naphthalene, MTBE, VOC									
Bad 226, Rad 228									
Oil & Grease									
E.coli, Total Coliform									
Metals: Ag, Al, As, B, Be, Ba, Ca, Cd, Co, Cr Cu, Fe, Hg, K, Li, Mg, Mn, Mo, Na, Ni, Pb, Sb Se, Sn, Ti, V, Zn, P, S, SiO2, Sr, Ti, CrVI Dissolved Metals: As, Fc									
Wallboard Gyp: AIM, TOC, Total and Soluble Metals, Purity, % Moisture, Sulfites, pH, Chloride, Particle Size Daily Gyp: Free Moisture, Purity (CaSO4) Limestone Analysis: Acid Insoluble Matter, Total Metals, LOI, Purity (CaCO3), % Moisture Flyash: Ammonia, LOI, % Carbon, Free CaO, Mineral Analysis									
Oil Quality: % Moisture, Color, Acidity Dielectric Strength, Interfacial Tension Density Togas: Dissolved Gases in Oil Metals (Oil): As, Cd, Cr, Ni, Pb, Hg Flash point, Total Halogens, PCB Gofar Oil: #GOFER Used Oil/#USED OIL									
Particulate Matter Analysis Sieve Analysis Particulate Fineness									



Chain of Custody

Cross
Class 2/3 LF
State Only
(POZ-5D,
CLF-5D)

Melanie Goings/A203

Customer/Send Report To:

3 weeks

Need Results By (Date Needed):

125915 JM02.08.G01.1 / 36500

Project/Task/Unit #

Contract Lab Due Date (Lab Only):

Sample Analysis Requested (Method)									
Preservative	P	P	P	P	P	P	P	P	P
Bottle Type (Glass/Plastic)									
Sample Type									
Grab/Comp									
Matrix									
Number of Containers									
Fill in the Number of Containers for each Test									
Dissolved As									
TOC									
TDS									
Cl, NO ₃ , SO ₄									
Temperature Checks: Internal Use Only									
INIT									
Comments									
Edited DATE & TIMES ADDED ANALYSIS									
1:1 Sulfuric Acid (H ₂ SO ₄) 6/6/24 @ 12:15 GK									
Lot # 1123070 Batch # 20240220-01									
4:1 Nitric Acid (HNO ₃) 6/6/24 @ 12:15 GK									
Lot # GFS 24004929 Batch # 052024-1									
Composite Samples: Start Date/Time:									
Matrix Code: GW-Groundwater, DW-Drinking Water, SW-Surface Water, WW-Wastewater, BW-Boiler Water, L-Limestone, O-Oil, S-Soil, SL-Solid, C-Coal, G-Gypsum, F-Fatty Acids, A-Ash									
Preservation used: 1-4°C, 2-HNO ₃ , 3-H ₂ SO ₄ , 4-HCl, 5-Na ₂ S ₂ O ₃ , 6-Other (Specify): Bottom Ash, M-Misc (Describe in Comments)									
Bottle Type: (G) Glass (P) Plastic									
Sample Type: (G) Grab, (C) Composite									
Date/Time/Int 6/31/24 GEL									
End Date/Time:									
Correct pH: <input checked="" type="checkbox"/> Yes No If preserved, Lot# 4G130914 / AF1449									
Preservative Record									
Relinquished by: (<input type="checkbox"/> Person / Lockbox)	Employee #	Date	Received by: (<input type="checkbox"/> Person / Lockbox)	Employee #	Date	Time	Received by: (<input type="checkbox"/> Person / Lockbox)	Employee #	Date
7/1/2024	6/6/24	0736	8. Avery	35574	6/6/24	0736			
Relinquished by: (<input type="checkbox"/> Person / Lockbox)	Employee #	Date	Received by: (<input type="checkbox"/> Person / Lockbox)	Employee #	Date	Time	Received by: (<input type="checkbox"/> Person / Lockbox)	Employee #	Date
Relinquished by: (<input type="checkbox"/> Person / Lockbox)	Employee #	Date	Received by: (<input type="checkbox"/> Person / Lockbox)	Employee #	Date	Time	Received by: (<input type="checkbox"/> Person / Lockbox)	Employee #	Date
Available Analyses:									
Metals: Ag, Al, As, B, Be, Ba, Ca, Cd, Co, Cr, Wallboard Gyp, AIM, TOC, Total and Soluble Metals, Purity, % Moisture, Sulfites, pH, Chloride, Particle Size Cu, Fe, Hg, K, Li, Mg, Mn, Mo, Na, Ni, Pb, Sb Daily Gyp: Free Moisture, Purity (CaSO ₄) Se, Sn, Ti, V, Zn, P, S, SiO ₂ , Sr, Ti, CrVI Limestone Analysis: Acid Insoluble Matter, Total Metals, LOI, Purity (CaCO ₃), % Moisture Py ash: Ammonia, LOI, % Carbon, Free CaO, Mineral Analysis Dissolved Metals: As, Fe Oil Quality: % Moisture, Color, Acidity Sulfide Dielectric Strength, Interfacial Tension BTX, Naphthalene, MTBE, VOC Topas: Dissolved Gases in Oil Rad 226, Rad 228 Metals (Oil): As, Cd, Cr, Ni, Pb, Hg Oil & Grease Flash point, Total Halogens, PCB E. coli, Total Coliform Gofor Oil:#GOFR Used Oil:#USED OIL									
TOC / DOC	TP, PO4, NH3-N	F, Cl, NO2, Br, NO3, SO4, OPO4	TDS, TSS	Sulfide	BTX, Naphthalene, MTBE, VOC	Coal Short Prox: % Moisture, Ash, Sulfur, BTUs	Coal Ultimate: % Moisture, Ash, Sulfur, BTUs, Volatile Matter, CHN	Hardgrove Grindability Index	Pulverizer Fineness
IP	TP04	Cl, NO2, Br, NO3, SO4, OPO4	TDS, TSS		Rad 226, Rad 228	XRF Scan		Sieve Analysis	Particulate Matter Analysis



Chain of Custody

Cross Background NPDES/CCR/LF

Melanie Goings/A203

Customer/Send Report To:

Need Results By (Date Needed):

3 weeks 6/28/24

Project/Task/Unit #

121567 JM02.09.G01 / 36500

Contract Lab Due Date (Lab Only):

Labworks ID Number	Sample Location / Description	Collection						Comments	
		Date	Time	By	Number of Containers	Sample Analysis Requested (Method)			
		Bottle Type (Glass/Plastic)	Preservative	P		G	P		
AG01438	CBW-1	6/4/24	853	ZM	6	8	1	1	
AG01476	PM-1	6/5/24	958	Z	1	8	1	1	
Fill in the Number of Containers for each Test									
Matrix Code: GW-Groundwater, DW-Drinking Water, SW-Surface Water, WW-Wastewater, BW-Boiler Water, L-Limestone, O-Oil, S-Soil, SL-Sediment, JA-Jacket Water, AS-Aerosol, BA-Biological, M-Misc (Describe in Comments), Bottom Ash, M-Misc (Specify), 6-Other (Specify)									
Preservation used: 1-4°C, 2-HNO ₃ , 3-H ₂ SO ₄ , 4-HCl, 5-Na ₂ SO ₄ , 6-Other (Specify)									
Preservative Record	Correct pH: TOC	Yes	No	If preserved, Lot#	4G80974 / APC1447	Date/Time/int	G	Sample Type: (G) Grab, (C) Composite	
Relinquished by: (To Person / Lockbox)	Employee #	Date	Time	Received by: (From Person / Lockbox)	Employee #	Date	Time	End Date/Time:	
7/1/2024	38027	6/4/24	1542	John	36851	6/4/24	1542	Batch # 20240220-01	
Relinquished by: (To Person / Lockbox)	Employee #	Date	Time	Received by: (From Person / Lockbox)	Employee #	Date	Time	Lot # 1123070	
Relinquished by: (To Person / Lockbox)	Employee #	Date	Time	Received by: (From Person / Lockbox)	Employee #	Date	Time	1:1 Nitric Acid (HNO ₃)	
Metals: Ag, Al, As, B, Be, Ba, Ca, Cd, Co, Cr Wallboard Gyp: AIM, TOC, Total and Soluble Metals, Purity, % Moisture, Sulfites, pH, Chloride, Particle Size Cu, Fe, Hg, K, Li, Mg, Mn, Mo, Na, Ni, Pb, Sb Daily Gyp: Free Moisture, Purity (CaSO ₄) Limestone Analysis: Acid Insoluble Matter, Total Metals, LOI, Purity (CaCO ₃), % Moisture Flyash: Ammonia, LOI, % Carbon, Free CaO, Mineral Analysis Dissolved Metals: As, Fe Coal Short Pror. % Moisture, Ash, Sulfur, BTUs Coal Ultimate: % Moisture, Ash, Sulfur, BTUs, Volatile Matter, CHN Hardgrove Grindability Index XRF Scan Sieve Analysis Particulate Matter Analysis									
TP / DOC TPO4, NH3-N F, Cl, NO2, Br, NO3, SO4, OPO4 TDS, TSS Sulfide BTEX, Naphthalene, MTBE, VOC Rad 226, Rad 228 Oil & Grease E.coli, Total Coliform									
pH									
R&D 1000-1902-QC/234170 5/31/24 GEL									

February 01, 2024

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

Re: ABS Lab Analytical
Work Order: 653150

Dear Ms. Gilmetti:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on January 26, 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,

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: 653150 GEL Work Order: 653150

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
- J Value is estimated
- 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: February 1, 2024

Company : Santee Cooper
Address : P.O. Box 2946101
OCO3
Contact: Moncks Corner, South Carolina 29461
Project: Ms. Jeanette Gilmetti
ABS Lab Analytical

Client Sample ID: AF87800 Project: SOOP00119
Sample ID: 653150001 Client ID: SOOP001
Matrix: GW
Collect Date: 22-JAN-24 09:15
Receive Date: 26-JAN-24
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Carbon Analysis												
SM 5310 B Total Organic Carbon "As Received"												
Total Organic Carbon Average 2.48												
The following Analytical Methods were performed:												

Method	Description	Analyst Comments
1	SM 5310 B	

Notes:

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: February 1, 2024

Company : Santee Cooper
Address : P.O. Box 2946101
OCO3
Contact: Moncks Corner, South Carolina 29461
Project: Ms. Jeanette Gilmetti
ABS Lab Analytical

Client Sample ID: AF87801 Project: SOOP00119
Sample ID: 653150002 Client ID: SOOP001
Matrix: GW
Collect Date: 22-JAN-24 09:20
Receive Date: 26-JAN-24
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Carbon Analysis												
SM 5310 B Total Organic Carbon "As Received"												
Total Organic Carbon Average 2.38												
The following Analytical Methods were performed:												

Method	Description	Analyst Comments
1	SM 5310 B	

Notes:

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: February 1, 2024

Company : Santee Cooper
Address : P.O. Box 2946101
OCO3
Contact: Moncks Corner, South Carolina 29461
Project: Ms. Jeanette Gilmetti
ABS Lab Analytical

Client Sample ID: AF87802 Project: SOOP00119
Sample ID: 653150003 Client ID: SOOP001
Matrix: GW
Collect Date: 22-JAN-24 10:57
Receive Date: 26-JAN-24
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Carbon Analysis												
SM 5310 B Total Organic Carbon "As Received"												
Total Organic Carbon Average 1.01 0.330 1.00 mg/L 1 RM3 01/30/24 2335 2560602 1												
The following Analytical Methods were performed:												

Notes:

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: February 1, 2024

Company : Santee Cooper
Address : P.O. Box 2946101
OCO3
Contact: Moncks Corner, South Carolina 29461
Project: Ms. Jeanette Gilmetti
ABS Lab Analytical

Client Sample ID: AF87803 Project: SOOP00119
Sample ID: 653150004 Client ID: SOOP001
Matrix: GW
Collect Date: 22-JAN-24 11:46
Receive Date: 26-JAN-24
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Carbon Analysis												
SM 5310 B Total Organic Carbon "As Received"												
Total Organic Carbon Average 2.16 0.330 1.00 mg/L 1 RM3 01/31/24 0000 2560602 1												
The following Analytical Methods were performed:												

Notes:

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: February 1, 2024

Company : Santee Cooper
Address : P.O. Box 2946101
OCO3
Contact: Moncks Corner, South Carolina 29461
Project: Ms. Jeanette Gilmetti
ABS Lab Analytical

Client Sample ID: AF87804 Project: SOOP00119
Sample ID: 653150005 Client ID: SOOP001
Matrix: GW
Collect Date: 22-JAN-24 13:03
Receive Date: 26-JAN-24
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Carbon Analysis												
SM 5310 B Total Organic Carbon "As Received"												
Total Organic Carbon Average J 0.957 0.330 1.00 mg/L 1 RM3 01/31/24 0025 2560602 1												
The following Analytical Methods were performed:												

Notes:

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: February 1, 2024

Company : Santee Cooper
Address : P.O. Box 2946101
OCO3
Contact: Moncks Corner, South Carolina 29461
Project: Ms. Jeanette Gilmetti
ABS Lab Analytical

Client Sample ID: AF87805 Project: SOOP00119
Sample ID: 653150006 Client ID: SOOP001
Matrix: GW
Collect Date: 22-JAN-24 14:05
Receive Date: 26-JAN-24
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Carbon Analysis												
SM 5310 B Total Organic Carbon "As Received"												
Total Organic Carbon Average 1.66 0.330 1.00 mg/L 1 RM3 01/31/24 0049 2560602 1												
The following Analytical Methods were performed:												

Notes:

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: February 1, 2024

Page 1 of 2

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

Contact: Ms. Jeanette Gilmetti

Workorder: 653150

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Carbon Analysis											
Batch	2560602										
QC1205635325	653148001	DUP									
Total Organic Carbon Average			1.86		1.95	mg/L	4.36 ^	(+/-1.00)	RM3	01/30/24	19:09
QC1205635322	LCS										
Total Organic Carbon Average		10.0			9.84	mg/L	98.4	(80%-120%)		01/30/24	14:07
QC1205635321	MB										
Total Organic Carbon Average				U	ND	mg/L				01/30/24	13:59
QC1205635326	653148001	PS									
Total Organic Carbon Average		10.0	1.86		11.7	mg/L	98.7	(65%-120%)		01/30/24	19:34

Notes:

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
- > Result is greater than value reported
- h Preparation or preservation holding time was exceeded
- R Sample results are rejected
- Z Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
- d 5-day BOD--The 2:1 depletion requirement was not met for this sample
- ^ 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
- NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- E General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
- Q One or more quality control criteria have not been met. Refer to the applicable narrative or DER.

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

QC Summary

Workorder: 653150

Page 2 of 2

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
N1	See case narrative										
R	Per section 9.3.4.1 of Method 1664 Revision B, due to matrix spike recovery issues, this result may not be reported or used for regulatory compliance purposes.										
B	The target analyte was detected in the associated blank.										
e	5-day BOD--Test replicates show more than 30% difference between high and low values. The data is qualified per the method and can be used for reporting purposes										
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.

**General Chemistry
Technical Case Narrative
Santee Cooper
SDG #: 653150**

Product: Carbon, Total Organic

Analytical Method: SM 5310 B

Analytical Procedure: GL-GC-E-093 REV# 22

Analytical Batch: 2560602

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
653150001	AF87800
653150002	AF87801
653150003	AF87802
653150004	AF87803
653150005	AF87804
653150006	AF87805
1205635321	Method Blank (MB)
1205635322	Laboratory Control Sample (LCS)
1205635325	653148001(AF87809) Sample Duplicate (DUP)
1205635326	653148001(AF87809) Post Spike (PS)

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.

Certification Statement

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

Chain of Custody



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

Customer Email/Report Recipient:

Date Results Needed by:

Project/Task/Unit #:

Rerun request for any flagged QC

LINDA WILLIAMS @santeecoop.com

—j—j—

125915 / JMC02.09.021.1 / 36500

Rerun request for:

Analysis Group

Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
JH	36857	1/26/24	0824	WAD	GEL	1/26/24	0924
Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
WAD	GEL	1/26/24	1610	Theresa Tatum	GEL	1/26/24	1610
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:

SAMPLE RECEIPT & REVIEW FORM

Client: <i>SDG</i>	SDG/AR/CO/COC/Work Order: <i>653150</i>		<i>J.R.</i>
Received By: Thyasia Tatum	Date Received: <i>1-29-14</i>		
Carrier and Tracking Number		<input type="checkbox"/> FedEx Express <input type="checkbox"/> FedEx Ground <input type="checkbox"/> UPS <input type="checkbox"/> Field Services <input checked="" type="checkbox"/> Courier <input type="checkbox"/> Other	
Suspected Hazard Information		Yes	No
		*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.	
A) Shipped as a DOT Hazardous?		<input checked="" type="checkbox"/> Hazard Class Shipped: UN#: If UN2910, Is the Radioactive Shipment Survey Compliant? Yes <input type="checkbox"/> No <input type="checkbox"/>	
B) Did the client designate the samples are to be received as radioactive?		<input checked="" type="checkbox"/> COC notation or radioactive stickers on containers equal client designation.	
C) Did the RSO classify the samples as radioactive?		<input checked="" type="checkbox"/> Maximum Net Counts Observed* (Observed Counts - Area Background Counts): <i>0</i> CPM / mR/Hr Classified as: Rad 1 Rad 2 Rad 3	
D) Did the client designate samples are hazardous?		<input checked="" type="checkbox"/> COC notation or hazard labels on containers equal client designation.	
E) Did the RSO identify possible hazards?		<input checked="" type="checkbox"/> If D or E is yes, select Hazards below. PCBs Flammable Foreign Soil RCRA Asbestos Beryllium Other:	
Sample Receipt Criteria		Yes	NA
1 Shipping containers received intact and sealed?		<input checked="" type="checkbox"/> Circle Applicable: Seals broken Damaged container Leaking container Other (describe)	
2 Chain of custody documents included with shipment?		<input checked="" type="checkbox"/> Circle Applicable: Client contacted and provided COC COC created upon receipt	
3 Samples requiring cold preservation within (0 ≤ 6 deg. C)?*		<input checked="" type="checkbox"/> Preservation Method: Wet Ice Ice Packs Dry ice None Other: *all temperatures are recorded in Celsius TEMP: <i>41°C</i>	
4 Daily check performed and passed on IR temperature gun?		<input checked="" type="checkbox"/> Temperature Device Serial #: IR2-23 Secondary Temperature Device Serial # (If Applicable):	
5 Sample containers intact and sealed?		<input checked="" type="checkbox"/> Circle Applicable: Seals broken Damaged container Leaking container Other (describe)	
6 Samples requiring chemical preservation at proper pH?		<input checked="" type="checkbox"/> Sample ID's and Containers Affected: If Preservation added, Lot#:	
7 Do any samples require Volatile Analysis?		<input checked="" type="checkbox"/> If Yes, are Encores or Soil Kits present for solids? Yes <input type="checkbox"/> No <input type="checkbox"/> NA (If yes, take to VOA Freezer) <input checked="" type="checkbox"/> Do liquid VOA vials contain acid preservation? Yes <input type="checkbox"/> No <input type="checkbox"/> NA (If unknown, select No) <input checked="" type="checkbox"/> Are liquid VOA vials free of headspace? Yes <input type="checkbox"/> No <input type="checkbox"/> NA Sample ID's and containers affected:	
8 Samples received within holding time?		<input checked="" type="checkbox"/> ID's and tests affected:	
9 Sample ID's on COC match ID's on bottles?		<input checked="" type="checkbox"/> ID's and containers affected:	
10 Date & time on COC match date & time on bottles?		<input checked="" type="checkbox"/> Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)	
11 Number of containers received match number indicated on COC?		<input checked="" type="checkbox"/> Circle Applicable: No container count on COC Other (describe)	
12 Are sample containers identifiable as GEL provided by use of GEL labels?		<input checked="" type="checkbox"/>	
13 COC form is properly signed in relinquished/received sections?		<input checked="" type="checkbox"/> Circle Applicable: Not relinquished Other (describe)	
Comments (Use Continuation Form if needed):			

PM (or PMA) review: Initials *KM* Date *1/29/14* Page *1* of *1*

List of current GEL Certifications as of 01 February 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
Puerto 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

January 19, 2024

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

Re: ABS Lab Analytical
Work Order: 651804

Dear Ms. Gilmetti:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on January 12, 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,



Julie Robinson
Project Manager

Purchase Order: 398684 - 125915/JM02.09.G01/36
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: 651804 GEL Work Order: 651804

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: January 19, 2024

Company : Santee Cooper
Address : P.O. Box 2946101
OCO3
Contact: Moncks Corner, South Carolina 29461
Project: Ms. Jeanette Gilmetti
ABS Lab Analytical

Client Sample ID: AF87807 Project: SOOP00119
Sample ID: 651804001 Client ID: SOOP001
Matrix: GW
Collect Date: 08-JAN-24 10:48
Receive Date: 12-JAN-24
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Carbon Analysis												
SM 5310 B Total Organic Carbon "As Received"												
Total Organic Carbon Average 5.49												
The following Analytical Methods were performed:												

Method	Description	Analyst Comments
1	SM 5310 B	

Notes:

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: January 19, 2024

Company : Santee Cooper
Address : P.O. Box 2946101
OCO3
Contact: Moncks Corner, South Carolina 29461
Project: Ms. Jeanette Gilmetti
ABS Lab Analytical

Client Sample ID: AF87768 Project: SOOP00119
Sample ID: 651804002 Client ID: SOOP001
Matrix: GW
Collect Date: 08-JAN-24 11:55
Receive Date: 12-JAN-24
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Carbon Analysis												
SM 5310 B Total Organic Carbon "As Received"												
Total Organic Carbon Average 2.19 0.330 1.00 mg/L 1 RM3 01/17/24 0528 2554091 1												
The following Analytical Methods were performed:												

Notes:

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: January 19, 2024

Page 1 of 2

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

Contact: Ms. Jeanette Gilmetti

Workorder: 651804

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Carbon Analysis											
Batch	2554091										
QC1205624555	651804001	DUP									
Total Organic Carbon Average			5.49		5.54	mg/L	0.924	(0%-20%)	RM3	01/17/24	04:39
QC1205624548	LCS										
Total Organic Carbon Average		10.0			9.56	mg/L	95.6	(80%-120%)		01/16/24	15:24
QC1205624547	MB										
Total Organic Carbon Average				U	ND	mg/L				01/16/24	15:16
QC1205624556	651804001	PS									
Total Organic Carbon Average		10.0	5.49		14.9	mg/L	93.6	(65%-120%)		01/17/24	05:03

Notes:

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
- > Result is greater than value reported
- h Preparation or preservation holding time was exceeded
- R Sample results are rejected
- Z Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
- d 5-day BOD--The 2:1 depletion requirement was not met for this sample
- ^ 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
- NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- E General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
- Q One or more quality control criteria have not been met. Refer to the applicable narrative or DER.

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QC Summary

Workorder: 651804

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
N1	See case narrative										
R	Per section 9.3.4.1 of Method 1664 Revision B, due to matrix spike recovery issues, this result may not be reported or used for regulatory compliance purposes.										
B	The target analyte was detected in the associated blank.										
e	5-day BOD--Test replicates show more than 30% difference between high and low values. The data is qualified per the method and can be used for reporting purposes										
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.

**General Chemistry
Technical Case Narrative
Santee Cooper
SDG #: 651804**

Product: Carbon, Total Organic

Analytical Method: SM 5310 B

Analytical Procedure: GL-GC-E-093 REV# 22

Analytical Batch: 2554091

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
651804001	AF87807
651804002	AF87768
1205624547	Method Blank (MB)
1205624548	Laboratory Control Sample (LCS)
1205624555	651804001(AF87807) Sample Duplicate (DUP)
1205624556	651804001(AF87807) Post Spike (PS)

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.

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.

SAMPLE RECEIPT & REVIEW FORM

Client: <i>500P</i>	SDG/AR/COC/Work Order: <i>651804</i>	<i>JK</i>
Received By: Thyasia Tatum	Date Received: <i>1-12-29</i>	
Carrier and Tracking Number		
Circle Applicable: FedEx Express FedEx Ground UPS Field Services <input checked="" type="checkbox"/> Courier Other		
Suspected Hazard Information		Yes <input type="checkbox"/> No <input type="checkbox"/>
*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.		
A) Shipped as a DOT Hazardous?		<input checked="" type="checkbox"/> Hazard Class Shipped: UN#: If UN2910, Is the Radioactive Shipment Survey Compliant? Yes <input type="checkbox"/> No <input type="checkbox"/>
B) Did the client designate the samples are to be received as radioactive?		<input checked="" type="checkbox"/> COC notation or radioactive stickers on containers equal client designation.
C) Did the RSO classify the samples as radioactive?		<input checked="" type="checkbox"/> Maximum Net Counts Observed* (Observed Counts - Area Background Counts): <i>0</i> CPM / mR/Hr Classified as: Rad 1 Rad 2 Rad 3
D) Did the client designate samples are hazardous?		<input checked="" type="checkbox"/> COC notation or hazard labels on containers equal client designation.
E) Did the RSO identify possible hazards?		<input checked="" type="checkbox"/> If B or C is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:
Sample Receipt Criteria		Yes <input type="checkbox"/> NA <input type="checkbox"/> No <input type="checkbox"/>
Comments/Qualifiers (Required for Non-Conforming Items)		
1 Shipping containers received intact and sealed? <input checked="" type="checkbox"/> Circle Applicable: Seals broken Damaged container Leaking container Other (describe)		
2 Chain of custody documents included with shipment? <input checked="" type="checkbox"/> Circle Applicable: Client contacted and provided COC COC created upon receipt		
3 Samples requiring cold preservation within (0 ≤ 6 deg. C)?* <input checked="" type="checkbox"/> Preservation Method: Wet Ice <input type="checkbox"/> Ice Packs <input type="checkbox"/> Dry ice <input type="checkbox"/> None <input type="checkbox"/> Other: *all temperatures are recorded in Celsius TEMP: <i>15</i>		
4 Daily check performed and passed on IR temperature gun? <input checked="" type="checkbox"/> Temperature Device Serial #: IR2-23 Secondary Temperature Device Serial # (If Applicable):		
5 Sample containers intact and sealed? <input checked="" type="checkbox"/> Circle Applicable: Seals broken Damaged container Leaking container Other (describe)		
6 Samples requiring chemical preservation at proper pH? <input checked="" type="checkbox"/> Sample ID's and Containers Affected: If Preservation added, Lot#:		
7 Do any samples require Volatile Analysis? <input checked="" type="checkbox"/> If Yes, are Encores or Soil Kits present for solids? Yes <input type="checkbox"/> No <input type="checkbox"/> NA (If yes, take to VOA Freezer) Do liquid VOA vials contain acid preservation? Yes <input type="checkbox"/> No <input type="checkbox"/> NA (If unknown, select No) Are liquid VOA vials free of headspace? Yes <input type="checkbox"/> No <input type="checkbox"/> NA Sample ID's and containers affected:		
8 Samples received within holding time? <input checked="" type="checkbox"/> ID's and tests affected:		
9 Sample ID's on COC match ID's on bottles? <input checked="" type="checkbox"/> ID's and containers affected:		
10 Date & time on COC match date & time on bottles? <input checked="" type="checkbox"/> Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)		
11 Number of containers received match number indicated on COC? <input checked="" type="checkbox"/> Circle Applicable: No container count on COC Other (describe)		
12 Are sample containers identifiable as GEL provided by use of GEL labels? <input checked="" type="checkbox"/>		
13 COC form is properly signed in relinquished/received sections? <input checked="" type="checkbox"/> Circle Applicable: Not relinquished Other (describe)		
Comments (Use Continuation Form if needed):		

PM (or PMA) review: Initials *MGS* Date *1/16/24* Page *1* of *1*

List of current GEL Certifications as of 19 January 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
Puerto 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