



# 2017 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

## EPA CCR RULE COMPLIANCE

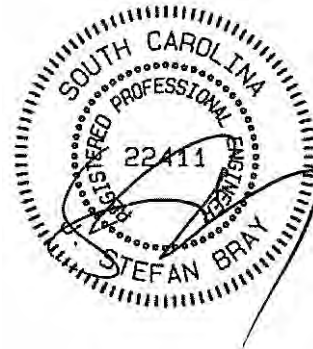
### SOUTH CAROLINA ELECTRIC & GAS: Wateree Station: Class Three Landfill

January 2018

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## 1.0 INTRODUCTION

This document presents the *2017 Annual Groundwater Monitoring and Corrective Action* report for the Class 3 landfill at South Carolina Electric & Gas (SCE&G) Wateree Generating Station in Wateree, Richland County, South Carolina in accordance with 40 CFR Part 257.90 (e). The Class 3 landfill is a coal combustion residuals (CCR) handling facility as defined by the US Environmental Protection Agency (EPA) CCR Rule (40 CFR Part 257.93).

This report presents the following information as required under 40 CFR Part 257.90 (e):

1. A facility map (aerial image) showing the Class 3 landfill and all background (or upgradient) and downgradient monitoring wells, including the well identification numbers, that are part of the groundwater monitoring program for the landfill;
2. Identification of additional monitoring wells that were installed during 2017, along with a narrative description of why the wells were installed;
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;
4. A narrative discussion of transitions 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
5. Other information required to be included in the annual report as specified in Parts 257.90 through 257.98 of the CCR Rule.

The following sections present the components of the annual report.



## 2.0 GROUNDWATER MONITORING WELL SYSTEM

Eight Type II groundwater monitoring wells (designated MW-LF-07, MW-LF-08, MW-LF-10, MW-LF-11, and AS-LF-01, AS-LF-02, AS-LF-03 and MW-BG-73) were installed and developed at Wateree Station Class Three Landfill in March 2016, June 2017 and November 2017 to serve as EPA CCR Rule Compliance monitoring wells. Rising head permeability (slug) tests were conducted at monitoring wells MW-LF-07, MW-LF-08, MW-LF-10 and MW-LF-11, as well as at existing monitoring wells MW-LF-01 and MW-LF-22, in May 2016, and MW-LF-06 in January 2017. A site location map is presented as **Figure 1** and a site map showing the locations and designations of the EPA CCR Rule Compliance monitoring wells at Wateree Station is presented as **Figure 2**. A South Carolina licensed well driller with Terracon, Inc. of Columbia, South Carolina (SC License #2116) performed the drilling and monitoring well installations for monitoring wells MW-LF-07, MW-LF-08, MW-LF-10 and MW-LF-11. A South Carolina licensed well driller with Red Dog Drilling, LLC of Midland, North Carolina (SC License #1230) performed the drilling and monitoring well installations for monitoring wells AS-LF-01, AS-LF-02, AS-LF-03 and MW-BG-73. A South Carolina registered surveyor from the GEL Group, Inc. of Charleston, South Carolina (ELS SC license #15513) surveyed the monitoring wells for horizontal position, ground surface elevation and top of PVC pipe elevation.

The eight Type II groundwater monitoring wells were installed to monitor groundwater quality in the vicinity of the Class Three landfill in compliance with the groundwater monitoring requirements of the US EPA CCR Rule (40 CFR Part 257.93). In addition, existing monitoring wells MW-LF-01, MW-LF-06, and MW-LF-22, which are also used for NPDES and South Carolina Department of Health and Environmental Control (SCDHEC) landfill groundwater monitoring compliance, are included as part of the monitoring well network for US EPA CCR Rule compliance groundwater monitoring. Monitoring wells AS-LF-01, AS-LF-02, AS-LF-03 and MW-BG-73, MW-LF-01 and MW-LF-06 serve as up-gradient wells to monitor the quality of background groundwater in the surficial aquifer entering the area of the Class Three landfill. The remaining monitoring wells (MW-LF-07, MW-LF-08, MW-LF-10, MW-LF-11, and MW-LF-22) serve as down gradient wells to monitor the quality of groundwater down gradient of the Class Three landfill.

### **3.0 GROUNDWATER MONITORING**

#### **3.1 Groundwater Sampling**

In accordance with 40 CFR Part 257.94 (b), eight independent groundwater samples were collected for field and laboratory analysis from EPA CCR Rule compliance monitoring wells MW-LF-01 MW-LF-07, MW-LF-08, MW-LF-10, MW-LF-11, and MW-LF-22 beginning in May 2016 and ending in July 2017. Groundwater samples were collected from monitoring wells MW-LF-01 MW-LF-07, MW-LF-08, MW-LF-10, MW-LF-11, and MW-LF-22 every other month throughout the monitoring period in accordance with the stipulations of the *Groundwater Sampling and Analysis Plan* for the Class 3 Landfill (May 2016; revised July 2016 and October 2016). One groundwater sample was collected for analysis during each of the independent monitoring events.

Monitoring well MW-LF-06 was added to the monitoring well network as an additional background monitoring well beginning with the November 2016 groundwater monitoring event. Five independent groundwater samples were collected for field and laboratory analysis from background monitoring well MW-LF-06 during the period of November 2016 through July 2017 in accordance with the stipulations of the *Groundwater Sampling and Analysis Plan* for the Class 3 Landfill (May 2016; revised July 2016 and October 2016). One groundwater sample was collected from monitoring well MW-LF-06 during each of the independent monitoring events. Monitoring wells AS-LF-01, AS-LF-02 and AS-LF-03 were added to the monitoring well network as additional background monitoring wells beginning with the July 2017 groundwater monitoring event. Five independent groundwater samples were collected for field and laboratory analysis from background monitoring wells AS-LF-01, AS-LF-02 and AS-LF-03 during the period of July 2017 through November 2017 in accordance with the stipulations of the *Groundwater Sampling and Analysis Plan* for the Class 3 Landfill (May 2016; revised July 2016 and October 2016). One groundwater sample was collected from monitoring wells AS-LF-01, AS-LF-02 and AS-LF-03 during each of the independent monitoring events.

All independent groundwater samples collected from monitoring wells MW-LF-01, MW-LF-06, MW-LF-07, MW-LF-08, MW-LF-10, MW-LF-11, and MW-LF-22 in accordance with 40 CFR Part 257.84 (b) during the period of May 2016 through July 2017 were analyzed by South Carolina Certified laboratories (SCE&G Central Laboratory (Certification Number 32006) and GEL Laboratories, LLC (Certification Numbers 10120001 and 10120002) for the constituents listed in Appendix III and Appendix IV of the EPA CCR Rule (40 CFR Parts 257.50 through 257.107). The independent



groundwater samples collected from monitoring wells AS-LF-01, AS-LF-02 and AS-LF-03 in accordance with 40 CFR Part 257.84 (b) during the monitoring event conducted in July 2017 were analyzed by South Carolina Certified laboratories (SCE&G Central Laboratory (Certification Number 32006) and GEL Laboratories, LLC (Certification Numbers 10120001 and 10120002) for the constituents listed in Appendix III and Appendix IV of the EPA CCR Rule (40 CFR Parts 257.50 through 257.107). All independent groundwater samples collected from monitoring wells AS-LF-01, AS-LF-02 and AS-LF-03 in accordance with 40 CFR Part 257.84 (b) during the monitoring events conducted on October 10, 2017, November 1, 2017 and November 13, 2017 were analyzed by South Carolina Certified laboratories (SCE&G Central Laboratory (Certification Number 32006) and GEL Laboratories, LLC (Certification Numbers 10120001 and 10120002) for all the constituents listed in Appendix III and Appendix IV of the EPA CCR Rule (40 CFR Parts 257.50 through 257.107) except Radium 226 and 228. The independent groundwater samples collected from monitoring wells AS-LF-01, AS-LF-02 and AS-LF-03 in accordance with 40 CFR Part 257.84 (b) during the monitoring event conducted on September 12, 2017 were analyzed by South Carolina Certified laboratories (SCE&G Central Laboratory (Certification Number 32006) and GEL Laboratories, LLC (Certification Numbers 10120001 and 10120002) for total calcium and lithium. The independent groundwater samples collected from monitoring wells AS-LF-01, AS-LF-02 and AS-LF-03 in accordance with 40 CFR Part 257.84 (b) during the monitoring event conducted on September 27, 2017 were analyzed by South Carolina Certified laboratories (SCE&G Central Laboratory (Certification Number 32006) and GEL Laboratories, LLC (Certification Numbers 10120001 and 10120002) for total boron, calcium and lithium.

In accordance with 40 CFR Part 257.94, the first round of Detection Monitoring was conducted on September 27, 2017 and included groundwater sampling from monitoring wells MW-LF-01, MW-LF-06, MW-LF-07, MW-LF-08, MW-LF-10, MW-LF-11, and MW-LF-22. One groundwater sample was collected from each of the monitoring wells during the Detection Monitoring event. All groundwater samples collected from the monitoring wells for Detection Monitoring on September 27, 2017 were analyzed by South Carolina Certified laboratories (SCE&G Central Laboratory and GEL Laboratories, LLC) for the constituents listed in Appendix III of the EPA CCR Rule (40 CFR Parts 257.50 through 257.107). It is noted that groundwater samples were also collected from monitoring wells AS-LF-01, AS-LF-02 and AS-LF-03 on September 27, 2017 and were analyzed by South Carolina Certified laboratories (SCE&G Central Laboratory and GEL Laboratories, LLC) for total boron, calcium and lithium.



### **3.2 Results of Field and Laboratory Analyses of Groundwater Samples**

The results of the field and laboratory analyses of the groundwater samples collected from the EPA CCR Rule compliance monitoring wells during the independent rounds of monitoring and the first round of detection monitoring are presented in **Appendix A**. The results indicate that the pH of the groundwater at the site, including at background locations, consistently falls below the EPA CCR Rule standard range of 6.5 to 8.5 standard units (generally within the range of 4.5 to 6 standard units). The results further indicate that the reported concentrations of chloride, fluoride, sulfate and total dissolved solids (TDS) for the groundwater samples collected from the monitoring wells during the September 2017 detection monitoring event were all below the corresponding maximum contaminant levels (MCLs). In addition, boron was not detected in any of the groundwater samples collected from the EPA CCR Rule compliance monitoring wells during the September 2017 detection monitoring event.

Statistical analysis to compare the groundwater quality in the downgradient monitoring wells to that of background water quality for the September 2017 Detection Monitoring event was completed on January 15, 2018 by O'Brien & Gere for South Carolina Electric & Gas. The results of the statistical analysis are presented in **Appendix B**. The statistical analysis indicates that the concentrations of chloride, fluoride and TDS in the groundwater sample collected from compliance monitoring well MW-LF-07 and chloride in the groundwater sample collected from compliance monitoring well MW-LF-22 show statistically significant increases over background concentrations (as determined from the data for groundwater samples collected from background monitoring wells MW-LF-01, MW-LF-06, AS-LF-01, AS-LF-02, AS-LF-03 and MW-BG-73). No other statistically significant increases over background concentrations were observed for the CCR Rule Appendix III constituents in the groundwater samples collected from the EPA CCR Rule compliance monitoring wells during the September 2017 Detection Monitoring event.

### **3.3 Alternate Source Demonstration**

In accordance with 40 CFR Part 257.94 (e) (2), SCE&G intends to conduct an Alternate Source Demonstration (ASD) for the statistically significant increases in concentrations of chloride, fluoride and TDS relative to background concentrations at the CCR Rule background monitoring wells. The ASD will rely, at a minimum, on historical groundwater quality data, as well as additional groundwater quality data for groundwater samples collected contemporaneously from existing monitoring wells, as well as water



samples collected from the landfill leachate pond and leachate samples from the Class 3 landfill leachate outfalls.





#### **4.0 KEY PROJECT ACTIVITIES FOR 2018**

In 2018, the ASD and report of results will be completed by April 15, 2018 for inclusion in the plant operating record. It is anticipated that the ASD will demonstrate that the statistically significant increases in concentrations of chloride, fluoride and TDS observed at EPA CCR Rule compliance monitoring well MW-LF-07 and TDS at EPA CCR Rule compliance monitoring well MW-LF-22 observed at EPA CCR Rule compliance monitoring well MW-LF-02 during the September 2017 Detection Monitoring event are likely attributable to a source(s) other than the Class 3 landfill. Consequently, it is further anticipated that Detection Monitoring will be resumed in 2018. Two rounds of Detection Monitoring are, therefore, anticipated to be completed in 2018 with groundwater samples being collected from monitoring wells MW-LF-01, MW-LF-06, MW-LF-07, MW-LF-08, MW-LF-10, MW-LF-11, MW-LF-22 and AS-LF-01, AS-LF-02, AS-LF-03 and MW-BG-73.

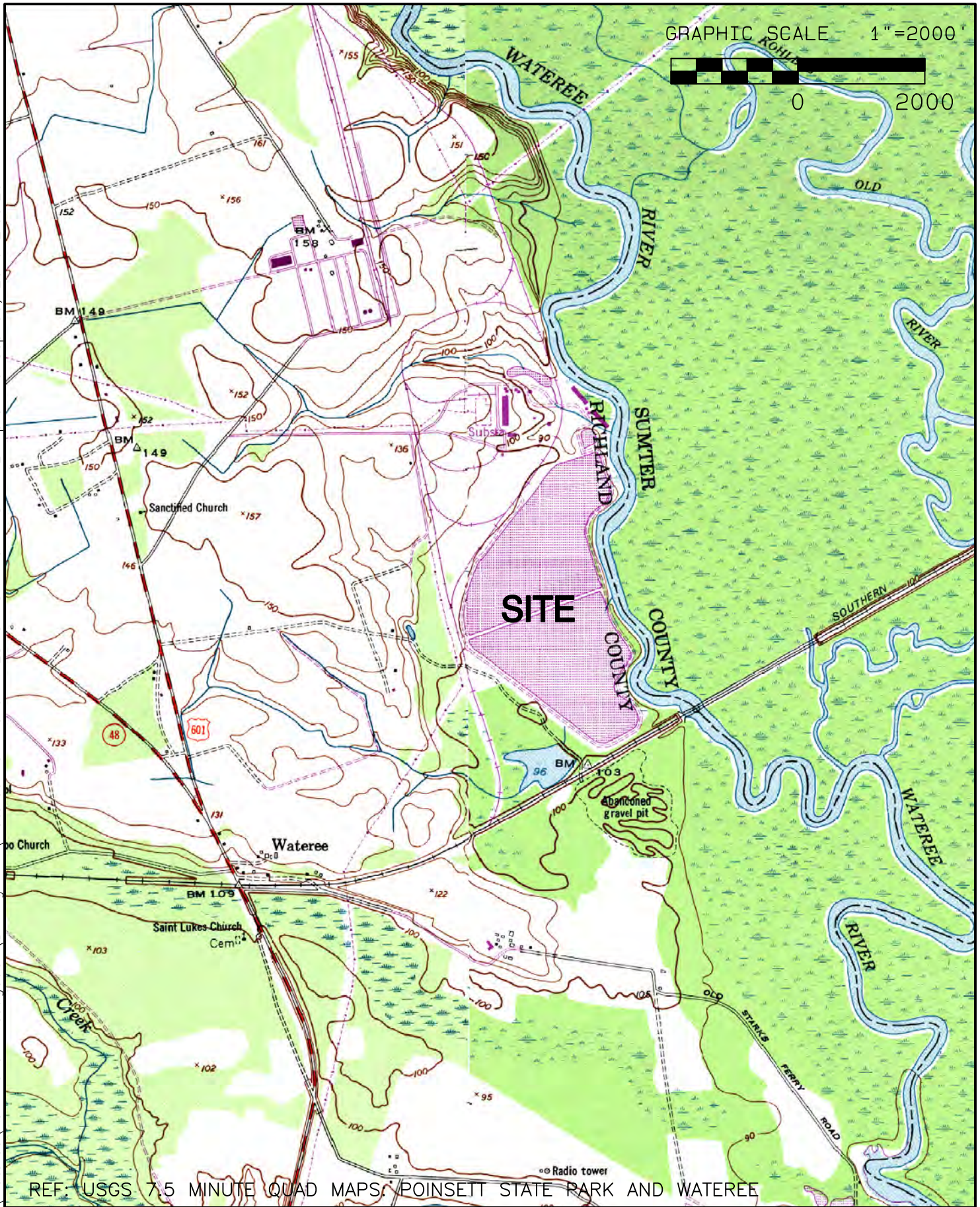


V:\SCE&G\Waterree\Ash Pond Investigation\Drilling RFP\Waterree Ash Pond INVESTIGATION Plan-WORK PLAN.pro Thu Sep 30, 2010 2:03:20PM

GRAPHIC SCALE 1"=2000'



0 2000



REF. USGS 7.5 MINUTE QUAD MAPS, POINSETT STATE PARK AND WATERREE

**GARRETT & MOORE**



Engineering for the Power and Waste Industries

**SCE&G**  
**WATERREE STATION**  
**SITE LOCATION MAP**

JOB

FIG

1





**EPA CCR Rule Compliance  
Groundwater Monitoring Wells**

**Class Three Landfill**

- ⊕ Existing well used for background and down gradient water quality monitoring
- ⊕ Well used for down gradient water quality monitoring
- ⊕ Additional background monitoring well

**FGD Wastewater Pond**

- ⊕ Background and down gradient monitoring wells
- ⊕ Additional background monitoring well

**Ash Pond 1**

- ⊕ Existing well used for background and down gradient water quality monitoring
- ⊕ Well used for down gradient water quality monitoring

V:\Brain Boutin\Waterree\waterree.pro Wed Sep 9, 2015 3:00:28PM

ORTHOPHOTO DATED MARCH 2015





## **APPENDIX A**

### **Results of Field and Laboratory Analyses of Groundwater Samples**

SOUTH CAROLINA DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL  
GROUND-WATER MONITORING REPORT

Facility: Wateree Station

Permit No.: \_\_\_\_\_

County: Richland

Date Sampled: 05/11/2016

Time Sampled: 12:00:00PM

\_\_\_\_\_   
 year-month-day (Numerical)

**STATION NUMBERS**

<b>PARAMETER</b>	<b>NUMBER</b>	<b>MW-LF-01</b>
<b>NAME</b>	Lab. Certificate No.	32006
Field pH S.U.		3.640
Field Sp. Conductivity micromhos/cm		53.000
Field Turbidity NTU		0.40
ORP mV		240.600
Oxygen, dissolved mg/L		5.850
Temp (Celcius) degrees C		18.970
Water level elevation ft		126.17

Authorized Release By: \_\_\_\_\_

Date: \_\_\_\_\_

SOUTH CAROLINA DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL  
GROUND-WATER MONITORING REPORT

Facility: Wateree Station

Permit No.: \_\_\_\_\_

County: Richland

Date Sampled: 05/11/2016

Time Sampled: 12:00:00PM

year-month-day (Numerical)

**STATION NUMBERS**

PARAMETER	NUMBER	MW-LF-07	MW-LF-08	MW-LF-10	MW-LF-11	MW-LF-22
NAME	Lab. Certificate No.	32006	32006	32006	32006	32006
Field pH S.U.		3.940	3.760	4.360	4.250	3.780
Field Sp. Conductivity micromhos/cm		72.000	42.000	49.000	38.000	83.000
Field Turbidity NTU		0.60	0.60	0.80	0.80	0.70
ORP mV		227.000	235.400	196.800	190.300	294.000
Oxygen, dissolved mg/L		5.580	5.800	3.620	4.240	2.750
Temp (Celcius) degrees C		21.960	22.520	20.340	20.920	20.970
Water level elevation ft		116.75	113.10	115.59	116.38	114.77

Authorized Release By: \_\_\_\_\_

Date: \_\_\_\_\_

# GEL LABORATORIES LLC

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

## Certificate of Analysis Report for

GEEL003 GEL Engineering, LLC

Client SDG: 397457 GEL Work Order: 397457

**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
- H Analytical holding time was exceeded
- 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, Jake Crook.



Reviewed by \_\_\_\_\_



# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: May 27, 2016

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd  
  
Charleston, South Carolina 29417  
Contact: Robert Gardner  
Project: Wateree CCR

Client Sample ID: MW-11LF Project: SCEG01716C  
Sample ID: 397457008 Client ID: GEEL003  
Matrix: Ground Water  
Collect Date: 12-MAY-16 11:40  
Receive Date: 14-MAY-16  
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography											
SW846 9056A Anions "As Received"											
Fluoride	U	ND	0.033	0.100	mg/L	1	MAR1	05/17/16	0222	1567543	1
Metals Analysis-ICP-MS											
SW846 3005A/6020A Liquid "As Received"											
Lithium	J	2.57	2.00	10.0	ug/L	1	BCD1	05/19/16	1514	1567595	2
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid "As Received"											
Radium-228		1.63	1.57	3.00	pCi/L		AXM6	05/24/16	1459	1567555	3
Rad Radium-226											
Lucas Cell, Ra226, liquid "As Received"											
Radium-226		1.58	0.457	1.00	pCi/L		LXP1	05/23/16	0810	1568375	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JP1	05/16/16	1725	1567594

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			88.3	(15%-125%)

Notes:

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: May 27, 2016

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd  
  
Charleston, South Carolina 29417  
Contact: Robert Gardner  
Project: Wateree CCR

Client Sample ID: MW-10LF Project: SCEG01716C  
Sample ID: 397457009 Client ID: GEEL003  
Matrix: Ground Water  
Collect Date: 12-MAY-16 12:55  
Receive Date: 14-MAY-16  
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography											
SW846 9056A Anions "As Received"											
Fluoride	J	0.0387	0.033	0.100	mg/L	1	MAR1	05/17/16	0358	1567543	1
Metals Analysis-ICP-MS											
SW846 3005A/6020A Liquid "As Received"											
Lithium	J	2.53	2.00	10.0	ug/L	1	BCD1	05/19/16	1517	1567595	2
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid "As Received"											
Radium-228		2.65	2.17	3.00	pCi/L		AXM6	05/24/16	1459	1567555	3
Rad Radium-226											
Lucas Cell, Ra226, liquid "As Received"											
Radium-226		1.59	0.572	1.00	pCi/L		LXP1	05/23/16	0810	1568375	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JP1	05/16/16	1725	1567594

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			76.4	(15%-125%)

Notes:

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: May 27, 2016

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd  
  
Charleston, South Carolina 29417  
Contact: Robert Gardner  
Project: Wateree CCR

Client Sample ID: MW-08LF Project: SCEG01716C  
Sample ID: 397457010 Client ID: GEEL003  
Matrix: Ground Water  
Collect Date: 12-MAY-16 12:30  
Receive Date: 14-MAY-16  
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography											
SW846 9056A Anions "As Received"											
Fluoride	U	ND	0.033	0.100	mg/L	1	MAR1	05/17/16	0430	1567543	1
Metals Analysis-ICP-MS											
SW846 3005A/6020A Liquid "As Received"											
Lithium	J	8.39	2.00	10.0	ug/L	1	BCD1	05/19/16	1521	1567595	2
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid "As Received"											
Radium-228	U	ND	1.78	3.00	pCi/L		AXM6	05/24/16	1500	1567555	3
Rad Radium-226											
Lucas Cell, Ra226, liquid "As Received"											
Radium-226		1.20	0.499	1.00	pCi/L		LXP1	05/23/16	0810	1568375	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JP1	05/16/16	1725	1567594

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			83.7	(15%-125%)

Notes:

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: May 27, 2016

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd  
  
Charleston, South Carolina 29417  
Contact: Robert Gardner  
Project: Wateree CCR

Client Sample ID: FB-01  
Sample ID: 397457017  
Matrix: Ground Water  
Collect Date: 11-MAY-16 12:10  
Receive Date: 14-MAY-16  
Collector: Client  
Project: SCEG01716C  
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography											
EPA300.0 Fluoride in Liquid "As Received"											
Fluoride	U	ND	0.033	0.100	mg/L	1	MAR1	05/17/16	1516	1567544	1
Metals Analysis-ICP-MS											
200.8/200.2 NPDES Metals "As Received"											
Lithium	U	ND	2.00	10.0	ug/L	1	BCD1	05/19/16	1822	1567593	2
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid "As Received"											
Radium-228	U	ND	2.42	3.00	pCi/L		AXM6	05/26/16	0954	1567555	3
Rad Radium-226											
Lucas Cell, Ra226, liquid "As Received"											
Radium-226		1.48	0.771	1.00	pCi/L		LXP1	05/22/16	1050	1567603	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	JP1	05/16/16	1800	1567592

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	EPA 200.8 SC_NPDES	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			73.1	(15%-125%)

Notes:

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: May 27, 2016

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd  
  
Charleston, South Carolina 29417  
Contact: Robert Gardner  
Project: Wateree CCR

Client Sample ID: MW-01 LF Project: SCEG01716C  
Sample ID: 397457018 Client ID: GEEL003  
Matrix: Ground Water  
Collect Date: 12-MAY-16 08:37  
Receive Date: 14-MAY-16  
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography											
SW846 9056A Anions "As Received"											
Fluoride	U	ND	0.033	0.100	mg/L	1	MAR1	05/17/16	1548	1567544	1
Metals Analysis-ICP-MS											
SW846 3005A/6020A Liquid "As Received"											
Lithium	U	ND	2.00	10.0	ug/L	1	BCD1	05/19/16	1524	1567595	2
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid "As Received"											
Radium-228	U	ND	1.59	3.00	pCi/L		AXM6	05/24/16	1501	1567555	3
Rad Radium-226											
Lucas Cell, Ra226, liquid "As Received"											
Radium-226		0.939	0.541	1.00	pCi/L		LXP1	05/23/16	0810	1568375	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JP1	05/16/16	1725	1567594

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			82.6	(15%-125%)

Notes:

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: May 27, 2016

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd  
  
Charleston, South Carolina 29417  
Contact: Robert Gardner  
Project: Wateree CCR

Client Sample ID: MW-22 Project: SCEG01716C  
Sample ID: 397457019 Client ID: GEEL003  
Matrix: Ground Water  
Collect Date: 12-MAY-16 10:04  
Receive Date: 14-MAY-16  
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography											
SW846 9056A Anions "As Received"											
Fluoride	J	0.0375	0.033	0.100	mg/L	1	MAR1	05/17/16	1619	1567544	1
Metals Analysis-ICP-MS											
SW846 3005A/6020A Liquid "As Received"											
Lithium	J	2.10	2.00	10.0	ug/L	1	BCD1	05/19/16	1528	1567595	2
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid "As Received"											
Radium-228	U	ND	1.90	3.00	pCi/L		AXM6	05/24/16	1505	1567555	3
Rad Radium-226											
Lucas Cell, Ra226, liquid "As Received"											
Radium-226		1.25	0.504	1.00	pCi/L		LXP1	05/23/16	0840	1568375	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JP1	05/16/16	1725	1567594

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			80.4	(15%-125%)

Notes:

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: May 27, 2016

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd  
  
Charleston, South Carolina 29417  
Contact: Robert Gardner  
Project: Wateree CCR

Client Sample ID: MW-07 LF Project: SCEG01716C  
Sample ID: 397457020 Client ID: GEEL003  
Matrix: Ground Water  
Collect Date: 12-MAY-16 11:10  
Receive Date: 14-MAY-16  
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography											
SW846 9056A Anions "As Received"											
Fluoride	J	0.0817	0.033	0.100	mg/L	1	MAR1	05/17/16	1651	1567544	1
Metals Analysis-ICP-MS											
SW846 3005A/6020A Liquid "As Received"											
Lithium	J	2.17	2.00	10.0	ug/L	1	BCD1	05/19/16	1531	1567595	2
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid "As Received"											
Radium-228		2.67	2.07	3.00	pCi/L		AXM6	05/26/16	0954	1567555	3
Rad Radium-226											
Lucas Cell, Ra226, liquid "As Received"											
Radium-226		1.64	0.603	1.00	pCi/L		LXP1	05/23/16	0840	1568375	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JP1	05/16/16	1725	1567594

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			84.5	(15%-125%)

Notes:



# GEL LABORATORIES LLC

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

## QC Summary

Report Date: May 27, 2016

Page 1 of 4

GEL Engineering, LLC  
2040 Savage Rd  
Charleston, South Carolina

Contact: Robert Gardner

Workorder: 397457

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Ion Chromatography</b>											
Batch	1567543										
QC1203549409	397457010	DUP									
Fluoride		U	ND	U	ND	mg/L	N/A		MAR1	05/17/16	05:02
QC1203549408	LCS										
Fluoride	2.50				2.35	mg/L	93.9	(90%-110%)		05/16/16	22:07
QC1203549407	MB										
Fluoride			U		ND	mg/L				05/16/16	21:35
QC1203549410	397457010	PS									
Fluoride	2.50	U	ND		2.44	mg/L	96.3	(90%-110%)		05/17/16	05:34
Batch	1567544										
QC1203549413	397457011	DUP									
Fluoride			0.329		0.336	mg/L	2.1 ^	(+/-0.100)	MAR1	05/17/16	10:29
QC1203549412	LCS										
Fluoride	2.50				2.38	mg/L	95.3	(90%-110%)		05/17/16	09:25
QC1203549411	MB										
Fluoride			U		ND	mg/L				05/17/16	08:53
QC1203549414	397457011	PS									
Fluoride	2.50		0.329		2.70	mg/L	94.6	(90%-110%)		05/17/16	11:01
<b>Metals Analysis - ICPMS</b>											
Batch	1567593										
QC1203549549	397457003	DUP									
Lithium		U	ND	U	ND	ug/L	N/A		BCD1	05/19/16	17:05
QC1203549550	397457016	DUP									
Lithium		U	ND	U	ND	ug/L	N/A			05/19/16	18:12
QC1203549548	LCS										
Lithium	50.0				50.0	ug/L	100	(80%-120%)		05/19/16	16:58
QC1203549547	MB										
Lithium			U		ND	ug/L				05/19/16	16:55
QC1203549551	397457003	MS									
Lithium	50.0	U	ND		46.9	ug/L	92.5	(75%-125%)		05/19/16	17:09
QC1203549552	397457016	MS									
					50.2			(75%-125%)			



# GEL LABORATORIES LLC

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

## QC Summary

Workorder: 397457

Page 3 of 4

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Rad Ra-226</b>											
Batch	1567603										
Radium-226	122	2.32		131	pCi/L		105	(75%-125%)		05/22/16	10:50
Batch	1568375										
QC1203551527	397689003 DUP										
Radium-226		1.02		1.04	pCi/L	1.86		(0% - 100%)	LXP1	05/23/16	09:10
QC1203551529	LCS										
Radium-226	24.4			26.1	pCi/L		107	(75%-125%)		05/23/16	09:10
QC1203551526	MB										
Radium-226			U	0.190	pCi/L					05/23/16	09:10
QC1203551528	397689003 MS										
Radium-226	122	1.02		110	pCi/L		89	(75%-125%)		05/23/16	09:10

**Notes:**

The Qualifiers in this report are defined as follows:

- \*\* Analyte is a Tracer compound
- < Result is less than value reported
- > Result is greater than value reported
- B The target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- E %difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- E General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
- FA Failed analysis.
- FB Mercury was found present at quantifiable concentrations in field blanks received with these samples. Data associated with the blank are deemed invalid for reporting to regulatory agencies
- H Analytical holding time was exceeded
- J Value is estimated
- K Analyte present. Reported value may be biased high. Actual value is expected to be lower.
- L Analyte present. Reported value may be biased low. Actual value is expected to be higher.
- M M if above MDC and less than LLD
- M REMP Result > MDC/CL and < RDL
- N Metals--The Matrix spike sample recovery is not within specified control limits
- N/A RPD or %Recovery limits do not apply.
- N1 See case narrative
- ND Analyte concentration is not detected above the detection limit
- NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

# GEL LABORATORIES LLC

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

## QC Summary

Workorder: 397457

Page 4 of 4

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Q											
Q											
R											
R											
U											
UI											
UJ											
UL											
X											
Y											
Z											
^											
d											
e											
h											

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

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

\* Indicates that a Quality Control parameter was not within specifications.

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

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



Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

May 18, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB22366**

**Wateree Landfill Field Blank-RCRA**

Date & Time Sampled: May 11, 2016 12:10  
 Date & Time Submitted: May 12, 2016 15:00  
 Collected by: A.HILL Location Code: WAGFBTDS

Login Record File: 160513003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	Less than	0.50	mg/L	5/16/16 04:12	LS
pH by SM4500HB	6.08	0.00	S.U.	5/13/16 09:20	CDB
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC EPA 300.0	Less than	0.50	mg/L	5/16/16 04:12	LS
Total Dissolved Solid-SM2540C	Less than	2.0	mg/L	5/13/16 11:45	CDB

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: 



Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

May 18, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB22367**

**Wateree Landfill MW-01LF-RCRA**

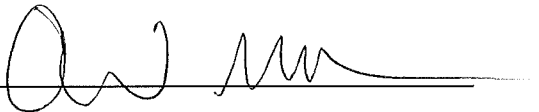
Date & Time Sampled: May 12, 2016 08:37  
 Date & Time Submitted: May 12, 2016 15:00  
 Collected by: A.HILL Location Code: WAG01LFTDS

MW-01LF

Login Record File: 160513003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	5.33	0.50	mg/L	5/16/16 04:12	LS
pH by SM4500HB	5.46	0.00	S.U.	5/13/16 09:20	CDB
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC EPA 300.0	Less than	0.50	mg/L	5/16/16 04:12	LS
Total Dissolved Solid-SM2540C	19	2.0	mg/L	5/13/16 11:45	CDB

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: 



Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

May 18, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB22368**

**Wateree NPDES Well MW 22 (NPDES)**

Date & Time Sampled: May 12, 2016 10:04  
 Date & Time Submitted: May 12, 2016 15:00  
 Collected by: A.HILL Location Code: WAG22TDS

MW 22

Login Record File: 160513003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	12.0	0.5	mg/L	5/16/16 04:12	LS
pH by SM4500HB	4.55	0.00	S.U.	5/13/16 09:20	CDB
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC EPA 300.0	Less than	0.50	mg/L	5/16/16 04:12	LS
Total Dissolved Solid-SM2540C	36.5	2.0	mg/L	5/13/16 11:45	CDB

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: 





Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

May 18, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB22369**

**Wateree Landfill MW-07LF-RCRA**

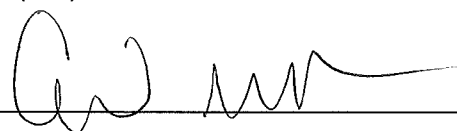
Date & Time Sampled: May 12, 2016 11:10  
 Date & Time Submitted: May 12, 2016 15:00  
 Collected by: A.HILL Location Code: WAG07LFTDS

MW-07LF

Login Record File: 160513003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	9.11	0.50	mg/L	5/16/16 04:12	LS
pH by SM4500HB	4.78	0.00	S.U.	5/13/16 09:20	CDB
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC EPA 300.0	Less than	0.50	mg/L	5/16/16 04:12	LS
Total Dissolved Solid-SM2540C	44	2.0	mg/L	5/13/16 11:45	CDB

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: 



Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

May 18, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB22370**

**Wateree Landfill MW-11LF-RCRA**

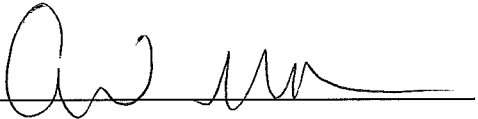
Date & Time Sampled: May 12, 2016 11:40  
 Date & Time Submitted: May 12, 2016 15:00  
 Collected by: A.HILL Location Code: WAG11LFTDS

MW-11LF

Login Record File: 160513003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	4.67	0.50	mg/L	5/16/16 04:12	LS
pH by SM4500HB	4.82	0.00	S.U.	5/13/16 09:20	CDB
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC EPA 300.0	Less than	0.50	mg/L	5/16/16 04:12	LS
Total Dissolved Solid-SM2540C	20	2.0	mg/L	5/13/16 11:45	CDB

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: 



Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

May 18, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB22371**

**Wateree Landfill MW-08LF-RCRA**

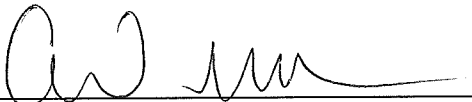
Date & Time Sampled: May 12, 2016 12:30  
 Date & Time Submitted: May 12, 2016 15:00  
 Collected by: A.HILL Location Code: WAG08LFTDS

MW-08LF

Login Record File: 160513003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	5.07	0.50	mg/L	5/16/16 04:12	LS
pH by SM4500HB	5.14	0.00	S.U.	5/13/16 09:20	CDB
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC EPA 300.0	Less than	0.50	mg/L	5/16/16 04:12	LS
Total Dissolved Solid-SM2540C	31	2.0	mg/L	5/13/16 11:45	CDB

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: 



Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

May 18, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB22372**

**Wateree Landfill MW-10LF-RCRA**

Date & Time Sampled: May 12, 2016 12:55  
 Date & Time Submitted: May 12, 2016 15:00  
 Collected by: A.HILL Location Code: WAG10LFTDS

MW-10LF

Login Record File: 160513003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	6.13	0.50	mg/L	5/16/16 04:12	LS
pH by SM4500HB	4.69	0.00	S.U.	5/13/16 09:20	CDB
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC EPA 300.0	Less than	0.50	mg/L	5/16/16 04:12	LS
Total Dissolved Solid-SM2540C	28	2.0	mg/L	5/13/16 11:45	CDB

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: 



Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

May 19, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB22386**

**Wateree Landfill Field Blank-RCRA**

Date & Time Sampled: May 11, 2016 12:10  
 Date & Time Submitted: May 12, 2016 15:00  
 Collected by: A.HILL Location Code: WAGFBTM

Login Record File: 160513003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS EPA 200.8	Less than	1.0	ppb	5/18/16 11:28	MC
Arsenic by ICP_MS EPA 200.8	Less than	1.0	ppb	5/18/16 11:28	MC
Barium (CWA) 200.7	Less than	10.0	ppb	5/19/16 08:11	MC
Beryllium EPA 200.7	Less than	1.0	ppb	5/19/16 08:11	MC
Boron - EPA 200.7	Less than	1000	ppb	5/19/16 08:11	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/18/16 11:28	MC
Calcium EPA 200.7	Less than	100	ppb	5/19/16 08:11	MC
Chromium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/18/16 11:28	MC
Cobalt by ICP_MS EPA 200.8	Less than	1.0	ppb	5/18/16 11:28	MC
Lead by ICP-MS EPA 200.8	Less than	1.0	ppb	5/18/16 11:28	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	5/18/16 14:10	MC
Molybdenum - EPA 200.7	Less than	5.0	ppb	5/19/16 08:11	MC
Selenium by ICP-MS EPA 200.8	Less than	5.0	ppb	5/18/16 11:28	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	5/18/16 11:28	MC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: 



Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

May 19, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB22387**

**Wateree Landfill MW-01LF-RCRA**

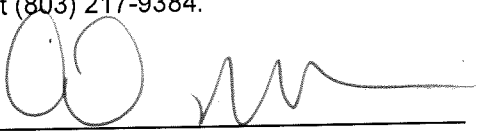
Date & Time Sampled: May 12, 2016 08:37  
 Date & Time Submitted: May 12, 2016 15:00  
 Collected by: A.HILL Location Code: WAG01LFTM

MW-01LF

Login Record File: 160513003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS EPA 200.8	Less than	1.0	ppb	5/18/16 11:28	MC
Arsenic by ICP_MS EPA 200.8	Less than	1.0	ppb	5/18/16 11:28	MC
Barium (CWA) 200.7	51.5	10.0	ppb	5/19/16 08:11	MC
Beryllium EPA 200.7	Less than	1.0	ppb	5/19/16 08:11	MC
Boron - EPA 200.7	Less than	1000	ppb	5/19/16 08:11	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/18/16 11:28	MC
Calcium EPA 200.7	100	100	ppb	5/19/16 08:11	MC
Chromium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/18/16 11:28	MC
Cobalt by ICP_MS EPA 200.8	Less than	1.0	ppb	5/18/16 11:28	MC
Lead by ICP-MS EPA 200.8	Less than	1.0	ppb	5/18/16 11:28	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	5/18/16 14:10	MC
Molybdenum - EPA 200.7	Less than	5.0	ppb	5/19/16 08:11	MC
Selenium by ICP-MS EPA 200.8	Less than	5.0	ppb	5/18/16 11:28	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	5/18/16 11:28	MC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: 



Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

May 19, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB22388**

**Wateree NPDES Well MW 22 Total Metals (NPDES)**

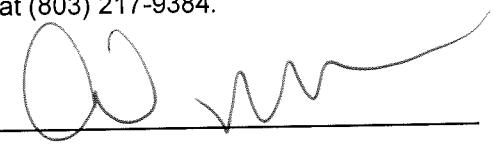
Date & Time Sampled: May 12, 2016 10:04  
 Date & Time Submitted: May 12, 2016 15:00  
 Collected by: A.HILL Location Code: WAG22TM

Login Record File: 160513003

MW 22

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS EPA 200.8	Less than	1.0	ppb	5/18/16 11:28	MC
Arsenic by ICP_MS EPA 200.8	Less than	1.0	ppb	5/18/16 11:28	MC
Barium (CWA) 200.7	58.0	10.0	ppb	5/19/16 08:11	MC
Beryllium EPA 200.7	Less than	1.0	ppb	5/19/16 08:11	MC
Boron - EPA 200.7	Less than	1000	ppb	5/19/16 08:11	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/18/16 11:28	MC
Calcium EPA 200.7	2180	100	ppb	5/19/16 08:11	MC
Chromium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/18/16 11:28	MC
Cobalt by ICP_MS EPA 200.8	Less than	1.0	ppb	5/18/16 11:28	MC
Lead by ICP-MS EPA 200.8	1.8	1.0	ppb	5/18/16 11:28	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	5/18/16 14:10	MC
Molybdenum - EPA 200.7	Less than	5.0	ppb	5/19/16 08:11	MC
Selenium by ICP-MS EPA 200.8	Less than	5.0	ppb	5/18/16 11:28	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	5/18/16 11:28	MC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: 



Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

May 19, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB22389**

**Wateree Landfill MW-07LF-RCRA**

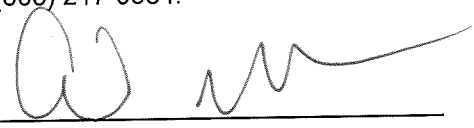
Date & Time Sampled: May 12, 2016 11:10  
 Date & Time Submitted: May 12, 2016 15:00  
 Collected by: A.HILL Location Code: WAG07LFTM

MW-07LF

Login Record File: 160513003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS EPA 200.8	Less than	1.0	ppb	5/18/16 11:28	MC
Arsenic by ICP_MS EPA 200.8	Less than	1.0	ppb	5/18/16 11:28	MC
Barium (CWA) 200.7	50.5	10.0	ppb	5/19/16 08:11	MC
Beryllium EPA 200.7	Less than	1.0	ppb	5/19/16 08:11	MC
Boron - EPA 200.7	Less than	1000	ppb	5/19/16 08:11	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/18/16 11:28	MC
Calcium EPA 200.7	1110	100	ppb	5/19/16 08:11	MC
Chromium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/18/16 11:28	MC
Cobalt by ICP_MS EPA 200.8	1.2	1.0	ppb	5/18/16 11:28	MC
Lead by ICP-MS EPA 200.8	Less than	1.0	ppb	5/18/16 11:28	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	5/18/16 14:10	MC
Molybdenum - EPA 200.7	Less than	5.0	ppb	5/19/16 08:11	MC
Selenium by ICP-MS EPA 200.8	Less than	5.0	ppb	5/18/16 11:28	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	5/18/16 11:28	MC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: 





Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

May 19, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB22390**

**Wateree Landfill MW-11LF-RCRA**

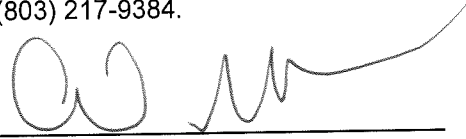
Date & Time Sampled: May 12, 2016 11:40  
 Date & Time Submitted: May 12, 2016 15:00  
 Collected by: A.HILL Location Code: WAG11LFTM

MW-11LF

Login Record File: 160513003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS EPA 200.8	Less than	1.0	ppb	5/18/16 11:28	MC
Arsenic by ICP_MS EPA 200.8	Less than	1.0	ppb	5/18/16 11:28	MC
Barium (CWA) 200.7	52.3	10.0	ppb	5/19/16 08:11	MC
Beryllium EPA 200.7	Less than	1.0	ppb	5/19/16 08:11	MC
Boron - EPA 200.7	Less than	1000	ppb	5/19/16 08:11	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.	ppb	5/18/16 11:28	MC
Calcium EPA 200.7	273	100	ppb	5/19/16 08:11	MC
Chromium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/18/16 11:28	MC
Cobalt by ICP_MS EPA 200.8	1.0	1.0	ppb	5/18/16 11:28	MC
Lead by ICP-MS EPA 200.8	Less than	1.0	ppb	5/18/16 11:28	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	5/18/16 14:10	MC
Molybdenum - EPA 200.7	Less than	5.0	ppb	5/19/16 08:11	MC
Selenium by ICP-MS EPA 200.8	Less than	5.0	ppb	5/18/16 11:28	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	5/18/16 11:28	MC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: 



Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

May 19, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB22391**

**Wateree Landfill MW-08LF-RCRA**

Date & Time Sampled: May 12, 2016 12:30  
 Date & Time Submitted: May 12, 2016 15:00  
 Collected by: A.HILL Location Code: WAG08LFTM

MW-08LF

Login Record File: 160513003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS EPA 200.8	Less than	1.0	ppb	5/18/16 11:28	MC
Arsenic by ICP_MS EPA 200.8	Less than	1.0	ppb	5/18/16 11:28	MC
Barium (CWA) 200.7	41.0	10.0	ppb	5/19/16 08:11	MC
Beryllium EPA 200.7	Less than	1.0	ppb	5/19/16 08:11	MC
Boron - EPA 200.7	Less than	1000	ppb	5/19/16 08:11	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/18/16 11:28	MC
Calcium EPA 200.7	974	100	ppb	5/19/16 08:11	MC
Chromium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/18/16 11:28	MC
Cobalt by ICP_MS EPA 200.8	Less than	1.0	ppb	5/18/16 11:28	MC
Lead by ICP-MS EPA 200.8	Less than	1.0	ppb	5/18/16 11:28	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	5/18/16 14:10	MC
Molybdenum - EPA 200.7	Less than	5.0	ppb	5/19/16 08:11	MC
Selenium by ICP-MS EPA 200.8	Less than	5.0	ppb	5/18/16 11:28	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	5/18/16 11:28	MC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: 



Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

May 19, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB22392**

**Wateree Landfill MW-10LF-RCRA**

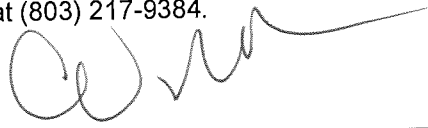
Date & Time Sampled: May 12, 2016 12:55  
 Date & Time Submitted: May 12, 2016 15:00  
 Collected by: A.HILL Location Code: WAG10LFTM

MW-10LF

Login Record File: 160513003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS EPA 200.8	Less than	1.0	ppb	5/18/16 11:28	MC
Arsenic by ICP_MS EPA 200.8	Less than	1.0	ppb	5/18/16 11:28	MC
Barium (CWA) 200.7	80.5	10.0	ppb	5/19/16 08:11	MC
Beryllium EPA 200.7	Less than	1.0	ppb	5/19/16 08:11	MC
Boron - EPA 200.7	Less than	1000	ppb	5/19/16 08:11	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/18/16 11:28	MC
Calcium EPA 200.7	268	100	ppb	5/19/16 08:11	MC
Chromium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/18/16 11:28	MC
Cobalt by ICP_MS EPA 200.8	1.0	1.0	ppb	5/18/16 11:28	MC
Lead by ICP-MS EPA 200.8	1.1	1.0	ppb	5/18/16 11:28	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	5/18/16 14:10	MC
Molybdenum - EPA 200.7	Less than	5.0	ppb	5/19/16 08:11	MC
Selenium by ICP-MS EPA 200.8	Less than	5.0	ppb	5/18/16 11:28	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	5/18/16 11:28	MC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: 

SOUTH CAROLINA DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL  
GROUND-WATER MONITORING REPORT

Facility: Wateree Station

Permit No.: \_\_\_\_\_

County: Richland

Date Sampled: 07/11/2016

Time Sampled: 12:00:00PM

\_\_\_\_\_   
 year-month-day (Numerical)

**STATION NUMBERS**

<b>PARAMETER</b>	<b>NUMBER</b>	<b>MW-LF-01</b>
<b>NAME</b>	Lab. Certificate No.	32006
Field pH S.U.		4.250
Field Sp. Conductivity micromhos/cm		42.000
Field Turbidity NTU		0.51
ORP mV		172.400
Oxygen, dissolved mg/L		7.720
Temp (Celcius) degrees C		20.230
Water level elevation ft		126.17

Authorized Release By: \_\_\_\_\_

Date: \_\_\_\_\_

SOUTH CAROLINA DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL  
GROUND-WATER MONITORING REPORT

Facility: Wateree Station

Permit No.: \_\_\_\_\_

County: Richland

Date Sampled: 07/11/2016

Time Sampled: 12:00:00PM

year-month-day (Numerical)

**STATION NUMBERS**

PARAMETER	NUMBER	MW-LF-07	MW-LF-08	MW-LF-10	MW-LF-11	MW-LF-22
NAME	Lab. Certificate No.	32006	32006	32006	32006	32006
Field pH S.U.		3.900	4.500	3.940	4.500	3.890
Field Sp. Conductivity micromhos/cm		70.000	42.000	50.000	31.400	70.000
Field Turbidity NTU		0.87	5.24	0.97	1.50	0.61
ORP mV		182.300	165.000	208.100	208.800	185.300
Oxygen, dissolved mg/L		7.170	7.220	5.960	2.320	6.880
Temp (Celcius) degrees C		26.650	26.430	22.930	21.900	22.720
Water level elevation ft		116.64	112.89	114.00	113.65	114.14

Authorized Release By: \_\_\_\_\_

Date: \_\_\_\_\_

## GEL LABORATORIES LLC

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

### Certificate of Analysis Report for

GEEL003 GEL Engineering, LLC

Client SDG: 401760 GEL Work Order: 401760

**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
- H Analytical holding time was exceeded
- 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, Jake Crook.

Reviewed by \_\_\_\_\_



# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: July 29, 2016

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Wateree CCR

Client Sample ID: MW-1LF	Project: SCEG01716c
Sample ID: 401760012	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 12-JUL-16 08:00	
Receive Date: 15-JUL-16	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA300.0 Fluoride in Liquid "As Received"												
Fluoride	U	ND	0.033	0.100	mg/L		1	MAR1	07/23/16	0651	1582386	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	U	ND	2.00	10.0	ug/L	1.00	1	SKJ	07/20/16	2014	1582806	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	1.34	3.00	pCi/L			AXM6	07/27/16	1204	1582431	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.581	0.364	1.00	pCi/L			LXP1	07/28/16	0935	1583314	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JP1	07/18/16	1855	1582805

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

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

**Notes:**

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: July 29, 2016

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Wateree CCR

Client Sample ID: MW-22	Project: SCEG01716c
Sample ID: 401760014	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 12-JUL-16 09:15	
Receive Date: 15-JUL-16	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA300.0 Fluoride in Liquid "As Received"												
Fluoride	U	ND	0.033	0.100	mg/L		1	MAR1	07/23/16	0751	1582386	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	J	2.55	2.00	10.0	ug/L	1.00	1	SKJ	07/20/16	2018	1582806	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	1.99	3.00	pCi/L			AXM6	07/27/16	1207	1582431	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.518	0.440	1.00	pCi/L			LXP1	07/28/16	1010	1583315	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JP1	07/18/16	1855	1582805

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			75.6	(15%-125%)

**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: July 29, 2016

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Wateree CCR

Client Sample ID: MW-7LF	Project: SCEG01716c
Sample ID: 401760017	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 12-JUL-16 12:15	
Receive Date: 15-JUL-16	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA300.0 Fluoride in Liquid "As Received"												
Fluoride	J	0.0599	0.033	0.100	mg/L		1	MAR1	07/23/16	1020	1582386	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	J	2.18	2.00	10.0	ug/L	1.00	1	SKJ	07/20/16	2026	1582806	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	2.04	3.00	pCi/L			AXM6	07/27/16	1207	1582431	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.22	0.459	1.00	pCi/L			LXP1	07/28/16	1010	1583315	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JP1	07/18/16	1855	1582805

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			71.3	(15%-125%)

**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: July 29, 2016

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Wateree CCR

Client Sample ID: MW-11LF	Project: SCEG01716c
Sample ID: 401760019	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 12-JUL-16 14:00	
Receive Date: 15-JUL-16	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA300.0 Fluoride in Liquid "As Received"												
Fluoride	U	ND	0.033	0.100	mg/L		1	MAR1	07/23/16	1120	1582386	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	J	2.64	2.00	10.0	ug/L	1.00	1	SKJ	07/20/16	2030	1582806	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	2.08	3.00	pCi/L			AXM6	07/27/16	1207	1582431	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.998	0.290	1.00	pCi/L			LXP1	07/28/16	1040	1583315	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JP1	07/18/16	1855	1582805

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			71.1	(15%-125%)

**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: July 29, 2016

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Wateree CCR

Client Sample ID: MW-10LF	Project: SCEG01716c
Sample ID: 401760020	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 12-JUL-16 13:50	
Receive Date: 15-JUL-16	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA300.0 Fluoride in Liquid "As Received"												
Fluoride	U	ND	0.033	0.100	mg/L		1	MAR1	07/23/16	1150	1582386	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	J	3.15	2.00	10.0	ug/L	1.00	1	SKJ	07/20/16	2034	1582806	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228		2.45	2.42	3.00	pCi/L			AXM6	07/27/16	1207	1582431	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.12	0.183	1.00	pCi/L			LXP1	07/28/16	1040	1583315	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JP1	07/18/16	1855	1582805

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			69	(15%-125%)

**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: July 29, 2016

Page 1 of 4

GEL Engineering, LLC  
2040 Savage Rd  
Charleston, South Carolina

Contact: Robert Gardner

Workorder: 401760

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Ion Chromatography</b>											
Batch	1582386										
QC1203586449	401760001	DUP									
Fluoride		U	ND	U	ND	mg/L	N/A		MAR1	07/22/16	23:52
QC1203586450	401760020	DUP									
Fluoride		U	ND	U	ND	mg/L	N/A			07/23/16	12:20
QC1203586448	LCS										
Fluoride	2.50				2.53	mg/L		101	(90%-110%)	07/22/16	22:52
QC1203586447	MB										
Fluoride			U		ND	mg/L				07/22/16	22:23
QC1203586451	401760001	PS									
Fluoride	2.50	U	ND		2.53	mg/L		100	(90%-110%)	07/23/16	00:22
QC1203586452	401760020	PS									
Fluoride	2.50	U	ND		2.45	mg/L		96.9	(90%-110%)	07/23/16	12:50
<b>Metals Analysis - ICPMS</b>											
Batch	1582350										
QC1203586364	401760011	DUP									
Lithium		J	2.13	J	2.13	ug/L	0.282 ^		(+/-10.0)	SKJ	07/20/16 13:53
QC1203586362	LCS										
Lithium	50.0				51.1	ug/L		102	(80%-120%)	07/20/16	13:30
QC1203586361	MB										
Lithium			U		ND	ug/L				07/20/16	13:29
QC1203586367	401760011	MS									
Lithium	50.0	J	2.13		52.7	ug/L		101	(75%-125%)	07/20/16	13:55
QC1203586370	401760011	SDILT									
Lithium		J	2.13	U	ND	ug/L	N/A		(0%-10%)	07/20/16	13:56
Batch	1582806										
QC1203587432	401760010	DUP									
Lithium			12.1		12.1	ug/L	0.306 ^		(+/-10.0)	SKJ	07/20/16 19:47
QC1203587431	LCS										
Lithium	50.0				49.0	ug/L		98.1	(80%-120%)	07/20/16	19:27
QC1203587430	MB										
					ND						

# GEL LABORATORIES LLC

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## QC Summary

Workorder: 401760

Page 2 of 4

Parname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Metals Analysis - ICPMS</b>											
Batch	1582806										
Lithium			U		ug/L					07/20/16	19:23
QC1203587433	401760010	MS									
Lithium	50.0	12.1		63.3	ug/L		102	(75%-125%)	SKJ	07/20/16	19:51
QC1203587434	401760010	SDILT									
Lithium		12.1	J	2.37	ug/L	1.95		(0%-10%)		07/20/16	19:59
Batch	1582808										
QC1203587437	401760016	DUP									
Lithium			U	ND	U	ND	ug/L	N/A	SKJ	07/20/16	00:13
QC1203587436	LCS										
Lithium	50.0			47.6	ug/L		95.2	(80%-120%)		07/20/16	00:05
QC1203587435	MB										
Lithium			U	ND	ug/L					07/20/16	00:02
QC1203587438	401760016	MS									
Lithium	50.0	U	ND	49.1	ug/L		97.4	(75%-125%)		07/20/16	00:17
QC1203587439	401760016	SDILT									
Lithium		U	ND	U	ND	ug/L	N/A	(0%-10%)		07/20/16	00:21
<b>Rad Gas Flow</b>											
Batch	1582431										
QC1203586537	401760008	DUP									
Radium-228		U	1.69	U	0.659	pCi/L	N/A		N/AAXM6	07/27/16	14:41
QC1203586538	LCS										
Radium-228	45.0			41.5	pCi/L		92.1	(75%-125%)		07/27/16	12:07
QC1203586536	MB										
Radium-228			U	1.27	pCi/L					07/27/16	12:06
<b>Rad Ra-226</b>											
Batch	1583314										
QC1203588585	401758001	DUP									
Radium-226			1.21		1.53	pCi/L	23.5	(0% - 100%)	LXP1	07/28/16	09:35
QC1203588587	LCS										
Radium-226	24.4			28.0	pCi/L		115	(75%-125%)		07/28/16	09:35
QC1203588584	MB										
Radium-226			U	0.0423	pCi/L					07/28/16	09:35
QC1203588586	401758001	MS									

# GEL LABORATORIES LLC

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## QC Summary

Workorder: 401760

Page 3 of 4

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Rad Ra-226</b>											
Batch	1583314										
Radium-226	122	1.21		97.2	pCi/L		78.7	(75%-125%)		07/28/16	09:35
Batch	1583315										
QC1203588589	401760020 DUP										
Radium-226		1.12		0.989	pCi/L	12.6		(0%-20%)	LXP1	07/28/16	11:15
QC1203588591	LCS										
Radium-226	24.4			20.3	pCi/L		83.2	(75%-125%)		07/28/16	11:45
QC1203588588	MB										
Radium-226			U	0.140	pCi/L					07/28/16	10:40
QC1203588590	401760020 MS										
Radium-226	122	1.12		117	pCi/L		95.3	(75%-125%)		07/28/16	11:15

**Notes:**

The Qualifiers in this report are defined as follows:

- \*\* Analyte is a Tracer compound
- < Result is less than value reported
- > Result is greater than value reported
- B The target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- E %difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- E General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
- FA Failed analysis.
- FB Mercury was found present at quantifiable concentrations in field blanks received with these samples. Data associated with the blank are deemed invalid for reporting to regulatory agencies
- H Analytical holding time was exceeded
- J Value is estimated
- K Analyte present. Reported value may be biased high. Actual value is expected to be lower.
- L Analyte present. Reported value may be biased low. Actual value is expected to be higher.
- M M if above MDC and less than LLD
- M REMP Result > MDC/CL and < RDL
- N Metals--The Matrix spike sample recovery is not within specified control limits
- N/A RPD or %Recovery limits do not apply.
- N1 See case narrative
- ND Analyte concentration is not detected above the detection limit
- NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

# GEL LABORATORIES LLC

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## QC Summary

Workorder: 401760

Page 4 of 4

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Q											
Q											
R											
R											
R											
U											
U											
UI											
UI											
UJ											
UJ											
UL											
UL											
X											
X											
Y											
Y											
Z											
Z											
^											
^											
d											
d											
e											
e											
h											
h											

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

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

\* Indicates that a Quality Control parameter was not within specifications.

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

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





Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

July 22, 2016

REPORT TO:
Mike Moore C221

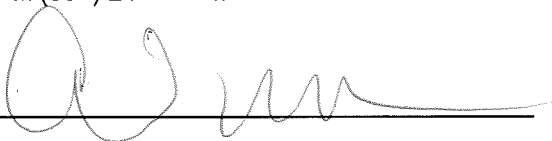
Sample ID: **AB22923**    **Wateree Landfill MW-01LF-RCRA/CCR**  
 Date & Time Sampled: July 12, 2016    08:00  
 Date & Time Submitted: July 12, 2016    15:25  
 Collected by: A.HILL    Location Code: WAG01LFTDS

MW-01LF

Login Record File: 160712003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	MDL	Units	Completed Analysis Date & Time		Chemist
Chlorides by IC EPA 300.0	5.3	0.50	ppm	7/18/16	18:31	LS
pH by SM4500HB	5.09	0.00	S.U.	7/13/16	10:28	PRC
Sulfates by IC EPA 300.0	less than	0.50	ppm	7/18/16	18:31	LS
Total Dissolved Solid-SM2540C	24	2.0	mg/L	7/14/16	10:28	PRC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved by: 



Central Laboratory (P-08)  
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July 22, 2016

REPORT TO:
Mike Moore C221

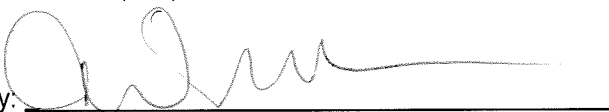
Sample ID: **AB22924 Wateree NPDES Well MW 22 (NPDES)**  
 Date & Time Sampled: July 12, 2016 09:15  
 Date & Time Submitted: July 12, 2016 15:25  
 Collected by: A.HILL Location Code: WAG22TDS

MW 22

Login Record File: 160712003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	MDL	Units	Completed Analysis Date & Time		Chemist
Chlorides by IC EPA 300.0	9.0	0.50	ppm	7/18/16	18:45	LS
pH by SM4500HB	5.37	0.00	S.U.	7/13/16	10:28	PRC
Sulfates by IC EPA 300.0	less than	0.50	ppm	7/18/16	18:45	LS
Total Dissolved Solid-SM2540C	43	2.0	mg/L	7/14/16	10:28	PRC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved by: 



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July 22, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB22925 Wateree Landfill MW-08LF-RCRA/CCR**  
 Date & Time Sampled: July 12, 2016 10:30  
 Date & Time Submitted: July 12, 2016 15:25  
 Collected by: A.HILL Location Code: WAG08LFTDS

MW-08LF

Login Record File: 160712003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	MDL	Units	Completed Analysis Date & Time		Chemist
Chlorides by IC EPA 300.0	1.0	0.50	ppm	7/18/16	20:54	LS
pH by SM4500HB	5.83	0.00	S.U.	7/13/16	10:28	PRC
Sulfates by IC EPA 300.0	less than	0.50	ppm	7/18/16	20:54	LS
Total Dissolved Solid-SM2540C	42	2.0	mg/L	7/14/16	10:28	PRC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved by: 



Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

July 22, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB22926 Wateree Landfill MW-07LF-RCRA/CCR**  
 Date & Time Sampled: July 12, 2016 12:15  
 Date & Time Submitted: July 12, 2016 15:25  
 Collected by: A.HILL Location Code: WAG07LFTDS

MW-07LF

Login Record File: 160712003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	MDL	Units	Completed Analysis Date & Time		Chemist
Chlorides by IC EPA 300.0	9.3	0.50	ppm	7/18/16	21:08	LS
pH by SM4500HB	5.94	0.00	S.U.	7/13/16	10:28	PRC
Sulfates by IC EPA 300.0	less than	0.50	ppm	7/18/16	21:08	LS
Total Dissolved Solid-SM2540C	47	2.0	mg/L	7/14/16	10:28	PRC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved by: 



Central Laboratory (P-08)  
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 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

July 22, 2016

REPORT TO:
Mike Moore C221

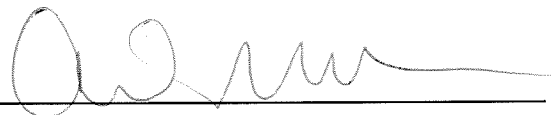
Sample ID: **AB22927**    **Wateree Landfill MW-11LF-RCRA/CCR**  
 Date & Time Sampled: July 12, 2016    14:00  
 Date & Time Submitted: July 12, 2016    15:25  
 Collected by: A.HILL    Location Code: WAG11LFTDS

MW-11LF

Login Record File: 160712003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	MDL	Units	Completed Analysis Date & Time		Chemist
Chlorides by IC EPA 300.0	4.6	0.50	ppm	7/18/16	21:23	LS
pH by SM4500HB	4.91	0.00	S.U.	7/13/16	10:28	PRC
Sulfates by IC EPA 300.0	less than	0.50	ppm	7/18/16	21:23	LS
Total Dissolved Solid-SM2540C	31	2.0	mg/L	7/14/16	10:28	PRC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved by: 



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July 22, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB22928**    **Wateree Landfill MW-10LF-RCRA/CCR**  
 Date & Time Sampled: July 12, 2016    13:50  
 Date & Time Submitted: July 12, 2016    15:25  
 Collected by: A.HILL    Location Code: WAG10LFTDS

MW-10LF

Login Record File: 160712003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	MDL	Units	Completed Analysis Date & Time		Chemist
Chlorides by IC EPA 300.0	less than	0.50	ppm	7/18/16	21:37	LS
pH by SM4500HB	4.93	0.00	S.U.	7/13/16	10:28	PRC
Sulfates by IC EPA 300.0	less than	0.50	ppm	7/18/16	21:37	LS
Total Dissolved Solid-SM2540C	41	2.0	mg/L	7/14/16	10:28	PRC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved by: 



Central Laboratory (P-08)  
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 Columbia, SC 29212  
 Tel: (803)217-9384  
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July 19, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB22903**

**Wateree Landfill MW-01LF-RCRA/CCR**

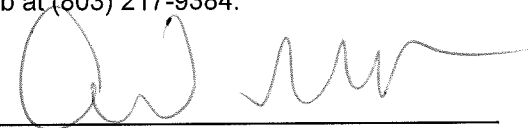
Date & Time Sampled: July 12, 2016 08:00  
 Date & Time Submitted: July 12, 2016 15:25  
 Collected by: A.HILL Location Code: WAG01LFTM

MW-01LF

Login Record File: 160712002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony - 6020A (RCRA)	Less than	5.0	ppb	7/19/16 15:33	MC
Arsenic - 6010C (RCRA)	Less than	10.0	ppb	7/19/16 15:33	MC
Barium - 6010C (RCRA)	53.9	10.0	ppb	7/19/16 15:33	MC
Beryllium - 6010C (RCRA)	Less than	1.0	ppb	7/19/16 15:33	MC
Boron - 6010C (RCRA)	Less than	1000	ppb	7/19/16 15:33	MC
Cadmium by IPC-MS, EPA 6020A	Less than	1.0	ppb	7/19/16 15:33	MC
Calcium - 6010C (RCRA)	Less than	100	ppb	7/19/16 15:33	MC
Chromium by ICP_MS EPA 6020A	Less than	5.0	ppb	7/19/16 15:33	MC
Cobalt - 6020A (RCRA)	1.0	1.0	ppb	7/19/16 15:33	MC
Lead by ICP-MS EPA 6020A	Less than	1.0	ppb	7/19/16 15:33	MC
Mercury - 7470A (RCRA)	Less than	0.2	ppb	7/19/16 15:50	MC
Molybdenum - 6010C	Less than	10.0	ppb	7/19/16 15:33	MC
Selenium - 6010C (RCRA)	Less than	20.0	ppb	7/19/16 15:33	MC
Thallium - 6020A	Less than	1.0	ppb	7/19/16 15:33	MC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: 



Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

July 18, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB22904**

**Wateree NPDES Well MW 22 Total Metals (NPDES)**

Date & Time Sampled: July 12, 2016 09:15  
 Date & Time Submitted: July 12, 2016 15:25  
 Collected by: A.HILL Location Code: WAG22TM

MW 22

Login Record File: 160712002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS EPA 200.8	Less than	5.0	ppb	7/18/16 11:59	MC
Arsenic by ICP_OES EPA 200.7	Less than	10.0	ppb	7/18/16 10:21	MC
Barium (CWA) 200.7	60.1	10.0	ppb	7/18/16 10:21	MC
Beryllium EPA 200.7	Less than	1.0	ppb	7/18/16 10:21	MC
Boron - EPA 200.7	Less than	1000	ppb	7/18/16 10:21	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	7/18/16 11:59	MC
Calcium EPA 200.7	1420	100	ppb	7/18/16 10:21	MC
Chromium by ICP_MS EPA 200.8	Less than	5.0	ppb	7/18/16 11:59	MC
Cobalt by ICP_MS EPA 200.8	Less than	1.0	ppb	7/18/16 11:59	MC
Lead by ICP-MS EPA 200.8	1.4	1.0	ppb	7/18/16 11:59	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	7/18/16 08:10	MC
Molybdenum - EPA 200.7	Less than	10.0	ppb	7/18/16 10:21	MC
Selenium by ICP EPA 200.7	Less than	20.0	ppb	7/18/16 10:21	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	7/18/16 11:59	MC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: 





Central Laboratory (P-08)  
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 Columbia, SC 29212  
 Tel: (803)217-9384  
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July 19, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB22905**

**Wateree Landfill MW-08LF-RCRA/CCR**

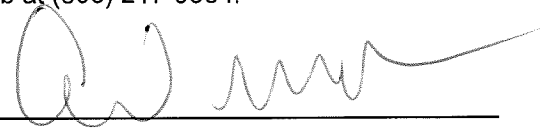
Date & Time Sampled: July 12, 2016 10:30  
 Date & Time Submitted: July 12, 2016 15:25  
 Collected by: A.HILL Location Code: WAG08LFTM

MW-08LF

Login Record File: 160712002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony - 6020A (RCRA)	Less than	5.0	ppb	7/19/16 15:33	MC
Arsenic - 6010C (RCRA)	Less than	10.0	ppb	7/19/16 15:33	MC
Barium - 6010C (RCRA)	43.7	10.0	ppb	7/19/16 15:33	MC
Beryllium - 6010C (RCRA)	Less than	1.0	ppb	7/19/16 15:33	MC
Boron - 6010C (RCRA)	Less than	1000	ppb	7/19/16 15:33	MC
Cadmium by IPC-MS, EPA 6020A	Less than	1.0	ppb	7/19/16 15:33	MC
Calcium - 6010C (RCRA)	950	100	ppb	7/19/16 15:33	MC
Chromium by ICP_MS EPA 6020A	Less than	5.0	ppb	7/19/16 15:33	MC
Cobalt - 6020A (RCRA)	Less than	1.0	ppb	7/19/16 15:33	MC
Lead by ICP-MS EPA 6020A	Less than	1.0	ppb	7/19/16 15:33	MC
Mercury - 7470A (RCRA)	Less than	0.2	ppb	7/19/16 15:50	MC
Molybdenum - 6010C	Less than	10.0	ppb	7/19/16 15:33	MC
Selenium - 6010C (RCRA)	Less than	20.0	ppb	7/19/16 15:33	MC
Thallium - 6020A	Less than	1.0	ppb	7/19/16 15:33	MC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: 



Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

July 19, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB22906**

**Wateree Landfill MW-07LF-RCRA/CCR**

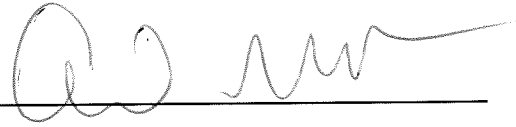
Date & Time Sampled: July 12, 2016 12:15  
 Date & Time Submitted: July 12, 2016 15:25  
 Collected by: A.HILL Location Code: WAG07LFTM

MW-07LF

Login Record File: 160712002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony - 6020A (RCRA)	Less than	5.0	ppb	7/19/16 15:33	MC
Arsenic - 6010C (RCRA)	Less than	10.0	ppb	7/19/16 15:33	MC
Barium - 6010C (RCRA)	49.5	10.0	ppb	7/19/16 15:33	MC
Beryllium - 6010C (RCRA)	Less than	1.0	ppb	7/19/16 15:33	MC
Boron - 6010C (RCRA)	Less than	1000	ppb	7/19/16 15:33	MC
Cadmium by IPC-MS, EPA 6020A	Less than	1.0	ppb	7/19/16 15:33	MC
Calcium - 6010C (RCRA)	893	100	ppb	7/19/16 15:33	MC
Chromium by ICP_MS EPA 6020A	Less than	5.0	ppb	7/19/16 15:33	MC
Cobalt - 6020A (RCRA)	Less than	1.0	ppb	7/19/16 15:33	MC
Lead by ICP-MS EPA 6020A	Less than	1.0	ppb	7/19/16 15:33	MC
Mercury - 7470A (RCRA)	Less than	0.2	ppb	7/19/16 15:50	MC
Molybdenum - 6010C	Less than	10.0	ppb	7/19/16 15:33	MC
Selenium - 6010C (RCRA)	Less than	20.0	ppb	7/19/16 15:33	MC
Thallium - 6020A	Less than	1.0	ppb	7/19/16 15:33	MC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: 



Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

July 19, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB22907**

**Wateree Landfill MW-11LF-RCRA/CCR**

Date & Time Sampled: July 12, 2016 14:00  
 Date & Time Submitted: July 12, 2016 15:25  
 Collected by: A.HILL Location Code: WAG11LFTM

MW-11LF

Login Record File: 160712002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony - 6020A (RCRA)	Less than	5.0	ppb	7/19/16 15:33	MC
Arsenic - 6010C (RCRA)	Less than	10.0	ppb	7/19/16 15:33	MC
Barium - 6010C (RCRA)	51.8	10.0	ppb	7/19/16 15:33	MC
Beryllium - 6010C (RCRA)	Less than	1.0	ppb	7/19/16 15:33	MC
Boron - 6010C (RCRA)	Less than	1000	ppb	7/19/16 15:33	MC
Cadmium by IPC-MS, EPA 6020A	Less than	1.0	ppb	7/19/16 15:33	MC
Calcium - 6010C (RCRA)	242	100	ppb	7/19/16 15:33	MC
Chromium by ICP_MS EPA 6020A	Less than	5.0	ppb	7/19/16 15:33	MC
Cobalt - 6020A (RCRA)	Less than	1.0	ppb	7/19/16 15:33	MC
Lead by ICP-MS EPA 6020A	Less than	1.0	ppb	7/19/16 15:33	MC
Mercury - 7470A (RCRA)	Less than	0.2	ppb	7/19/16 15:50	MC
Molybdenum - 6010C	Less than	10.0	ppb	7/19/16 15:33	MC
Selenium - 6010C (RCRA)	Less than	20.0	ppb	7/19/16 15:33	MC
Thallium - 6020A	Less than	1.0	ppb	7/19/16 15:33	MC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: 



Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

July 19, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB22908**

**Wateree Landfill MW-10LF-RCRA/CCR**

Date & Time Sampled: July 12, 2016 13:50  
 Date & Time Submitted: July 12, 2016 15:25  
 Collected by: A.HILL Location Code: WAG10LFM

MW-10LF

Login Record File: 160712002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony - 6020A (RCRA)	Less than	5.0	ppb	7/19/16 15:33	MC
Arsenic - 6010C (RCRA)	Less than	10.0	ppb	7/19/16 15:33	MC
Barium - 6010C (RCRA)	77.4	10.0	ppb	7/19/16 15:33	MC
Beryllium - 6010C (RCRA)	Less than	1.0	ppb	7/19/16 15:33	MC
Boron - 6010C (RCRA)	Less than	1000	ppb	7/19/16 15:33	MC
Cadmium by IPC-MS, EPA 6020A	Less than	1.0	ppb	7/19/16 15:33	MC
Calcium - 6010C (RCRA)	278	100	ppb	7/19/16 15:33	MC
Chromium by ICP_MS EPA 6020A	Less than	5.0	ppb	7/19/16 15:33	MC
Cobalt - 6020A (RCRA)	Less than	1.0	ppb	7/19/16 15:33	MC
Lead by ICP-MS EPA 6020A	1.3	1.0	ppb	7/19/16 15:33	MC
Mercury - 7470A (RCRA)	Less than	0.2	ppb	7/19/16 15:50	MC
Molybdenum - 6010C	Less than	10.0	ppb	7/19/16 15:33	MC
Selenium - 6010C (RCRA)	Less than	20.0	ppb	7/19/16 15:33	MC
Thallium - 6020A	Less than	1.0	ppb	7/19/16 15:33	MC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: 

SOUTH CAROLINA DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL  
GROUND-WATER MONITORING REPORT

Facility: Wateree Station

Permit No.: \_\_\_\_\_

County: Richland

Date Sampled: 09/19/2016

Time Sampled: 12:00:00PM

\_\_\_\_\_   
 year-month-day (Numerical)

**STATION NUMBERS**

<b>PARAMETER</b>	<b>NUMBER</b>	<b>MW-LF-01</b>
<b>NAME</b>	Lab. Certificate No.	32006
Field pH S.U.		3.560
Field Sp. Conductivity micromhos/cm		45.000
Field Turbidity NTU		361.00
ORP mV		6.880
Oxygen, dissolved mg/L		3.540
Temp (Celcius) degrees C		18.870
Water level elevation ft		125.83

Authorized Release By: \_\_\_\_\_

Date: \_\_\_\_\_

SOUTH CAROLINA DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL  
GROUND-WATER MONITORING REPORT

Facility: Wateree Station

Permit No.: \_\_\_\_\_

County: Richland

Date Sampled: 09/19/2016

Time Sampled: 12:00:00PM

year-month-day (Numerical)

**STATION NUMBERS**

PARAMETER	NUMBER	MW-LF-07	MW-LF-08	MW-LF-10	MW-LF-11	MW-LF-22
NAME	Lab. Certificate No.	32006	32006	32006	32006	32006
Field pH S.U.		4.210	4.080	4.330	4.720	3.890
Field Sp. Conductivity micromhos/cm		69.000	42.000	48.000	33.000	73.000
Field Turbidity NTU		316.50	324.70	313.20	268.60	368.80
ORP mV		6.740	7.440	3.940	5.220	4.710
Oxygen, dissolved mg/L		2.420	3.060	1.000	0.700	1.910
Temp (Celcius) degrees C		23.210	21.510	22.810	21.550	21.130
Water level elevation ft		116.33	112.88	113.26	113.81	113.62

Authorized Release By: \_\_\_\_\_

Date: \_\_\_\_\_

**GEL LABORATORIES LLC**

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

**Certificate of Analysis Report  
for**

GEEL003 GEL Engineering, LLC

Client SDG: 406540 GEL Work Order: 406540

**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
- H Analytical holding time was exceeded
- 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, Jake Crook.

Reviewed by  \_\_\_\_\_

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: October 19, 2016

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Wateree CCR

Client Sample ID: MW-1LF	Project: SCEG01716c
Sample ID: 406540016	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 20-SEP-16 08:45	
Receive Date: 22-SEP-16	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	J	0.0442	0.033	0.100	mg/L		1	MXL2	09/23/16	1854	1601709	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	U	ND	3.00	10.0	ug/L	1.00	1	SKJ	09/26/16	2246	1601309	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	2.00	3.00	pCi/L			AXM6	10/19/16	1222	1603992	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.02	0.393	1.00	pCi/L			LXP1	10/18/16	0920	1602211	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JP1	09/22/16	1730	1601308

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			58.7	(15%-125%)

**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: October 19, 2016

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Wateree CCR

Client Sample ID: MW-22	Project: SCEG01716c
Sample ID: 406540017	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 20-SEP-16 09:45	
Receive Date: 22-SEP-16	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	J	0.0638	0.033	0.100	mg/L		1	MXL2	09/23/16	1926	1601709	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	U	ND	3.00	10.0	ug/L	1.00	1	SKJ	09/26/16	2250	1601309	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	1.59	3.00	pCi/L			AXM6	10/19/16	1222	1603992	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.490	0.371	1.00	pCi/L			LXP1	10/18/16	0955	1602211	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JP1	09/22/16	1730	1601308

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			69.2	(15%-125%)

**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: October 19, 2016

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd  
  
Charleston, South Carolina 29417  
Contact: Robert Gardner  
Project: Wateree CCR

Client Sample ID: MW-8LF Project: SCEG01716c  
Sample ID: 406540018 Client ID: GEEL003  
Matrix: Ground Water  
Collect Date: 20-SEP-16 11:05  
Receive Date: 22-SEP-16  
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	J	0.0406	0.033	0.100	mg/L		1	MXL2	09/23/16	1957	1601709	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	J	8.93	3.00	10.0	ug/L	1.00	1	SKJ	09/26/16	2302	1601309	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	2.40	3.00	pCi/L			AXM6	10/19/16	1222	1603992	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.550	0.293	1.00	pCi/L			LXP1	10/18/16	0955	1602211	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JP1	09/22/16	1730	1601308

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			61.6	(15%-125%)

### Notes:

Column headers are defined as follows:

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

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: October 19, 2016

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Wateree CCR

Client Sample ID: MW-11LF	Project: SCEG01716c
Sample ID: 406540019	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 20-SEP-16 12:00	
Receive Date: 22-SEP-16	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	J	0.0465	0.033	0.100	mg/L		1	MXL2	09/23/16	2028	1601709	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	J	3.01	3.00	10.0	ug/L	1.00	1	SKJ	09/26/16	2306	1601309	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228		1.99	1.87	3.00	pCi/L			AXM6	10/19/16	1222	1603992	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.44	0.376	1.00	pCi/L			LXP1	10/18/16	0955	1602211	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JP1	09/22/16	1730	1601308

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			77.6	(15%-125%)

**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: October 19, 2016

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Wateree CCR

Client Sample ID: MW-7LF	Project: SCEG01716c
Sample ID: 406540020	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 20-SEP-16 12:35	
Receive Date: 22-SEP-16	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	J	0.0962	0.033	0.100	mg/L		1	MXL2	09/23/16	2100	1601709	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	J	3.14	3.00	10.0	ug/L	1.00	1	SKJ	09/26/16	2310	1601309	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	1.78	3.00	pCi/L			AXM6	10/19/16	1222	1603992	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.13	0.330	1.00	pCi/L			LXP1	10/18/16	0955	1602211	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JP1	09/22/16	1730	1601308

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			105	(15%-125%)

**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: October 19, 2016

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Wateree CCR

Client Sample ID: MW-10LF	Project: SCEG01716c
Sample ID: 406540021	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 20-SEP-16 13:05	
Receive Date: 22-SEP-16	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	J	0.0591	0.033	0.100	mg/L		1	MXL2	09/23/16	2234	1601709	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	J	3.30	3.00	10.0	ug/L	1.00	1	SKJ	09/26/16	2314	1601309	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	2.14	3.00	pCi/L			AXM6	10/19/16	1222	1603992	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.67	0.510	1.00	pCi/L			LXP1	10/18/16	0955	1602211	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JP1	09/22/16	1730	1601308

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			69.2	(15%-125%)

**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: October 19, 2016

Page 1 of 4

GEL Engineering, LLC  
2040 Savage Rd  
Charleston, South Carolina

Contact: Robert Gardner

Workorder: 406540

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Ion Chromatography</b>											
Batch	1601708										
QC1203634730	406540002	DUP									
Fluoride		0.363		0.371	mg/L	2.34	^	(+/-0.100)	MXL2	09/23/16	18:05
QC1203634731	406540015	DUP									
Fluoride	U	ND	U	ND	mg/L	N/A				09/24/16	01:33
QC1203634729	LCS										
Fluoride	2.50			2.35	mg/L			94	(90%-110%)	09/23/16	17:05
QC1203634728	MB										
Fluoride			U	ND	mg/L					09/23/16	16:35
QC1203634732	406540002	PS									
Fluoride	2.50	0.363		2.72	mg/L			94.4	(90%-110%)	09/23/16	18:35
QC1203634733	406540015	PS									
Fluoride	2.50	U	ND	2.50	mg/L			99	(90%-110%)	09/24/16	02:03
Batch	1601709										
QC1203634736	406540021	DUP									
Fluoride	J	0.0591	J	0.0775	mg/L	26.9	^	(+/-0.100)	MXL2	09/23/16	23:06
QC1203634735	LCS										
Fluoride	2.50			2.57	mg/L			103	(90%-110%)	09/23/16	16:49
QC1203634734	MB										
Fluoride			U	ND	mg/L					09/23/16	16:18
QC1203634737	406540021	PS									
Fluoride	2.50	J	0.0591	2.77	mg/L			109	(90%-110%)	09/23/16	23:37
<b>Metals Analysis - ICPMS</b>											
Batch	1601309										
QC1203633861	406540001	DUP									
Lithium	J	3.09	J	3.02	ug/L	2.33	^	(+/-10.0)	SKJ	09/26/16	22:15
QC1203633860	LCS										
Lithium	50.0			51.9	ug/L			104	(80%-120%)	09/26/16	22:07
QC1203633859	MB										
Lithium			U	ND	ug/L					09/26/16	22:03
QC1203633862	406540001	MS									
				52.9				(75%-125%)			

# GEL LABORATORIES LLC

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

## QC Summary

Workorder: 406540

Page 2 of 4

Parname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Metals Analysis - ICPMS</b>											
Batch	1601309										
Lithium	50.0	J	3.09		ug/L		99.6			09/26/16	22:19
QC1203633863	406540001	SDILT									
Lithium		J	3.09	U	ND	ug/L	N/A	(0%-10%)	SKJ	09/26/16	22:27
Batch	1601317										
QC1203633871	406540002	DUP									
Lithium		U	ND	U	ND	ug/L	N/A		SKJ	09/26/16	17:11
QC1203633872	406540012	DUP									
Lithium		U	ND	U	ND	ug/L	N/A			09/27/16	11:49
QC1203633870	LCS										
Lithium	50.0				48.0	ug/L	95.9	(80%-120%)		09/26/16	17:03
QC1203633869	MB										
Lithium			U		ND	ug/L				09/26/16	16:59
QC1203633873	406540002	MS									
Lithium	50.0	U	ND		48.4	ug/L	96.4	(75%-125%)		09/26/16	17:15
QC1203633874	406540012	MS									
Lithium	50.0	U	ND		51.1	ug/L	102	(75%-125%)		09/27/16	11:52
QC1203633875	406540002	SDILT									
Lithium		U	ND	U	ND	ug/L	N/A	(0%-10%)		09/26/16	17:19
QC1203633876	406540012	SDILT									
Lithium		U	ND	U	ND	ug/L	N/A	(0%-10%)		09/27/16	11:55
<b>Rad Gas Flow</b>											
Batch	1603992										
QC1203640324	406540008	DUP									
Radium-228		U	1.64	U	0.940	pCi/L	N/A		N/A AXM6	10/19/16	13:38
QC1203640325	LCS										
Radium-228	21.9				21.0	pCi/L	95.9	(75%-125%)		10/19/16	12:21
QC1203640323	MB										
Radium-228			U		0.252	pCi/L				10/19/16	12:21
<b>Rad Ra-226</b>											
Batch	1602211										
QC1203636173	406540001	DUP									
Radium-226			0.804		1.10	pCi/L	31.1	(0% - 100%)	LXP1	10/18/16	10:30
QC1203636175	LCS										

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## QC Summary

Workorder: 406540

Page 3 of 4

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Rad Ra-226</b>											
Batch	1602211										
Radium-226	24.4			26.8	pCi/L		110	(75%-125%)		10/18/16	10:30
QC1203636172	MB										
Radium-226			U	0.0609	pCi/L				LXP1	10/18/16	10:30
QC1203636174	406540001 MS										
Radium-226	122	0.804		129	pCi/L		105	(75%-125%)		10/18/16	10:30

**Notes:**

The Qualifiers in this report are defined as follows:

- \*\* Analyte is a Tracer compound
- < Result is less than value reported
- > Result is greater than value reported
- B The target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- E %difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- E General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
- FA Failed analysis.
- FB Mercury was found present at quantifiable concentrations in field blanks received with these samples. Data associated with the blank are deemed invalid for reporting to regulatory agencies
- H Analytical holding time was exceeded
- J Value is estimated
- K Analyte present. Reported value may be biased high. Actual value is expected to be lower.
- L Analyte present. Reported value may be biased low. Actual value is expected to be higher.
- M M if above MDC and less than LLD
- M REMF Result > MDC/CL and < RDL
- N Metals--The Matrix spike sample recovery is not within specified control limits
- N/A RPD or %Recovery limits do not apply.
- N1 See case narrative
- ND Analyte concentration is not detected above the detection limit
- NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Q One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
- R 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.
- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
- UI Gamma Spectroscopy--Uncertain identification



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## QC Summary

Workorder: 406540

Page 4 of 4

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
UJ											
UL											
X											
Y											
Z											
^											
d											
e											
h											

UJ Gamma Spectroscopy--Uncertain identification

UL Not considered detected. The associated number is the reported concentration, which may be inaccurate due to a low bias.

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y Other specific qualifiers were required to properly define the results. Consult case narrative.

Z Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.

d 5-day BOD--The 2:1 depletion requirement was not met for this sample

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

h Preparation or preservation holding time was exceeded

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

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

\* Indicates that a Quality Control parameter was not within specifications.

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

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



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January 31, 2018

REPORT TO:
Mike Moore

Sample ID: **AB23734**

**Wateree Landfill MW-01LF-RCRA/CCR**

Date & Time Sampled: September 20, 2016 08:45  
 Date & Time Submitted: September 20, 2016 15:40  
 Collected by: A.HILL Location Code: WAG01LFTDS

MW-01LF

Login Record File: 160920003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	5.83	0.5	mg/L	10/4/16 03:41	LS
pH by SM4500HB	5.67	0.00	S.U.	9/21/16 16:01	PRC
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC EPA 300.0	LESS THAN	0.5	mg/L	10/4/16 03:41	LS
Total Dissolved Solid-SM2540C	35	2.0	mg/L	9/23/16 09:31	PRC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



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January 31, 2018

REPORT TO:
Mike Moore

Sample ID: **AB23735**

**Wateree NPDES Well MW 22 (NPDES)**

Date & Time Sampled: September 20, 2016 09:45  
 Date & Time Submitted: September 20, 2016 15:40  
 Collected by: A.HILL Location Code: WAG22TDS

MW 22

Login Record File: 160920003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	10.31	0.5	mg/L	10/4/16 03:41	LS
pH by SM4500HB	5.59	0.00	S.U.	9/21/16 16:01	PRC
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC EPA 300.0	LESS THAN	0.5	mg/L	10/4/16 03:41	LS
Total Dissolved Solid-SM2540C	59	2.0	mg/L	9/23/16 09:31	PRC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



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January 31, 2018

REPORT TO:
Mike Moore

Sample ID: **AB23736**

**Wateree Landfill MW-08LF-RCRA/CCR**

Date & Time Sampled: September 20, 2016 11:05  
 Date & Time Submitted: September 20, 2016 15:40  
 Collected by: A.HILL Location Code: WAG08LFTDS

MW-08LF

Login Record File: 160920003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	5.05	0.5	mg/L	10/4/16 03:41	LS
pH by SM4500HB	5.95	0.00	S.U.	9/21/16 16:01	PRC
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC EPA 300.0	LESS THAN	0.5	mg/L	10/4/16 03:41	LS
Total Dissolved Solid-SM2540C	48	2.0	mg/L	9/23/16 09:31	PRC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



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January 31, 2018

REPORT TO:
Mike Moore

Sample ID: **AB23737**

**Wateree Landfill MW-11LF-RCRA/CCR**

Date & Time Sampled: September 20, 2016 12:00  
 Date & Time Submitted: September 20, 2016 15:40  
 Collected by: A.HILL Location Code: WAG11LFTDS

MW-11LF

Login Record File: 160920003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	4.74	0.5	mg/L	10/4/16 03:41	LS
pH by SM4500HB	5.88	0.00	S.U.	9/21/16 16:01	PRC
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC EPA 300.0	LESS THAN	0.5	mg/L	10/4/16 03:41	LS
Total Dissolved Solid-SM2540C	36	2.0	mg/L	9/23/16 09:31	PRC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



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January 31, 2018

REPORT TO:
Mike Moore

Sample ID: **AB23738**

**Wateree Landfill MW-07LF-RCRA/CCR**

Date & Time Sampled: September 20, 2016 12:35  
 Date & Time Submitted: September 20, 2016 15:40  
 Collected by: A.HILL Location Code: WAG07LFTDS

MW-07LF

Login Record File: 160920003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	9.9	0.5	mg/L	10/4/16 03:41	LS
pH by SM4500HB	5.81	0.00	S.U.	9/21/16 16:01	PRC
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC EPA 300.0	LESS THAN	0.5	mg/L	10/4/16 03:41	LS
Total Dissolved Solid-SM2540C	58	2.0	mg/L	9/23/16 09:31	PRC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



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January 31, 2018

REPORT TO:
Mike Moore

Sample ID: **AB23739**

**Wateree Landfill MW-10LF-RCRA/CCR**

Date & Time Sampled: September 20, 2016 13:05  
 Date & Time Submitted: September 20, 2016 15:40  
 Collected by: A.HILL Location Code: WAG10LFTDS

MW-10LF

Login Record File: 160920003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	6.19	0.5	mg/L	10/4/16 03:41	LS
pH by SM4500HB	5.66	0.00	S.U.	9/21/16 16:01	PRC
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC EPA 300.0	LESS THAN	0.5	mg/L	10/4/16 03:41	LS
Total Dissolved Solid-SM2540C	31	2.0	mg/L	9/23/16 09:31	PRC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



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September 27, 2016

REPORT TO:
Mike Moore

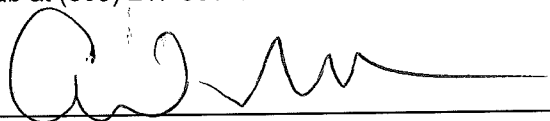
Sample ID: **AB23754 Wateree Landfill MW-01LF-RCRA/CCR**  
 Date & Time Sampled: September 20, 2016 08:45  
 Date & Time Submitted: September 20, 2016 15:40  
 Collected by: A.HILL Location Code: WAG01LFTM

MW-01LF

Login Record File: 160921001

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	MDL	Units	Completed Analysis Date & Time		Chemist
Antimony by ICP-MS EPA 200.8	Less than	1.0	ppb	9/27/16	10:48	MC
Arsenic by ICP_MS EPA 200.8	Less than	1.0	ppb	9/27/16	10:48	MC
Barium (CWA) 200.7	57.2	10.0	ppb	9/22/16	15:09	MC
Beryllium EPA 200.7	Less than	2.0	ppb	9/22/16	15:09	MC
Boron - EPA 200.7	Less than	1000	ppb	9/22/16	15:09	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	9/27/16	10:48	MC
Calcium EPA 200.7	Less than	100	ppb	9/22/16	15:09	MC
Chromium by ICP_MS EPA 200.8	Less than	1.0	ppb	9/27/16	10:48	MC
Cobalt by ICP_MS EPA 200.8	Less than	1.0	ppb	9/27/16	10:48	MC
Lead by ICP-MS EPA 200.8	1.0	1.0	ppb	9/27/16	10:48	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	9/22/16	15:37	CB
Molybdenum - EPA 200.8	Less than	5.0	ppb	9/27/16	10:48	MC
Selenium by ICP-MS EPA 200.8	Less than	5.0	ppb	9/27/16	10:48	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	9/27/16	10:48	MC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved by: 





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REPORT TO:
Mike Moore

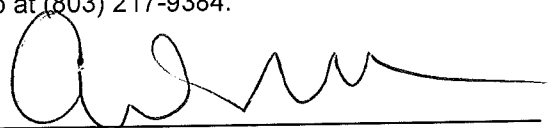
Sample ID: **AB23755 Wateree Landfill MW-22LF-RCRA/CCR**  
 Date & Time Sampled: September 20, 2016 09:45  
 Date & Time Submitted: September 20, 2016 15:40  
 Collected by: A.HILL Location Code: WAG22LFTM

MW-22LF

Login Record File: 160921001

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	MDL	Units	Completed Analysis Date & Time		Chemist
Antimony by ICP-MS EPA 200.8	Less than	1.0	ppb	9/27/16	10:48	MC
Arsenic by ICP_MS EPA 200.8	Less than	1.0	ppb	9/27/16	10:48	MC
Barium (CWA) 200.7	60.7	10.0	ppb	9/22/16	15:09	MC
Beryllium EPA 200.7	Less than	2.0	ppb	9/22/16	15:09	MC
Boron - EPA 200.7	Less than	1000	ppb	9/22/16	15:09	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	9/27/16	10:48	MC
Calcium EPA 200.7	1580	100	ppb	9/22/16	15:09	MC
Chromium by ICP_MS EPA 200.8	Less than	1.0	ppb	9/27/16	10:48	MC
Cobalt by ICP_MS EPA 200.8	Less than	1.0	ppb	9/27/16	10:48	MC
Lead by ICP-MS EPA 200.8	1.6	1.0	ppb	9/27/16	10:48	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	9/22/16	15:37	CB
Molybdenum - EPA 200.8	Less than	5.0	ppb	9/27/16	10:48	MC
Selenium by ICP-MS EPA 200.8	Less than	5.0	ppb	9/27/16	10:48	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	9/27/16	10:48	MC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved by: 



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September 27, 2016

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Mike Moore

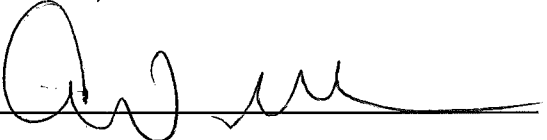
Sample ID: **AB23756 Wateree Landfill MW-08LF-RCRA/CCR**  
 Date & Time Sampled: September 20, 2016 11:05  
 Date & Time Submitted: September 20, 2016 15:40  
 Collected by: A.HILL Location Code: WAG08LFTM

MW-08LF

Login Record File: 160921001

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	MDL	Units	Completed Analysis Date & Time		Chemist
Antimony by ICP-MS EPA 200.8	Less than	1.0	ppb	9/27/16	10:48	MC
Arsenic by ICP_MS EPA 200.8	Less than	1.0	ppb	9/27/16	10:48	MC
Barium (CWA) 200.7	40.6	10.0	ppb	9/22/16	15:09	MC
Beryllium EPA 200.7	Less than	2.0	ppb	9/22/16	15:09	MC
Boron - EPA 200.7	Less than	1000	ppb	9/22/16	15:09	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	9/27/16	10:48	MC
Calcium EPA 200.7	841	100	ppb	9/22/16	15:09	MC
Chromium by ICP_MS EPA 200.8	Less than	1.0	ppb	9/27/16	10:48	MC
Cobalt by ICP_MS EPA 200.8	Less than	1.0	ppb	9/27/16	10:48	MC
Lead by ICP-MS EPA 200.8	Less than	1.0	ppb	9/27/16	10:48	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	9/22/16	15:37	CB
Molybdenum - EPA 200.8	Less than	5.0	ppb	9/27/16	10:48	MC
Selenium by ICP-MS EPA 200.8	Less than	5.0	ppb	9/27/16	10:48	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	9/27/16	10:48	MC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved by: 



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September 27, 2016

REPORT TO:
Mike Moore

Sample ID: **AB23757 Wateree Landfill MW-11LF-RCRA/CCR**  
 Date & Time Sampled: September 20, 2016 12:00  
 Date & Time Submitted: September 20, 2016 15:40  
 Collected by: A.HILL Location Code: WAG11LFTM

MW-11LF

Login Record File: 160921001

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	MDL	Units	Completed Analysis Date & Time		Chemist
Antimony by ICP-MS EPA 200.8	Less than	1.0	ppb	9/27/16	10:48	MC
Arsenic by ICP_MS EPA 200.8	Less than	1.0	ppb	9/27/16	10:48	MC
Barium (CWA) 200.7	46.1	10.0	ppb	9/22/16	15:09	MC
Beryllium EPA 200.7	Less than	2.0	ppb	9/22/16	15:09	MC
Boron - EPA 200.7	Less than	1000	ppb	9/22/16	15:09	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	9/27/16	10:48	MC
Calcium EPA 200.7	279	100	ppb	9/22/16	15:09	MC
Chromium by ICP_MS EPA 200.8	Less than	1.0	ppb	9/27/16	10:48	MC
Cobalt by ICP_MS EPA 200.8	Less than	1.0	ppb	9/27/16	10:48	MC
Lead by ICP-MS EPA 200.8	Less than	1.0	ppb	9/27/16	10:48	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	9/22/16	15:37	CB
Molybdenum - EPA 200.8	Less than	5.0	ppb	9/27/16	10:48	MC
Selenium by ICP-MS EPA 200.8	Less than	5.0	ppb	9/27/16	10:48	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	9/27/16	10:48	MC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved by: 



**Central Laboratory (P-08)**  
**2102 North Lake Drive**  
**Columbia, SC 29212**  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

September 27, 2016

REPORT TO:
Mike Moore

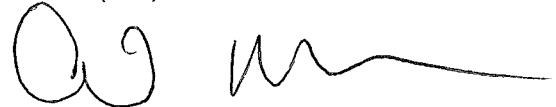
Sample ID: **AB23758 Wateree Landfill MW-07LF-RCRA/CCR**  
 Date & Time Sampled: September 20, 2016 12:35  
 Date & Time Submitted: September 20, 2016 15:40  
 Collected by: A.HILL Location Code: WAG07LFTM

MW-07LF

Login Record File: 160921001

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	MDL	Units	Completed Analysis Date & Time		Chemist
Antimony by ICP-MS EPA 200.8	Less than	1.0	ppb	9/27/16	10:48	MC
Arsenic by ICP_MS EPA 200.8	Less than	1.0	ppb	9/27/16	10:48	MC
Barium (CWA) 200.7	51.3	10.0	ppb	9/22/16	15:09	MC
Beryllium EPA 200.7	Less than	2.0	ppb	9/22/16	15:09	MC
Boron - EPA 200.7	Less than	1000	ppb	9/22/16	15:09	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	9/27/16	10:48	MC
Calcium EPA 200.7	1110	100	ppb	9/22/16	15:09	MC
Chromium by ICP_MS EPA 200.8	Less than	1.0	ppb	9/27/16	10:48	MC
Cobalt by ICP_MS EPA 200.8	1.2	1.0	ppb	9/27/16	10:48	MC
Lead by ICP-MS EPA 200.8	Less than	1.0	ppb	9/27/16	10:48	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	9/22/16	15:37	CB
Molybdenum - EPA 200.8	Less than	5.0	ppb	9/27/16	10:48	MC
Selenium by ICP-MS EPA 200.8	Less than	5.0	ppb	9/27/16	10:48	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	9/27/16	10:48	MC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved by: 



**Central Laboratory (P-08)**  
**2102 North Lake Drive**  
**Columbia, SC 29212**  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

September 27, 2016

REPORT TO:
Mike Moore

Sample ID: **AB23759 Wateree Landfill MW-10LF-RCRA/CCR**  
 Date & Time Sampled: September 20, 2016 13:05  
 Date & Time Submitted: September 20, 2016 15:40  
 Collected by: A.HILL Location Code: WAG10LFM

MW-10LF

Login Record File: 160921001

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	MDL	Units	Completed Analysis Date & Time		Chemist
Antimony by ICP-MS EPA 200.8	Less than	1.0	ppb	9/27/16	10:48	MC
Arsenic by ICP_MS EPA 200.8	Less than	1.0	ppb	9/27/16	10:48	MC
Barium (CWA) 200.7	72.1	10.0	ppb	9/22/16	15:09	MC
Beryllium EPA 200.7	Less than	2.0	ppb	9/22/16	15:09	MC
Boron - EPA 200.7	Less than	1000	ppb	9/22/16	15:09	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	9/27/16	10:48	MC
Calcium EPA 200.7	259	100	ppb	9/22/16	15:09	MC
Chromium by ICP_MS EPA 200.8	Less than	1.0	ppb	9/27/16	10:48	MC
Cobalt by ICP_MS EPA 200.8	Less than	1.0	ppb	9/27/16	10:48	MC
Lead by ICP-MS EPA 200.8	1.4	1.0	ppb	9/27/16	10:48	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	9/22/16	15:37	CB
Molybdenum - EPA 200.8	Less than	5.0	ppb	9/27/16	10:48	MC
Selenium by ICP-MS EPA 200.8	Less than	5.0	ppb	9/27/16	10:48	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	9/27/16	10:48	MC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved by: 

SOUTH CAROLINA DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL  
GROUND-WATER MONITORING REPORT

Facility: Wateree Station

Permit No.: \_\_\_\_\_

County: Richland

Date Sampled: 11/15/2016

Time Sampled: 12:00:00PM

\_\_\_\_\_   
 year-month-day (Numerical)

**STATION NUMBERS**

<b>PARAMETER</b>	<b>NUMBER</b>	<b>MW-LF-01</b>	<b>MW-LF-06</b>
<b>NAME</b>	<b>Lab. Certificate No.</b>	32006	32006
Field pH S.U.		4.850	5.080
Field Sp. Conductivity micromhos/cm		52.000	61.000
Field Turbidity NTU		0.60	4.80
ORP mV		351.000	321.000
Oxygen, dissolved mg/L		4.920	4.920
Temp (Celcius) degrees C		17.970	17.530
Water level elevation ft		125.71	116.72

Authorized Release By: \_\_\_\_\_

Date: \_\_\_\_\_

SOUTH CAROLINA DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL  
GROUND-WATER MONITORING REPORT

Facility: Wateree Station

Permit No.: \_\_\_\_\_

County: Richland

Date Sampled: 11/15/2016

Time Sampled: 12:00:00PM

year-month-day (Numerical)

**STATION NUMBERS**

PARAMETER	NUMBER	MW-LF-07	MW-LF-08	MW-LF-10	MW-LF-11	MW-LF-22
NAME	Lab. Certificate No.	32006	32006	32006	32006	32006
Field pH S.U.		4.730	5.200	4.810	5.280	4.730
Field Sp. Conductivity micromhos/cm		79.000	49.000	60.000	41.000	95.000
Field Turbidity NTU		4.20	6.90	1.40	0.80	2.40
ORP mV		272.000	256.000	289.000	272.000	290.000
Oxygen, dissolved mg/L		3.160	3.490	3.050	4.000	2.330
Temp (Celcius) degrees C		24.320	24.050	22.310	21.350	21.580
Water level elevation ft		116.16	112.66	113.03	113.71	113.43

Authorized Release By: \_\_\_\_\_

Date: \_\_\_\_\_

# GEL LABORATORIES LLC

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

## Certificate of Analysis Report for

GEEL003 GEL Engineering, LLC

Client SDG: 411027 GEL Work Order: 411027

**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
- H Analytical holding time was exceeded
- J Value is estimated
- U Analyte was analyzed for but not detected above the Lc
- 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, Jake Crook.



Reviewed by \_\_\_\_\_



# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: December 13, 2016

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd  
  
Charleston, South Carolina 29417  
Contact: Robert Gardner  
Project: Wateree CCR

Client Sample ID: MW-1LF Project: SCEG01716c  
Sample ID: 411027001 Client ID: GEEL003  
Matrix: Ground Water  
Collect Date: 15-NOV-16 10:15  
Receive Date: 18-NOV-16  
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	U	ND	0.033	0.100	mg/L		1	MAR1	12/07/16	2109	1618153	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	U	ND	3.00	10.0	ug/L	1.00	1	PRB	12/04/16	1839	1617955	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	1.99	3.00	pCi/L			AXM6	12/09/16	1109	1620580	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.520	0.400	1.00	pCi/L			LXP1	12/12/16	0935	1620873	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	CXW4	11/21/16	1612	1617954

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			86.2	(15%-125%)

### Notes:

Column headers are defined as follows:

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

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: December 13, 2016

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Wateree CCR

Client Sample ID: MW-6LF	Project: SCEG01716c
Sample ID: 411027002	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 15-NOV-16 11:10	
Receive Date: 18-NOV-16	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	U	ND	0.033	0.100	mg/L		1	MAR1	12/07/16	2138	1618153	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	U	ND	3.00	10.0	ug/L	1.00	1	PRB	12/04/16	1904	1617955	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	2.00	3.00	pCi/L			AXM6	12/09/16	1109	1620580	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.13	0.480	1.00	pCi/L			LXP1	12/12/16	0935	1620873	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	CXW4	11/21/16	1612	1617954

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			89.8	(15%-125%)

**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: December 13, 2016

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Wateree CCR

Client Sample ID: MW-7LF	Project: SCEG01716c
Sample ID: 411027003	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 16-NOV-16 13:30	
Receive Date: 18-NOV-16	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride		0.126	0.033	0.100	mg/L		1	MAR1	12/08/16	0618	1618154	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	J	4.46	3.00	10.0	ug/L	1.00	1	PRB	12/04/16	1907	1617955	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228		3.29	1.12	3.00	pCi/L			AXM6	12/09/16	1109	1620580	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.88	0.454	1.00	pCi/L			LXP1	12/12/16	1010	1620873	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	CXW4	11/21/16	1612	1617954

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			89.7	(15%-125%)

**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: December 13, 2016

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Wateree CCR

Client Sample ID: MW-8LF	Project: SCEG01716c
Sample ID: 411027004	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 16-NOV-16 14:20	
Receive Date: 18-NOV-16	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	U	ND	0.033	0.100	mg/L		1	MAR1	12/08/16	0647	1618154	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	J	9.43	3.00	10.0	ug/L	1.00	1	PRB	12/04/16	1911	1617955	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228		2.12	1.15	3.00	pCi/L			AXM6	12/09/16	1109	1620580	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.13	0.257	1.00	pCi/L			LXP1	12/12/16	1010	1620873	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	CXW4	11/21/16	1612	1617954

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			100	(15%-125%)

**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: December 13, 2016

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd  
  
Charleston, South Carolina 29417  
Contact: Robert Gardner  
Project: Wateree CCR

Client Sample ID: MW-22 Project: SCEG01716c  
Sample ID: 411027005 Client ID: GEEL003  
Matrix: Ground Water  
Collect Date: 16-NOV-16 15:30  
Receive Date: 18-NOV-16  
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	J	0.0935	0.033	0.100	mg/L		1	MAR1	12/08/16	0716	1618154	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	U	ND	3.00	10.0	ug/L	1.00	1	PRB	12/04/16	1914	1617955	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	2.28	3.00	pCi/L			AXM6	12/09/16	1110	1620580	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.50	0.514	1.00	pCi/L			LXP1	12/12/16	1010	1620873	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	CXW4	11/21/16	1612	1617954

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			86.1	(15%-125%)

### Notes:

Column headers are defined as follows:

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

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: December 13, 2016

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Wateree CCR

Client Sample ID: MW-10LF	Project: SCEG01716c
Sample ID: 411027006	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 16-NOV-16 16:35	
Receive Date: 18-NOV-16	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	J	0.0933	0.033	0.100	mg/L		1	MAR1	12/08/16	0745	1618154	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	J	3.41	3.00	10.0	ug/L	1.00	1	PRB	12/04/16	1917	1617955	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228		2.81	1.92	3.00	pCi/L			AXM6	12/09/16	1110	1620580	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.31	0.378	1.00	pCi/L			LXP1	12/12/16	1010	1620873	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	CXW4	11/21/16	1612	1617954

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			96.4	(15%-125%)

**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: December 13, 2016

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Wateree CCR

Client Sample ID: MW-11LF	Project: SCEG01716c
Sample ID: 411027007	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 16-NOV-16 17:30	
Receive Date: 18-NOV-16	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	U	ND	0.033	0.100	mg/L		1	MAR1	12/08/16	0814	1618154	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	J	3.46	3.00	10.0	ug/L	1.00	1	PRB	12/04/16	1920	1617955	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	1.24	3.00	pCi/L			AXM6	12/09/16	1110	1620580	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		2.01	0.515	1.00	pCi/L			LXP1	12/12/16	1010	1620873	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	CXW4	11/21/16	1612	1617954

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			97.1	(15%-125%)

**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: December 13, 2016

Page 1 of 3

GEL Engineering, LLC  
2040 Savage Rd  
Charleston, South Carolina

Contact: Robert Gardner

Workorder: 411027

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Ion Chromatography</b>											
Batch	1618153										
QC1203674927	411027002	DUP									
Fluoride		U	ND	U	ND	mg/L	N/A		MAR1	12/07/16	22:07
QC1203674926	LCS										
Fluoride	2.50				2.53	mg/L	101	(90%-110%)		12/07/16	16:21
QC1203674925	MB										
Fluoride			U		ND	mg/L				12/07/16	15:52
QC1203674928	411027002	PS									
Fluoride	2.50	U	ND		2.54	mg/L	102	(90%-110%)		12/07/16	22:36
Batch	1618154										
QC1203674931	411026008	DUP									
Fluoride		U	ND	U	ND	mg/L	N/A		MAR1	12/08/16	01:29
QC1203674932	411027007	DUP									
Fluoride		U	ND	U	ND	mg/L	N/A			12/08/16	08:43
QC1203674930	LCS										
Fluoride	2.50				2.56	mg/L	103	(90%-110%)		12/08/16	00:31
QC1203674929	MB										
Fluoride			U		ND	mg/L				12/08/16	00:02
QC1203674933	411026008	PS									
Fluoride	2.50	U	ND		2.45	mg/L	97.9	(90%-110%)		12/08/16	01:58
QC1203674934	411027007	PS									
Fluoride	2.50	U	ND		2.55	mg/L	102	(90%-110%)		12/08/16	09:12
<b>Metals Analysis - ICPMS</b>											
Batch	1617955										
QC1203674283	411027001	DUP									
Lithium		U	ND	U	ND	ug/L	N/A		PRB	12/04/16	18:42
QC1203674282	LCS										
Lithium	50.0				57.0	ug/L	114	(80%-120%)		12/04/16	18:36
QC1203674281	MB										
Lithium			U		ND	ug/L				12/04/16	18:33
QC1203674284	411027001	MS									
					60.5			(75%-125%)			



# GEL LABORATORIES LLC

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

## QC Summary

Workorder: 411027

Page 2 of 3

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Metals Analysis - ICPMS</b>											
Batch	1617955										
Lithium	50.0	U	ND		ug/L		119			12/04/16	18:45
QC1203674285	411027001 SDILT										
Lithium		U	ND	U		ND	ug/L	N/A	(0%-10%)	PRB	12/04/16 18:52
<b>Rad Gas Flow</b>											
Batch	1620580										
QC1203681318	411442006 DUP										
Radium-228		U	1.94		1.66	pCi/L	15.5	(0% - 100%)	AXM6	12/09/16	11:13
QC1203681319	LCS										
Radium-228	21.5				25.2	pCi/L	117	(75%-125%)		12/09/16	11:13
QC1203681317	MB										
Radium-228			U		-1.08	pCi/L				12/09/16	11:10
<b>Rad Ra-226</b>											
Batch	1620873										
QC1203682143	410911001 DUP										
Radium-226			0.943		1.22	pCi/L	25.4	(0% - 100%)	LXP1	12/12/16	10:10
QC1203682145	LCS										
Radium-226	24.4				19.7	pCi/L	80.6	(75%-125%)		12/12/16	10:40
QC1203682142	MB										
Radium-226					0.196	pCi/L				12/12/16	10:10
QC1203682144	410911001 MS										
Radium-226	122		0.943		97.2	pCi/L	78.9	(75%-125%)		12/12/16	10:40

**Notes:**

The Qualifiers in this report are defined as follows:

- \*\* Analyte is a Tracer compound
- < Result is less than value reported
- > Result is greater than value reported
- B The target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- E %difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- E General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
- FA Failed analysis.
- FB Mercury was found present at quantifiable concentrations in field blanks received with these samples. Data associated with the blank are deemed invalid for reporting to regulatory agencies

# GEL LABORATORIES LLC

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## QC Summary

Workorder: 411027

Page 3 of 3

Parname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
H	Analytical holding time was exceeded										
J	Value is estimated										
K	Analyte present. Reported value may be biased high. Actual value is expected to be lower.										
L	Analyte present. Reported value may be biased low. Actual value is expected to be higher.										
M	M if above MDC and less than LLD										
M	REMP Result > MDC/CL and < RDL										
N	Metals--The Matrix spike sample recovery is not within specified control limits										
N/A	RPD or %Recovery limits do not apply.										
N1	See case narrative										
ND	Analyte concentration is not detected above the detection limit										
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier										
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.										
R	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.										
R	Sample results are rejected										
U	Analyte was analyzed for but not detected above the Lc										
U	Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.										
UI	Gamma Spectroscopy--Uncertain identification										
UJ	Gamma Spectroscopy--Uncertain identification										
UL	Not considered detected. The associated number is the reported concentration, which may be inaccurate due to a low bias.										
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier										
Y	Other specific qualifiers were required to properly define the results. Consult case narrative.										
Z	Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.										
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.										
d	5-day BOD--The 2:1 depletion requirement was not met for this sample										
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										
h	Preparation or preservation holding time was exceeded										

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

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

\* Indicates that a Quality Control parameter was not within specifications.

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

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



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November 30, 2016

REPORT TO:
Mike Moore

Sample ID: **AB24632**

**Wateree Landfill MW-01LF-RCRA/CCR**

Date & Time Sampled: November 15, 2016 10:15  
 Date & Time Submitted: November 17, 2016 08:10  
 Collected by: A.HILL Location Code: WAG01LFTDS

MW-01LF

Login Record File: 161117004

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	5.99	0.5	mg/L	11/23/16 23:50	LS
pH by SM4500HB Holding Time of 15 minutes has been exceeded.	4.78	0.00	S.U.	11/17/16 12:30	BF
Sulfates by IC EPA 300.0	less than	0.5	mg/L	11/23/16 23:50	LS
Total Dissolved Solid-SM2540C	33	2.0	mg/L	11/18/16 13:00	BF

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: 



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November 30, 2016

REPORT TO:
Mike Moore

Sample ID: **AB24633**

**Wateree Landfill Well GW 6 -RCRA**

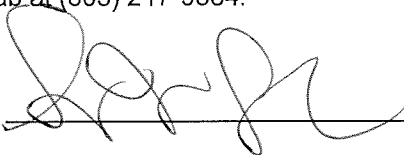
Date & Time Sampled: November 15, 2016 11:10  
 Date & Time Submitted: November 17, 2016 08:10  
 Collected by: A.HILL Location Code: WAG06LFTDS

GW 6

Login Record File: 161117004

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	6.81	0.5	mg/L	11/23/16 23:50	LS
pH by SM4500HB Holding Time of 15 minutes has been exceeded.	4.93	0.00	S.U.	11/17/16 12:30	BF
Sulfates by IC EPA 300.0	less than	0.5	mg/L	11/23/16 23:50	LS
Total Dissolved Solid-SM2540C	38	2.0	mg/L	11/18/16 13:00	BF

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: 



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November 30, 2016

REPORT TO:
Mike Moore

Sample ID: **AB24634**

**Wateree Landfill MW-07LF-RCRA/CCR**

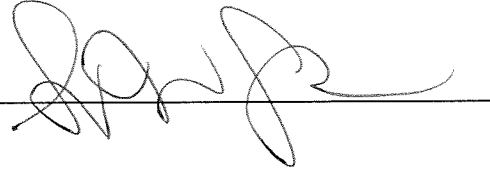
Date & Time Sampled: November 16, 2016 13:30  
 Date & Time Submitted: November 17, 2016 08:10  
 Collected by: A.HILL Location Code: WAG07LFTDS

MW-07LF

Login Record File: 161117004

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	10.1	0.5	mg/L	11/23/16 23:50	LS
pH by SM4500HB Holding Time of 15 minutes has been exceeded.	4.58	0.00	S.U.	11/17/16 12:30	BF
Sulfates by IC EPA 300.0	less than	0.5	mg/L	11/23/16 23:50	LS
Total Dissolved Solid-SM2540C	47	2.0	mg/L	11/18/16 13:00	BF

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: 



Central Laboratory (P-08)  
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November 30, 2016

REPORT TO:
Mike Moore

Sample ID: **AB24635**

**Wateree Landfill MW-08LF-RCRA/CCR**

Date & Time Sampled: November 16, 2016 14:20  
 Date & Time Submitted: November 17, 2016 08:10  
 Collected by: A.HILL Location Code: WAG08LFTDS

MW-08LF

Login Record File: 161117004

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	16.7	1.0	mg/L	11/29/16 00:15	EB
pH by SM4500HB	5.90	0.00	S.U.	11/17/16 12:30	BF
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC EPA 300.0	172	1.0	mg/L	11/29/16 00:15	EB
Total Dissolved Solid-SM2540C	387	2.0	mg/L	11/18/16 13:00	BF

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



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November 30, 2016

REPORT TO:
Mike Moore

Sample ID: **AB24636**

**Wateree NPDES Well MW 22 (NPDES)**

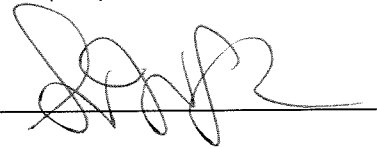
Date & Time Sampled: November 16, 2016 15:30  
 Date & Time Submitted: November 17, 2016 08:10  
 Collected by: A.HILL Location Code: WAG22TDS

MW 22

Login Record File: 161117004

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	11.4	0.5	mg/L	11/23/16 23:50	LS
pH by SM4500HB	4.63	0.00	S.U.	11/17/16 12:30	BF
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC EPA 300.0	less than		mg/L	11/23/16 23:50	LS
Total Dissolved Solid-SM2540C	52	2.0	mg/L	11/18/16 13:00	BF

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: 



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November 30, 2016

REPORT TO:
Mike Moore

Sample ID: **AB24637**

**Wateree Landfill MW-10LF-RCRA/CCR**

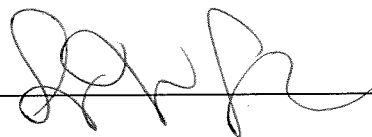
Date & Time Sampled: November 16, 2016 16:35  
 Date & Time Submitted: November 17, 2016 08:10  
 Collected by: A.HILL Location Code: WAG10LFTDS

MW-10LF

Login Record File: 161117004

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	6.63	0.5	mg/L	11/23/16 23:50	LS
pH by SM4500HB Holding Time of 15 minutes has been exceeded.	4.62	0.00	S.U.	11/17/16 12:30	BF
Sulfates by IC EPA 300.0	less than	0.5	mg/L	11/23/16 23:50	LS
Total Dissolved Solid-SM2540C	38	2.0	mg/L	11/18/16 13:00	BF

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: 





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November 30, 2016

REPORT TO:
Mike Moore

Sample ID: **AB24638**

**Wateree Landfill MW-11LF-RCRA/CCR**

Date & Time Sampled: November 16, 2016 17:30  
 Date & Time Submitted: November 17, 2016 08:10  
 Collected by: A.HILL Location Code: WAG11LFTDS

MW-11LF

Login Record File: 161117004

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	5.08	0.5	mg/L	11/23/16 23:50	LS
pH by SM4500HB	5.04	0.00	S.U.	11/17/16 12:30	BF
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC EPA 300.0	less than	0.5	mg/L	11/23/16 23:50	LS
Total Dissolved Solid-SM2540C	26	2.0	mg/L	11/18/16 13:00	BF

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: 



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November 18, 2016

REPORT TO:
Mike Moore

Sample ID: **AB24610**

**Wateree Landfill MW-01LF-RCRA/CCR**

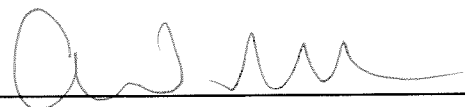
Date & Time Sampled: November 15, 2016 10:15  
 Date & Time Submitted: November 17, 2016 08:10  
 Collected by: A.HILL Location Code: WAG01LFTM

MW-01LF

Login Record File: 161117002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC
Arsenic by ICP_MS EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC
Barium (CWA) 200.7	57.0	10.0	ppb	11/17/16 14:46	MC
Beryllium EPA 200.7	Less than	2.0	ppb	11/17/16 14:46	MC
Boron - EPA 200.7	Less than	1000	ppb	11/17/16 14:46	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC
Calcium EPA 200.7	116	100	ppb	11/17/16 14:46	MC
Chromium by ICP_MS EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC
Cobalt by ICP_MS EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC
Lead by ICP-MS EPA 200.8	1.0	1.0	ppb	11/17/16 16:03	MC
Lithium (CWA) 200.7	Less than	10.0	ppb	11/17/16 14:57	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	11/18/16 13:52	PRC
Molybdenum - EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC
Selenium by ICP-MS EPA 200.8	Less than	5.0	ppb	11/17/16 16:03	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: 



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November 18, 2016

REPORT TO:
Mike Moore

Sample ID: **AB24611**

**Wateree Landfill Well GW 6-RCRA**

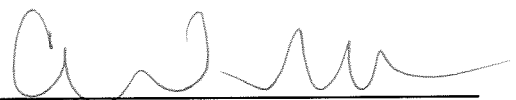
Date & Time Sampled: November 15, 2016 11:10  
 Date & Time Submitted: November 17, 2016 08:10  
 Collected by: A.HILL Location Code: WAG06LFTM

GW 6

Login Record File: 161117002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC
Arsenic by ICP_MS EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC
Barium (CWA) 200.7	48.6	10.0	ppb	11/17/16 14:46	MC
Beryllium EPA 200.7	Less than	2.0	ppb	11/17/16 14:46	MC
Boron - EPA 200.7	Less than	1000	ppb	11/17/16 14:46	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC
Calcium EPA 200.7	714	100	ppb	11/17/16 14:46	MC
Chromium by ICP_MS EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC
Cobalt by ICP_MS EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC
Lead by ICP-MS EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC
Lithium (CWA) 200.7	Less than	10.0	ppb	11/17/16 14:57	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	11/18/16 13:52	PRC
Molybdenum - EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC
Selenium by ICP-MS EPA 200.8	Less than	5.0	ppb	11/17/16 16:03	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: 



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November 18, 2016

REPORT TO:
Mike Moore

Sample ID: **AB24612**

**Wateree Landfill MW-07LF-RCRA/CCR**

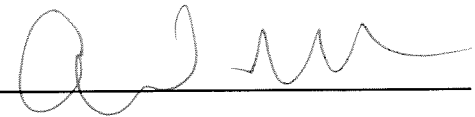
Date & Time Sampled: November 16, 2016 13:30  
 Date & Time Submitted: November 17, 2016 08:10  
 Collected by: A.HILL Location Code: WAG07LFTM

MW-07LF

Login Record File: 161117002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC
Arsenic by ICP_MS EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC
Barium (CWA) 200.7	66.5	10.0	ppb	11/17/16 14:46	MC
Beryllium EPA 200.7	Less than	2.0	ppb	11/17/16 14:46	MC
Boron - EPA 200.7	Less than	1000	ppb	11/17/16 14:46	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC
Calcium EPA 200.7	1610	100	ppb	11/17/16 14:46	MC
Chromium by ICP_MS EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC
Cobalt by ICP_MS EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC
Lead by ICP-MS EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC
Lithium (CWA) 200.7	Less than	10.0	ppb	11/17/16 14:57	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	11/18/16 13:52	PRC
Molybdenum - EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC
Selenium by ICP-MS EPA 200.8	Less than	5.0	ppb	11/17/16 16:03	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: 



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November 18, 2016

REPORT TO:
Mike Moore

Sample ID: **AB24613**

**Wateree Landfill MW-08LF-RCRA/CCR**

Date & Time Sampled: November 16, 2016 14:20  
 Date & Time Submitted: November 17, 2016 08:10  
 Collected by: A.HILL Location Code: WAG08LFTM

MW-08LF

Login Record File: 161117002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC
Arsenic by ICP_MS EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC
Barium (CWA) 200.7	39.8	10.0	ppb	11/17/16 14:46	MC
Beryllium EPA 200.7	Less than	2.0	ppb	11/17/16 14:46	MC
Boron - EPA 200.7	Less than	1000	ppb	11/17/16 14:46	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC
Calcium EPA 200.7	849	100	ppb	11/17/16 14:46	MC
Chromium by ICP_MS EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC
Cobalt by ICP_MS EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC
Lead by ICP-MS EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC
Lithium (CWA) 200.7	Less than	10.0	ppb	11/17/16 14:57	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	11/18/16 13:52	PRC
Molybdenum - EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC
Selenium by ICP-MS EPA 200.8	Less than	5.0	ppb	11/17/16 16:03	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: 



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November 18, 2016

REPORT TO:
Mike Moore

Sample ID: **AB24614**

**Wateree NPDES Well MW 22 Total Metals (NPDES)**

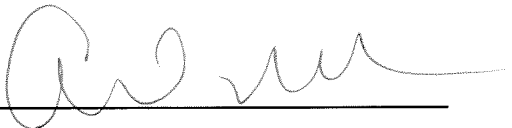
Date & Time Sampled: November 16, 2016 15:30  
 Date & Time Submitted: November 17, 2016 08:10  
 Collected by: A.HILL Location Code: WAG22TM

MW 22

Login Record File: 161117002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC
Arsenic by ICP_MS EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC
Barium (CWA) 200.7	55.0	10.0	ppb	11/17/16 14:46	MC
Beryllium EPA 200.7	Less than	2.0	ppb	11/17/16 14:46	MC
Boron - EPA 200.7	Less than	1000	ppb	11/17/16 14:46	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC
Calcium EPA 200.7	2190	100	ppb	11/17/16 14:46	MC
Chromium by ICP_MS EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC
Cobalt by ICP_MS EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC
Lead by ICP-MS EPA 200.8	2.1	1.0	ppb	11/17/16 16:03	MC
Lithium (CWA) 200.7	Less than	10.0	ppb	11/17/16 14:57	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	11/18/16 13:52	PRC
Molybdenum - EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC
Selenium by ICP-MS EPA 200.8	Less than	5.0	ppb	11/17/16 16:03	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: 



Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

November 18, 2016

REPORT TO:
Mike Moore

Sample ID: **AB24615**

**Wateree Landfill MW-10LF-RCRA/CCR**

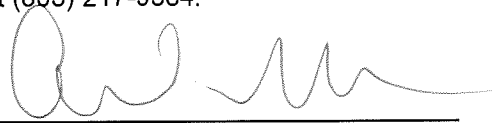
Date & Time Sampled: November 16, 2016 16:35  
 Date & Time Submitted: November 17, 2016 08:10  
 Collected by: A.HILL Location Code: WAG10LFTM

MW-10LF

Login Record File: 161117002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC
Arsenic by ICP_MS EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC
Barium (CWA) 200.7	71.1	10.0	ppb	11/17/16 14:46	MC
Beryllium EPA 200.7	Less than	2.0	ppb	11/17/16 14:46	MC
Boron - EPA 200.7	Less than	1000	ppb	11/17/16 14:46	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC
Calcium EPA 200.7	255	100	ppb	11/17/16 14:46	MC
Chromium by ICP_MS EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC
Cobalt by ICP_MS EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC
Lead by ICP-MS EPA 200.8	1.5	1.0	ppb	11/17/16 16:03	MC
Lithium (CWA) 200.7	Less than	10.0	ppb	11/17/16 14:57	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	11/18/16 13:52	PRC
Molybdenum - EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC
Selenium by ICP-MS EPA 200.8	Less than	5.0	ppb	11/17/16 16:03	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: 



Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

November 18, 2016

REPORT TO:
Mike Moore

Sample ID: **AB24616**

**Wateree Landfill MW-11LF-RCRA/CCR**

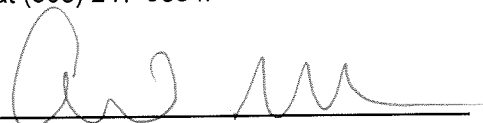
Date & Time Sampled: November 16, 2016 17:30  
 Date & Time Submitted: November 17, 2016 08:10  
 Collected by: A.HILL Location Code: WAG11LFTM

MW-11LF

Login Record File: 161117002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC
Arsenic by ICP_MS EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC
Barium (CWA) 200.7	37.3	10.0	ppb	11/17/16 14:46	MC
Beryllium EPA 200.7	Less than	2.0	ppb	11/17/16 14:46	MC
Boron - EPA 200.7	Less than	1000	ppb	11/17/16 14:46	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC
Calcium EPA 200.7	239	100	ppb	11/17/16 14:46	MC
Chromium by ICP_MS EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC
Cobalt by ICP_MS EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC
Lead by ICP-MS EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC
Lithium (CWA) 200.7	Less than	10.0	ppb	11/17/16 14:57	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	11/18/16 13:52	PRC
Molybdenum - EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC
Selenium by ICP-MS EPA 200.8	Less than	5.0	ppb	11/17/16 16:03	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	11/17/16 16:03	MC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: 



SOUTH CAROLINA DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL  
GROUND-WATER MONITORING REPORT

Facility: Wateree Station

Permit No.: \_\_\_\_\_

County: Richland

Date Sampled: 01/17/2017

Time Sampled: 12:00:00PM

\_\_\_\_\_   
 year-month-day (Numerical)

**STATION NUMBERS**

<b>PARAMETER</b>	<b>NUMBER</b>	<b>MW-LF-01</b>	<b>MW-LF-06</b>
<b>NAME</b>	Lab. Certificate No.	32006	32006
Field pH S.U.		4.740	4.800
Field Sp. Conductivity micromhos/cm		55.000	50.000
Field Turbidity NTU		0.50	6.27
ORP mV		194.400	165.000
Oxygen, dissolved mg/L		4.750	7.370
Temp (Celcius) degrees C		18.100	17.620
Water level elevation ft		125.62	116.50

Authorized Release By: \_\_\_\_\_

Date: \_\_\_\_\_

SOUTH CAROLINA DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL  
GROUND-WATER MONITORING REPORT

Facility: Wateree Station

Permit No.: \_\_\_\_\_

County: Richland

Date Sampled: 01/17/2017

Time Sampled: 12:00:00PM

year-month-day (Numerical)

**STATION NUMBERS**

PARAMETER	NUMBER	MW-LF-07	MW-LF-08	MW-LF-10	MW-LF-11	MW-LF-22
NAME	Lab. Certificate No.	32006	32006	32006	32006	32006
Field pH S.U.		4.610	4.880	4.670	4.840	4.530
Field Sp. Conductivity micromhos/cm		69.000	40.000	48.000	36.000	63.000
Field Turbidity NTU		1.35	5.42	2.14	1.47	1.80
ORP mV		178.400	176.300	178.200	183.200	204.200
Oxygen, dissolved mg/L		4.610	5.730	5.100	6.270	5.450
Temp (Celcius) degrees C		21.360	20.420	18.440	18.880	19.520
Water level elevation ft		115.98	113.13	113.47	114.22	114.03

Authorized Release By: \_\_\_\_\_

Date: \_\_\_\_\_

## GEL LABORATORIES LLC

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

### Certificate of Analysis Report for

GEEL003 GEL Engineering, LLC

Client SDG: 414773 GEL Work Order: 414773

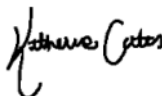
**The Qualifiers in this report are defined as follows:**

- \* A quality control analyte recovery is outside of specified acceptance criteria
- \*\* Analyte is a Tracer compound
- \*\* Analyte is a surrogate compound
- H Analytical holding time was exceeded
- J Value is estimated
- U Analyte was analyzed for but not detected above the Lc
- 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, Jake Crook.



Reviewed by \_\_\_\_\_

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: February 16, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Wateree CCR

Client Sample ID: MW-01LF	Project: SCEG01716c
Sample ID: 414773001	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 17-JAN-17 12:05	
Receive Date: 20-JAN-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	U	ND	0.033	0.100	mg/L		1	MAR1	01/25/17	0423	1633301	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	U	ND	3.00	10.0	ug/L	1.00	1	SKJ	01/30/17	1142	1633220	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	1.78	3.00	pCi/L			AXM6	02/10/17	1238	1635132	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.783	0.469	1.00	pCi/L			LXP1	02/09/17	0820	1633271	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	SXW1	01/23/17	0843	1633219

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			86	(15%-125%)

**Notes:**

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 16, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Wateree CCR

Client Sample ID: MW-06LF	Project: SCEG01716c
Sample ID: 414773002	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 17-JAN-17 14:00	
Receive Date: 20-JAN-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
SW846 9056A Anions "As Received"												
Fluoride	U	ND	0.033	0.100	mg/L		1	MAR1	01/25/17	0550	1633301	1
<b>Metals Analysis-ICP-MS</b>												
SW846 3005A/6020A Liquid "As Received"												
Lithium	U	ND	3.00	10.0	ug/L	1.00	1	SKJ	01/30/17	1152	1633220	2
<b>Rad Gas Flow Proportional Counting</b>												
GFPC, Ra228, Liquid "As Received"												
Radium-228		2.50	1.74	3.00	pCi/L			AXM6	02/10/17	1238	1635132	3
<b>Rad Radium-226</b>												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226	U	ND	0.400	1.00	pCi/L			LXP1	02/09/17	0855	1633271	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	SXW1	01/23/17	0843	1633219

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			93.4	(15%-125%)

**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 16, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Wateree CCR

Client Sample ID: MW-11LF	Project: SCEG01716c
Sample ID: 414773003	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 17-JAN-17 18:20	
Receive Date: 20-JAN-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	U	ND	0.033	0.100	mg/L		1	MAR1	01/25/17	0619	1633301	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	U	ND	3.00	10.0	ug/L	1.00	1	SKJ	01/30/17	1153	1633220	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	1.19	3.00	pCi/L			AXM6	02/10/17	1238	1635132	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		2.95	0.265	1.00	pCi/L			LXP1	02/09/17	0855	1633271	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	SXW1	01/23/17	0843	1633219

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			90.9	(15%-125%)

**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 16, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Wateree CCR

Client Sample ID: MW-10LF	Project: SCEG01716c
Sample ID: 414773004	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 18-JAN-17 08:05	
Receive Date: 20-JAN-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	U	ND	0.033	0.100	mg/L		1	MAR1	01/25/17	0648	1633301	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	J	3.28	3.00	10.0	ug/L	1.00	1	SKJ	01/30/17	1155	1633220	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	2.07	3.00	pCi/L			AXM6	02/10/17	1238	1635132	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.43	0.316	1.00	pCi/L			LXP1	02/09/17	0855	1633271	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	SXW1	01/23/17	0843	1633219

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			92.3	(15%-125%)

**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 16, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Wateree CCR

Client Sample ID: MW-22	Project: SCEG01716c
Sample ID: 414773005	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 18-JAN-17 09:20	
Receive Date: 20-JAN-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	U	ND	0.033	0.100	mg/L		1	MAR1	01/25/17	0716	1633301	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	J	3.27	3.00	10.0	ug/L	1.00	1	SKJ	01/30/17	1156	1633220	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228		2.61	1.96	3.00	pCi/L			AXM6	02/10/17	1239	1635132	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.28	0.450	1.00	pCi/L			LXP1	02/09/17	0855	1633271	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	SXW1	01/23/17	0843	1633219

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			91.8	(15%-125%)

**Notes:**

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 16, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Wateree CCR

Client Sample ID: MW-08LF	Project: SCEG01716c
Sample ID: 414773006	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 18-JAN-17 10:35	
Receive Date: 20-JAN-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	U	ND	0.033	0.100	mg/L		1	MAR1	01/25/17	0745	1633301	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium		10.9	3.00	10.0	ug/L	1.00	1	SKJ	01/30/17	1158	1633220	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	1.23	3.00	pCi/L			AXM6	02/10/17	1239	1635132	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.602	0.361	1.00	pCi/L			LXP1	02/09/17	0855	1633271	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	SXW1	01/23/17	0843	1633219

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			96	(15%-125%)

**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 16, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Wateree CCR

Client Sample ID: MW-07LF	Project: SCEG01716c
Sample ID: 414773007	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 18-JAN-17 12:05	
Receive Date: 20-JAN-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	J	0.0553	0.033	0.100	mg/L		1	MAR1	01/25/17	0912	1633301	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	J	4.74	3.00	10.0	ug/L	1.00	1	SKJ	01/30/17	1159	1633220	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228		2.62	2.49	3.00	pCi/L			AXM6	02/10/17	1239	1635132	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.43	0.463	1.00	pCi/L			LXP1	02/09/17	0855	1633271	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	SXW1	01/23/17	0843	1633219

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			48.5	(15%-125%)

**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 16, 2017

Page 1 of 6

GEL Engineering, LLC  
2040 Savage Rd  
Charleston, South Carolina

Contact: Robert Gardner

Workorder: 414773

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Ion Chromatography</b>											
Batch	1633027										
QC1203712222	414666010	DUP									
Fluoride		0.723		0.727	mg/L	0.551		(0%-20%)	MAR1	01/24/17	22:36
QC1203714085	414775003	DUP									
Fluoride		0.288		0.290	mg/L	0.865 ^		(+/-0.100)		01/25/17	01:30
QC1203712221	LCS										
Fluoride	2.50			2.53	mg/L		101	(90%-110%)		01/24/17	16:21
QC1203712220	MB										
Fluoride			U	ND	mg/L					01/24/17	15:52
QC1203712223	414666010	PS									
Fluoride	2.50	0.723		3.20	mg/L		99.1	(90%-110%)		01/24/17	23:05
QC1203714086	414775003	PS									
Fluoride	2.50	0.288		2.75	mg/L		98.3	(90%-110%)		01/25/17	01:59
<hr/>											
Batch	1633301										
QC1203712955	414773001	DUP									
Fluoride			U	ND	U	ND	mg/L	N/A		MAR1	01/25/17 04:52
QC1203712956	414773020	DUP									
Fluoride			U	ND	U	ND	mg/L	N/A			01/25/17 16:54
QC1203712954	LCS										
Fluoride	2.50			2.55	mg/L		102	(90%-110%)		01/25/17	03:54
QC1203712953	MB										
Fluoride			U	ND	mg/L					01/25/17	03:25

# GEL LABORATORIES LLC

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## QC Summary

Workorder: 414773

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Ion Chromatography</b>											
Batch	1633301										
QC1203712957	414773001	PS									
Fluoride	2.50	U	ND	2.51	mg/L		99.6	(90%-110%)	MAR1	01/25/17	05:21
QC1203712958	414773020	PS									
Fluoride	2.50	U	ND	2.50	mg/L		99	(90%-110%)		01/25/17	17:23
<b>Metals Analysis - ICPMS</b>											
Batch	1633220										
QC1203712682	414773001	DUP									
Lithium		U	ND	U	ND	ug/L	N/A		SKJ	01/30/17	11:43
QC1203712681	LCS										
Lithium	50.0			56.3	ug/L		113	(80%-120%)		01/30/17	11:40
QC1203712680	MB										
Lithium			U	ND	ug/L					01/30/17	11:39
QC1203712683	414773001	MS									
Lithium	50.0	U	ND	56.8	ug/L		112	(75%-125%)		01/30/17	11:45
QC1203712684	414773001	SDILT									
Lithium		U	ND	U	ND	ug/L	N/A	(0%-10%)		01/30/17	11:47
Batch	1633222										
QC1203712687	414773008	DUP									
Lithium		J	2.53	J	2.51	ug/L	0.555 ^	(+/-10.0)	BAJ	01/25/17	20:06
QC1203712688	414773009	DUP									
Lithium		U	ND	U	ND	ug/L	N/A			01/25/17	20:17
QC1203712686	LCS										
Lithium	50.0			48.5	ug/L		96.9	(80%-120%)		01/25/17	20:01

# GEL LABORATORIES LLC

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

## QC Summary

Workorder: 414773

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Metals Analysis - ICPMS</b>											
Batch	1633222										
QC1203712685		MB									
Lithium			U	ND	ug/L				BAJ	01/25/17	19:58
QC1203712689	414773008	MS									
Lithium	50.0	J	2.53	51.6	ug/L		98.1	(75%-125%)		01/25/17	20:09
QC1203712690	414773009	MS									
Lithium	50.0	U	ND	45.2	ug/L		89.9	(75%-125%)		01/25/17	20:19
QC1203712691	414773008	SDILT									
Lithium		J	2.53	U	ND	ug/L	N/A	(0%-10%)		01/25/17	20:11
QC1203712692	414773009	SDILT									
Lithium		U	ND	U	ND	ug/L	N/A	(0%-10%)		01/25/17	20:22
<b>Rad Gas Flow</b>											
Batch	1635132										
QC1203717739	414773008	DUP									
Radium-228			1.95	1.23	pCi/L	45.1		(0% - 100%)	AXM6	02/10/17	12:43
QC1203717740	LCS										
Radium-228	21.1			19.4	pCi/L		92.1	(75%-125%)		02/10/17	12:43
QC1203717738	MB										
Radium-228			U	0.931	pCi/L					02/10/17	12:43
Batch	1635133										
QC1203717742	414773020	DUP									
Radium-228		U	0.393	3.34	pCi/L	158*		(0% - 100%)	AXM6	02/09/17	14:30
QC1203717743	LCS										
Radium-228	21.1			23.2	pCi/L		110	(75%-125%)		02/09/17	10:49

# GEL LABORATORIES LLC

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

## QC Summary

Workorder: 414773

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Rad Gas Flow</b>											
Batch	1635133										
QC1203717741	MB										
Radium-228			U	0.738	pCi/L				AXM6	02/09/17	10:49
<b>Rad Ra-226</b>											
Batch	1633270										
QC1203712844	414666001	DUP									
Radium-226			U	0.198	pCi/L	54.2		(0% - 100%)	LXP1	02/13/17	11:10
QC1203712846	LCS										
Radium-226	26.0			24.3	pCi/L		93.7	(75%-125%)		02/13/17	11:40
QC1203712843	MB										
Radium-226				0.314	pCi/L					02/13/17	11:10
QC1203712845	414666001	MS									
Radium-226	130	U		0.198	pCi/L		102	(75%-125%)		02/13/17	11:10
Batch	1633271										
QC1203712848	414773001	DUP									
Radium-226				0.783	pCi/L	20.9		(0% - 100%)	LXP1	02/09/17	10:37
QC1203712850	LCS										
Radium-226	26.0			20.3	pCi/L		78.1	(75%-125%)		02/09/17	10:37
QC1203712847	MB										
Radium-226			U	-0.0465	pCi/L					02/09/17	10:37
QC1203712849	414773001	MS									
Radium-226	130			0.783	pCi/L		104	(75%-125%)		02/09/17	10:37

**Notes:**

The Qualifiers in this report are defined as follows:

- \*\* Analyte is a Tracer compound
- < Result is less than value reported

# GEL LABORATORIES LLC

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## QC Summary

Workorder: 414773

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
>											
B											
BD											
E											
E											
FA											
FB											
H											
J											
K											
L											
M											
M											
N											
N/A											
N1											
ND											
NJ											
Q											
R											
R											
U											
U											
UI											
UJ											
UL											
X											
Y											
Z											
^											
d											
e											
h											

# GEL LABORATORIES LLC

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## QC Summary

Workorder: 414773

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<u>Parmname</u>	<u>NOM</u>	<u>Sample Qual</u>	<u>QC</u>	<u>Units</u>	<u>RPD%</u>	<u>REC%</u>	<u>Range</u>	<u>Anlst</u>	<u>Date</u>	<u>Time</u>
-----------------	------------	--------------------	-----------	--------------	-------------	-------------	--------------	--------------	-------------	-------------

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.





Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

January 31, 2018

REPORT TO:
Mike Moore

Sample ID: **AB25331**

**Wateree Landfill MW-01LF-RCRA/CCR**

Date & Time Sampled: January 17, 2017 12:05  
 Date & Time Submitted: January 19, 2017 10:30  
 Collected by: S.SANSBURY Location Code: WAG01LFTDS

MW-01LF

Login Record File: 170119002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	6.05	0.50	mg/L	1/25/17 00:56	EB
pH by SM4500HB	4.71	0.00	S.U.	1/23/17 10:47	BF
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC EPA 300.0	Less than	0.50	mg/L	1/25/17 00:56	EB
Total Dissolved Solid-SM2540C	22	2.0	mg/L	1/24/17 13:30	BF

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

January 31, 2018

REPORT TO:
Mike Moore

Sample ID: **AB25332**

**Wateree Landfill Well GW 6 -RCRA**

Date & Time Sampled: January 17, 2017 14:00  
 Date & Time Submitted: January 19, 2017 10:30  
 Collected by: S.SANSBURY Location Code: WAG06LFTDS

GW 6

Login Record File: 170119002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	6.90	0.50	mg/L	1/25/17 00:56	EB
pH by SM4500HB	4.86	0.00	S.U.	1/23/17 10:47	BF
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC EPA 300.0	Less than	0.50	mg/L	1/25/17 00:56	EB
Total Dissolved Solid-SM2540C	28	2.0	mg/L	1/24/17 13:30	BF

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



Central Laboratory (P-08)  
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 Columbia, SC 29212  
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January 31, 2018

REPORT TO:
Mike Moore

Sample ID: **AB25333**

**Wateree Landfill MW-11LF-RCRA/CCR**

Date & Time Sampled: January 17, 2017 18:20  
 Date & Time Submitted: January 19, 2017 10:30  
 Collected by: S.SANSBURY Location Code: WAG11LFTDS

MW-11LF

Login Record File: 170119002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	5.02	0.50	mg/L	1/25/17 00:56	EB
pH by SM4500HB	4.87	0.00	S.U.	1/23/17 10:47	BF
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC EPA 300.0	Less than	0.50	mg/L	1/25/17 00:56	EB
Total Dissolved Solid-SM2540C	15	2.0	mg/L	1/24/17 13:30	BF

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
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January 31, 2018

REPORT TO:
Mike Moore

Sample ID: **AB25334**

**Wateree Landfill MW-10LF-RCRA/CCR**

Date & Time Sampled: January 18, 2017 08:05  
 Date & Time Submitted: January 19, 2017 10:30  
 Collected by: S.SANSBURY Location Code: WAG10LFTDS

MW-10LF

Login Record File: 170119002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	6.29	0.50	mg/L	1/25/17 00:56	EB
pH by SM4500HB Holding Time of 15 minutes has been exceeded.	4.64	0.00	S.U.	1/23/17 10:47	BF
Sulfates by IC EPA 300.0	1.72	0.50	mg/L	1/25/17 00:56	EB
Total Dissolved Solid-SM2540C	27	2.0	mg/L	1/24/17 13:30	BF

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

January 31, 2018

REPORT TO:
Mike Moore

Sample ID: **AB25335**

**Wateree NPDES Well MW 22 (NPDES)**

Date & Time Sampled: January 18, 2017 09:20  
 Date & Time Submitted: January 19, 2017 10:30  
 Collected by: S.SANSBURY Location Code: WAG22TDS

MW 22

Login Record File: 170119002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	8.34	0.50	mg/L	1/25/17 00:56	EB
pH by SM4500HB	4.50	0.00	S.U.	1/23/17 10:47	BF
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC EPA 300.0	Less than	0.50	mg/L	1/25/17 00:56	EB
Total Dissolved Solid-SM2540C	31	2.0	mg/L	1/24/17 13:30	BF

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

January 31, 2018

REPORT TO:
Mike Moore

Sample ID: **AB25336**

**Wateree Landfill MW-08LF-RCRA/CCR**

Date & Time Sampled: January 18, 2017 10:35  
 Date & Time Submitted: January 19, 2017 10:30  
 Collected by: S.SANSBURY Location Code: WAG08LFTDS

MW-08LF

Login Record File: 170119002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	5.13	0.50	mg/L	1/25/17 00:56	EB
pH by SM4500HB	4.91	0.00	S.U.	1/23/17 10:47	BF
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC EPA 300.0	Less than	0.50	mg/L	1/25/17 00:56	EB
Total Dissolved Solid-SM2540C	24	2.0	mg/L	1/24/17 13:30	BF

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



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January 31, 2018

REPORT TO:
Mike Moore

Sample ID: **AB25337**

**Wateree Landfill MW-07LF-RCRA/CCR**

Date & Time Sampled: January 18, 2017 12:05  
 Date & Time Submitted: January 19, 2017 10:30  
 Collected by: S.SANSBURY Location Code: WAG07LFTDS

MW-07LF

Login Record File: 170119002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	10.06	0.50	mg/L	1/25/17 00:56	EB
pH by SM4500HB	4.54	0.00	S.U.	1/23/17 10:47	BF
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC EPA 300.0	Less than	0.50	mg/L	1/25/17 00:56	EB
Total Dissolved Solid-SM2540C	38	2.0	mg/L	1/24/17 13:30	BF

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



Central Laboratory (P-08)  
 2102 North Lake Drive  
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 Fax: (803) 217-9911

January 31, 2018

REPORT TO:
Mike Moore

Sample ID: **AB25352**

**Wateree Landfill MW-01LF-RCRA/CCR**

Date & Time Sampled: January 17, 2017 12:05  
 Date & Time Submitted: January 19, 2017 10:30  
 Collected by: S.SANSBURY Location Code: WAG01LFTM

MW-01LF

Login Record File: 170119003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:10	MC
Arsenic by ICP_MS 200.8	1.2	1.0	ppb	1/23/17 15:10	MC
Barium by ICP-OES 200.7	62.7	10.0	ppb	1/23/17 08:50	MC
Beryllium EPA 200.7	Less than	2.0	ppb	1/23/17 08:50	MC
Boron - EPA 200.7	Less than	1000	ppb	1/23/17 08:50	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	1/23/17 15:10	MC
Calcium EPA 200.7	Less than	100	ppb	1/23/17 08:50	MC
Chromium by ICP_MS 200.8	Less than	1.0	ppb	1/23/17 15:10	MC
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	1/23/17 15:10	MC
Lead by ICP-MS 200.8	1.3	1.0	ppb	1/23/17 15:10	MC
Lithium (CWA) 200.7	Less than	2.0	ppb	1/23/17 08:38	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	1/24/17 15:58	PRC
Molybdenum - EPA 200.8	Less than	1.0	ppb	1/23/17 15:10	MC
Selenium by ICP-MS 200.8	Less than	5.0	ppb	1/23/17 15:10	MC
Thallium by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:10	MC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_





Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

January 31, 2018

REPORT TO:
Mike Moore

Sample ID: **AB25353**

**Wateree Landfill Well GW 6-RCRA**

Date & Time Sampled: January 17, 2017 14:00  
 Date & Time Submitted: January 19, 2017 10:30  
 Collected by: S.SANSBURY Location Code: WAG06LFTM

GW 6

Login Record File: 170119003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:10	MC
Arsenic by ICP_MS 200.8	1.3	1.0	ppb	1/23/17 15:10	MC
Barium by ICP-OES 200.7	50.9	10.0	ppb	1/23/17 08:50	MC
Beryllium EPA 200.7	Less than	2.0	ppb	1/23/17 08:50	MC
Boron - EPA 200.7	Less than	1000	ppb	1/23/17 08:50	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	1/23/17 15:10	MC
Calcium EPA 200.7	739	100	ppb	1/23/17 08:50	MC
Chromium by ICP_MS 200.8	Less than	1.0	ppb	1/23/17 15:10	MC
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	1/23/17 15:10	MC
Lead by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:10	MC
Lithium (CWA) 200.7	Less than	2.0	ppb	1/23/17 08:38	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	1/24/17 15:58	PRC
Molybdenum - EPA 200.8	Less than	1.0	ppb	1/23/17 15:10	MC
Selenium by ICP-MS 200.8	Less than	5.0	ppb	1/23/17 15:10	MC
Thallium by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:10	MC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

January 31, 2018

REPORT TO:
Mike Moore

Sample ID: **AB25354**

**Wateree Landfill MW-11LF-RCRA/CCR**

Date & Time Sampled: January 17, 2017 18:20  
 Date & Time Submitted: January 19, 2017 10:30  
 Collected by: S.SANSBURY Location Code: WAG11LFTM

MW-11LF

Login Record File: 170119003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:10	MC
Arsenic by ICP_MS 200.8	1.1	1.0	ppb	1/23/17 15:10	MC
Barium by ICP-OES 200.7	47.9	10.0	ppb	1/23/17 08:50	MC
Beryllium EPA 200.7	Less than	2.0	ppb	1/23/17 08:50	MC
Boron - EPA 200.7	Less than	1000	ppb	1/23/17 08:50	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	1/23/17 15:10	MC
Calcium EPA 200.7	278	100	ppb	1/23/17 08:50	MC
Chromium by ICP_MS 200.8	Less than	1.0	ppb	1/23/17 15:10	MC
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	1/23/17 15:10	MC
Lead by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:10	MC
Lithium (CWA) 200.7	2.6	2.0	ppb	1/23/17 08:38	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	1/24/17 15:58	PRC
Molybdenum - EPA 200.8	Less than	1.0	ppb	1/23/17 15:10	MC
Selenium by ICP-MS 200.8	Less than	5.0	ppb	1/23/17 15:10	MC
Thallium by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:10	MC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

January 31, 2018

REPORT TO:
Mike Moore

Sample ID: **AB25355**

**Wateree Landfill MW-10LF-RCRA/CCR**

Date & Time Sampled: January 18, 2017 08:05  
 Date & Time Submitted: January 19, 2017 10:30  
 Collected by: S.SANSBURY Location Code: WAG10LFTM

MW-10LF

Login Record File: 170119003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:10	MC
Arsenic by ICP_MS 200.8	1.2	1.0	ppb	1/23/17 15:10	MC
Barium by ICP-OES 200.7	71.4	10.0	ppb	1/23/17 08:50	MC
Beryllium EPA 200.7	Less than	2.0	ppb	1/23/17 08:50	MC
Boron - EPA 200.7	Less than	1000	ppb	1/23/17 08:50	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	1/23/17 15:10	MC
Calcium EPA 200.7	363	100	ppb	1/23/17 08:50	MC
Chromium by ICP_MS 200.8	Less than	1.0	ppb	1/23/17 15:10	MC
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	1/23/17 15:10	MC
Lead by ICP-MS 200.8	1.3	1.0	ppb	1/23/17 15:10	MC
Lithium (CWA) 200.7	2.8	2.0	ppb	1/23/17 08:38	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	1/24/17 15:58	PRC
Molybdenum - EPA 200.8	Less than	1.0	ppb	1/23/17 15:10	MC
Selenium by ICP-MS 200.8	Less than	5.0	ppb	1/23/17 15:10	MC
Thallium by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:10	MC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

January 31, 2018

REPORT TO:
Mike Moore

Sample ID: **AB25356**

**Wateree NPDES Well MW 22 Total Metals (NPDES)**

Date & Time Sampled: January 18, 2017 09:20  
 Date & Time Submitted: January 19, 2017 10:30  
 Collected by: S.SANSBURY Location Code: WAG22TM

MW 22

Login Record File: 170119003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:10	MC
Arsenic by ICP_MS 200.8	1.3	1.0	ppb	1/23/17 15:10	MC
Barium by ICP-OES 200.7	56.5	10.0	ppb	1/23/17 08:50	MC
Beryllium EPA 200.7	Less than	2.0	ppb	1/23/17 08:50	MC
Boron - EPA 200.7	Less than	1000	ppb	1/23/17 08:50	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	1/23/17 15:10	MC
Calcium EPA 200.7	979	100	ppb	1/23/17 08:50	MC
Chromium by ICP_MS 200.8	Less than	1.0	ppb	1/23/17 15:10	MC
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	1/23/17 15:10	MC
Lead by ICP-MS 200.8	1.4	1.0	ppb	1/23/17 15:10	MC
Lithium (CWA) 200.7	2.8	2.0	ppb	1/23/17 08:38	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	1/24/17 15:58	PRC
Molybdenum - EPA 200.8	Less than	1.0	ppb	1/23/17 15:10	MC
Selenium by ICP-MS 200.8	Less than	5.0	ppb	1/23/17 15:10	MC
Thallium by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:10	MC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

January 31, 2018

REPORT TO:
Mike Moore

Sample ID: **AB25357**

**Wateree Landfill MW-08LF-RCRA/CCR**

Date & Time Sampled: January 18, 2017 10:35  
 Date & Time Submitted: January 19, 2017 10:30  
 Collected by: S.SANSBURY Location Code: WAG08LFTM

MW-08LF

Login Record File: 170119003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:10	MC
Arsenic by ICP_MS 200.8	1.2	1.0	ppb	1/23/17 15:10	MC
Barium by ICP-OES 200.7	38.4	10.0	ppb	1/23/17 08:50	MC
Beryllium EPA 200.7	Less than	2.0	ppb	1/23/17 08:50	MC
Boron - EPA 200.7	Less than	1000	ppb	1/23/17 08:50	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	1/23/17 15:10	MC
Calcium EPA 200.7	816	100	ppb	1/23/17 08:50	MC
Chromium by ICP_MS 200.8	Less than	1.0	ppb	1/23/17 15:10	MC
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	1/23/17 15:10	MC
Lead by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:10	MC
Lithium (CWA) 200.7	9.0	2.0	ppb	1/23/17 08:38	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	1/24/17 15:58	PRC
Molybdenum - EPA 200.8	Less than	1.0	ppb	1/23/17 15:10	MC
Selenium by ICP-MS 200.8	Less than	5.0	ppb	1/23/17 15:10	MC
Thallium by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:10	MC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

January 31, 2018

REPORT TO:
Mike Moore

Sample ID: **AB25358**

**Wateree Landfill MW-07LF-RCRA/CCR**

Date & Time Sampled: January 18, 2017 12:05  
 Date & Time Submitted: January 19, 2017 10:30  
 Collected by: S.SANSBURY Location Code: WAG07LFTM

MW-07LF

Login Record File: 170119003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:10	MC
Arsenic by ICP_MS 200.8	1.4	1.0	ppb	1/23/17 15:10	MC
Barium by ICP-OES 200.7	72.9	10.0	ppb	1/23/17 08:50	MC
Beryllium EPA 200.7	Less than	2.0	ppb	1/23/17 08:50	MC
Boron - EPA 200.7	Less than	1000	ppb	1/23/17 08:50	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	1/23/17 15:10	MC
Calcium EPA 200.7	2190	100	ppb	1/23/17 08:50	MC
Chromium by ICP_MS 200.8	Less than	1.0	ppb	1/23/17 15:10	MC
Cobalt by ICP_MS 200.8	2.0	1.0	ppb	1/23/17 15:10	MC
Lead by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:10	MC
Lithium (CWA) 200.7	4.2	2.0	ppb	1/23/17 08:38	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	1/24/17 16:03	PRC
Molybdenum - EPA 200.8	Less than	1.0	ppb	1/23/17 15:10	MC
Selenium by ICP-MS 200.8	Less than	5.0	ppb	1/23/17 15:10	MC
Thallium by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:10	MC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_

SOUTH CAROLINA DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL  
GROUND-WATER MONITORING REPORT

Facility: Wateree Station

Permit No.: \_\_\_\_\_

County: Richland

Date Sampled: 03/20/2017

Time Sampled: 12:00:00PM

\_\_\_\_\_   
 year-month-day (Numerical)

**STATION NUMBERS**

PARAMETER	NUMBER	MW-LF-01	MW-LF-06
NAME	Lab. Certificate No.	32006	32006
Field pH S.U.		4.020	4.270
Field Sp. Conductivity micromhos/cm		42.000	49.000
Field Turbidity NTU		6.90	7.80
ORP mV		337.100	342.600
Oxygen, dissolved mg/L		4.890	5.380
Temp (Celcius) degrees C		17.170	17.280
Water level elevation ft		125.92	116.69

Authorized Release By: \_\_\_\_\_

Date: \_\_\_\_\_

SOUTH CAROLINA DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL  
GROUND-WATER MONITORING REPORT

Facility: Wateree Station

Permit No.: \_\_\_\_\_

County: Richland

Date Sampled: 03/20/2017

Time Sampled: 12:00:00PM

year-month-day (Numerical)

**STATION NUMBERS**

PARAMETER	NUMBER	MW-LF-07	MW-LF-08	MW-LF-10	MW-LF-11	MW-LF-22
NAME	Lab. Certificate No.	32006	32006	32006	32006	32006
Field pH S.U.		3.820	4.700	4.410	4.610	4.270
Field Sp. Conductivity micromhos/cm		95.000	38.000	63.000	33.000	69.000
Field Turbidity NTU		1.10	3.10	4.00	3.10	3.10
ORP mV		226.000	165.400	195.900	185.700	198.400
Oxygen, dissolved mg/L		5.210	6.710	5.080	6.050	4.420
Temp (Celcius) degrees C		18.640	16.870	18.540	19.280	19.540
Water level elevation ft		115.95	112.86	113.63	114.42	113.98

Authorized Release By: \_\_\_\_\_

Date: \_\_\_\_\_



## GEL LABORATORIES LLC

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

### Certificate of Analysis Report for

GEEL003 GEL Engineering, LLC

Client SDG: 419043 GEL Work Order: 419043

**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
- H Analytical holding time was exceeded
- 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, Jake Crook.

Reviewed by \_\_\_\_\_



# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: April 14, 2017

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd  
  
Charleston, South Carolina 29417  
Contact: Robert Gardner  
Project: Wateree CCR

Client Sample ID: MW-01LF Project: SCEG01716c  
Sample ID: 419043001 Client ID: GEEL003  
Matrix: Ground Water  
Collect Date: 20-MAR-17 14:35  
Receive Date: 22-MAR-17  
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	U	ND	0.033	0.100	mg/L		1	MXL2	03/23/17	0329	1649928	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	U	ND	3.00	10.0	ug/L	1.00	1	BAJ	04/11/17	1208	1649920	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228		0.462	0.432	3.00	pCi/L			AXM6	04/11/17	1201	1651318	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226	U	ND	0.367	1.00	pCi/L			MXH8	04/13/17	1015	1651331	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	CXW4	03/22/17	1839	1649919

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			93.6	(15%-125%)

### Notes:

Column headers are defined as follows:

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

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: April 14, 2017

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd  
  
Charleston, South Carolina 29417  
Contact: Robert Gardner  
Project: Wateree CCR

Client Sample ID: MW-06LF Project: SCEG01716c  
Sample ID: 419043002 Client ID: GEEL003  
Matrix: Ground Water  
Collect Date: 20-MAR-17 15:45  
Receive Date: 22-MAR-17  
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	U	ND	0.033	0.100	mg/L		1	MXL2	03/23/17	0450	1649928	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	U	ND	3.00	10.0	ug/L	1.00	1	BAJ	04/11/17	1226	1649920	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	0.428	3.00	pCi/L			AXM6	04/11/17	1201	1651318	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.374	0.258	1.00	pCi/L			MXH8	04/13/17	1015	1651331	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	CXW4	03/22/17	1839	1649919

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			98.3	(15%-125%)

### Notes:

Column headers are defined as follows:

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

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: April 14, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Wateree CCR

Client Sample ID: MW-11LF	Project: SCEG01716c
Sample ID: 419043003	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 20-MAR-17 16:10	
Receive Date: 22-MAR-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	U	ND	0.033	0.100	mg/L		1	MXL2	03/23/17	0517	1649928	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	J	3.32	3.00	10.0	ug/L	1.00	1	BAJ	04/11/17	1229	1649920	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	0.421	3.00	pCi/L			AXM6	04/11/17	1201	1651318	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.05	0.360	1.00	pCi/L			MXH8	04/13/17	1015	1651331	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	CXW4	03/22/17	1839	1649919

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			107	(15%-125%)

**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: April 14, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Wateree CCR

Client Sample ID: MW-10LF	Project: SCEG01716c
Sample ID: 419043004	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 20-MAR-17 17:35	
Receive Date: 22-MAR-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	J	0.0775	0.033	0.100	mg/L		1	MXL2	03/23/17	0544	1649928	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	J	3.29	3.00	10.0	ug/L	1.00	1	BAJ	04/11/17	1231	1649920	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	0.594	3.00	pCi/L			AXM6	04/11/17	1201	1651318	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.57	0.437	1.00	pCi/L			MXH8	04/13/17	1015	1651331	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	CXW4	03/22/17	1839	1649919

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			74	(15%-125%)

**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: April 14, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Wateree CCR

Client Sample ID: MW-22	Project: SCEG01716c
Sample ID: 419043005	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 20-MAR-17 18:50	
Receive Date: 22-MAR-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	U	ND	0.033	0.100	mg/L		1	MXL2	03/23/17	0610	1649928	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	U	ND	3.00	10.0	ug/L	1.00	1	BAJ	04/11/17	1234	1649920	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228		0.745	0.710	3.00	pCi/L			AXM6	04/11/17	1405	1651318	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.635	0.304	1.00	pCi/L			MXH8	04/13/17	1015	1651331	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	CXW4	03/22/17	1839	1649919

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			78.7	(15%-125%)

**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: April 14, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Wateree CCR

Client Sample ID: MW-08LF	Project: SCEG01716c
Sample ID: 419043006	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 20-MAR-17 08:35	
Receive Date: 22-MAR-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	U	ND	0.033	0.100	mg/L		1	MXL2	03/23/17	0637	1649928	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium		11.5	3.00	10.0	ug/L	1.00	1	BAJ	04/11/17	1237	1649920	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	0.768	3.00	pCi/L			AXM6	04/11/17	1201	1651318	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.517	0.348	1.00	pCi/L			MXH8	04/13/17	1015	1651331	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	CXW4	03/22/17	1839	1649919

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

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

**Notes:**

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: April 14, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Wateree CCR

Client Sample ID: MW-07LF	Project: SCEG01716c
Sample ID: 419043007	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 20-MAR-17 10:15	
Receive Date: 22-MAR-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	J	0.0627	0.033	0.100	mg/L		1	MXL2	03/23/17	0758	1649928	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	J	4.68	3.00	10.0	ug/L	1.00	1	BAJ	04/11/17	1239	1649920	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228		1.45	0.634	3.00	pCi/L			AXM6	04/11/17	1203	1651318	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.42	0.343	1.00	pCi/L			MXH8	04/13/17	1045	1651331	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	CXW4	03/22/17	1839	1649919

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			74.9	(15%-125%)

**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: April 14, 2017

Page 1 of 3

GEL Engineering, LLC  
2040 Savage Rd  
Charleston, South Carolina

Contact: Robert Gardner

Workorder: 419043

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Ion Chromatography</b>											
Batch	1649928										
QC1203753083	419043001	DUP									
Fluoride		U	ND	U	ND	mg/L	N/A		MXL2	03/23/17	03:56
QC1203753082	LCS										
Fluoride	2.50				2.40	mg/L	96	(90%-110%)		03/23/17	03:02
QC1203753081	MB										
Fluoride			U		ND	mg/L				03/23/17	02:35
QC1203753084	419043001	PS									
Fluoride	2.50	U	ND		2.51	mg/L	99.8	(90%-110%)		03/23/17	04:23
<b>Metals Analysis - ICPMS</b>											
Batch	1649920										
QC1203753051	419043001	DUP									
Lithium		U	ND	U	ND	ug/L	N/A		BAJ	04/11/17	12:11
QC1203753050	LCS										
Lithium	50.0				54.3	ug/L	109	(80%-120%)		04/11/17	12:06
QC1203753049	MB										
Lithium			U		ND	ug/L				04/11/17	12:03
QC1203753052	419043001	MS									
Lithium	50.0	U	ND		57.6	ug/L	114	(75%-125%)		04/11/17	12:13
QC1203753053	419043001	SDILT									
Lithium		U	ND	U	ND	ug/L	N/A	(0%-10%)		04/11/17	12:16

# GEL LABORATORIES LLC

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

## QC Summary

Workorder: 419043

Page 2 of 3

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Rad Gas Flow</b>											
Batch	1651318										
QC1203756431	419043004	DUP									
Radium-228		U	0.569	1.24	pCi/L	74.5		(0% - 100%)	AXM6	04/11/17	12:05
QC1203756432	LCS										
Radium-228	6.89			7.53	pCi/L		109	(75%-125%)		04/11/17	12:05
QC1203756430	MB										
Radium-228			U	0.358	pCi/L					04/11/17	12:03
<b>Rad Ra-226</b>											
Batch	1651331										
QC1203756459	419043006	DUP									
Radium-226			0.517	0.846	pCi/L	48.3		(0% - 100%)	MXH8	04/13/17	11:20
QC1203756461	LCS										
Radium-226	26.0			23.3	pCi/L		89.9	(75%-125%)		04/13/17	11:20
QC1203756458	MB										
Radium-226			U	0.0848	pCi/L					04/13/17	10:45
QC1203756460	419043006	MS									
Radium-226	130		0.517	120	pCi/L		92	(75%-125%)		04/13/17	11:20

### Notes:

The Qualifiers in this report are defined as follows:

- \*\* Analyte is a Tracer compound
- < Result is less than value reported
- > Result is greater than value reported
- B The target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- E %difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- E General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
- FA Failed analysis.
- FB Mercury was found present at quantifiable concentrations in field blanks received with these samples. Data associated with the blank are deemed invalid for reporting to regulatory agencies

# GEL LABORATORIES LLC

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

## QC Summary

Workorder: 419043

Page 3 of 3

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
H		Analytical holding time was exceeded									
J		Value is estimated									
K		Analyte present. Reported value may be biased high. Actual value is expected to be lower.									
L		Analyte present. Reported value may be biased low. Actual value is expected to be higher.									
M		M if above MDC and less than LLD									
M		REMP Result > MDC/CL and < RDL									
N		Metals--The Matrix spike sample recovery is not within specified control limits									
N/A		RPD or %Recovery limits do not apply.									
NI		See case narrative									
ND		Analyte concentration is not detected above the detection limit									
NJ		Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier									
Q		One or more quality control criteria have not been met. Refer to the applicable narrative or DER.									
R		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.									
R		Sample results are rejected									
U		Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.									
UI		Gamma Spectroscopy--Uncertain identification									
UJ		Gamma Spectroscopy--Uncertain identification									
UL		Not considered detected. The associated number is the reported concentration, which may be inaccurate due to a low bias.									
X		Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier									
Y		Other specific qualifiers were required to properly define the results. Consult case narrative.									
Z		Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.									
^		RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.									
d		5-day BOD--The 2:1 depletion requirement was not met for this sample									
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									
h		Preparation or preservation holding time was exceeded									

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

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

\* Indicates that a Quality Control parameter was not within specifications.

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

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



Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

January 31, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB26311**

**Wateree Landfill MW-01LF-RCRA/CCR**

Date & Time Sampled: March 20, 2017 14:35  
 Date & Time Submitted: March 22, 2017 13:30  
 Collected by: A.HILL Location Code: WAG01LFTDS

MW-01LF

Login Record File: 170322002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC- 9056A	5.3	0.50	mg/L	3/24/17 06:18	EB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	5.13	0.00	S.U.	3/23/17 14:53	BF
Sulfates by IC - 9056A	Less than	0.5	mg/L	3/24/17 06:18	EB
Total Dissolved Solid-SM2540C	40	2.0	mg/L	3/24/17 15:00	BF

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



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January 31, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB26312**

**Wateree Landfill Well GW 6 -RCRA**

Date & Time Sampled: March 20, 2017 15:45  
 Date & Time Submitted: March 22, 2017 13:30  
 Collected by: A.HILL Location Code: WAG06LFTDS

GW 6

Login Record File: 170322002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC- 9056A	6.31	0.50	mg/L	3/24/17 06:18	EB
pH by SM4500HB(2011)	5.47	0.00	S.U.	3/23/17 14:53	BF
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC - 9056A	Less than	0.5	mg/L	3/24/17 06:18	EB
Total Dissolved Solid-SM2540C	39	2.0	mg/L	3/24/17 15:00	BF

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



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January 31, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB26313**

**Wateree Landfill MW-11LF-RCRA/CCR**

Date & Time Sampled: March 20, 2017 16:10  
 Date & Time Submitted: March 22, 2017 13:30  
 Collected by: A.HILL Location Code: WAG11LFTDS

MW-11LF

Login Record File: 170322002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC- 9056A	4.58	0.50	mg/L	3/24/17 14:10	EB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	5.38	0.00	S.U.	3/23/17 14:53	BF
Sulfates by IC - 9056A	Less than	0.5	mg/L	3/24/17 14:10	EB
Total Dissolved Solid-SM2540C	29	2.0	mg/L	3/24/17 15:00	BF

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



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January 31, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB26314**

**Wateree Landfill MW-10LF-RCRA/CCR**

Date & Time Sampled: March 20, 2017 17:35  
 Date & Time Submitted: March 22, 2017 13:30  
 Collected by: A.HILL Location Code: WAG10LFTDS

MW-10LF

Login Record File: 170322002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC- 9056A	6.90	0.50	mg/L	3/24/17 14:10	EB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	5.24	0.00	S.U.	3/23/17 14:53	BF
Sulfates by IC - 9056A	6.35	0.5	mg/L	3/24/17 14:10	EB
Total Dissolved Solid-SM2540C	45	2.0	mg/L	3/24/17 15:00	BF

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



Central Laboratory (P-08)  
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January 31, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB26315**

**Wateree NPDES Well MW 22 (NPDES)**

Date & Time Sampled: March 20, 2017 18:50  
 Date & Time Submitted: March 22, 2017 13:30  
 Collected by: A.HILL Location Code: WAG22TDS

MW 22

Login Record File: 170322002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC- 9056A	9.42	0.50	mg/L	3/24/17 14:10	EB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	5.15	0.00	S.U.	3/23/17 14:53	BF
Sulfates by IC - 9056A	Less than	0.5	mg/L	3/24/17 14:10	EB
Total Dissolved Solid-SM2540C	46	2.0	mg/L	3/24/17 15:00	BF

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_





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January 31, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB26316**

**Wateree Landfill MW-08LF-RCRA/CCR**

Date & Time Sampled: March 21, 2017 08:35  
 Date & Time Submitted: March 22, 2017 13:30  
 Collected by: A.HILL Location Code: WAG08LFTDS

MW-08LF

Login Record File: 170322002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC- 9056A	4.75	0.50	mg/L	3/24/17 14:10	EB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	4.90	0.00	S.U.	3/23/17 14:53	BF
Sulfates by IC - 9056A	Less than	0.5	mg/L	3/24/17 14:10	EB
Total Dissolved Solid-SM2540C	30	2.0	mg/L	3/24/17 15:00	BF

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



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January 31, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB26317**

**Wateree Landfill MW-07LF-RCRA/CCR**

Date & Time Sampled: March 21, 2017 10:15  
 Date & Time Submitted: March 22, 2017 13:30  
 Collected by: A.HILL Location Code: WAG07LFTDS

MW-07LF

Login Record File: 170322002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC- 9056A	9.16	0.50	mg/L	3/24/17 14:10	EB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	5.02	0.00	S.U.	3/23/17 14:53	BF
Sulfates by IC - 9056A	Less than	0.5	mg/L	3/24/17 14:10	EB
Total Dissolved Solid-SM2540C	44	2.0	mg/L	3/24/17 15:00	BF

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



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January 31, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB26338**

**Wateree Landfill MW-01LF-RCRA/CCR**

Date & Time Sampled: March 20, 2017 14:35  
 Date & Time Submitted: March 22, 2017 13:30  
 Collected by: A.HILL Location Code: WAG01LFTM

MW-01LF

Login Record File: 170323001

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS 200.8	Less than	1.0	ppb	3/28/17 14:19	MC
Arsenic by ICP_MS 200.8	Less than	1.0	ppb	3/28/17 14:19	MC
Barium by ICP-OES 200.7	59.8	10.0	ppb	3/24/17 12:09	MC
Beryllium EPA 200.7	Less than	2.0	ppb	3/24/17 12:09	MC
Boron - EPA 200.7	Less than	1000	ppb	3/24/17 12:09	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	3/28/17 14:19	MC
Calcium EPA 200.7	Less than	100	ppb	3/24/17 12:09	MC
Chromium by ICP_MS 200.8	Less than	1.0	ppb	3/28/17 14:19	MC
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	3/28/17 14:19	MC
Lead by ICP-MS 200.8	Less than	1.0	ppb	3/28/17 14:19	MC
Lithium (CWA) 200.7	Less than	2.0	ppb	3/24/17 12:09	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	3/24/17 14:55	PRC
Molybdenum - EPA 200.8	Less than	1.0	ppb	3/28/17 14:19	MC
Selenium by ICP-MS 200.8	Less than	5.0	ppb	3/28/17 14:19	MC
Thallium by ICP-MS 200.8	Less than	1.0	ppb	3/28/17 14:19	MC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



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January 31, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB26339**

**Wateree Landfill Well GW 6-RCRA**

Date & Time Sampled: March 20, 2017 15:45  
 Date & Time Submitted: March 22, 2017 13:30  
 Collected by: A.HILL Location Code: WAG06LFTM

GW 6

Login Record File: 170323001

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS 200.8	Less than	1.0	ppb	3/28/17 14:19	MC
Arsenic by ICP_MS 200.8	Less than	1.0	ppb	3/28/17 14:19	MC
Barium by ICP-OES 200.7	51.6	10.0	ppb	3/24/17 12:09	MC
Beryllium EPA 200.7	Less than	2.0	ppb	3/24/17 12:09	MC
Boron - EPA 200.7	Less than	1000	ppb	3/24/17 12:09	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	3/28/17 14:19	MC
Calcium EPA 200.7	997	100	ppb	3/24/17 12:09	MC
Chromium by ICP_MS 200.8	Less than	1.0	ppb	3/28/17 14:19	MC
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	3/28/17 14:19	MC
Lead by ICP-MS 200.8	Less than	1.0	ppb	3/28/17 14:19	MC
Lithium (CWA) 200.7	Less than	2.0	ppb	3/24/17 12:09	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	3/24/17 14:55	PRC
Molybdenum - EPA 200.8	Less than	1.0	ppb	3/28/17 14:19	MC
Selenium by ICP-MS 200.8	Less than	5.0	ppb	3/28/17 14:19	MC
Thallium by ICP-MS 200.8	Less than	1.0	ppb	3/28/17 14:19	MC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



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 2102 North Lake Drive  
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January 31, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB26340**

**Wateree Landfill MW-11LF-RCRA/CCR**

Date & Time Sampled: March 20, 2017 16:10  
 Date & Time Submitted: March 22, 2017 13:30  
 Collected by: A.HILL Location Code: WAG11LFTM

MW-11LF

Login Record File: 170323001

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS 200.8	Less than	1.0	ppb	3/28/17 14:19	MC
Arsenic by ICP_MS 200.8	Less than	1.0	ppb	3/28/17 14:19	MC
Barium by ICP-OES 200.7	43.9	10.0	ppb	3/24/17 12:31	MC
Beryllium EPA 200.7	Less than	2.0	ppb	3/24/17 12:31	MC
Boron - EPA 200.7	Less than	1000	ppb	3/24/17 12:31	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	3/28/17 14:19	MC
Calcium EPA 200.7	767	100	ppb	3/24/17 12:31	MC
Chromium by ICP_MS 200.8	Less than	1.0	ppb	3/28/17 14:19	MC
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	3/28/17 14:19	MC
Lead by ICP-MS 200.8	Less than	1.0	ppb	3/28/17 14:19	MC
Lithium (CWA) 200.7	2.2	2.0	ppb	3/24/17 12:31	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	3/24/17 14:55	PRC
Molybdenum - EPA 200.8	Less than	1.0	ppb	3/28/17 14:19	MC
Selenium by ICP-MS 200.8	Less than	5.0	ppb	3/28/17 14:19	MC
Thallium by ICP-MS 200.8	Less than	1.0	ppb	3/28/17 14:19	MC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



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 2102 North Lake Drive  
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 Fax: (803) 217-9911

January 31, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB26341**

**Wateree Landfill MW-10LF-RCRA/CCR**

Date & Time Sampled: March 20, 2017 17:35  
 Date & Time Submitted: March 22, 2017 13:30  
 Collected by: A.HILL Location Code: WAG10LFTM

MW-10LF

Login Record File: 170323001

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS 200.8	Less than	1.0	ppb	3/28/17 14:19	MC
Arsenic by ICP_MS 200.8	Less than	1.0	ppb	3/28/17 14:19	MC
Barium by ICP-OES 200.7	101	10.0	ppb	3/24/17 12:31	MC
Beryllium EPA 200.7	Less than	2.0	ppb	3/24/17 12:31	MC
Boron - EPA 200.7	Less than	1000	ppb	3/24/17 12:31	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	3/28/17 14:19	MC
Calcium EPA 200.7	1790	100	ppb	3/24/17 12:31	MC
Chromium by ICP_MS 200.8	Less than	1.0	ppb	3/28/17 14:19	MC
Cobalt by ICP_MS 200.8	1.1	1.0	ppb	3/28/17 14:19	MC
Lead by ICP-MS 200.8	1.6	1.0	ppb	3/28/17 14:19	MC
Lithium (CWA) 200.7	2.6	2.0	ppb	3/24/17 12:31	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	3/24/17 14:55	PRC
Molybdenum - EPA 200.8	Less than	1.0	ppb	3/28/17 14:19	MC
Selenium by ICP-MS 200.8	Less than	5.0	ppb	3/28/17 14:19	MC
Thallium by ICP-MS 200.8	Less than	1.0	ppb	3/28/17 14:19	MC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

January 31, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB26342**

**Wateree NPDES Well MW 22 Total Metals (NPDES)**

Date & Time Sampled: March 20, 2017 18:50  
 Date & Time Submitted: March 22, 2017 13:30  
 Collected by: A.HILL Location Code: WAG22TM

MW 22

Login Record File: 170323001

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS 200.8	Less than	1.0	ppb	3/28/17 14:19	MC
Arsenic by ICP_MS 200.8	Less than	1.0	ppb	3/28/17 14:19	MC
Barium by ICP-OES 200.7	49.9	10.0	ppb	3/24/17 12:31	MC
Beryllium EPA 200.7	Less than	2.0	ppb	3/24/17 12:31	MC
Boron - EPA 200.7	Less than	1000	ppb	3/24/17 12:31	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	3/28/17 14:19	MC
Calcium EPA 200.7	1760	100	ppb	3/24/17 12:31	MC
Chromium by ICP_MS 200.8	Less than	1.0	ppb	3/28/17 14:19	MC
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	3/28/17 14:19	MC
Lead by ICP-MS 200.8	1.5	1.0	ppb	3/28/17 14:19	MC
Lithium (CWA) 200.7	2.1	2.0	ppb	3/24/17 12:31	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	3/24/17 14:55	PRC
Molybdenum - EPA 200.8	Less than	1.0	ppb	3/28/17 14:19	MC
Selenium by ICP-MS 200.8	Less than	5.0	ppb	3/28/17 14:19	MC
Thallium by ICP-MS 200.8	Less than	1.0	ppb	3/28/17 14:19	MC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

January 31, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB26343**

**Wateree Landfill MW-08LF-RCRA/CCR**

Date & Time Sampled: March 21, 2017 08:35  
 Date & Time Submitted: March 22, 2017 13:30  
 Collected by: A.HILL Location Code: WAG08LFTM

MW-08LF

Login Record File: 170323001

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS 200.8	Less than	1.0	ppb	3/28/17 14:19	MC
Arsenic by ICP_MS 200.8	Less than	1.0	ppb	3/28/17 14:19	MC
Barium by ICP-OES 200.7	38.5	10.0	ppb	3/24/17 12:31	MC
Beryllium EPA 200.7	Less than	2.0	ppb	3/24/17 12:31	MC
Boron - EPA 200.7	Less than	1000	ppb	3/24/17 12:31	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	3/28/17 14:19	MC
Calcium EPA 200.7	1760	100	ppb	3/24/17 12:31	MC
Chromium by ICP_MS 200.8	Less than	1.0	ppb	3/28/17 14:19	MC
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	3/28/17 14:19	MC
Lead by ICP-MS 200.8	Less than	1.0	ppb	3/28/17 14:19	MC
Lithium (CWA) 200.7	8.5	2.0	ppb	3/24/17 12:31	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	3/24/17 14:55	PRC
Molybdenum - EPA 200.8	Less than	1.0	ppb	3/28/17 14:19	MC
Selenium by ICP-MS 200.8	Less than	5.0	ppb	3/28/17 14:19	MC
Thallium by ICP-MS 200.8	Less than	1.0	ppb	3/28/17 14:19	MC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_





Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

January 31, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB26344**

**Wateree Landfill MW-07LF-RCRA/CCR**

Date & Time Sampled: March 21, 2017 10:15  
 Date & Time Submitted: March 22, 2017 13:30  
 Collected by: A.HILL Location Code: WAG07LFTM

MW-07LF

Login Record File: 170323001

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS 200.8	Less than	1.0	ppb	3/28/17 14:19	MC
Arsenic by ICP_MS 200.8	Less than	1.0	ppb	3/28/17 14:19	MC
Barium by ICP-OES 200.7	62.7	10.0	ppb	3/24/17 12:42	MC
Beryllium EPA 200.7	Less than	2.0	ppb	3/24/17 12:42	MC
Boron - EPA 200.7	Less than	1000	ppb	3/24/17 12:42	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	3/28/17 14:19	MC
Calcium EPA 200.7	1960	100	ppb	3/24/17 12:42	MC
Chromium by ICP_MS 200.8	Less than	1.0	ppb	3/28/17 14:19	MC
Cobalt by ICP_MS 200.8	1.8	1.0	ppb	3/28/17 14:19	MC
Lead by ICP-MS 200.8	Less than	1.0	ppb	3/28/17 14:19	MC
Lithium (CWA) 200.7	3.4	2.0	ppb	3/24/17 12:42	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	3/24/17 14:55	PRC
Molybdenum - EPA 200.8	Less than	1.0	ppb	3/28/17 14:19	MC
Selenium by ICP-MS 200.8	Less than	5.0	ppb	3/28/17 14:19	MC
Thallium by ICP-MS 200.8	Less than	1.0	ppb	3/28/17 14:19	MC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_

SOUTH CAROLINA DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL  
GROUND-WATER MONITORING REPORT

Facility: Wateree Station

Permit No.: \_\_\_\_\_

County: Richland

Date Sampled: 05/22/2017

Time Sampled: 12:00:00PM

\_\_\_\_\_   
 year-month-day (Numerical)

**STATION NUMBERS**

<b>PARAMETER</b>	<b>NUMBER</b>	<b>MW-LF-01</b>	<b>MW-LF-06</b>
<b>NAME</b>	Lab. Certificate No.	32006	32006
Field pH S.U.		4.370	4.330
Field Sp. Conductivity micromhos/cm		62.000	64.000
Field Turbidity NTU		1.50	5.70
ORP mV		226.000	231.200
Oxygen, dissolved mg/L		5.350	7.100
Temp (Celcius) degrees C		19.070	17.790
Water level elevation ft		126.25	116.99

Authorized Release By: \_\_\_\_\_

Date: \_\_\_\_\_

SOUTH CAROLINA DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL  
GROUND-WATER MONITORING REPORT

Facility: Wateree Station

Permit No.: \_\_\_\_\_

County: Richland

Date Sampled: 05/22/2017

Time Sampled: 12:00:00PM

\_\_\_\_\_   
 year-month-day (Numerical)

**STATION NUMBERS**

<b>PARAMETER</b>	<b>NUMBER</b>	<b>MW-LF-10</b>	<b>MW-LF-11</b>
<b>NAME</b>	<b>Lab. Certificate No.</b>	32006	32006
Field pH S.U.		4.440	4.610
Field Sp. Conductivity micromhos/cm		66.000	42.000
Field Turbidity NTU		1.90	3.30
ORP mV		175.300	172.200
Oxygen, dissolved mg/L		6.490	7.020
Temp (Celcius) degrees C		20.620	22.370
Water level elevation ft		113.94	114.73

Authorized Release By: \_\_\_\_\_

Date: \_\_\_\_\_

SOUTH CAROLINA DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL  
GROUND-WATER MONITORING REPORT

Facility: Wateree Station

Permit No.: \_\_\_\_\_

County: Richland

Date Sampled: 05/23/2017

Time Sampled: 12:00:00PM

year-month-day (Numerical)

**STATION NUMBERS**

PARAMETER	NUMBER	MW-LF-07	MW-LF-08	MW-LF-22
NAME	Lab. Certificate No.	32006	32006	32006
Field pH S.U.		4.420	4.750	4.420
Field Sp. Conductivity micromhos/cm		74.000	43.000	80.000
Field Turbidity NTU		1.80	2.50	3.10
ORP mV		208.200	186.400	177.900
Oxygen, dissolved mg/L		6.510	7.500	4.620
Temp (Celcius) degrees C		22.740	21.310	20.450
Water level elevation ft		116.02	113.18	114.27

Authorized Release By: \_\_\_\_\_

Date: \_\_\_\_\_

## GEL LABORATORIES LLC

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

### Certificate of Analysis Report for

GEEL003 GEL Engineering, LLC

Client SDG: 424120 GEL Work Order: 424120

**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
- H Analytical holding time was exceeded
- 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, Jake Crook.

Reviewed by \_\_\_\_\_



# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: June 21, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Wateree CCR

Client Sample ID: MW-01LF	Project: SCEG01716c
Sample ID: 424120001	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 22-MAY-17 13:40	
Receive Date: 25-MAY-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	J	0.0405	0.033	0.100	mg/L		1	MXL2	06/02/17	2349	1669572	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	U	ND	3.00	10.0	ug/L	1.00	1	SKJ	06/09/17	2317	1668710	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	1.85	3.00	pCi/L			BXF1	06/19/17	1529	1668804	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.440	0.183	1.00	pCi/L			MXH8	06/21/17	0820	1668815	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	SXW1	05/26/17	0839	1668709

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			96.8	(15%-125%)

**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: June 21, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Wateree CCR

Client Sample ID: MW-11LF	Project: SCEG01716c
Sample ID: 424120002	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 22-MAY-17 14:35	
Receive Date: 25-MAY-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	J	0.0385	0.033	0.100	mg/L		1	MXL2	06/03/17	0018	1669572	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	U	ND	3.00	10.0	ug/L	1.00	1	SKJ	06/09/17	2344	1668710	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	1.75	3.00	pCi/L			BXF1	06/19/17	1529	1668804	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226	U	ND	0.313	1.00	pCi/L			MXH8	06/21/17	0900	1668815	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	SXW1	05/26/17	0839	1668709

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			95.7	(15%-125%)

**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: June 21, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Wateree CCR

Client Sample ID: MW-06LF	Project: SCEG01716c
Sample ID: 424120003	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 22-MAY-17 14:45	
Receive Date: 25-MAY-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	J	0.0339	0.033	0.100	mg/L		1	MXL2	06/03/17	0047	1669572	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	U	ND	3.00	10.0	ug/L	1.00	1	SKJ	06/09/17	2348	1668710	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228		1.38	1.28	3.00	pCi/L			BXF1	06/19/17	1529	1668804	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.313	0.299	1.00	pCi/L			MXH8	06/21/17	0900	1668815	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	SXW1	05/26/17	0839	1668709

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			90.1	(15%-125%)

**Notes:**

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: June 21, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Wateree CCR

Client Sample ID: MW-10LF	Project: SCEG01716c
Sample ID: 424120004	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 22-MAY-17 16:40	
Receive Date: 25-MAY-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	J	0.0766	0.033	0.100	mg/L		1	MXL2	06/03/17	0116	1669572	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	U	ND	3.00	10.0	ug/L	1.00	1	SKJ	06/09/17	2352	1668710	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	1.20	3.00	pCi/L			BXF1	06/19/17	1529	1668804	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.08	0.363	1.00	pCi/L			MXH8	06/21/17	0900	1668815	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	SXW1	05/26/17	0839	1668709

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			94.6	(15%-125%)

**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: June 21, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Wateree CCR

Client Sample ID: MW-22	Project: SCEG01716c
Sample ID: 424120005	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 23-MAY-17 08:35	
Receive Date: 25-MAY-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	J	0.0697	0.033	0.100	mg/L		1	MXL2	06/03/17	0145	1669572	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	U	ND	3.00	10.0	ug/L	1.00	1	SKJ	06/09/17	2356	1668710	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	1.39	3.00	pCi/L			BXF1	06/19/17	1529	1668804	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.681	0.336	1.00	pCi/L			MXH8	06/21/17	0900	1668815	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	SXW1	05/26/17	0839	1668709

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			98.3	(15%-125%)

**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: June 21, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Wateree CCR

Client Sample ID: MW-08LF	Project: SCEG01716c
Sample ID: 424120006	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 23-MAY-17 09:55	
Receive Date: 25-MAY-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	J	0.0361	0.033	0.100	mg/L		1	MXL2	06/03/17	0214	1669572	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium		10.2	3.00	10.0	ug/L	1.00	1	SKJ	06/10/17	0000	1668710	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	1.29	3.00	pCi/L			BXF1	06/19/17	1529	1668804	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.762	0.162	1.00	pCi/L			MXH8	06/21/17	0900	1668815	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	SXW1	05/26/17	0839	1668709

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			95.6	(15%-125%)

**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: June 21, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Wateree CCR

Client Sample ID: MW-07LF	Project: SCEG01716c
Sample ID: 424120007	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 23-MAY-17 11:55	
Receive Date: 25-MAY-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	J	0.0946	0.033	0.100	mg/L		1	MXL2	06/03/17	0243	1669572	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	J	4.49	3.00	10.0	ug/L	1.00	1	SKJ	06/10/17	0004	1668710	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228		2.40	1.28	3.00	pCi/L			BXF1	06/19/17	1529	1668804	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.49	0.360	1.00	pCi/L			MXH8	06/21/17	0900	1668815	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	SXW1	05/26/17	0839	1668709

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			98.5	(15%-125%)

**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: June 21, 2017

Page 1 of 3

GEL Engineering, LLC  
2040 Savage Rd  
Charleston, South Carolina

Contact: Robert Gardner

Workorder: 424120

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Ion Chromatography</b>											
Batch	1669572										
QC1203800284	424121003	DUP									
Fluoride		0.715		0.720	mg/L	0.613		(0%-20%)	MXL2	06/03/17	05:36
QC1203800283	LCS										
Fluoride	2.50			2.34	mg/L		93.5	(90%-110%)		06/02/17	23:20
QC1203800282	MB										
Fluoride			U	ND	mg/L					06/02/17	22:52
QC1203800285	424121003	PS									
Fluoride	2.50	0.715		3.13	mg/L		96.7	(90%-110%)		06/03/17	06:05
<b>Metals Analysis - ICPMS</b>											
Batch	1668710										
QC1203798163	424120001	DUP									
Lithium		U	ND	U	ND	ug/L	N/A		SKJ	06/09/17	23:21
QC1203798162	LCS										
Lithium	50.0			52.3	ug/L		105	(80%-120%)		06/09/17	23:13
QC1203798161	MB										
Lithium			U	ND	ug/L					06/09/17	23:09
QC1203798164	424120001	MS									
Lithium	50.0	U	ND	52.5	ug/L		104	(75%-125%)		06/09/17	23:24
QC1203798165	424120001	SDILT									
Lithium		U	ND	U	ND	ug/L	N/A	(0%-10%)		06/09/17	23:32

# GEL LABORATORIES LLC

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

## QC Summary

Workorder: 424120

Page 2 of 3

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Rad Gas Flow</b>											
Batch	1668804										
QC1203798409	424115006	DUP									
Radium-228		U	0.561	U	0.390	pCi/L	N/A		N/A	BXF1	06/19/17 16:50
QC1203798410	LCS										
Radium-228	20.2				19.0	pCi/L	94.1	(75%-125%)			06/19/17 15:33
QC1203798408	MB										
Radium-228			U		0.546	pCi/L					06/19/17 15:29
<b>Rad Ra-226</b>											
Batch	1668815										
QC1203798449	424115006	DUP									
Radium-226			0.630		0.725	pCi/L	14.1	(0% - 100%)	MXH8		06/21/17 09:30
QC1203798451	LCS										
Radium-226	26.0				20.0	pCi/L	77.2	(75%-125%)			06/21/17 09:30
QC1203798448	MB										
Radium-226			U		0.0822	pCi/L					06/21/17 09:30
QC1203798450	424115006	MS									
Radium-226	130		0.630		120	pCi/L	91.8	(75%-125%)			06/21/17 09:30

**Notes:**

The Qualifiers in this report are defined as follows:

- \*\* Analyte is a Tracer compound
- < Result is less than value reported
- > Result is greater than value reported
- B The target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- E %difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- E General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
- FA Failed analysis.
- FB Mercury was found present at quantifiable concentrations in field blanks received with these samples. Data associated with the blank are deemed invalid for reporting to regulatory agencies

# GEL LABORATORIES LLC

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

## QC Summary

Workorder: 424120

Page 3 of 3

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
H		Analytical holding time was exceeded									
J		Value is estimated									
K		Analyte present. Reported value may be biased high. Actual value is expected to be lower.									
L		Analyte present. Reported value may be biased low. Actual value is expected to be higher.									
M		M if above MDC and less than LLD									
M		REMP Result > MDC/CL and < RDL									
N		Metals--The Matrix spike sample recovery is not within specified control limits									
N/A		RPD or %Recovery limits do not apply.									
NI		See case narrative									
ND		Analyte concentration is not detected above the detection limit									
NJ		Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier									
Q		One or more quality control criteria have not been met. Refer to the applicable narrative or DER.									
R		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.									
R		Sample results are rejected									
U		Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.									
UI		Gamma Spectroscopy--Uncertain identification									
UJ		Gamma Spectroscopy--Uncertain identification									
UL		Not considered detected. The associated number is the reported concentration, which may be inaccurate due to a low bias.									
X		Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier									
Y		Other specific qualifiers were required to properly define the results. Consult case narrative.									
Z		Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.									
^		RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.									
d		5-day BOD--The 2:1 depletion requirement was not met for this sample									
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									
h		Preparation or preservation holding time was exceeded									

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

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

\* Indicates that a Quality Control parameter was not within specifications.

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

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



Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

January 31, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB27193**

**Wateree Landfill MW-01LF-RCRA/CCR**

Date & Time Sampled: May 22, 2017 13:40  
 Date & Time Submitted: May 23, 2017 15:55  
 Collected by: A.HILL Location Code: WAG01LFTDS

MW-01LF

Login Record File: 170524002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC- 9056A	5.16	0.50	mg/L	5/25/17 16:34	BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	4.72	0.00	S.U.	5/24/17 09:30	BF
Sulfates by IC - 9056A	Less than	0.5	mg/L	5/25/17 16:34	BB
Total Dissolved Solid-SM2540C	34	2.0	mg/L	5/25/17 14:00	BF

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_





**Central Laboratory (P-08)**  
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January 31, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB27194**

**Wateree Landfill MW-11LF-RCRA/CCR**

Date & Time Sampled: May 22, 2017 14:35  
 Date & Time Submitted: May 23, 2017 15:55  
 Collected by: A.HILL Location Code: WAG11LFTDS

MW-11LF

Login Record File: 170524002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC- 9056A	4.52	0.50	mg/L	5/25/17 16:34	BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	4.81	0.00	S.U.	5/24/17 09:30	BF
Sulfates by IC - 9056A	Less than	0.5	mg/L	5/25/17 16:34	BB
Total Dissolved Solid-SM2540C	30	2.0	mg/L	5/25/17 14:00	BF

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



**Central Laboratory (P-08)**  
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January 31, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB27195**

**Wateree Landfill Well GW 6 -RCRA**

Date & Time Sampled: May 22, 2017 14:45  
 Date & Time Submitted: May 23, 2017 15:55  
 Collected by: A.HILL Location Code: WAG06LFTDS

GW 6

Login Record File: 170524002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC- 9056A	6.07	0.50	mg/L	5/25/17 16:34	BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	4.88	0.00	S.U.	5/24/17 09:30	BF
Sulfates by IC - 9056A	Less than	0.5	mg/L	5/25/17 16:34	BB
Total Dissolved Solid-SM2540C	39	2.0	mg/L	5/25/17 14:00	BF

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



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January 31, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB27196**

**Wateree Landfill MW-10LF-RCRA/CCR**

Date & Time Sampled: May 22, 2017 16:40  
 Date & Time Submitted: May 23, 2017 15:55  
 Collected by: A.HILL Location Code: WAG10LFTDS

MW-10LF

Login Record File: 170524002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC- 9056A	6.20	0.50	mg/L	5/26/17 12:39	BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	4.83	0.00	S.U.	5/24/17 09:30	BF
Sulfates by IC - 9056A	4.5	0.5	mg/L	5/26/17 12:39	BB
Total Dissolved Solid-SM2540C	42	2.0	mg/L	5/25/17 14:00	BF

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



Central Laboratory (P-08)  
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January 31, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB27197**

**Wateree Landfill MW-22LF-RCRA/CCR**

Date & Time Sampled: May 23, 2017 08:35  
 Date & Time Submitted: May 23, 2017 15:55  
 Collected by: A.HILL Location Code: WAG22LFTDS

MW-22LF

Login Record File: 170524002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC- 9056A	10.39	0.50	mg/L	5/26/17 12:39	BB
pH by SM4500HB(2011)	4.83	0.00	S.U.	5/24/17 09:30	BF
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC - 9056A	Less than	0.5	mg/L	5/26/17 12:39	BB
Total Dissolved Solid-SM2540C	50	2.0	mg/L	5/25/17 14:00	BF

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



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January 31, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB27198**

**Wateree Landfill MW-08LF-RCRA/CCR**

Date & Time Sampled: May 23, 2017 09:55  
 Date & Time Submitted: May 23, 2017 15:55  
 Collected by: A.HILL Location Code: WAG08LFTDS

MW-08LF

Login Record File: 170524002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC- 9056A	4.61	0.50	mg/L	5/26/17 12:39	BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	5.03	0.00	S.U.	5/24/17 09:30	BF
Sulfates by IC - 9056A	Less than	0.5	mg/L	5/26/17 12:39	BB
Total Dissolved Solid-SM2540C	31	2.0	mg/L	5/25/17 14:00	BF

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



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January 31, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB27199**

**Wateree Landfill MW-07LF-RCRA/CCR**

Date & Time Sampled: May 23, 2017 11:55  
 Date & Time Submitted: May 23, 2017 15:55  
 Collected by: A.HILL Location Code: WAG07LFTDS

MW-07LF

Login Record File: 170524002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC- 9056A	4.55	0.50	mg/L	5/26/17 12:39	BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	4.56	0.00	S.U.	5/24/17 09:30	BF
Sulfates by IC - 9056A	Less than	0.5	mg/L	5/26/17 12:39	BB
Total Dissolved Solid-SM2540C	46	2.0	mg/L	5/25/17 14:00	BF

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



Central Laboratory (P-08)  
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January 31, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB27200**

**Wateree Landfill MW-01LF-RCRA/CCR**

Date & Time Sampled: May 22, 2017 13:40  
 Date & Time Submitted: May 23, 2017 15:55  
 Collected by: A.HILL Location Code: WAG01LFTM

MW-01LF

Login Record File: 170524002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS 200.8	Less than	1.0	ppb	5/25/17 17:00	CDB
Arsenic by ICP_MS 200.8	Less than	1.0	ppb	5/25/17 17:00	CDB
Barium by ICP-OES 200.7	58.3	10.0	ppb	5/25/17 12:32	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	5/25/17 12:32	CDB
Boron - EPA 200.7	Less than	1000	ppb	5/25/17 12:32	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/25/17 17:00	CDB
Calcium EPA 200.7	Less than	100	ppb	5/25/17 12:32	CDB
Chromium by ICP_MS 200.8	Less than	1.0	ppb	5/25/17 17:00	CDB
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	5/25/17 17:00	CDB
Lead by ICP-MS 200.8	Less than	1.0	ppb	5/25/17 17:00	CDB
Lithium (CWA) 200.7	Less than	2.0	ppb	5/25/17 12:32	CDB
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	5/30/17 15:56	PRC
Molybdenum - EPA 200.8	Less than	1.0	ppb	5/25/17 17:00	CDB
Selenium by ICP-MS 200.8	Less than	5.0	ppb	5/25/17 17:00	CDB
Thallium by ICP-MS 200.8	Less than	1.0	ppb	5/25/17 17:00	CDB

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



Central Laboratory (P-08)  
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January 31, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB27201**

**Wateree Landfill MW-11LF-RCRA/CCR**

Date & Time Sampled: May 22, 2017 14:35  
 Date & Time Submitted: May 23, 2017 15:55  
 Collected by: A.HILL Location Code: WAG11LFTM

MW-11LF

Login Record File: 170524002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS 200.8	Less than	1.0	ppb	5/25/17 17:00	CDB
Arsenic by ICP_MS 200.8	Less than	1.0	ppb	5/25/17 17:00	CDB
Barium by ICP-OES 200.7	49.6	10.0	ppb	5/25/17 12:32	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	5/25/17 12:32	CDB
Boron - EPA 200.7	Less than	1000	ppb	5/25/17 12:32	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/25/17 17:00	CDB
Calcium EPA 200.7	195	100	ppb	5/25/17 12:32	CDB
Chromium by ICP_MS 200.8	Less than	1.0	ppb	5/25/17 17:00	CDB
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	5/25/17 17:00	CDB
Lead by ICP-MS 200.8	Less than	1.0	ppb	5/25/17 17:00	CDB
Lithium (CWA) 200.7	2.2	2.0	ppb	5/25/17 12:32	CDB
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	5/30/17 15:56	PRC
Molybdenum - EPA 200.8	Less than	1.0	ppb	5/25/17 17:00	CDB
Selenium by ICP-MS 200.8	Less than	5.0	ppb	5/25/17 17:00	CDB
Thallium by ICP-MS 200.8	Less than	1.0	ppb	5/25/17 17:00	CDB

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_





Central Laboratory (P-08)  
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 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

January 31, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB27202**

**Wateree Landfill Well GW 6-RCRA**

Date & Time Sampled: May 22, 2017 14:45  
 Date & Time Submitted: May 23, 2017 15:55  
 Collected by: A.HILL Location Code: WAG06LFTM

GW 6

Login Record File: 170524002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS 200.8	Less than	1.0	ppb	5/25/17 17:00	CDB
Arsenic by ICP_MS 200.8	Less than	1.0	ppb	5/25/17 17:00	CDB
Barium by ICP-OES 200.7	52.4	10.0	ppb	5/25/17 12:32	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	5/25/17 12:32	CDB
Boron - EPA 200.7	Less than	1000	ppb	5/25/17 12:32	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/25/17 17:00	CDB
Calcium EPA 200.7	786	100	ppb	5/25/17 12:32	CDB
Chromium by ICP_MS 200.8	Less than	1.0	ppb	5/25/17 17:00	CDB
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	5/25/17 17:00	CDB
Lead by ICP-MS 200.8	Less than	1.0	ppb	5/25/17 17:00	CDB
Lithium (CWA) 200.7	Less than	2.0	ppb	5/25/17 12:32	CDB
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	5/30/17 15:56	PRC
Molybdenum - EPA 200.8	Less than	1.0	ppb	5/25/17 17:00	CDB
Selenium by ICP-MS 200.8	Less than	5.0	ppb	5/25/17 17:00	CDB
Thallium by ICP-MS 200.8	Less than	1.0	ppb	5/25/17 17:00	CDB

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



Central Laboratory (P-08)  
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 Fax: (803) 217-9911

January 31, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB27203**

**Wateree Landfill MW-10LF-RCRA/CCR**

Date & Time Sampled: May 22, 2017 16:40  
 Date & Time Submitted: May 23, 2017 15:55  
 Collected by: A.HILL Location Code: WAG10LFTM

MW-10LF

Login Record File: 170524002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS 200.8	Less than	1.0	ppb	5/25/17 17:00	CDB
Arsenic by ICP_MS 200.8	Less than	1.0	ppb	5/25/17 17:00	CDB
Barium by ICP-OES 200.7	86.1	10.0	ppb	5/25/17 12:32	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	5/25/17 12:32	CDB
Boron - EPA 200.7	Less than	1000	ppb	5/25/17 12:32	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/25/17 17:00	CDB
Calcium EPA 200.7	1320	1000	ppb	5/25/17 12:32	CDB
Chromium by ICP_MS 200.8	Less than	1.0	ppb	5/25/17 17:00	CDB
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	5/25/17 17:00	CDB
Lead by ICP-MS 200.8	1.28	1.0	ppb	5/25/17 17:00	CDB
Lithium (CWA) 200.7	2.5	2.0	ppb	5/25/17 12:32	CDB
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	5/30/17 15:56	PRC
Molybdenum - EPA 200.8	Less than	1.0	ppb	5/25/17 17:00	CDB
Selenium by ICP-MS 200.8	Less than	5.0	ppb	5/25/17 17:00	CDB
Thallium by ICP-MS 200.8	Less than	1.0	ppb	5/25/17 17:00	CDB

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

January 31, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB27204**

**Wateree Landfill MW-22LF-RCRA/CCR**

Date & Time Sampled: May 23, 2017 08:35  
 Date & Time Submitted: May 23, 2017 15:55  
 Collected by: A.HILL Location Code: WAG22LFTM

MW-22LF

Login Record File: 170524002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS 200.8	Less than	1.0	ppb	5/25/17 17:00	CDB
Arsenic by ICP_MS 200.8	Less than	1.0	ppb	5/25/17 17:00	CDB
Barium by ICP-OES 200.7	56.6	10.0	ppb	5/25/17 12:32	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	5/25/17 12:32	CDB
Boron - EPA 200.7	Less than	1000	ppb	5/25/17 12:32	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/25/17 17:00	CDB
Calcium EPA 200.7	2230	1000	ppb	5/25/17 12:32	CDB
Chromium by ICP_MS 200.8	Less than	1.0	ppb	5/25/17 17:00	CDB
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	5/25/17 17:00	CDB
Lead by ICP-MS 200.8	1.68	1.0	ppb	5/25/17 17:00	CDB
Lithium (CWA) 200.7	Less than	2.0	ppb	5/25/17 12:32	CDB
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	5/30/17 15:56	PRC
Molybdenum - EPA 200.8	Less than	1.0	ppb	5/25/17 17:00	CDB
Selenium by ICP-MS 200.8	Less than	5.0	ppb	5/25/17 17:00	CDB
Thallium by ICP-MS 200.8	Less than	1.0	ppb	5/25/17 17:00	CDB

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

January 31, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB27205**

**Wateree Landfill MW-08LF-RCRA/CCR**

Date & Time Sampled: May 23, 2017 09:55  
 Date & Time Submitted: May 23, 2017 15:55  
 Collected by: A.HILL Location Code: WAG08LFTM

MW-08LF

Login Record File: 170524002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS 200.8	Less than	1.0	ppb	5/25/17 17:00	CDB
Arsenic by ICP_MS 200.8	Less than	1.0	ppb	5/25/17 17:00	CDB
Barium by ICP-OES 200.7	40.5	10.0	ppb	5/25/17 12:32	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	5/25/17 12:32	CDB
Boron - EPA 200.7	Less than	1000	ppb	5/25/17 12:32	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/25/17 17:00	CDB
Calcium EPA 200.7	847	100	ppb	5/25/17 12:32	CDB
Chromium by ICP_MS 200.8	Less than	1.0	ppb	5/25/17 17:00	CDB
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	5/25/17 17:00	CDB
Lead by ICP-MS 200.8	Less than	1.0	ppb	5/25/17 17:00	CDB
Lithium (CWA) 200.7	9.5	2.0	ppb	5/25/17 12:32	CDB
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	5/30/17 15:56	PRC
Molybdenum - EPA 200.8	Less than	1.0	ppb	5/25/17 17:00	CDB
Selenium by ICP-MS 200.8	Less than	5.0	ppb	5/25/17 17:00	CDB
Thallium by ICP-MS 200.8	Less than	1.0	ppb	5/25/17 17:00	CDB

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

January 31, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB27206**

**Wateree Landfill MW-07LF-RCRA/CCR**

Date & Time Sampled: May 23, 2017 11:55  
 Date & Time Submitted: May 23, 2017 15:55  
 Collected by: A.HILL Location Code: WAG07LFTM

MW-07LF

Login Record File: 170524002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS 200.8	Less than	1.0	ppb	5/26/17 14:19	CDB
Arsenic by ICP_MS 200.8	Less than	1.0	ppb	5/26/17 14:19	CDB
Barium by ICP-OES 200.7	79.8	10.0	ppb	5/25/17 12:32	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	5/25/17 12:32	CDB
Boron - EPA 200.7	Less than	1000	ppb	5/25/17 12:32	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/26/17 14:19	CDB
Calcium EPA 200.7	2042	1000	ppb	5/25/17 12:32	CDB
Chromium by ICP_MS 200.8	Less than	1.0	ppb	5/26/17 14:19	CDB
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	5/26/17 14:19	CDB
Lead by ICP-MS 200.8	Less than	1.0	ppb	5/26/17 14:19	CDB
Lithium (CWA) 200.7	4.1	2.0	ppb	5/25/17 12:32	CDB
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	5/30/17 15:56	PRC
Molybdenum - EPA 200.8	Less than	1.0	ppb	5/26/17 14:19	CDB
Selenium by ICP-MS 200.8	Less than	5.0	ppb	5/26/17 14:19	CDB
Thallium by ICP-MS 200.8	Less than	1.0	ppb	5/26/17 14:19	CDB

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_

SOUTH CAROLINA DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL  
GROUND-WATER MONITORING REPORT

Facility: Wateree Station

Permit No.: \_\_\_\_\_

County: Richland

Date Sampled: 07/24/2017

Time Sampled: 12:00:00PM

\_\_\_\_\_   
 year-month-day (Numerical)

**STATION NUMBERS**

<b>PARAMETER</b>	<b>NUMBER</b>	<b>MW-LF-01</b>	<b>MW-LF-06</b>
<b>NAME</b>	<b>Lab. Certificate No.</b>	32006	32006
Field pH S.U.		4.530	4.580
Field Sp. Conductivity micromhos/cm		67.000	74.000
Field Turbidity NTU		2.10	5.10
ORP mV		265.000	286.900
Oxygen, dissolved mg/L		6.320	8.060
Temp (Celcius) degrees C		17.750	16.990
Water level elevation ft		126.19	117.15

Authorized Release By: \_\_\_\_\_

Date: \_\_\_\_\_

SOUTH CAROLINA DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL  
GROUND-WATER MONITORING REPORT

Facility: Wateree Station

Permit No.: \_\_\_\_\_

County: Richland

Date Sampled: 07/25/2017

Time Sampled: 12:00:00PM

year-month-day (Numerical)

**STATION NUMBERS**

PARAMETER	NUMBER	AS-LF-01	AS-LF-02	AS-LF-03
NAME	Lab. Certificate No.	32006	32006	32006
Field pH S.U.		4.470	5.740	4.680
Field Sp. Conductivity micromhos/cm		65.000	93.000	59.000
Field Turbidity NTU		39.30	2.10	3.70
ORP mV		212.800	143.000	158.300
Oxygen, dissolved mg/L		5.600	1.400	6.500
Temp (Celcius) degrees C		17.260	24.580	18.650
Water level elevation ft		119.32	118.23	120.35

Authorized Release By: \_\_\_\_\_

Date: \_\_\_\_\_

SOUTH CAROLINA DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL  
GROUND-WATER MONITORING REPORT

Facility: Wateree Station

Permit No.: \_\_\_\_\_

County: Richland

Date Sampled: 07/24/2017

Time Sampled: 12:00:00PM

\_\_\_\_\_   
 year-month-day (Numerical)

**STATION NUMBERS**

<b>PARAMETER</b>	<b>NUMBER</b>	<b>MW-LF-07</b>
<b>NAME</b>	Lab. Certificate No.	32006
Field pH S.U.		4.870
Field Sp. Conductivity micromhos/cm		103.000
Field Turbidity NTU		6.90
ORP mV		317.300
Oxygen, dissolved mg/L		4.900
Temp (Celcius) degrees C		20.450
Water level elevation ft		116.09

Authorized Release By: \_\_\_\_\_

Date: \_\_\_\_\_



SOUTH CAROLINA DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL  
GROUND-WATER MONITORING REPORT

Facility: Wateree Station

Permit No.: \_\_\_\_\_

County: Richland

Date Sampled: 07/25/2017

Time Sampled: 12:00:00PM

year-month-day (Numerical)

**STATION NUMBERS**

PARAMETER	NUMBER	MW-LF-08	MW-LF-10	MW-LF-11	MW-LF-22
NAME	Lab. Certificate No.	32006	32006	32006	32006
Field pH S.U.		4.850	5.180	4.380	4.110
Field Sp. Conductivity micromhos/cm		51.000	68.000	47.000	83.000
Field Turbidity NTU		2.10	3.70	4.70	4.00
ORP mV		316.300	263.600	261.300	232.200
Oxygen, dissolved mg/L		5.430	5.190	5.180	6.760
Temp (Celcius) degrees C		18.220	18.570	18.400	18.240
Water level elevation ft		113.17	113.52	114.19	114.03

Authorized Release By: \_\_\_\_\_

Date: \_\_\_\_\_

## GEL LABORATORIES LLC

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

### Certificate of Analysis Report for

GEEL003 GEL Engineering, LLC

Client SDG: 428957 GEL Work Order: 428957

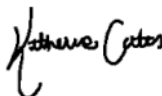
**The Qualifiers in this report are defined as follows:**

- \* A quality control analyte recovery is outside of specified acceptance criteria
- \*\* Analyte is a Tracer compound
- \*\* Analyte is a surrogate compound
- H Analytical holding time was exceeded
- 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, Jake Crook.



Reviewed by \_\_\_\_\_

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: August 22, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Wateree CCR

Client Sample ID: MW-01LF	Project: SCEG01716c
Sample ID: 428957001	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 24-JUL-17 15:10	
Receive Date: 27-JUL-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	J	0.038	0.033	0.100	mg/L		1	MXL2	07/28/17	2123	1686433	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	U	ND	3.00	10.0	ug/L	1.00	1	SKJ	08/15/17	2347	1686066	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228		1.54	1.25	3.00	pCi/L			JXC9	08/15/17	1125	1686439	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226	U	ND	0.636	1.00	pCi/L			MXH8	08/10/17	1030	1686419	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JXM8	07/27/17	1651	1686065

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			96.9	(15%-125%)

**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: August 22, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Wateree CCR

Client Sample ID: MW-06LF	Project: SCEG01716c
Sample ID: 428957002	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 24-JUL-17 16:15	
Receive Date: 27-JUL-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	J	0.0389	0.033	0.100	mg/L		1	MXL2	07/28/17	2249	1686433	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	U	ND	3.00	10.0	ug/L	1.00	1	SKJ	08/16/17	0014	1686066	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	1.34	3.00	pCi/L			JXC9	08/15/17	1126	1686439	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.19	0.471	1.00	pCi/L			MXH8	08/10/17	1030	1686419	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JXM8	07/27/17	1651	1686065

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			100	(15%-125%)

**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: August 22, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Wateree CCR

Client Sample ID: MW-07LF	Project: SCEG01716c
Sample ID: 428957003	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 24-JUL-17 17:15	
Receive Date: 27-JUL-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	J	0.0582	0.033	0.100	mg/L		1	MXL2	07/28/17	2318	1686433	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	J	4.32	3.00	10.0	ug/L	1.00	1	SKJ	08/16/17	0018	1686066	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228		2.68	2.46	3.00	pCi/L			JXC9	08/15/17	1126	1686439	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.578	0.508	1.00	pCi/L			MXH8	08/10/17	1030	1686419	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JXM8	07/27/17	1651	1686065

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			55	(15%-125%)

**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: August 22, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Wateree CCR

Client Sample ID: MW-08LF	Project: SCEG01716c
Sample ID: 428957004	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 25-JUL-17 07:10	
Receive Date: 27-JUL-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	U	ND	0.033	0.100	mg/L		1	MXL2	07/28/17	2347	1686433	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	J	8.57	3.00	10.0	ug/L	1.00	1	SKJ	08/16/17	0022	1686066	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228		1.47	0.974	3.00	pCi/L			JXC9	08/15/17	1126	1686439	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.08	0.460	1.00	pCi/L			MXH8	08/10/17	1030	1686419	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JXM8	07/27/17	1651	1686065

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			106	(15%-125%)

**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: August 22, 2017

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd  
  
Charleston, South Carolina 29417  
Contact: Robert Gardner  
Project: Wateree CCR

Client Sample ID: MW-22 Project: SCEG01716c  
Sample ID: 428957005 Client ID: GEEL003  
Matrix: Ground Water  
Collect Date: 25-JUL-17 08:10  
Receive Date: 27-JUL-17  
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	J	0.0341	0.033	0.100	mg/L		1	MXL2	07/29/17	0016	1686433	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	U	ND	3.00	10.0	ug/L	1.00	1	SKJ	08/16/17	0026	1686066	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228		1.50	1.01	3.00	pCi/L			JXC9	08/15/17	1126	1686439	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.24	0.527	1.00	pCi/L			MXH8	08/10/17	1030	1686419	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JXM8	07/27/17	1651	1686065

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			94.1	(15%-125%)

### Notes:

Column headers are defined as follows:

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

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: August 22, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Wateree CCR

Client Sample ID: MW-10LF	Project: SCEG01716c
Sample ID: 428957006	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 25-JUL-17 09:05	
Receive Date: 27-JUL-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	J	0.0442	0.033	0.100	mg/L		1	MXL2	07/29/17	0045	1686433	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	U	ND	3.00	10.0	ug/L	1.00	1	SKJ	08/16/17	0030	1686066	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	1.01	3.00	pCi/L			JXC9	08/15/17	1126	1686439	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.40	0.443	1.00	pCi/L			MXH8	08/10/17	1030	1686419	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JXM8	07/27/17	1651	1686065

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			96.5	(15%-125%)

**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: August 22, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Wateree CCR

Client Sample ID: MW-11LF	Project: SCEG01716c
Sample ID: 428957007	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 25-JUL-17 10:05	
Receive Date: 27-JUL-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	J	0.0414	0.033	0.100	mg/L		1	MXL2	07/29/17	0212	1686433	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	U	ND	3.00	10.0	ug/L	1.00	1	SKJ	08/16/17	0034	1686066	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	1.26	3.00	pCi/L			JXC9	08/15/17	1126	1686439	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.857	0.514	1.00	pCi/L			MXH8	08/10/17	1030	1686419	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JXM8	07/27/17	1651	1686065

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			95.7	(15%-125%)

**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: August 22, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Wateree CCR

Client Sample ID: LF-AS-1	Project: SCEG01716c
Sample ID: 428957010	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 25-JUL-17 14:25	
Receive Date: 27-JUL-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	J	0.0398	0.033	0.100	mg/L		1	MXL2	07/29/17	0338	1686433	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	U	ND	3.00	10.0	ug/L	1.00	1	SKJ	08/16/17	0054	1686066	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228		1.97	1.76	3.00	pCi/L			JXC9	08/21/17	1207	1692834	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226	U	ND	0.541	1.00	pCi/L			MXH8	08/15/17	0745	1686420	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JXM8	07/27/17	1651	1686065

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			92.6	(15%-125%)

**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: August 22, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Wateree CCR

Client Sample ID: LF-AS-2	Project: SCEG01716c
Sample ID: 428957011	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 25-JUL-17 15:20	
Receive Date: 27-JUL-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	J	0.0454	0.033	0.100	mg/L		1	MXL2	07/29/17	0407	1686433	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium		48.4	3.00	10.0	ug/L	1.00	1	SKJ	08/16/17	0058	1686066	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228		4.37	2.14	3.00	pCi/L			JXC9	08/21/17	1207	1692834	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.718	0.250	1.00	pCi/L			MXH8	08/15/17	0745	1686420	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JXM8	07/27/17	1651	1686065

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			89.2	(15%-125%)

**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: August 22, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Wateree CCR

Client Sample ID: LF-AS-3	Project: SCEG01716c
Sample ID: 428957012	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 25-JUL-17 17:40	
Receive Date: 27-JUL-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	J	0.0411	0.033	0.100	mg/L		1	MXL2	07/29/17	0436	1686433	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	J	4.23	3.00	10.0	ug/L	1.00	1	SKJ	08/16/17	0102	1686066	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	1.84	3.00	pCi/L			JXC9	08/21/17	1207	1692834	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.732	0.473	1.00	pCi/L			MXH8	08/15/17	0745	1686420	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JXM8	07/27/17	1651	1686065

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			96	(15%-125%)

**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: August 22, 2017

Page 1 of 4

GEL Engineering, LLC  
2040 Savage Rd  
Charleston, South Carolina

Contact: Robert Gardner

Workorder: 428957

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Ion Chromatography</b>											
Batch	1686433										
QC1203840942	428957001	DUP									
Fluoride		J	0.038	J	0.038	mg/L	0 ^	(+/-0.100)	MXL2	07/28/17	21:52
QC1203840943	428960008	DUP									
Fluoride		J	0.0406	J	0.041	mg/L	0.98 ^	(+/-0.100)		07/29/17	09:54
QC1203840941	LCS										
Fluoride	2.50				2.35	mg/L		93.9 (90%-110%)		07/28/17	20:54
QC1203840940	MB										
Fluoride				U	ND	mg/L				07/28/17	20:25
QC1203840944	428957001	PS									
Fluoride	2.50	J	0.038		2.33	mg/L		91.6 (90%-110%)		07/28/17	22:20
QC1203840945	428960008	PS									
Fluoride	2.50	J	0.0406		2.34	mg/L		92.1 (90%-110%)		07/29/17	10:23
<b>Metals Analysis - ICPMS</b>											
Batch	1686066										
QC1203840130	428957001	DUP									
Lithium		U	ND	U	ND	ug/L	N/A		SKJ	08/15/17	23:51
QC1203840129	LCS										
Lithium	50.0				49.3	ug/L		98.6 (80%-120%)		08/15/17	23:43
QC1203840128	MB										
Lithium				U	ND	ug/L				08/15/17	23:39
QC1203840131	428957001	MS									
Lithium	50.0	U	ND		49.9	ug/L		98.4 (75%-125%)		08/15/17	23:54

# GEL LABORATORIES LLC

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

## QC Summary

Workorder: 428957

Page 2 of 4

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Metals Analysis - ICPMS</b>											
Batch 1686066											
QC1203840132	428957001	SDILT									
Lithium		U	ND	U	ND	ug/L	N/A	(0%-10%)	SKJ	08/16/17	00:02
<b>Rad Gas Flow</b>											
Batch 1686439											
QC1203840968	428949003	DUP									
Radium-228		U	0.925	U	0.600	pCi/L	N/A	N/A	JXC9	08/15/17	11:26
QC1203840969	LCS										
Radium-228	19.8				15.7	pCi/L	79.3	(75%-125%)		08/15/17	11:26
QC1203840967	MB										
Radium-228		U			0.741	pCi/L				08/15/17	11:26
Batch 1692834											
QC1203856709	428957008	DUP									
Radium-228			4.94	U	1.31	pCi/L	116*	(0% - 100%)	JXC9	08/21/17	12:08
QC1203856710	LCS										
Radium-228	19.8				21.6	pCi/L	109	(75%-125%)		08/21/17	12:08
QC1203856708	MB										
Radium-228		U			1.31	pCi/L				08/21/17	12:08
<b>Rad Ra-226</b>											
Batch 1686419											
QC1203840909	428949001	DUP									
Radium-226			1.63		1.03	pCi/L	45.1	(0% - 100%)	MXH8	08/10/17	11:00
QC1203840911	LCS										
Radium-226	26.0				24.5	pCi/L	94.4	(75%-125%)		08/10/17	11:00
QC1203840908	MB										
Radium-226		U			0.0453	pCi/L				08/10/17	10:30

# GEL LABORATORIES LLC

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

## QC Summary

Workorder: 428957

Page 3 of 4

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Rad Ra-226</b>											
Batch	1686419										
QC1203840910	428949001	MS									
Radium-226	130	1.63		111	pCi/L		84.6	(75%-125%)	MXH8	08/10/17	11:00
<hr/>											
Batch	1686420										
QC1203840913	428957008	DUP									
Radium-226		1.31		1.32	pCi/L	0.412		(0% - 100%)	MXH8	08/15/17	08:15
QC1203840915	LCS										
Radium-226	26.0			24.8	pCi/L		95.7	(75%-125%)		08/15/17	08:45
QC1203840912	MB										
Radium-226			U	0.0314	pCi/L					08/15/17	08:15
QC1203840914	428957008	MS									
Radium-226	130	1.31		124	pCi/L		94.3	(75%-125%)		08/15/17	08:15

**Notes:**

The Qualifiers in this report are defined as follows:

- \*\* Analyte is a Tracer compound
- < Result is less than value reported
- > Result is greater than value reported
- B The target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- E %difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- E General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
- FA Failed analysis.
- FB Mercury was found present at quantifiable concentrations in field blanks received with these samples. Data associated with the blank are deemed invalid for reporting to regulatory agencies
- H Analytical holding time was exceeded
- J Value is estimated
- K Analyte present. Reported value may be biased high. Actual value is expected to be lower.
- L Analyte present. Reported value may be biased low. Actual value is expected to be higher.
- M M if above MDC and less than LLD
- M REMP Result > MDC/CL and < RDL
- N Metals--The Matrix spike sample recovery is not within specified control limits







Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

January 31, 2018

REPORT TO:
Mike Moore

Sample ID: **AB27933**

**Wateree Landfill MW-01LF-RCRA/CCR**

Date & Time Sampled: July 24, 2017 15:10  
 Date & Time Submitted: July 26, 2017 12:38  
 Collected by: A.HILL Location Code: WAG01LFTDS

MW-01LF

Login Record File: 170726002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC- 9056A	5.09	0.50	mg/L	7/27/17 13:37	BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	4.96	0.00	S.U.	7/31/17 11:53	PRC
Sulfates by IC - 9056A	0.87	0.5	mg/L	7/27/17 13:37	BB
Total Dissolved Solid-SM2540C	32	2.0	mg/L	7/28/17 13:00	BF

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

January 31, 2018

REPORT TO:
Mike Moore

Sample ID: **AB27934**

**Wateree Landfill Well GW 6 -RCRA**

Date & Time Sampled: July 24, 2017 16:15  
 Date & Time Submitted: July 26, 2017 12:38  
 Collected by: A.HILL Location Code: WAG06LFTDS

GW 6

Login Record File: 170726002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC- 9056A	6.67	0.50	mg/L	7/27/17 13:37	BB
pH by SM4500HB(2011)	5.50	0.00	S.U.	7/31/17 11:53	PRC
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC - 9056A	Less than	0.5	mg/L	7/27/17 13:37	BB
Total Dissolved Solid-SM2540C	36	2.0	mg/L	7/28/17 13:00	BF

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



**Central Laboratory (P-08)**  
**2102 North Lake Drive**  
**Columbia, SC 29212**  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

January 31, 2018

REPORT TO:
Mike Moore

Sample ID: **AB27935**

**Wateree Landfill MW-07LF-RCRA/CCR**

Date & Time Sampled: July 24, 2017 17:15  
 Date & Time Submitted: July 26, 2017 12:38  
 Collected by: A.HILL Location Code: WAG07LFTDS

MW-07LF

Login Record File: 170726002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC- 9056A	9.62	0.50	mg/L	7/27/17 13:37	BB
pH by SM4500HB(2011)	4.56	0.00	S.U.	7/31/17 11:53	PRC
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC - 9056A	Less than	0.5	mg/L	7/27/17 13:37	BB
Total Dissolved Solid-SM2540C	47	2.0	mg/L	7/28/17 13:00	BF

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

January 31, 2018

REPORT TO:
Mike Moore

Sample ID: **AB27936**

**Wateree Landfill MW-08LF-RCRA/CCR**

Date & Time Sampled: July 25, 2017 07:10  
 Date & Time Submitted: July 26, 2017 12:38  
 Collected by: A.HILL Location Code: WAG08LFTDS

MW-08LF

Login Record File: 170726002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC- 9056A	4.92	1.0	mg/L	7/27/17 13:37	BB
pH by SM4500HB(2011)	5.48	0.00	S.U.	7/31/17 11:53	PRC
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC - 9056A	Less than	1.0	mg/L	7/27/17 13:37	BB
Total Dissolved Solid-SM2540C	25	2.0	mg/L	7/28/17 13:00	BF

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

January 31, 2018

REPORT TO:
Mike Moore

Sample ID: **AB27937**

**Wateree NPDES Well MW 22 (NPDES)**

Date & Time Sampled: July 25, 2017 08:10  
 Date & Time Submitted: July 26, 2017 12:38  
 Collected by: A.HILL Location Code: WAG22TDS

MW 22

Login Record File: 170726002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	8.85	0.50	mg/L	7/27/17 13:37	BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	4.59	0.00	S.U.	7/31/17 11:53	PRC
Sulfates by IC EPA 300.0	Less than	0.50	mg/L	7/27/17 13:37	BB
Total Dissolved Solid-SM2540C	41	2.0	mg/L	7/28/17 13:00	BF

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

January 31, 2018

REPORT TO:
Mike Moore

Sample ID: **AB27938**

**Wateree Landfill MW-10LF-RCRA/CCR**

Date & Time Sampled: July 25, 2017 09:05  
 Date & Time Submitted: July 26, 2017 12:38  
 Collected by: A.HILL Location Code: WAG10LFTDS

MW-10LF

Login Record File: 170726002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC- 9056A	6.07	0.50	mg/L	7/27/17 13:37	BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	5.51	0.00	S.U.	7/31/17 11:53	PRC
Sulfates by IC - 9056A	3.26	0.5	mg/L	7/27/17 13:37	BB
Total Dissolved Solid-SM2540C	23	2.0	mg/L	7/28/17 13:00	BF

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

January 31, 2018

REPORT TO:
Mike Moore

Sample ID: **AB27939**

**Wateree Landfill MW-11LF-RCRA/CCR**

Date & Time Sampled: July 25, 2017 10:05  
 Date & Time Submitted: July 26, 2017 12:38  
 Collected by: A.HILL Location Code: WAG11LFTDS

MW-11LF

Login Record File: 170726002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC- 9056A	4.80	0.50	mg/L	7/27/17 13:37	BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	4.92	0.00	S.U.	7/31/17 11:53	PRC
Sulfates by IC - 9056A	Less than	0.5	mg/L	7/27/17 13:37	BB
Total Dissolved Solid-SM2540C	8	2.0	mg/L	7/28/17 13:00	BF

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



Central Laboratory (P-08)  
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January 31, 2018

REPORT TO:
Mike Moore

Sample ID: **AB27942**

**Wateree Landfill AS-1-LF-RCRA/CCR**

Date & Time Sampled: July 25, 2017 14:25  
 Date & Time Submitted: July 26, 2017 12:38  
 Collected by: A.HILL Location Code: WAGLFAS1TDS

MW-01LF

Login Record File: 170726002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC- 9056A	7.20	0.50	mg/L	7/27/17 13:37	BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	5.12	0.00	S.U.	7/31/17 11:53	PRC
Sulfates by IC - 9056A	1.79	0.5	mg/L	7/27/17 13:37	BB
Total Dissolved Solid-SM2540C	18	2.0	mg/L	7/28/17 13:00	BF

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

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REPORT TO:
Mike Moore

Sample ID: **AB27943**

**Wateree Landfill AS-2-LF-RCRA/CCR**

Date & Time Sampled: July 25, 2017 15:20  
 Date & Time Submitted: July 26, 2017 12:38  
 Collected by: A.HILL Location Code: WAGLFAS2TDS

MW-01LF

Login Record File: 170726002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC- 9056A	2.67	0.50	mg/L	7/27/17 13:37	BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	6.10	0.00	S.U.	7/31/17 11:53	PRC
Sulfates by IC - 9056A	7.89	0.5	mg/L	7/27/17 13:37	BB
Total Dissolved Solid-SM2540C	39	2.0	mg/L	7/28/17 13:00	BF

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



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January 31, 2018

REPORT TO:
Mike Moore

Sample ID: **AB27944**

**Wateree Landfill AS-3-LF-RCRA/CCR**

Date & Time Sampled: July 25, 2017 17:40  
 Date & Time Submitted: July 26, 2017 12:38  
 Collected by: A.HILL Location Code: WAGLFAS3TDS

MW-01LF

Login Record File: 170726002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC- 9056A	5.44	0.50	mg/L	7/27/17 13:37	BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	5.13	0.00	S.U.	7/31/17 11:53	PRC
Sulfates by IC - 9056A	Less than	0.5	mg/L	7/27/17 13:37	BB
Total Dissolved Solid-SM2540C	22	2.0	mg/L	7/28/17 13:00	BF

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



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January 31, 2018

REPORT TO:
Mike Moore

Sample ID: **AB27953**

**Wateree Landfill MW-01LF-RCRA/CCR**

Date & Time Sampled: July 24, 2017 15:10  
 Date & Time Submitted: July 26, 2017 12:38  
 Collected by: A.HILL Location Code: WAG01LFTM

MW-01LF

Login Record File: 170726003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS 200.8	Less than	1.0	ppb	8/1/17 17:24	CDB
Arsenic by ICP_MS 200.8	Less than	1.0	ppb	8/1/17 17:24	CDB
Barium by ICP-OES 200.7	62.6	10.0	ppb	7/31/17 11:02	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	7/31/17 11:02	CDB
Boron - EPA 200.7	Less than	1000	ppb	7/31/17 11:02	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	8/1/17 17:24	CDB
Calcium EPA 200.7	1437	1000	ppb	7/31/17 11:02	CDB
Chromium by ICP_MS 200.8	1.4	1.0	ppb	8/1/17 17:24	CDB
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	8/1/17 17:24	CDB
Lead by ICP-MS 200.8	1.0	1.0	ppb	8/1/17 17:24	CDB
Lithium (CWA) 200.7	Less than	2.0	ppb	7/31/17 11:02	CDB
Mercury - 7470A (RCRA)	Less than	0.2	ppb	8/1/17 14:16	MC
Molybdenum - EPA 200.8	Less than	1.0	ppb	8/1/17 17:24	CDB
Selenium by ICP-MS 200.8	Less than	5.0	ppb	8/1/17 17:24	CDB
Thallium by ICP-MS 200.8	Less than	1.0	ppb	8/1/17 17:24	CDB

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January 31, 2018

REPORT TO:
Mike Moore

Sample ID: **AB27954**

**Wateree Landfill Well GW 6-RCRA**

Date & Time Sampled: July 24, 2017 16:15  
 Date & Time Submitted: July 26, 2017 12:38  
 Collected by: A.HILL Location Code: WAG06LFTM

GW 6

Login Record File: 170726003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS 200.8	Less than	1.0	ppb	8/1/17 17:24	CDB
Arsenic by ICP_MS 200.8	Less than	1.0	ppb	8/1/17 17:24	CDB
Barium by ICP-OES 200.7	57.8	10.0	ppb	7/31/17 11:02	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	7/31/17 11:02	CDB
Boron - EPA 200.7	Less than	1000	ppb	7/31/17 11:02	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	8/1/17 17:24	CDB
Calcium EPA 200.7	2095	1000	ppb	7/31/17 11:02	CDB
Chromium by ICP_MS 200.8	2.0	1.0	ppb	8/1/17 17:24	CDB
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	8/1/17 17:24	CDB
Lead by ICP-MS 200.8	1.0	1.0	ppb	8/1/17 17:24	CDB
Lithium (CWA) 200.7	Less than	2.0	ppb	7/31/17 11:02	CDB
Mercury - 7470A (RCRA)	Less than	0.2	ppb	8/1/17 14:16	MC
Molybdenum - EPA 200.8	Less than	1.0	ppb	8/1/17 17:24	CDB
Selenium by ICP-MS 200.8	Less than	5.0	ppb	8/1/17 17:24	CDB
Thallium by ICP-MS 200.8	Less than	1.0	ppb	8/1/17 17:24	CDB

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



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January 31, 2018

REPORT TO:
Mike Moore

Sample ID: **AB27955**

**Wateree Landfill MW-07LF-RCRA/CCR**

Date & Time Sampled: July 24, 2017 17:15  
 Date & Time Submitted: July 26, 2017 12:38  
 Collected by: A.HILL Location Code: WAG07LFTM

MW-07LF

Login Record File: 170726003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS 200.8	Less than	1.0	ppb	8/1/17 17:24	CDB
Arsenic by ICP_MS 200.8	Less than	1.0	ppb	8/1/17 17:24	CDB
Barium by ICP-OES 200.7	80.3	10.0	ppb	7/31/17 11:02	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	7/31/17 11:02	CDB
Boron - EPA 200.7	Less than	1000	ppb	7/31/17 11:02	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	8/1/17 17:24	CDB
Calcium EPA 200.7	2011	1000	ppb	7/31/17 11:02	CDB
Chromium by ICP_MS 200.8	1.0	1.0	ppb	8/1/17 17:24	CDB
Cobalt by ICP_MS 200.8	1.8	1.0	ppb	8/1/17 17:24	CDB
Lead by ICP-MS 200.8	Less than	1.0	ppb	8/1/17 17:24	CDB
Lithium (CWA) 200.7	4.0	2.0	ppb	7/31/17 11:02	CDB
Mercury - 7470A (RCRA)	Less than	0.2	ppb	8/1/17 14:16	MC
Molybdenum - EPA 200.8	Less than	1.0	ppb	8/1/17 17:24	CDB
Selenium by ICP-MS 200.8	Less than	5.0	ppb	8/1/17 17:24	CDB
Thallium by ICP-MS 200.8	Less than	1.0	ppb	8/1/17 17:24	CDB

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



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January 31, 2018

REPORT TO:
Mike Moore

Sample ID: **AB27956**

**Wateree Landfill MW-08LF-RCRA/CCR**

Date & Time Sampled: July 25, 2017 07:10  
 Date & Time Submitted: July 26, 2017 12:38  
 Collected by: A.HILL Location Code: WAG08LFTM

MW-08LF

Login Record File: 170726003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS 200.8	Less than	1.0	ppb	8/1/17 17:24	CDB
Arsenic by ICP_MS 200.8	Less than	1.0	ppb	8/1/17 17:24	CDB
Barium by ICP-OES 200.7	40.0	10.0	ppb	7/31/17 11:02	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	7/31/17 11:02	CDB
Boron - EPA 200.7	Less than	1000	ppb	7/31/17 11:02	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	8/1/17 17:24	CDB
Calcium EPA 200.7	830	100	ppb	7/31/17 11:02	CDB
Chromium by ICP_MS 200.8	Less than	1.0	ppb	8/1/17 17:24	CDB
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	8/1/17 17:24	CDB
Lead by ICP-MS 200.8	Less than	1.0	ppb	8/1/17 17:24	CDB
Lithium (CWA) 200.7	7.6	2.0	ppb	7/31/17 11:02	CDB
Mercury - 7470A (RCRA)	Less than	0.2	ppb	8/1/17 14:16	MC
Molybdenum - EPA 200.8	Less than	1.0	ppb	8/1/17 17:24	CDB
Selenium by ICP-MS 200.8	Less than	5.0	ppb	8/1/17 17:24	CDB
Thallium by ICP-MS 200.8	Less than	1.0	ppb	8/1/17 17:24	CDB

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



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January 31, 2018

REPORT TO:
Mike Moore

Sample ID: **AB27957**

**Wateree NPDES Well MW 22 Total Metals (NPDES)**

Date & Time Sampled: July 25, 2017 08:10  
 Date & Time Submitted: July 26, 2017 12:38  
 Collected by: A.HILL Location Code: WAG22TM

MW 22

Login Record File: 170726003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS 200.8	Less than	1.0	ppb	8/1/17 17:24	CDB
Arsenic by ICP_MS 200.8	Less than	1.0	ppb	8/1/17 17:24	CDB
Barium by ICP-OES 200.7	50.6	10.0	ppb	7/31/17 13:57	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	7/31/17 13:57	CDB
Boron - EPA 200.7	Less than	1000	ppb	7/31/17 13:57	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	8/1/17 17:24	CDB
Calcium EPA 200.7	1309	1000	ppb	7/31/17 13:57	CDB
Chromium by ICP_MS 200.8	Less than	1.0	ppb	8/1/17 17:24	CDB
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	8/1/17 17:24	CDB
Lead by ICP-MS 200.8	1.2	1.0	ppb	8/1/17 17:24	CDB
Lithium (CWA) 200.7	2.2	2.0	ppb	7/31/17 13:57	CDB
Mercury - 7470A (RCRA)	Less than	0.2	ppb	8/1/17 14:16	MC
Molybdenum - EPA 200.8	Less than	1.0	ppb	8/1/17 17:24	CDB
Selenium by ICP-MS 200.8	Less than	5.0	ppb	8/1/17 17:24	CDB
Thallium by ICP-MS 200.8	Less than	1.0	ppb	8/1/17 17:24	CDB

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



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January 31, 2018

REPORT TO:
Mike Moore

Sample ID: **AB27958**

**Wateree Landfill MW-10LF-RCRA/CCR**

Date & Time Sampled: July 25, 2017 09:05  
 Date & Time Submitted: July 26, 2017 12:38  
 Collected by: A.HILL Location Code: WAG10LFTM

MW-10LF

Login Record File: 170726003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS 200.8	Less than	1.0	ppb	8/1/17 17:24	CDB
Arsenic by ICP_MS 200.8	Less than	1.0	ppb	8/1/17 17:24	CDB
Barium by ICP-OES 200.7	65.8	10.0	ppb	7/31/17 13:57	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	7/31/17 13:57	CDB
Boron - EPA 200.7	Less than	1000	ppb	7/31/17 13:57	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	8/1/17 17:24	CDB
Calcium EPA 200.7	1000	100	ppb	7/31/17 13:57	CDB
Chromium by ICP_MS 200.8	Less than	1.0	ppb	8/1/17 17:24	CDB
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	8/1/17 17:24	CDB
Lead by ICP-MS 200.8	1.1	1.0	ppb	8/1/17 17:24	CDB
Lithium (CWA) 200.7	2.4	2.0	ppb	7/31/17 13:57	CDB
Mercury - 7470A (RCRA)	Less than	0.2	ppb	8/1/17 14:16	MC
Molybdenum - EPA 200.8	Less than	1.0	ppb	8/1/17 17:24	CDB
Selenium by ICP-MS 200.8	Less than	5.0	ppb	8/1/17 17:24	CDB
Thallium by ICP-MS 200.8	Less than	1.0	ppb	8/1/17 17:24	CDB

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_





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January 31, 2018

REPORT TO:
Mike Moore

Sample ID: **AB27959**

**Wateree Landfill MW-11LF-RCRA/CCR**

Date & Time Sampled: July 25, 2017 10:05  
 Date & Time Submitted: July 26, 2017 12:38  
 Collected by: A.HILL Location Code: WAG11LFTM

MW-11LF

Login Record File: 170726003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS 200.8	Less than	1.0	ppb	8/1/17 17:24	CDB
Arsenic by ICP_MS 200.8	Less than	1.0	ppb	8/1/17 17:24	CDB
Barium by ICP-OES 200.7	47.9	10.0	ppb	7/31/17 13:57	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	7/31/17 13:57	CDB
Boron - EPA 200.7	Less than	1000	ppb	7/31/17 13:57	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	8/1/17 17:24	CDB
Calcium EPA 200.7	195	100	ppb	7/31/17 13:57	CDB
Chromium by ICP_MS 200.8	Less than	1.0	ppb	8/1/17 17:24	CDB
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	8/1/17 17:24	CDB
Lead by ICP-MS 200.8	Less than	1.0	ppb	8/1/17 17:24	CDB
Lithium (CWA) 200.7	2.3	2.0	ppb	7/31/17 13:57	CDB
Mercury - 7470A (RCRA)	Less than	0.2	ppb	8/1/17 14:16	MC
Molybdenum - EPA 200.8	Less than	1.0	ppb	8/1/17 17:24	CDB
Selenium by ICP-MS 200.8	Less than	5.0	ppb	8/1/17 17:24	CDB
Thallium by ICP-MS 200.8	Less than	1.0	ppb	8/1/17 17:24	CDB

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



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January 31, 2018

REPORT TO:
Mike Moore

Sample ID: **AB27962**

**Wateree Landfill AS-1-LF-RCRA/CCR**

Date & Time Sampled: July 25, 2017 14:25  
 Date & Time Submitted: July 26, 2017 12:38  
 Collected by: A.HILL Location Code: WAGASLF1TM

MW-01LF

Login Record File: 170726003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS 200.8	Less than	1.0	ppb	8/2/17 11:50	CDB
Arsenic by ICP_MS 200.8	Less than	1.0	ppb	8/2/17 11:50	CDB
Barium by ICP-OES 200.7	46.1	10.0	ppb	7/31/17 13:57	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	7/31/17 13:57	CDB
Boron - EPA 200.7	Less than	1000	ppb	7/31/17 13:57	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	8/2/17 11:50	CDB
Calcium EPA 200.7	898	100	ppb	7/31/17 13:57	CDB
Chromium by ICP_MS 200.8	2.0	1.0	ppb	8/2/17 11:50	CDB
Cobalt by ICP_MS 200.8	2.5	1.0	ppb	8/2/17 11:50	CDB
Lead by ICP-MS 200.8	Less than	1.0	ppb	8/2/17 11:50	CDB
Lithium (CWA) 200.7	Less than	2.0	ppb	7/31/17 13:57	CDB
Mercury - 7470A (RCRA)	Less than	0.2	ppb	8/1/17 14:16	MC
Molybdenum - EPA 200.8	Less than	1.0	ppb	8/2/17 11:50	CDB
Selenium by ICP-MS 200.8	Less than	5.0	ppb	8/2/17 11:50	CDB
Thallium by ICP-MS 200.8	Less than	1.0	ppb	8/2/17 11:50	CDB

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



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January 31, 2018

REPORT TO:
Mike Moore

Sample ID: **AB27963**

**Wateree Landfill AS-2-LF-RCRA/CCR**

Date & Time Sampled: July 25, 2017 15:20  
 Date & Time Submitted: July 26, 2017 12:38  
 Collected by: A.HILL Location Code: WAGAS2LFTM

MW-01LF

Login Record File: 170726003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Arsenic by ICP_MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Barium by ICP-OES 200.7	127	10.0	ppb	7/31/17 13:57	CDB
Beryllium EPA 200.7	3.2	2.0	ppb	7/31/17 13:57	CDB
Boron - EPA 200.7	Less than	1000	ppb	7/31/17 13:57	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Calcium EPA 200.7	1662	1000	ppb	7/31/17 13:57	CDB
Chromium by ICP_MS 200.8	1.8	1.0	ppb	8/2/17 12:39	CDB
Cobalt by ICP_MS 200.8	21.6	1.0	ppb	8/2/17 12:39	CDB
Lead by ICP-MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Lithium (CWA) 200.7	44.5	2.0	ppb	7/31/17 13:57	CDB
Mercury - 7470A (RCRA)	Less than	0.2	ppb	8/1/17 14:16	MC
Molybdenum - EPA 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Selenium by ICP-MS 200.8	Less than	5.0	ppb	8/2/17 12:39	CDB
Thallium by ICP-MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



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January 31, 2018

REPORT TO:
Mike Moore

Sample ID: **AB27964**

**Wateree Landfill AS-3-LF-RCRA/CCR**

Date & Time Sampled: July 25, 2017 17:40  
 Date & Time Submitted: July 26, 2017 12:38  
 Collected by: A.HILL Location Code: WAGAS3LFTM

MW-01LF

Login Record File: 170726003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Arsenic by ICP_MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Barium by ICP-OES 200.7	81.1	10.0	ppb	7/31/17 13:57	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	7/31/17 13:57	CDB
Boron - EPA 200.7	Less than	1000	ppb	7/31/17 13:57	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Calcium EPA 200.7	777	100	ppb	7/31/17 13:57	CDB
Chromium by ICP_MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Cobalt by ICP_MS 200.8	2.0	1.0	ppb	8/2/17 12:39	CDB
Lead by ICP-MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Lithium (CWA) 200.7	3.7	2.0	ppb	7/31/17 13:57	CDB
Mercury - 7470A (RCRA)	Less than	0.2	ppb	8/1/17 14:16	MC
Molybdenum - EPA 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Selenium by ICP-MS 200.8	Less than	5.0	ppb	8/2/17 12:39	CDB
Thallium by ICP-MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_

SOUTH CAROLINA DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL  
GROUND-WATER MONITORING REPORT

Facility: Wateree Station

Permit No.: \_\_\_\_\_

County: Richland

Date Sampled: 09/27/2017

Time Sampled: 12:00:00AM

\_\_\_\_\_   
 year-month-day (Numerical)

**STATION NUMBERS**

<b>PARAMETER</b>	<b>NUMBER</b>	<b>MW-LF-01</b>	<b>MW-LF-06</b>
<b>NAME</b>	<b>Lab. Certificate No.</b>	32006	32006
Field pH S.U.		4.530	4.730
Field Sp. Conductivity micromhos/cm		42.000	48.000
Field Turbidity NTU		4.80	4.70
ORP mV		276.300	315.400
Oxygen, dissolved mg/L		5.730	8.660
Temp (Celcius) degrees C		17.800	17.860
Water level elevation ft		125.90	116.98

Authorized Release By: \_\_\_\_\_

Date: \_\_\_\_\_

SOUTH CAROLINA DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL  
GROUND-WATER MONITORING REPORT

Facility: Wateree Station

Permit No.: \_\_\_\_\_

County: Richland

Date Sampled: 09/26/2017

Time Sampled: 12:00:00AM

\_\_\_\_\_   
 year-month-day (Numerical)

**STATION NUMBERS**

<b>PARAMETER</b>	<b>NUMBER</b>	<b>MW-LF-22</b>
<b>NAME</b>	Lab. Certificate No.	32006
Field pH S.U.		4.290
Field Sp. Conductivity micromhos/cm		74.000
Field Turbidity NTU		4.20
ORP mV		317.000
Oxygen, dissolved mg/L		5.030
Temp (Celcius) degrees C		20.990
Water level elevation ft		113.37

Authorized Release By: \_\_\_\_\_

Date: \_\_\_\_\_

SOUTH CAROLINA DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL  
GROUND-WATER MONITORING REPORT

Facility: Wateree Station

Permit No.: \_\_\_\_\_

County: Richland

Date Sampled: 09/27/2017

Time Sampled: 12:00:00AM

year-month-day (Numerical)

**STATION NUMBERS**

PARAMETER	NUMBER	MW-LF-07	MW-LF-08	MW-LF-10	MW-LF-11
NAME	Lab. Certificate No.	32006	32006	32006	32006
Field pH S.U.		4.170	4.610	4.260	4.470
Field Sp. Conductivity micromhos/cm		75.000	42.000	61.000	32.000
Field Turbidity NTU		4.40	4.00	2.50	2.50
ORP mV		294.200	196.200	256.600	270.600
Oxygen, dissolved mg/L		5.300	5.500	4.730	5.790
Temp (Celcius) degrees C		19.330	19.600	20.080	19.770
Water level elevation ft		115.88	112.70	112.92	113.64

Authorized Release By: \_\_\_\_\_

Date: \_\_\_\_\_

# GEL LABORATORIES LLC

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

## Certificate of Analysis Report for

GEEL003 GEL Engineering, LLC

Client SDG: 434134 GEL Work Order: 434134

**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
- H Analytical holding time was exceeded
- 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, Jake Crook.

Reviewed by \_\_\_\_\_







# GEL LABORATORIES LLC

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

## QC Summary

Report Date: October 18, 2017

Page 1 of 2

GEL Engineering, LLC  
2040 Savage Rd  
Charleston, South Carolina

Contact: Robert Gardner

Workorder: 434134

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Ion Chromatography</b>											
Batch	1706773										
QC1203889579	434134001	DUP									
Fluoride		U	ND	U	ND	mg/L	N/A		JXH5	10/05/17	21:32
QC1203889683	434131001	DUP									
Fluoride			0.306		0.304	mg/L	0.557 ^	(+/-0.100)		10/05/17	12:53
QC1203889577	LCS										
Fluoride	2.50				2.35	mg/L		93.9 (90%-110%)		10/05/17	11:55
QC1203889576	MB										
Fluoride			U		ND	mg/L				10/05/17	11:26
QC1203889581	434134001	PS									
Fluoride	2.50	U	ND		2.53	mg/L		101 (90%-110%)		10/05/17	22:59
QC1203889684	434131001	PS									
Fluoride	2.50		0.306		2.56	mg/L		90.2 (90%-110%)		10/06/17	10:41

### Notes:

The Qualifiers in this report are defined as follows:

- < Result is less than value reported
- > Result is greater than value reported
- B The target analyte was detected in the associated blank.
- E General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
- H Analytical holding time was exceeded
- J Value is estimated
- N/A RPD or %Recovery limits do not apply.
- NI See case narrative
- ND Analyte concentration is not detected above the detection limit
- NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Q One or more quality control criteria have not been met. Refer to the applicable narrative or DER.

# GEL LABORATORIES LLC

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

## QC Summary

Workorder: 434134

Page 2 of 2

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
R											
R											
U											
X											
Z											
^											
d											
e											
h											

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

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

\* Indicates that a Quality Control parameter was not within specifications.

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

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

## GEL LABORATORIES LLC

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

### Certificate of Analysis Report for

GEEL003 GEL Engineering, LLC

Client SDG: 434135 GEL Work Order: 434135

**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
- H Analytical holding time was exceeded
- 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, Jake Crook.

Reviewed by \_\_\_\_\_



# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: October 16, 2017

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd  
  
Charleston, South Carolina 29417  
Contact: Robert Gardner  
Project: Wateree CCR

Client Sample ID: MW-07LF Project: SCEG01716c  
Sample ID: 434135001 Client ID: GEEL003  
Matrix: Ground Water  
Collect Date: 27-SEP-17 08:07  
Receive Date: 03-OCT-17  
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	U	ND	0.033	0.100	mg/L		1	JXH5	10/07/17	0724	1707410	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	J	4.57	3.00	10.0	ug/L	1.00	1	SKJ	10/06/17	1507	1706259	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	SXW1	10/04/17	1007	1706258

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	

### Notes:

Column headers are defined as follows:

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

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: October 16, 2017

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd  
  
Charleston, South Carolina 29417  
Contact: Robert Gardner  
Project: Wateree CCR

Client Sample ID: MW-01LF Project: SCEG01716c  
Sample ID: 434135002 Client ID: GEEL003  
Matrix: Ground Water  
Collect Date: 27-SEP-17 08:35  
Receive Date: 03-OCT-17  
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	U	ND	0.033	0.100	mg/L		1	JXH5	10/07/17	0851	1707410	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	U	ND	3.00	10.0	ug/L	1.00	1	SKJ	10/06/17	1515	1706259	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	SXW1	10/04/17	1007	1706258

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	

### Notes:

Column headers are defined as follows:

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

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: October 16, 2017

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd  
  
Charleston, South Carolina 29417  
Contact: Robert Gardner  
Project: Wateree CCR

Client Sample ID: MW-08LF Project: SCEG01716c  
Sample ID: 434135003 Client ID: GEEL003  
Matrix: Ground Water  
Collect Date: 27-SEP-17 09:11  
Receive Date: 03-OCT-17  
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	U	ND	0.033	0.100	mg/L		1	JXH5	10/07/17	0919	1707410	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	J	8.26	3.00	10.0	ug/L	1.00	1	SKJ	10/06/17	1522	1706259	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	SXW1	10/04/17	1007	1706258

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	

### Notes:

Column headers are defined as follows:

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

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: October 16, 2017

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd  
  
Charleston, South Carolina 29417  
Contact: Robert Gardner  
Project: Wateree CCR

Client Sample ID: MW-06LF Project: SCEG01716c  
Sample ID: 434135004 Client ID: GEEL003  
Matrix: Ground Water  
Collect Date: 27-SEP-17 09:40  
Receive Date: 03-OCT-17  
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	U	ND	0.033	0.100	mg/L		1	JXH5	10/07/17	0948	1707410	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	U	ND	3.00	10.0	ug/L	1.00	1	SKJ	10/06/17	1523	1706259	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	SXW1	10/04/17	1007	1706258

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	

### Notes:

Column headers are defined as follows:

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



# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: October 16, 2017

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd  
  
Charleston, South Carolina 29417  
Contact: Robert Gardner  
Project: Wateree CCR

Client Sample ID: MW-10LF Project: SCEG01716c  
Sample ID: 434135005 Client ID: GEEL003  
Matrix: Ground Water  
Collect Date: 27-SEP-17 10:06  
Receive Date: 03-OCT-17  
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	U	ND	0.033	0.100	mg/L		1	JXH5	10/07/17	1017	1707410	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	J	3.09	3.00	10.0	ug/L	1.00	1	SKJ	10/06/17	1525	1706259	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	SXW1	10/04/17	1007	1706258

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	

### Notes:

Column headers are defined as follows:

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

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: October 16, 2017

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd  
  
Charleston, South Carolina 29417  
Contact: Robert Gardner  
Project: Wateree CCR

Client Sample ID: MW-11LF Project: SCEG01716c  
Sample ID: 434135006 Client ID: GEEL003  
Matrix: Ground Water  
Collect Date: 27-SEP-17 11:04  
Receive Date: 03-OCT-17  
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	U	ND	0.033	0.100	mg/L		1	JXH5	10/07/17	1046	1707410	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	U	ND	3.00	10.0	ug/L	1.00	1	SKJ	10/06/17	1527	1706259	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	SXW1	10/04/17	1007	1706258

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 3005A/6020A	

### Notes:

Column headers are defined as follows:

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

# GEL LABORATORIES LLC

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

## QC Summary

Report Date: October 16, 2017

Page 1 of 2

GEL Engineering, LLC  
2040 Savage Rd  
Charleston, South Carolina

Contact: Robert Gardner

Workorder: 434135

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Ion Chromatography</b>											
Batch	1707410										
QC1203891031	434135001	DUP									
Fluoride		U	ND	J	0.067	mg/L	200		JXH5	10/07/17	07:53
QC1203891030	LCS										
Fluoride	2.50				2.41	mg/L	96.3	(90%-110%)		10/07/17	06:55
QC1203891029	MB										
Fluoride			U		ND	mg/L				10/07/17	06:26
QC1203891032	434135001	PS									
Fluoride	2.50	U	ND		2.54	mg/L	100	(90%-110%)		10/07/17	08:22
<b>Metals Analysis - ICPMS</b>											
Batch	1706259										
QC1203888387	434135001	DUP									
Lithium		J	4.57	J	4.71	ug/L	2.91	^	(+/-10.0)	SKJ	10/06/17 15:09
QC1203888386	LCS										
Lithium	50.0				51.2	ug/L	102	(80%-120%)		10/06/17	15:05
QC1203888385	MB										
Lithium			U		ND	ug/L				10/06/17	15:04
QC1203888388	434135001	MS									
Lithium	50.0	J	4.57		57.3	ug/L	105	(75%-125%)		10/06/17	15:10
QC1203888389	434135001	SDILT									
Lithium		J	4.57	U	ND	ug/L	N/A	(0%-10%)		10/06/17	15:14

### Notes:

The Qualifiers in this report are defined as follows:

# GEL LABORATORIES LLC

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

## QC Summary

Workorder: 434135

Page 2 of 2

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<	Result is less than value reported										
>	Result is greater than value reported										
B	The target analyte was detected in the associated blank.										
E	%difference of sample and SD is >10%. Sample concentration must meet flagging criteria										
E	General Chemistry--Concentration of the target analyte exceeds the instrument calibration range										
FB	Mercury was found present at quantifiable concentrations in field blanks received with these samples. Data associated with the blank are deemed invalid for reporting to regulatory agencies										
H	Analytical holding time was exceeded										
J	Value is estimated										
N	Metals--The Matrix spike sample recovery is not within specified control limits										
N/A	RPD or %Recovery limits do not apply.										
NI	See case narrative										
ND	Analyte concentration is not detected above the detection limit										
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier										
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.										
R	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.										
R	Sample results are rejected										
U	Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.										
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier										
Y	Other specific qualifiers were required to properly define the results. Consult case narrative.										
Z	Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.										
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.										
d	5-day BOD--The 2:1 depletion requirement was not met for this sample										
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										
h	Preparation or preservation holding time was exceeded										

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

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

\* Indicates that a Quality Control parameter was not within specifications.

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

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



Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

September 28, 2017

REPORT TO:
Mike Moore

Sample ID: **AB28790**

**Wateree NPDES Well MW 22 (NPDES)**

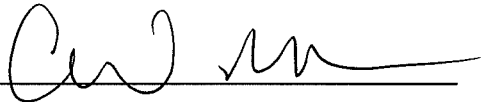
Date & Time Sampled: September 26, 2017 11:20  
 Date & Time Submitted: September 27, 2017 10:34  
 Collected by: A.HILL Location Code: WAG22TDS

MW 22

Login Record File: 170927001

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	11.6	0.50	mg/L	9/28/17 09:25	BB
pH by SM4500HB(2011)	4.72	0.00	S.U.	9/27/17 15:30	BF
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC EPA 300.0	Less than	0.50	mg/L	9/28/17 09:25	BB
Total Dissolved Solid-SM2540C	52	2.0	mg/L	9/28/17 15:14	BF

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: 



Central Laboratory (P-08)  
 2102 North Lake Drive  
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 Tel: (803)217-9384  
 Fax: (803) 217-9911

October 03, 2017

REPORT TO:
Mike Moore

Sample ID: **AB28835**

**Wateree Landfill MW-07LF-RCRA/CCR**

Date & Time Sampled: September 27, 2017 08:07

Date & Time Submitted: September 28, 2017 11:17

Collected by: A.HILL

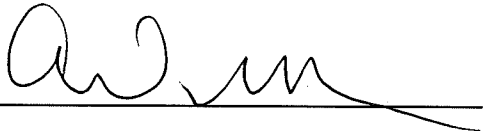
Location Code: WAG07LFTDS

MW-07LF

Login Record File: 170928002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC- 9056A	9.83	0.50	mg/L	9/29/17 10:59	BB
pH by SM4500HB(2011)	4.63	0.00	S.U.	9/28/17 11:50	BF
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC - 9056A	Less than	0.5	mg/L	9/29/17 10:59	BB
Total Dissolved Solid-SM2540C	64	2.0	mg/L	10/3/17 14:05	BF

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: 



Central Laboratory (P-08)  
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October 03, 2017

REPORT TO:
Mike Moore

Sample ID: **AB28836**

**Wateree Landfill MW-01LF-RCRA/CCR**

Date & Time Sampled: September 27, 2017 08:35

Date & Time Submitted: September 28, 2017 11:17

Collected by: A.HILL

Location Code: WAG01LFTDS

MW-01LF

Login Record File: 170928002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC- 9056A	5.85	0.50	mg/L	9/29/17 10:59	BB
pH by SM4500HB(2011)	4.79	0.00	S.U.	9/28/17 11:50	BF
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC - 9056A	Less than	0.5	mg/L	9/29/17 10:59	BB
Total Dissolved Solid-SM2540C	33	2.0	mg/L	10/3/17 14:05	BF

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



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October 03, 2017

REPORT TO:
Mike Moore

Sample ID: **AB28837**

**Wateree Landfill MW-08LF-RCRA/CCR**


Date & Time Sampled: September 27, 2017 09:11  
 Date & Time Submitted: September 28, 2017 11:17  
 Collected by: A.HILL Location Code: WAG08LFTDS

MW-08LF

Login Record File: 170928002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC- 9056A	5.13	0.50	mg/L	9/29/17 10:59	BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	5.03	0.00	S.U.	9/28/17 11:50	BF
Sulfates by IC - 9056A	Less than	0.5	mg/L	9/29/17 10:59	BB
Total Dissolved Solid-SM2540C	32	2.0	mg/L	10/3/17 14:05	BF

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: 





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October 03, 2017

REPORT TO:
Mike Moore

Sample ID: **AB28838**

**Wateree Landfill Well GW 6 -RCRA**

Date & Time Sampled: September 27, 2017 09:40

Date & Time Submitted: September 28, 2017 11:17

Collected by: A.HILL

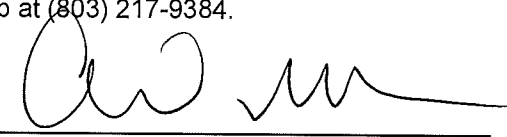
Location Code: WAG06LFTDS

GW 6

Login Record File: 170928002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC- 9056A	6.98	0.50	mg/L	9/29/17 10:59	BB
pH by SM4500HB(2011)	4.99	0.00	S.U.	9/28/17 11:50	BF
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC - 9056A	Less than	0.5	mg/L	9/29/17 10:59	BB
Total Dissolved Solid-SM2540C	36	2.0	mg/L	10/3/17 14:05	BF

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: 



Central Laboratory (P-08)  
 2102 North Lake Drive  
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October 03, 2017

REPORT TO:
Mike Moore

Sample ID: **AB28839**

**Wateree Landfill MW-10LF-RCRA/CCR**

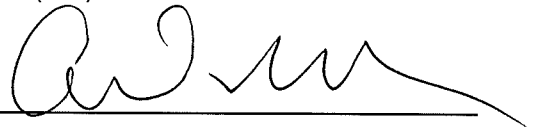
Date & Time Sampled: September 27, 2017 10:06  
 Date & Time Submitted: September 28, 2017 11:17  
 Collected by: A.HILL Location Code: WAG10LFTDS

MW-10LF

Login Record File: 170928002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC- 9056A	6.17	0.50	mg/L	9/29/17 10:59	BB
pH by SM4500HB(2011)	4.71	0.00	S.U.	9/28/17 11:50	BF
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC - 9056A	3.49	0.5	mg/L	9/29/17 10:59	BB
Total Dissolved Solid-SM2540C	41	2.0	mg/L	10/3/17 14:05	BF

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: 



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October 03, 2017

REPORT TO:
Mike Moore

Sample ID: **AB28840**

**Wateree Landfill MW-11LF-RCRA/CCR**

Date & Time Sampled: September 27, 2017 11:04  
 Date & Time Submitted: September 28, 2017 11:17  
 Collected by: A.HILL Location Code: WAG11LFTDS

MW-11LF

Login Record File: 170928002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC- 9056A	4.71	0.50	mg/L	9/29/17 10:59	BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	5.13	0.00	S.U.	9/28/17 11:50	BF
Sulfates by IC - 9056A	Less than	0.5	mg/L	9/29/17 10:59	BB
Total Dissolved Solid-SM2540C	32	2.0	mg/L	10/3/17 14:05	BF

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: 



**Central Laboratory (P-08)**  
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January 31, 2018

REPORT TO:
Mike Moore

Sample ID: **AB28814**

**Wateree NPDES Well MW 22 Total Metals (NPDES)**

Date & Time Sampled: September 26, 2017 11:20  
 Date & Time Submitted: September 27, 2017 10:34  
 Collected by: A.HILL Location Code: WAG22TM

MW 22

Login Record File: 170927001

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Boron - EPA 200.7	Less than	1000	ppb	9/28/17 14:55	MC
Calcium EPA 200.7	2090	100	ppb	9/28/17 14:55	MC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



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January 31, 2018

REPORT TO:
Mike Moore

Sample ID: **AB28847**

**Wateree Landfill MW-07LF-RCRA/CCR**

Date & Time Sampled: September 27, 2017 08:07

Date & Time Submitted: September 28, 2017 11:17

Collected by: A.HILL Location Code: WAG07LFTM

MW-07LF

Login Record File: 170928002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Boron - EPA 200.7	Less than	1000	ppb	10/2/17 16:00	CDB
Calcium EPA 200.7	1912	1000	ppb	10/2/17 16:00	CDB

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



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January 31, 2018

REPORT TO:
Mike Moore

Sample ID: **AB28848**

**Wateree Landfill MW-01LF-RCRA/CCR**

Date & Time Sampled: September 27, 2017 08:35

Date & Time Submitted: September 28, 2017 11:17

Collected by: A.HILL

Location Code: WAG01LFTM

MW-01LF

Login Record File: 170928002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Boron - EPA 200.7	Less than	1000	ppb	10/2/17 16:00	CDB
Calcium EPA 200.7	Less than	100	ppb	10/2/17 16:00	CDB

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



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January 31, 2018

REPORT TO:
Mike Moore

Sample ID: **AB28849**

**Wateree Landfill MW-08LF-RCRA/CCR**

Date & Time Sampled: September 27, 2017 09:11  
 Date & Time Submitted: September 28, 2017 11:17  
 Collected by: A.HILL Location Code: WAG08LFTM

MW-08LF

Login Record File: 170928002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Boron - EPA 200.7	Less than	1000	ppb	10/2/17 16:00	CDB
Calcium EPA 200.7	798	100	ppb	10/2/17 16:00	CDB

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



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January 31, 2018

REPORT TO:
Mike Moore

Sample ID: **AB28850**

**Wateree Landfill Well GW 6-RCRA**

Date & Time Sampled: September 27, 2017 09:40  
 Date & Time Submitted: September 28, 2017 11:17  
 Collected by: A.HILL Location Code: WAG06LFTM

GW 6

Login Record File: 170928002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Boron - EPA 200.7	Less than	1000	ppb	10/2/17 16:00	CDB
Calcium EPA 200.7	770	100	ppb	10/2/17 16:00	CDB

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_





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 Fax: (803) 217-9911

January 31, 2018

REPORT TO:
Mike Moore

Sample ID: **AB28851**

**Wateree Landfill MW-10LF-RCRA/CCR**

Date & Time Sampled: September 27, 2017 10:06  
 Date & Time Submitted: September 28, 2017 11:17  
 Collected by: A.HILL Location Code: WAG10LFM

MW-10LF

Login Record File: 170928002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Boron - EPA 200.7	Less than	1000	ppb	10/2/17 16:00	CDB
Calcium EPA 200.7	1149	1000	ppb	10/2/17 16:00	CDB

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



**Central Laboratory (P-08)**  
**2102 North Lake Drive**  
**Columbia, SC 29212**  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

January 31, 2018

REPORT TO:
Mike Moore

Sample ID: **AB28852**

**Wateree Landfill MW-11LF-RCRA/CCR**

Date & Time Sampled: September 27, 2017 11:04  
 Date & Time Submitted: September 28, 2017 11:17  
 Collected by: A.HILL Location Code: WAG11LFTM

MW-11LF

Login Record File: 170928002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Boron - EPA 200.7	Less than	1000	ppb	10/2/17 16:00	CDB
Calcium EPA 200.7	200	100	ppb	10/2/17 16:00	CDB

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



## **APPENDIX B**

### **Statistical Analysis of Detection Monitoring Groundwater Quality Results**

## Wateree Station

### Detection Monitoring Summary

Run Id: 1

Location Id: MW-LF-04

Compliance Test: Double Quantification Rule

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Boron, total ug/L	07/25/2017	AB27961	--	--	< 1.000	n		--

Run Id: 2

Location Id: MW-LF-04

Compliance Test: Non-Parametric Prediction Interval on Background Useing largest background data value.

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Calcium, tot ug/L	07/25/2017	AB27961	1 of 2	5.500	0.776	n		--

Run Id: 3

Location Id: MW-LF-04

Compliance Test: Non-Parametric Prediction Interval on Background Useing largest background data value.

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Chlorides mg/L	07/25/2017	AB27941	1 of 2	7.450	7.430	n		--

Run Id: 4

Location Id: MW-LF-04

Compliance Test: Parametric Prediction Interval on Background

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Field pH S.U.	07/26/2017	FLD20170725	1 of 2	5.545	4.530	n/n		--

Run Id: 5

Location Id: MW-LF-04

NOTE: If trend test is performed, the background slope is listed under the Upper Limit heading and the compliance slope is listed under the Compliance Result heading.

Wateree Station

January 18, 2018

1:57:42 PM

Detection Monitoring Summary

Run Id: 5

Location Id: MW-LF-04

Compliance Test: Double Quantification Rule

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Fluoride, total mg/L	07/25/2017	428957009	--	--	< 0.100	n		--

Run Id: 6

Location Id: MW-LF-04

Compliance Test: Non-Parametric Prediction Interval on Background Useing largest background data value.

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Sulfate, tot mg/L	07/25/2017	AB27941	1 of 2	7.890	< 0.500	n		--

Run Id: 7

Location Id: MW-LF-04

Compliance Test: Parametric Prediction Interval on Background

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Total Dissolved Solids mg/L	07/26/2017	AB27941	1 of 2	59.454	20.000	n		--

Run Id: 8

Location Id: MW-LF-07

Compliance Test: Double Quantification Rule

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Boron, total ug/L	07/24/2017	AB27955	--	--	< 1.000	n		--
Boron, total ug/L	09/27/2017	AB28847	--	--	< 1.000	n		--

NOTE: If trend test is performed, the background slope is listed under the Upper Limit heading and the compliance slope is listed under the Compliance Result heading.

## Wateree Station

## Detection Monitoring Summary

Run Id: 9**Location Id:** MW-LF-07**Compliance Test:** Non-Parametric Prediction Interval on Background Useing largest background data value.

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Calcium, tot ug/L	07/24/2017	AB27955	1 of 2	5.500	2.010	n		--
Calcium, tot ug/L	09/27/2017	AB28847	1 of 2	5.500	1.912	n		--

Run Id: 10**Location Id:** MW-LF-07**Compliance Test:** Non-Parametric Prediction Interval on Background Useing largest background data value.

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Chlorides mg/L	07/24/2017	AB27935	1 of 2	7.450	9.620	y		None
Chlorides mg/L	09/27/2017	AB28835	1 of 2	7.450	9.830	y		None

Run Id: 11**Location Id:** MW-LF-07**Compliance Test:** Parametric Prediction Interval on Background

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Field pH S.U.	07/24/2017	FLD20170724	1 of 2	5.545	4.870	n/n		--
Field pH S.U.	09/27/2017	FLD20170927	1 of 2	5.545	4.170	n/n		--

Run Id: 12**Location Id:** MW-LF-07

NOTE: If trend test is performed, the background slope is listed under the Upper Limit heading and the compliance slope is listed under the Compliance Result heading.

Detection Monitoring Summary

Run Id: 12

**Location Id:** MW-LF-07

**Compliance Test:** Double Quantification Rule

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Fluoride, total mg/L	07/24/2017	428957003	--	--	< 0.100	n		--
Fluoride, total mg/L	09/27/2017	1203891031	--	--	< 0.100	n		--

Run Id: 13

**Location Id:** MW-LF-07

**Compliance Test:** Non-Parametric Prediction Interval on Background Using largest background data value.

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Sulfate, tot mg/L	07/24/2017	AB27935	1 of 2	7.890	< 0.500	n		--
Sulfate, tot mg/L	09/27/2017	AB28835	1 of 2	7.890	< 0.500	n		--

Run Id: 14

**Location Id:** MW-LF-07

**Compliance Test:** Parametric Prediction Interval on Background

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Total Dissolved Solids mg/L	07/24/2017	AB27935	1 of 2	59.454	47.000	n		--
Total Dissolved Solids mg/L	09/27/2017	AB28835	1 of 2	59.454	64.000	y		None

Run Id: 15

**Location Id:** MW-LF-08

NOTE: If trend test is performed, the background slope is listed under the Upper Limit heading and the compliance slope is listed under the Compliance Result heading.

Detection Monitoring Summary

Run Id: 15

**Location Id:** MW-LF-08

**Compliance Test:** Double Quantification Rule

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Boron, total ug/L	07/25/2017	AB27956	--	--	< 1.000	n		--
Boron, total ug/L	09/27/2017	AB28849	--	--	< 1.000	n		--

Run Id: 16

**Location Id:** MW-LF-08

**Compliance Test:** Non-Parametric Prediction Interval on Background Using largest background data value.

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Calcium, tot ug/L	07/25/2017	AB27956	1 of 2	5.500	0.830	n		--
Calcium, tot ug/L	09/27/2017	AB28849	1 of 2	5.500	0.798	n		--

Run Id: 17

**Location Id:** MW-LF-08

**Compliance Test:** Non-Parametric Prediction Interval on Background Using largest background data value.

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Chlorides mg/L	07/25/2017	AB27936	1 of 2	7.450	4.920	n		--
Chlorides mg/L	09/27/2017	AB28837	1 of 2	7.450	5.130	n		--

Run Id: 18

**Location Id:** MW-LF-08

NOTE: If trend test is performed, the background slope is listed under the Upper Limit heading and the compliance slope is listed under the Compliance Result heading.



Wateree Station

January 18, 2018

1:57:42 PM

Detection Monitoring Summary

Run Id: 18

**Location Id:** MW-LF-08

**Compliance Test:** Parametric Prediction Interval on Background

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Field pH S.U.	07/26/2017	FLD20170725	1 of 2	5.545	4.850	n/n		--
Field pH S.U.	09/27/2017	FLD20170927	1 of 2	5.545	4.610	n/n		--

Run Id: 19

**Location Id:** MW-LF-08

**Compliance Test:** Double Quantification Rule

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Fluoride, total mg/L	07/25/2017	428957004	--	--	< 0.100	n		--
Fluoride, total mg/L	09/27/2017	434135003	--	--	< 0.100	n		--

Run Id: 20

**Location Id:** MW-LF-08

**Compliance Test:** Non-Parametric Prediction Interval on Background Using largest background data value.

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Sulfate, tot mg/L	07/25/2017	AB27936	1 of 2	7.890	< 0.500	n		--
Sulfate, tot mg/L	09/27/2017	AB28837	1 of 2	7.890	< 0.500	n		--

Run Id: 21

**Location Id:** MW-LF-08

NOTE: If trend test is performed, the background slope is listed under the Upper Limit heading and the compliance slope is listed under the Compliance Result heading.

Detection Monitoring Summary

Run Id: 21

**Location Id:** MW-LF-08

**Compliance Test:** Parametric Prediction Interval on Background

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Total Dissolved Solids mg/L	07/26/2017	AB27936	1 of 2	59.454	25.000	n		--
Total Dissolved Solids mg/L	09/27/2017	AB28837	1 of 2	59.454	32.000	n		--

Run Id: 22

**Location Id:** MW-LF-10

**Compliance Test:** Double Quantification Rule

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Boron, total ug/L	07/25/2017	AB27958	--	--	0.053	n		--
Boron, total ug/L	09/27/2017	AB28851	--	--	< 1.000	n		--

Run Id: 23

**Location Id:** MW-LF-10

**Compliance Test:** Non-Parametric Prediction Interval on Background Useing largest background data value.

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Calcium, tot ug/L	07/25/2017	AB27958	1 of 2	5.500	1.000	n		--
Calcium, tot ug/L	09/27/2017	AB28851	1 of 2	5.500	1.149	n		--

Run Id: 24

**Location Id:** MW-LF-10

NOTE: If trend test is performed, the background slope is listed under the Upper Limit heading and the compliance slope is listed under the Compliance Result heading.

**Wateree Station**

**Detection Monitoring Summary**

Run Id: 24

**Location Id:** MW-LF-10

**Compliance Test:** Non-Parametric Prediction Interval on Background Useing largest background data value.

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Chlorides mg/L	07/25/2017	AB27938	1 of 2	7.450	6.070	n		--
Chlorides mg/L	09/27/2017	AB28839	1 of 2	7.450	6.170	n		--

Run Id: 25

**Location Id:** MW-LF-10

**Compliance Test:** Parametric Prediction Interval on Background

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Field pH S.U.	07/26/2017	FLD20170725	1 of 2	5.545	5.180	n/n		--
Field pH S.U.	09/27/2017	FLD20170927	1 of 2	5.545	4.260	n/n		--

Run Id: 26

**Location Id:** MW-LF-10

**Compliance Test:** Double Quantification Rule

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Fluoride, total mg/L	07/25/2017	428957006	--	--	< 0.100	n		--
Fluoride, total mg/L	09/27/2017	434135005	--	--	< 0.100	n		--

Run Id: 27

**Location Id:** MW-LF-10

NOTE: If trend test is performed, the background slope is listed under the Upper Limit heading and the compliance slope is listed under the Compliance Result heading.

Detection Monitoring Summary

Run Id: 27

**Location Id:** MW-LF-10

**Compliance Test:** Non-Parametric Prediction Interval on Background Useing largest background data value.

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Sulfate, tot mg/L	07/25/2017	AB27938	1 of 2	7.890	3.260	n		--
Sulfate, tot mg/L	09/27/2017	AB28839	1 of 2	7.890	3.490	n		--

Run Id: 28

**Location Id:** MW-LF-10

**Compliance Test:** Parametric Prediction Interval on Background

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Total Dissolved Solids mg/L	07/26/2017	AB27938	1 of 2	59.454	23.000	n		--
Total Dissolved Solids mg/L	09/27/2017	AB28839	1 of 2	59.454	41.000	n		--

Run Id: 29

**Location Id:** MW-LF-11

**Compliance Test:** Double Quantification Rule

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Boron, total ug/L	07/25/2017	AB27959	--	--	< 1.000	n		--
Boron, total ug/L	09/27/2017	AB28852	--	--	< 1.000	n		--

Run Id: 30

**Location Id:** MW-LF-11

NOTE: If trend test is performed, the background slope is listed under the Upper Limit heading and the compliance slope is listed under the Compliance Result heading.

## Wateree Station

## Detection Monitoring Summary

Run Id: 30**Location Id:** MW-LF-11**Compliance Test:** Non-Parametric Prediction Interval on Background Useing largest background data value.

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Calcium, tot ug/L	07/25/2017	AB27959	1 of 2	5.500	0.195	n		--
Calcium, tot ug/L	09/27/2017	AB28852	1 of 2	5.500	0.200	n		--

Run Id: 31**Location Id:** MW-LF-11**Compliance Test:** Non-Parametric Prediction Interval on Background Useing largest background data value.

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Chlorides mg/L	07/25/2017	AB27939	1 of 2	7.450	4.800	n		--
Chlorides mg/L	09/27/2017	AB28840	1 of 2	7.450	4.710	n		--

Run Id: 32**Location Id:** MW-LF-11**Compliance Test:** Parametric Prediction Interval on Background

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Field pH S.U.	07/26/2017	FLD20170725	1 of 2	5.545	4.380	n/n		--
Field pH S.U.	09/27/2017	FLD20170927	1 of 2	5.545	4.470	n/n		--

Run Id: 33**Location Id:** MW-LF-11

NOTE: If trend test is performed, the background slope is listed under the Upper Limit heading and the compliance slope is listed under the Compliance Result heading.

Detection Monitoring Summary

Run Id: 33

**Location Id:** MW-LF-11

**Compliance Test:** Double Quantification Rule

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Fluoride, total mg/L	07/25/2017	428957007	--	--	< 0.100	n		--
Fluoride, total mg/L	09/27/2017	434135006	--	--	< 0.100	n		--

Run Id: 34

**Location Id:** MW-LF-11

**Compliance Test:** Non-Parametric Prediction Interval on Background Using largest background data value.

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Sulfate, tot mg/L	07/25/2017	AB27939	1 of 2	7.890	< 0.500	n		--
Sulfate, tot mg/L	09/27/2017	AB28840	1 of 2	7.890	< 0.500	n		--

Run Id: 35

**Location Id:** MW-LF-11

**Compliance Test:** Parametric Prediction Interval on Background

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Total Dissolved Solids mg/L	07/26/2017	AB27939	1 of 2	59.454	8.000	n		--
Total Dissolved Solids mg/L	09/27/2017	AB28840	1 of 2	59.454	32.000	n		--

Run Id: 36

**Location Id:** MW-LF-22

NOTE: If trend test is performed, the background slope is listed under the Upper Limit heading and the compliance slope is listed under the Compliance Result heading.

Detection Monitoring Summary

Run Id: 36

**Location Id:** MW-LF-22

**Compliance Test:** Double Quantification Rule

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Boron, total ug/L	07/25/2017	AB27957	--	--	< 1.000	n		--
Boron, total ug/L	09/26/2017	AB28814	--	--	< 1.000	n		--

Run Id: 37

**Location Id:** MW-LF-22

**Compliance Test:** Non-Parametric Prediction Interval on Background Using largest background data value.

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Calcium, tot ug/L	07/25/2017	AB27957	1 of 2	5.500	1.310	n		--
Calcium, tot ug/L	09/26/2017	AB28814	1 of 2	5.500	2.090	n		--

Run Id: 38

**Location Id:** MW-LF-22

**Compliance Test:** Non-Parametric Prediction Interval on Background Using largest background data value.

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Chlorides mg/L	07/25/2017	AB27937	1 of 2	7.450	8.850	y		None
Chlorides mg/L	09/26/2017	AB28787	1 of 2	7.450	11.600	y		None

Run Id: 39

**Location Id:** MW-LF-22

NOTE: If trend test is performed, the background slope is listed under the Upper Limit heading and the compliance slope is listed under the Compliance Result heading.

Detection Monitoring Summary

Run Id: 39

**Location Id:** MW-LF-22

**Compliance Test:** Parametric Prediction Interval on Background

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Field pH S.U.	07/26/2017	FLD20170725	1 of 2	5.545	4.110	n/n		--
Field pH S.U.	09/26/2017	FLD20170926	1 of 2	5.545	4.290	n/n		--

Run Id: 40

**Location Id:** MW-LF-22

**Compliance Test:** Double Quantification Rule

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Fluoride, total mg/L	07/25/2017	428957005	--	--	< 0.100	n		--
Fluoride, total mg/L	09/26/2017	434134001	--	--	< 0.100	n		--

Run Id: 41

**Location Id:** MW-LF-22

**Compliance Test:** Non-Parametric Prediction Interval on Background Using largest background data value.

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Sulfate, tot mg/L	07/25/2017	AB27937	1 of 2	7.890	< 0.500	n		--
Sulfate, tot mg/L	09/26/2017	AB28787	1 of 2	7.890	< 0.500	n		--

Run Id: 42

**Location Id:** MW-LF-22

NOTE: If trend test is performed, the background slope is listed under the Upper Limit heading and the compliance slope is listed under the Compliance Result heading.



Detection Monitoring Summary

Run Id: 42

Location Id: MW-LF-22

Compliance Test: Parametric Prediction Interval on Background

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Total Dissolved Solids mg/L	07/26/2017	AB27937	1 of 2	59.454	41.000	n		--
Total Dissolved Solids mg/L	09/26/2017	AB28787	1 of 2	59.454	52.000	n		--

NOTE: If trend test is performed, the background slope is listed under the Upper Limit heading and the compliance slope is listed under the Compliance Result heading.

Wateree Station

January 18, 2018

1:57:42 PM

All Background Results Non-Detect

Location Id: MW-LF-04  
Parameter: Boron, total

Run Id: 1

Method: Double Quantification Rule  
Percent ND: 100  
ND Approach: > 50% to <= 100 % Substitute PQL

---

<u>Sample Date</u>	<u>Modified Result</u>	<u>Analysis Result</u>	<u>Detection Limit</u>	<u>PQL</u>	<u>RL</u>	<u>Non Detect</u>	<u>Exceedance</u>
07/25/2017	1.000	0.044	0.044	1.000	0.000	Y	N

---

All Background Results Non-Detect

Location Id: MW-LF-04  
Parameter: Fluoride, total

Run Id: 5

Method: Double Quantification Rule  
Percent ND: 100  
ND Approach: > 50% to <= 100 % Substitute PQL

<u>Sample Date</u>	<u>Modified Result</u>	<u>Analysis Result</u>	<u>Detection Limit</u>	<u>PQL</u>	<u>RL</u>	<u>Non Detect</u>	<u>Exceedance</u>
07/25/2017	0.100	0.033	0.033	0.100	0.000	Y	N

**All Background Results Non-Detect**

**Location Id:** MW-LF-07

Run Id: 8

**Parameter:** Boron, total

**Method:** Double Quantification Rule

**Percent ND:** 100

**ND Approach:** > 50% to <= 100 % Substitute PQL

<u>Sample Date</u>	<u>Modified Result</u>	<u>Analysis Result</u>	<u>Detection Limit</u>	<u>PQL</u>	<u>RL</u>	<u>Non Detect</u>	<u>Exceedance</u>
07/24/2017	1.000	0.044	0.044	1.000	0.000	Y	N
09/27/2017	1.000	0.240	0.044	1.000	0.000	Y	N

All Background Results Non-Detect

Location Id: MW-LF-07  
Parameter: Fluoride, total

Run Id: 12

Method: Double Quantification Rule  
Percent ND: 100  
ND Approach: > 50% to <= 100 % Substitute PQL

---

<u>Sample Date</u>	<u>Modified Result</u>	<u>Analysis Result</u>	<u>Detection Limit</u>	<u>PQL</u>	<u>RL</u>	<u>Non Detect</u>	<u>Exceedance</u>
07/24/2017	0.100	0.058	0.033	0.100	0.000	Y	N
09/27/2017	0.100	0.067	0.033	0.100	0.000	Y	N

---

**All Background Results Non-Detect**

**Location Id:** MW-LF-08

Run Id: 15

**Parameter:** Boron, total

**Method:** Double Quantification Rule

**Percent ND:** 100

**ND Approach:** > 50% to <= 100 % Substitute PQL

<u>Sample Date</u>	<u>Modified Result</u>	<u>Analysis Result</u>	<u>Detection Limit</u>	<u>PQL</u>	<u>RL</u>	<u>Non Detect</u>	<u>Exceedance</u>
07/25/2017	1.000	0.044	0.044	1.000	0.000	Y	N
09/27/2017	1.000	0.044	0.044	1.000	0.000	Y	N

All Background Results Non-Detect

Location Id: MW-LF-08  
 Parameter: Fluoride, total

Run Id: 19

Method: Double Quantification Rule  
 Percent ND: 100  
 ND Approach: > 50% to <= 100 % Substitute PQL

<u>Sample Date</u>	<u>Modified Result</u>	<u>Analysis Result</u>	<u>Detection Limit</u>	<u>PQL</u>	<u>RL</u>	<u>Non Detect</u>	<u>Exceedance</u>
07/25/2017	0.100	0.033	0.033	0.100	0.000	Y	N
09/27/2017	0.100	0.033	0.033	0.100	0.000	Y	N

All Background Results Non-Detect

Location Id: MW-LF-10  
Parameter: Boron, total

Run Id: 22

Method: Double Quantification Rule  
Percent ND: 50  
ND Approach: > 15% to <= 50% Substitute PQL

<u>Sample Date</u>	<u>Modified Result</u>	<u>Analysis Result</u>	<u>Detection Limit</u>	<u>PQL</u>	<u>RL</u>	<u>Non Detect</u>	<u>Exceedance</u>
07/25/2017	0.053	0.053	0.044	1.000	0.000	N	N
09/27/2017	1.000	0.044	0.044	1.000	0.000	Y	N



All Background Results Non-Detect

Location Id: MW-LF-10  
Parameter: Fluoride, total

Run Id: 26

Method: Double Quantification Rule  
Percent ND: 100  
ND Approach: > 50% to <= 100 % Substitute PQL

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<u>Sample Date</u>	<u>Modified Result</u>	<u>Analysis Result</u>	<u>Detection Limit</u>	<u>PQL</u>	<u>RL</u>	<u>Non Detect</u>	<u>Exceedance</u>
07/25/2017	0.100	0.044	0.033	0.100	0.000	Y	N
09/27/2017	0.100	0.033	0.033	0.100	0.000	Y	N

---

All Background Results Non-Detect

Location Id: MW-LF-11  
 Parameter: Boron, total

Run Id: 29

Method: Double Quantification Rule  
 Percent ND: 100  
 ND Approach: > 50% to <= 100 % Substitute PQL

<u>Sample Date</u>	<u>Modified Result</u>	<u>Analysis Result</u>	<u>Detection Limit</u>	<u>PQL</u>	<u>RL</u>	<u>Non Detect</u>	<u>Exceedance</u>
07/25/2017	1.000	0.044	0.044	1.000	0.000	Y	N
09/27/2017	1.000	0.044	0.044	1.000	0.000	Y	N

All Background Results Non-Detect

Location Id: MW-LF-11  
 Parameter: Fluoride, total

Run Id: 33

Method: Double Quantification Rule  
 Percent ND: 100  
 ND Approach: > 50% to <= 100 % Substitute PQL

<u>Sample Date</u>	<u>Modified Result</u>	<u>Analysis Result</u>	<u>Detection Limit</u>	<u>PQL</u>	<u>RL</u>	<u>Non Detect</u>	<u>Exceedance</u>
07/25/2017	0.100	0.041	0.033	0.100	0.000	Y	N
09/27/2017	0.100	0.033	0.033	0.100	0.000	Y	N

All Background Results Non-Detect

Location Id: MW-LF-22

Run Id: 36

Parameter: Boron, total

Method: Double Quantification Rule

Percent ND: 100

ND Approach: > 50% to <= 100 % Substitute PQL

<u>Sample Date</u>	<u>Modified Result</u>	<u>Analysis Result</u>	<u>Detection Limit</u>	<u>PQL</u>	<u>RL</u>	<u>Non Detect</u>	<u>Exceedance</u>
07/25/2017	1.000	0.044	0.044	1.000	0.000	Y	N
09/26/2017	1.000	0.044	0.044	1.000	0.000	Y	N

All Background Results Non-Detect

Location Id: MW-LF-22  
 Parameter: Fluoride, total

Run Id: 40

Method: Double Quantification Rule  
 Percent ND: 100  
 ND Approach: > 50% to <= 100 % Substitute PQL

<u>Sample Date</u>	<u>Modified Result</u>	<u>Analysis Result</u>	<u>Detection Limit</u>	<u>PQL</u>	<u>RL</u>	<u>Non Detect</u>	<u>Exceedance</u>
07/25/2017	0.100	0.034	0.033	0.100	0.000	Y	N
09/26/2017	0.100	0.033	0.033	0.100	0.000	Y	N

**All Background Results Non-Detect**

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**Wateree Station**  
**Parametric Prediction Interval on Background - Background Data Calculation**

<u>Number Of Locations:</u>	6	<u>Annual Site Wide False Positive Rate (SWFPR):</u>	0.10
<u>Number Of Parameters:</u>	7	<u>Sample Events per Year:</u>	2
<u>Sampling Plan:</u>	Interwell	<u>Verification Sampling:</u>	Pass 1 of 2 (one resample)

**Background Locations:** AS-LF-01,AS-LF-02,AS-LF-03,MW-LF-01,MW-LF-06

Insufficient Background: 0  
DOR Tests: 2

<b><u>Parameter Name:</u></b>	<b>Field pH, S.U.</b>	<u>Background Date Range:</u>	05/11/2016 to 11/14/2017
<u>Alpha Per Test FPR:</u>	0.00174	<u>Option for LT Pts:</u>	0% to <= 15% Substitute ½ PQL
<u>Total Pts</u>	30	<u>Kappa for Selected Verification Plan:</u>	1.994
<u>LT Pts</u>	0	<u>Mean</u>	4.5733
<u>%LT Pts</u>	0	<u>StdDev</u>	0.4873
<u>Normal/Log Normal</u>	y/y	<u>ln Mean</u>	1.5148
<u>Log Transformed:</u>	n	<u>ln StdDev</u>	0.1056

<b><u>Parameter Name:</u></b>	<b>Total Dissolved Solids, mg/L</b>	<u>Background Date Range:</u>	05/11/2016 to 11/14/2017
<u>Alpha Per Test FPR:</u>	0.00174	<u>Option for LT Pts:</u>	0% to <= 15% Substitute ½ PQL
<u>Total Pts</u>	27	<u>Kappa for Selected Verification Plan:</u>	1.826
<u>LT Pts</u>	0	<u>Mean</u>	35.0741
<u>%LT Pts</u>	0	<u>StdDev</u>	11.8417
<u>Normal/Log Normal</u>	n/y	<u>ln Mean</u>	3.5084
<u>Log Transformed:</u>	y	<u>ln StdDev</u>	0.3159







## Wateree Station Parametric Prediction Interval on Background - Compliance Analysis

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### User Supplied Information

**Sided:** 2  
**Background Date Range:** 05/11/2016 to 11/14/2017  
**Compliance Date Range:** 07/23/2017 to 09/28/2017  
**Compliance Locations:** MW-LF-04,MW-LF-07,MW-LF-08,MW-LF-10,MW-LF-11,MW-LF-22  
**Background Locations:** AS-LF-01,AS-LF-02,AS-LF-03,MW-LF-01,MW-LF-06

**Location** MW-LF-04

Run Id: 4

**Parameter Name:** Field pH, S.U.

**Option for LT Pts (Compliance Data)** : 0% to <= 15% Substitute PQL

<u>Sample Date</u>	<u>Analysis Result</u>	<u>Upper Limit</u>	Result >	<u>Upper Limit</u>	<u>Lower Limit</u>	Result <	<u>Lower Limit</u>
7/26/2017	4.530	5.545	n		3.602	n	

Run Id: 7

**Parameter Name:** Total Dissolved Solids, mg/L

**Option for LT Pts (Compliance Data)** : 0% to <= 15% Substitute PQL

<u>Sample Date</u>	<u>Analysis Result</u>	<u>Upper Limit</u>	Result >	<u>Upper Limit</u>
7/26/2017	20.000	59.454	n	

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Prediction Interval is based on Normal Distribution and the number of compliance periods (k).

## Wateree Station Parametric Prediction Interval on Background - Compliance Analysis

### User Supplied Information

**Sided:** 2  
**Background Date Range:** 05/11/2016 to 11/14/2017  
**Compliance Date Range:** 07/23/2017 to 09/28/2017  
**Compliance Locations:** MW-LF-04,MW-LF-07,MW-LF-08,MW-LF-10,MW-LF-11,MW-LF-22  
**Background Locations:** AS-LF-01,AS-LF-02,AS-LF-03,MW-LF-01,MW-LF-06

**Location** MW-LF-07

Run Id: 11

**Parameter Name:** Field pH, S.U.

**Option for LT Pts (Compliance Data)** : 0% to <= 15% Substitute PQL

<u>Sample Date</u>	<u>Analysis Result</u>	Result >		Result <	
		<u>Upper Limit</u>	<u>Upper Limit</u>	<u>Lower Limit</u>	<u>Lower Limit</u>
7/24/2017	4.870	5.545	n	3.602	n
9/27/2017	4.170	5.545	n	3.602	n

Run Id: 14

**Parameter Name:** Total Dissolved Solids, mg/L

**Option for LT Pts (Compliance Data)** : 0% to <= 15% Substitute PQL

<u>Sample Date</u>	<u>Analysis Result</u>	Result >	
		<u>Upper Limit</u>	<u>Upper Limit</u>
7/24/2017	47.000	59.454	n
9/27/2017	64.000	59.454	y

Prediction Interval is based on Normal Distribution and the number of compliance periods (k).

## Wateree Station Parametric Prediction Interval on Background - Compliance Analysis

### User Supplied Information

**Sided:** 2  
**Background Date Range:** 05/11/2016 to 11/14/2017  
**Compliance Date Range:** 07/23/2017 to 09/28/2017  
**Compliance Locations:** MW-LF-04,MW-LF-07,MW-LF-08,MW-LF-10,MW-LF-11,MW-LF-22  
**Background Locations:** AS-LF-01,AS-LF-02,AS-LF-03,MW-LF-01,MW-LF-06

**Location** MW-LF-08

Run Id: 18

**Parameter Name:** Field pH, S.U.

**Option for LT Pts (Compliance Data)** : 0% to <= 15% Substitute PQL

<u>Sample Date</u>	<u>Analysis Result</u>	Result >		Result <	
		<u>Upper Limit</u>	<u>Upper Limit</u>	<u>Lower Limit</u>	<u>Lower Limit</u>
7/26/2017	4.850	5.545	n	3.602	n
9/27/2017	4.610	5.545	n	3.602	n

Run Id: 21

**Parameter Name:** Total Dissolved Solids, mg/L

**Option for LT Pts (Compliance Data)** : 0% to <= 15% Substitute PQL

<u>Sample Date</u>	<u>Analysis Result</u>	Result >	
		<u>Upper Limit</u>	<u>Upper Limit</u>
7/26/2017	25.000	59.454	n
9/27/2017	32.000	59.454	n

Prediction Interval is based on Normal Distribution and the number of compliance periods (k).

## Wateree Station Parametric Prediction Interval on Background - Compliance Analysis

### User Supplied Information

**Sided:** 2  
**Background Date Range:** 05/11/2016 to 11/14/2017  
**Compliance Date Range:** 07/23/2017 to 09/28/2017  
**Compliance Locations:** MW-LF-04,MW-LF-07,MW-LF-08,MW-LF-10,MW-LF-11,MW-LF-22  
**Background Locations:** AS-LF-01,AS-LF-02,AS-LF-03,MW-LF-01,MW-LF-06

**Location** MW-LF-10

Run Id: 25

**Parameter Name:** Field pH, S.U.

**Option for LT Pts (Compliance Data)** : 0% to <= 15% Substitute PQL

<u>Sample Date</u>	<u>Analysis Result</u>	Result >		Result <	
		<u>Upper Limit</u>	<u>Upper Limit</u>	<u>Lower Limit</u>	<u>Lower Limit</u>
7/26/2017	5.180	5.545	n	3.602	n
9/27/2017	4.260	5.545	n	3.602	n

Run Id: 28

**Parameter Name:** Total Dissolved Solids, mg/L

**Option for LT Pts (Compliance Data)** : 0% to <= 15% Substitute PQL

<u>Sample Date</u>	<u>Analysis Result</u>	Result >	
		<u>Upper Limit</u>	<u>Upper Limit</u>
7/26/2017	23.000	59.454	n
9/27/2017	41.000	59.454	n

Prediction Interval is based on Normal Distribution and the number of compliance periods (k).

## Wateree Station Parametric Prediction Interval on Background - Compliance Analysis

### User Supplied Information

**Sided:** 2  
**Background Date Range:** 05/11/2016 to 11/14/2017  
**Compliance Date Range:** 07/23/2017 to 09/28/2017  
**Compliance Locations:** MW-LF-04,MW-LF-07,MW-LF-08,MW-LF-10,MW-LF-11,MW-LF-22  
**Background Locations:** AS-LF-01,AS-LF-02,AS-LF-03,MW-LF-01,MW-LF-06

**Location** MW-LF-11

Run Id: 32

**Parameter Name:** Field pH, S.U.

**Option for LT Pts (Compliance Data)** : 0% to <= 15% Substitute PQL

<u>Sample Date</u>	<u>Analysis Result</u>	Result >		Result <	
		<u>Upper Limit</u>	<u>Upper Limit</u>	<u>Lower Limit</u>	<u>Lower Limit</u>
7/26/2017	4.380	5.545	n	3.602	n
9/27/2017	4.470	5.545	n	3.602	n

Run Id: 35

**Parameter Name:** Total Dissolved Solids, mg/L

**Option for LT Pts (Compliance Data)** : 0% to <= 15% Substitute PQL

<u>Sample Date</u>	<u>Analysis Result</u>	Result >	
		<u>Upper Limit</u>	<u>Upper Limit</u>
7/26/2017	8.000	59.454	n
9/27/2017	32.000	59.454	n

Prediction Interval is based on Normal Distribution and the number of compliance periods (k).

## Wateree Station Parametric Prediction Interval on Background - Compliance Analysis

### User Supplied Information

**Sided:** 2  
**Background Date Range:** 05/11/2016 to 11/14/2017  
**Compliance Date Range:** 07/23/2017 to 09/28/2017  
**Compliance Locations:** MW-LF-04,MW-LF-07,MW-LF-08,MW-LF-10,MW-LF-11,MW-LF-22  
**Background Locations:** AS-LF-01,AS-LF-02,AS-LF-03,MW-LF-01,MW-LF-06

**Location** MW-LF-22

Run Id: 39

**Parameter Name:** Field pH, S.U.

**Option for LT Pts (Compliance Data)** : 0% to <= 15% Substitute PQL

<u>Sample Date</u>	<u>Analysis Result</u>	Result >		Result <	
		<u>Upper Limit</u>	<u>Upper Limit</u>	<u>Lower Limit</u>	<u>Lower Limit</u>
7/26/2017	4.110	5.545	n	3.602	n
9/26/2017	4.290	5.545	n	3.602	n

Run Id: 42

**Parameter Name:** Total Dissolved Solids, mg/L

**Option for LT Pts (Compliance Data)** : 0% to <= 15% Substitute PQL

<u>Sample Date</u>	<u>Analysis Result</u>	Result >	
		<u>Upper Limit</u>	<u>Upper Limit</u>
7/26/2017	41.000	59.454	n
9/26/2017	52.000	59.454	n

Prediction Interval is based on Normal Distribution and the number of compliance periods (k).

**Wateree Station**  
**Parametric Prediction Interval on Background - Compliance Analysis**

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**User Supplied Information**

<b>Sided:</b>	<b>1</b>
<b>Background Date Range:</b>	<b>05/11/2016 to 11/14/2017</b>
<b>Compliance Date Range:</b>	<b>07/23/2017 to 09/28/2017</b>
<b>Compliance Locations:</b>	<b>MW-LF-04,MW-LF-07,MW-LF-08,MW-LF-10,MW-LF-11,MW-LF-22</b>
<b>Background Locations:</b>	<b>AS-LF-01,AS-LF-02,AS-LF-03,MW-LF-01,MW-LF-06</b>

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Prediction Interval is based on Normal Distribution and the number of compliance periods (k).



**Wateree Station**  
**Non-Parametric Prediction Interval on Background**

**User Supplied Information**

**Background Date Range:** 05/11/2016 to 11/14/2017  
**Compliance Date Range:** 07/23/2017 to 9/28/2017  
**No. of Verification Resamples:** 1

Run Id: 2

**Background Locations:** AS-LF-01,AS-LF-02,AS-LF-03,MW-LF-01,MW-LF-06

<u>Parameter Code</u>	<u>Parameter Name</u>	<u>Units</u>	<u>Background Sample Count</u>	<u>Option for LT Pts.</u>
00916	Calcium, tot	ug/L	33	> 15% to <= 50% Substitute PQL

**One-Sided Upper Confidence Level, %** 99.01 **PU (Upper) Value:** 5.500

<u>Location</u>	<u>Sample Date</u>	<u>Sample Result</u>	<u>Greater than PU (Upper)</u>
MW-LF-04	07/25/2017	0.776	n

Run Id: 3

**Background Locations:** AS-LF-01,AS-LF-02,AS-LF-03,MW-LF-01,MW-LF-06

<u>Parameter Code</u>	<u>Parameter Name</u>	<u>Units</u>	<u>Background Sample Count</u>	<u>Option for LT Pts.</u>
00940	Chlorides	mg/L	27	0% to <= 15% Substitute PQL

**One-Sided Upper Confidence Level, %** 98.57 **PU (Upper) Value:** 7.450

<u>Location</u>	<u>Sample Date</u>	<u>Sample Result</u>	<u>Greater than PU (Upper)</u>
MW-LF-04	07/25/2017	7.430	n

Run Id: 6

**Background Locations:** AS-LF-01,AS-LF-02,AS-LF-03,MW-LF-01,MW-LF-06

<u>Parameter Code</u>	<u>Parameter Name</u>	<u>Units</u>	<u>Background Sample Count</u>	<u>Option for LT Pts.</u>
00945	Sulfate, tot	mg/L	27	> 50% to <= 100 % Substitute PQL

**One-Sided Upper Confidence Level, %** 98.57 **PU (Upper) Value:** 7.890

<u>Location</u>	<u>Sample Date</u>	<u>Sample Result</u>	<u>Greater than PU (Upper)</u>

**Wateree Station**  
**Non-Parametric Prediction Interval on Background**

**User Supplied Information**

**Background Date Range:** 05/11/2016 to 11/14/2017  
**Compliance Date Range:** 07/23/2017 to 9/28/2017  
**No. of Verification Resamples:** 1

MW-LF-04 07/25/2017 <0.500 n

Run Id: 9

**Background Locations:** AS-LF-01,AS-LF-02,AS-LF-03,MW-LF-01,MW-LF-06

<u>Parameter Code</u>	<u>Parameter Name</u>	<u>Units</u>	<u>Background Sample Count</u>	<u>Option for LT Pts.</u>
00916	Calcium, tot	ug/L	33	> 15% to <= 50% Substitute PQL

**One-Sided Upper Confidence Level, %** 99.01 **PU (Upper) Value:** 5.500

<u>Location</u>	<u>Sample Date</u>	<u>Sample Result</u>	<u>Greater than PU (Upper)</u>
MW-LF-07	07/24/2017	2.010	n
MW-LF-07	09/27/2017	1.912	n

Run Id: 10

**Background Locations:** AS-LF-01,AS-LF-02,AS-LF-03,MW-LF-01,MW-LF-06

<u>Parameter Code</u>	<u>Parameter Name</u>	<u>Units</u>	<u>Background Sample Count</u>	<u>Option for LT Pts.</u>
00940	Chlorides	mg/L	27	0% to <= 15% Substitute PQL

**One-Sided Upper Confidence Level, %** 98.57 **PU (Upper) Value:** 7.450

<u>Location</u>	<u>Sample Date</u>	<u>Sample Result</u>	<u>Greater than PU (Upper)</u>
MW-LF-07	07/24/2017	9.620	y
MW-LF-07	09/27/2017	9.830	y

**Wateree Station**  
**Non-Parametric Prediction Interval on Background**

**User Supplied Information**

**Background Date Range:** 05/11/2016 to 11/14/2017  
**Compliance Date Range:** 07/23/2017 to 9/28/2017  
**No. of Verification Resamples:** 1

Run Id: 13

**Background Locations:** AS-LF-01,AS-LF-02,AS-LF-03,MW-LF-01,MW-LF-06

<u>Parameter Code</u>	<u>Parameter Name</u>	<u>Units</u>	<u>Background Sample Count</u>	<u>Option for LT Pts.</u>
00945	Sulfate, tot	mg/L	27	> 50% to <= 100 % Substitute PQL

<b>One-Sided Upper Confidence Level, %</b>	<b>PU (Upper) Value:</b>
98.57	7.890

<u>Location</u>	<u>Sample Date</u>	<u>Sample Result</u>	<u>Greater than PU (Upper)</u>
MW-LF-07	07/24/2017	<0.500	n
MW-LF-07	09/27/2017	<0.500	n

Run Id: 16

**Background Locations:** AS-LF-01,AS-LF-02,AS-LF-03,MW-LF-01,MW-LF-06

<u>Parameter Code</u>	<u>Parameter Name</u>	<u>Units</u>	<u>Background Sample Count</u>	<u>Option for LT Pts.</u>
00916	Calcium, tot	ug/L	33	> 15% to <= 50% Substitute PQL

<b>One-Sided Upper Confidence Level, %</b>	<b>PU (Upper) Value:</b>
99.01	5.500

<u>Location</u>	<u>Sample Date</u>	<u>Sample Result</u>	<u>Greater than PU (Upper)</u>
MW-LF-08	07/25/2017	0.830	n
MW-LF-08	09/27/2017	0.798	n

**Wateree Station**  
**Non-Parametric Prediction Interval on Background**

**User Supplied Information**

**Background Date Range:** 05/11/2016 to 11/14/2017  
**Compliance Date Range:** 07/23/2017 to 9/28/2017  
**No. of Verification Resamples:** 1

Run Id: 17

**Background Locations:** AS-LF-01,AS-LF-02,AS-LF-03,MW-LF-01,MW-LF-06

<u>Parameter Code</u>	<u>Parameter Name</u>	<u>Units</u>	<u>Background Sample Count</u>	<u>Option for LT Pts.</u>
00940	Chlorides	mg/L	27	0% to <= 15% Substitute PQL

<b>One-Sided Upper Confidence Level, %</b>	<b>PU (Upper) Value:</b>
98.57	7.450

<u>Location</u>	<u>Sample Date</u>	<u>Sample Result</u>	<u>Greater than PU (Upper)</u>
MW-LF-08	07/25/2017	4.920	n
MW-LF-08	09/27/2017	5.130	n

Run Id: 20

**Background Locations:** AS-LF-01,AS-LF-02,AS-LF-03,MW-LF-01,MW-LF-06

<u>Parameter Code</u>	<u>Parameter Name</u>	<u>Units</u>	<u>Background Sample Count</u>	<u>Option for LT Pts.</u>
00945	Sulfate, tot	mg/L	27	> 50% to <= 100 % Substitute PQL

<b>One-Sided Upper Confidence Level, %</b>	<b>PU (Upper) Value:</b>
98.57	7.890

<u>Location</u>	<u>Sample Date</u>	<u>Sample Result</u>	<u>Greater than PU (Upper)</u>
MW-LF-08	07/25/2017	<0.500	n
MW-LF-08	09/27/2017	<0.500	n

**Wateree Station**  
**Non-Parametric Prediction Interval on Background**

**User Supplied Information**

**Background Date Range:** 05/11/2016 to 11/14/2017  
**Compliance Date Range:** 07/23/2017 to 9/28/2017  
**No. of Verification Resamples:** 1

Run Id: 23

**Background Locations:** AS-LF-01,AS-LF-02,AS-LF-03,MW-LF-01,MW-LF-06

<u>Parameter Code</u>	<u>Parameter Name</u>	<u>Units</u>	<u>Background Sample Count</u>	<u>Option for LT Pts.</u>
00916	Calcium, tot	ug/L	33	> 15% to <= 50% Substitute PQL

**One-Sided Upper Confidence Level, %** **PU (Upper) Value:**  
 99.01 5.500

<u>Location</u>	<u>Sample Date</u>	<u>Sample Result</u>	<u>Greater than PU (Upper)</u>
MW-LF-10	07/25/2017	1.000	n
MW-LF-10	09/27/2017	1.149	n

Run Id: 24

**Background Locations:** AS-LF-01,AS-LF-02,AS-LF-03,MW-LF-01,MW-LF-06

<u>Parameter Code</u>	<u>Parameter Name</u>	<u>Units</u>	<u>Background Sample Count</u>	<u>Option for LT Pts.</u>
00940	Chlorides	mg/L	27	0% to <= 15% Substitute PQL

**One-Sided Upper Confidence Level, %** **PU (Upper) Value:**  
 98.57 7.450

<u>Location</u>	<u>Sample Date</u>	<u>Sample Result</u>	<u>Greater than PU (Upper)</u>
MW-LF-10	07/25/2017	6.070	n
MW-LF-10	09/27/2017	6.170	n

**Wateree Station**  
**Non-Parametric Prediction Interval on Background**

**User Supplied Information**

**Background Date Range:** 05/11/2016 to 11/14/2017  
**Compliance Date Range:** 07/23/2017 to 9/28/2017  
**No. of Verification Resamples:** 1

Run Id: 27

**Background Locations:** AS-LF-01,AS-LF-02,AS-LF-03,MW-LF-01,MW-LF-06

<u>Parameter Code</u>	<u>Parameter Name</u>	<u>Units</u>	<u>Background Sample Count</u>	<u>Option for LT Pts.</u>
00945	Sulfate, tot	mg/L	27	> 50% to <= 100 % Substitute PQL

<b>One-Sided Upper Confidence Level, %</b>	<b>PU (Upper) Value:</b>
98.57	7.890

<u>Location</u>	<u>Sample Date</u>	<u>Sample Result</u>	<u>Greater than PU (Upper)</u>
MW-LF-10	07/25/2017	3.260	n
MW-LF-10	09/27/2017	3.490	n

Run Id: 30

**Background Locations:** AS-LF-01,AS-LF-02,AS-LF-03,MW-LF-01,MW-LF-06

<u>Parameter Code</u>	<u>Parameter Name</u>	<u>Units</u>	<u>Background Sample Count</u>	<u>Option for LT Pts.</u>
00916	Calcium, tot	ug/L	33	> 15% to <= 50% Substitute PQL

<b>One-Sided Upper Confidence Level, %</b>	<b>PU (Upper) Value:</b>
99.01	5.500

<u>Location</u>	<u>Sample Date</u>	<u>Sample Result</u>	<u>Greater than PU (Upper)</u>
MW-LF-11	07/25/2017	0.195	n
MW-LF-11	09/27/2017	0.200	n

**Wateree Station**  
**Non-Parametric Prediction Interval on Background**

**User Supplied Information**

**Background Date Range:** 05/11/2016 to 11/14/2017  
**Compliance Date Range:** 07/23/2017 to 9/28/2017  
**No. of Verification Resamples:** 1

Run Id: 31

**Background Locations:** AS-LF-01,AS-LF-02,AS-LF-03,MW-LF-01,MW-LF-06

<u>Parameter Code</u>	<u>Parameter Name</u>	<u>Units</u>	<u>Background Sample Count</u>	<u>Option for LT Pts.</u>
00940	Chlorides	mg/L	27	0% to <= 15% Substitute PQL

<b>One-Sided Upper Confidence Level, %</b>	<b>PU (Upper) Value:</b>
98.57	7.450

<u>Location</u>	<u>Sample Date</u>	<u>Sample Result</u>	<u>Greater than PU (Upper)</u>
MW-LF-11	07/25/2017	4.800	n
MW-LF-11	09/27/2017	4.710	n

Run Id: 34

**Background Locations:** AS-LF-01,AS-LF-02,AS-LF-03,MW-LF-01,MW-LF-06

<u>Parameter Code</u>	<u>Parameter Name</u>	<u>Units</u>	<u>Background Sample Count</u>	<u>Option for LT Pts.</u>
00945	Sulfate, tot	mg/L	27	> 50% to <= 100 % Substitute PQL

<b>One-Sided Upper Confidence Level, %</b>	<b>PU (Upper) Value:</b>
98.57	7.890

<u>Location</u>	<u>Sample Date</u>	<u>Sample Result</u>	<u>Greater than PU (Upper)</u>
MW-LF-11	07/25/2017	<0.500	n
MW-LF-11	09/27/2017	<0.500	n

**Wateree Station**  
**Non-Parametric Prediction Interval on Background**

**User Supplied Information**

**Background Date Range:** 05/11/2016 to 11/14/2017  
**Compliance Date Range:** 07/23/2017 to 9/28/2017  
**No. of Verification Resamples:** 1

Run Id: 37

**Background Locations:** AS-LF-01,AS-LF-02,AS-LF-03,MW-LF-01,MW-LF-06

<u>Parameter Code</u>	<u>Parameter Name</u>	<u>Units</u>	<u>Background Sample Count</u>	<u>Option for LT Pts.</u>
00916	Calcium, tot	ug/L	33	> 15% to <= 50% Substitute PQL

<b>One-Sided Upper Confidence Level, %</b>	<b>PU (Upper) Value:</b>
99.01	5.500

<u>Location</u>	<u>Sample Date</u>	<u>Sample Result</u>	<u>Greater than PU (Upper)</u>
MW-LF-22	07/25/2017	1.310	n
MW-LF-22	09/26/2017	2.090	n

Run Id: 38

**Background Locations:** AS-LF-01,AS-LF-02,AS-LF-03,MW-LF-01,MW-LF-06

<u>Parameter Code</u>	<u>Parameter Name</u>	<u>Units</u>	<u>Background Sample Count</u>	<u>Option for LT Pts.</u>
00940	Chlorides	mg/L	27	0% to <= 15% Substitute PQL

<b>One-Sided Upper Confidence Level, %</b>	<b>PU (Upper) Value:</b>
98.57	7.450

<u>Location</u>	<u>Sample Date</u>	<u>Sample Result</u>	<u>Greater than PU (Upper)</u>
MW-LF-22	07/25/2017	8.850	y
MW-LF-22	09/26/2017	11.600	y



**Wateree Station**  
**Non-Parametric Prediction Interval on Background**

**User Supplied Information**

**Background Date Range:** 05/11/2016 to 11/14/2017  
**Compliance Date Range:** 07/23/2017 to 9/28/2017  
**No. of Verification Resamples:** 1

Run Id: 41

**Background Locations:** AS-LF-01,AS-LF-02,AS-LF-03,MW-LF-01,MW-LF-06

<u>Parameter Code</u>	<u>Parameter Name</u>	<u>Units</u>	<u>Background Sample Count</u>	<u>Option for LT Pts.</u>
00945	Sulfate, tot	mg/L	27	> 50% to <= 100 % Substitute PQL

<b>One-Sided Upper Confidence Level, %</b>	<b>PU (Upper) Value:</b>
98.57	7.890

<u>Location</u>	<u>Sample Date</u>	<u>Sample Result</u>	<u>Greater than PU (Upper)</u>
MW-LF-22	07/25/2017	<0.500	n
MW-LF-22	09/26/2017	<0.500	n

**Wateree Station**  
**Theil Sen Mann-Kendall Trend Analysis**

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**Post Hoc Trend Analysis**

Run Id: 8

<b>Location ID:</b> MW-LF-07	<b>Parameter Code:</b> 01022
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Boron, total
<b>Date Range:</b> 05/12/2016 to 09/27/2017	<b>Units:</b> ug/L
<b>Option for LT Points:</b> > 50% to <= 100 % Substitute PQL	<b>Percent of ND:</b> 100

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	0.000	ug/L per year
Lower Confidence Limit of Slope, M1:	0.000	ug/L per year
Upper Confidence Limit of Slope, M2+1:	0.000	ug/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.000
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None

**Wateree Station**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 9

<b>Location ID:</b> MW-LF-07	<b>Parameter Code:</b> 00916
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Calcium, tot
<b>Date Range:</b> 05/12/2016 to 09/27/2017	<b>Units:</b> ug/L
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	0.840	ug/L per year
Lower Confidence Limit of Slope, M1:	0.023	ug/L per year
Upper Confidence Limit of Slope, M2+1:	1.303	ug/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.677
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	Upward

**Wateree Station**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 10

<b>Location ID:</b> MW-LF-07	<b>Parameter Code:</b> 00940
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Chlorides
<b>Date Range:</b> 05/12/2016 to 09/27/2017	<b>Units:</b> mg/L
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	0.185	mg/L per year
Lower Confidence Limit of Slope, M1:	-0.846	mg/L per year
Upper Confidence Limit of Slope, M2+1:	1.303	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.104
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None

**Wateree Station**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 11

<b>Location ID:</b> MW-LF-07	<b>Parameter Code:</b> 00400
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Field pH
<b>Date Range:</b> 05/12/2016 to 09/27/2017	<b>Units:</b> S.U.
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	0.390	S.U. per year
Lower Confidence Limit of Slope, M1:	-0.524	S.U. per year
Upper Confidence Limit of Slope, M2+1:	0.968	S.U. per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.730
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None

**Wateree Station**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 12

**Location ID:** MW-LF-07

**Parameter Code:** 00951

**Confidence Level:** 0.95

**Parameter:** Fluoride, total

**Date Range:** 05/12/2016 to 09/27/2017

**Units:** mg/L

**Option for LT Points:** > 50% to <= 100 % Substitute PQL

**Percent of ND:** 89

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	0.000	mg/L per year
Lower Confidence Limit of Slope, M1:	0.000	mg/L per year
Upper Confidence Limit of Slope, M2+1:	0.000	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-0.194
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None

**Wateree Station**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 13

<b>Location ID:</b> MW-LF-07	<b>Parameter Code:</b> 00945
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Sulfate, tot
<b>Date Range:</b> 05/12/2016 to 09/27/2017	<b>Units:</b> mg/L
<b>Option for LT Points:</b> > 50% to <= 100 % Substitute PQL	<b>Percent of ND:</b> 100

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	0.000	mg/L per year
Lower Confidence Limit of Slope, M1:	0.000	mg/L per year
Upper Confidence Limit of Slope, M2+1:	0.554	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.347
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None

**Wateree Station**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 14

<b>Location ID:</b> MW-LF-07	<b>Parameter Code:</b> 00515
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Total Dissolved Solids
<b>Date Range:</b> 05/12/2016 to 09/27/2017	<b>Units:</b> mg/L
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	4.165	mg/L per year
Lower Confidence Limit of Slope, M1:	-3.592	mg/L per year
Upper Confidence Limit of Slope, M2+1:	17.673	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.749
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None



**Wateree Station**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 15

**Location ID:** MW-LF-08

**Parameter Code:** 01022

**Confidence Level:** 0.95

**Parameter:** Boron, total

**Date Range:** 05/12/2016 to 09/27/2017

**Units:** ug/L

**Option for LT Points:** > 50% to <= 100 % Substitute PQL

**Percent of ND:** 100

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	0.000	ug/L per year
Lower Confidence Limit of Slope, M1:	0.000	ug/L per year
Upper Confidence Limit of Slope, M2+1:	0.000	ug/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.000
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None

## Wateree Station Theil Sen Mann-Kendall Trend Analysis

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### **Post Hoc Trend Analysis**

Run Id: 16

<b>Location ID:</b> MW-LF-08	<b>Parameter Code:</b> 00916
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Calcium, tot
<b>Date Range:</b> 05/12/2016 to 09/27/2017	<b>Units:</b> ug/L
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

#### Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	-0.118	ug/L per year
Lower Confidence Limit of Slope, M1:	-0.188	ug/L per year
Upper Confidence Limit of Slope, M2+1:	-0.005	ug/L per year

#### Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.772
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	Downward

**Wateree Station**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 17

<b>Location ID:</b> MW-LF-08	<b>Parameter Code:</b> 00940
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Chlorides
<b>Date Range:</b> 05/12/2016 to 09/27/2017	<b>Units:</b> mg/L
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	0.022	mg/L per year
Lower Confidence Limit of Slope, M1:	-0.650	mg/L per year
Upper Confidence Limit of Slope, M2+1:	1.727	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.000
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None

**Wateree Station**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 18

<b>Location ID:</b> MW-LF-08	<b>Parameter Code:</b> 00400
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Field pH
<b>Date Range:</b> 05/12/2016 to 09/27/2017	<b>Units:</b> S.U.
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	0.387	S.U. per year
Lower Confidence Limit of Slope, M1:	-0.392	S.U. per year
Upper Confidence Limit of Slope, M2+1:	0.956	S.U. per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.938
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None

**Wateree Station**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 19

<b>Location ID:</b> MW-LF-08	<b>Parameter Code:</b> 00951
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Fluoride, total
<b>Date Range:</b> 05/12/2016 to 09/27/2017	<b>Units:</b> mg/L
<b>Option for LT Points:</b> > 50% to <= 100 % Substitute PQL	<b>Percent of ND:</b> 100

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	0.000	mg/L per year
Lower Confidence Limit of Slope, M1:	0.000	mg/L per year
Upper Confidence Limit of Slope, M2+1:	0.000	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.000
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None

**Wateree Station**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 20

<b>Location ID:</b> MW-LF-08	<b>Parameter Code:</b> 00945
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Sulfate, tot
<b>Date Range:</b> 05/12/2016 to 09/27/2017	<b>Units:</b> mg/L
<b>Option for LT Points:</b> > 50% to <= 100 % Substitute PQL	<b>Percent of ND:</b> 89

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	0.000	mg/L per year
Lower Confidence Limit of Slope, M1:	0.000	mg/L per year
Upper Confidence Limit of Slope, M2+1:	0.753	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.042
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None

**Wateree Station**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 21

<b>Location ID:</b> MW-LF-08	<b>Parameter Code:</b> 00515
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Total Dissolved Solids
<b>Date Range:</b> 05/12/2016 to 09/27/2017	<b>Units:</b> mg/L
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	-6.631	mg/L per year
Lower Confidence Limit of Slope, M1:	-26.993	mg/L per year
Upper Confidence Limit of Slope, M2+1:	10.753	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-0.419
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None

**Wateree Station**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 22

<b>Location ID:</b> MW-LF-10	<b>Parameter Code:</b> 01022
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Boron, total
<b>Date Range:</b> 05/12/2016 to 09/27/2017	<b>Units:</b> ug/L
<b>Option for LT Points:</b> > 50% to <= 100 % Substitute PQL	<b>Percent of ND:</b> 89

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	0.000	ug/L per year
Lower Confidence Limit of Slope, M1:	0.000	ug/L per year
Upper Confidence Limit of Slope, M2+1:	0.000	ug/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-0.968
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None



**Wateree Station**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 23

<b>Location ID:</b> MW-LF-10	<b>Parameter Code:</b> 00916
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Calcium, tot
<b>Date Range:</b> 05/12/2016 to 09/27/2017	<b>Units:</b> ug/L
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	0.695	ug/L per year
Lower Confidence Limit of Slope, M1:	-0.007	ug/L per year
Upper Confidence Limit of Slope, M2+1:	1.188	ug/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.564
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None

**Wateree Station**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 24

<b>Location ID:</b> MW-LF-10	<b>Parameter Code:</b> 00940
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Chlorides
<b>Date Range:</b> 05/12/2016 to 09/27/2017	<b>Units:</b> mg/L
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 11

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	0.049	mg/L per year
Lower Confidence Limit of Slope, M1:	-0.409	mg/L per year
Upper Confidence Limit of Slope, M2+1:	1.388	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.313
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None

**Wateree Station**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 25

<b>Location ID:</b> MW-LF-10	<b>Parameter Code:</b> 00400
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Field pH
<b>Date Range:</b> 05/12/2016 to 09/27/2017	<b>Units:</b> S.U.
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	0.168	S.U. per year
Lower Confidence Limit of Slope, M1:	-0.492	S.U. per year
Upper Confidence Limit of Slope, M2+1:	0.978	S.U. per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.730
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None

**Wateree Station**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 26

**Location ID:** MW-LF-10

**Parameter Code:** 00951

**Confidence Level:** 0.95

**Parameter:** Fluoride, total

**Date Range:** 05/12/2016 to 09/27/2017

**Units:** mg/L

**Option for LT Points:** > 50% to <= 100 % Substitute PQL

**Percent of ND:** 100

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	0.000	mg/L per year
Lower Confidence Limit of Slope, M1:	0.000	mg/L per year
Upper Confidence Limit of Slope, M2+1:	0.000	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.000
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None

**Wateree Station**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 27

<b>Location ID:</b> MW-LF-10	<b>Parameter Code:</b> 00945
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Sulfate, tot
<b>Date Range:</b> 05/12/2016 to 09/27/2017	<b>Units:</b> mg/L
<b>Option for LT Points:</b> > 15% to <= 50% Substitute PQL	<b>Percent of ND:</b> 44

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	2.968	mg/L per year
Lower Confidence Limit of Slope, M1:	1.397	mg/L per year
Upper Confidence Limit of Slope, M2+1:	5.064	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	2.424
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	Upward

**Wateree Station**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 28

<b>Location ID:</b> MW-LF-10	<b>Parameter Code:</b> 00515
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Total Dissolved Solids
<b>Date Range:</b> 05/12/2016 to 09/27/2017	<b>Units:</b> mg/L
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	2.321	mg/L per year
Lower Confidence Limit of Slope, M1:	-9.365	mg/L per year
Upper Confidence Limit of Slope, M2+1:	18.970	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.210
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None

## Wateree Station Theil Sen Mann-Kendall Trend Analysis

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### **Post Hoc Trend Analysis**

Run Id: 29

<b>Location ID:</b> MW-LF-11	<b>Parameter Code:</b> 01022
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Boron, total
<b>Date Range:</b> 05/12/2016 to 09/27/2017	<b>Units:</b> ug/L
<b>Option for LT Points:</b> > 50% to <= 100 % Substitute PQL	<b>Percent of ND:</b> 100

---

#### Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	0.000	ug/L per year
Lower Confidence Limit of Slope, M1:	0.000	ug/L per year
Upper Confidence Limit of Slope, M2+1:	0.000	ug/L per year

#### Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.000
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None

**Wateree Station**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 30

<b>Location ID:</b> MW-LF-11	<b>Parameter Code:</b> 00916
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Calcium, tot
<b>Date Range:</b> 05/12/2016 to 09/27/2017	<b>Units:</b> ug/L
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	-0.048	ug/L per year
Lower Confidence Limit of Slope, M1:	-0.097	ug/L per year
Upper Confidence Limit of Slope, M2+1:	0.016	ug/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.147
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None



**Wateree Station**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 31

<b>Location ID:</b> MW-LF-11	<b>Parameter Code:</b> 00940
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Chlorides
<b>Date Range:</b> 05/12/2016 to 09/27/2017	<b>Units:</b> mg/L
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	-0.029	mg/L per year
Lower Confidence Limit of Slope, M1:	-0.400	mg/L per year
Upper Confidence Limit of Slope, M2+1:	0.482	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-0.104
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None

**Wateree Station**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 32

<b>Location ID:</b> MW-LF-11	<b>Parameter Code:</b> 00400
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Field pH
<b>Date Range:</b> 05/12/2016 to 09/27/2017	<b>Units:</b> S.U.
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	-0.070	S.U. per year
Lower Confidence Limit of Slope, M1:	-0.637	S.U. per year
Upper Confidence Limit of Slope, M2+1:	0.414	S.U. per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-0.210
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None

**Wateree Station**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 33

**Location ID:** MW-LF-11

**Parameter Code:** 00951

**Confidence Level:** 0.95

**Parameter:** Fluoride, total

**Date Range:** 05/12/2016 to 09/27/2017

**Units:** mg/L

**Option for LT Points:** > 50% to <= 100 % Substitute PQL

**Percent of ND:** 100

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	0.000	mg/L per year
Lower Confidence Limit of Slope, M1:	0.000	mg/L per year
Upper Confidence Limit of Slope, M2+1:	0.000	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.000
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None

**Wateree Station**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 34

<b>Location ID:</b> MW-LF-11	<b>Parameter Code:</b> 00945
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Sulfate, tot
<b>Date Range:</b> 05/12/2016 to 09/27/2017	<b>Units:</b> mg/L
<b>Option for LT Points:</b> > 50% to <= 100 % Substitute PQL	<b>Percent of ND:</b> 100

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	0.000	mg/L per year
Lower Confidence Limit of Slope, M1:	0.000	mg/L per year
Upper Confidence Limit of Slope, M2+1:	0.554	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.347
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None

**Wateree Station**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 35

<b>Location ID:</b> MW-LF-11	<b>Parameter Code:</b> 00515
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Total Dissolved Solids
<b>Date Range:</b> 05/12/2016 to 09/27/2017	<b>Units:</b> mg/L
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

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Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	-0.167	mg/L per year
Lower Confidence Limit of Slope, M1:	-14.462	mg/L per year
Upper Confidence Limit of Slope, M2+1:	9.616	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.000
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None

**Wateree Station**  
**Theil Sen Mann-Kendall Trend Analysis**

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**Post Hoc Trend Analysis**

Run Id: 36

<b>Location ID:</b> MW-LF-22	<b>Parameter Code:</b> 01022
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Boron, total
<b>Date Range:</b> 05/12/2016 to 09/26/2017	<b>Units:</b> ug/L
<b>Option for LT Points:</b> > 50% to <= 100 % Substitute PQL	<b>Percent of ND:</b> 100

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	0.000	ug/L per year
Lower Confidence Limit of Slope, M1:	0.000	ug/L per year
Upper Confidence Limit of Slope, M2+1:	0.000	ug/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.000
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None

**Wateree Station**  
**Theil Sen Mann-Kendall Trend Analysis**

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**Post Hoc Trend Analysis**

Run Id: 37

<b>Location ID:</b> MW-LF-22	<b>Parameter Code:</b> 00916
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Calcium, tot
<b>Date Range:</b> 05/12/2016 to 09/26/2017	<b>Units:</b> ug/L
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	0.039	ug/L per year
Lower Confidence Limit of Slope, M1:	-0.834	ug/L per year
Upper Confidence Limit of Slope, M2+1:	0.813	ug/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.104
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None

**Wateree Station**  
**Theil Sen Mann-Kendall Trend Analysis**

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**Post Hoc Trend Analysis**

Run Id: 38

<b>Location ID:</b> MW-LF-22	<b>Parameter Code:</b> 00940
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Chlorides
<b>Date Range:</b> 05/12/2016 to 09/26/2017	<b>Units:</b> mg/L
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	-0.218	mg/L per year
Lower Confidence Limit of Slope, M1:	-2.542	mg/L per year
Upper Confidence Limit of Slope, M2+1:	3.357	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-0.104
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None



**Wateree Station**  
**Theil Sen Mann-Kendall Trend Analysis**

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**Post Hoc Trend Analysis**

Run Id: 39

<b>Location ID:</b> MW-LF-22	<b>Parameter Code:</b> 00400
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Field pH
<b>Date Range:</b> 05/12/2016 to 09/26/2017	<b>Units:</b> S.U.
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	0.318	S.U. per year
Lower Confidence Limit of Slope, M1:	-0.373	S.U. per year
Upper Confidence Limit of Slope, M2+1:	0.752	S.U. per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.048
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None

**Wateree Station**  
**Theil Sen Mann-Kendall Trend Analysis**

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**Post Hoc Trend Analysis**

Run Id: 40

**Location ID:** MW-LF-22

**Parameter Code:** 00951

**Confidence Level:** 0.95

**Parameter:** Fluoride, total

**Date Range:** 05/12/2016 to 09/26/2017

**Units:** mg/L

**Option for LT Points:** > 50% to <= 100 % Substitute PQL

**Percent of ND:** 100

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	0.000	mg/L per year
Lower Confidence Limit of Slope, M1:	0.000	mg/L per year
Upper Confidence Limit of Slope, M2+1:	0.000	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.000
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None

**Wateree Station**  
**Theil Sen Mann-Kendall Trend Analysis**

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**Post Hoc Trend Analysis**

Run Id: 41

<b>Location ID:</b> MW-LF-22	<b>Parameter Code:</b> 00945
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Sulfate, tot
<b>Date Range:</b> 05/12/2016 to 09/26/2017	<b>Units:</b> mg/L
<b>Option for LT Points:</b> > 50% to <= 100 % Substitute PQL	<b>Percent of ND:</b> 100

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	0.000	mg/L per year
Lower Confidence Limit of Slope, M1:	0.000	mg/L per year
Upper Confidence Limit of Slope, M2+1:	0.554	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.347
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None

**Wateree Station**  
**Theil Sen Mann-Kendall Trend Analysis**

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**Post Hoc Trend Analysis**

Run Id: 42

<b>Location ID:</b> MW-LF-22	<b>Parameter Code:</b> 00515
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Total Dissolved Solids
<b>Date Range:</b> 05/12/2016 to 09/26/2017	<b>Units:</b> mg/L
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

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Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	5.090	mg/L per year
Lower Confidence Limit of Slope, M1:	-14.145	mg/L per year
Upper Confidence Limit of Slope, M2+1:	22.303	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.419
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None

**Wateree Station**  
**Theil Sen Mann-Kendall Trend Analysis**