

# 2017 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

# **EPA CCR RULE COMPLIANCE**

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

January 2018

Prepared by:



Brian S. Boutin, PG Nautilus Geologic Consulting, PLLC

Prepared for: South Carolina Electric & Gas Company 220 Operation Way Mail Code C221 Cayce, SC 29033



Stefan Bray, PE Garrett & Moore, Inc.



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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 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 Carolina Certified laboratories (SCE&G Central Laboratory and GEL Laboratory and GEL Laboratories, LLC) for the constituents Listed 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 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 groundwater samples 2017 Detection 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-07 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.





### **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

JOB NUMBER

SHEET 2



## **APPENDIX A**

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

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

Facility: Water	ee Station	Permit No.:	County:	Richland

Date Sampled: 05/11/2016

year-month-day (Numerical)

#### STATION NUMBERS

Time Sampled: 12:00:00PM

PARAMETER	NUMBER	MW-LF-01		
NAME	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/	Ľ	5.850		
Temp (Celcius) degree	s C	18.970		
Water level elevation f	t	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

year-month-day (Numerical)

### Time Sampled: 12:00:00PM

#### **STATION NUMBERS**

<b>PARAMETER</b>	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	s C	21.960	22.520	20.340	20.920	20.970
Water level elevation f	t	116.75	113.10	115.59	116.38	114.77

Authorized Release By:

Date:

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#### 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.

Jack H Cart

Reviewed by

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### **Certificate of Analysis**

May 27, 2016 Report Date: 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 14-MAY-16 Receive Date: Collector: Client Parameter Qualifier DL RL Units DF Analyst Date Time Batch Method Result Ion Chromatography SW846 9056A Anions "As Received" Fluoride ND 0.033 0.100 1 MAR1 05/17/16 0222 1567543 U mg/L 1 Metals Analysis-ICP-MS SW846 3005A/6020A Liquid "As Received" Lithium 10.0 1 BCD1 05/19/16 1514 1567595 2 2.57 2.00 ug/L T Rad Gas Flow Proportional Counting GFPC, Ra228, Liquid "As Received"

Rad Radium-226							
Lucas Cell, Ra226, liquid	1 "As Received"						
Radium-226	1.58	0.457	1.00	pCi/L	_	LXP1 05/23/16	0810 1568375 4
The following Prep Meth	nods were performed:						
Method	Description		Analyst	Date	Time	e Prep Batc	h
SW846 3005A	ICP-MS 3005A PREP		JP1	05/16/1	6 1725	1567594	
The following Analytica	l Methods were performed:						
Method	Description				Analyst Cor	nments	
1	SW846 9056A				•		
2	SW846 3005A/6020A						
3	EPA 904.0/SW846 9320 Modified						
4	EPA 903.1 Modified						
Surrogate/Tracer Recove	ry Test			Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"					88.3	(15%-125%)

1.57

3.00

pCi/L

AXM6 05/24/16 1459 1567555

3

1.63

Notes:

Radium-228

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### **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 14-MAY-16 Receive Date: Collector: Client Parameter Qualifier Result DL RL Units DF Analyst Date Time Batch Method Ion Chromatography SW846 9056A Anions "As Received" mg/L Fluoride 0.0387 0.033 0.100 1 MAR1 05/17/16 0358 1567543 J 1 Metals Analysis-ICP-MS

SW846 3005A/6020	A Liquid "As Rece	ived"							
Lithium	J	2.53	2.00	10.0	) ug/I	1	BCD1 05/19/16	1517 1567595	2
Rad Gas Flow Prope	ortional Counting								
GFPC, Ra228, Liqu	id "As Received"								
Radium-228		2.65	2.17	3.00	) pCi/I		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/I		LXP1 05/23/16	0810 1568375	4
The following Prep	Methods were perfo	ormed:							
Method	Description			Analyst	Date	Time	e Prep Batc	h	
SW846 3005A	ICP-MS 3005A F	PREP		JP1	05/16/1	6 1725	1567594		
The following Anal	lytical Methods wer	e performed:							
Method	Description					Analyst Cor	mments		
1	SW846 9056A					*			
2	SW846 3005A/60	20A							
3	EPA 904.0/SW84	6 9320 Modified							
4	EPA 903.1 Modif	ied							
Surrogate/Tracer Re	ecovery Test				Result	Nominal	Recovery%	Acceptable L	imits
Barium-133 Tracer	GFPC, Ra2	28, Liquid "As Received"					76.4	(15%-125%)	)

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### **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 14-MAY-16 Receive Date: Collector: Client Qualifier DL RL Units Parameter Result DF Analyst Date Time Batch Method Ion Chromatography SW846 9056A Anions "As Received" Fluoride 0.033 0.100 U ND mg/L 1 MAR1 05/17/16 0430 1567543 1 Metals Analysis-ICP-MS SW846 3005A/6020A Liquid "As Received" Lithium 10.0 1 BCD1 05/19/16 1521 1567595 2 2.00 ug/L 8.39 Rad Gas Flow Proportional Counting GFPC, Ra228, Liquid "As Received" Radium-228 ND 1.78 3.00 pCi/L AXM6 05/24/16 1500 1567555 3 U 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 Date Prep Batch Description Analyst Time SW846 3005A ICP-MS 3005A PREP JP1 05/16/16 1725 1567594

The following Analytical Methods were performed:

Method	Description	Description Analy					
1	SW846 9056A		-				
2	SW846 3005A/6020A						
3	EPA 904.0/SW846 9320 Modified						
4	EPA 903.1 Modified						
Surrogate/Trace	er Recovery Test	Result	Nominal	Recovery%	Acceptable Limits		
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			83.7	(15%-125%)		

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### **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 Project: SCEG01716C Sample ID: 397457017 Client ID: GEEL003 Matrix: Ground Water Collect Date: 11-MAY-16 12:10 14-MAY-16 **Receive Date:** Collector: Client Qualifier DL RL Units Parameter Result DF Analyst Date Time Batch Method Ion Chromatography EPA300.0 Fluoride in Liquid "As Received" Fluoride 0.033 0.100 U ND mg/L 1 MAR1 05/17/16 1516 1567544 1 Metals Analysis-ICP-MS 200.8/200.2 NPDES Metals "As Received" 1 BCD1 05/19/16 1822 1567593 Lithium ND 2.00 10.0 ug/L 2 Π Rad Gas Flow Proportional Counting GFPC, Ra228, Liquid "As Received" Radium-228 ND 2.42 3.00 pCi/L AXM6 05/26/16 0954 1567555 3 U 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 Date Prep Batch Description Analyst Time 05/16/16 EPA 200.2 ICP-MS 200.2 PREP JP1 1800 1567592 The following Analytical Methods were performed: Mathad luct C р .

Method	Description		Analyst Co	omments	
1	SW846 9056A		-		
2	EPA 200.8 SC_NPDES				
3	EPA 904.0/SW846 9320 Modified				
4	EPA 903.1 Modified				
Surrogate/Tracer Recov	ery Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			73.1	(15%-125%)

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### **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 14-MAY-16 Receive Date: Collector: Client Parameter Qualifier Result DL RL Units DF Analyst Date Time Batch Method Ion Chromatography SW846 9056A Anions "As Received" Fluoride ND 0.033 0.100 1 MAR1 05/17/16 1548 1567544 U mg/L 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 Proporti	onal 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, liqu	id "As Received	1"									
Radium-226		0.939	0.541	1.00	pCi/	L	LXP1	05/23/16	0810	1568375	4
The following Prep Me	thods were perfe	ormed:									
Method	Description			Analyst	Date	Tin	ne P	rep Batcl	1		
SW846 3005A	ICP-MS 3005A	PREP		JP1	05/16/	16 1725	5 15	567594			
The following Analytic	cal Methods wer	re performed:									
Method	Description					Analyst Co	mment	ts			
1	SW846 9056A										
2	SW846 3005A/60	)20A									
3	EPA 904.0/SW84	46 9320 Modified									
4	EPA 903.1 Modif	fied									
Surrogate/Tracer Recov	very Test				Result	Nominal	Reco	very%	Acce	ptable Lim	its
Barium-133 Tracer	GFPC, Ra2	228, Liquid "As Received"						82.6	(1	5%-125%)	

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### **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 14-MAY-16 Receive Date: Collector: Client Parameter Qualifier DL RL Units DF Analyst Date Time Batch Method Result Ion Chromatography SW846 9056A Anions "As Received" Fluoride 0.0375 0.033 0.100 1 MAR1 05/17/16 1619 1567544 J mg/L 1 Metals Analysis-ICP-MS SW846 3005A/6020A Liquid "As Received" Lithium 10.0 1 BCD1 05/19/16 1528 1567595 2 2.10 2.00 ug/L T

Lucas Cell, Ra226, liq	uid "As Received"							
Radium-226	1.25	0.504	1.00	pCi/I	L	LXP1 05/23/16	0840 1568375	4
The following Prep M	ethods were performed:							
Method	Description		Analyst	Date	Time	e Prep Batc	h	
SW846 3005A	ICP-MS 3005A PREP		JP1	05/16/1	16 1725	1567594		
The following Analyt	ical 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 Reco	overy Test			Result	Nominal	Recovery%	Acceptable Lim	nits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"					80.4	(15%-125%)	

1.90

3.00

pCi/L

AXM6 05/24/16 1505 1567555

3

Notes:

Radium-228

Rad Radium-226

Rad Gas Flow Proportional Counting GFPC, Ra228, Liquid "As Received"

U

ND

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### **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 14-MAY-16 Receive Date: Collector: Client Time Batch Method Parameter Qualifier DL RL Units DF Analyst Date Result Ion Chromatography SW846 9056A Anions "As Received" Fluoride 0.0817 0.033 0.100 1 MAR1 05/17/16 1651 1567544 J mg/L 1 Metals Analysis-ICP-MS SW846 3005A/6020A Liquid "As Received" Lithium 10.0 1 BCD1 05/19/16 1531 1567595 2 2.17 2.00 ug/L T 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, li	iquid "As Received"							
Radium-226	1.64	0.603	1.00	pCi/L		LXP1 05/23/16	0840 1568375	4
The following Prep N	Methods were performed:							
Method	Description		Analyst	Date	Time	e Prep Batc	h	
SW846 3005A	ICP-MS 3005A PREP		JP1	05/16/10	6 1725	1567594		
The following Analy	ytical 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 Rec	covery Test			Result	Nominal	Recovery%	Acceptable Lin	nits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"					84.5	(15%-125%)	

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### **QC Summary**

Report Date: May 27, 2016

Page 1 of 4

GEL Engineering, LLC 2040 Savage Rd Charleston, South Carolina Robert Gardner

Workorder: 397457

**Contact:** 

Parmname			NOM		Sample	Qual	QC	Units	RPD%	REC%	Range Anlst	Date Time
Ion Chromatography Batch 156754	13											
QC1203549409 397 Fluoride	7457010	DUP		U	ND	U	ND	mg/L	N/A		MAR1	05/17/16 05:02
QC1203549408 I Fluoride	LCS		2.50				2.35	mg/L		93.9	(90%-110%)	05/16/16 22:07
QC1203549407	MB					U	ND	mg/L				05/16/16 21:35
QC1203549410 397 Fluoride	7457010	PS	2.50	U	ND		2.44	mg/L		96.3	(90%-110%)	05/17/16 05:34
Batch 156754	4											
QC1203549413 397 Fluoride	7457011	DUP			0.329		0.336	mg/L	2.1	٨	(+/-0.100) MAR1	05/17/16 10:29
QC1203549412 I Fluoride	LCS		2.50				2.38	mg/L		95.3	(90%-110%)	05/17/16 09:25
QC1203549411	MB					U	ND	mg/L				05/17/16 08:53
QC1203549414 397 Fluoride	7457011	PS	2.50		0.329		2.70	mg/L		94.6	(90%-110%)	05/17/16 11:01
Metals Analysis - ICPM Batch 156759	1 <b>S</b> 03											
QC1203549549 397 Lithium	7457003	DUP		U	ND	U	ND	ug/L	N/A		BCD1	05/19/16 17:05
QC1203549550 397 Lithium	7457016	DUP		U	ND	U	ND	ug/L	N/A			05/19/16 18:12
QC1203549548 I Lithium	LCS		50.0				50.0	ug/L		100	(80%-120%)	05/19/16 16:58
QC1203549547	MB					U	ND	ug/L				05/19/16 16:55
QC1203549551 397 Lithium	7457003	MS	50.0	U	ND		46.9	ug/L		92.5	(75%-125%)	05/19/16 17:09
QC1203549552 397	7457016	MS					50.2				(75%-125%)	

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## **QC Summary**

Workorder:	397457											Page 2 of 4
Parmname			NOM		Sample	Qual	QC	Units	RPD%	REC%	Range Anls	at Date Time
Metals Analysis - IC Batch 15	C <b>PMS</b> 67593											
Lithium			50.0	U	ND			ug/L		97.5		05/19/16 18:15
QC1203549553 Lithium	397457003	SDILT		U	ND	U	ND	ug/L	N/A		(0%-10%) BC	D1 05/19/16 17:12
QC1203549554 Lithium	397457016	SDILT		U	ND	U	ND	ug/L	N/A		(0%-10%)	05/19/16 18:19
Batch 15	67595											
QC1203549557 Lithium	397457001	DUP		U	ND	U	ND	ug/L	N/A		BC	D1 05/19/16 14:46
QC1203549556 Lithium	LCS		50.0				52.8	ug/L		106	(80%-120%)	05/19/16 14:39
QC1203549555 Lithium	MB					U	ND	ug/L				05/19/16 14:35
QC1203549558 Lithium	397457001	MS	50.0	U	ND		52.4	ug/L		102	(75%-125%)	05/19/16 14:49
QC1203549559 Lithium	397457001	SDILT		U	ND	U	ND	ug/L	N/A		(0%-10%)	05/19/16 14:56
Rad Gas Flow Batch 150	67555											
QC1203549448 Radium-228	397457008	DUP			1.63		1.69	pCi/L	3.88		(0% - 100%) AX	M6 05/24/16 15:05
QC1203549449 Radium-228	LCS		46.0				38.2	pCi/L		83	(75%-125%)	05/24/16 16:33
QC1203549447 Radium-228	MB					U	0.830	pCi/L				05/24/16 15:05
<b>Rad Ra-226</b> Batch 150	67603											
QC1203549580 Radium-226	397457016	DUP			2.32		3.17	pCi/L	31.1		(0% - 100%) LX	XP1 05/22/16 10:50
QC1203549582 Radium-226	LCS		24.4				29.5	pCi/L		121	(75%-125%)	05/25/16 10:30
QC1203549579 Radium-226	MB					U	0.318	pCi/L				05/25/16 10:30

QC1203549581 397457016 MS

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### **QC Summary**

Workorder: 397457									Page 3 of 4
Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Ra-226   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
- $M \qquad REMP \ Result > MDC/CL \ and < RDL$
- 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

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### **QC Summary**

Workor	der: 397457										Pag	e 4 of 4
Parmnar	me	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Q	One or more quali	ty control criteria have no	ot been met. Refe	er to the ap	plicable na	rrative or I	DER.					
R	Per section 9.3.4.1 purposes.	of Method 1664 Revision	on B, due to matr	ix spike r	ecovery issu	ies, this re	sult may not	be reported	or used for	regulatory	y complia	ince
R	Sample results are	rejected										
U	Analyte was analy	zed for, but not detected	above the MDL,	MDA, M	DC or LOD							
UI	Gamma Spectrosc	opyUncertain identifica	ation									
UJ	Gamma Spectrosc	opyUncertain identifica	ation									
UL	Not considered de	tected. The associated nu	mber is the repor	ted conce	ntration, wł	nich may b	e inaccurate	due to a low	bias.			
Х	Consult Case Narr	rative, Data Summary pao	ckage, or Project	Manager	concerning	this qualifi	ier					
Y	Other specific qua	lifiers were required to p	roperly define the	e results. (	Consult case	e narrative.						
Z	Paint Filter Test	Particulates passed throug	gh the filter, how	ever no fro	ee liquids w	ere observ	red.					
^	RPD of sample an	d duplicate evaluated usi	ng +/-RL. Conce	entrations	are <5X the	RL. Qua	lifier Not Ap	plicable for	Radiochem	istry.		
d	5-day BODThe	2:1 depletion requirement	t was not met for	this samp	le							
e	5-day BODTest reporting purposes	replicates show more tha	n 30% difference	between	high and lo	w values.	The data is q	ualified per t	he method	and can b	e used fo	r
h	Preparation or pre	servation holding time w	as exceeded									
N/A ind ^ The Re five time RL is us	icates that spike rec elative Percent Diff es (5X) the contract sed to evaluate the I	covery limits do not apply ference (RPD) obtained fi t required detection limit	when sample co rom the sample da (RL). In cases wh	oncentration uplicate ( nere either	on exceeds s DUP) is even the sample	spike conc. aluated aga or duplica	by a factor ainst the acco ate value is lo	of 4 or more ptance crites ess than 5X t	or %RPD r ria when the he RL, a co	not applica e sample i ontrol limi	able. is greater it of +/- th	than ne

\* 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.



**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 Holding Time of 15 minutes has been	6.08 n exceeded.	0.00	S.U.	5/13/16 09:20	CDB				
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				

M Approved By:



REPORT TO:

Sample ID: AB22367

#### Mike Moore C221

### Wateree Landfill MW-01LF-RCRA

Date & Time Sampled:May 12, 201608:37Date & Time Submitted:May 12, 201615:00Collected by: A.HILLLocation Code:WAG01LFTDS

MW-01LF			Login Re	ecord File: 160513003	
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysi Date & Time	s Chemist
Chlorides by IC EPA 300.0	5.33	0.50	mg/L	5/16/16 04:12	LS
pH by SM4500HB Holding Time of 15 minutes has beer	5.46 n exceeded.	0.00	S.U.	5/13/16 09:20	CDB
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

Approved By:



**REPORT TO:** 

May 18, 2016

Mike Moore C221

#### Sample ID: AB22368

#### Wateree NPDES Well MW 22 (NPDES)

Date & Time Sampled:May 12, 201610:04Date & Time Submitted:May 12, 201615:00Collected by:A.HILLLocation 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 Holding Time of 15 minutes has beer	4.55 n exceeded.	0.00	S.U.	5/13/16 09:20	CDB		
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		

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 Date & Time Submitted: May 12, 2016 Collected by: A.HILL

11:10 15:00 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 Holding Time of 15 minutes has beer	4.78 n exceeded.	0.00	S.U.	5/13/16 09:20	CDB		
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.



### REPORT TO:

Mike Moore C221

#### Sample ID: AB22370

#### Wateree Landfill MW-11LF-RCRA

Date & Time Sampled:May 12, 201611:40Date & Time Submitted:May 12, 201615:00Collected by: A.HILLLocation 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 Holding Time of 15 minutes has beer	4.82 exceeded.	0.00	S.U.	5/13/16 09:20	CDB			
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			

Approved By:



#### REPORT TO:

Mike Moore C221

#### Sample ID: AB22371

#### Wateree Landfill MW-08LF-RCRA

Date & Time Sampled:May 12, 201612:30Date & Time Submitted:May 12, 201615:00Collected by: A.HILLLocation 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 Holding Time of 15 minutes has beer	5.14 n exceeded.	0.00	S.U.	5/13/16 09:20	CDB			
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			

Approved By:



#### REPORT TO:

Mike Moore C221

#### Sample ID: AB22372

#### Wateree Landfill MW-10LF-RCRA

Date & Time Sampled:May 12, 201612:55Date & Time Submitted:May 12, 201615:00Collected by: A.HILLLocation Code:WAG10LFTDS

MW-10LF		Login Record File: 160513003						
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analy Date & Time	<sup>/sis</sup> Chemist			
Chlorides by IC EPA 300.0	6.13	0.50	mg/L	5/16/16 04:	12 LS			
pH by SM4500HB Holding Time of 15 minutes has beer	4.69 n exceeded.	0.00	S.U.	5/13/16 09:	20 CDB			
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 11:4	45 CDB			

Approved By:



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

Fax: (803) 217-9304

#### May 19, 2016

#### REPORT TO:

Mike Moore C221

#### Sample ID: AB22386

#### Wateree Landfill Field Blank-RCRA

Date & Time Sampled:May 11, 2016Date & Time Submitted:May 12, 2016Collected by: A.HILLLocation C

2016 12:10 2016 15:00 Location Code: WAGFBTM

		Login Record File: 160513003							
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed / Date & 1	Analysis Fime	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.



#### 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, 2016Date & Time Submitted:May 12, 2016Collected by: A.HILLLocal

2016 08:37 2016 15:00 Location Code: WAG01LFTM

Login Record File: 160513003							
Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time		Chemist		
Less than	1.0	ppb	5/18/16	11:28	MC		
Less than	1.0	ppb	5/18/16	11:28	MC		
51.5	10.0	ppb	5/19/16	08:11	MC		
Less than	1.0	ppb	5/19/16	08:11	MC		
Less than	1000	ppb	5/19/16	08:11	MC		
Less than	1.0	ppb	5/18/16	11:28	MC		
100	100	ppb	5/19/16	08:11	MC		
Less than	1.0	ppb	5/18/16	11:28	MC		
Less than	1.0	ppb	5/18/16	11:28	MC		
Less than	1.0	ррb	5/18/16	11:28	MC		
Less than	0.2	ppb	5/18/16	14:10	MC		
Less than	5.0	ppb	5/19/16	08:11	MC		
Less than	5.0	ppb	5/18/16	11:28	MC		
Less than	1.0	ppb	5/18/16	11:28	MC		
	ResultLess thanLess than51.5Less thanLess than100Less thanLess than	ResultReporting Limit(MRL)Less than1.0Less than1.051.510.0Less than1.0Less than0.2Less than5.0Less than5.0Less than1.0	ResultReporting Limit(MRL)UnitsLess than1.0ppbLess than1.0ppb51.510.0ppbLess than1.0ppbLess than0.2ppbLess than5.0ppbLess than5.0ppbLess than1.0ppb	Result Reporting Limit(MRL) Units Completed A Date & 1   Less than 1.0 ppb 5/18/16   Less than 1.0 ppb 5/18/16   Less than 1.0 ppb 5/18/16   51.5 10.0 ppb 5/19/16   Less than 1.0 ppb 5/18/16   100 100 ppb 5/18/16   Less than 1.0 ppb 5/18/16   Less than 1.0 ppb 5/18/16   Less than 0.2 ppb 5/18/16   Less than 0.2 ppb 5/18/16   Less than 5.0 ppb 5/18/16   Less than 5.0 ppb 5/18/16   Less than 5.0 ppb 5/18/16	ResultReporting Limit(MRL)UnitsCompleted Analysis Date & TimeLess than1.0ppb5/18/1611:28Less than1.0ppb5/18/1611:2851.510.0ppb5/19/1608:11Less than1.0ppb5/19/1608:11Less than1.0ppb5/19/1608:11Less than1.0ppb5/19/1608:11Less than1.0ppb5/19/1608:11Less than1.0ppb5/18/1611:28100100ppb5/18/1611:28Less than1.0ppb5/18/1611:28Less than1.0ppb5/18/1611:28Less than1.0ppb5/18/1611:28Less than0.2ppb5/18/1611:28Less than5.0ppb5/19/1608:11Less than5.0ppb5/18/1611:28Less than1.0ppb5/18/1611:28Less than1.0ppb5/18/1611:28Less than5.0ppb5/18/1611:28Less than1.0ppb5/18/1611:28Less than1.0ppb5/18/1611:28Less than1.0ppb5/18/1611:28Less than1.0ppb5/18/1611:28Less than1.0ppb5/18/1611:28Less than1.0ppb5/18/1611:28		

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



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

Fax: (803) 217-9384

May 19, 2016

#### REPORT TO:

Mike Moore C221

#### Sample ID: AB22388

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

Date & Time Sampled:May 12, 2016Date & Time Submitted:May 12, 2016Collected by: A.HILLLocal

2016 10:04 2016 15:00 Location Code: WAG22TM

MW 22		Login Record File: 160513003					
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed / Date & 1	Analysis 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.


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, 2016Date & Time Submitted:May 12, 2016Collected by: A.HILLLocation

2016 11:10 2016 15:00 Location Code: WAG07LFTM

MW-07I F		Login Record File: 160513003									
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed A Date & T	Analysis Time	Chemist					
Antimony by ICP-MS EPA 200.8	Less than	1.0	ppb	5/18/16	11:28	MC					
Arseniç 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.



## 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, 2016Date & Time Submitted:May 12, 2016Collected by: A.HILLLocation

2016 11:40 2016 15:00 Location Code: WAG11LFTM

MW-11LF		Login Record File: 160513003									
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed / Date & 1	Analysis 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-M\$ 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:

Page 1 of 1



## 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, 2016Date & Time Submitted:May 12, 2016Collected by: A.HILLLocal

2016 12:30 2016 15:00 Location Code: WAG08LFTM

MW-08LF	Login Record File: 160513003										
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed / Date &	Analysis Fime	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

12:55 May 12, 2016 Date & Time Sampled: Date & Time Submitted: May 12, 2016 Collected by: A.HILL

15:00 Location Code: WAG10LFTM

MW/-101 E		Login Record File: 160513003									
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed A Date & 1	Analysis 'ime	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	ррр	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: Wa	ateree Station	Permit No.:	County:	Richland

Date Sampled: 07/11/2016

year-month-day (Numerical)

#### **STATION NUMBERS**

Time Sampled: 12:00:00PM

PARAMETER	NUMBER	MW-LF-01
NAME	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) degree	os C	20.230
Water level elevation f	t	126.17

Authorized Release By:

Date:

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

Facility: Wateree Station

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

County: Richland

Time Sampled: 12:00:00PM

Date Sampled: 07/11/2016

year-month-day (Numerical)

#### STATION NUMBERS

<b>PARAMETER</b>	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	s C	26.650	26.430	22.930	21.900	22.720
Water level elevation f	t	116.64	112.89	114.00	113.65	114.14

Authorized Release By:

Date:

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.

Jack H Cart

Reviewed by

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 15-JUL-16 Receive Date: Client Collector: RL PF Qualifier DL Units DF Analyst Date Parameter Result Time Batch Method Ion Chromatography EPA300.0 Fluoride in Liquid "As Received" 0.033 Fluoride U ND 0.100 mg/L 1 MAR1 07/23/16 0651 1582386 1 Metals Analysis-ICP-MS SW846 3005A/6020A Liquid "As Received" Lithium 10.0 SKJ 07/20/16 2014 1582806 2 Π ND 2.00 ug/L 1.00 1 Rad Gas Flow Proportional Counting GFPC, Ra228, Liquid "As Received" Radium-228 ND AXM6 07/27/16 1204 1582431 U 1.34 3.00 pCi/L 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 Date Prep Batch Analyst Time SW846 3005A ICP-MS 3005A PREP JP1 07/18/16 1855 1582805 The following Analytical Methods were performed: Method Description Analyst Comments EPA 300.0 SW846 3005A/6020A EPA 904.0/SW846 9320 Modified 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: Lc/LC: Critical Level

**DF:** Dilution Factor PF: Prep Factor **DL:** Detection Limit MDA: Minimum Detectable Activity **RL: Reporting Limit** MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

1

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# **Certificate of Analysis**

Report Date: July 29, 2016 Company : GEL Engineering, LLC 2040 Savage Rd Address : Charleston, South Carolina 29417 Contact: Robert Gardner Project: Wateree CCR Client Sample ID: SCEG01716c **MW-22** Project: Sample ID: 401760014 Client ID: GEEL003 Matrix: Ground Water Collect Date: 12-JUL-16 09:15 15-JUL-16 Receive Date: Client Collector: DL RL PF Qualifier Result Units DF Analyst Date Time Batch Method Parameter Ion Chromatography EPA300.0 Fluoride in Liquid "As Received" 0.033 Fluoride U ND 0.100 mg/L 1 MAR1 07/23/16 0751 1582386 1 Metals Analysis-ICP-MS SW846 3005A/6020A Liquid "As Received" Lithium 10.0 SKJ 07/20/16 2018 1582806 2 2.55 2.00 ug/L 1.00 1 Rad Gas Flow Proportional Counting GFPC, Ra228, Liquid "As Received" Radium-228 ND 1.99 3.00 pCi/L AXM6 07/27/16 1207 1582431 U 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 Date Prep Batch Description Analyst Time SW846 3005A ICP-MS 3005A PREP JP1 07/18/16 1855 1582805 The following Analytical Methods were performed: Method Description Analyst Comments EPA 300.0 SW846 3005A/6020A EPA 904.0/SW846 9320 Modified 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 Concentrati	on SQL: Sample Quantitation Limit

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# **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-8LF Project: SCEG01716c Sample ID: 401760015 Client ID: GEEL003 Matrix: Ground Water Collect Date: 12-JUL-16 10:30 15-JUL-16 Receive Date: Client Collector: RL PF Qualifier DL Units DF Analyst Date Time Batch Method Parameter Result Ion Chromatography EPA300.0 Fluoride in Liquid "As Received" 0.033 Fluoride U ND 0.100 mg/L 1 MAR1 07/23/16 0821 1582386 1 Metals Analysis-ICP-MS SW846 3005A/6020A Liquid "As Received" Lithium 10.0 SKJ 07/20/16 2022 1582806 2 8.26 2.00 ug/L 1.00 1 Rad Gas Flow Proportional Counting GFPC, Ra228, Liquid "As Received" Radium-228 ND AXM6 07/27/16 1207 1582431 U 1.61 3.00 pCi/L 3 Rad Radium-226 Lucas Cell, Ra226, liquid "As Received" Radium-226 1.24 0.457 1.00 pCi/L LXP1 07/28/16 1010 1583315 4 The following Prep Methods were performed: Method Date Prep Batch Description Analyst Time SW846 3005A ICP-MS 3005A PREP JP1 07/18/16 1855 1582805 The following Analytical Methods were performed: Method Description Analyst Comments EPA 300.0 SW846 3005A/6020A EPA 904.0/SW846 9320 Modified EPA 903.1 Modified Surrogate/Tracer Recovery Test Result Nominal Recovery% Acceptable Limits Barium-133 Tracer GFPC, Ra228, Liquid "As Received" 75.9 (15%-125%) Notes: Column headers are defined as follows: Lc/LC: Critical Level

**DF:** Dilution Factor PF: Prep Factor **DL:** Detection Limit MDA: Minimum Detectable Activity **RL: Reporting Limit** MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

1

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# **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 15-JUL-16 Receive Date: Client Collector: RL PF Qualifier DL Units DF Analyst Date Parameter Result Time Batch Method Ion Chromatography EPA300.0 Fluoride in Liquid "As Received" 0.033 Fluoride 0.0599 0.100 mg/L 1 MAR1 07/23/16 1020 1582386 1 Metals Analysis-ICP-MS SW846 3005A/6020A Liquid "As Received" Lithium 10.0 SKJ 07/20/16 2026 1582806 2 2.18 2.00 ug/L 1.00 1 Rad Gas Flow Proportional Counting GFPC, Ra228, Liquid "As Received" Radium-228 ND 2.04 AXM6 07/27/16 1207 1582431 U 3.00 pCi/L 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 Date Prep Batch Analyst Time SW846 3005A ICP-MS 3005A PREP JP1 07/18/16 1855 1582805 The following Analytical Methods were performed: Method Description Analyst Comments EPA 300.0 SW846 3005A/6020A EPA 904.0/SW846 9320 Modified EPA 903.1 Modified Recovery% Surrogate/Tracer Recovery Test Result Nominal 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

PF: Prep Factor **DL:** Detection Limit MDA: Minimum Detectable Activity **RL: Reporting Limit** MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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

# **Certificate of Analysis**

Report Date: 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 15-JUL-16 Receive Date: Client Collector: RL PF Qualifier DL Units DF Analyst Date Time Batch Method Parameter Result Ion Chromatography EPA300.0 Fluoride in Liquid "As Received" 0.033 Fluoride U ND 0.100 mg/L 1 MAR1 07/23/16 1120 1582386 1 Metals Analysis-ICP-MS SW846 3005A/6020A Liquid "As Received" Lithium 10.0 SKJ 07/20/16 2030 1582806 2 2.64 2.00 ug/L 1.00 1 Rad Gas Flow Proportional Counting GFPC, Ra228, Liquid "As Received" Radium-228 ND 2.08 AXM6 07/27/16 1207 1582431 U 3.00 pCi/L 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 Date Prep Batch Analyst Time SW846 3005A ICP-MS 3005A PREP JP1 07/18/16 1855 1582805 The following Analytical Methods were performed: Method Description Analyst Comments EPA 300.0 SW846 3005A/6020A EPA 904.0/SW846 9320 Modified EPA 903.1 Modified Recovery% Surrogate/Tracer Recovery Test Result Nominal Acceptable Limits Barium-133 Tracer GFPC, Ra228, Liquid "As Received" 71.1 (15%-125%) Notes: Column headers are defined as follows: Lc/LC: Critical Level

**DF:** Dilution Factor PF: Prep Factor **DL:** Detection Limit MDA: Minimum Detectable Activity **RL: Reporting Limit** MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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

# **Certificate of Analysis**

Report Date: 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 15-JUL-16 Receive Date: Client Collector: RL PF Qualifier DL Units DF Analyst Date Time Batch Method Parameter Result Ion Chromatography EPA300.0 Fluoride in Liquid "As Received" 0.033 Fluoride U ND 0.100 mg/L 1 MAR1 07/23/16 1150 1582386 1 Metals Analysis-ICP-MS SW846 3005A/6020A Liquid "As Received" Lithium 10.0 SKJ 07/20/16 2034 1582806 2 3.15 2.00 ug/L 1.00 1 Rad Gas Flow Proportional Counting GFPC, Ra228, Liquid "As Received" Radium-228 2.45 AXM6 07/27/16 1207 1582431 2.42 3.00 pCi/L 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 Date Prep Batch Description Analyst Time SW846 3005A ICP-MS 3005A PREP JP1 07/18/16 1855 1582805 The following Analytical Methods were performed: Method Description Analyst Comments EPA 300.0 SW846 3005A/6020A EPA 904.0/SW846 9320 Modified 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: Lc/LC: Critical Level

**DF:** Dilution Factor PF: Prep Factor **DL:** Detection Limit MDA: Minimum Detectable Activity **RL: Reporting Limit** MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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# **QC Summary**

Report Date: July 29, 2016

Page 1 of 4

GEL Engineering, LLC 2040 Savage Rd Charleston, South Carolina Robert Gardner

Workorder: 401760

**Contact:** 

Parmname			NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Ion Chromatograph Batch 158	<b>y</b> 82386												
QC1203586449 Fluoride	401760001	DUP		U	ND	U	ND	mg/L	N/A			MAR1	07/22/16 23:52
QC1203586450 Fluoride	401760020	DUP		U	ND	U	ND	mg/L	N/A				07/23/16 12:20
QC1203586448 Fluoride	LCS		2.50				2.53	mg/L		101	(90%-110%)		07/22/16 22:52
QC1203586447 Fluoride	MB					U	ND	mg/L					07/22/16 22:23
QC1203586451 Fluoride	401760001	PS	2.50	U	ND		2.53	mg/L		100	(90%-110%)		07/23/16 00:22
QC1203586452 Fluoride	401760020	PS	2.50	U	ND		2.45	mg/L		96.9	(90%-110%)		07/23/16 12:50
Metals Analysis - IC Batch 158	<b>PMS</b> 32350												
QC1203586364 Lithium	401760011	DUP		J	2.13	J	2.13	ug/L	0.282 ^		(+/-10.0)	SKJ	07/20/16 13:53
QC1203586362 Lithium	LCS		50.0				51.1	ug/L		102	(80%-120%)		07/20/16 13:30
QC1203586361 Lithium	MB					U	ND	ug/L					07/20/16 13:29
QC1203586367 Lithium	401760011	MS	50.0	J	2.13		52.7	ug/L		101	(75%-125%)		07/20/16 13:55
QC1203586370 Lithium	401760011	SDILT		J	2.13	U	ND	ug/L	N/A		(0%-10%)		07/20/16 13:56
Batch 158	32806												
QC1203587432 Lithium	401760010	DUP			12.1		12.1	ug/L	0.306 ^		(+/-10.0)	SKJ	07/20/16 19:47
QC1203587431 Lithium	LCS		50.0				49.0	ug/L		98.1	(80%-120%)		07/20/16 19:27
OC1203587430	MB												

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# **QC Summary**

Workorder: 4	401760												Page 2 of 4
Parmname			NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis - IC Batch 158	CPMS 82806												
Lithium						U		ug/L					07/20/16 19:23
QC1203587433 Lithium	401760010	MS	50.0		12.1		63.3	ug/L		102	(75%-125%)	SKJ	07/20/16 19:51
QC1203587434 Lithium	401760010	SDILT			12.1	J	2.37	ug/L	1.95		(0%-10%)	I	07/20/16 19:59
Batch 158	82808												
QC1203587437 Lithium	401760016	DUP		U	ND	U	ND	ug/L	N/A			SKJ	07/20/16 00:13
QC1203587436 Lithium	LCS		50.0				47.6	ug/L		95.2	(80%-120%)	I	07/20/16 00:05
QC1203587435 Lithium	MB					U	ND	ug/L					07/20/16 00:02
QC1203587438 Lithium	401760016	MS	50.0	U	ND		49.1	ug/L		97.4	(75%-125%)	I	07/20/16 00:17
QC1203587439 Lithium	401760016	SDILT		U	ND	U	ND	ug/L	N/A		(0%-10%)	1	07/20/16 00:21
Rad Gas Flow Batch 158	82431												
QC1203586537 Radium-228	401760008	DUP		U	1.69	U	0.659	pCi/L	N/A		N/A	AAXM6	07/27/16 14:41
QC1203586538 Radium-228	LCS		45.0				41.5	pCi/L		92.1	(75%-125%)	I	07/27/16 12:07
QC1203586536 Radium-228	MB					U	1.27	pCi/L					07/27/16 12:06
<b>Rad Ra-226</b> Batch 158	83314												
QC1203588585 Radium-226	401758001	DUP			1.21		1.53	pCi/L	23.5		(0% - 100%)	LXP1	07/28/16 09:35
QC1203588587 Radium-226	LCS		24.4				28.0	pCi/L		115	(75%-125%)	I	07/28/16 09:35
QC1203588584 Radium-226	MB					U	0.0423	pCi/L					07/28/16 09:35

QC1203588586 401758001 MS

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# **QC Summary**

Workorder: 401760									Page 3 of 4
Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Ra-226   Batch 1583314									
Radium-226	122	1.21	97.2	pCi/L		78.7	(75%-125%)		07/28/16 09:35
Batch 1583315									
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
- $M \qquad REMP \ Result > MDC/CL \ and < RDL$
- 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

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# **QC Summary**

							•/						
Workor	rder: 40	1760										Pag	e 4 of 4
Parmna	me		NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Q	One or mo	re quality control c	criteria have not be	een met. Refer	to the app	plicable na	rative or I	DER.					
R	Per section purposes.	9.3.4.1 of Method	d 1664 Revision E	B, due to matrix	spike re	covery issu	es, this res	sult may not	be reported	or used for	regulatory	/ complia	ince
R	Sample res	sults are rejected											
U	Analyte w	as analyzed for, bu	t not detected abo	ve the MDL, M	IDA, ME	OC or LOD							
UI	Gamma Sj	pectroscopyUncer	rtain identification	1									
UJ	Gamma Sj	pectroscopyUncer	rtain identification	1									
UL	Not consid	lered detected. The	associated number	er is the reporte	d concen	tration, wh	ich may be	e inaccurate	due to a low	bias.			
Х	Consult Ca	ase Narrative, Data	Summary packag	ge, or Project M	lanager c	oncerning	his qualifi	er					
Y	Other spec	fic qualifiers were	e required to prope	erly define the r	results. C	onsult case	narrative.						
Ζ	Paint Filte	r TestParticulates	passed through the	ne filter, howev	er no free	e liquids w	ere observ	ed.					
٨	RPD of sa	mple and duplicate	evaluated using +	-/-RL. Concent	trations a	re <5X the	RL. Qual	ifier Not Ap	plicable for	Radiochem	istry.		
d	5-day BOI	DThe 2:1 depletio	on requirement wa	s not met for th	nis sample	e							
e	5-day BOI reporting p	DTest replicates s ourposes	how more than 30	0% difference b	etween h	igh and lov	w values. T	The data is qu	alified per t	he method	and can be	e used for	r
h	Preparatio	n or preservation h	olding time was e	xceeded									
N/A ind ^ The R five tim	licates that s celative Perc les (5X) the sed to evalue	pike recovery limit ent Difference (RP contract required d ate the DUP result	ts do not apply wh D) obtained from etection limit (RL	the sample cond the sample dup ). In cases whe	centration plicate (I pre either	n exceeds s DUP) is eva the sample	pike conc. lluated aga or duplica	by a factor inst the acce te value is le	of 4 or more ptance criter ess than 5X t	or %RPD 1 tia when the he RL, a co	not applica e sample i ontrol limi	able. s greater t of +/- th	than 1e

\* 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.



Tel: (803)217-9384 Fax: (803) 217-9911

July 22, 2016

# REPORT TO:

Mike Moore C221

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

#### MW-01LF

Login Record File: 160712003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	MDL	Units	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:



Tel: (803)217-9384 Fax: (803) 217-9911

July 22, 2016

# **REPORT TO:**

Mike Moore C221

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

MW 22

Login Record File: 160712003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result 9.0	MDL 0.50	Units	Completed Analysis Date & Time		Chemist
Chlorides by IC EPA 300.0			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:



Tel: (803)217-9384 Fax: (803) 217-9911

July 22, 2016

# REPORT TO:

Mike Moore C221

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

MW-08LF

Login Record File: 160712003

CERTIFIED BY SCDHEC (LAB ID 32006):	32006): Result		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.



Fax: (803) 217-9911

July 22, 2016

# REPORT TO:

Mike Moore C221

Sample ID: AB22926Wateree Landfill MW-07LF-RCRA/CCRDate & Time Sampled:July 12, 201612:15Date & Time Submitted:July 12, 201615:25Collected by: A.HILLLocation Code: WAG07LFTDS

MW-07LF

Login Record File: 160712003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	MDL	Units	Completed Date &	Completed Analysis Date & Time	
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.



Tel: (803)217-9384 Fax: (803) 217-9911

July 22, 2016

## **REPORT TO:**

Mike Moore C221

Sample ID: AB22927	Wateree Land	fill MW-11LF-RCRA/CCR
Date & Time Sampled:	July 12, 2016	14:00
Date & Time Submitted:	July 12, 2016	15:25
Collected by: A.HILL	Locat	ion 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.



Fax: (803) 217-9911

July 22, 2016

# **REPORT TO:**

Mike Moore C221

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

MW-10LF

Login Record File: 160712003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	MDL	Units	Completed Date &	Analysis 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.



Fax: (803) 217-9911

### July 19, 2016

# **REPORT TO:**

Mike Moore C221

# Sample ID: AB22903

# Wateree Landfill MW-01LF-RCRA/CCR

Date & Time Sampled:July 12, 2016Date & Time Submitted:July 12, 2016Collected by: A.HILLLocation

2016 08:00 2016 15:25 Location Code: WAG01LFTM

MW-01LF Login Record File: 1607120					712002	
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Date &	Analysis 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: \_

Page 1 of 1



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, 2016Date & Time Submitted:July 12, 2016Collected by: A.HILLLocation

2016 09:15 2016 15:25 Location Code: WAG22TM

MW 22			Login Re	cord File: 160	712002	
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Date &	Analysis 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:

Page 1 of 1



Fax: (803) 217-9304

# July 19, 2016

## REPORT TO:

Mike Moore C221

# Sample ID: AB22905

# Wateree Landfill MW-08LF-RCRA/CCR

Date & Time Sampled:July 12, 2016Date & Time Submitted:July 12, 2016Collected by: A.HILLLocal

2016 10:30 2016 15:25 Location Code: WAG08LFTM

MW-08LF			Login Re	ecord File: 160	712002	
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Date &	Analysis 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
	Loop than	1.0	662	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		

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

Approved By:



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, 2016Date & Time Submitted:July 12, 2016Collected by: A.HILLLocal

2016 12:15 2016 15:25 Location Code: WAG07LFTM

MW-07LF		Login Record File: 160712002								
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed A	Analysis 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:



Fax: (803) 217-9304

## July 19, 2016

### REPORT TO:

Mike Moore C221

#### Sample ID: AB22907

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

Date & Time Sampled:July 12, 2016Date & Time Submitted:July 12, 2016Collected by: A.HILLLocal

2016 14:00 2016 15:25 Location Code: WAG11LFTM

MW-11LF			Login Rec	ord File: 160 <sup>°</sup>	712002	
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed . Date &	Analysis 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:

Page 1 of 1



Fax: (803) 217-9384

## July 19, 2016

# REPORT TO:

Mike Moore C221

#### Sample ID: AB22908

# Wateree Landfill MW-10LF-RCRA/CCR

Date & Time Sampled:July 12, 2016Date & Time Submitted:July 12, 2016Collected by: A.HILLLocal

2016 13:50 2016 15:25 Location Code: WAG10LFTM

MW-10LF	Login Record File: 160712002									
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed / Date &	Analysis 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:

Page 1 of 1

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

Facility:	Wateree Station	Permit No.:	County:	Richland

Date Sampled: 09/19/2016

year-month-day (Numerical)

#### STATION NUMBERS

Time Sampled: 12:00:00PM

PARAMETER	NUMBER	MW-LF-01
NAME	Lab. Certificate No.	32006
Field pH S.U.		3.560
Field Sp. Conductivity	y micromhos/cm	45.000
Field Turbidity NTU		361.00
ORP mV		6.880
Oxygen, dissolved mg	g/L	3.540
Temp (Celcius) degree	es 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

year-month-day (Numerical)

Time Sampled: 12:00:00PM

#### **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/	Ľ	2.420	3.060	1.000	0.700	1.910
Temp (Celcius) degree	s C	23.210	21.510	22.810	21.550	21.130
Water level elevation f	t	116.33	112.88	113.26	113.81	113.62

Authorized Release By:

Date:

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.

Jack H Cart

Reviewed by

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

# **Certificate of Analysis**

Report Date: October 19, 2016

	Company : Address :	GEL Engi 2040 Sava	neering, LLC ge Rd							
	Contact: Project:	Charleston Robert Gar Wateree C	, South Carolina 2 rdner CR	29417						
	Client Sample ID	: MW-1LF				Pr	oject:	SCEG01716c		
	Sample ID:	406540016	5			C	lient ID:	GEEL003		
	Matrix:	Ground W	ater							
	Collect Date:	20-SEP-10	08:45							
	Collector:	Client								
	Collector.	Chem								
Parameter	Qua	lifier Resu	lt	DL	RL	Units	PF DF	Analyst Date	Time Batch	Method
Ion Chroma	atography									
SW846 905	56A Anions "As Re	eceived"				_	_			
Fluoride Metals Ana	lysis-ICP-MS	J 0.04	142	0.033	0.100	mg/L	1	MXL2 09/23/16	1854 1601709	1
SW846 300	05A/6020A Liquid	"As Received	["	2.00	10.0		1.00 1		2246 1601200	2
Lithium Rad Gas Fl	ow Proportional C	U I	ND	3.00	10.0	ug/L	1.00 1	SKJ 09/26/16	2246 1601309	2
GEPC Ra2	28 Liquid "As Re	ceived"								
Radium-228 Rad Radiur	m-226	U I	ND	2.00	3.00	pCi/L		AXM6 10/19/16	1222 1603992	3
Lucas Cell,	Ra226, liquid "As	Received"								
Radium-226	· 1	1	.02	0.393	1.00	pCi/L		LXP1 10/18/16	0920 1602211	4
The follow	ing Prep Methods	were performe	ed:							
Method	Des	cription			Analyst	Date	Time	e Prep Batch		
SW846 3005A	A ICP-1	MS 3005A PREP			JP1	09/22/16	1730	1601308		
The follow	ring Analytical Me	thods were pe	rformed:							
Method	Desc	cription					Analyst Cor	nments		
1	SW84 SW84	16 9056A 16 3005A/6020A								
3	EPA	904.0/SW846 932	20 Modified							
4	EPA	903.1 Modified								
Surrogate/7	Tracer Recovery	Test				Result	Nominal	Recovery%	Acceptable L	imits
Barium-133 T	racer	GFPC, Ra228, L	iquid "As Received"					58.7	(15%-125%)	)
Notes:										
Column he DF: Dilutio DL: Detect MDA: Min MDC: Min	aders are defined a on Factor tion Limit nimum Detectable a nimum Detectable (	as follows: Activity Concentration	Lc/LC: Critic PF: Prep Fact RL: Reportin SQL: Sample	cal Level tor g Limit e Quantita	tion Limit					

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# **Certificate of Analysis**

Report Date: October 19, 2016

	Company : Address :	GEL 1 2040	Engineerin Savage Rd	g, LLC										
		Charl	enter Com	th Constinue Of	0417									
	Contact: Project:	Robei Watei	eston, Sou t Gardner ee CCR	in Carolina 2	9417									
	Client Sample ID	: MW-2	22				F	roject:		SCEG	01716c			
	Sample ID:	40654	0017				C	lient ID	:	GEEL	003			
	Matrix:	Grour	nd Water											
	Collect Date:	20-SE	P-16 09:4	5										
	Receive Date:	22-SE	P-16											
	Collector:	Client	ţ											
Parameter	Qua	lifier	Result		DL	RL	Units	PF	DF	Analy	st Date	Time	Batch	Method
Ion Chroma	atography													
SW846 905	56A Anions "As Re	eceived"												
Fluoride Metals Ana	lysis-ICP-MS	J	0.0638		0.033	0.100	) mg/L	,	1	MXL2	09/23/16	1926	1601709	1
SW846 300	05A/6020A Liquid	"As Rec	eived"											
Lithium		U	ND		3.00	10.0	) ug/L	1.00	1	SKJ	09/26/16	2250	1601309	2
Rad Gas Fl	ow Proportional C	ounting												
GFPC, Ra2	28, Liquid "As Re	ceived"	ND		1.50	2.00				AVM6	10/10/16	1222	1602002	2
Rad Radiu	n-226	U	ND		1.39	5.00	per/l	,		AAMO	10/19/10	1222	1003992	5
Lucas Cell.	Ra226. liquid "As	Receive	d''											
Radium-226			0.490		0.371	1.00	) pCi/L	,		LXP1	10/18/16	0955	1602211	4
The follow	ing Prep Methods	were perf	formed:											
Method	Des	cription				Analyst	Date		Time	Pre	ep Batch			
SW846 3005A	A ICP-I	MS 3005A	PREP			JP1	09/22/1	6	1730	160	01308			
The follow	ving Analytical Me	thods we	re perform	ed:										
Method	Desc	ription						Analys	t Cor	nments	5			
1	SW84	6 9056A												
2	SW84	6 3005A/6	020A	: <i>c</i> : _ 4										
5 4	EPA	904.0/Sw8 903.1 Modi	46 9320 MOC ified	lined										
Surrogate/7	Fracer Recovery	Test					Result	Nomin	al	Recov	very%	Accer	otable L	imits
Barium-133 T	racer	GFPC, Ra	228, Liquid "	As Received"						(	59.2	(15	5%-125%)	)
Notes:														
Column be	aders are defined a	s follow	·											
DF: Dilutio	on Factor	10110W	<u> </u>	.c/LC: Critica	l Level									
DL: Detect	tion Limit		Ī	F: Prep Facto	or									
MDA: Mir	nimum Detectable	Activity	I	RL: Reporting	Limit									
MDC: Mir	imum Detectable	Concentr	ation S	SQL: Sample	Quantita	tion Limit								

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# **Certificate of Analysis**

Report Date: October 19, 2016

	Company : Address :	GEL Enginee 2040 Savage	ring, LLC Rd										
	Contact: Project:	Charleston, S Robert Gardn Wateree CCR	outh Carolina 2 er	29417									
	Client Sample ID:	MW-8LF	<u> </u>			P	roiect <sup>.</sup>		SCEG	01716c			
	Sample ID:	406540018				C	lient ID		GEEL	003			
	Matrix:	Ground Wate	r					-					
	Collect Date:	20-SEP-16 11	:05										
	Receive Date:	22-SEP-16											
	Collector:	Client											
Parameter	Quali	fier Result		DL	RL	Units	PF	DF	Analys	st Date	Time	Batch	Method
Ion Chrome	atography	iter itesuit			102	emis			1 mary .	<i>bute</i>		Buten	incuiou
SW846 905	564 Anions "As Rec	reived"											
Fluoride	OA Allons As Kee	J 0.0406		0.033	0.100	) mg/L		1	MXL2	09/23/16	1957	1601709	1
Metals Ana	lysis-ICP-MS					6							
SW846 300	)5A/6020A Liquid "	As Received"											
Lithium	1	J 8.93		3.00	10.0	) ug/L	1.00	1	SKJ	09/26/16	2302	1601309	2
Rad Gas Fl	ow Proportional Co	unting											
GFPC, Ra2	28, Liquid "As Reco	eived"											
Radium-228	22.4	U ND		2.40	3.00	) pCi/L			AXM6	10/19/16	1222	1603992	3
Rad Radiur	n-226	~											
Lucas Cell,	Ra226, liquid "As I	Received"		0.202	1.00				I VD1	10/19/16	0055	1602211	4
Radium-220		0.550		0.293	1.00	) pCI/L			LAPI	10/18/16	0955	1602211	4
I he follows	ing Prep Methods w	ere performed:			A 1 /	Data	,	<b>T</b> '	D				
	Desci	ription			Analyst	Date 00/22/16		1 1me	160	p Batch			
The fellow		S 5005A FREF			JF I	09/22/10	)	1750	100	1308			
The follow	ing Analytical Metr	iods were perio	rmed:				. 1						
Method	Descr.	iption					Analys	t Con	nments				
2	SW846	3005A/6020A											
3	EPA 90	)4.0/SW846 9320 N	Aodified										
4	EPA 90	3.1 Modified											
Surrogate/T	Tracer Recovery	Test				Result	Nomin	al	Recov	ery%	Accer	otable Li	mits
Barium-133 T	racer (	GFPC, Ra228, Liqu	id "As Received"						6	51.6	(15	5%-125%)	
Notes:													
Column he	aders are defined as	follows:											
DF: Dilutio	on Factor		Lc/LC: Critic	al Level									
DL: Detect	ion Limit		PF: Prep Fact	or									
MDA: Min	nmum Detectable A	ctivity	RL: Reporting	g Limit									

RL: Reporting Limit SQL: Sample Quantitation Limit MDC: Minimum Detectable Concentration

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# **Certificate of Analysis**

Report Date: October 19, 2016

	Company : Address :	GEL Engineering, L 2040 Savage Rd	LC							
	Contact: Project:	Charleston, South Ca Robert Gardner Wateree CCR	arolina 29417							
	Client Sample ID:	MW-11LF			Pr	oject:		SCEG01716c		
	Sample ID:	406540019			Cl	ient ID:		GEEL003		
	Matrix:	Ground Water								
	Collect Date:	20-SEP-16 12:00								
	Receive Date:	22-SEP-16								
	Collector:	Client								
Parameter	Quali	fier Result	DL	RL	Units	PF	DF	Analyst Date	Time Batch	Method
Ion Chroma	atography									
SW846 905	56A Anions "As Rec	ceived"								
Fluoride		J 0.0465	0.033	0.100	mg/L		1	MXL2 09/23/16	2028 160170	) 1
Metals Ana	alysis-ICP-MS									
SW846 300	05A/6020A Liquid "	As Received"								
Lithium		J 3.01	3.00	10.0	ug/L	1.00	1	SKJ 09/26/16	2306 160130	) 2
Rad Gas Fl	ow Proportional Cou	unting								
GFPC, Ra2	228, Liquid "As Rece	eived"	1.05	2.00	<i>c</i> : <i>r</i>				1000 100000	
Radium-228	m 006	1.99	1.87	3.00	pC1/L			AXM6 10/19/16	1222 1603992	2 3
Lucos Coll	Dollar Liquid "As I	Deceived"								
Radium-226	, Ka220, liquid As I	1 44	0 376	1.00	pCi/L			LXP1 10/18/16	0955 160221	4
The follow	ing Pren Methods w	ere performed:			r					
Method	Descr	ription		Analyst	Date	7	Time	Prep Batch		
SW846 3005A	A ICP-M	S 3005A PREP		JP1	09/22/16	1	730	1601308		
The follow	ving Analytical Meth	ods were performed:								
Method	Descri	iption				Analyst	Con	nments		
1	SW846	9056A				<u>i intarjst</u>	Con			
2	SW846	3005A/6020A								
3	EPA 90	04.0/SW846 9320 Modified								
4	EPA 90	3.1 Modified								
Surrogate/7	Fracer Recovery	Test			Result	Nomina	ıl	Recovery%	Acceptable I	imits
Barium-133 T	Tracer C	3FPC, Ra228, Liquid "As R	eceived"					77.6	(15%-125%	)
Notes:										
Column he DF: Dilutio DL: Detect	eaders are defined as on Factor tion Limit	follows: Lc/L PF: F	C: Critical Level Prep Factor							

RL: Reporting Limit SQL: Sample Quantitation Limit MDC: Minimum Detectable Concentration
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

### **Certificate of Analysis**

Report Date: October 19, 2016

	Company : Address :	GEL E 2040 S	Engineering Savage Rd	, LLC										
	Contact: Project:	Charle Robert Watere	eston, South t Gardner ee CCR	n Carolina 29	9417									
	Client Sample II	): MW-7	LF				Р	roject:		SCEG	01716c			
	Sample ID:	406540	0020				C	lient ID	:	GEEL	003			
	Matrix:	Groun	d Water											
	Collect Date:	20-SE	P-16 12:35											
	Receive Date:	22-SE	P-16											
	Collector:	Client												
Parameter	Qua	difier I	Result		DL	RL	Units	PF	DF	Analy	st Date	Time	Batch	Method
Ion Chroma	atography													
SW846 905	56A Anions "As R	eceived"												
Fluoride Metals Ana	lysis-ICP-MS	J	0.0962		0.033	0.100	) mg/L		1	MXL2	09/23/16	2100	1601709	1
SW846 300	05A/6020A Liquid	"As Rece	eived"											
Lithium	Description 1.C	J	3.14		3.00	10.0	) ug/L	1.00	1	SKJ	09/26/16	2310	1601309	2
CEDC D.2	ow Proportional C	ounting												
GFPC, Ka2 Radium-228	28, Liquid "As Re		ND		1 78	3.00	) pCi/I			AYM6	10/19/16	1222	1603002	3
Rad Radiur	m-226	U	ND		1.70	5.00	pen/L			AAWIO	10/19/10	1222	1005772	5
Lucas Cell,	Ra226, liquid "As	Received	1"											
Radium-226	· 1		1.13		0.330	1.00	pCi/L			LXP1	10/18/16	0955	1602211	4
The follow	ing Prep Methods	were perfo	ormed:											
Method	Des	cription				Analyst	Date	,	Time	Pre	ep Batch			
SW846 3005A	A ICP-	MS 3005A I	PREP			JP1	09/22/1	6	1730	160	01308			
The follow	ving Analytical Me	thods wer	e performe	d:										
Method	Dese	cription						Analys	t Con	nments				
1	SW8	46 9056A												
2	SW8	46 3005A/60	)20A 16 0220 Modit	Fied										
4	EPA	904.0/S w 84 903.1 Modif	fied	lieu										
Surrogate/T	Fracer Recoverv	Test					Result	Nomin	al	Recov	erv%	Accer	otable L	imits
Barium-133 T	racer	GFPC, Ra2	28, Liquid "A	s Received"							105	(15	5%-125%)	)
Notes:														
Column he	aders are defined	as follows	:											
DF: Dilutio	on Factor		L	c/LC: Critica	l Level									
DL: Detect	tion Limit		PI	F: Prep Facto	r									
MDA: Mir MDC: Min	nmum Detectable nimum Detectable	Activity Concentra	tion S	L: Reporting QL: Sample (	Limit Quantita	tion Limit								

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### **Certificate of Analysis**

Report Date: October 19, 2016

	Company : Address :	GEL Engine 2040 Savage	ering, LLC Rd										
	Contact: Project:	Charleston, S Robert Garda Wateree CCI	South Carolina 2 ner R	29417									
	Client Sample ID:	MW-10LF				Р	roiect:		SCEG	01716c			
	Sample ID:	406540021				C	lient ID		GEEL	003			
	Matrix:	Ground Wate	er										
	Collect Date:	20-SEP-161	3:05										
	Receive Date:	22-SEP-16											
	Collector:	Client											
Parameter	Quali	ifier Result		DI	RI	Units	PF	DF	Analy	st Date	Time	Batch	Method
I arameter	Quan	iner Result			ILL.	Cints	11		7 mary	st Dute		Daten	Method
SW846 005	6. Anions "As Rev	coived"											
Fluoride	OA Alliolis As Ke	I 0.0591		0.033	0.10	) mg/L		1	MXL2	09/23/16	2234	1601709	1
Metals Ana	lysis-ICP-MS	5 010071		0.022	0110	,		•		00/20/10	2201	1001/07	
SW846 300	) 5A/6020A Liquid '	'As Received"											
Lithium	1	J 3.30	)	3.00	10.	) ug/L	1.00	1	SKJ	09/26/16	2314	1601309	2
Rad Gas Flo	ow Proportional Co	unting											
GFPC, Ra2	28, Liquid "As Rec	eived"											
Radium-228		U NE	•	2.14	3.0	) pCi/L			AXM6	10/19/16	1222	1603992	3
Rad Radium	n-226												
Lucas Cell,	Ra226, liquid "As ]	Received"											
Radium-226		1.67		0.510	1.0	) pCi/L			LXP1	10/18/16	0955	1602211	4
The followi	ing Prep Methods w	vere performed:				<b>D</b> (				D 1			
Method	Desc	ription			Analyst	Date		Fime	e Pro	ep Batch			
SW846 3005A	ICP-M	15 3005A PREP			JPI	09/22/10	5	1/30	160	11308			
The follow	ing Analytical Meth	hods were perfe	ormed:										
Method	Descr	ription					Analyst	Cor	nments				
1	SW846	5 9056A 5 2005 A /6020 A											
2	5 W 640 FPA 90	04 0/SW846 9320	Modified										
4	EPA 9	03.1 Modified	lineu										
Surrogate/T	racer Recovery	Test				Result	Nomin	al	Recov	erv%	Accer	ntable Li	mits
Barium-133 T	racer (	GFPC, Ra228, Liq	uid "As Received"			Result	TOILIN		Recov	<u>61 y /0</u> 59.2	<u>11000</u>	5%-125%)	
Notes:		011 0, 18220, 214							·		(10		
		6.11.											
DE: Dilutic	auers are defined as	s tollows:	L c/I C: Critic	al Loval									
DL: Detect	ion Limit		PE Pren Facto	or									
MDA: Min	imum Detectable A	ctivity	RL: Reporting	g Limit									

RL: Reporting Limit SQL: Sample Quantitation Limit MDC: Minimum Detectable Concentration

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### **QC Summary**

Report Date: October 19, 2016

Page 1 of 4

GEL Engineering, LLC
2040 Savage Rd
Charleston, South Carolina
Robert Gardner

Workorder: 406540

**Contact:** 

Parmname			NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Ion Chromatograph Batch 160	<b>y</b> 01708												
QC1203634730 Fluoride	406540002	DUP			0.363		0.371	mg/L	2.34 ^		(+/-0.100)	MXL2	09/23/16 18:05
QC1203634731 Fluoride	406540015	DUP		U	ND	U	ND	mg/L	N/A				09/24/16 01:33
QC1203634729 Fluoride	LCS		2.50				2.35	mg/L		94	(90%-110%)		09/23/16 17:05
QC1203634728 Fluoride	MB					U	ND	mg/L					09/23/16 16:35
QC1203634732 Fluoride	406540002	PS	2.50		0.363		2.72	mg/L		94.4	(90%-110%)		09/23/16 18:35
QC1203634733 Fluoride	406540015	PS	2.50	U	ND		2.50	mg/L		99	(90%-110%)		09/24/16 02:03
Batch 160	01709												
QC1203634736 Fluoride	406540021	DUP		J	0.0591	J	0.0775	mg/L	26.9 ^		(+/-0.100)	) MXL2	09/23/16 23:06
QC1203634735 Fluoride	LCS		2.50				2.57	mg/L		103	(90%-110%)		09/23/16 16:49
QC1203634734 Fluoride	MB					U	ND	mg/L					09/23/16 16:18
QC1203634737 Fluoride	406540021	PS	2.50	J	0.0591		2.77	mg/L		109	(90%-110%)		09/23/16 23:37
Metals Analysis - IC Batch 160	C <b>PMS</b> 01309												
QC1203633861 Lithium	406540001	DUP		J	3.09	J	3.02	ug/L	2.33 ^		(+/-10.0)	) SKJ	09/26/16 22:15
QC1203633860 Lithium	LCS		50.0				51.9	ug/L		104	(80%-120%)		09/26/16 22:07
QC1203633859 Lithium	MB					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: 4	06540												Page 2 of 4
Parmname			NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis - IC Batch 160	<b>PMS</b> 1309												
Lithium			50.0	J	3.09			ug/L		99.6			09/26/16 22:19
QC1203633863 Lithium	406540001	SDILT		J	3.09	U	ND	ug/L	N/A		(0%-10%)	SKJ	09/26/16 22:27
Batch 160	1317												
QC1203633871 Lithium	406540002	DUP		U	ND	U	ND	ug/L	N/A			SKJ	09/26/16 17:11
QC1203633872 Lithium	406540012	DUP		U	ND	U	ND	ug/L	N/A				09/27/16 11:49
QC1203633870 Lithium	LCS		50.0				48.0	ug/L		95.9	(80%-120%)		09/26/16 17:03
QC1203633869 Lithium	MB					U	ND	ug/L					09/26/16 16:59
QC1203633873 Lithium	406540002	MS	50.0	U	ND		48.4	ug/L		96.4	(75%-125%)		09/26/16 17:15
QC1203633874 Lithium	406540012	MS	50.0	U	ND		51.1	ug/L		102	(75%-125%)		09/27/16 11:52
QC1203633875 Lithium	406540002	SDILT		U	ND	U	ND	ug/L	N/A		(0%-10%)		09/26/16 17:19
QC1203633876 Lithium	406540012	SDILT		U	ND	U	ND	ug/L	N/A		(0%-10%)		09/27/16 11:55
Rad Gas Flow Batch 160	3992												
QC1203640324 Radium-228	406540008	DUP		U	1.64	U	0.940	pCi/L	N/A		N/A	AXM6	10/19/16 13:38
QC1203640325 Radium-228	LCS		21.9				21.0	pCi/L		95.9	(75%-125%)		10/19/16 12:21
QC1203640323 Radium-228	MB					U	0.252	pCi/L					10/19/16 12:21
<b>Rad Ra-226</b> Batch 160	2211												
QC1203636173 Radium-226	406540001	DUP			0.804		1.10	pCi/L	31.1		(0% - 100%)	LXP1	10/18/16 10:30

QC1203636175 LCS

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

### **QC Summary**

workorder: 406540										Page	3 of 4
Parmname	NOM	Sample (	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Ra-226     Batch   1602211											
Radium-226	24.4			26.8	pCi/L		110	(75%-125%)		10/18/1	6 10:30
QC1203636172 MB Radium-226			U	0.0609	pCi/L				LXP1	10/18/10	6 10:30
QC1203636174 406540001 MS Radium-226	122	0.804		129	pCi/L		105	(75%-125%)		10/18/1	6 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 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 MDL, MDA, MDC or LOD.
- UI Gamma Spectroscopy--Uncertain identification

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### **QC Summary**

Worko	rder: 406540									Рад	e 4 of 4
Parmna	me	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
UJ	Gamma SpectroscopyUncertain	identification									
UL	Not considered detected. The asso	ciated number	is the reported conce	ntration, wł	ich may be	e inaccurate	due to a low	bias.			
Х	Consult Case Narrative, Data Sum	mary package	e, or Project Manager of	concerning	this qualifi	er					
Y	Other specific qualifiers were requ	ired to proper	ly define the results. C	Consult case	e narrative.						
Ζ	Paint Filter TestParticulates pass	ed through the	e filter, however no fre	e liquids w	ere observe	ed.					
^	RPD of sample and duplicate evaluation	uated using +/	-RL. Concentrations	are <5X the	RL. Qual	ifier Not Ap	plicable for I	Radiochem	istry.		

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.



REPORT TO:	Sample ID:	B23734						
Mike Moore	Wateree Land	dfill MW-01l	LF-RCRA/C	CR				
	Date & Time Sampled:September 20, 201608:45Date & Time Submitted:September 20, 201615:40Collected by:A.HILLLocation Code:WAG01LFTDS							
MW-01LF			Login Reco	ord File: 1609	20003			
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed A Date & 1	Analysis Fime	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 ex	ceeded.							
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.



REPORT TO:	Sample ID:	D00705						
Mike Moore				0)				
	wateree NPD	E2 AVEILINIA		5)				
	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 Reco	rd File: 1609	20003			
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed A Date & 1	Analysis Fime	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 ex	ceeded.							
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.



REPORT TO: Mike Moore	Sample ID: A Wateree Lanc Date & Time San Date & Time Sub Collected by: A	B23736 Ifill MW-08L npled: So omitted: So .HILL	<b>_F-RCRA/C</b> eptember 20, 2 eptember 20, 2 Locat	<b>CR</b> 2016 11:05 2016 15:40 tion Code: WAG08LFT	DS
MW-08LF			Login Reco	ord 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 ex	ceeded.				
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.



REPORT TO:	Sampla ID: A	<b>D</b> 00707						
Mike Moore	Wateree Land	dfill MW-11L	_F-RCRA/C	CR				
	Date & Time Sampled:September 20, 201612:00Date & Time Submitted:September 20, 201615:40Collected by:A.HILLLocation Code:WAG11LFTI							
MW-11LF			Login Reco	rd File: 1609	20003	_		
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed A Date & 1	Analysis lime	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 ex	ceeded.							
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.



REPORT TO: Mike Moore	Sample ID: A Wateree Land Date & Time San Date & Time Sub Collected by: A	AB23738 Ifill MW-07L mpled: So omitted: So HILL	L <b>F-RCRA/C</b> eptember 20, eptember 20, Loca	<b>CR</b> 2016 12:35 2016 15:40 tion Code: W	/AG07LFTE	)S
MW-07LF			Login Reco	ord File: 1609	20003	
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed A Date & T	Analysis Fime	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 ex	ceeded.					
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.



REPORT TO: Mike Moore	Sample ID: A Wateree Land Date & Time San Date & Time Sub Collected by: A	AB23739 Ifill MW-10L mpled: So omitted: So HILL	LF-RCRA/C eptember 20, 2 eptember 20, 2 Loca	<b>CR</b> 2016 13:05 2016 15:40 tion Code: W	/AG10LFTE	)S
MW-10LF			Login Reco	ord File: 1609	20003	
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed A Date & 1	Analysis Fime	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 ex	ceeded.					
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.



September 27, 2016

#### **REPORT TO:**

Mike Moore

Sample ID: AB23754 Date & Time Sampled: Date & Time Submitted: Collected by: A.HILL

Wateree Landfill MW-01LF-RCRA/CCR

September 20, 2016 08:45 September 20, 2016 15:40 Location Code: WAG01LFTM

Login Record File: 160921001

MW-01LF			Login F	Record File: 16	50921001	1 Chemist MC MC MC MC MC MC MC MC MC MC						
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	MDL	Units	Completed Date &	Analysis 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	СВ						
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.

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September 27, 2016

### **REPORT TO:**

Mike Moore

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

Login Record File: 160921001

Location Code: WAG22LFTM

MW-22LF Login Record File: 160921001											
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	MDL	Units	Completed Date &	Analysis 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	СВ					
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.

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Fax: (803) 217-9911

September 27, 2016

#### **REPORT TO:**

Mike Moore

Sample ID: AB23756Wateree Landfill MW-08LF-RCRA/CCRDate & Time Sampled:September 20, 2016 11:05Date & Time Submitted:September 20, 2016 15:40Collected by: A.HILLLocation Code: WAG08LFTM

#### MW-08LF

Login Record File: 160921001

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	MDL	Units	Completed Date &	Analysis 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	СВ
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:



Fax: (803) 217-9911

September 27, 2016

#### REPORT TO:

Mike Moore

Sample ID: **AB23757** Date & Time Sampled: Date & Time Submitted: Collected by: A.HILL

757 Wateree Landfill MW-11LF-RCRA/CCR

: September 20, 2016 12:00 d: September 20, 2016 15:40 Location Code: WAG11LFTM

MW-11LF			Login l	Record File: 16	File: 160921001   Deted Analysis Chemist   Date & Time Chemist   7/16 10:48 MC   7/16 10:48 MC   7/16 10:48 MC   2/16 15:09 MC									
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	MDL	Units	Completed Date &	Analysis 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	СВ								
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.

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Fax: (803) 217-9911

September 27, 2016

#### REPORT TO:

Mike Moore

Sample ID: **AB23758** Date & Time Sampled: Date & Time Submitted: Collected by: A.HILL

58 Wateree Landfill MW-07LF-RCRA/CCR

September 20, 2016 12:35 September 20, 2016 15:40

Location Code: WAG07LFTM

MW-07LF			Login l	Record File: 16	60921001	21001     alysis   Chemist     10:48   MC     10:48   MC     10:48   MC     15:09   MC     10:48   MC     10:509   MC								
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	MDL	Units	Completed Date &	Analysis 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	СВ								
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: \_

C

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Fax: (803) 217-9911

September 27, 2016

#### **REPORT TO:**

Mike Moore

Sample ID: AB23759 Date & Time Sampled: Collected by: A.HILL

Wateree Landfill MW-10LF-RCRA/CCR

September 20, 2016 13:05 Date & Time Submitted: September 20, 2016 15:40

Location Code: WAG10LFTM

MW-10LF			Login Record File: 160921001     Units   Completed Analysis Date & Time   Chemist     ppb   9/27/16   10:48   MC     ppb   9/27/16   10:48   MC     ppb   9/27/16   10:48   MC     ppb   9/22/16   15:09   MC     ppb   9/22/16   10:48   MC     ppb   9/22/16   10:48   MC     ppb   9/22/16   10:48   MC										
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	MDL	Units	Completed Date &	Analysis 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

Time Sampled: 12:00:00PM

Date Sampled: <u>11/15/2016</u>

year-month-day (Numerical)

#### STATION NUMBERS

PARAMETER	NUMBER	MW-LF-01	MW-LF-06
NAME	Lab. Certificate No.	32006	32006
Field pH S.U.		4.850	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) degree	s C	17.970	17.530
Water level elevation f	t	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

year-month-day (Numerical)

# STATION NUMBERS

Time Sampled: 12:00:00PM

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	s 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:

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.

Hattome Cates

Reviewed by

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

### **Certificate of Analysis**

Report Date: December 13, 2016

	Company : Address :	GEL 2040	Engineering, LLC Savage Rd										
		Char	leston, South Carol	ina 29417									
	Contact:	Robe	ert Gardner										
		wate								01816			
	Client Sample ID:	MW	-ILF			P	roject:		SCEG	01716c			
	Sample ID:	4110	27001			C	Client ID	:	GEEL	003			
	Matrix:	Grou	ind Water										
	Collect Date:	15-N	OV-16 10:15										
	Receive Date:	18-N	OV-16										
	Collector:	Clie	nt										
Donomatan	Qual	fion	Dogult	DI	DI	Unita	DE	DE	Analy	at Data	Time	Datal	Mathad
Parameter	Quan	Iner	Kesult	DL	KL	Units	PF	DF	Analy	st Date	11me	Batch	Method
Ion Chroma	itography												
SW846 905	6A Anions "As Red	ceived'	'	0.022	0.100			1	MADI	10/07/16	2100	1610152	1
Fluoride Motole Ano	boie ICD MS	U	ND	0.033	0.100	mg/L	,	1	MARI	12/07/16	2109	1618153	1
SW046 200	$\frac{1}{5} = \frac{1}{6} = \frac{1}{2} = \frac{1}$		aaiwad"										
5 W 840 500 Lithium	5A/6020A Liquid	As Ke	ND	3.00	10.0	1. 1.00/I	1.00	1	PRR	12/04/16	1839	1617955	2
Rad Gas Flo	ow Proportional Co	unting	RD	5.00	10.0	ug/L	1.00		TRD	12/01/10	1000	1017955	-
GFPC Ra2	28 Liquid "As Rec	eived"											
Radium-228	20, Elquia Tis Ree	U	ND	1.99	3.00	pCi/L	,		AXM6	12/09/16	1109	1620580	3
Rad Radiun	n-226					*							
Lucas Cell,	Ra226, liquid "As ]	Receiv	ed"										
Radium-226			0.520	0.400	1.00	pCi/L	,		LXP1	12/12/16	0935	1620873	4
The followi	ng Prep Methods w	vere per	rformed:										
Method	Desc	ription			Analyst	Date	,	Time	e Pro	ep Batch			
SW846 3005A	ICP-M	IS 30054	A PREP		CXW4	11/21/1	6	1612	161	17954			
The follow	ing Analytical Metl	nods w	ere performed:										
Method	Descr	iption					Analyst	Con	nments	5			
1	SW846	6 9056A											
2	SW846	5 3005A	6020A										
3	EPA 9	04.0/SW	846 9320 Modified										
4	EPA 9		umed						_				
Surrogate/T	racer Recovery	Test				Result	Nomin	al	Recov	very%	Accep	otable L	mits
Barium-133 Tr	racer	GFPC, R	a228, Liquid "As Receiv	ved"					1	86.2	(15	5%-125%)	
Notes:													
Column he	aders are defined as	follov	vs:_										
DF: Dilutio	on Factor		Lc/LC: C	Critical Level									
DL: Detect	ion Limit		PF: Prep	Factor									

 $\frac{Cc}{D}$ D RL: Reporting Limit MDA: Minimum Detectable Activity SQL: Sample Quantitation Limit MDC: Minimum Detectable Concentration

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### **Certificate of Analysis**

Report Date: December 13, 2016

	Company : Address :	GEL 2040	Engineer Savage R	ing, LLC Rd										
	Contact: Project:	Char Robe Wate	leston, So ert Gardne eree CCR	uth Carolina 2 r	9417									
	Client Sample ID:	MW-	-6LF				Pi	roject:		SCEG	01716c			
	Sample ID:	4110	27002				C	lient ID		GEEL	.003			
	Matrix:	Grou	nd Water											
	Collect Date:	15-N	OV-16 11	1:10										
	Receive Date:	18-N	OV-16											
	Collector:	Clien	ıt											
Parameter	Quali	fier	Result		DL	RL	Units	PF	DF	Analy	st Date	Time	Batch	Method
Ion Chroma	atography													
SW846 905	66A Anions "As Red	ceived"												
Fluoride		U	ND		0.033	0.100	mg/L		1	MAR1	12/07/16	2138	1618153	1
Metals Ana	lysis-ICP-MS													
SW846 300	)5A/6020A Liquid "	As Rec	ceived"		2.00	10.0	/1	1.00	1	DDD	10/04/16	1004	1617055	2
Litnium Dod Gos El	ow Proportional Co	U	ND		3.00	10.0	ug/L	1.00	1	РКВ	12/04/16	1904	161/955	2
CEDC Do	28 Liquid "As Pas	unung												
Radium-228	28, Liquid As Rec	U	ND		2.00	3.00	nCi/L			AXM6	12/09/16	1109	1620580	3
Rad Radiun	n-226	U			2.00	5.00	pere			111110	12,09,10	1107	1020500	5
Lucas Cell.	Ra226, liquid "As ]	Receive	ed"											
Radium-226	······		1.13		0.480	1.00	pCi/L			LXP1	12/12/16	0935	1620873	4
The followi	ing Prep Methods w	ere per	formed:											
Method	Desc	ription				Analyst	Date	r	Гime	Pr	ep Batch			
SW846 3005A	ICP-M	IS 3005A	PREP			CXW4	11/21/16	5	1612	16	17954			
The follow	ing Analytical Meth	nods we	ere perfor	med:										
Method	Descr	iption						Analyst	Con	nments	5			
1	SW846	9056A												
2	SW846	5 3005A/	6020A											
3	EPA 90	)4.0/SW8	846 9320 M	odified										
4 C	LFA 90	75.1 WIOC	inteu				Decult	Manala	.1	<b>D</b>	0/			
Surrogate/ I	racer Recovery	Test	228 Liquid	I "As Pacaivad"			Result	Nomina	<b>1</b> 1	Recov	/ery%	Accep	5% 125%	
Notes:	Tacer C	JI I C, K	azzo, Elquid	I As Received						,	07.0	(1.	) /0-12 <u>3</u> /0	
Column he	aders are defined as	follow	<u>/s:</u>	I c/I C: Critica	1 Loval									
DL: Detect	ion Limit			PF. Pren Facto	or									
MDA: Min	imum Detectable A	ctivity		RL: Reporting	Limit									

RL: Reporting Limit SQL: Sample Quantitation Limit MDC: Minimum Detectable Concentration

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### **Certificate of Analysis**

Report Date: December 13, 2016

Compa Addres	any : ss :	GEL 2040	Engineering, Ll Savage Rd	LC											
				1: 00.417	,										
Conta	×+•	Charl	leston, South Ca	rolina 29417											
Proiec	л. t:	Wate	ree CCR												
Client	Sample ID:	MW_	71 F					Projec	t۰		SCEG	01716c			
Sample		4110	27003					Client	ID·		GFFI	003			
Matrix	. ID.	Grou	nd Water					Chem	ID.		OLLL	005			
Collect	t Date:	16-N	$OV-16\ 13.30$												
Receiv	e Date <sup>.</sup>	18-N	OV-16												
Collec	tor:	Clien	t												
Parameter	Qualif	ier	Result	]	DL	RL	Units	s P	F	DF	Analy	st Date	Time	Batch	Method
Ion Chromatograph	y														
SW846 9056A Ani	ons "As Rece	eived"													
Fluoride	D ) (G		0.126	0.0	)33	0.100	mg/	L		1	MAR1	12/08/16	0618	1618154	1
Metals Analysis-IC	P-MS														
SW846 3005A/602	0A Liquid "A	As Rec	ceived"	2	00	10.0	110/	т	00	1	מממ	12/04/16	1007	1617055	2
Rad Gas Flow Pror	ortional Cou	J nting	4.40	3	.00	10.0	ug/	L	.00	1	PKD	12/04/10	1907	101/933	2
GEPC Ra228 Liqu	id "As Rece	ived"													
Radium-228		iveu	3.29	1	.12	3.00	pCi/	L			AXM6	12/09/16	1109	1620580	3
Rad Radium-226							•								
Lucas Cell, Ra226,	liquid "As R	leceive	ed"												
Radium-226			1.88	0.4	454	1.00	pCi/	L			LXP1	12/12/16	1010	1620873	4
The following Prep	Methods we	ere per	formed:												
Method	Descri	iption				Analyst	Date		]	ime	Pr	ep Batch			
SW846 3005A	ICP-MS	5 3005A	PREP			CXW4	11/21/	16	1	612	16	17954			
The following Ana	lytical Meth	ods we	ere performed:												
Method	Descri	ption						Ana	lyst	Con	nments	5			
1	SW846	9056A													
2	SW846	3005A/0 4.0/SW/9	5020A 246 9320 Modified												
4	EPA 903	4.0/3 wa 3.1 Mod	lified												
Surrogate/Tracer R	ecovery	Гest					Result	Nor	nina	1	Recov	verv%	Accer	otable L	mits
Barium-133 Tracer	G	FPC, Ra	a228, Liquid "As Re	eceived"								<u>5</u> 89.7	(15	5%-125%)	
Notes:															
Column headers ar	e defined as	follow	s:												
DF: Dilution Facto	r		Lc/L0	C: Critical Lev	vel										
DL: Detection Lim	it		PF: P	rep Factor											

MDA: Minimum Detectable Activity RL: Reporting Limit SQL: Sample Quantitation Limit MDC: Minimum Detectable Concentration

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### **Certificate of Analysis**

Report Date: December 13, 2016

Con Add	npany : lress :	GEI 204	L Engineering, LLC 0 Savage Rd										
		Cl		20417									
Con	tact.	Cna Rob	rieston, South Carolina .	29417									
Proj	iect:	Wat	eree CCR										
Clie	nt Sample ID <sup>.</sup>	MW	/-8LF			F	Project:		SCEG	01716c			
Sam	ple ID:	4110	027004			(	Client ID:		GEEL	003			
Mat	rix:	Gro	und Water										
Coll	ect Date:	16-N	NOV-16 14:20										
Rec	eive Date:	18-N	NOV-16										
Coll	ector:	Clie	nt										
Parameter	Quali	fier	Result	DL	RL	Units	PF	DF	Analys	st Date	Time	Batch	Method
Ion Chromatogra	iphy												
SW846 9056A A	nions "As Red	ceived											
Fluoride	ICD MG	U	ND	0.033	0.100	mg/L	-	1	MAR1	12/08/16	0647	1618154	1
Metals Analysis-	POO A L = 1	A . D											
SW840 3005A/0 Lithium	020A Liquid	AS Ke	eceived 9.43	3.00	10.0	11g/I	1.00	1	PRR	12/04/16	1911	1617955	2
Rad Gas Flow Pi	roportional Co	unting		5.00	10.0	ug/L	1.00	1	IND	12/04/10	1711	1017555	2
GFPC, Ra228, L	iquid "As Rec	eived"	1										
Radium-228	1		2.12	1.15	3.00	pCi/L	-		AXM6	12/09/16	1109	1620580	3
Rad Radium-226	5												
Lucas Cell, Ra22	26, liquid "As l	Receiv	ved"										
Radium-226			1.13	0.257	1.00	pCi/L	-		LXP1	12/12/16	1010	1620873	4
The following Pr	rep Methods w	ere pe	erformed:										
Method	Descr	riptior	1		Analyst	Date	]	Time	Pre	p Batch			
SW846 3005A	ICP-M	IS 3005	A PREP		CXW4	11/21/1	.6 1	612	161	7954			
The following A	analytical Meth	10ds w	vere performed:										
Method	Descr	iption					Analyst	Con	nments				
1	SW846	9056A	6020 4										
3	EPA 90	)4.0/SW	7846 9320 Modified										
4	EPA 90	)3.1 Mo	odified										
Surrogate/Tracer	Recovery	Test				Result	Nomina	ıl	Recov	ery%	Accer	otable Li	mits
Barium-133 Tracer		GFPC, I	Ra228, Liquid "As Received"							100	(15	5%-125%)	
Notes:													
Column headers	are defined as	follo	ws:										
DF: Dilution Fa	ctor		Lc/LC: Critic	al Level									
DL: Detection L	imit		PF: Prep Fact	tor									

RL: Reporting Limit SQL: Sample Quantitation Limit MDA: Minimum Detectable Activity MDC: Minimum Detectable Concentration

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### **Certificate of Analysis**

Report Date: December 13, 2016

	Company : Address :	GEL Engin 2040 Sava	neering, LLC ge Rd										
		<b>C</b> 1 1		0.417									
	Contact	Charleston	, South Carolina 2	9417									
	Project:	Wateree C	CR										
	Client Sample ID:	MW 22				D	Project		SCEG	11716c			
	Sample ID:	A11027005				ſ	Tient ID.		GEEL	103			
	Matrix:	Ground W	ater			C	ment ID.		OLLL	505			
	Collect Date	16-NOV-1	6 15·30										
	Receive Date:	18-NOV-1	6										
	Collector:	Client	0										
	concetor.	Chent											
Parameter	Oual	ifier Resu	lt	DL	RL	Units	PF	DF	Analys	st Date	Time	Batch	Method
Ion Chromat	tography								2				
SW846 9056	5A Anions "As Re	ceived"											
Fluoride		J 0.09	35	0.033	0.100	mg/L		1	MAR1	12/08/16	0716	1618154	1
Metals Anal	ysis-ICP-MS					-							
SW846 3005	5A/6020A Liquid '	'As Received											
Lithium		U I	ND	3.00	10.0	ug/L	. 1.00	1	PRB	12/04/16	1914	1617955	2
Rad Gas Flo	w Proportional Co	unting											
GFPC, Ra22	28, Liquid "As Rec	eived"				~ ~ ~							
Radium-228	226	U	ND	2.28	3.00	pC1/L	4		AXM6	12/09/16	1110	1620580	3
	-220 Do226 liquid "As	Deceived"											
Radium-226	Kazzo, liquiu As	Receiveu 1	.50	0.514	1.00	pCi/L	,		LXP1	12/12/16	1010	1620873	4
The following	ng Pren Methods w	ere performe	d.	0.011	1100	Penz			2.11	12/12/10	1010	1020070	·
Method	Desc	ription			Analyst	Date	Т	ime	Pre	p Batch			
SW846 3005A	ICP-M	IS 3005A PREP			CXW4	11/21/10	6 1	612	161	7954			
The followi	ng Analytical Met	hods were pe	rformed:										
Method	Desci	ription					Analyst	Con	nments				
1	SW840	5 9056A					~						
2	SW840	5 3005A/6020A											
3	EPA 9	04.0/SW846 932	20 Modified										
4	EPA 9					<b>D</b> 1			-				
Surrogate/Ti	acer Recovery	Test				Result	Nomina	l	Recov	ery%	Accep	table L	mits
Barium-133 Tra	acer	GFPC, Ra228, L	iquid "As Received"						8	6.1	(15	5%-125%)	
Notes:													
Column hea	ders are defined as	s follows:											
DF: Dilution	n Factor		Lc/LC: Critica	al Level									
DL: Detecti	on Limit		PF: Prep Facto	or									

 $\frac{Cc}{D}$ D RL: Reporting Limit MDA: Minimum Detectable Activity SQL: Sample Quantitation Limit MDC: Minimum Detectable Concentration

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### **Certificate of Analysis**

Report Date: December 13, 2016

Comp Addre	any : ss :	GEL 2040	L Engineering, LL ) Savage Rd	.C									
			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~										
~		Char	cleston, South Car	rolina 29417									
Conta	.ct:	Robe	ert Gardner										
Projec		wate	eree CCK										
Client	Sample ID:	MW	-10LF			Р	roject:		SCEG	01716c			
Samp	le ID:	4110	027006			C	Client ID	:	GEEL	.003			
Matrix	K:	Grou	and Water										
Collec	et Date:	16-N	IOV-16 16:35										
Recei	ve Date:	18-N	IOV-16										
Collec	ctor:	Clie	nt										
Parameter	Quali	fier	Result	וח	- RI	Unite	PF	DF	Analy	st Date	Time	Batch	Method
	Quan		Result		KL	Onits	11	DI	Anary	st Date	1 1110	Daten	Wiethou
SW846 0056 A a	ny iana "A a Daa												
SW840 9030A An Eluoride	ions As Rec	eivea	0.0933	0.033	0.100	ma/I		1	MAR1	12/08/16	0745	1618154	1
Metals Analysis-I(	P-MS	J	0.0935	0.055	0.100	iiig/L		1	WIARI	12/00/10	0745	1010134	1
SW846 3005A/60	20A Liquid "	As Re	ceived"										
Lithium	2011 Elquia	J	3.41	3.00	10.0	ug/L	1.00	1	PRB	12/04/16	1917	1617955	2
Rad Gas Flow Pro-	portional Cou	inting				C							
GFPC, Ra228, Liq	uid "As Rece	eived"											
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 F	Receiv	ed"										
Radium-226			1.31	0.378	1.00	pCi/L			LXP1	12/12/16	1010	1620873	4
The following Pre	p Methods we	ere pe	rformed:										
Method	Descr	iption			Analyst	Date		Time	e Pr	ep Batch			
SW846 3005A	ICP-M	S 30054	A PREP		CXW4	11/21/1	6	1612	16	17954			
The following An	alytical Meth	ods w	ere performed:										
Method	Descri	ption					Analys	t Con	nments	3			
1	SW846	9056A											
2	SW846	3005A	/6020A										
3	EPA 90 EPA 90	4.0/SW	dified										
		5.1 MIO	unicu				NT .	1	D	0/		. 1.1 . T	· •,
Surrogate/Tracer k	lecovery	Test				Result	Nomin	al	Recov	very%	Accep	ptable L	imits
Barium-133 Tracer	G	ifpc, r	a228, Liquid "As Red	ceived"						96.4	(15	5%-125%)	
Notes:													
Column headers a	re defined as	follov	vs:										
DF: Dilution Facto	or		Lc/LC	C: Critical Level									
DL: Detection Lin	nnt		PF: Pr	ep Factor									

RL: Reporting Limit SQL: Sample Quantitation Limit MDA: Minimum Detectable Activity MDC: Minimum Detectable Concentration

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### **Certificate of Analysis**

Report Date: December 13, 2016

Con Add	npany : ress :	GEL 2040	Engineering, LLC Savage Rd	2								
		Charl	eston. South Caro	olina 29417								
Con	tact:	Robe	rt Gardner									
Proj	ect:	Wate	ree CCR									
Clie	nt Sample ID:	MW-	11LF			P	roject:	SCEO	G01716c			
Sam	ple ID:	41102	27007			C	Client ID:	GEEI	L003			
Mat	rix:	Grou	nd Water									
Coll	ect Date:	16-N	OV-16 17:30									
Rece	eive Date:	18-N	OV-16									
Coll	ector:	Clien	t									
Daramatar	Qual	ifior	Pacult		PI	Unite		F Analy	vet Data	Time	Rotch	Method
I di dificici	Quai		Kesuit		KL	Onits			yst Date		- Datell	Wiethou
SW846 0056A	piny niona "A a Da	ooivod"										
SW 640 9030A A	anons As Re	U	ND	0.033	0.100	) mg/I	. 1	MAR	1 12/08/16	0814	1618154	1
Metals Analysis-	ICP-MS	U		0.055	0.100	, ing i		in in	12,00,10	0011	1010101	1
SW846 3005A/6	020A Liquid '	'As Rec	eived"									
Lithium	1	J	3.46	3.00	10.0	) ug/L	. 1.00 1	PRB	12/04/16	1920	1617955	2
Rad Gas Flow Pr	oportional Co	unting										
GFPC, Ra228, L	iquid "As Rec	eived"										
Radium-228		U	ND	1.24	3.00	pCi/L	,	AXM	5 12/09/16	1110	1620580	3
Rad Radium-226		<b>.</b> .										
Lucas Cell, Ra22	6, liquid "As	Receive	2 01	0.515	1.00			I VD1	12/12/16	1010	1620872	4
The fellowing Dr	on Mathada u		2.01	0.515	1.00	pci/L		LAPI	12/12/10	1010	1020875	4
Method	ep Methods w	rintion	ionneu:		Analyst	Data	Tir	no P	ron Batch			
SW846 3005A	ICP-N	11ption 15 3005A	PREP		CXW4	11/21/1	1 II 6 161	$\frac{110}{2}$ 16	517954			
The following A	nalution Mot	hode we	ra parformad		01114	11/21/1	0 101	2 10	11754			
Mathad		intion	re performed.				Amelanet C					
	Desci SW846	1ption 5 90564					Analyst C	ommeni	LS			
2	SW846	5 3005A/0	5020A									
3	EPA 9	04.0/SW8	346 9320 Modified									
4	EPA 9	03.1 Mod	ified									
Surrogate/Tracer	Recovery	Test				Result	Nominal	Reco	very%	Accep	ptable L	imits
Barium-133 Tracer	(	GFPC, Ra	228, Liquid "As Rece	ived"					97.1	(15	5%-125%)	1
Notes:												
Column headers	are defined as	s follow	<u>s:</u>									
DF: Dilution Fac	ctor		Lc/LC:	Critical Level								
DL: Detection L	1m1t		PF: Pre	p Factor								

 $\frac{Cc}{D}$ D RL: Reporting Limit MDA: Minimum Detectable Activity SQL: Sample Quantitation Limit MDC: Minimum Detectable Concentration

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### **QC Summary**

Report Date: December 13, 2016

Page 1 of 3

GEL Engineering, LLC 2040 Savage Rd Charleston, South Carolina Robert Gardner

Workorder: 411027

**Contact:** 

Parmname			NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Ion Chromatograph Batch 161	y 18153												
QC1203674927 Fluoride	411027002	DUP		U	ND	U	ND	mg/L	N/A			MAR1	12/07/16 22:07
QC1203674926 Fluoride	LCS		2.50				2.53	mg/L		101	(90%-110%)		12/07/16 16:21
QC1203674925 Fluoride	MB					U	ND	mg/L					12/07/16 15:52
QC1203674928 Fluoride	411027002	PS	2.50	U	ND		2.54	mg/L		102	(90%-110%)		12/07/16 22:36
Batch 161	18154												
QC1203674931 Fluoride	411026008	DUP		U	ND	U	ND	mg/L	N/A			MAR1	12/08/16 01:29
QC1203674932 Fluoride	411027007	DUP		U	ND	U	ND	mg/L	N/A				12/08/16 08:43
QC1203674930 Fluoride	LCS		2.50				2.56	mg/L		103	(90%-110%)		12/08/16 00:31
QC1203674929 Fluoride	MB					U	ND	mg/L					12/08/16 00:02
QC1203674933 Fluoride	411026008	PS	2.50	U	ND		2.45	mg/L		97.9	(90%-110%)		12/08/16 01:58
QC1203674934 Fluoride	411027007	PS	2.50	U	ND		2.55	mg/L		102	(90%-110%)		12/08/16 09:12
Metals Analysis - IC Batch 161	<b>PMS</b> 17955												
QC1203674283 Lithium	411027001	DUP		U	ND	U	ND	ug/L	N/A			PRB	12/04/16 18:42
QC1203674282 Lithium	LCS		50.0				57.0	ug/L		114	(80%-120%)		12/04/16 18:36
QC1203674281 Lithium	MB					U	ND	ug/L					12/04/16 18:33
QC1203674284	411027001	MS					60.5				(75%-125%)		

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

### **QC Summary**

Workorder: 4	11027												Page 2 of 3
Parmname			NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis - IC Batch 161	<b>PMS</b> 7955												
Lithium			50.0	U	ND			ug/L		119			12/04/16 18:45
QC1203674285 Lithium	411027001	SDILT		U	ND	U	ND	ug/L	N/A		(0%-10%)	PRB	12/04/16 18:52
Rad Gas Flow Batch 162	0580												
QC1203681318 Radium-228	411442006	DUP		U	1.94		1.66	pCi/L	15.5		(0% - 100%)	AXM6	12/09/16 11:13
QC1203681319 Radium-228	LCS		21.5				25.2	pCi/L		117	(75%-125%)		12/09/16 11:13
QC1203681317 Radium-228	MB					U	-1.08	pCi/L					12/09/16 11:10
<b>Rad Ra-226</b> Batch 162	0873												
QC1203682143 Radium-226	410911001	DUP			0.943		1.22	pCi/L	25.4		(0% - 100%)	LXP1	12/12/16 10:10
QC1203682145 Radium-226	LCS		24.4				19.7	pCi/L		80.6	(75%-125%)		12/12/16 10:40
QC1203682142 Radium-226	MB						0.196	pCi/L					12/12/16 10:10
QC1203682144 Radium-226	410911001	MS	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

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### **QC Summary**

Workor	Page 3 of
Parmna	me NOM Sample Qual QC Units RPD% REC% Range Anlst Date Time
Н	Analytical holding time was exceeded
J	Value is estimated
Κ	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.
М	M if above MDC and less than LLD
М	REMP Result > MDC/CL and < RDL
Ν	MetalsThe 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
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 SpectroscopyUncertain identification
UJ	Gamma SpectroscopyUncertain identification
UL	Not considered detected. The associated number is the reported concentration, which may be inaccurate due to a low bias.
Х	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 TestParticulates passed through the filter, however no free liquids were observed.
۸	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
d	5-day BODThe 2:1 depletion requirement was not met for this sample
e	5-day BODTest 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 ind ^ The R	licates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable. elative 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.



November 30, 2016

### REPORT TO:

Mike Moore

#### Sample ID: AB24632

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

Date & Time Sampled:November 15, 201610:15Date & Time Submitted:November 17, 201608:10Collected by: A.HILLLocation Code:WAG01LFTDS

MW-01LF			Login Re	cord File: 16111	7004	
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed An Date & Tir	alysis ne	Chemist
Chlorides by IC EPA 300.0	5.99	0.5	mg/L	11/23/16 2	23:50	LS
pH by SM4500HB	4.78	0.00	S.U.	11/17/16 1	2:30	BF
Holding Time of 15 minutes has beer	exceeded.					
Sulfates by IC EPA 300.0	less than	0.5	mg/L	11/23/16 2	23:50	LS
Total Dissolved Solid-SM2540C	33	2.0	mg/L	11/18/16 1	3:00	BF

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

Approved By:



Fax: (803) 217-9911

#### November 30, 2016

### **REPORT TO:**

Mike Moore

#### Sample ID: AB24633

### Wateree Landfill Well GW 6 -RCRA

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

November 15, 2016 11:10 Location Code: WAG06LFTDS

GW 6			Login Re	cord File: 161	117004	
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Date &	Analysis Time	Chemist
Chlorides by IC EPA 300.0	6.81	0.5	mg/L	11/23/16	23:50	LS
pH by SM4500HB	4.93	0.00	S.U.	11/17/16	12:30	BF
Holding Time of 15 minutes has beer	n exceeded.					
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:



November 30, 2016

### **REPORT TO:**

Mike Moore

#### Sample ID: AB24634

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

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

November 16, 2016 13:30 Location Code: WAG07LFTDS

MW-07LF			Login Re	cord File: 161	117004	
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed / Date &	Analysis Time	Chemist
Chlorides by IC EPA 300.0	10.1	0.5	mg/L	11/23/16	23:50	LS
pH by SM4500HB	4.58	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	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.



November 30, 2016

### **REPORT TO:**

Mike Moore

#### Sample ID: AB24635

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

Date & Time Sampled: Collected by: A.HILL

November 16, 2016 14:20 Date & Time Submitted: November 17, 2016 08:10 Location Code: WAG08LFTDS

MW-08LF		Login Record File: 161117004								
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed / Date &	Analysis 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:



November 30, 2016

### REPORT TO:

Mike Moore

#### Sample ID: AB24636

### Wateree NPDES Well MW 22 (NPDES)

Date & Time Sampled:November 16, 201615:30Date & Time Submitted:November 17, 201608:10Collected by: A.HILLLocation Code:WAG22TDS

MW 22			Login Re	cord 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 beer	n 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.


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

November 30, 2016

### REPORT TO:

Mike Moore

#### Sample ID: AB24637

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

Date & Time Sampled:November 16, 201616:35Date & Time Submitted:November 17, 201608:10Collected by: A.HILLLocation Code:WAG10LFTDS

MW-10LF			Login Re	cord File: 161	117004	
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed A	Analysis Time	Chemist
Chlorides by IC EPA 300.0	6.63	0.5	mg/L	11/23/16	23:50	LS
pH by SM4500HB	4.62	0.00	S.U.	11/17/16	12:30	BF
Holding Time of 15 minutes has beer	n exceeded.					
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:



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

November 30, 2016

#### REPORT TO:

Mike Moore

#### Sample ID: AB24638

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

Date & Time Sampled:November 16, 201617:30Date & Time Submitted:November 17, 201608:10Collected by: A.HILLLocation Code:WAG11LFTDS

MW-11LF			Login Record File: 161117004				
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Ar Date & Tir	nalysis me	Chemist	
Chlorides by IC EPA 300.0	5.08	0.5	mg/L	11/23/16 2	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 2	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.



Fax: (803) 217-9304

### **REPORT TO:**

Mike Moore

### November 18, 2016

#### Sample ID: AB24610

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

Date & Time Sampled:November 15, 201610:15Date & Time Submitted:November 17, 201608:10Collected by: A.HILLLocation Code:WAG01LFTM

MW-01LF Login Record File: 161117002						
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed / Date &	Analysis 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.



Fax: (803) 217-9304

### REPORT TO:

Mike Moore

#### November 18, 2016

#### Sample ID: AB24611

#### Wateree Landfill Well GW 6-RCRA

Date & Time Sampled:November 15, 201611:10Date & Time Submitted:November 17, 201608:10Collected by: A.HILLLocation Code:WAG06LFTM

GW 6		Login Record File: 161117002						
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Date &	Analysis 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.

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Fax: (803) 217-9911

# 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 Location Code: WAG07LFTM Collected by: A.HILL

MW-07LF Login Record File: 161117002					117002	
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed / Date &	Analysis 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.



Fax: (803) 217-9384

#### November 18, 2016

#### **REPORT TO:**

Mike Moore

#### Sample ID: AB24613

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

Date & Time Sampled:November 16, 201614:20Date & Time Submitted:November 17, 201608:10Collected by: A.HILLLocation Code:WAG08LFTM

MW-08LF	Login Record File: 161117002					
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed . Date &	Analysis 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.

Page 1 of 1



Fax: (803) 217-9911

# **REPORT TO:**

Mike Moore

### November 18, 2016

#### 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 A Date & T	nalysis 'ime	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.



Fax: (803) 217-9911

#### REPORT TO:

Mike Moore

#### November 18, 2016

#### Sample ID: AB24615

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

Date & Time Sampled:November 16, 201616:35Date & Time Submitted:November 17, 201608:10Collected by: A.HILLLocation Code:WAG10LFTM

MW-	10LF
-----	------

Login Record File: 161117002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed A Date & T	nalysis ime	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.



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 Location Code: WAG11LFTM Collected by: A.HILL

MW-11LF Login Record File: 161117002						
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed / Date &	Analysis Fime	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.

Page 1 of 1

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

Facility: Wateree Station

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

County: Richland

Time Sampled: 12:00:00PM

Date Sampled: 01/17/2017

year-month-day (Numerical)

#### **STATION NUMBERS**

PARAMETER	NUMBER	MW-LF-01	MW-LF-06
NAME	Lab. Certificate No.	32006	32006
Field pH S.U.		4.740	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 f	t	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

Time Sampled: 12:00:00PM

Date Sampled: 01/17/2017

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	s C	21.360	20.420	18.440	18.880	19.520
Water level elevation f	t	115.98	113.13	113.47	114.22	114.03

Authorized Release By:

Date:

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.

Hattome Cates

Reviewed by

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

# **Certificate of Analysis**

Report Date: February 16, 2017

(	Company : Address :	GEL Enginee 2040 Savage	ering, LLC Rd										
(	Contact:	Charleston, S Robert Gardr	outh Carolina 29	9417									
	Tione Convela ID		<b>`</b>			<b>D</b>			CEC	01716-			
(	Litent Sample ID	· MW-01LF				P	Toject:		SCEG	01/16C			
	Matrix:	Ground Wate	*			C	lient ID.		GEEL	005			
I.	Viauix.		2.05										
L L L L L L L L L L L L L L L L L L L	Date:	17-JAN-17 1 20 JAN 17	2.03										
F (	Collector:	Client											
Parameter	Qua	lifier Result		DL	RL	Units	PF	DF	Analy	st Date	Time	Batch	Method
Ion Chromato	ography												
SW846 9056	A Anions "As Re	eceived"											
Fluoride		U ND		0.033	0.100	mg/L		1	MAR1	01/25/17	0423	1633301	1
Metals Analy	SIS-ICP-MS												
SW846 3005	A/6020A Liquid	"As Received"		2.00	10.0	ug/I	1.00	1	SVI	01/20/17	1142	1622220	r
Rad Gas Flov	v Proportional C	ounting		5.00	10.0	ug/L	1.00	1	SKJ	01/30/17	1142	1033220	2
GEPC Ra228	Liquid "As Re	ceived"											
Radium-228	, Elquid 715 Re	U ND		1.78	3.00	pCi/L			AXM6	02/10/17	1238	1635132	3
Rad Radium-	226												
Lucas Cell, R	a226, liquid "As	Received"											
Radium-226		0.783		0.469	1.00	pCi/L			LXP1	02/09/17	0820	1633271	4
The following	g Prep Methods	were performed:											
Method	Des	cription			Analyst	Date	Т	ime	Pre	ep Batch			
SW846 3005A	ICP-	MS 3005A PREP			SXW1	01/23/1	7 03	843	163	33219			
The followin	g Analytical Me	thods were perfo	ormed:										
Method	Desc	ription					Analyst	Con	nments				
1	SW84	46 9056A											
2	SW84	16 3005A/6020A	Andified										
4	EPA	904.0/3 w 840 9320 1 903.1 Modified	viounneu										
Surrogato/Tra	Cor Docovoru	Tost				Posult	Nominal	1	Docor	oru0/	Accet	tabla I	mite
Surrogate/ 11a	ver Recovery	GEPC Pa228 Lig	id "As Pacaivad"			Kesuit	nomma	1	Recov	86	Accep	125%	
Notes:		011 C, Ka220, Elqt								00	(1.	//0-12570)	
Column head	lers are defined a	s follows:	Lo/LC: Critica	1 I aval									
DL: Detectio	n Limit		PF: Prep Facto	)r									

RL: Reporting Limit MDA: Minimum Detectable Activity SQL: Sample Quantitation Limit MDC: Minimum Detectable Concentration

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

# **Certificate of Analysis**

Report Date: February 16, 2017

Co Ad	mpany : dress :	GEI 2040	L Engineering ) Savage Rd	, LLC										
			1 . 0 .1		417									
Ca	nto ot	Cha	rleston, South	Carolina 29	417									
Pro	niaci.	Wat	eree CCR											
	ont Sampla ID:	MW						Drojact.		SCEC	2017160			
Cli	nnle ID.	1VI VV	-00L1 <sup>-</sup>					Client I	D.	GEEI	003			
Ma	trix.	Gro	ind Water					Chefit I	D.	ULLI	2005			
	llect Date	17_1	$\Delta N_{-}17 14.00$											
Re	reive Date:	20-I	AN-17 14.00											
Co	llector:	Clie	nt											
Co	licciol.	Cile	nt											
Parameter	Quali	fier	Result		DL	RL	Units	s PF	DF	Analy	st Date	Time	Batch	Method
Ion Chromatog	aphy									-				
SW846 9056A	Anions "As Red	ceived												
Fluoride		U	ND		0.033	0.100	mg/	L	1	MAR1	01/25/17	0550	1633301	1
Metals Analysis	-ICP-MS													
SW846 3005A/	6020A Liquid "	As Re	ceived"											
Lithium		U	ND		3.00	10.0	ug/	L 1.0	0 1	SKJ	01/30/17	1152	1633220	2
Rad Gas Flow I	Proportional Co	unting												
GFPC, Ra228, I	Liquid "As Rec	eived"						_						
Radium-228	6		2.50		1.74	3.00	pCi/	L		AXM6	5 02/10/17	1238	1635132	3
Kau Kaulull-22		D :-												
Lucas Cell, Kaz Radium-226	26, liquid As l		ved ND		0.400	1.00	nCi/	T		I XP1	02/09/17	0855	1633271	4
The following I	Prop Mothods w	oro po	rformad		0.400	1.00	pen	L			02/07/17	0055	1033271	-
Method	Descr	rintior				Analyst	Date		Time	- Pr	en Batch			
SW846 3005A	ICP-M	IS 3005	A PREP			SXW1	01/23/	(17	0843	16	33219			
The following	Analytical Meth	nods w	vere nerforme	٩٠										
Method	Descr	intion	ere periornie	<i>u</i> .				Anals	et Co	nmont	ç			
1	SW846	6 9056A						Anary	SI CO	minem	3			
2	SW846	5 3005A	/6020A											
3	EPA 90	04.0/SW	7846 9320 Modif	ied										
4	EPA 90	03.1 Mc	dified											
Surrogate/Trace	r Recovery	Test					Result	Nomi	nal	Reco	very%	Accep	otable L	mits
Barium-133 Tracer	(	GFPC, F	Ra228, Liquid "A	s Received"							93.4	(15	5%-125%)	
Notes:														
Column header	s are defined as	follov	ws:											
DF: Dilution Fa	actor		Lo	/LC: Critical	Level									
DL: Detection	Limit		PF	F: Prep Factor	•									

RL: Reporting Limit MDA: Minimum Detectable Activity SQL: Sample Quantitation Limit MDC: Minimum Detectable Concentration

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

# **Certificate of Analysis**

Report Date: February 16, 2017

Co	ompany : ddress :	GEL 2040	Engineering, LL Savage Rd	С									
		Char	leston, South Car	olina 29417									
C	ontact:	Robe	ert Gardner										
Pr	oject:	Wate	eree CCR										
Cl	ient Sample ID:	MW	-11LF			Р	roject:		SCEG	01716c			
Sa	mple ID:	4147	73003			C	lient ID:		GEEL	003			
М	atrix:	Grou	nd Water										
Co	ollect Date:	17-J	AN-17 18:20										
Re	eceive Date:	20-J	AN-17										
Со	ollector:	Clier	nt										
Deverator	Qual	ifian	Decult	DI	DI	Unita	DE	DE	Analy	at Data	Time	Datah	Mathad
Parameter	Quai	mer	Result	DL	KL	Units	РГ	DF	Analy	st Date		Batch	Method
Ion Chromatog	graphy												
SW846 9056A	Anions "As Re	ceived'	ND	0.022	0 100	··· - /I		1	MADI	01/25/17	0610	1622201	1
Motals Analysi	ICP MS	U	ND	0.033	0.100	mg/L		1	MAKI	01/25/17	0619	1055501	1
SW846 2005 A	/6020 A L jauid	"As Po	poived"										
Lithium	10020A Liquid	U	ND	3.00	10.0	ug/L	. 1.00	1	SKJ	01/30/17	1153	1633220	2
Rad Gas Flow	Proportional Co	ounting	112	5100		- 8-		-					_
GFPC. Ra228.	Liquid "As Rec	eived"											
Radium-228	1	U	ND	1.19	3.00	pCi/L			AXM6	02/10/17	1238	1635132	3
Rad Radium-2	26												
Lucas Cell, Ra	226, liquid "As	Receiv	ed"										
Radium-226			2.95	0.265	1.00	pCi/L	,		LXP1	02/09/17	0855	1633271	4
The following	Prep Methods v	vere per	formed:										
Method	Desc	ription			Analyst	Date	r	Гime	Pr	ep Batch			
SW846 3005A	ICP-N	AS 3005A	APREP		SXW1	01/23/1	7 (	)843	163	33219			
The following	Analytical Met	hods w	ere performed:										
Method	Descr	ription					Analyst	Con	nments	5			
1	SW84	6 9056A											
2	SW84	6 3005A/	6020A										
5 4	EPA 9 FPA 9	04.0/SW	1ified										
	D		inica			D 1/	NT	. 1	ъ	0/		4.1.1. T	• • • •
Surrogate/Trac	er Recovery	Test	220 L	• 111		Result	Nomina	al	Recov	very%	Accep	table L	imits
Barium-133 Trace	r	GFPC, R	a228, Liquid "As Rec	eived						90.9	(15	<b>%</b> -125%,	
Notes:													
Column heade	ers are defined a	s follov	/S:										
DF: Dilution F	Factor		Lc/LC	Critical Level									
DL: Detection	Limit		PF: Pre	ep Factor									

RL: Reporting Limit MDA: Minimum Detectable Activity SQL: Sample Quantitation Limit MDC: Minimum Detectable Concentration

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

# **Certificate of Analysis**

Report Date: February 16, 2017

Con Add	npany : ress :	GEL 2040	. Engineeri ) Savage R	ng, LLC d										
Con	tact:	Char Robe	leston, Sou ert Gardner	th Carolina 2	9417									
Proj	ect:	Wate	eree CCR											
Clier	nt Sample ID:	MW	-10LF				]	Project:		SCEG	01716c			
Sam	ple ID:	4147	73004				(	Client II	D:	GEEL	.003			
Mati	rix:	Grou	nd Water											
Colle	ect Date:	18-J	AN-17 08:	)5										
Rece	eive Date:	20-J/	AN-17											
Coll	ector:	Clier	nt											
Parameter	Ouali	fier	Result		DL	RL	Units	PF	DF	Analy	st Date	Time	Batch	Method
Ion Chromatogra	nhy		100000		22	112	e ma			1 11141 )	51 2 410		Buten	
SW846 9056A A	nions "As Rea	reived'	,											
Fluoride		U	ND		0.033	0.100	mg/l	L	1	MAR1	01/25/17	0648	1633301	1
Metals Analysis-	ICP-MS						-							
SW846 3005A/6	020A Liquid "	As Re	ceived"											
Lithium		J	3.28		3.00	10.0	ug/l	L 1.0	0 1	SKJ	01/30/17	1155	1633220	2
Rad Gas Flow Pr	oportional Co	unting												
GFPC, Ra228, Li	iquid "As Rec	eived"	ND		2.07	2.00	0.1	r			02/10/17	1020	1625122	2
Radium-228 Rad Radium-226		U	ND		2.07	3.00	pC1/I	L		AXM0	02/10/17	1238	1635132	3
Lucas Cell Ra22	6 liquid "As l	Receiv	ed"											
Radium-226	o, iiquid 713		1.43		0.316	1.00	pCi/l	L		LXP1	02/09/17	0855	1633271	4
The following Pr	ep Methods w	ere per	rformed:											
Method	Desc	ription				Analyst	Date		Time	e Pr	ep Batch			
SW846 3005A	ICP-M	IS 3005A	A PREP			SXW1	01/23/	17	0843	16	33219			
The following A	nalytical Meth	nods w	ere perform	ned:										
Method	Descr	iption						Analy	st Cor	nment	5			
1	SW846	6 9056A												
2	SW846	5 3005A/	/6020A											
3	EPA 90	)4.0/SW	846 9320 Mo dified	dified										
+ 	D		umeu					NT -	1	D	0/		. 11 1	• • .
Surrogate/Tracer	Recovery	Test	220 1 1	"A D ' 1"			Result	Nomi	nal	Recov	very%	Accep	table Li	mits
Barium-133 Tracer	(	JFPC, K	a228, Liquid	As Received							92.3	(15	9%-125%)	
Notes:														
Column headers	are defined as	follow	vs:											
DF: Dilution Fac	ctor			Lc/LC: Critica	l Level									
DL: Detection L	imit			PF: Prep Facto	or									

RL: Reporting Limit MDA: Minimum Detectable Activity SQL: Sample Quantitation Limit MDC: Minimum Detectable Concentration

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

# **Certificate of Analysis**

Report Date: February 16, 2017

	Company : Address :	GEL 204(	. Engineering, L ) Savage Rd	LC									
		<b>C1</b>											
	Contact	Cha	leston, South C	arolina 29417									
	Project:	KOD Wat	ert Gardner										
	Client Somula ID	M	$\frac{1}{22}$				maiaati		SCEC	01716			
	Chent Sample ID:	1VI VV	-22			r	Toject:		SCEU	01/100			
	Sample ID:	4147 Crea	75005			C		•	GEEL	.005			
	Matrix:		AN 17 00.20										
	Collect Date:	18-J	AN-17 09:20										
	Receive Date:	20-J	AN-1/										
	Collector:	Clie	nt										
Parameter	Oual	ifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time	Batch	Method
Ion Chrome	vtography		Result			Cints			7 mary	St Dute		Daten	method
SW846 005	6A Anions "As Do	coived	,										
SW 640 905 Fluoride	OA AIIIOIIS AS Ke		ND	0.033	0.100	mg/I		1	MAR1	01/25/17	0716	1633301	1
Metals Ana	lvsis-ICP-MS	U		0.000	0.100	ing L		1	1012 11(1	01/23/17	0710	1055501	1
SW846 300	5A/6020A Liquid	"As Re	ceived"										
Lithium	or 2 of 2 of 1 Enquire	J	3.27	3.00	10.0	ug/L	1.00	1	SKJ	01/30/17	1156	1633220	2
Rad Gas Flo	ow Proportional Co	ounting											
GFPC, Ra2	28, Liquid "As Rec	eived"											
Radium-228			2.61	1.96	3.00	pCi/L			AXM6	02/10/17	1239	1635132	3
Rad Radiun	n-226												
Lucas Cell,	Ra226, liquid "As	Receiv	ed"	0.450	1.00					00/00/11			
Radium-226			1.28	0.450	1.00	pCi/L			LXP1	02/09/17	0855	1633271	4
The followi	ng Prep Methods v	vere pe	rformed:							<b>D</b> 1			
Method	Desc	ription			Analyst	Date	_	Time	Pr	ep Batch			
SW846 3005A	ICP-N	AS 3005.	A PREP		SXW1	01/23/1	7	0843	16.	33219			
The follow	ing Analytical Met	hods w	ere performed:										
Method	Desci	ription					Analys	t Cor	nments	8			
1	SW84	6 9056A	10000										
2	SW84 FPA Q	04 0/SW	6020A 846 9320 Modified										
4	EPA 9	03.1 Mo	dified										
Surrogato/T	recor Docovory	Test				Recult	Nomin	<u>_1</u>	Docor	10m10/2	Acces	tabla I	mite
Barium-133 Tr	racer	GEPC F	2228 Liquid "As R	eceived"		Kesuit	Nomini	ai	Reco	01 8	<u>Accep</u>	5%_125%	
Notes:		GITC, F	azzo, Elquid As K							91.0	(1.	//0-125/0)	
Column he	aders are defined a	s follov	vs:										
DF: Dilutio	on Factor		Lc/L	C: Critical Level									
DL: Detect	ion Limit		PF: I	Prep Factor									

RL: Reporting Limit MDA: Minimum Detectable Activity SQL: Sample Quantitation Limit MDC: Minimum Detectable Concentration

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

# **Certificate of Analysis**

Report Date: February 16, 2017

Cor Add	npany : lress :	GEI 2040	L Engineering ) Savage Rd	g, LLC										
		Cha	rleston, Sout	h Carolina 29	9417									
Cor	ntact:	Rob	ert Gardner											
Pro	ject:	Wat	eree CCR											
Clie	ent Sample ID:	MW	-08LF				]	Project:		SCEG	601716c			
San	ple ID:	4147	73006				(	Client II	):	GEEL	.003			
Mat	rix:	Grou	und Water											
Col	lect Date:	18-J	AN-17 10:35	5										
Rec	eive Date:	20-J	AN-17											
Col	lector:	Clie	nt											
Doromotor	Qual	fior	Decult			DI	Unite	DE	DE	Anala	rat Data	Time	Dotoh	Mathad
	Quan	mer	Kesult		DL	KL	Units	ГГ	DF	Anary	st Date	111110	Datch	Method
Ion Chromatogra	aphy													
SW846 9056A A	Anions "As Ree	ceived	ND		0.022	0 100		r	1	MADI	01/25/17	0745	1622201	1
Metals Analysis	ICP-MS	U	ND		0.055	0.100	iiig/i	L	1	MAKI	01/23/17	0743	1055501	1
SW8/6 3005 Δ/6	-101 -1015 5020 A Liquid '	'Δs Re	ceived"											
Lithium	020A Liquid	лз Кс	10.9		3.00	10.0	ug/]	L 1.0	0 1	SKJ	01/30/17	1158	1633220	2
Rad Gas Flow P	roportional Co	unting												
GFPC, Ra228, L	iquid "As Rec	eived"												
Radium-228	1	U	ND		1.23	3.00	pCi/l	L		AXM6	02/10/17	1239	1635132	3
Rad Radium-220	5													
Lucas Cell, Ra2	26, liquid "As l	Receiv	red"											
Radium-226			0.602		0.361	1.00	pCi/l	L		LXP1	02/09/17	0855	1633271	4
The following P	rep Methods w	vere pe	rformed:											
Method	Desc	ription				Analyst	Date		Time	e Pr	ep Batch			
SW846 3005A	ICP-M	IS 3005.	A PREP			SXW1	01/23/	17	0843	16	33219			
The following A	Analytical Meth	nods w	ere perform	ed:										
Method	Descr	iption						Analy	st Cor	nment	S			
1	SW846	5 9056A	160201											
2	SW846	0.3005A	/6020A /846.0320 Mod	fied										
4	EPA 9	04.0/SW	dified	ineu										
Surrogate/Trace	r Recovery	Test					Result	Nomi	าลไ	Reco	verv%	Accer	ntable Li	mits
Barium-133 Tracer	(	GFPC F	a228 Liquid "	As Received"			Result	Ttohin	141	Reco	96	<u>11000</u>	5%-125%)	
Notes:		,-										(		
Column headers	are defined as	follov	ws:											
DF: Dilution Fa	ctor imit		L	c/LC: Critical	i Level									
			P	г. гтер гасто	1									

RL: Reporting Limit MDA: Minimum Detectable Activity SQL: Sample Quantitation Limit MDC: Minimum Detectable Concentration

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# **Certificate of Analysis**

Report Date: February 16, 2017

Comj Addr	pany : ess :	GEI 2040	L Engineering, LLC ) Savage Rd										
Conta	act:	Cha Rob	eleston, South Caroli ert Gardner	na 29417									
Proje	ct:	Wat	eree CCR						~~~~~				
Clien	t Sample ID:	MW	-07LF			ł	Project:		SCEG	01716c			
Samp	le ID:	414	//300/			C	Inent ID	:	GEEL	003			
Matri	X:	Gro	and Water										
Colle	ct Date:	18-J	AN-17 12:05										
Recei	ve Date:	20-J	AIN-1/										
Colle	ctor:	Che	nt										
Parameter	Quali	fier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time	Batch	Method
Ion Chromatograp	hy												
SW846 9056A Ar	ions "As Rec	eived	"										
Fluoride		J	0.0553	0.033	0.100	mg/L		1	MAR1	01/25/17	0912	1633301	1
Metals Analysis-I	CP-MS												
SW846 3005A/60	20A Liquid "	As Re	ceived"										
Lithium	10	J	4.74	3.00	10.0	ug/L	. 1.00	1	SKJ	01/30/17	1159	1633220	2
Rad Gas Flow Pro	portional Co	unting											
GFPC, Ka228, L10 Radium-228	juid "As Rece	eived	2 62	2 /9	3.00	nCi/I			AYM6	02/10/17	1230	1635132	3
Rad Radium-226			2.02	2.49	5.00	pei/i	_		7171110	02/10/17	1257	1055152	5
Lucas Cell. Ra226	5. liauid "As I	Receiv	ed"										
Radium-226	, 1		1.43	0.463	1.00	pCi/L	-		LXP1	02/09/17	0855	1633271	4
The following Pre	p Methods w	ere pe	rformed:										
Method	Desci	iption			Analyst	Date		Time	Pre	ep Batch			
SW846 3005A	ICP-M	S 3005.	A PREP		SXW1	01/23/1	7	0843	163	33219			
The following Ar	alytical Meth	nods w	ere performed:										
Method	Descr	iption					Analys	t Con	nments				
1	SW846	9056A											
2	SW846	3005A	/6020A										
3	EPA 90 EPA 90	)4.0/SW )3.1 Ma	dified										
			unicu			D 1/	NT	. 1	D	0/		4.1.1. T	• • •
Surrogate/Tracer I	Recovery	Test	- 220 I :: I "A - D	- 4"		Result	Nomin	al	Recov	very%	Accep	table L	mits
Notes:	(	JFPC, F	a228, Liquid "As Receiv	ed					2	18.5	(15	<b>5%-125%</b> )	
Column headers a	re defined as	follov	vs:										
DF: Dilution Fact	or		Lc/LC: C	ritical Level									
DL: Detection Li	nıt		PF: Prep	Factor									

RL: Reporting Limit MDA: Minimum Detectable Activity SQL: Sample Quantitation Limit MDC: Minimum Detectable Concentration

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# **QC Summary**

Report Date: February 16, 2017

Page 1 of 6

GEL Engineering, LLC
2040 Savage Rd
Charleston, South Carolina
Robert Gardner

Workorder: 414773

**Contact:** 

Parmname			NOM	Sample	Qual	QC	Units	RPD%	REC%	Range Anlst	Date Time
Ion Chromatograph	ny										
Batch 16	33027										
QC1203712222 Fluoride	414666010	DUP		0.723		0.727	mg/L	0.551		(0%-20%) MAR	01/24/17 22:36
QC1203714085 Fluoride	414775003	DUP		0.288		0.290	mg/L	0.865	^	(+/-0.100)	01/25/17 01:30
QC1203712221 Fluoride	LCS		2.50			2.53	mg/L		101	(90%-110%)	01/24/17 16:21
QC1203712220 Fluoride	MB				U	ND	mg/L				01/24/17 15:52
QC1203712223 Fluoride	414666010	PS	2.50	0.723		3.20	mg/L		99.1	(90%-110%)	01/24/17 23:05
QC1203714086 Fluoride	414775003	PS	2.50	0.288		2.75	mg/L		98.3	(90%-110%)	01/25/17 01:59
Datah 16	22201										
QC1203712955 Fluoride	414773001	DUP	1	U ND	U	ND	mg/L	N/A		MAR	01/25/17 04:52
QC1203712956 Fluoride	414773020	DUP	1	U ND	U	ND	mg/L	N/A			01/25/17 16:54
QC1203712954 Fluoride	LCS		2.50			2.55	mg/L		102	(90%-110%)	01/25/17 03:54
QC1203712953 Fluoride	MB				U	ND	mg/L				01/25/17 03:25

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# **QC Summary**

Workorder: 414773								Page 2 of 6
Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range Anlst	Date Time
Ion Chromatography 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
Metals Analysis - ICPMS 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

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# **QC Summary**

Workorder:	414773				-	<b>L</b>						Page 3 of 6
Parmname			NOM		Sample	Qual	QC	Units	RPD%	REC%	Range Anlst	Date Time
Metals Analysis - I Batch 10	CPMS 533222											
QC1203712685 Lithium	5 MB					U	ND	ug/L			BAJ	01/25/17 19:58
QC1203712689 Lithium	9 414773008	MS	50.0	J	2.53		51.6	ug/L		98.1	(75%-125%)	01/25/17 20:09
QC1203712690 Lithium	) 414773009	MS	50.0	U	ND		45.2	ug/L		89.9	(75%-125%)	01/25/17 20:19
QC1203712691 Lithium	414773008	SDILT		J	2.53	U	ND	ug/L	N/A		(0%-10%)	01/25/17 20:11
QC1203712692 Lithium	2 414773009	SDILT		U	ND	U	ND	ug/L	N/A		(0%-10%)	01/25/17 20:22
Rad Gas Flow Batch 10	535132											
QC1203717739 Radium-228	9 414773008	DUP			1.95		1.23	pCi/L	45.1		(0% - 100%) AXM6	02/10/17 12:43
QC1203717740 Radium-228	) LCS		21.1				19.4	pCi/L		92.1	(75%-125%)	02/10/17 12:43
QC1203717738 Radium-228	B MB					U	0.931	pCi/L				02/10/17 12:43
Batch 10	535133											
QC1203717742 Radium-228	2 414773020	DUP		U	0.393		3.34	pCi/L	158*		(0% - 100%) AXM6	02/09/17 14:30
QC1203717743 Radium-228	B LCS		21.1				23.2	pCi/L		110	(75%-125%)	02/09/17 10:49

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# **QC Summary**

Workorder: 4	414773												Page	4 of 6
Parmname			NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gas Flow           Batch         16.           QC1203717741         228	35133 MB					T	0.729	-Ci/I				AVMC	02/00/1	7 10.40
Kauluiii-228						U	0.758	pCI/L				AAMO	02/09/1	/ 10:49
<b>Rad Ra-226</b> Batch 163	33270													
QC1203712844 Radium-226	414666001	DUP		U	0.198		0.345	pCi/L	54.2		(0% - 100%)	LXP1	02/13/1	7 11:10
QC1203712846 Radium-226	LCS		26.0				24.3	pCi/L		93.7	(75%-125%)		02/13/1	7 11:40
QC1203712843 Radium-226	MB						0.314	pCi/L					02/13/1	7 11:10
QC1203712845 Radium-226	414666001	MS	130	U	0.198		133	pCi/L		102	(75%-125%)		02/13/1	7 11:10
Batch 16	33271													
QC1203712848 Radium-226	414773001	DUP			0.783		0.966	pCi/L	20.9		(0% - 100%)	LXP1	02/09/1	7 10:37
QC1203712850 Radium-226	LCS		26.0				20.3	pCi/L		78.1	(75%-125%)		02/09/1	7 10:37
QC1203712847 Radium-226	MB					U	-0.0465	pCi/L					02/09/1	7 10:37
QC1203712849 Radium-226	414773001	MS	130		0.783		136	pCi/L		104	(75%-125%)		02/09/1	7 10:37

#### Notes:

The Qualifiers in this report are defined as follows:

\*\* Analyte is a Tracer compound

< Result is less than value reported

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# **QC Summary**

Workor	ler: 414773 Page 5 o
Parmna	e NOM Sample Qual QC Units RPD% REC% Range Anlst Date Tim
>	Result is greater than value reported
В	The target analyte was detected in the associated blank.
BD	Results are either below the MDC or tracer recovery is low
Е	% difference of sample and SD is >10%. Sample concentration must meet flagging criteria
Е	General ChemistryConcentration of the target analyte exceeds the instrument calibration range
FA	Failed analysis.
FB H	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 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.
М	M if above MDC and less than LLD
М	REMP Result > MDC/CL and < RDL
Ν	MetalsThe 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.
II.	Analyte was analyzed for but not detected above the L c
U	Analyte was analyzed for but not detected above the MDL MDA MDC or LOD
UI	Gamma SpectroscopyUncertain identification
UI	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 TestParticulates passed through the filter, however no free liquids were observed.
٨	RPD of sample and duplicate evaluated using $+/-RL$ . Concentrations are $<5X$ the RL. Qualifier Not Applicable for Radiochemistry.
d	5-day BODThe 2:1 depletion requirement was not met for this sample
e	5-day BODTest 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

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### **QC Summary**

Workorder:	414773								Page 6 of 6
Parmname		NOM	Sample Qual	QC	Units	RPD%	REC%	Range Anlst	Date Time

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.



REPORT TO:	Sampla ID:	005004					
Mike Moore							
	Date & Time Sal Date & Time Sul Collected by: S	mpled: Ja bmitted: Ja S.SANSBURY	anuary 17, 201 anuary 19, 201 Locat	7 12:05 7 10:30 ion Code: W	AG01LFT	DS	
MW-01LF			Login Reco	rd File: 1701	19002		
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed A Date & T	nalysis ïme	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.



Total Dissolved Solid-SM2540C

REPORT TO:	Comple ID:					
Mike Moore	Wateree Landfill Well GW 6 -RCRA					
	Date & Time Sa Date & Time Su Collected by: §	impled: Ja Ibmitted: Ja S.SANSBURY	anuary 17, 201 anuary 19, 201 Loca	17 14:00 17 10:30 tion Code: W	AG06LFTE	)S
GW 6			Login Reco	ord File: 1701	19002	
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed A Date & 1	nalysis 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 ex	xceeded.					
Sulfates by IC EPA 300.0	Less than	0.50	mg/L	1/25/17	00:56	EB

2.0

January 31, 2018

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

28

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

mg/L

ΒF

1/24/17 13:30



REPORT TO:		DOFOOD				
Mike Moore	Wateree Landfill MW-11LF-RCRA/CCR					
	Date & Time Sau Date & Time Sul Collected by: S	mpled: Ja omitted: Ja S.SANSBURY	anuary 17, 20 <sup>7</sup> anuary 19, 20 <sup>7</sup> Loca	17 18:20 17 10:30 tion Code: W	AG11LFTD	os
MW-11LF			Login Reco	ord File: 1701	19002	
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed A Date & T	nalysis ïme	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 ex	xceeded.					
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.



REPORT TO:	Somela ID:	A DOCOO 4				
Mike Moore	Wateree Landfill MW-10LF-RCRA/CCR					
	Date & Time Sa Date & Time Su Collected by:	ampled: Ja ıbmitted: Ja S.SANSBURY	inuary 18, 20 <sup>.</sup> inuary 19, 20 <sup>.</sup> Loca	17 08:05 17 10:30 tion Code: WAG10LFT	DS	
MW-10LF			Login Reco	ord 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	4.64	0.00	S.U.	1/23/17 10:47	BF	
Holding Time of 15 minutes has been ex	xceeded.					
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.



REPORT TO:	Comple ID:					
Mike Moore	Wateree NPDES Well MW 22 (NPDES)					
	Date & Time Sa Date & Time So Collected by:	ampled: Ja ubmitted: Ja S.SANSBURY	anuary 18, 20 <sup>.</sup> anuary 19, 20 <sup>.</sup> Loca	17 09:20 17 10:30 tion Code: W,	AG22TDS	
MW 22			Login Reco	ord File: 1701	19002	
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed A Date & T	nalysis ime	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 ex	xceeded.					
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.



REPORT TO: Mike Moore	Sample ID: Wateree Lar Date & Time Sa Date & Time So Collected by:	AB25336 ndfill MW-08L ampled: Ja ubmitted: Ja S.SANSBURY	<b>-F-RCRA/C</b> anuary 18, 201 anuary 19, 201 Loca	<b>CR</b> 17 10:35 17 10:30 tion Code: W	AG08LFT	DS
MW-08LF			Login Reco	ord File: 1701	19002	
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed A Date & T	nalysis ïme	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 ex	ceeded.					
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.



REPORT TO:	Sampla ID:	D05007				
Mike Moore	Wateree Landfill MW-07LE-RCRA/CCR					
	Date & Time Sar Date & Time Sut Collected by: S	mpled: Ja pmitted: Ja SSANSBURY	anuary 18, 20' anuary 19, 20' Loca	17 12:05 17 10:30 tion Code: W	/AG07LFTD	s
MW-07LF			Login Reco	ord File: 1701	19002	
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed A Date & 1	Analysis lime	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.



# REPORT TO:

Mike Moore

<u>,</u>,

Sample ID: AB25352

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

Date & Time Sampled:January 17, 201712:05Date & Time Submitted:January 19, 201710:30Collected by:S.SANSBURYLocation Code:WAG01LFTM

MW-01LF	ord File: 17011	9003				
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Ar Date & Tir	nalysis me	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.



### REPORT TO:

Mike Moore

#### Sample ID: AB25353

#### Wateree Landfill Well GW 6-RCRA

Date & Time Sampled:January 17, 201714:00Date & Time Submitted:January 19, 201710:30Collected by:S.SANSBURYLocation Code:WAG06LFTM

GW 6	Login Record File: 170119003					
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed A Date & T	nalysis ime	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.



## REPORT TO:

Mike Moore

Sample ID: AB25354

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

Date & Time Sampled:January 17, 201718:20Date & Time Submitted:January 19, 201710:30Collected by:S.SANSBURYLocation Code:WAG11LFTM

MW-11LF	Login Record File: 170119003						
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analys Date & Time	sis Chemist		
Antimony by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:1	0 MC		
Arsenic by ICP_MS 200.8	1.1	1.0	ppb	1/23/17 15:1	0 MC		
Barium by ICP-OES 200.7	47.9	10.0	ppb	1/23/17 08:5	50 MC		
Beryllium EPA 200.7	Less than	2.0	ppb	1/23/17 08:5	50 MC		
Boron - EPA 200.7	Less than	1000	ppb	1/23/17 08:5	50 MC		
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	1/23/17 15:1	0 MC		
Calcium EPA 200.7	278	100	ppb	1/23/17 08:5	50 MC		
Chromium by ICP_MS 200.8	Less than	1.0	ppb	1/23/17 15:1	0 MC		
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	1/23/17 15:1	0 MC		
Lead by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:1	0 MC		
Lithium (CWA) 200.7	2.6	2.0	ppb	1/23/17 08:3	88 MC		
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	1/24/17 15:5	i8 PRC		
Molybdenum - EPA 200.8	Less than	1.0	ppb	1/23/17 15:1	0 MC		
Selenium by ICP-MS 200.8	Less than	5.0	ppb	1/23/17 15:1	0 MC		
Thallium by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:1	0 MC		

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



# REPORT TO:

Mike Moore

Sample ID: AB25355

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

Date & Time Sampled:January 18, 201708:05Date & Time Submitted:January 19, 201710:30Collected by:S.SANSBURYLocation Code:WAG10LFTM

MW-10LF		Login Record File: 170119003				
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Ar Date & Ti	nalysis me	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.


## REPORT TO:

Mike Moore

Sample ID: AB25356

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

Date & Time Sampled:January 18, 201709:20Date & Time Submitted:January 19, 201710:30Collected by:S.SANSBURYLocation Code:WAG22TM

MW 22			Login Reco	ord File: 170119	003	
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Ana Date & Tim	lysis e	Chemist
Antimony by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 1	5:10	MC
Arsenic by ICP_MS 200.8	1.3	1.0	ppb	1/23/17 1	5:10	MC
Barium by ICP-OES 200.7	56.5	10.0	ppb	1/23/17 08	8:50	MC
Beryllium EPA 200.7	Less than	2.0	ppb	1/23/17 08	8:50	MC
Boron - EPA 200.7	Less than	1000	ppb	1/23/17 08	8:50	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	1/23/17 1	5:10	MC
Calcium EPA 200.7	979	100	ppb	1/23/17 08	8:50	MC
Chromium by ICP_MS 200.8	Less than	1.0	ppb	1/23/17 1	5:10	MC
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	1/23/17 1	5:10	MC
Lead by ICP-MS 200.8	1.4	1.0	ppb	1/23/17 1	5:10	MC
Lithium (CWA) 200.7	2.8	2.0	ppb	1/23/17 08	3:38	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	1/24/17 1	5:58	PRC
Molybdenum - EPA 200.8	Less than	1.0	ppb	1/23/17 1	5:10	MC
Selenium by ICP-MS 200.8	Less than	5.0	ppb	1/23/17 1	5:10	MC
Thallium by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 1	5:10	MC

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



# REPORT TO:

Mike Moore

Sample ID: AB25357

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

Date & Time Sampled:January 18, 201710:35Date & Time Submitted:January 19, 201710:30Collected by:S.SANSBURYLocation Code:WAG08LFTM

MW-08LF			Login Reco	ord File: 170119003	3
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analys Date & Time	is Chemist
Antimony by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:1	0 MC
Arsenic by ICP_MS 200.8	1.2	1.0	ppb	1/23/17 15:1	0 MC
Barium by ICP-OES 200.7	38.4	10.0	ppb	1/23/17 08:5	0 MC
Beryllium EPA 200.7	Less than	2.0	ppb	1/23/17 08:5	0 MC
Boron - EPA 200.7	Less than	1000	ppb	1/23/17 08:5	0 MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	1/23/17 15:1	0 MC
Calcium EPA 200.7	816	100	ppb	1/23/17 08:5	0 MC
Chromium by ICP_MS 200.8	Less than	1.0	ppb	1/23/17 15:1	0 MC
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	1/23/17 15:1	0 MC
Lead by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:1	0 MC
Lithium (CWA) 200.7	9.0	2.0	ppb	1/23/17 08:3	8 MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	1/24/17 15:5	8 PRC
Molybdenum - EPA 200.8	Less than	1.0	ppb	1/23/17 15:1	0 MC
Selenium by ICP-MS 200.8	Less than	5.0	ppb	1/23/17 15:1	0 MC
Thallium by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:1	0 MC

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



REPORT TO:

Mike Moore

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Sample ID: AB25358

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

Date & Time Sampled:January 18, 201712:05Date & Time Submitted:January 19, 201710:30Collected by:S.SANSBURYLocation Code:WAG07LFTM

MW-07LF			Login Reco	ord 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.

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

Facility: Wateree Station

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

County: Richland

Time Sampled: 12:00:00PM

Date Sampled: 03/20/2017

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:

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

Facility: Wateree Station

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

County: Richland

Time Sampled: 12:00:00PM

Date Sampled: 03/20/2017

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	s C	18.640	16.870	18.540	19.280	19.540
Water level elevation ft	İ.	115.95	112.86	113.63	114.42	113.98

Authorized Release By:

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.

Jack H Cart

Reviewed by

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: SCEG01716c MW-01LF Project: Sample ID: 419043001 Client ID: GEEL003 Matrix: Ground Water Collect Date: 20-MAR-17 14:35 22-MAR-17 Receive Date: Client Collector: DL RL PF Qualifier Result Units DF Analyst Date Time Batch Method Parameter Ion Chromatography SW846 9056A Anions "As Received" 0.033 Fluoride U ND 0.100 mg/L 1 MXL2 03/23/17 0329 1649928 1 Metals Analysis-ICP-MS SW846 3005A/6020A Liquid "As Received" Lithium 3.00 10.0 BAJ 1208 1649920 2 Π ND ug/L 1.00 1 04/11/17 Rad Gas Flow Proportional Counting GFPC, Ra228, Liquid "As Received" Radium-228 0.462 0.432 3.00 AXM6 04/11/17 1201 1651318 pCi/L 3 Rad Radium-226 Lucas Cell, Ra226, liquid "As Received" Radium-226 ND 0.367 1.00 pCi/L MXH8 04/13/17 1015 1651331 4 U The following Prep Methods were performed: Method Date Prep Batch Description Analyst Time ICP-MS 3005A PREP SW846 3005A CXW4 03/22/17 1839 1649919 The following Analytical Methods were performed: Method Description Analyst Comments SW846 9056A SW846 3005A/6020A EPA 904.0/SW846 9320 Modified 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	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	on SQL: Sample Quantitation Limit

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# **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: SCEG01716c MW-06LF Project: Sample ID: 419043002 Client ID: GEEL003 Matrix: Ground Water Collect Date: 20-MAR-17 15:45 22-MAR-17 Receive Date: Client Collector: Parameter DL RL PF Qualifier Result Units DF Analyst Date Time Batch Method Ion Chromatography SW846 9056A Anions "As Received" 0.033 Fluoride U ND 0.100 mg/L 1 MXL2 03/23/17 0450 1649928 1 Metals Analysis-ICP-MS SW846 3005A/6020A Liquid "As Received" Lithium 3.00 10.0 BAJ 1226 1649920 2 Π ND ug/L 1.00 1 04/11/17 Rad Gas Flow Proportional Counting GFPC, Ra228, Liquid "As Received" Radium-228 ND 0.428 3.00 AXM6 04/11/17 1201 1651318 U pCi/L 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 Date Prep Batch Description Analyst Time ICP-MS 3005A PREP SW846 3005A CXW4 03/22/17 1839 1649919 The following Analytical Methods were performed: Method Description Analyst Comments SW846 9056A SW846 3005A/6020A EPA 904.0/SW846 9320 Modified 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:

Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
n SQL: Sample Quantitation Limit

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# **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: SCEG01716c MW-11LF Project: Sample ID: 419043003 Client ID: GEEL003 Matrix: Ground Water Collect Date: 20-MAR-17 16:10 22-MAR-17 Receive Date: Client Collector: Parameter DL RL PF Qualifier Result Units DF Analyst Date Time Batch Method Ion Chromatography SW846 9056A Anions "As Received" 0.033 Fluoride U ND 0.100 mg/L 1 MXL2 03/23/17 0517 1649928 1 Metals Analysis-ICP-MS SW846 3005A/6020A Liquid "As Received" Lithium 3.00 10.0 BAJ 1229 1649920 2 3.32 ug/L 1.00 1 04/11/17 Rad Gas Flow Proportional Counting GFPC, Ra228, Liquid "As Received" Radium-228 ND 0.421 3.00 AXM6 04/11/17 1201 1651318 U pCi/L 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 Date Prep Batch Description Analyst Time ICP-MS 3005A PREP SW846 3005A CXW4 03/22/17 1839 1649919 The following Analytical Methods were performed: Method Description Analyst Comments SW846 9056A SW846 3005A/6020A EPA 904.0/SW846 9320 Modified EPA 903.1 Modified Surrogate/Tracer Recovery Test Result Nominal Recovery% Acceptable Limits 107 Barium-133 Tracer GFPC, Ra228, Liquid "As Received" (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 Concentrati	on SQL: Sample Quantitation Limit
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# **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: SCEG01716c MW-10LF Project: Sample ID: 419043004 Client ID: GEEL003 Matrix: Ground Water Collect Date: 20-MAR-17 17:35 22-MAR-17 Receive Date: Client Collector: Parameter Result DL RL PF Qualifier Units DF Analyst Date Time Batch Method Ion Chromatography SW846 9056A Anions "As Received" 0.033 Fluoride J 0.0775 0.100 mg/L 1 MXL2 03/23/17 0544 1649928 1 Metals Analysis-ICP-MS SW846 3005A/6020A Liquid "As Received" Lithium 3.00 10.0 BAJ 04/11/17 1231 1649920 2 3.29 ug/L 1.00 1 Rad Gas Flow Proportional Counting GFPC, Ra228, Liquid "As Received" Radium-228 ND 0.594 3.00 AXM6 04/11/17 1201 1651318 U pCi/L 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 Date Prep Batch Description Analyst Time ICP-MS 3005A PREP SW846 3005A CXW4 03/22/17 1839 1649919 The following Analytical Methods were performed: Method Description Analyst Comments SW846 9056A SW846 3005A/6020A EPA 904.0/SW846 9320 Modified EPA 903.1 Modified Surrogate/Tracer Recovery Test Result Nominal Recovery% Acceptable Limits 74 Barium-133 Tracer GFPC, Ra228, Liquid "As Received" (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	on SQL: Sample Quantitation Limit

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# **Certificate of Analysis**

Report Date: April 14, 2017 Company : GEL Engineering, LLC 2040 Savage Rd Address : Charleston, South Carolina 29417 Contact: Robert Gardner Project: Wateree CCR Client Sample ID: MW-22 SCEG01716c Project: Sample ID: 419043005 Client ID: GEEL003 Matrix: Ground Water Collect Date: 20-MAR-17 18:50 22-MAR-17 Receive Date: Client Collector: Parameter DL RL PF Qualifier Result Units DF Analyst Date Time Batch Method Ion Chromatography SW846 9056A Anions "As Received" 0.033 Fluoride U ND 0.100 mg/L 1 MXL2 03/23/17 0610 1649928 1 Metals Analysis-ICP-MS SW846 3005A/6020A Liquid "As Received" Lithium 3.00 10.0 BAJ 1234 1649920 2 Π ND ug/L 1.00 1 04/11/17 Rad Gas Flow Proportional Counting GFPC, Ra228, Liquid "As Received" Radium-228 0.745 0.710 3.00 AXM6 04/11/17 1405 1651318 pCi/L 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 Date Prep Batch Description Analyst Time ICP-MS 3005A PREP SW846 3005A CXW4 03/22/17 1839 1649919 The following Analytical Methods were performed: Method Description Analyst Comments SW846 9056A SW846 3005A/6020A EPA 904.0/SW846 9320 Modified 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	ion SQL: Sample Quantitation Limit

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# **Certificate of Analysis**

Report Date: April 14, 2017 Company : GEL Engineering, LLC 2040 Savage Rd Address : Charleston, South Carolina 29417 Contact: Robert Gardner Project: Wateree CCR Client Sample ID: SCEG01716c MW-08LF Project: Sample ID: 419043006 Client ID: GEEL003 Matrix: Ground Water Collect Date: 20-MAR-17 08:35 22-MAR-17 Receive Date: Client Collector: DL RL PF Qualifier Result Units DF Analyst Date Time Batch Method Parameter Ion Chromatography SW846 9056A Anions "As Received" 0.033 Fluoride U ND 0.100 mg/L 1 MXL2 03/23/17 0637 1649928 1 Metals Analysis-ICP-MS SW846 3005A/6020A Liquid "As Received" Lithium 3.00 10.0 BAJ 1237 1649920 2 11.5 ug/L 1.00 1 04/11/17 Rad Gas Flow Proportional Counting GFPC, Ra228, Liquid "As Received" Radium-228 ND 0.768 3.00 AXM6 04/11/17 1201 1651318 U pCi/L 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 Date Prep Batch Description Analyst Time ICP-MS 3005A PREP SW846 3005A CXW4 03/22/17 1839 1649919 The following Analytical Methods were performed: Method Description Analyst Comments SW846 9056A SW846 3005A/6020A EPA 904.0/SW846 9320 Modified 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	ion SQL: Sample Quantitation Limit

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

# **Certificate of Analysis**

Report Date: April 14, 2017 Company : GEL Engineering, LLC 2040 Savage Rd Address : Charleston, South Carolina 29417 Contact: Robert Gardner Project: Wateree CCR Client Sample ID: SCEG01716c MW-07LF Project: Sample ID: 419043007 Client ID: GEEL003 Matrix: Ground Water Collect Date: 20-MAR-17 10:15 22-MAR-17 Receive Date: Client Collector: Parameter DL RL PF Qualifier Result Units DF Analyst Date Time Batch Method Ion Chromatography SW846 9056A Anions "As Received" 0.033 Fluoride J 0.0627 0.100 mg/L 1 MXL2 03/23/17 0758 1649928 1 Metals Analysis-ICP-MS SW846 3005A/6020A Liquid "As Received" Lithium 3.00 10.0 BAJ 1239 1649920 2 4.68 ug/L 1.00 1 04/11/17 Rad Gas Flow Proportional Counting GFPC, Ra228, Liquid "As Received" Radium-228 1.45 0.634 3.00 AXM6 04/11/17 1203 1651318 pCi/L 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 Date Prep Batch Description Analyst Time ICP-MS 3005A PREP SW846 3005A CXW4 03/22/17 1839 1649919 The following Analytical Methods were performed: Method Description Analyst Comments SW846 9056A SW846 3005A/6020A EPA 904.0/SW846 9320 Modified EPA 903.1 Modified Recovery% Surrogate/Tracer Recovery Test Result Nominal 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	on SQL: Sample Quantitation Limit

1

2

3

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Contact:	GEL Engin 2040 Savage Charleston, Robert Gar	eering, LLC e Rd South Carol dner	lina		9	<u>QC                                    </u>	Summai	<u>ry</u>		Report Da	ate: April 14,	2017	Pag	e 1 of 3
Workorder:	419043													
Parmname			NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Ion Chromatogra Batch	p <b>hy</b> 649928													
QC120375308 Fluoride	3 419043001	DUP		U	ND	U	ND	mg/L	N/A			MXL2	03/23/1	17 03:56
QC120375308 Fluoride	2 LCS		2.50				2.40	mg/L		96	(90%-110%)	)	03/23/1	17 03:02
QC120375308 Fluoride	1 MB					U	ND	mg/L					03/23/1	17 02:35
QC120375308 Fluoride	4 419043001	PS	2.50	U	ND		2.51	mg/L		99.8	(90%-110%)	)	03/23/1	17 04:23
Metals Analysis - Batch 1	<b>ICPMS</b> 649920													
QC120375305 Lithium	1 419043001	DUP		U	ND	U	ND	ug/L	N/A			BAJ	04/11/1	17 12:11
QC120375305 Lithium	0 LCS		50.0				54.3	ug/L		109	(80%-120%)	I	04/11/1	17 12:06
QC120375304 Lithium	9 MB					U	ND	ug/L					04/11/1	17 12:03
QC120375305 Lithium	2 419043001	MS	50.0	U	ND		57.6	ug/L		114	(75%-125%)	)	04/11/1	17 12:13
QC120375305 Lithium	3 419043001	SDILT		U	ND	U	ND	ug/L	N/A		(0%-10%)	1	04/11/1	17 12:16

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## **QC Summary**

				-							
Workorder: 4	419043										Page 2 of 3
Parmname			NOM	Sample	Qual	QC	Units	RPD%	REC%	Range Anlst	Date Time
Rad Gas Flow Batch 165	51318										
QC1203756431 Radium-228	419043004	DUP	ι	0.569		1.24	pCi/L	74.5		(0% - 100%) AXM6	04/11/17 12:05
QC1203756432 Radium-228	LCS		6.89			7.53	pCi/L		109	(75%-125%)	04/11/17 12:05
QC1203756430 Radium-228	MB				U	0.358	pCi/L				04/11/17 12:03
<b>Rad Ra-226</b> Batch 165	51331										
QC1203756459 Radium-226	419043006	DUP		0.517		0.846	pCi/L	48.3		(0% - 100%) MXH8	04/13/17 11:20
QC1203756461 Radium-226	LCS		26.0			23.3	pCi/L		89.9	(75%-125%)	04/13/17 11:20
QC1203756458 Radium-226	MB				U	0.0848	pCi/L				04/13/17 10:45
QC1203756460 Radium-226	419043006	MS	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 >
- В The target analyte was detected in the associated blank.
- Results are either below the MDC or tracer recovery is low BD
- Е % difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- Е 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

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## **QC Summary**

D	Page 3 of
Parmnai	ne NOM Sample Qual QC Units RPD% REC% Range Anist Date Time
п	Analytical holding time was exceeded
J V	Value is estimated
T.	Analyte present. Reported value may be biased law. Actual value is expected to be lower.
	Analyte present. Reported value may be blased low. Actual value is expected to be nigher.
M	DEMORE AND CARD LED
M	REMP Result > MDC/CL and < RDL
IN NI (A	DDD of D by the 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 SpectroscopyUncertain identification
UJ	Gamma SpectroscopyUncertain identification
UL	Not considered detected. The associated number is the reported concentration, which may be inaccurate due to a low bias.
Х	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 TestParticulates passed through the filter, however no free liquids were observed.
۸	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
d	5-day BODThe 2:1 depletion requirement was not met for this sample
e	5-day BODTest 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 ind ^ The R	icates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable. elative 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.



**REPORT TO:** Sample ID: AB26311 Mike Moore C221 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 Reporting **Completed Analysis** Chemist CERTIFIED BY SCDHEC (LAB ID 32006): Result Units Limit(MRL) Date & Time Chlorides by IC- 9056A 0.50 5.3 mg/L 3/24/17 06:18 EΒ pH by SM4500HB(2011) 5.13 0.00 S.U. ΒF 3/23/17 14:53 Holding Time of 15 minutes has been exceeded. Sulfates by IC - 9056A Less than 0.5 EΒ mg/L 3/24/17 06:18 Total Dissolved Solid-SM2540C 40 mg/L ΒF 2.0 3/24/17 15:00

January 31, 2018

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



January 31, 2018	

Mike Moore C221

Sample ID: AB26312

## Wateree Landfill Well GW 6 -RCRA

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

GW 6			Login Rec	ord 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 e	xceeded.				
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.



**REPORT TO:** Sample ID: AB26313 Mike Moore C221 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 Reporting **Completed Analysis** Chemist CERTIFIED BY SCDHEC (LAB ID 32006): Result Units Limit(MRL) Date & Time Chlorides by IC- 9056A 0.50 4.58 mg/L 3/24/17 14:10 EΒ pH by SM4500HB(2011) 5.38 0.00 S.U. ΒF 3/23/17 14:53 Holding Time of 15 minutes has been exceeded. Sulfates by IC - 9056A Less than 0.5 EΒ mg/L 3/24/17 14:10 Total Dissolved Solid-SM2540C 29 mg/L ΒF 2.0 3/24/17 15:00

January 31, 2018

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



REPORT TO:	Sample ID:	DOCO44				
Mike Moore C221	Wateree Land	dfill MW-10L	_F-RCRA/C	CR		
	Date & Time Sar Date & Time Sul Collected by: A	mpled: M omitted: M A.HILL	larch 20, 2017 larch 22, 2017 Loca	7 17:35 7 13:30 tion Code: W	AG10LFTE	)S
MW-10LF			Login Reco	ord File: 1703	22002	
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed A Date & 1	Analysis Fime	Chemist
Chlorides by IC- 9056A	6.90	0.50	mg/L	3/24/17	14:10	EB
pH by SM4500HB(2011)	5.24	0.00	S.U.	3/23/17	14:53	BF
pH by SM4500HB(2011) Holding Time of 15 minutes has been ex	5.24 ceeded.	0.00	S.U.	3/23/17	14:53	BF
pH by SM4500HB(2011) Holding Time of 15 minutes has been ex Sulfates by IC - 9056A	5.24 cceeded. 6.35	0.00	S.U. mg/L	3/23/17 3/24/17	14:53 14:10	BF EB

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



Fax: (803) 217-9911

January	31,	2018
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Mike Moore C221

Sample ID: AB26315

## Wateree NPDES Well MW 22 (NPDES)

Date & Time Sampled: Date & Time Submitted: Collected by: A.HILL

March 20, 2017 18:50 March 22, 2017 13:30 Location Code: WAG22TDS

MW 22			Login Rec	ord 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)	5.15	0.00	S.U.	3/23/17 14:53	BF
Holding Time of 15 minutes has been e	xceeded.				
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.



Fax: (803) 217-9911

	January 3	1, 2018				
REPORT TO: Mike Moore C221	Sample ID: Wateree Lar Date & Time Sa Date & Time Sa Collected by:	AB26316 ndfill MW-0 ampled: ubmitted: A.HILL	8LF-RCRA/C March 21, 2017 March 22, 2017 Loca	CR 08:35 13:30 tion Code: W	/AG08LFTE	DS
MW-08LF	,		Login Reco	ord File: 1703	22002	
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	) Units	Completed A Date & 1	Analysis lime	Chemist
Chlorides by IC- 9056A	4.75	0.50	mg/L	3/24/17	14:10	EB
pH by SM4500HB(2011)	4.90	0.00	S.U.	3/23/17	14:53	BF
Holding Time of 15 minutes has been ea	xceeded.					
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.



Mike Moore C221

January 31, 2018 Sample ID: AB26317

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

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

MW-07LF			Login Rec	ord 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)	5.02	0.00	S.U.	3/23/17 14:53	BF
Holding Time of 15 minutes has been ea	xceeded.				
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.



## January 31, 2018

Mike Moore C221

# Sample ID: AB26338

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

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

MW-01LF			Login Rec	ord 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.



## January 31, 2018

Mike Moore C221

Sample ID: AB26339

## Wateree Landfill Well GW 6-RCRA

Date & Time Sampled: Date & Time Submitted: Collected by: A.HILL

March 20, 2017 15:45 March 22, 2017 13:30 Location Code: WAG06LFTM

GW 6			Login Rec	ord 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.



## January 31, 2018

Mike Moore C221

Sample ID: AB26340

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

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



## January 31, 2018

Mike Moore C221

Sample ID: AB26341

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

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



Fax: (803) 217-9304

## January 31, 2018

Mike Moore C221

Sample ID: AB26342

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

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



## January 31, 2018

Mike Moore C221

# Sample ID: AB26343

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

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



#### January 31, 2018

Mike Moore C221

# Sample ID: AB26344

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

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

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

Facility: Wateree Station

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

County: Richland

Time Sampled: 12:00:00PM

Date Sampled: 05/22/2017

year-month-day (Numerical)

#### STATION NUMBERS

PARAMETER	NUMBER	MW-LF-01	MW-LF-06
NAME	Lab. Certificate No.	32006	32006
Field pH S.U.		4.370	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:

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

Facility: Wateree Station

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

County: Richland

Time Sampled: 12:00:00PM

Date Sampled: 05/22/2017

year-month-day (Numerical)

#### STATION NUMBERS

PARAMETER	NUMBER	MW-LF-10	MW-LF-11
NAME	Lab. Certificate No.	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:

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

Facility: Wateree Station

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

County: Richland

Time Sampled: 12:00:00PM

Date Sampled: 05/23/2017

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) degree	es C	22.740	21.310	20.450
Water level elevation	ft	116.02	113.18	114.27

Authorized Release By:

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.

Jack H Cart

Reviewed by

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: SCEG01716c MW-01LF Project: Sample ID: 424120001 Client ID: GEEL003 Matrix: Ground Water Collect Date: 22-MAY-17 13:40 25-MAY-17 Receive Date: Client Collector: Result RL PF Qualifier DL Units DF Analyst Date Time Batch Method Parameter Ion Chromatography SW846 9056A Anions "As Received" 0.033 Fluoride J 0.0405 0.100 mg/L 1 MXL2 06/02/17 2349 1669572 1 Metals Analysis-ICP-MS SW846 3005A/6020A Liquid "As Received" Lithium 3.00 10.0 SKJ 06/09/17 2317 1668710 2 Π ND ug/L 1.00 1 Rad Gas Flow Proportional Counting GFPC, Ra228, Liquid "As Received" Radium-228 ND U 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 Date Prep Batch Description Analyst Time SW846 3005A ICP-MS 3005A PREP SXW1 05/26/17 0839 1668709 The following Analytical Methods were performed: Method Description Analyst Comments SW846 9056A SW846 3005A/6020A EPA 904.0/SW846 9320 Modified 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

PF: Prep Factor **DL:** Detection Limit MDA: Minimum Detectable Activity **RL: Reporting Limit** MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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# **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: SCEG01716c MW-11LF Project: Sample ID: 424120002 Client ID: GEEL003 Matrix: Ground Water Collect Date: 22-MAY-17 14:35 25-MAY-17 Receive Date: Client Collector: Result RL PF Qualifier DL Units DF Analyst Date Time Batch Method Parameter Ion Chromatography SW846 9056A Anions "As Received" 0.033 Fluoride J 0.0385 0.100 mg/L 1 MXL2 06/03/17 0018 1669572 1 Metals Analysis-ICP-MS SW846 3005A/6020A Liquid "As Received" Lithium 3.00 10.0 SKJ 06/09/17 2344 1668710 2 Π ND ug/L 1.00 1 Rad Gas Flow Proportional Counting GFPC, Ra228, Liquid "As Received" Radium-228 ND 3.00 U 1.75 pCi/L BXF1 06/19/17 1529 1668804 3 Rad Radium-226 Lucas Cell, Ra226, liquid "As Received" Radium-226 ND 0.313 1.00 pCi/L MXH8 06/21/17 0900 1668815 4 U The following Prep Methods were performed: Method Date Prep Batch Description Analyst Time SW846 3005A ICP-MS 3005A PREP SXW1 05/26/17 0839 1668709 The following Analytical Methods were performed: Description Method Analyst Comments SW846 9056A SW846 3005A/6020A EPA 904.0/SW846 9320 Modified 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 PF: Prep Factor **DL:** Detection Limit MDA: Minimum Detectable Activity **RL: Reporting Limit** MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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### **Certificate of Analysis**

Report Date: June 21, 2017 Company : GEL Engineering, LLC 2040 Savage Rd Address : Charleston, South Carolina 29417 Contact: Robert Gardner Project: Wateree CCR Client Sample ID: SCEG01716c MW-06LF Project: Sample ID: 424120003 Client ID: GEEL003 Matrix: Ground Water Collect Date: 22-MAY-17 14:45 25-MAY-17 Receive Date: Client Collector: Result RL PF Qualifier DL Units DF Analyst Date Time Batch Method Parameter Ion Chromatography SW846 9056A Anions "As Received" 0.033 Fluoride J 0.0339 0.100 mg/L 1 MXL2 06/03/17 0047 1669572 1 Metals Analysis-ICP-MS SW846 3005A/6020A Liquid "As Received" Lithium 3.00 10.0 SKJ 06/09/17 2348 1668710 2 Π ND ug/L 1.00 1 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 Date Prep Batch Description Analyst Time SW846 3005A ICP-MS 3005A PREP SXW1 05/26/17 0839 1668709 The following Analytical Methods were performed: Method Description Analyst Comments SW846 9056A SW846 3005A/6020A EPA 904.0/SW846 9320 Modified EPA 903.1 Modified Recovery% Surrogate/Tracer Recovery Test Result Nominal 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

PF: Prep Factor **DL:** Detection Limit MDA: Minimum Detectable Activity **RL: Reporting Limit** MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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### **Certificate of Analysis**

Report Date: June 21, 2017 Company : GEL Engineering, LLC 2040 Savage Rd Address : Charleston, South Carolina 29417 Contact: Robert Gardner Project: Wateree CCR Client Sample ID: SCEG01716c MW-10LF Project: Sample ID: 424120004 Client ID: GEEL003 Matrix: Ground Water Collect Date: 22-MAY-17 16:40 25-MAY-17 Receive Date: Client Collector: DL RL PF Qualifier Result Units DF Analyst Date Time Batch Method Parameter Ion Chromatography SW846 9056A Anions "As Received" 0.033 Fluoride J 0.0766 0.100 mg/L 1 MXL2 06/03/17 0116 1669572 1 Metals Analysis-ICP-MS SW846 3005A/6020A Liquid "As Received" Lithium 3.00 10.0 SKJ 06/09/17 2352 1668710 2 Π ND ug/L 1.00 1 Rad Gas Flow Proportional Counting GFPC, Ra228, Liquid "As Received" Radium-228 ND 1.20 3.00 pCi/L BXF1 06/19/17 1529 1668804 U 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 Date Prep Batch Description Analyst Time ICP-MS 3005A PREP SW846 3005A SXW1 05/26/17 0839 1668709 The following Analytical Methods were performed: Method Description Analyst Comments SW846 9056A SW846 3005A/6020A EPA 904.0/SW846 9320 Modified 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	on SQL: Sample Quantitation Limit

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### **Certificate of Analysis**

Report Date: June 21, 2017 Company : GEL Engineering, LLC 2040 Savage Rd Address : Charleston, South Carolina 29417 Contact: Robert Gardner Project: Wateree CCR Client Sample ID: MW-22 SCEG01716c Project: Sample ID: 424120005 Client ID: GEEL003 Matrix: Ground Water Collect Date: 23-MAY-17 08:35 25-MAY-17 Receive Date: Client Collector: Result RL PF Qualifier DL Units DF Analyst Date Time Batch Method Parameter Ion Chromatography SW846 9056A Anions "As Received" 0.033 Fluoride 0.0697 0.100 mg/L 1 MXL2 06/03/17 0145 1669572 1 J Metals Analysis-ICP-MS SW846 3005A/6020A Liquid "As Received" Lithium 3.00 10.0 SKJ 06/09/17 2356 1668710 2 Π ND ug/L 1.00 1 Rad Gas Flow Proportional Counting GFPC, Ra228, Liquid "As Received" Radium-228 ND U 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 Date Prep Batch Description Analyst Time SW846 3005A ICP-MS 3005A PREP SXW1 05/26/17 0839 1668709 The following Analytical Methods were performed: Description Method Analyst Comments SW846 9056A SW846 3005A/6020A EPA 904.0/SW846 9320 Modified 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: Lc/LC: Critical Level

**DF:** Dilution Factor PF: Prep Factor **DL:** Detection Limit MDA: Minimum Detectable Activity **RL: Reporting Limit** MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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### **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: SCEG01716c MW-08LF Project: Sample ID: 424120006 Client ID: GEEL003 Matrix: Ground Water Collect Date: 23-MAY-17 09:55 25-MAY-17 Receive Date: Client Collector: Result DL RL PF Qualifier Units DF Analyst Date Time Batch Method Parameter Ion Chromatography SW846 9056A Anions "As Received" 0.033 Fluoride J 0.0361 0.100 mg/L 1 MXL2 06/03/17 0214 1669572 1 Metals Analysis-ICP-MS SW846 3005A/6020A Liquid "As Received" Lithium 3.00 10.0 SKJ 06/10/17 0000 1668710 2 10.2 ug/L 1.00 1 Rad Gas Flow Proportional Counting GFPC, Ra228, Liquid "As Received" Radium-228 ND 1.29 3.00 pCi/L BXF1 06/19/17 1529 1668804 U 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 Date Prep Batch Description Analyst Time SW846 3005A ICP-MS 3005A PREP SXW1 05/26/17 0839 1668709 The following Analytical Methods were performed: Method Description Analyst Comments SW846 9056A SW846 3005A/6020A EPA 904.0/SW846 9320 Modified 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 Concentratio	n SQL: Sample Quantitation Limit

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### **Certificate of Analysis**

Report Date: June 21, 2017 Company : GEL Engineering, LLC 2040 Savage Rd Address : Charleston, South Carolina 29417 Contact: Robert Gardner Project: Wateree CCR Client Sample ID: SCEG01716c MW-07LF Project: Sample ID: 424120007 Client ID: GEEL003 Matrix: Ground Water Collect Date: 23-MAY-17 11:55 25-MAY-17 Receive Date: Client Collector: Parameter DL RL PF Qualifier Result Units DF Analyst Date Time Batch Method Ion Chromatography SW846 9056A Anions "As Received" 0.033 Fluoride 0.0946 0.100 mg/L 1 MXL2 06/03/17 0243 1669572 1 J Metals Analysis-ICP-MS SW846 3005A/6020A Liquid "As Received" Lithium 3.00 10.0 SKJ 06/10/17 0004 1668710 2 4.49 ug/L 1.00 1 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 Date Prep Batch Description Analyst Time ICP-MS 3005A PREP SW846 3005A SXW1 05/26/17 0839 1668709 The following Analytical Methods were performed: Method Description Analyst Comments SW846 9056A SW846 3005A/6020A EPA 904.0/SW846 9320 Modified 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	on SQL: Sample Quantitation Limit

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Contact:	GEL Engine 2040 Savage Charleston, Robert Gare	eering, LLC Rd South Carol dner	ina		<u>(</u>	QC	Summai	<u>ry</u>		Report Da	ate: June 21, 2017	Page 1 of 3
Workorder:	424120											
Parmname			NOM		Sample	Qual	QC	Units	RPD%	REC%	Range Anlst	Date Time
Ion Chromatograp Batch 1	p <b>hy</b> 669572											
QC120380028 Fluoride	4 424121003	DUP			0.715		0.720	mg/L	0.613		(0%-20%) MXL2	06/03/17 05:36
QC120380028 Fluoride	3 LCS		2.50				2.34	mg/L		93.5	(90%-110%)	06/02/17 23:20
QC120380028 Fluoride	2 MB					U	ND	mg/L				06/02/17 22:52
QC120380028 Fluoride	5 424121003	PS	2.50		0.715		3.13	mg/L		96.7	(90%-110%)	06/03/17 06:05
Metals Analysis - T Batch 1	ICPMS 668710											
QC120379816 Lithium	3 424120001	DUP		U	ND	U	ND	ug/L	N/A		SKJ	06/09/17 23:21
QC120379816 Lithium	2 LCS		50.0				52.3	ug/L		105	(80%-120%)	06/09/17 23:13
QC120379816 Lithium	1 MB					U	ND	ug/L				06/09/17 23:09
QC120379816 Lithium	4 424120001	MS	50.0	U	ND		52.5	ug/L		104	(75%-125%)	06/09/17 23:24
QC120379816 Lithium	5 424120001	SDILT		U	ND	U	ND	ug/L	N/A		(0%-10%)	06/09/17 23:32

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### **QC Summary**

			-							
Workorder: 4	24120									Page 2 of 3
Parmname		NOM	Sample	Qual	QC	Units	RPD%	REC%	Range Anlst	Date Time
Rad Gas Flow Batch 166	58804 ———									
QC1203798409 Radium-228	424115006 DUP	U	0.561	U	0.390	pCi/L	N/A		N/A BXF1	06/19/17 16:50
QC1203798410 Radium-228	LCS	20.2			19.0	pCi/L		94.1	(75%-125%)	06/19/17 15:33
QC1203798408 Radium-228	MB			U	0.546	pCi/L				06/19/17 15:29
<b>Rad Ra-226</b> Batch 166	58815 ———									
QC1203798449 Radium-226	424115006 DUP		0.630		0.725	pCi/L	14.1		(0% - 100%) MXH8	06/21/17 09:30
QC1203798451 Radium-226	LCS	26.0			20.0	pCi/L		77.2	(75%-125%)	06/21/17 09:30
QC1203798448 Radium-226	MB			U	0.0822	pCi/L				06/21/17 09:30
QC1203798450 Radium-226	424115006 MS	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 >
- В The target analyte was detected in the associated blank.
- Results are either below the MDC or tracer recovery is low BD
- Е % difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- Е 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

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### **QC Summary**

Workor	der: 424120									Pag	e 3 of 3
Parmnar	me	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Н	Analytical holding time	was exceeded									
J	Value is estimated										
К	Analyte present. Reporte	ed value may be biased	high. Actual value is ex	spected to	be lower.						
L	Analyte present. Reporte	ed value may be biased	low. Actual value is ex	pected to b	e higher.						
Μ	M if above MDC and les	ss than LLD									
Μ	REMP Result > MDC/C	L and < RDL									
Ν	MetalsThe Matrix spik	e sample recovery is n	ot within specified cont	rol limits							
N/A	RPD or %Recovery limit	ts do not apply.									
N1	See case narrative										
ND	Analyte concentration is	not detected above the	e detection limit								
NJ	Consult Case Narrative,	Data Summary packag	e, or Project Manager c	oncerning	this qualifi	er					
Q	One or more quality con	trol criteria have not be	een met. Refer to the ap	plicable na	rrative or I	DER.					
R	Per section 9.3.4.1 of M purposes.	ethod 1664 Revision E	3, due to matrix spike re	covery iss	ues, this res	sult may not	be reported	or used for	regulatory	y complia	ince
R	Sample results are reject	ed									
U	Analyte was analyzed for	r, but not detected abo	ve the MDL, MDA, MI	DC or LOE	).						
UI	Gamma SpectroscopyU	Uncertain identification	1								
UJ	Gamma SpectroscopyU	Uncertain identification	1								
UL	Not considered detected	The associated number	er is the reported concer	tration, wl	nich may b	e inaccurate	due to a low	bias.			
Х	Consult Case Narrative,	Data Summary packag	e, or Project Manager c	oncerning	this qualifi	er					
Y	Other specific qualifiers	were required to prope	erly define the results. C	onsult case	e narrative.						
Z	Paint Filter TestParticu	lates passed through th	ne filter, however no fre	e liquids w	vere observ	ed.					
^	RPD of sample and dupl	icate evaluated using +	-/-RL. Concentrations a	tre <5X the	RL. Qual	lifier Not Ap	plicable for	Radiochem	istry.		
d	5-day BODThe 2:1 dep	pletion requirement wa	s not met for this sampl	e							
e	5-day BODTest replica reporting purposes	ates show more than 30	0% difference between h	igh and lo	w values. 7	The data is q	ualified per t	he method	and can b	e used fo	r
h	Preparation or preservation	on holding time was ex	xceeded								
N/A indi ^ The Re five time	icates that spike recovery elative Percent Difference es (5X) the contract requi	limits do not apply wh e (RPD) obtained from red detection limit (RL	the sample concentratio the sample duplicate (1). ). In cases where either	n exceeds : DUP) is ev the sample	spike conc. aluated aga or duplica	by a factor ainst the acce ate value is le	of 4 or more eptance criter ess than 5X t	or % RPD 1 ria when the he RL, a co	not applica e sample i ontrol limi	able. is greater it of +/- tl	than ne

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.



REPORT TO: Mike Moore C221	Sample ID: A Wateree Land Date & Time Sar Date & Time Sub Collected by: A	B27193 Ifill MW-011 mpled: M pmitted: M HILL	L <b>F-RCRA/C(</b> lay 22, 2017 lay 23, 2017 Locat	CR 13:40 15:55 tion Code: W	/AG01LFTI	DS
MW-01LF			Login Reco	rd File: 1705	24002	
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed A Date & 1	Analysis lime	Chemist
Chlorides by IC- 9056A	5.16	0.50	mg/L	5/25/17	16:34	BB
pH by SM4500HB(2011)	4.72	0.00	S.U.	5/24/17	09:30	BF
Holding Time of 15 minutes has been ex	ceeded.					
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.



REPORT TO: Mike Moore C221	Sample ID: A Wateree Lan Date & Time Sa Date & Time Su Collected by: A	AB27194 dfill MW-11L ampled: M ubmitted: M A.HILL	<b>_F-RCRA/C</b> lay 22, 2017 lay 23, 2017 Loca	CR 14:35 15:55 tion Code: WAG11	LFTDS
MW-11LF	_		Login Reco	ord File: 170524002	2
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analys Date & Time	is Chemist
Chlorides by IC- 9056A	4.52	0.50	mg/L	5/25/17 16:3	4 BB
pH by SM4500HB(2011)	4.81	0.00	S.U.	5/24/17 09:3	0 BF
Holding Time of 15 minutes has been e	xceeded.				
Sulfates by IC - 9056A	Less than	0.5	mg/L	5/25/17 16:3	4 BB
Total Dissolved Solid-SM2540C	30	2.0	mg/L	5/25/17 14:0	0 BF

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



January	31,	2018
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Mike Moore C221

**REPORT TO:** 

Sample ID: AB27195

### Wateree Landfill Well GW 6 -RCRA

Date & Time Sampled: Date & Time Submitted: Collected by: A.HILL May 22, 2017 14:45 May 23, 2017 15:55 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)	4.88	0.00	S.U.	5/24/17 09:30	BF
Holding Time of 15 minutes has been e	xceeded.				
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.



REPORT TO:							
Mike Moore C221	Wateree Landfill MW-10LF-RCRA/CCR						
	Date & Time Sar Date & Time Sut Collected by: A	mpled: N omitted: N HILL	lay 22, 2017 lay 23, 2017 Loca	16:40 15:55 tion Code: WAG	G10LFTDS		
MW-10LF			Login Reco	ord File: 170524	002		
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Ana Date & Tim	lysis Cho e	emist	
Chlorides by IC- 9056A	6.20	0.50	mg/L	5/26/17 12	2:39	BB	
pH by SM4500HB(2011)	4.83	0.00	S.U.	5/24/17 09	9:30	BF	
Holding Time of 15 minutes has been ex	kceeded.						
Sulfates by IC - 9056A	4.5	0.5	mg/L	5/26/17 12	2:39	BB	
Total Dissolved Solid-SM2540C	42	2.0	mg/L	5/25/17 14	4:00	BF	

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



REPORT TO:		D07407				
Mike Moore C221	Wateree Lanc	1827197 1fill MW-221	_F-RCRA/C	CR		
	Date & Time Sar Date & Time Sub Collected by: A	npled: M omitted: M HILL	lay 23, 2017 lay 23, 2017 Locat	08:35 15:55 ion Code: W	AG22LFTD	S
MW-22LF			Login Reco	rd File: 1705	24002	
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed A Date & T	analysis 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 ex	ceeded.					
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.



REPORT TO: Mike Moore C221	Sample ID: A Wateree Land Date & Time San Date & Time Sub Collected by: A	AB27198 Ifill MW-08I npled: N omitted: N .HILL	L <b>F-RCRA/C(</b> lay 23, 2017 lay 23, 2017 Locat	CR 09:55 15:55 tion Code: W	/AG08LFTI	DS
MW-08LF			Login Reco	rd File: 1705	524002	
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed A Date & 1	Analysis Fime	Chemist
Chlorides by IC- 9056A	4.61	0.50	mg/L	5/26/17	12:39	BB
pH by SM4500HB(2011)	5.03	0.00	S.U.	5/24/17	09:30	BF
Holding Time of 15 minutes has been ex	ceeded.					
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.



REPORT TO: Mike Moore C221	Sample ID: A Wateree Lanc Date & Time San Date & Time Sub Collected by: A	<b>B27199</b> Ifill MW-07L npled: M omitted: M .HILL	<b>_F-RCRA/C(</b> lay 23, 2017 lay 23, 2017 Locat	CR 11:55 15:55 ion Code: W	AG07LFTE	oS
MW-07LF			Login Reco	rd File: 1705	24002	
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed A Date & T	analysis Time	Chemist
Chlorides by IC- 9056A	4.55	0.50	mg/L	5/26/17	12:39	BB
pH by SM4500HB(2011)	4.56	0.00	S.U.	5/24/17	09:30	BF
Holding Time of 15 minutes has been ex	ceeded.					
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.



#### January 31, 2018

Mike Moore C221

Sample ID: AB27200

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

Date & Time Sampled: Date & Time Submitted: Collected by: A.HILL

May 22, 2017 May 23, 2017 Location Co

017 13:40 017 15:55 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.



#### January 31, 2018

Mike Moore C221

Sample ID: AB27201

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

Date & Time Sampled: Date & Time Submitted: Collected by: A.HILL May 22, 2017 14:35 May 23, 2017 15:55 Location Code: WAG11LFTM

MW-11LF			Login Rec	ord 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.



#### January 31, 2018

Mike Moore C221

Sample ID: AB27202

#### Wateree Landfill Well GW 6-RCRA

Date & Time Sampled: Date & Time Submitted: Collected by: A.HILL

May 22, 2017 14:45 May 23, 2017 15:55 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.



#### January 31, 2018

Mike Moore C221

Sample ID: AB27203

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

Date & Time Sampled: Date & Time Submitted: Collected by: A.HILL

May 22, 2017 May 23, 2017

16:40 15:55 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.



#### January 31, 2018

Mike Moore C221

Sample ID: AB27204

#### Wateree Landfill MW-22LF-RCRA/CCR

Date & Time Sampled: Date & Time Submitted: Collected by: A.HILL

May 23, 2017 May 23, 2017 Location Co

017 08:35 017 15:55 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.



#### January 31, 2018

Mike Moore C221

Sample ID: AB27205

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

Date & Time Sampled: Date & Time Submitted: Collected by: A.HILL

May 23, 2017 May 23, 2017 Location C

017 09:55 017 15:55 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.



#### January 31, 2018

Mike Moore C221

Sample ID: AB27206

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

Date & Time Sampled: Date & Time Submitted: Collected by: A.HILL May 23, 2017 11:55 May 23, 2017 15:55 Location Code: WAG07LFTM

MW-07LF			Login Rec	ord 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.

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

Facility: Wateree Station

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

County: Richland

Time Sampled: 12:00:00PM

Date Sampled: 07/24/2017

year-month-day (Numerical)

#### **STATION NUMBERS**

PARAMETER	NUMBER	MW-LF-01	MW-LF-06
NAME	Lab. Certificate No.	32006	32006
Field pH S.U.		4.530	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) degree	s C	17.750	16.990
Water level elevation f	t	126.19	117.15

Authorized Release By:

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

Facility: Wateree Station

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

County: Richland

Time Sampled: 12:00:00PM

Date Sampled: 07/25/2017

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/	Ľ	5.600	1.400	6.500
Temp (Celcius) degree	s C	17.260	24.580	18.650
Water level elevation f	t	119.32	118.23	120.35

Authorized Release By:

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

Facility:	Wateree Station	Permit No.:	County:	Richland

Date Sampled: 07/24/2017

year-month-day (Numerical)

#### STATION NUMBERS

Time Sampled: 12:00:00PM

<b>PARAMETER</b>	NUMBER	MW-LF-07
NAME	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	ı/L	4.900
Temp (Celcius) degree	es C	20.450
Water level elevation	ft	116.09

Authorized Release By:

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

Facility: Wateree Station

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

County: Richland

Time Sampled: 12:00:00PM

Date Sampled: 07/25/2017

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:

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.

Hattome Cates

Reviewed by

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# **Certificate of Analysis**

Report Date: August 22 2017

	Company : Address :	GEL Enginee 2040 Savage	ering, LLC Rd					K		е. А	lugust 2	2, 2017
	Contact: Project:	Charleston, S Robert Gardr Wateree CCF	outh Carolina 29 er	9417								
	Client Sample ID:	MW-01LF				Pr	oject:	SCEG	01716c			
	Sample ID:	428957001				C	lient ID:	GEEL	003			
	Matrix:	Ground Wate	r									
	Collect Date:	24-JUL-17 1	5:10									
	Receive Date:	27-JUL-17										
	Collector:	Client										
Parameter	Ouali	ifier Result		DL	RL	Units	PF DF	Analy	st Date	Time	Batch	Method
Ion Chrom	atography							j			Butti	
SW8/6 904	564 Anions "As Rec	ceived"										
Fluoride		J 0.038		0.033	0.100	mg/L	1	MXL2	07/28/17	2123	1686433	1
Metals Ana	alysis-ICP-MS					U						
SW846 300	05A/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 Fl	ow Proportional Co	unting										
GFPC, Ra2	228, Liquid "As Rec	eived"										
Radium-228	22.6	1.54		1.25	3.00	pCi/L		JXC9	08/15/17	1125	1686439	3
Rad Radiui	m-226	<b>D</b> · 11										
Lucas Cell,	, Ra226, liquid "As l	Received"		0.626	1.00	»С:/I		MVIIO	09/10/17	1020	1696410	4
The felless	in a Duan Mathada	U ND		0.050	1.00	pCI/L		мапо	08/10/17	1050	1080419	4
I he follow	ing Prep Methods w	ere performed:			A	Data	<b>T</b> '	Da	n Dotoh			
SW846 3005	A ICP-M	npuon IS 30054 PREP			Analyst IXM8	07/27/17	1 III 1651	e FIG	ер Баюн			
The feller		4			JAMO	07/27/17	1051	100	30005			
I ne follow	analytical Metr	hods were perio	ormed:									
Method	Descr	1pt10n					Analyst Co	mments	5			
2	SW846	5 3005 A/6020 A										
3	EPA 90	04.0/SW846 9320 1	Aodified									
4	EPA 90	03.1 Modified										
Surrogate/7	Fracer Recovery	Test				Result	Nominal	Recov	verv%	Accer	table L	imits
Barium-133 T	Tracer (	GFPC, Ra228, Liqu	id "As Received"					9	96.9	(15	5%-125%)	1
Notes:												
Column he DF: Dilutio DL: Detec MDA: Min	eaders are defined as on Factor tion Limit nimum Detectable A	<u>s follows:</u>	Lc/LC: Critical PF: Prep Factor RL: Reporting	l Level r Limit								

RL: Reporting Limit MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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# **Certificate of Analysis**

Report Date: August 22 2017

							Report Da	ie. August 2	2, 2017
	Company : Address :	GEL Engineering, LLC 2040 Savage Rd							
	Content	Charleston, South Caro	olina 29417						
	Project:	Wateree CCR							
	Client Sample ID:	MW-06LF			Pr	oject:	SCEG01716c		
	Sample ID:	428957002			Cl	lient ID:	GEEL003		
	Matrix:	Ground Water							
	Collect Date:	24-JUL-17 16:15							
	Receive Date:	27-JUL-17							
	Collector:	Client							
Description		Con Dec la	DI		T.L. '4		And A Date	T'	
Parameter	Quai	tier Result	DL	KL	Units	PF DF	Analyst Date	Time Batch	Method
Ion Chrom	atography								
SW846 903 Eluoride	56A Anions "As Rec	1 0.0380	0.033	0.100	ma/I	1	MYL2 07/28/17	2240 1686433	1
Metals An	alvsis-ICP-MS	J 0.0389	0.055	0.100	iiig/L	1	WIAL2 07/20/17	2249 1080433	1
SW846 30	05A/6020A Liquid "	As Received"							
Lithium	0011 002011 Elquid	U ND	3.00	10.0	ug/L	1.00 1	SKJ 08/16/17	0014 1686066	2
Rad Gas Fl	low Proportional Co	unting			· ·				
GFPC, Ra2	228, Liquid "As Rec	eived"							
Radium-228		U ND	1.34	3.00	pCi/L		JXC9 08/15/17	1126 1686439	3
Rad Radiu	m-226								
Lucas Cell	, Ra226, liquid "As l	Received"			~ ~				
Radium-226		1.19	0.471	1.00	pC1/L		MXH8 08/10/17	1030 1686419	4
The follow	ing Prep Methods w	ere performed:							
Method	Desc	ription		Analyst	Date	Time	e Prep Batch		
SW846 3005	A ICP-M	IS 3005A PREP		JXM8	07/27/17	1651	1686065		
The follow	ving Analytical Meth	nods were performed:							
Method	Descr	iption				Analyst Cor	nments		
1	SW846 SW846	9056A 5 3005 a /6020 a							
3	EPA 90	)4.0/SW846 9320 Modified							
4	EPA 90	03.1 Modified							
Surrogate/	Tracer Recovery	Test			Result	Nominal	Recovery%	Acceptable Li	mits
Barium-133 7	Fracer (	GFPC, Ra228, Liquid "As Rece	vived"				100	(15%-125%)	
Notes:		-							
Column he DF: Diluti DL: Detec MDA: Min	eaders are defined as on Factor tion Limit nimum Detectable A	follows: Lc/LC: PF: Pre ctivity RL: Re	Critical Level p Factor porting Limit						

RL: Reporting Limit SQL: Sample Quantitation Limit MDC: Minimum Detectable Concentration

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# **Certificate of Analysis**

Report Date: August 22 2017

							Report Da	te. August 2	2, 2017
	Company : Address :	GEL Engineerin 2040 Savage Ro	ng, LLC d						
	Content	Charleston, Sou	th Carolina 29417						
	Project:	Wateree CCR							
	Client Sample ID:	MW-07LF			Pr	oject:	SCEG01716c		
	Sample ID:	428957003			Cl	ient ID:	GEEL003		
	Matrix:	Ground Water							
	Collect Date:	24-JUL-17 17:1	5						
	Receive Date:	27-JUL-17							
	Collector:	Client							
Demonstern	Orrall	Gar Davilt	Id	DI	TTu:40		Analyst Data	Time Detal	Mathad
Parameter	Quan	iner Result	DL	KL	Units	PF DF	Analyst Date	Time Batch	Method
SW846 004	atograpny	aaiwad"							
5 W 840 903 Fluoride	DOA Anions As Red		0.033	0.100	mg/I	1	MXI 2 07/28/17	2318 1686433	1
Metals Ana	alvsis-ICP-MS	<b>J</b> 0.0502	0.035	0.100	116/12	1	WINE2 07/20/17	2310 1000433	1
SW846 300	)5A/6020A Liquid '	'As Received"							
Lithium	oor 1 oo 2 or 1 Erquite	J 4.32	3.00	10.0	ug/L	1.00 1	SKJ 08/16/17	0018 1686066	2
Rad Gas Fl	ow Proportional Co	unting							
GFPC, Ra2	228, Liquid "As Rec	eived"							
Radium-228		2.68	2.46	3.00	pCi/L		JXC9 08/15/17	1126 1686439	3
Rad Radiur	m-226								
Lucas Cell,	, Ra226, liquid "As I	Received"	0.500	1.00	0.1		NULLO 00/10/17	1020 1000410	
Radium-220	Den Mada I	0.578	0.508	1.00	pC1/L		MAH8 08/10/17	1030 1080419	4
I ne follow	ing Prep Methods w	vere performed:		A a 1 4	Data	T:	Drop Datah		
SW846 30054	Desc A ICP-M	ripuon IS 30054 PREP		Analyst IXM8	07/27/17	1651	1686065		
The fellow	ing Applytical Mat	no de were perform	aad	<b>J</b> 711110	07/27/17	1051	1000005		
Muther 1	Anarytical Met	ious were perform	lieu.						
	Descr SW846	1puon 5 90564				Analyst Cor	nments		
2	SW846	5 3005A/6020A							
3	EPA 9	04.0/SW846 9320 Mo	dified						
4	EPA 9	03.1 Modified							
Surrogate/7	Fracer Recovery	Test			Result	Nominal	Recovery%	Acceptable L	imits
Barium-133 T	racer (	GFPC, Ra228, Liquid	"As Received"				55	(15%-125%)	)
Notes:									
Column he DF: Dilutio DL: Detect	eaders are defined as on Factor tion Limit	s follows:	Lc/LC: Critical Level PF: Prep Factor						
MDA: Mir	nimum Detectable A	ctivity	RL: Reporting Limit						

RL: Reporting Limit MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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# **Certificate of Analysis**

Report Date: August 22, 2017

							Report Da	ie. August 2.	2, 2017
	Company :	GEL Engineering, LLC							
	Address :	2040 Savage Rd							
		Charleston, South Carolina 2	9417						
	Contact:	Robert Gardner							
	Project:	Wateree CCR							
	Client Sample II	D: MW-08LF			P	roject:	SCEG01716c		
	Sample ID:	428957004			С	lient ID:	GEEL003		
	Matrix:	Ground Water							
	Collect Date:	25-JUL-17 07:10							
	Receive Date:	27-JUL-17							
	Collector:	Client							
Parameter	Qu	alifier Result	DL	RL	Units	PF DF	Analyst Date	Time Batch	Method
Ion Chroma	atography								
SW846 905	56A Anions "As R	Received"							
Fluoride		U ND	0.033	0.100	mg/L	1	MXL2 07/28/17	2347 1686433	1
Metals Ana	lysis-ICP-MS								
SW846 300	)5A/6020A Liquio	d "As Received"		10.0	~				
Lithium Dod Gos El	ow Proportional (	J 8.57	3.00	10.0	ug/L	1.00 1	SKJ 08/16/17	0022 1686066	2
CEDC Do	28 Liquid "As D	counting							
Radium-228	20, Liquid As Ko	1 47	0.974	3.00	pCi/L		IXC9 08/15/17	1126 1686439	3
Rad Radiur	m-226		0.071	0.00	pend		00,10,11	1120 1000107	U
Lucas Cell,	Ra226, liquid "A	s Received"							
Radium-226		1.08	0.460	1.00	pCi/L		MXH8 08/10/17	1030 1686419	4
The follow	ing Prep Methods	were performed:							
Method	De	scription		Analyst	Date	Time	e Prep Batch		
SW846 3005A	A ICP	-MS 3005A PREP		JXM8	07/27/17	7 1651	1686065		
The follow	ring Analytical M	ethods were performed:							
Method	Des	cription				Analyst Cor	nments		
1	SW8	346 9056A							
2	SWS	846 3005A/6020A							
5 4	EPA	903.1 Modified							
		Test			Decult	Nominal	D 0/	A accentable L	mita
Surrogate/ I	racer Recovery	CEPC D-228 Linuid #As Dessioned#			Result	Nominai	Recovery%	Acceptable Li	mits
Notes:	racer	GFPC, Kazzo, Liquid As Received					100	(13%-123%)	
Column he	aders are defined	as follows:							
DF: Dilutio	on Factor	Lc/LC: Critica	al Level						
DL: Detect	ion Limit	PF: Prep Facto	or						

D1: Detection LimitD2: Detection LimitDL: Detection LimitPF: Prep FactorMDA: Minimum Detectable ActivityRL: Reporting LimitMDC: Minimum Detectable ConcentrationSQL: Sample Quantitation Limit

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# **Certificate of Analysis**

Report Date: August 22 2017

									Report Da	ie. A	ugust 2	2, 2017
	Company : Address :	GEL Engineeri 2040 Savage R	ng, LLC d									
	Contact: Project:	Charleston, So Robert Gardne Wateree CCR	uth Carolina 294 r	17								
	Client Sample ID:	MW 22				D,	rojact:	50	EC01716			
	Sample ID:	101 00 -22				C C	lient ID:	GE	FEL 003			
	Matrix:	Ground Water				C.	nent ID.	UI OI				
	Collect Date:	25 II II 17 08.	10									
	Collect Date.	23-JUL-17 08.	10									
	Collector:	Client										
Parameter	Quali	fier Result		DL	RL	Units	PF I	DF Ar	nalyst Date	Time	Batch	Method
Ion Chrom	atography											
SW846 903	56A Anions "As Red	ceived"										
Fluoride		J 0.0341		0.033	0.100	mg/L		1 M2	XL2 07/29/17	0016	1686433	1
Metals Ana	alysis-ICP-MS											
SW846 300	05A/6020A Liquid "	'As Received"		2.00	10.0	/ <b>T</b>	1.00	1 01/	T 09/16/17	0026	1696066	2
Litnium Dod Goo Fl	low Proportional Co	U ND		3.00	10.0	ug/L	1.00	1 56	J 08/16/17	0026	1686066	2
GEDC Do	228 Liquid "As Poo	aivad"										
Radium-228	220, Liquid As Kee	1.50		1.01	3.00	nCi/L		JX	C9 08/15/17	1126	1686439	3
Rad Radiu	m-226	1.00		1101	5100	pere			0,10,11	1120	1000.07	U
Lucas Cell Radium-226	, Ra226, liquid "As l	Received" 1.24		0.527	1.00	pCi/L		M	XH8 08/10/17	1030	1686419	4
The follow	ving Prep Methods w	ere performed:										
Method	Desc	ription			Analyst	Date	Ti	me	Prep Batch			
SW846 3005	A ICP-M	IS 3005A PREP			JXM8	07/27/17	16	51	1686065			
The follow	ving Analytical Meth	nods were perform	ned:									
Method	Descr	iption					Analyst (	Comm	ents			
1	SW846	5 9056A										
2	SW846	5 3005A/6020A	110-1									
5 4	EPA 90 EPA 90	04.0/5 w 846 9520 MG	diffed									
Surrogate/	Tracer Recovery	Test				Result	Nominal	Re	coverv%	Accer	ntable L	imits
Barium-133 T	Fracer (	GEPC, Ra228, Liquid	"As Received"			Result	Ttommu		94.1	(15	5%-125%	
Notes:		or r e, razzo, ziquio	110 110001,00						2.11	(10		
~ .												
Column he	eaders are defined as	follows:		a1								
DF: Diluti	on Factor		DE: Prep Factor	Level								
MDA: Mi	nimum Detectable A	ctivity	RL: Reporting L	imit								

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# **Certificate of Analysis**

D port Date: August 22 2017

									K	eport Dai	le: A	ugust 2	2, 2017
	Company :	GEL Engineer	ing, LLC										
	Address :	2040 Savage F	Ku										
		Charleston, Sc	outh Carolina 294	17									
	Contact:	Robert Gardne	er										
	Project:	Wateree CCR											
	Client Sample ID:	MW-10LF				Pr	roject:		SCEG	01716c			
	Sample ID:	428957006				C	lient ID:		GEEL	003			
	Matrix:	Ground Water											
	Collect Date:	25-JUL-17 09	05										
	Receive Date:	27-JUL-17											
	Collector:	Client											
Parameter	Quali	fier Result		DL	RL	Units	PF	DF	Analy	st Date	Time	Batch	Method
Ion Chroma	atography												
SW846 905	56A Anions "As Rec	eived"											
Fluoride		J 0.0442		0.033	0.100	mg/L		1	MXL2	07/29/17	0045	1686433	1
Metals Ana	llysis-ICP-MS												
SW846 300	05A/6020A Liquid "	As Received"		2.00	10.0	··· - /T	1.00	1	CIZI	09/16/17	0020	1696066	2
Litnium Rad Gas Fl	ow Proportional Co	U ND		3.00	10.0	ug/L	1.00	1	SKJ	08/10/17	0030	1080000	2
GEDC Do	28 Liquid "As Poor	unung vivod"											
Radium-228	20, Liquid As Rece	U ND		1.01	3.00	pCi/L			JXC9	08/15/17	1126	1686439	3
Rad Radiu	m-226	0 112			5100	penz				00,10,17	1120	1000.07	5
Lucas Cell.	Ra226. liquid "As H	Received"											
Radium-226	,, . <b>1</b>	1.40		0.443	1.00	pCi/L			MXH8	08/10/17	1030	1686419	4
The follow	ing Prep Methods w	ere performed:											
Method	Desci	ription			Analyst	Date	]	Гime	Pre	ep Batch			
SW846 3005A	A ICP-M	S 3005A PREP			JXM8	07/27/17	/ 1	651	168	36065			
The follow	ving Analytical Meth	ods were perfor	med:										
Method	Descri	iption					Analyst	Con	nments	;			
1	SW846	9056A											
2	SW846	3005A/6020A											
3	EPA 90	04.0/SW846 9320 M	odified										
4	EPA 90	3.1 Modified											
Surrogate/7	Fracer Recovery	Test				Result	Nomina	ıl	Recov	very%	Accep	table L	imits
Barium-133 T	Tracer C	GFPC, Ra228, Liqui	d "As Received"						9	96.5	(15	6%-125%)	1
Notes:													
<u>Column</u> he	eaders are defined as	follows:											
DF: Diluti	on Factor		Lc/LC: Critical L	level									
DL: Detect	tion Limit		PF: Prep Factor										
MDA: Mir	nimum Detectable A	ctivity	RL: Reporting Li	imit									

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# **Certificate of Analysis**

Report Date: August 22 2017

							Report Da	ite: August 2	22, 2017
	Company :	GEL Engineering, I	LC						
	Address .	2040 Savage Ku							
		Charleston, South C	arolina 29417						
	Contact:	Robert Gardner							
	Project:	Wateree CCR							
	Client Sample ID:	MW-11LF			Pr	oject:	SCEG01716c		
	Sample ID:	428957007			Cl	lient ID:	GEEL003		
	Matrix:	Ground Water							
	Collect Date:	25-JUL-17 10:05							
	Receive Date:	27-JUL-17							
	Collector:	Client							
Parameter	Quali	fier Result	DL	RL	Units	PF DF	Analyst Date	Time Batch	Method
Ion Chroma	atography								
SW846 905	56A Anions "As Rec	eived"			_				
Fluoride		J 0.0414	0.033	0.100	mg/L	1	MXL2 07/29/17	0212 1686433	8 1
Metals Ana	Ilysis-ICP-MS	A. D. '. 111							
SW846 300	5A/6020A Liquid	As Received"	2.00	10.0	ng/I	1.00 1	SVI 08/16/17	0024 1686066	; • •
Rad Gas Flo	ow Proportional Co	unting	5.00	10.0	ug/L	1.00 1	SKJ 08/10/17	0034 1080000	) 2
GEPC Ra?	28 Liquid "As Rece	vived"							
Radium-228	20, Elquia 713 Reed	U ND	1.26	3.00	pCi/L		JXC9 08/15/17	1126 1686439	) 3
Rad Radiun	n-226				I				
Lucas Cell,	Ra226, liquid "As H	Received"							
Radium-226	-	0.857	0.514	1.00	pCi/L		MXH8 08/10/17	1030 1686419	9 4
The followi	ing Prep Methods w	ere performed:							
Method	Descr	iption		Analyst	Date	Tim	e Prep Batch	1	
SW846 3005A	A ICP-M	S 3005A PREP		JXM8	07/27/17	1651	1686065		
The follow	ing Analytical Meth	ods were performed:							
Method	Descri	ption				Analyst Co	mments		
1	SW846	9056A							
2	SW846	3005A/6020A							
3	EPA 90 EPA 90	4.0/SW8469320 Modified	l						
т О //Т					D 1/	NT	<b>D</b> 0/	A 1.1. T	••
Surrogate/ I	racer Recovery	Test			Result	Nominal	Recovery%	Acceptable L	<u>amits</u>
Notes:	racer C	FPC, Ka228, Liquid As F	Received				95.7	(15%-125%	)
110165.									
Column he	aders are defined as	follows:							
DF: Dilutio	on Factor	Lc/L	C: Critical Level						
DL: Detect	tion Limit	PF:	Prep Factor						
MDA: MIII	minum Detectable A	cuvity KL:	Reporting Limit						

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# **Certificate of Analysis**

Report Date: August 22 2017

									K		e. A	ugust 2.	2, 2017
	Company : Address :	GEL Engineer 2040 Savage I	ring, LLC Rd										
		Charleston, So	outh Carolina 294	417									
	Contact:	Robert Gardne	er										
	Project:	Wateree CCR					· · /		a or o	01716			
	Client Sample ID:	LF-AS-1				F	roject:		SCEG	01716c			
	Sample ID: Matrix:	428937010 Ground Water				C			GEEL	005			
	Collect Date	25-IIII -17 14	.25										
	Receive Date:	27-JUL-17	.23										
	Collector:	Client											
Parameter	Quali	fier Result		DL	RL	Units	PF	DF	Analy	st Date	Time	Batch	Method
Ion Chroma	atography												
SW846 905	66A Anions "As Rec	ceived"											
Fluoride Motols Ano	lucia ICD MS	J 0.0398		0.033	0.100	mg/L		1	MXL2	07/29/17	0338	1686433	1
SW846 200	$\frac{11}{5} \times \frac{6020}{6} \times \frac{1}{6} = \frac{1}{6} \times $	As Passivad"											
Lithium	JA/0020A Liquid	U ND		3.00	10.0	ug/L	1.00	) 1	SKJ	08/16/17	0054	1686066	2
Rad Gas Flo	ow Proportional Co	unting				e							
GFPC, Ra2	28, Liquid "As Rec	eived"											
Radium-228	-	1.97		1.76	3.00	pCi/L	,		JXC9	08/21/17	1207	1692834	3
Rad Radiun	n-226	~											
Lucas Cell,	Ra226, liquid "As l	Received"		0 5 4 1	1.00	C:/T			MVIIO	09/15/17	0745	1 (9 ( 120	4
Radium-226		U ND		0.541	1.00	pC1/L	r		MXH8	08/15/17	0745	1686420	4
I ne Tollowi Mathad	ing Prep Methods w	ere performed:			A a 1	Data		Time	Dr	n Datah			
SW846 3005 A	Desci	npuon IS 3005A PREP			Analyst IXM8	07/27/1	7	1651	168	ер Баюн			
The follow	ving Analytical Meth	ods were perfo	med:		571110	0//2//1	,	1051	100	0005			
Method	Descr	intion	inieu.				Analys	t Cor	nmonte				
1	SW846	5 9056A					Anarys		ments	•			
2	SW846	5 3005A/6020A											
3	EPA 90	04.0/SW846 9320 N	Iodified										
4	EPA 90	3.1 Modified											
Surrogate/T	Fracer Recovery	Test	1			Result	Nomin	al	Recov	very%	Accep	table Li	mits
Barium-133 Tr	racer (	JFPC, Ra228, Liqui	d "As Received"						Ç	92.6	(15	%-125%)	
Notes:													
Column he	aders are defined as	follows											
DF: Dilutio	on Factor		Lc/LC: Critical	Level									
DL: Detect	ion Limit		PF: Prep Factor										
MDA: Min	imum Detectable A	ctivity	RL: Reporting L	imit									
MDC: Min	nmum Detectable C	oncentration	SQL: Sample Q	uantita	ation Limit								

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# **Certificate of Analysis**

Report Date: August 22 2017

							Report Da	ic. August 2	2,2017
	Company : Address :	GEL Engineering, LLC 2040 Savage Rd							
	_	Charleston, South Caroli	na 29417						
	Contact: Project:	Robert Gardner Wateree CCR							
	Client Sample ID:	LF-AS-2			Pr	oject:	SCEG01716c		
	Sample ID:	428957011			Cl	ient ID:	GEEL003		
	Matrix:	Ground Water							
	Collect Date:	25-JUL-17 15:20							
	Receive Date:	27-JUL-17							
	Collector:	Client							
Donomotor	Quali	from Docult		DI	Unita		Analyst Data	Time Datab	Mathad
Parameter	Quali	ner Result	DL	KL	Units	PF DF	Analyst Date	Time Batch	Method
Ion Chrom	atography	. 11							
SW846 903 Eluoride	56A Anions "As Rec	L 0.0454	0.033	0.100	mg/I	1	MYL 2 07/20/17	0407 1686433	1
Metals Ana	alvsis-ICP-MS	J 0.0454	0.055	0.100	iiig/L	1	WIAL2 07/29/17	0407 1080455	1
SW846 300	05A/6020A Liquid "	As Received"							
Lithium	0511/002011 Elquid	48.4	3.00	10.0	ug/L	1.00 1	SKJ 08/16/17	0058 1686066	2
Rad Gas Fl	low Proportional Con	unting							
GFPC, Ra2	228, Liquid "As Rece	eived"							
Radium-228	-	4.37	2.14	3.00	pCi/L		JXC9 08/21/17	1207 1692834	3
Rad Radiu	m-226								
Lucas Cell Radium-226	, Ra226, liquid "As I	Received" 0.718	0.250	1.00	pCi/L		MXH8 08/15/17	0745 1686420	4
The follow	ving Prep Methods w	ere performed:							
Method	Desci	ription		Analyst	Date	Time	Prep Batch		
SW846 3005	A ICP-M	S 3005A PREP		JXM8	07/27/17	1651	1686065		
The follow	ving Analytical Meth	nods were performed:							
Method	Descri	iption				Analyst Cor	nments		
1	SW846	9056A							
2	SW846	3005A/6020A							
3 4	EPA 90 EPA 90	14.0/SW8469520Modified							
Sumo coto/	Гизаан Вазахиани	Test			Docult	Nominal	Decourse" (0/	A acontable I	imita
Barium 133 7	Fracer Recovery	Test EPC Pa228 Liquid "As Pacaiy	ed"		Kesult	Nommai	Recovery%	(15% 125%)	
Notes:			cu .				07.2	(15/0-12570)	,
Column be	aders are defined as	follows							
DF: Diluti	on Factor	Lc/LC: C	ritical Level						
DL: Detec	tion Limit	PF: Prep	Factor						
MDA: Mi	nimum Detectable A	ctivity RL: Repo	orting Limit						
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## **Certificate of Analysis**

Report Date: August 22, 2017

									K		IC. A	ugust 2	2, 2017
	Company : Address :	GEL Engineer 2040 Savage I	ing, LLC Rd										
	Contact: Project:	Charleston, So Robert Gardne Wateree CCR	outh Carolina 294 er	417									
	Client Sample ID:	LF-AS-3				Pre	oject:		SCEG	01716c			
	Sample ID:	428957012				Cl	ient ID:		GEEL	003			
	Matrix:	Ground Water											
	Collect Date:	25-JUL-17 17	:40										
	Receive Date:	27-JUL-17											
	Collector:	Client											
Parameter	Quali	fier Result		DL	RL	Units	PF	DF	Analy	st Date	Time	Batch	Method
Ion Chrome	atography	iter itesuit				Cinto			7 mary	st Dute	TIM	Daten	memou
SW846 904	564 Anions "As Rec	eived"											
Fluoride	JOA Amons As Kee	J 0.0411		0.033	0.100	mg/L		1	MXL2	07/29/17	0436	1686433	1
Metals Ana	lysis-ICP-MS					U							
SW846 300	)5A/6020A Liquid "	As Received"											
Lithium	1	J 4.23		3.00	10.0	ug/L	1.00	1	SKJ	08/16/17	0102	1686066	2
Rad Gas Fl	ow Proportional Co	unting											
GFPC, Ra2	28, Liquid "As Rece	eived"											
Radium-228		U ND		1.84	3.00	pCi/L			JXC9	08/21/17	1207	1692834	3
	n-226												
Lucas Cell,	Ra226, liquid "As I	Received <sup>**</sup>		0 473	1.00	pCi/I			MYHQ	08/15/17	0745	1686420	4
The follow	ing Pren Methods w	ere performed:		0.475	1.00	pei/L			WIZ110	00/15/17	0745	1000420	+
Method	Desci	intion			Analyst	Date	7	Fime	Pre	ep Batch			
SW846 3005A	A ICP-M	S 3005A PREP			JXM8	07/27/17	1	1651	168	36065			
The follow	ving Analytical Meth	ods were perfor	med:										
Method	Descri	ption					Analvst	Con	nments				
1	SW846	9056A											
2	SW846	3005A/6020A											
3	EPA 90	04.0/SW846 9320 M	odified										
4	EPA 90								-				
Surrogate/	Fracer Recovery	Test	1			Result	Nomina	al	Recov	very%	Accep	table Li	mits
Barium-133 I	racer C	JFPC, Ra228, Liqui	a "As Received"							96	(15	%-125%)	
Notes:													
Column he DF: Dilutio DL: Detect MDA: Mir	eaders are defined as on Factor tion Limit nimum Detectable A	follows: ctivity	Lc/LC: Critical 1 PF: Prep Factor RL: Reporting L	Level Limit									

SQL: Sample Quantitation Limit

MDC: Minimum Detectable Concentration

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QC Sum	mary
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Report Date: August 22, 2017

**GEL Engineering, LLC** Page 1 of 4 2040 Savage Rd Charleston, South Carolina **Contact: Robert Gardner** Workorder: 428957 Parmname NOM Sample Qual QC Units RPD% REC% Range Anlst Date Time Ion Chromatography Batch 1686433 QC1203840942 428957001 DUP Fluoride J 0.038 J 0.038 0 ^ (+/-0.100) MXL2 07/28/17 21:52 mg/L QC1203840943 428960008 DUP 0.0406 J 0.041 J 0.98 ^ (+/-0.100)07/29/17 09:54 Fluoride mg/L QC1203840941 LCS 2.50 2.35 Fluoride 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 91.6 (90% - 110%)07/28/17 22:20 mg/L QC1203840945 428960008 PS Fluoride 2.50 J 0.0406 2.34 mg/L 92.1 (90% - 110%)07/29/17 10:23 Metals Analysis - ICPMS 1686066 Batch QC1203840130 428957001 DUP ND U ND Lithium U ug/L N/A SKJ 08/15/17 23:51 QC1203840129 LCS 50.0 Lithium 49.3 98.6 (80%-120%) 08/15/17 23:43 ug/L QC1203840128 MB Lithium U ND ug/L 08/15/17 23:39 QC1203840131 428957001 MS Lithium 50.0 U ND 49.9 98.4 (75% - 125%)08/15/17 23:54 ug/L

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## **QC Summary**

Workorder: 4	28957				_			_				Page 2 of 4
Parmname			NOM		Sample	Qual	QC	Units	RPD%	REC%	Range Anlst	Date Time
Metals Analysis - IC Batch 168	2 <b>PMS</b> 36066											
QC1203840132 Lithium	428957001	SDILT		U	ND	U	ND	ug/L	N/A		(0%-10%) SKJ	08/16/17 00:02
Rad Gas Flow Batch 168	36439											
QC1203840968 Radium-228	428949003	DUP		U	0.925	U	0.600	pCi/L	N/A		N/A JXC9	08/15/17 11:26
QC1203840969 Radium-228	LCS		19.8				15.7	pCi/L		79.3	(75%-125%)	08/15/17 11:26
QC1203840967 Radium-228	MB					U	0.741	pCi/L				08/15/17 11:26
Batch 169	92834											
QC1203856709 Radium-228	428957008	DUP			4.94	U	1.31	pCi/L	116*		(0% - 100%) JXC9	08/21/17 12:08
QC1203856710 Radium-228	LCS		19.8				21.6	pCi/L		109	(75%-125%)	08/21/17 12:08
QC1203856708 Radium-228	MB					U	1.31	pCi/L				08/21/17 12:08
<b>Rad Ra-226</b> Batch 168	36419											
QC1203840909 Radium-226	428949001	DUP			1.63		1.03	pCi/L	45.1		(0% - 100%) MXH8	08/10/17 11:00
QC1203840911 Radium-226	LCS		26.0				24.5	pCi/L		94.4	(75%-125%)	08/10/17 11:00
QC1203840908 Radium-226	MB					U	0.0453	pCi/L				08/10/17 10:30

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## **QC Summary**

Workorder: 428957								Page 3 of 4
Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range Anlst	Date Time
Rad Ra-226 Batch 1686419 OC1203840910 428949001 MS								
Radium-226	130	1.63	111	pCi/L		84.6	(75%-125%) MXH8	08/10/17 11:00
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
- $M \qquad REMP \ Result > MDC/CL \ and < RDL$
- N Metals--The Matrix spike sample recovery is not within specified control limits

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## **QC Summary**

Workor	der:	428957			-	•							Pag	e 4 of 4
Parmna	me			NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
N/A	RPD o	or %Recovery	y limits do no	ot apply.										
N1	See ca	se narrative												
ND	Analy	te concentrat	ion is not det	ected above the	detection lin	nit								
NJ	Consu	lt Case Narra	ative, Data Su	ımmary packag	e, or Project	Manager	concerning	this qualifi	ier					
Q	One of	r more qualit	y control crit	eria have not be	een met. Refe	r to the ap	pplicable na	arrative or I	DER.					
R	Per see	ction 9.3.4.1 ses.	of Method 1	664 Revision E	<b>3</b> , due to matr	ix spike r	ecovery iss	ues, this re	sult may not	be reported	or used for	regulatory	complia	ince
R	Sampl	e results are	rejected											
U	Analy	te was analyz	zed for, but n	ot detected abo	ve the MDL,	MDA, M	DC or LOI	).						
UI	Gamm	a Spectrosco	pyUncertai	in identification	l									
UJ	Gamm	a Spectrosco	pyUncertai	in identification	l									
UL	Not co	onsidered det	ected. The as	sociated number	er is the repor	ted conce	ntration, w	hich may b	e inaccurate	due to a low	bias.			
Х	Consu	lt Case Narra	ative, Data Su	ummary packag	e, or Project	Manager	concerning	this qualifi	ier					
Y	Other	specific qual	ifiers were re	equired to prope	erly define the	e results. (	Consult cas	e narrative.						
Ζ	Paint I	Filter TestP	articulates pa	assed through th	ne filter, howe	ever no fr	ee liquids v	vere observ	ved.					
۸	RPD o	of sample and	l duplicate ev	valuated using +	-/-RL. Conce	ntrations	are <5X th	e RL. Qua	lifier Not Ap	plicable for	Radiochem	istry.		
d	5-day	BODThe 2	:1 depletion 1	requirement wa	s not met for	this samp	ole							
e	5-day reporti	BODTest r	eplicates sho	w more than 30	% difference	between	high and lo	w values.	The data is q	ualified per t	he method	and can b	e used fo	r
h	Prepar	ation or pres	ervation hold	ling time was ex	xceeded									
N/A ind ^ The R five tim	licates the lelative les (5X)	hat spike reco Percent Diffe the contract	overy limits d erence (RPD) required dete	lo not apply wh obtained from ection limit (RL	en sample co the sample d ). In cases wh	ncentratio uplicate ( nere either	on exceeds (DUP) is ev r the sample	spike conc. aluated aga e or duplica	by a factor ainst the accorate value is l	of 4 or more eptance criter ess than 5X t	or %RPD i ria when the he RL, a co	not applica e sample i ontrol limi	able. s greater t of +/- tl	than 1e

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.



REPORT TO:	Sample ID:	D07000				
Mike Moore		BZ/933				
	Wateree Lanc	atill MW-01	LF-RCRA/CO	CR		
	Date & Time Sar	npled: J	uly 24, 2017	15:10		
	Date & Time Sub	omitted: J	uly 26, 2017	12:38		
	Collected by: A	HILL	Locat	ion Code: W	AG01LFT	DS
MW-01LF			Login Reco	rd File: 1707	26002	
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed A Date & 1	Analysis Time	Chemist
Chlorides by IC- 9056A	5.09	0.50	mg/L	7/27/17	13:37	BB
pH by SM4500HB(2011)	4.96	0.00	S.U.	7/31/17	11:53	PRC
Holding Time of 15 minutes has been ex	ceeded.					
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.



REPORT TO:	Comple ID:	4 007004								
Mike Moore										
	wateree Lan	iatili weli Gi	/V 6 -RCRA							
	Date & Time Sa	ampled: J	uly 24, 2017	16:15						
	Date & Time Su	ubmitted: J	uly 26, 2017	12:38						
	Collected by:	A.HILL	Loca	tion Code: W	AG06LFT	DS				
GW 6			Login Reco	ord File: 1707	26002	_				
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed A Date & T	nalysis ïme	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 ex	ceeded.									
Sulfates by IC - 9056A	Less than	0.5	mg/L	7/27/17	13:37	BB				

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



REPORT TO: Mike Moore	Sample ID: A Wateree Lanc Date & Time San Date & Time Sub Collected by: A	<b>B27935</b> Ifill MW-071 npled: Jr omitted: Jr .HILL	LF-RCRA/C( uly 24, 2017 uly 26, 2017 Locat	CR 17:15 12:38 tion Code: W.	AG07LFT[	0S
MW-07LF			Login Reco	rd File: 1707	26002	
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed A Date & T	nalysis ïme	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 e	ceeded.					
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.



REPORT TO: Mike Moore	Sample ID: Wateree Lan Date & Time Sa Date & Time Su Collected by: /	AB27936 dfill MW-08 mpled: J bmitted: J A.HILL	LF-RCRA/CO uly 25, 2017 uly 26, 2017 Locat	07:10 12:38 ion Code: W	/AG08LFT	DS
MW-08LF		_	Login Reco	rd File: 1707	26002	
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed A Date & 1	Analysis Fime	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 ex	ceeded.					
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.



REPORT TO: Mike Moore	Sample ID: A Wateree NPE Date & Time Sa Date & Time Su Collected by: A	AB27937 DES Well MV ampled: Ju abmitted: Ju A.HILL	<b>V 22 (NPDE</b> uly 25, 2017 uly 26, 2017 Locat	<b>S)</b> 08:10 12:38 tion Code: W	/AG22TDS	
MW 22			Login Reco	rd File: 1707	26002	
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed A Date & 1	Analysis Time	Chemist
Chlorides by IC EPA 300.0	8.85	0.50	mg/L	7/27/17	13:37	BB
pH by SM4500HB(2011)	4.59	0.00	S.U.	7/31/17	11:53	PRC
Holding Time of 15 minutes has been ex	ceeded.					
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.



REPORT TO: Mike Moore	Sample ID: A Wateree Lanc Date & Time San Date & Time Sub Collected by: A	. <b>B27938</b> Ifill MW-10I npled: Ju omitted: Ju .HILL	L <b>F-RCRA/CC</b> uly 25, 2017 uly 26, 2017 Locati	09:05 12:38 ion Code: W	/AG10LFTD	S
MW-10LF			Login Reco	rd File: 1707	26002	
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed A Date & 1	Analysis Fime	Chemist
Chlorides by IC- 9056A	6.07	0.50	mg/L	7/27/17	13:37	BB
pH by SM4500HB(2011)	5.51	0.00	S.U.	7/31/17	11:53	PRC
Holding Time of 15 minutes has been ex	ceeded.					
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.



REPORT TO: Mike Moore	Sample ID: A Wateree Land Date & Time San Date & Time Sub Collected by: A	AB27939 dfill MW-11L mpled: Ju omitted: Ju AHILL	<b>_F-RCRA/C(</b> uly 25, 2017 uly 26, 2017 Locat	<b>CR</b> 10:05 12:38 tion Code: WAG1	1LFTDS
MW-11LF			Login Reco	rd File: 17072600	)2
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analy Date & Time	sis Chemist
Chlorides by IC- 9056A	4.80	0.50	mg/L	7/27/17 13:	37 BB
pH by SM4500HB(2011)	4.92	0.00	S.U.	7/31/17 11:	53 PRC
Holding Time of 15 minutes has been ex	ceeded.				
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.



REPORT TO:	Sample ID:	A D 2 7 0 4 2				
Mike Moore	Wateree Lan			5		
	Wateree Lan					
	Date & Time Sa Date & Time Su	ampled: . ubmitted: .	July 25, 2017 July 26, 2017	14:25 12:38		
	Collected by:	A.HILL	Locat	ion Code: W	/AGLFAS1	TDS
MW-01LF			Login Reco	rd File: 1707	26002	
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed A Date & 1	Analysis Fime	Chemist
Chlorides by IC- 9056A	7.20	0.50	mg/L	7/27/17	13:37	BB
pH by SM4500HB(2011)	5.12	0.00	S.U.	7/31/17	11:53	PRC
Holding Time of 15 minutes has been ea	xceeded.					
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.



REPORT TO:	Sample ID:	AB27943				
Mike Moore	Wateree Lar	ndfill AS-2-L	.F-RCRA/CC	R		
	Date & Time S Date & Time S Collected by:	ampled: ubmitted: A.HILL	July 25, 2017 July 26, 2017 Locat	15:20 12:38 tion Code: W	AGLFAS2	TDS
MW-01LF			Login Reco	rd File: 1707	26002	_
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed A Date & 1	Analysis Time	Chemist
Chlorides by IC- 9056A	2.67	0.50	mg/L	7/27/17	13:37	BB
pH by SM4500HB(2011)	6.10	0.00	S.U.	7/31/17	11:53	PRC
Holding Time of 15 minutes has been e	ceeded.					
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.



REPORT TO: Mike Moore	Sample ID: A Wateree Land Date & Time San Date & Time Sub Collected by: A	<b>B27944</b> <b>Ifill AS-3-LI</b> mpled: Jr pmitted: Jr HILL	F-RCRA/CCI uly 25, 2017 uly 26, 2017 Locat	<b>R</b> 17:40 12:38 ion Code: W	AGLFAS3	ITDS
MW-01LF			Login Reco	rd File: 1707	26002	
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed A Date & 1	Analysis Time	Chemist
Chlorides by IC- 9056A	5.44	0.50	mg/L	7/27/17	13:37	BB
pH by SM4500HB(2011)	5.13	0.00	S.U.	7/31/17	11:53	PRC
Holding Time of 15 minutes has been ex	ceeded.					
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.



## REPORT TO:

Mike Moore

## Sample ID: AB27953

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

Date & Time Sampled: Date & Time Submitted: Collected by: A.HILL July 24, 2017 15:10 July 26, 2017 12:38 Location Code: WAG01LFTM

MW-01LF Login Record File: 170726003						
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed A Date & 1	Analysis Fime	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

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



### REPORT TO:

Mike Moore

### Sample ID: AB27954

### Wateree Landfill Well GW 6-RCRA

Date & Time Sampled: Date & Time Submitted: Collected by: A.HILL July 24, 2017 16:15 July 26, 2017 12:38 Location Code: WAG06LFTM

GW 6 Login Record File: 170726003						
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Reporting Completed Analysis   Limit(MRL) Units 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.



## REPORT TO:

Mike Moore

### Sample ID: AB27955

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

Date & Time Sampled: Date & Time Submitted: Collected by: A.HILL July 24, 2017 17:15 July 26, 2017 12:38 Location Code: WAG07LFTM

MW-07LF	Login Record File: 170726003					
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	eporting Completed Analysis nit(MRL) Units 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.



## REPORT TO:

Mike Moore

- .

Sample ID: AB27956

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

Date & Time Sampled: Date & Time Submitted: Collected by: A.HILL July 25, 2017 07:10 July 26, 2017 12:38 Location Code: WAG08LFTM

MW-08LF	Login Record File: 170726003					
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Reporting Completed Analysis   Limit(MRL) Units 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.



### REPORT TO:

Mike Moore

Sample ID: AB27957

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

Date & Time Sampled: Date & Time Submitted: Collected by: A.HILL July 25, 2017 08:10 July 26, 2017 12:38 Location Code: WAG22TM

MW 22	Login Record File: 170726003						
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Completed Analysis   Limit(MRL) Units Date & Time			nalysis ime	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	ррb	8/1/17	17:24	CDB	
Selenium by ICP-MS 200.8	Less than	5.0	ррb	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.



## REPORT TO:

Mike Moore

## Sample ID: AB27958

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

Date & Time Sampled: Date & Time Submitted: Collected by: A.HILL July 25, 2017 09:05 July 26, 2017 12:38 Location Code: WAG10LFTM

MW-10LF	Login Record File: 170726003					
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Reporting Completed Analysis   Limit(MRL) 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.



## REPORT TO:

Mike Moore

### Sample ID: AB27959

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

Date & Time Sampled: Date & Time Submitted: Collected by: A.HILL July 25, 2017 10:05 July 26, 2017 12:38 Location Code: WAG11LFTM

MW-11LF	Login Record File: 170726003					
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed A Date &	Analysis Fime	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.



## REPORT TO:

Mike Moore

### Sample ID: AB27962

### Wateree Landfill AS-1-LF-RCRA/CCR

Date & Time Sampled: Date & Time Submitted: Collected by: A.HILL July 25, 2017 14:25 July 26, 2017 12:38 Location Code: WAGASLF1TM

MW-01LF Login Record File: 170726003						
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed A Date & 1	Analysis lime	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.



## REPORT TO:

Mike Moore

## Sample ID: AB27963

### Wateree Landfill AS-2-LF-RCRA/CCR

Date & Time Sampled: Date & Time Submitted: Collected by: A.HILL July 25, 2017 15:20 July 26, 2017 12:38 Location Code: WAGAS2LFTM

MW-01LF Login Record File: 170726003						
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed A	Analysis 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.



## REPORT TO:

Mike Moore

## Sample ID: AB27964

### Wateree Landfill AS-3-LF-RCRA/CCR

Date & Time Sampled: Date & Time Submitted: Collected by: A.HILL July 25, 2017 17:40 July 26, 2017 12:38 Location Code: WAGAS3LFTM

MW-01LF			Login Rec	ord File: 1707	26003	
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed A Date & 1	Analysis lime	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.

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

Facility: Wateree Station

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

County: Richland

Time Sampled: 12:00:00AM

Date Sampled: 09/27/2017

year-month-day (Numerical)

#### **STATION NUMBERS**

PARAMETER	NUMBER	MW-LF-01	MW-LF-06
NAME	Lab. Certificate No.	32006	32006
Field pH S.U.		4.530	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) degree	s C	17.800	17.860
Water level elevation f	ť	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

year-month-day (Numerical)

#### STATION NUMBERS

Time Sampled: 12:00:00AM

PARAMETER	NUMBER	MW-LF-22
NAME	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) degree	s C	20.990
Water level elevation f	t	113.37

Authorized Release By:

Date:

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

Facility: Wateree Station

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

County: Richland

Time Sampled: 12:00:00AM

Date Sampled: 09/27/2017

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 m	icromhos/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	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:

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.

Jack H Carth

Reviewed by

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

## **Certificate of Analysis**

Report Date: October 18, 2017

	Company :	GEI	L Engineering, LLC										
	Address :	2040	) Savage Rd										
		Cha	rleston, South Caroli	na 29417									
	Contact:	Rob	ert Gardner										
	Project:	Wat	eree CCR										
	Client Sample ID:	MW	-22			Pro	ject:		SCEG	)1716c			
	Sample ID:	4341	34001			Cli	ent ID	<b>)</b> :	GEELC	003			
	Matrix:	Grou	und Water										
	Collect Date:	26-S	SEP-17 11:20										
	Receive Date:	03-0	DCT-17										
	Collector:	Clie	nt										
Parameter	Quali	fier	Result	DI	RI	Units	PF	DF	Analys	t Date	Time	Batch	Method
I an Chrom	Quan		Result		KL	Onits	11		7 mary 5	t Date	1 1110	Daten	Wiethou
	atography												
5 W 840 903	boa Anions As Rec	eivea	ND	0.022	0.100	ma/I		1	IVU5	10/05/17	2102	1706772	1
Fluoride		0	ND	0.055	0.100	mg/L		1	јапј	10/03/17	2105	1/00//5	1
The follow	ing Analytical Meth	ods w	ere performed:										
Method	Descri	ption				A	Analys	t Coi	mments				
1	SW846	9056A											
Notes:													

Column headers are defined as follows:DF: Dilution FactorLc/LC: Critical LevelDL: Detection LimitPF: Prep FactorMDA: Minimum Detectable ActivityRL: Reporting LimitMDC: Minimum Detectable ConcentrationSQL: Sample Quantitation Limit

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## **QC Summary**

Report Date: October 18, 2017

**GEL Engineering, LLC** Page 1 of 2 2040 Savage Rd Charleston, South Carolina **Contact: Robert Gardner** Workorder: 434134 Parmname NOM Sample Qual **OC** Units RPD% REC% Range Anlst Date Time

I ul minume			110101		Sample	Zum	<u></u>	Cinto	ICI D /0	ILLC / U	nunge	1 111150	Dute Inne
Ion Chromatograp Batch 17	<b>hy</b> 706773												
QC1203889579 Fluoride	434134001	DUP		U	ND	U	ND	mg/L	N/A			JXH5	10/05/17 21:32
QC1203889683 Fluoride	434131001	DUP			0.306		0.304	mg/L	0.557 ^		(+/-0.100)		10/05/17 12:53
QC1203889577 Fluoride	LCS		2.50				2.35	mg/L		93.9	(90%-110%)		10/05/17 11:55
QC1203889576 Fluoride	6 MB					U	ND	mg/L					10/05/17 11:26
QC1203889581 Fluoride	434134001	PS	2.50	U	ND		2.53	mg/L		101	(90%-110%)		10/05/17 22:59
QC1203889684 Fluoride	434131001	PS	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.
- 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.

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## **QC Summary**

Workord	ler: 434134		-								Pag	e 2 of 2
Parmnan	ne	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
R	Per section 9.3.4.1 purposes.	of Method 1664 Revision B,	due to matri	ix spike r	ecovery issu	es, this res	sult may not	be reported o	or used for 1	regulatory	<sup>v</sup> complia	nce
R	Sample results are	rejected										
U	Analyte was analyz	zed for, but not detected above	e the MDL,	MDA, M	DC or LOD.							
Х	Consult Case Narra	ative, Data Summary package	, or Project I	Manager	concerning t	his qualifi	er					
Ζ	Paint Filter TestF	Particulates passed through the	e filter, howe	ever no fre	ee liquids we	ere observe	ed.					
٨	RPD of sample and	d duplicate evaluated using +/	-RL. Conce	ntrations	are <5X the	RL. Qual	ifier Not Ap	plicable for H	Radiochemi	stry.		
d	5-day BODThe 2	2:1 depletion requirement was	not met for	this samp	le							
e	5-day BODTest reporting purposes	replicates show more than 30%	6 difference	between	high and low	values. T	The data is qu	ualified per th	ne method a	and can be	e used for	ſ
h	Preparation or pres	servation holding time was exe	ceeded									
N/A indi ^ The Re	cates that spike rec elative Percent Diffe	overy limits do not apply whe erence (RPD) obtained from t	n sample co he sample du	ncentratio uplicate (	on exceeds sj (DUP) is eva	oike conc. luated aga	by a factor of the second	of 4 or more optance criter	or %RPD n ia when the	ot applica sample i	able. s greater	than

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

\* 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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### 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.

Jack H Cart

Reviewed by

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## **Certificate of Analysis**

Report Date: October 16, 2017

										К	cport Da	<i>.</i>		0, 2017
	Company :	GEI	Engineerin	g, LLC										
	Address :	2040	) Savage Rd											
		Cha	rleston. Sout	th Carolina 29	9417									
	Contact:	Rob	ert Gardner											
	Project:	Wat	eree CCR											
	Client Sample ID:	MW	-07LF				Pro	oject:		SCEC	01716c			
	Sample ID:	4341	35001				Cli	ent ID	:	GEEL	.003			
	Matrix:	Grou	und Water											
	Collect Date:	27-S	EP-17 08:0	7										
	Receive Date:	03-0	DCT-17											
	Collector:	Clie	nt											
Parameter	Quali	fier	Result		DL	RL	Units	PF	DF	Analy	vst Date	Time	e Batch	Method
Ion Chroma	atography													
SW846 905	66A Anions "As Rec	eived	"											
Fluoride		U	ND		0.033	0.100	mg/L		1	JXH5	10/07/17	0724	1707410	1
Metals Ana	lysis-ICP-MS													
SW846 300	)5A/6020A Liquid "	As Re	ceived"											
Lithium		J	4.57		3.00	10.0	ug/L	1.00	1	SKJ	10/06/17	1507	1706259	2
The followi	ing Prep Methods w	ere pe	rformed:											
Method	Desci	iption	l			Analyst	Date	r	Time	e Pr	ep Batch			
SW846 3005A	A ICP-M	S 3005.	A PREP			SXW1	10/04/17		1007	17	06258			
The follow	ing Analytical Meth	ods w	ere perform	ed:										
Method	Descri	ption					ŀ	Analyst	t Cor	nment	s			
1	SW846	9056A												
2	SW846	3005A	/6020A											
Notes:														
Column he	aders are defined as	follov	ws:											
DF: Dilutio	on Factor		I	Lc/LC: Critical	l Level									

DF: Dilution Factor DL: Detection Limit

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

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## **Certificate of Analysis**

Report Date: October 16, 2017

										К	eport Da	.e. U		0, 2017
	Company :	GEI	Engineering	g, LLC										
	Address :	204	) Savage Rd											
		Cha	rleston, South	n Carolina 29	9417									
	Contact:	Rob	ert Gardner											
	Project:	Wat	eree CCR											
	Client Sample ID:	MW	-01LF				Pro	oject:		SCEG	01716c			
	Sample ID:	434	135002				Cli	ent ID	:	GEEL	.003			
	Matrix:	Gro	und Water											
	Collect Date:	27-8	SEP-17 08:35											
	Receive Date:	03-0	DCT-17											
	Collector:	Clie	nt											
Parameter	Quali	fier	Result		DL	RL	Units	PF	DF	Analy	vst Date	Time	e Batch	Method
Ion Chrom	atography													
SW846 905	56A Anions "As Red	ceived	"											
Fluoride		U	ND		0.033	0.100	mg/L		1	JXH5	10/07/17	0851	1707410	1
Metals Ana	alysis-ICP-MS													
SW846 300	05A/6020A Liquid "	As Re	eceived"											
Lithium		U	ND		3.00	10.0	ug/L	1.00	1	SKJ	10/06/17	1515	1706259	2
The follow	ing Prep Methods w	ere pe	rformed:											
Method	Desc	riptior	ı			Analyst	Date	r	Time	e Pr	ep Batch			
SW846 3005A	A ICP-M	IS 3005	A PREP			SXW1	10/04/17		1007	17	06258			
The follow	ving Analytical Meth	nods w	vere performe	ed:										
Method	Descr	iption					A	Analyst	Co	mment	s			
1	SW846	9056A												
2	SW846	5 3005A	/6020A											
Notes:														
Column he	eaders are defined as	follo	ws:											
DF: Diluti	on Factor		L	c/LC: Critical	Level									

DL: Detection Limit

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

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## **Certificate of Analysis**

Report Date: October 16 2017

										IX.	cpon Da	<i>.</i> . 0		0,2017
	Company :	GEI	Engineeri	ing, LLC										
	Address :	2040	) Savage R	ld										
		Cha	rleston, So	uth Carolina	29417									
	Contact:	Rob	ert Gardne	r										
	Project:	Wat	eree CCR											
	Client Sample ID:	MW	-08LF				Pro	oject:		SCEC	601716c			
	Sample ID:	434	35003				Cli	ent ID	:	GEEL	.003			
	Matrix:	Gro	und Water											
	Collect Date:	27-8	EP-17 09:	11										
	Receive Date:	03-0	DCT-17											
	Collector:	Clie	nt											
Parameter	Qual	ifier	Result		DL	RL	Units	PF	DF	Analy	vst Date	Time	e Batch	Method
Ion Chroma	atography											-		
SW846 905	66A Anions "As Re	ceived	"											
Fluoride		U	ND		0.033	0.100	mg/L		1	JXH5	10/07/17	0919	1707410	1
Metals Ana	lysis-ICP-MS													
SW846 300	)5A/6020A Liquid '	'As Re	ceived"											
Lithium		J	8.26		3.00	10.0	ug/L	1.00	1	SKJ	10/06/17	1522	1706259	2
The following	ing Prep Methods w	vere pe	rformed:											
Method	Desc	riptior	l			Analyst	Date	r	Time	e Pr	ep Batch			
SW846 3005A	ICP-N	IS 3005	A PREP			SXW1	10/04/17		1007	17	06258			
The follow	ring Analytical Mether	hods w	ere perform	med:										
Method	Descr	iption					ŀ	Analyst	Co	mment	s			
1	SW846	5 9056A												
2	SW846	5 3005A	/6020A											
Notes:														
Column he	aders are defined as	s follov	ws:											
DF: Dilutio	on Factor	-		Lc/LC: Crit	tical Level									

DL: Detection Limit MDA: Minimum Detectable Activity MDC: Minimum Detectable Concentration PF: Prep Factor RL: Reporting Limit SQL: Sample Quantitation Limit
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

# **Certificate of Analysis**

Report Date: October 16, 2017

										IX.	cport Da	<i>.</i> . 0		0, 2017
	Company :	GEI	Engineer	ing, LLC										
	Address :	2040	) Savage F	Rd										
		Cha	rleston, So	outh Carolir	na 29417									
	Contact:	Rob	ert Gardne	er										
	Project:	Wat	eree CCR											
	Client Sample ID:	MW	-06LF				Pı	oject:		SCEC	601716c			
	Sample ID:	4341	135004				С	lient ID	:	GEEI	.003			
	Matrix:	Grou	und Water											
	Collect Date:	27-S	SEP-17 09:	:40										
	Receive Date:	03-0	)CT-17											
	Collector:	Clie	nt											
Parameter	Quali	fier	Result		DL	RL	Units	PF	DF	Analy	st Date	Time	e Batch	Method
Ion Chroma	atography													
SW846 905	66A Anions "As Red	ceived	"											
Fluoride		U	ND		0.033	0.100	) mg/L		1	JXH5	10/07/17	0948	1707410	1
Metals Ana	lysis-ICP-MS													
SW846 300	)5A/6020A Liquid "	As Re	ceived"											
Lithium		U	ND		3.00	10.0	) ug/L	1.00	1	SKJ	10/06/17	1523	1706259	2
The following	ing Prep Methods w	ere pe	rformed:											
Method	Desc	ription	l			Analyst	Date		Tim	e Pr	ep Batch			
SW846 3005A	A ICP-M	IS 3005.	A PREP			SXW1	10/04/17	,	1007	17	06258			
The follow	ing Analytical Meth	nods w	vere perfor	med:										
Method	Descr	iption						Analys	t Co	mment	s			
1	SW846	9056A												
2	SW846	5 3005A	/6020A											
Notes:														
Column he	aders are defined as	follov	ws:											
DF: Dilutio	on Factor		<u></u>	Lc/LC: Ci	ritical Level									

D

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

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# **Certificate of Analysis**

Report Date: October 16 2017

										N	cport Da	<i>i</i> c. 0		0,2017
	Company :	GEI	. Engineeri	ng, LLC										
	Address :	2040	) Savage R	d										
		Cha	rleston. Sou	th Carolina	29417									
	Contact:	Rob	ert Gardner		_,									
	Project:	Wat	eree CCR											
	Client Sample ID:	MW	-10LF				Pro	oject:		SCEC	i01716c			
	Sample ID:	434	135005				Cl	ient ID	:	GEEL	.003			
	Matrix:	Gro	und Water											
	Collect Date:	27-8	SEP-17 10:0	)6										
	Receive Date:	03-0	DCT-17											
	Collector:	Clie	nt											
Parameter	Qual	ifier	Result		DL	RL	Units	PF	DF	Analy	vst Date	Time	e Batch	Method
Ion Chroma	atography													
SW846 905	56A Anions "As Re	ceived	"											
Fluoride		U	ND		0.033	0.100	mg/L		1	JXH5	10/07/17	1017	1707410	1
Metals Ana	lysis-ICP-MS													
SW846 300	)5A/6020A Liquid '	'As Re	ceived"											
Lithium		J	3.09		3.00	10.0	ug/L	1.00	1	SKJ	10/06/17	1525	1706259	2
The follow	ing Prep Methods w	ere pe	rformed:											
Method	Desc	ription	l			Analyst	Date	-	Time	e Pr	ep Batch			
SW846 3005A	A ICP-M	IS 3005	A PREP			SXW1	10/04/17		1007	17	06258			
The follow	ving Analytical Met	nods w	vere perform	ned:										
Method	Descr	iption					1	Analyst	t Co	mment	s			
1	SW846	5 9056A												
2	SW846	5 3005A	/6020A											
Notes:														
<b>C</b> 1 1	1. 1 1. C 1	6 - 11												
DE: Dilutio	eauers are defined as	5 101101	ws:	L c/L C · Critic	val Level									
שונות בע				LULU, UIIII										

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DL: Detection Limit MDA: Minimum Detectable Activity MDC: Minimum Detectable Concentration PF: Prep Factor RL: Reporting Limit SQL: Sample Quantitation Limit

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

# **Certificate of Analysis**

Report Date: October 16 2017

										K	cport Da	<i>i</i> c. 0		0, 2017
	Company :	GEI	L Engineeri	ng, LLC										
	Address :	2040	) Savage R	d										
		Cha	rleston. So	uth Carolina	29417									
	Contact:	Rob	ert Gardne	r	_,									
	Project:	Wat	eree CCR											
	Client Sample ID:	MW	-11LF				Pro	oject:		SCEG	i01716c			
	Sample ID:	4341	135006				Cli	ent ID:		GEEL	.003			
	Matrix:	Grou	und Water											
	Collect Date:	27-8	SEP-17 11:	04										
	Receive Date:	03-0	DCT-17											
	Collector:	Clie	nt											
Parameter	Quali	fier	Result		DL	RL	Units	PF	DF	Analy	vst Date	Time	e Batch	Method
Ion Chroma	atography													
SW846 905	66A Anions "As Red	eived	"											
Fluoride		U	ND		0.033	0.100	mg/L		1	JXH5	10/07/17	1046	1707410	1
Metals Ana	lysis-ICP-MS													
SW846 300	)5A/6020A Liquid '	As Re	ceived"											
Lithium		U	ND		3.00	10.0	ug/L	1.00	1	SKJ	10/06/17	1527	1706259	2
The following	ing Prep Methods w	ere pe	rformed:											
Method	Desc	ription	l			Analyst	Date	- -	Time	e Pr	ep Batch			
SW846 3005A	ICP-M	S 3005	A PREP			SXW1	10/04/17		1007	17	06258			
The follow	ring Analytical Metl	nods w	vere perform	med:										
Method	Descr	iption					A	Analyst	Coi	mment	s			
1	SW846	9056A												
2	SW846	3005A	/6020A											
Notes:														
Column he	aders are defined as	follov	ws:											
DF: Dilutio	on Factor			Lc/LC: Critic	cal Level									

Ī

DL: Detection Limit MDA: Minimum Detectable Activity MDC: Minimum Detectable Concentration PF: Prep Factor RL: Reporting Limit SQL: Sample Quantitation Limit

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

Contact:	GEL Engine 2040 Savage Charleston, Robert Gar	eering, LLC e Rd South Carol dner	ina		<u>QC Summary</u>					Report D	Page 1 of			
Workorder:	434135													
Parmname			NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Ion Chromatograj Batch 1	p <b>hy</b> 707410													
QC120389103 Fluoride	1 434135001	DUP		U	ND	J	0.067	mg/L	200			JXH5	10/07/1	7 07:53
QC120389103 Fluoride	0 LCS		2.50				2.41	mg/L		96.3	(90%-110%)	)	10/07/1	7 06:55
QC120389102 Fluoride	9 MB					U	ND	mg/L					10/07/1	7 06:26
QC120389103 Fluoride	2 434135001	PS	2.50	U	ND		2.54	mg/L		100	(90%-110%)	)	10/07/1	7 08:22
Metals Analysis - Batch 1	ICPMS 706259													
QC120388838 Lithium	7 434135001	DUP		J	4.57	J	4.71	ug/L	2.91	^	(+/-10.0	) SKJ	10/06/1	7 15:09
QC120388838 Lithium	6 LCS		50.0				51.2	ug/L		102	(80%-120%)	)	10/06/1	7 15:05
QC120388838 Lithium	5 MB					U	ND	ug/L					10/06/1	7 15:04
QC120388838 Lithium	8 434135001	MS	50.0	J	4.57		57.3	ug/L		105	(75%-125%)	)	10/06/1	7 15:10
QC120388838 Lithium	9 434135001	SDILT		J	4.57	U	ND	ug/L	N/A		(0%-10%)	)	10/06/1	7 15:14

#### Notes:

The Qualifiers in this report are defined as follows:

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# **QC Summary**

	1001. 454155		~							Pag	e 2 of 2
Parmna	ame N	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<	Result is less than value reported										
>	Result is greater than value reported										
В	The target analyte was detected in the	e associate	d blank.								
E	% difference of sample and SD is >10	%. Sampl	e concentration must n	eet flaggir	g criteria						
Е	General ChemistryConcentration of	f the target	analyte exceeds the ins	strument ca	libration ra	ange					
FB H	Mercury was found present at quantif invalid for reporting to regulatory age Analytical holding time was exceeded	fiable conc encies d	entrations in field blan	ks received	with these	e samples. I	Data associate	ed with the	blank are	deemed	
J	Value is estimated										
Ν	MetalsThe Matrix spike sample reco	overy is no	ot within specified cont	rol limits							
N/A	RPD or %Recovery limits do not app	ly.									
N1	See case narrative										
ND	Analyte concentration is not detected	above the	detection limit								
NJ	Consult Case Narrative, Data Summa	ry package	e, or Project Manager c	oncerning	this qualifi	er					
Q	One or more quality control criteria h	ave not be	en met. Refer to the ap	plicable na	rrative or I	DER.					
R	Per section 9.3.4.1 of Method 1664 F purposes.	Revision B	, due to matrix spike re	covery issu	es, this res	sult may not	be reported	or used for	regulatory	y complia	nce
R	Sample results are rejected										
U	Analyte was analyzed for, but not det	ected abov	ve the MDL, MDA, MI	DC or LOD							
Х	Consult Case Narrative, Data Summa	ry package	e, or Project Manager c	oncerning	this qualifi	er					
Y	Other specific qualifiers were require	d to prope	rly define the results. C	onsult case	e narrative.						
Ζ	Paint Filter TestParticulates passed	through th	e filter, however no fre	e liquids w	ere observ	ed.					
۸	RPD of sample and duplicate evaluate	ed using +	/-RL. Concentrations a	re <5X the	RL. Qua	lifier Not Ap	plicable for	Radiochem	istry.		
d	5-day BODThe 2:1 depletion requir	rement was	s not met for this sampl	e							
e	5-day BODTest replicates show mo reporting purposes	ore than 30	% difference between h	igh and lo	w values. T	The data is q	ualified per t	he method	and can b	e used fo	r
h	Preparation or preservation holding ti	ime was ex	ceeded								
N/A ind ^ The R five tim	dicates that spike recovery limits do not Relative Percent Difference (RPD) obtaines (5X) the contract required detection	t apply whe ined from limit (RL)	en sample concentratio the sample duplicate (I) ). In cases where either	n exceeds s DUP) is ev the sample	pike conc. aluated aga or duplica	by a factor ainst the accurate value is 1	of 4 or more eptance criter ess than 5X t	or %RPD 1 ia when the he RL, a co	ot applicates applicates to a sample in the sample in the sample in the sample in the same set of the same set	able. is greater it of +/- th	than 1e

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.



Fax: (803) 217-9911

#### September 28, 2017

#### **REPORT TO:**

Mike Moore

#### Sample ID: AB28790

## Wateree NPDES Well MW 22 (NPDES)

Date & Time Sampled: Date & Time Submitted: September 27, 2017 10:34 Collected by: A.HILL

September 26, 2017 11:20 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) Holding Time of 15 minutes has beer	4.72 n exceeded.	0.00	S.U.	9/27/17 15:30	BF				
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.

() m Approved By:



#### **Central Laboratory (P-08)** 2102 North Lake Drive Columbia, SC 29212 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: Date & Time Submitted: September 28, 2017 11:17 Collected by: A.HILL

September 27, 2017 08:07 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) Holding Time of 15 minutes has beer	4.63 n exceeded.	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	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) 2102 North Lake Drive Columbia, SC 29212 Tel: (803)217-9384 Fax: (803) 217-9911

## **REPORT TO:**

Mike Moore

October 03, 2017

## Sample ID: AB28836

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

Date & Time Sampled: Date & Time Submitted: September 28, 2017 11:17 Collected by: A.HILL

September 27, 2017 08:35 Location Code: WAG01LFTDS

ΛΛ

MW-01LF	Login Record File: 170928002								
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed A Date & 1	Chemist				
Chlorides by IC- 9056A	5.85	0.50	mg/L	9/29/17	10:59	BB			
pH by SM4500HB(2011) Holding Time of 15 minutes has beer	4.79 n exceeded.	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	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:



Fax: (803) 217-9911

October	03,	2017
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#### **REPORT TO:**

Mike Moore

#### Sample ID: AB28837

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

Date & Time Sampled:September 27, 2017 09:11Date & Time Submitted:September 28, 2017 11:17Collected by: A.HILLLocation 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)	5.03	0.00	S.U.	9/28/17 11:50	BF				
Holding Time of 15 minutes has beer	n exceeded.								
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.



Fax: (803) 217-9384

## **REPORT TO:**

Mike Moore

# Sample ID: AB28838

## Wateree Landfill Well GW 6 -RCRA

Date & Time Sampled:September 27, 2017 09:40Date & Time Submitted:September 28, 2017 11:17Collected by: A.HILLLocation Code: WAG06LFTDS

GW 6	Login Record File: 170928002							
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analys Date & Time	sis Chemist			
Chlorides by IC- 9056A	6.98	0.50	mg/L	9/29/17 10:5	9 BB			
pH by SM4500HB(2011)	4.99	0.00	S.U.	9/28/17 11:5	0 BF			
Holding Time of 15 minutes has beer	exceeded.							
Sulfates by IC - 9056A	Less than	0.5	mg/L	9/29/17 10:5	9 BB			
Total Dissolved Solid-SM2540C	36	2.0	mg/L	10/3/17 14:0	5 BF			

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

Page 1 of 1



Fax: (803) 217-9911

October 03	3, 2017	
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#### **REPORT TO:**

Mike Moore

## Sample ID: AB28839

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

Date & Time Sampled: Date & Time Submitted: September 28, 2017 11:17 Collected by: A.HILL

September 27, 2017 10:06 Location Code: WAG10LFTDS

MW-10LF		Login Re	ecord File: 1709	28002		
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed A Date & 1	Analysis Fime	Chemist
Chlorides by IC- 9056A	6.17	0.50	mg/L	9/29/17	10:59	BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been	4.71 exceeded.	0.00	S.U.	9/28/17	11:50	BF
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.



Fax: (803) 217-9911

October 03, 2017

#### **REPORT TO:**

Mike Moore

#### Sample ID: AB28840

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

Date & Time Sampled: Date & Time Submitted: September 28, 2017 11:17 Collected by: A.HILL

September 27, 2017 11:04 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)	5.13	0.00	S.U.	9/28/17 11:50	BF		
Holding Time of 15 minutes has beer	exceeded.						
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:

1人



REPORT TO: Mike Moore	Sample ID: A Wateree NPD Date & Time Sa Date & Time Su Collected by: A	AB28814 DES Well M mpled: S bmitted: S A.HILL	<b>W 22 Total N</b> September 26, 2 September 27, 2 Loca	<b>letals (NPDE</b> 2017 11:20 2017 10:34 tion Code: W/	<b>S)</b> Ag22TM	
MW 22			Login Reco	ord File: 17092	27001	
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed A Date & Ti	nalysis ime	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

January 31, 2018

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

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



	January 3	1, 2018			
REPORT TO: Mike Moore	Sample ID: Wateree Lan Date & Time Sa Date & Time Su Collected by:	AB28847 adfill MW-07L ampled: Se ubmitted: Se A.HILL	<b>_F-RCRA/(</b> eptember 27, eptember 28, Loca	CCR 2017 08:07 2017 11:17 ation Code: WAG07LFTN	Λ
MW-07LF			Login Rec	ord 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



	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 Reco	ord 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	



REPORT TO: Mike Moore	Sample ID: Wateree Lan Date & Time Sa Date & Time Su Collected by:	AB28849 dfill MW-081 ampled: Se ibmitted: Se A.HILL	L <b>F-RCRA/(</b> eptember 27, eptember 28, Loca	CCR 2017 09:11 2017 11:17 ation Code: WAG08LFTI	И
MW-08LF			Login Rec	ord File: 170928002	
CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis	Chemist
	1	(		Dute & Time	
Boron - EPA 200.7	Less than	1000	ppb	10/2/17 16:00	CDB
Boron - EPA 200.7 Calcium EPA 200.7	Less than 798	1000	ppb ppb	10/2/17 16:00 10/2/17 16:00	CDB CDB

January 31, 2018

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



	January 37	1, 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 Reco	ord 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	



REPORT TO:Mike MooreSample ID: AB28851Wateree Landfill MW-10LF-RCRA/CCRUnitsDate & Time Sampled:September 27, 201710:06Date & Time Submitted:September 28, 201711:17Collected by:A.HILLLocation Code:WAG10LFTMMW-10LFLogin Record File:170928002CERTIFIED BY SCDHEC (LAB ID 32006):ResultReporting Limit(MRL)UnitsCompleted Analysis Date & TimeChemistBoron - EPA 200.7Less than1000ppb10/2/1716:00CDBCalcium EPA 200.711491000ppb10/2/1716:00CDB	<b></b>	January 3	1, 2018			
MW-10LFLogin Record File:170928002CERTIFIED BY SCDHEC (LAB ID 32006):ResultReporting Limit(MRL)UnitsCompleted Analysis Date & TimeChemistBoron - EPA 200.7Less than1000ppb10/2/1716:00CDBCalcium EPA 200.711491000ppb10/2/1716:00CDB	REPORT TO: Mike Moore	Sample ID: Wateree Lar Date & Time S Date & Time S Collected by:	AB28851 ndfill MW-10 ampled: Se ubmitted: Se A.HILL	L <b>F-RCRA/(</b> eptember 27, eptember 28, Loca	<b>CCR</b> 2017 10:06 2017 11:17 ation Code: WAG10LFT	м
CERTIFIED BY SCDHEC (LAB ID 32006):ResultReporting Limit(MRL)UnitsCompleted Analysis Date & TimeChemistBoron - EPA 200.7Less than1000ppb10/2/1716:00CDBCalcium EPA 200.711491000ppb10/2/1716:00CDB	MW-10LF	_		Login Rec	ord File: 170928002	
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	CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Calcium EPA 200.7 1149 1000 ppb 10/2/17 16:00 CDB	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



	January Si	1, 2010			
REPORT TO: Mike Moore	Sample ID: Wateree Lan Date & Time Sa Date & Time Su Collected by: A	AB28852 dfill MW-11L mpled: Se bmitted: Se A.HILL	. <b>F-RCRA/C</b> ptember 27, ptember 28, Loca	CR 2017 11:04 2017 11:17 tion Code: WAG11LFTN	И
MW-11LF			Login Reco	ord 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



# **APPENDIX B**

Statistical Analysis of Detection Monitoring Groundwater Quality Results

#### Wateree Station

January 18, 2018 1:57:42 PM

## **Detection Monitoring Summary**

Location Id:	MW-1 F-04							<u>Run Id:</u>	1
Compliance Test:	Double Quantification Rule								
Parameter	Sample Date	<u>Lab Id</u>	<u>Re</u> Testing	Upper Limit	<u>Compliance</u> Result	Exceedance	Possible SSI	Post-Hoc Trend	
Boron, total ug/L	07/25/2017	AB27961			< 1.000	n	_		
								<u>Run Id:</u>	2
Location Id:	MW-LF-04	Intornal on Daalaan	and Useing langest heal	lignound data value					
Compliance Test:	Non-Parametric Prediction	Interval on Backgro	bund Useing largest bac	kground data value.					
Parameter	Sample Date	<u>Lab Id</u>	<u>Re</u> Testing	Upper Limit	Compliance Result	Exceedance	Possible SSI	Post-Hoc Trend	
Calcium, tot ug/L	07/25/2017	AB27961	1 of 2	5.500	0.776	n	<u>551</u>	<u></u>	
								Run Id:	3
Location Id:	MW-LF-04								
Compliance Test:	Non-Parametric Prediction	Interval on Backgro	ound Useing largest bac	kground data value.					
Parameter_	Sample Date	<u>Lab Id</u>	<u>Re</u> Testing	Upper Limit	Compliance <u>Result</u>	Exceedance	<u>Possible</u> <u>SSI</u>	Post-Hoc Trend	
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 Inter	val on Background							
Parameter	Sample Date	Lab Id	<u>Re</u>	Upper Limit	Compliance	Exceedance	Possible	Post-Hoc	
Field pH S.U.	07/26/2017	FLD20170725	1 of 2	5.545	4.530	n/n	<u>881</u>	<u>Irend</u>	

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.

Detection	Mon	itoring	Summary
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Location Id: MW-LF-04 Compliance Test: Double (	l Duantification Rule							<u>Run Id:</u>	5
Parameter	Sample Date	Lab Id	Re	Upper Limit	Compliance_	Exceedance	Possible	Post-Hoc	
Fluoride, total mg/L	07/25/2017	428957009	<u>Testing</u> 		<u>Result</u> < 0.100	n	<u>SSI</u>	<u>Trend</u> 	
								Run Id <sup>.</sup>	6
Location Id: MW-LF-04	L							<u></u>	
Compliance Test: Non-Par	ametric Prediction	Interval on Background Us	seing largest backgro	und data value.					
Parameter	Sample Date	<u>Lab Id</u>	<u>Re</u> Testing	<u>Upper Limit</u>	Compliance Result	Exceedance	Possible SSI	<u>Post-Hoc</u> Trend	
Sulfate, tot mg/L	07/25/2017	AB27941	1 of 2	7.890	< 0.500	n	<u>501</u>		
								Pup Id:	7
Location Id: MW-LF-04	1							<u>Run Iu.</u>	/
Compliance Test: Paramet	ric Prediction Inter	val on Background							
Parameter	Sample Date	Lab Id	<u>Re</u> Testing	Upper Limit	Compliance Result	Exceedance	Possible SSI	Post-Hoc Trend	
Total Dissolved Solids mg/L	07/26/2017	AB27941	1 of 2	59.454	20.000	n	<u>551</u>		
								Dun Idi	0
Location Id: MW-LF-07	1							<u>Kun Id.</u>	0
Compliance Test: Double C	<b>Duantification Rule</b>								
- · · · · · · · · · · ·			_		_				
<u>Parameter</u>	Sample Date	<u>Lab Id</u>	<u>Re</u> Testing	<u>Upper Limit</u>	Compliance Result	Exceedance	Possible SSI	<u>Post-Hoc</u> Trend	
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.

Detection	Mo	nitoring	Summary
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									<u>Run Id:</u>	9
Location Id:	MW-LF-07									
Compliance Test:	Non-Para	metric Prediction I	nterval on Background U	seing largest backgro	und data value.					
Parameter		Sample Date	<u>Lab Id</u>	<u>Re</u> Testing	<u>Upper Limit</u>	Compliance <u>Result</u>	Exceedance	<u>Possible</u> <u>SSI</u>	Post-Hoc Trend	
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			
									<u>Run Id:</u>	10
Location Id:	MW-LF-07									
Compliance Test:	Non-Para	metric Prediction I	nterval on Background U	seing largest backgro	und data value.					
Parameter		Sample Date	<u>Lab Id</u>	<u>Re</u> Testing	Upper Limit	Compliance Result	Exceedance	Possible SSI	Post-Hoc Trend	
Chlorides mg/L		07/24/2017	AB27935	1 of 2	7.450	9.620	У		None	
Chlorides mg/L		09/27/2017	AB28835	1 of 2	7.450	9.830	у		None	
									Run Id:	11
Location Id:	MW-LF-07									
Compliance Test:	Parametr	ic Prediction Interv	al on Background							
Parameter		Sample Date	<u>Lab Id</u>	<u>Re</u> Testing	Upper Limit	Compliance Result	Exceedance	Possible SSI	<u>Post-Hoc</u> Trend	
Field pH S.U.		07/24/2017	FLD20170724	1 of 2	5.545	4.870	n/n	<u></u>		
Field pH S.U.		09/27/2017	FLD20170927	1 of 2	5.545	4.170	n/n			

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**

								<u>Run Id:</u>	12
Location Id: MW-LF-07 Compliance Test: Double Q	uantification Rule								
Parameter	Sample Date	Lab Id	<u>Re</u>	Upper Limit	Compliance Result	Exceedance	Possible	Post-Hoc Trend	
Fluoride, total mg/L	07/24/2017	428957003	<u></u>		< 0.100	n	<u>551</u>		
Fluoride, total mg/L	09/27/2017	1203891031			< 0.100	n			
								<u>Run Id:</u>	13
Location Id: MW-LF-07	1								
Compliance Test: Non-Para	ametric Prediction	Interval on Background U	seing largest backgro	und data value.					
Parameter	Sample Date	Lab Id	<u>Re</u> Testing	Upper Limit	Compliance Result	Exceedance	Possible SSI	Post-Hoc Trend	
Sulfate, tot mg/L	07/24/2017	AB27935	1 of 2	7.890	< 0.500	n	<u></u>		
Sulfate, tot mg/L	09/27/2017	AB28835	1 of 2	7.890	< 0.500	n			
								Run Id:	14
Location Id: MW-LF-07	1								
Compliance Test: Parametr	ric Prediction Inter	val on Background							
Parameter	Sample Date	Lab Id	<u>Re</u> Testing	Upper Limit	Compliance Result	Exceedance	Possible	Post-Hoc Trend	
Total Dissolved Solids mg/L	07/24/2017	AB27935	1 of 2	59.454	47.000	n	<u>551</u>	<u></u>	
Total Dissolved Solids mg/L	09/27/2017	AB28835	1 of 2	59.454	64.000	у		None	

#### 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	Mor	nitoring	g Summary
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									<u>Run Id:</u>	15
Location Id:	MW-LF-08									
Compliance Test:	Double Q	Quantification Rule								
Parameter		Sample Date	Lab Id	<u>Re</u> Testing	Upper Limit	Compliance Result	Exceedance	Possible SSI	<u>Post-Hoc</u> <u>Trend</u>	
Boron, total ug/L		07/25/2017	AB27956			< 1.000	n			
Boron, total ug/L		09/27/2017	AB28849			< 1.000	n			
									<u>Run Id:</u>	16
Location Id:	MW-LF-08	:								
Compliance Test:	Non-Para	ametric Prediction I	nterval on Background	Useing largest backgro	ound data value.					
Parameter		Sample Date	<u>Lab Id</u>	<u>Re</u> Testing	Upper Limit	Compliance Result	Exceedance	<u>Possible</u> SSI	<u>Post-Hoc</u> Trend	
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			
									<u>Run Id:</u>	17
Location Id:	MW-LF-08	:								
<b>Compliance Test:</b>	Non-Para	ametric Prediction I	nterval on Background	Useing largest backgro	ound data value.					
Parameter		Sample Date	<u>Lab Id</u>	<u>Re</u> Testing	Upper Limit	<u>Compliance</u> Result	Exceedance	Possible SSI	<u>Post-Hoc</u> Trend	
Chlorides mg/L		07/25/2017	AB27936	1 of 2	7.450	4.920	n	<u></u>		
Chlorides mg/L		09/27/2017	AB28837	1 of 2	7.450	5.130	n			

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**

Logation Id. MW LE 0	0							<u>Run Id:</u>	18
Compliance Test: Paramet	o tric Prediction Inter	val on Background							
Parameter	Sample Date	Lab Id	Re	Upper Limit	Compliance	Exceedance	Possible	Post-Hoc	
Field pH S.U.	07/26/2017	FLD20170725	Testing 1 of 2	5.545	<u>Result</u> 4.850	n/n	<u>SSI</u>	<u>Trend</u>	
Field pH S.U.	09/27/2017	FLD20170927	1 of 2	5.545	4.610	n/n			
								<u>Run Id:</u>	19
Location Id: MW-LF-0	8								
Compliance Test: Double O	Quantification Rule								
Parameter	Sample Date	Lab Id	<u>Re</u> Testing	Upper Limit	Compliance Result	Exceedance	<u>Possible</u> SSI	<u>Post-Hoc</u> Trend	
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-0	8		rr • • • • •						
Compliance Test: Non-Par	ametric Prediction	Interval on Background	Useing largest backgr	ound data value.					
Parameter	Sample Date	<u>Lab Id</u>	<u>Re</u> Testing	Upper Limit	Compliance Result	Exceedance	Possible SSI	Post-Hoc Trend	
Sulfate, tot mg/L	07/25/2017	AB27936	1 of 2	7.890	< 0.500	n	551		
Sulfate, tot mg/L	09/27/2017	AB28837	1 of 2	7.890	< 0.500	n			

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**

Location Id. MW LE 09	2							Run Id:	21
Compliance Test: Paramet	, ric Prediction Inter	val on Background							
Parameter	Sample Date	Lab Id	Re	Upper Limit	Compliance_	Exceedance	Possible	Post-Hoc	
Total Dissolved Solids mg/L	07/26/2017	AB27936	Testing 1 of 2	59.454	<u>Result</u> 25.000	n	<u>SSI</u>	<u>Trend</u>	
Total Dissolved Solids mg/L	09/27/2017	AB28837	1 of 2	59.454	32.000	n			
								<u>Run Id:</u>	22
Location Id: MW-LF-10	)								
Compliance Test: Double Q	Quantification Rule								
Parameter	Sample Date	<u>Lab Id</u>	<u>Re</u> Testing	Upper Limit	Compliance Result	Exceedance	Possible SSI	<u>Post-Hoc</u> Trend	
Boron, total ug/L	07/25/2017	AB27958			0.053	n	—		
Boron, total ug/L	09/27/2017	AB28851			< 1.000	n			
								<u>Run Id:</u>	23
Location Id: MW-LF-10	)								
Compliance Test: Non-Para	ametric Prediction	Interval on Background U	Jseing largest backgro	ound data value.					
Parameter	Sample Date	<u>Lab Id</u>	<u>Re</u> Testing	Upper Limit	Compliance Result	Exceedance	Possible SSI	Post-Hoc Trend	
Calcium, tot ug/L	07/25/2017	AB27958	1 of 2	5.500	1.000	n	<u>501</u>		
Calcium, tot ug/L	09/27/2017	AB28851	1 of 2	5.500	1.149	n			

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	Moi	nitoring	g Sun	nmary
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									<u>Run Id:</u>	24
Location Id:	MW-LF-10	matria Dradiation 1	(ntowal on Daskgroun	d Useing langest hashe	nound data value					
Compliance Test:	Non-Para	metric Prediction I	Interval on Backgroun	d Useing largest backg	round data value.					
Parameter		Sample Date	Lab Id	<u>Re</u> Testing	<u>Upper Limit</u>	<u>Compliance</u> <u>Result</u>	Exceedance	<u>Possible</u> <u>SSI</u>	Post-Hoc Trend	
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			
									<u>Run Id:</u>	25
Location Id:	MW-LF-10									
Compliance Test:	Parametr	ic Prediction Interv	val on Background							
Parameter		Sample Date	<u>Lab Id</u>	<u>Re</u> Testing	Upper Limit	<u>Compliance</u> <u>Result</u>	Exceedance	Possible SSI	Post-Hoc Trend	
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			
									<u>Run Id:</u>	26
Location Id:	MW-LF-10									
Compliance Test:	Double Q	uantification Rule								
Parameter		Sample Date	Lab Id	<u>Re</u> Testing	Upper Limit	<u>Compliance</u> Result	Exceedance	<u>Possible</u> SSI	<u>Post-Hoc</u> Trend	
Fluoride, total mg/	Ĺ	07/25/2017	428957006			< 0.100	n	—		
Fluoride, total mg/l	Ĺ	09/27/2017	434135005			< 0.100	n			

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.

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Detection	Monitoring	Summary
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	•							<u>Run Id:</u>	27
Location Id: MW-LF-I	U compatible Dradiation	Interval on Packground	Useing langest backgro	aund data value					
Compnance rest: Non-rar	ametric r rediction	interval on background	Useing largest backgro	bunu uata value.					
Parameter	Sample Date	<u>Lab Id</u>	<u>Re</u> Testing	Upper Limit	<u>Compliance</u> <u>Result</u>	Exceedance	Possible SSI	<u>Post-Hoc</u> <u>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			
								<u>Run Id:</u>	28
Location Id: MW-LF-1	0								
Compliance Test: Paramet	tric Prediction Inter	val on Background							
Parameter	Sample Date	Lab Id	<u>Re</u> Testing	Upper Limit	<u>Compliance</u> Result	Exceedance	<u>Possible</u> SSI	<u>Post-Hoc</u> Trend	
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			
								<u>Run Id:</u>	29
Location Id: MW-LF-1	1								
Compliance Test: Double O	Quantification Rule								
Parameter	Sample Date	<u>Lab Id</u>	<u>Re</u> Testing	<u>Upper Limit</u>	<u>Compliance</u> Result	Exceedance	Possible SSI	Post-Hoc Trend	
Boron, total ug/L	07/25/2017	AB27959			< 1.000	n	—		
Boron, total ug/L	09/27/2017	AB28852			< 1.000	n			

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.

MW-LF-11

Location Id:

<b>Detection Monitoring</b>	Summary
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									<u>Run Id:</u>	30
Location Id:	MW-LF-11									
Compliance Test:	Non-Para	ametric Prediction	1 Interval on Backgr	ound Useing largest bac	kground data value.					
Parameter		Sample Date	Lab Id	<u>Re</u> Testing	<u>Upper Limit</u>	Compliance Result	Exceedance	Possible SSI	Post-Hoc Trend	
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			
									<u>Run Id:</u>	31
Location Id:	MW-LF-11									
Compliance Test:	Non-Para	ametric Prediction	ı Interval on Backgr	ound Useing largest bac	kground data value.					
Parameter		Sample Date	Lab Id	<u>Re</u> Testing	Upper Limit	Compliance Result	Exceedance	Possible SSI	Post-Hoc Trend	
Chlorides mg/L		07/25/2017	AB27939	1 of 2	7.450	4.800	n	<u>551</u>	<u></u>	
Chlorides mg/L		09/27/2017	AB28840	1 of 2	7.450	4.710	n			
									<u>Run Id:</u>	32
Location Id:	MW-LF-11									
Compliance Test:	Parametr	ric Prediction Inte	erval on Background							
Parameter		Sample Date	Lab Id	<u>Re</u> Testing	<u>Upper Limit</u>	Compliance Result	Exceedance	Possible SSI	Post-Hoc Trend	
Field pH S.U.		07/26/2017	FLD20170725	1 of 2	5.545	4.380	n/n	001	<u></u>	
Field pH S.U.		09/27/2017	FLD20170927	1 of 2	5.545	4.470	n/n			

<u>Run Id:</u> 33

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Detection	Mo	nitorin	g Sun	ımary
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								Run Id:	33
Location Id: MW-LF-11 Compliance Test: Double Q	Duantification Rule								
Parameter	Sample Date	Lab Id	<u>Re</u>	Upper Limit	Compliance	Exceedance	Possible	Post-Hoc	
Fluoride, total mg/L	07/25/2017	428957007	<u></u>		< 0.100	n	<u>551</u>		
Fluoride, total mg/L	09/27/2017	434135006			< 0.100	n			
Y YY MAY F 11								<u>Run Id:</u>	34
Location Id: MW-LF-II Compliance Test: Non-Para	ametric Prediction	Interval on Background Us	eing largest backgro	und data value.					
Parameter	Sample Date	Lab Id	Re	Upper Limit	Compliance	Exceedance	Possible	Post-Hoc	
Sulfate, tot mg/L	07/25/2017	AB27939	Testing 1 of 2	7.890	<u>Result</u> < 0.500	n	<u>SSI</u>	<u>Trend</u>	
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: Parameti	ric Prediction Interv	val on Background							
Parameter	Sample Date	Lab Id	Re	Upper Limit	Compliance	Exceedance	Possible	Post-Hoc	
Total Dissolved Solids mg/L	07/26/2017	AB27939	Testing 1 of 2	59.454	Result 8.000		SSI	Trend	
Total Dissolved Solids may	00/27/2017	A D 28840	1 of 2	50 454	22,000				
Total Dissolved Solids mg/L	09/2//2017	АБ28840	1 0f 2	39.434	32.000	n			

#### 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.

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the Compliance Result heading.

MW-LF-22

Location Id:

Location Id: Compliance Test:	MW-LF-22 Double Or	uantification Rule							
Parameter		Sample Date	<u>Lab Id</u>	Re	<u>Upper Limit</u>	Compliance	Exceedance	Possible	Post-Hoc
Boron, total ug/L		07/25/2017	AB27957	<u>lesting</u>		< 1.000	n	<u>851</u>	<u>1 rend</u>
Boron, total ug/L		09/26/2017	AB28814			< 1.000	n		
									<u>Run Id:</u>
Location Id:	MW-LF-22								
Compliance Test:	Non-Para	metric Prediction	Interval on Background	Useing largest backgro	ound data value.				
Parameter		Sample Date	<u>Lab Id</u>	<u>Re</u> Testing	Upper Limit	Compliance Result	Exceedance	<u>Possible</u> SSI	Post-Hoc Trend
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		
									<u>Run Id:</u>
Location Id:	MW-LF-22								
Compliance Test:	Non-Para	metric Prediction	Interval on Background	Useing largest backgro	ound data value.				
Parameter		Sample Date	<u>Lab Id</u>	<u>Re</u> Testing	Upper Limit	Compliance Result	Exceedance	<u>Possible</u> SSI	<u>Post-Hoc</u> Trend
Chlorides mg/L		07/25/2017	AB27937	1 of 2	7.450	8.850	У		None
Chlorides mg/L		09/26/2017	AB28787	1 of 2	7.450	11.600	У		None

#### **Detection Monitoring Summary**

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Run Id:

#### **Detection Monitoring Summary**

Location Ide	MW I E 22								<u>Run Id:</u>	39
Compliance Test:	Parametri	ic Prediction Interv	val on Background							
Parameter		Sample Date	Lab Id	Re	Upper Limit	Compliance	Exceedance	Possible	Post-Hoc	
Field pH S.U.		07/26/2017	FLD20170725	Testing 1 of 2	5.545	<u>Result</u> 4.110	n/n	<u>SSI</u>	<u>Trend</u>	
Field pH S.U.		09/26/2017	FLD20170926	1 of 2	5.545	4.290	n/n			
									<u>Run Id:</u>	40
Location Id:	MW-LF-22									
Compliance Test:	Double Q	uantification Rule								
Parameter		Sample Date	Lab Id	<u>Re</u> Testing	Upper Limit	Compliance Result	Exceedance	<u>Possible</u> SSI	<u>Post-Hoc</u> Trend	
Fluoride, total mg/L		07/25/2017	428957005			< 0.100	n			
Fluoride, total mg/L		09/26/2017	434134001			< 0.100	n			
									<u>Run Id:</u>	41
Location Id:	MW-LF-22									
Compliance Test:	Non-Para	metric Prediction	Interval on Background	Useing largest backgr	ound data value.					
Parameter		Sample Date	Lab Id	<u>Re</u> Testing	Upper Limit	Compliance Result	Exceedance	<u>Possible</u> SSI	<u>Post-Hoc</u> Trend	
Sulfate, tot mg/L		07/25/2017	AB27937	1 of 2	7.890	< 0.500	n	<u></u>		
Sulfate, tot mg/L		09/26/2017	AB28787	1 of 2	7.890	< 0.500	n			

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**

<u>Run Id:</u> 42

#### Location Id: MW-LF-22

#### Compliance Test: Parametric Prediction Interval on Background

Parameter	Sample Date	Lab Id	Re	Upper Limit	Compliance	Exceedance	Possible	Post-Hoc
			Testing		Result		<u>SSI</u>	Trend
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.

#### All Backgound Results Non-Detect

Location Id: Parameter:	MW-LF-04 Boron, total						Run Id: 1
Method: Percent ND: ND Approach:	Double Quantification 100 > 50% to <= 100 %	on Rule Substitute PQL					
Sample Date	Modified Result 1.000	<u>Analysis Result</u> 0.044	Detection Lmit 0.044	<u>PQL</u> 1.000	<u>RL</u> 0.000	<u>Non Detect</u> Y	<u>Exceedance</u> N

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An Dackgound Results Non-Delect	All	Backgound	Results	Non-Detect
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Location Id: Parameter:	MW-LF-04 Fluoride, total						Run ld: 5
Method: Percent ND: ND Approach:	Double Quantification 100 > 50% to <= 100 %	on Rule Substitute PQL					
Sample Date 07/25/2017	Modified Result 0.100	<u>Analysis Result</u> 0.033	Detection Lmit 0.033	<u>PQL</u> 0.100	<u>RL</u> 0.000	<u>Non Detect</u> Y	<u>Exceedance</u> N
Location Id: Parameter:	MW-LF-07 Boron, total						Run Id: 8
----------------------------------------	---------------------------------------------------	---------------------------	----------------	----------------	----------------	------------	------------
Method: Percent ND: ND Approach:	Double Quantification 100 > 50% to <= 100 %	on Rule Substitute PQL					
Sample Date	Modified Result	Analysis Result	Detection Lmit	PQL	<u>RL</u>	Non Detect	Exceedance
07/24/2017 09/27/2017	1.000 1.000	0.044 0.240	0.044 0.044	1.000 1.000	0.000 0.000	Y Y	N N

Location Id: Parameter:	MW-LF-07 Fluoride, total						Run Id: 12
Method: Percent ND: ND Approach:	Double Quantificatio 100 > 50% to <= 100 %	on Rule Substitute PQL					
Sample Date	Modified Result	Analysis Result	Detection Lmit	<u>PQL</u>	<u>RL</u>	Non Detect	Exceedance
07/24/2017 09/27/2017	0.100 0.100	0.058 0.067	0.033 0.033	0.100 0.100	0.000 0.000	Y Y	N N

Location Id: Parameter:	MW-LF-08 Boron, total						Run Id: 15	
Method: Percent ND: ND Approach:	Double Quantification 100 > 50% to <= 100 %	on Rule Substitute PQL						
Sample Date	Modified Result	Analysis Result	Detection Lmit	PQL	<u>RL</u>	Non Detect	Exceedance	
07/25/2017 09/27/2017	1.000 1.000	0.044 0.044	0.044 0.044	1.000 1.000	0.000 0.000	Y Y	N N	

Location Id: Parameter:	MW-LF-08 Fluoride, total						Run Id: 19
Method: Percent ND: ND Approach:	Double Quantification 100 > 50% to <= 100 %	on Rule Substitute PQL					
Sample Date	Modified Result	Analysis Result	Detection Lmit	PQL	<u>RL</u>	Non Detect	Exceedance
07/25/2017 09/27/2017	0.100 0.100	0.033 0.033	0.033 0.033	0.100 0.100	0.000 0.000	Y Y	N N

Location Id: Parameter:	MW-LF-10 Boron, total						Run Id	22		
Method:	Double Quantification	Double Quantification Rule								
Percent ND:	50									
ND Approach:	> 15% to <= 50% S	ubstitute PQL								
Sample Date	Modified Result	Analysis Result	Detection Lmit	<u>PQL</u>	<u>RL</u>	Non Detect	Exceedance			
07/25/2017	0.053	0.053	0.044	1.000	0.000	Ν	Ν			
09/27/2017	1.000	0.044	0.044	1.000	0.000	Y	Ν			

Location Id: Parameter:	MW-LF-10 Fluoride, total						Run Id: 26
Method: Percent ND: ND Approach:	Double Quantification 100 > 50% to <= 100 %	on Rule Substitute PQL					
Sample Date	Modified Result	Analysis Result	Detection Lmit	<u>PQL</u>	<u>RL</u>	Non Detect	Exceedance
07/25/2017 09/27/2017	0.100 0.100	0.044 0.033	0.033 0.033	0.100 0.100	0.000 0.000	Y Y	N N

Location Id: Parameter:	MW-LF-11 Boron, total						Run Id: 29
Method: Percent ND: ND Approach:	Double Quantification 100 > 50% to <= 100 %	on Rule Substitute PQL					
Sample Date	Modified Result	Analysis Result	Detection Lmit	<u>PQL</u>	<u>RL</u>	Non Detect	Exceedance
07/25/2017 09/27/2017	1.000 1.000	0.044 0.044	0.044 0.044	1.000 1.000	0.000 0.000	Y Y	N N

Location Id: Parameter:	MW-LF-11 Fluoride, total						Run Id: 33
Method: Percent ND: ND Approach:	Double Quantification 100 > 50% to <= 100 %	on Rule Substitute PQL					
Sample Date	Modified Result	Analysis Result	Detection Lmit	<u>PQL</u>	<u>RL</u>	Non Detect	Exceedance
07/25/2017 09/27/2017	0.100 0.100	0.041 0.033	0.033 0.033	0.100 0.100	0.000 0.000	Y Y	N N

Location Id: Parameter:	MW-LF-22 Boron, total						Run Id: 36
Method: Percent ND: ND Approach:	Double Quantification 100 > 50% to <= 100 %	on Rule Substitute PQL					
Sample Date	Modified Result	Analysis Result	Detection Lmit	<u>PQL</u>	<u>RL</u>	Non Detect	Exceedance
07/25/2017 09/26/2017	1.000 1.000	0.044 0.044	0.044 0.044	1.000 1.000	0.000 0.000	Y Y	N N

Location Id: Parameter:	MW-LF-22 Fluoride, total						Run Id: 40
Method: Percent ND: ND Approach:	Double Quantification 100 > 50% to <= 100 %	on Rule Substitute PQL					
Sample Date	Modified Result	Analysis Result	Detection Lmit	PQL	<u>RL</u>	Non Detect	Exceedance
07/25/2017 09/26/2017	0.100 0.100	0.034 0.033	0.033 0.033	0.100 0.100	0.000 0.000	Y Y	N N

Wateree Station

### Wateree Station Parametric Prediction Interval on Background - Background Data Calculation

Number Of Locations:	6	Annual Site Wide False Positive Rate (SWFPR):	0.10							
Number Of Parameters:	7	Sample Events per Year:	2							
Sampling Plan:	Interwell	Verification Sampling:	Verification Sampling: Pass 1 of 2 (one resample)							
Background Location	<u>18:</u> AS-LF-(	1,AS-LF-02,AS-LF-03,MW-LF-01,MW-LF-06								
Insufficient Background:	0									
DQR Tests:	2									
Parameter Name:	Field pH, S.U.	Background Date Range:	05/11/2016 to 11/14/2017							
Alpha Per Test FPR:	0.00174	Option for LT Pts:	0% to <= 15% Substitute $\frac{1}{2}$ PQL							
Total Pts	30	Kappa for Selected Verification Plan:	1.994							
LT Pts	0	Mean	4.5733							
<u>%LT Pts</u>	0	StdDev	0.4873							
Normal/Log Normal	y/y	<u>In Mean</u>	1.5148							
Log Transformed:	n	<u>ln StdDev</u>	0.1056							
Parameter Name:	Total Dissolved	Solids, mg/L Background Date Range:	05/11/2016 to 11/14/2017							
<u>Alpha Per Test FPR:</u>	0.00174	Option for LT Pts:	0% to <= 15% Substitute $\frac{1}{2}$ PQL							
<u>Total Pts</u>	27	Kappa for Selected Verification Plan:	1.826							
LT Pts	0	Mean	35.0741							
<u>%LT Pts</u>	0	StdDev	11.8417							
Normal/Log Normal	n/y	<u>In Mean</u>	3.5084							
Log Transformed:	у	In StdDev	0.3159							











		User	Supplied Inform	nation					
Sided:		2							
<b>Background Date Ra</b>	inge:	05/11/2016 to 11/14/	2017						
Compliance Date Ra	nge:	07/23/2017 to 09/28/2017							
Compliance Location	ns:	MW-LF-04,MW-LF-07,MW-LF-08,MW-LF-10,MW-LF-11,MW-LF-22							
Background Location	ns:	AS-LF-01,AS-LF-02,AS-LF-03,MW-LF-01,MW-LF-06							
<u>Location</u>	MW-LF-04								
Run Id: 4									
Parameter Name:	Field pH, S.U.								
Option for LT Pts (C	Compliance Data	<u>:</u> 0% to <= 15% §	Substitute PQL						
			Result >		Result <				
Sample Date	Analysis Result	Upper Limit	Upper Limit	Lower Limit	Lower Limit				
7/26/2017	4.530	5.545	n	3.602	n				
Run Id: 7									
Parameter Name:	Total Dissolved S	Solids, mg/L							
Option for LT Pts (C	Compliance Data	<u>:</u> 0% to <= 15% S	Substitute PQL						
			Result >						
Sample Date	Analysis Result	Upper Limit	Upper Limit						
7/26/2017	20.000	59.454	n						

		User S	Supplied Inform	ation	
Sided: Background Date R Compliance Date R Compliance Locatic Background Locatic	lange: ange: ons: ons:	2 05/11/2016 to 11/14/ 07/23/2017 to 09/28/ MW-LF-04,MW-LF AS-LF-01,AS-LF-02	2017 2017 7-07,MW-LF-08,MV 2,AS-LF-03,MW-LF	V-LF-10,MW-LF-11,MW-LF 5-01,MW-LF-06	-22
<b>Location</b>	MW-LF-07				
Run Id: 11					
Parameter Name:	Field pH, S.U.				
Option for LT Pts (	Compliance Data	<u>:</u> 0% to <= 15% §	Substitute PQL		
			Result >		Result <
Sample Date	Analysis Result	Upper Limit	Upper Limit	Lower Limit	Lower Limit
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			
<u>Option for LT Pts (</u>	Compliance Data	<u>:</u> 0% to <= 15% §	Substitute PQL		
			Result >		
Sample Date	Analysis Result	<u>Upper Limit</u>	Upper Limit		
7/24/2017	47.000	59.454	n		
9/27/2017	64.000	59.454	У		

		User S	Supplied Inform	ation	
Sided: Background Date Ra Compliance Date Ra Compliance Locatio Background Locatio	ange: inge: ns: ons:	2 05/11/2016 to 11/14/ 07/23/2017 to 09/28/ MW-LF-04,MW-LF AS-LF-01,AS-LF-02	2017 2017 7-07,MW-LF-08,MV 2,AS-LF-03,MW-LH	V-LF-10,MW-LF-11,MW-LF 7-01,MW-LF-06	-22
<b>Location</b>	MW-LF-08				
Run Id: 18					
Parameter Name:	Field pH, S.U.				
Option for LT Pts (0	Compliance Data	<u>:</u> 0% to <= 15% S	Substitute PQL		
			Result >		Result <
Sample Date	Analysis Result	Upper Limit	Upper Limit	Lower Limit	Lower Limit
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 S	Solids, mg/L			
Option for LT Pts (	Compliance Data	<u>:</u> 0% to <= 15% S	Substitute PQL		
			Result >		
Sample Date	Analysis Result	<u>Upper Limit</u>	Upper Limit		
7/26/2017	25.000	59.454	n		
9/27/2017	32.000	59.454	n		

		User	Supplied Infor	mation	
Sided: Background Date Range: Compliance Date Range: Compliance Locations: Background Locations:		2 05/11/2016 to 11/14/ 07/23/2017 to 09/28/ MW-LF-04,MW-LH AS-LF-01,AS-LF-02	2017 2017 7-07,MW-LF-08,N 2,AS-LF-03,MW-1	4W-LF-10,MW-LF-11,MW-LF LF-01,MW-LF-06	-22
Location	MW-LF-10				
Run Id: 25					
Parameter Name:	Field pH, S.U.				
Option for LT Pts (	Compliance Data	<u>:</u> 0% to <= 15% §	Substitute PQL		
			Result >		Result <
Sample Date	Analysis Result	Upper Limit	Upper Limit	Lower Limit	Lower Limit
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 S	Solids, mg/L			
Option for LT Pts (	Compliance Data	<u>:</u> 0% to <= 15% S	Substitute PQL		
			Result >		
Sample Date	Analysis Result	Upper Limit	Upper Limit		
7/26/2017	23.000	59.454	n		
9/27/2017	41.000	59.454	n		

		User S	Supplied Inforn	nation	
Sided: Background Date Range: Compliance Date Range: Compliance Locations: Background Locations:		2 05/11/2016 to 11/14/ 07/23/2017 to 09/28/ MW-LF-04,MW-LH AS-LF-01,AS-LF-02	2017 2017 7-07,MW-LF-08,M 2,AS-LF-03,MW-L	W-LF-10,MW-LF-11,MW-LF- F-01,MW-LF-06	-22
Location	MW-LF-11				
Run Id: 32					
Parameter Name:	Field pH, S.U.				
Option for LT Pts (	Compliance Data	<u>:</u> 0% to <= 15% S	Substitute PQL		
			Result >		Result <
Sample Date	Analysis Result	Upper Limit	Upper Limit	Lower Limit	Lower Limit
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 S	Solids, mg/L			
Option for LT Pts (	Compliance Data	<u>:</u> 0% to <= 15% S	Substitute PQL		
			Result >		
Sample Date	Analysis Result	Upper Limit	Upper Limit		
7/26/2017	8.000	59.454	n		
9/27/2017	32.000	59.454	n		

		User	Supplied Inform	nation	
Sided: Background Date R Compliance Date R Compliance Locatio Background Locatio	ange: ange: ons: ons:	2 05/11/2016 to 11/14/ 07/23/2017 to 09/28/ MW-LF-04,MW-LI AS-LF-01,AS-LF-02	2017 2017 F-07,MW-LF-08,M 2,AS-LF-03,MW-L	W-LF-10,MW-LF-11,MW-LF F-01,MW-LF-06	22
Location	MW-LF-22				
Run Id: 39					
Parameter Name:	Field pH, S.U.				
Option for LT Pts (	<u>Compliance Data</u>	<u>:</u> 0% to <= 15% S	Substitute PQL		
			Result >		Result <
Sample Date	Analysis Result	Upper Limit	Upper Limit	Lower Limit	Lower Limit
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 (	<u>Compliance Data</u>	<u>:</u> 0% to <= 15% S	Substitute PQL		
			Result >		
Sample Date	Analysis Result	Upper Limit	<u>Upper Limit</u>		
7/26/2017	41.000	59.454	n		
9/26/2017	52.000	59.454	n		

#### **User Supplied Information**

Sided:	1
<b>Background Date Range:</b>	05/11/2016 to 11/14/2017
<b>Compliance Date Range:</b>	07/23/2017 to 09/28/2017
<b>Compliance Locations:</b>	MW-LF-04,MW-LF-07,MW-LF-08,MW-LF-10,MW-LF-11,MW-LF-22
<b>Background Locations:</b>	AS-LF-01,AS-LF-02,AS-LF-03,MW-LF-01,MW-LF-06

		Use	r Supplied Informa	tion		
Background Date Ra	inge:	05/11/2016	to 11/14/2017			
Compliance Date Ra	nge:	07/23/2017	to 9/28/2017			
No. of Verification R	esamples: 1					
Run Id: 2						
Background Location	ns: AS-LF-01,A	S-LF-02,AS-LF-	03,MW-LF-01,MW-LF	<sup>2</sup> -06		
Parameter Code	Paramatar Nama		Unite	Background Sample Count	Ontion for LT Pts	
00916	Calcium, tot		ug/L	<u>33</u>	> 15% to <= 50% Substitute	
One-Sided Upper			PU (Upper)	Value:	· 20	
Confidence Level, %	,					
99.	.01		5.50	0		
	Sample	Sa	ample Greater	than		
Location	Date	<u>Re</u>	sult <u>PU (U</u>	pper)		
MW-LF-04	07/25/2017	(	0.776	n		
Run Id: 3						
Run Id: 3 Background Location	ns: AS-LF-01,A	S-LF-02,AS-LF-	03,MW-LF-01,MW-LF	5-06		
Run Id: 3 Background Location	ns: AS-LF-01,A	S-LF-02,AS-LF-	03,MW-LF-01,MW-LF	-06 Background Sample Count	Ontion for LT Pto	
Run Id: 3 Background Location <u>Parameter Code</u> 00940	ns: AS-LF-01,A <u>Parameter Name</u> Chlorides	S-LF-02,AS-LF-	03,MW-LF-01,MW-LF <u>Units</u> mg/L	S-06 Background <u>Sample Count</u> 27	<u>Option for LT Pts.</u> 0% to <= 15% Substitute POL	
Run Id: 3 Background Location <u>Parameter Code</u> 00940 One-Sided Upper Confidence Level %	ns: AS-LF-01,A <u>Parameter Name</u> Chlorides	S-LF-02,AS-LF-	03,MW-LF-01,MW-LF <u>Units</u> mg/L PU (Upper)	F-06 Background <u>Sample Count</u> 27 Value:	<u>Option for LT Pts.</u> 0% to <= 15% Substitute PQL	
Run Id: 3 Background Location <u>Parameter Code</u> 00940 One-Sided Upper Confidence Level, % 98.	ns: AS-LF-01,A <u>Parameter Name</u> Chlorides 57	S-LF-02,AS-LF-	03,MW-LF-01,MW-LF <u>Units</u> mg/L PU (Upper) 7.45	7-06 Background <u>Sample Count</u> 27 Value:	<u>Option for LT Pts.</u> 0% to <= 15% Substitute PQL	
Run Id: 3 Background Location <u>Parameter Code</u> 00940 One-Sided Upper Confidence Level, % 98.	ns: AS-LF-01,A <u>Parameter Name</u> Chlorides 57 Sample	S-LF-02,AS-LF-	03,MW-LF-01,MW-LF <u>Units</u> mg/L PU (Upper) 7.45 umple Greater	7-06 Background <u>Sample Count</u> 27 Value: 50	<u>Option for LT Pts.</u> 0% to <= 15% Substitute PQL	
Run Id: 3 Background Location <u>Parameter Code</u> 00940 One-Sided Upper Confidence Level, % 98. <u>Location</u>	ns: AS-LF-01,A <u>Parameter Name</u> Chlorides 57 Sample <u>Date</u>	<b>S-LF-02,AS-LF-</b> Sa <u>Re</u>	03,MW-LF-01,MW-LF <u>Units</u> mg/L PU (Upper) 7.45 umple Greater <u>ssult PU (U</u>	F-06 Background Sample Count 27 Value: 60 than (pper)	<u>Option for LT Pts.</u> 0% to <= 15% Substitute PQL	
Run Id: 3 Background Location <u>Parameter Code</u> 00940 One-Sided Upper Confidence Level, % 98. <u>Location</u> MW-LF-04	ns: AS-LF-01,A Parameter Name Chlorides 57 Sample Date 07/25/2017	S-LF-02,AS-LF- Sa <u>Re</u> 7	03,MW-LF-01,MW-LF <u>Units</u> mg/L PU (Upper) 7.45 ample Greater <u>sult PU (U</u> 2.430	F-06 Background Sample Count 27 Value: 50 than (pper) n	<u>Option for LT Pts.</u> 0% to <= 15% Substitute PQL	
Run Id: 3 Background Location Parameter Code 00940 One-Sided Upper Confidence Level, % 98. Location MW-LF-04  Run Id: 6	ns: AS-LF-01,A <u>Parameter Name</u> Chlorides 57 57 Sample <u>Date</u> 07/25/2017	<b>S-LF-02,AS-LF-</b> Sa <u>Re</u> 7	03,MW-LF-01,MW-LF <u>Units</u> mg/L PU (Upper) 7.45 ample Greater isult <u>PU (U</u> 2.430	F-06 Background Sample Count 27 Value: 60 than (pper) n	<u>Option for LT Pts.</u> 0% to <= 15% Substitute PQL	
Run Id: 3 Background Location Parameter Code 00940 One-Sided Upper Confidence Level, % 98. Location MW-LF-04 Run Id: 6 Background Location	ns: AS-LF-01,A Parameter Name Chlorides 57 Sample Date 07/25/2017 ns: AS-LF-01,A	S-LF-02,AS-LF- Sa <u>Re</u> S-LF-02,AS-LF-	03,MW-LF-01,MW-LF Units mg/L PU (Upper) 7.45 ample Greater sult <u>PU (U</u> 2.430 03,MW-LF-01,MW-LF	F-06 Background Sample Count 27 Value: 50 • than (pper) n	Option for LT Pts. 0% to <= 15% Substitute PQL	
Run Id: 3 Background Location Parameter Code 00940 One-Sided Upper Confidence Level, % 98. Location MW-LF-04 Run Id: 6 Background Location Parameter Code 00945	ns: AS-LF-01,A Parameter Name Chlorides 57 57 57 57 57 57 57 57 57 57	S-LF-02,AS-LF- Sa <u>Re</u> 7 S-LF-02,AS-LF-	03,MW-LF-01,MW-LF Units mg/L PU (Upper) 7.45 umple Greater sult PU (U 7.430 03,MW-LF-01,MW-LF Units mg/L	F-06 Background Sample Count 27 Value: 60 • than (pper) n * F-06 Background Sample Count 27	Option for LT Pts. 0% to <= 15% Substitute PQL Option for LT Pts. > 50% to <= 100 %	
Run Id: 3 Background Location Parameter Code 00940 One-Sided Upper Confidence Level, % 98. Location MW-LF-04 Run Id: 6 Background Location Parameter Code 00945 One-Sided Upper	ns: AS-LF-01,A Parameter Name Chlorides 57 Sample Date 07/25/2017 ns: AS-LF-01,A Parameter Name Sulfate, tot	S-LF-02,AS-LF- Sa <u>Re</u> 5 S-LF-02,AS-LF-	03,MW-LF-01,MW-LF Units mg/L PU (Upper) 7.45 ample Greater sult PU (U 7.430 03,MW-LF-01,MW-LF Units mg/L PU (Upper)	F-06 Background Sample Count 27 Value: 50 • than (pper) n F-06 Background Sample Count 27 Value:	Option for LT Pts. 0% to <= 15% Substitute PQL Option for LT Pts. > 50% to <= 100 % Substitute PQL	
Run Id: 3 Background Location Parameter Code 00940 One-Sided Upper Confidence Level, % 98. Location MW-LF-04 Run Id: 6 Background Location Parameter Code 00945 One-Sided Upper Confidence Level, %	ns: AS-LF-01,A Parameter Name Chlorides , , , , , , , , , , , , ,	S-LF-02,AS-LF- S4 <u>R6</u> 7 S-LF-02,AS-LF-	03,MW-LF-01,MW-LF Units mg/L PU (Upper) 7.45 ample Greater ssult PU (U 2.430 03,MW-LF-01,MW-LF Units mg/L PU (Upper)	F-06 Background Sample Count 27 Value: 50 than (pper) n F-06 Background Sample Count 27 Value:	Option for LT Pts. 0% to <= 15% Substitute PQL Option for LT Pts. > 50% to <= 100 % Substitute PQL	
Run Id: 3 Background Location Parameter Code 00940 One-Sided Upper Confidence Level, % 98. Location MW-LF-04 Run Id: 6 Background Location Parameter Code 00945 One-Sided Upper Confidence Level, % 98.	ns: AS-LF-01,A Parameter Name Chlorides 57 Sample Date 07/25/2017 ns: AS-LF-01,A Parameter Name Sulfate, tot	S-LF-02,AS-LF- S- S-LF-02,AS-LF-	03,MW-LF-01,MW-LF Units mg/L PU (Upper) 7.45 ample Greater sult PU (U 7.430 03,MW-LF-01,MW-LF Units mg/L PU (Upper) 7.89	F-06 Background Sample Count 27 Value: 50 than (pper) n F-06 Background Sample Count 27 Value: 0	Option for LT Pts. 0% to <= 15% Substitute PQL Option for LT Pts. > 50% to <= 100 % Substitute PQL	
Run Id: 3 Background Location Parameter Code 00940 One-Sided Upper Confidence Level, % 98. Location MW-LF-04 Run Id: 6 Background Location Parameter Code 00945 One-Sided Upper Confidence Level, % 98.	ns: AS-LF-01,A Parameter Name Chlorides 57 Sample Date 07/25/2017 ns: AS-LF-01,A Parameter Name Sulfate, tot	S-LF-02,AS-LF- Sa <u>Re</u> 7 S-LF-02,AS-LF- Sa	03,MW-LF-01,MW-LF Units mg/L PU (Upper) 7.45 umple Greater sult PU (U 2.430 03,MW-LF-01,MW-LF Units mg/L PU (Upper) 7.89 umple Greater	F-06 Background Sample Count 27 Value: 60 than (pper) n F-06 Background Sample Count 27 Value: 0	Option for LT Pts. 0% to <= 15% Substitute PQL Option for LT Pts. > 50% to <= 100 % Substitute PQL	

		User Supplie	l Information	
Background Date Range: Compliance Date Range:	: 05/11/2 07/23/2	016 to 11/14/2 017 to 9/28/20	017 17	
No. of Verification Resan	nples: 1			
MW-LF-04	07/25/2017	<0.500	n	
Run Id: 9				
<b>Background Locations:</b>	AS-LF-01,AS-LF-02,	AS-LF-03,MW-LF	-01,MW-LF-06	
			Background	
Parameter CodePa00916Ca	<u>rameter Name</u> lcium, tot	<u>Unit</u> ug/L	<u>s Sample Count</u> 33	<u>Option for LT Pts.</u> > 15% to <= 50% Substitute PQL
One-Sided Upper Confidence Level, %		]	PU (Upper) Value:	-
99.01			5.500	
	Sample	Sample	Greater than	
Location	Date	Result	PU (Upper)	
MW-LF-07	07/24/2017	2.010	n	
MW-LF-07	09/27/2017	1.912	n	
Run Id: 10				
<b>Background Locations:</b>	AS-LF-01,AS-LF-02,	AS-LF-03,MW-LF	-01,MW-LF-06	
	, NT	<b>T</b> T •	Background	
Parameter CodePa00940Ch	<u>rameter Name</u> Ilorides	<u>Unit</u> mg/I	<u>s Sample Count</u> 27	<u>Option for LT Pts.</u> 0% to <= 15% Substitute POL
One-Sided Upper Confidence Level, %		1	PU (Upper) Value:	
98.57			7.450	
	Sample	Sample	Greater than	
Location	Date	Result	<u>PU (Upper)</u>	
MW-LF-07	07/24/2017	9.620	у	
MW-LF-07	09/27/2017	9.830	У	

		User Supplie	l Information	
Background Date Ran Compliance Date Ran No. of Verification Res	ge: 05/11/2 ge: 07/23/2 samples: 1	2016         to         11/14/2           2017         to         9/28/20	017 17	
Run Id: 13				
Background Locations	s: AS-LF-01,AS-LF-02	AS-LF-03,MW-LF	-01,MW-LF-06	
<u>Parameter Code</u> 00945	<u>Parameter Name</u> Sulfate, tot	<u>Unit</u> mg/I	Background <u>Sample Cou</u> 27	nt <u>Option for LT Pts.</u> > 50% to <= 100 % Substitute POL
One-Sided Upper Confidence Level, %		]	PU (Upper) Value:	
98.5	7		7.890	
Location	Sample	Sample Result	Greater than PU (Upper)	
MW-LF-07	07/24/2017	<0.500	n	
MW-LF-07	09/27/2017	<0.500	n	
Run Id: 16				
Background Locations	6: AS-LF-01,AS-LF-02	2,AS-LF-03,MW-LF	-01,MW-LF-06 Background	
<u>Parameter Code</u> 00916	<u>Parameter Name</u> Calcium, tot	<u>Unit</u> ug/L	<u>s Sample Cou</u> 33	nt <u>Option for LT Pts.</u> > 15% to <= 50% Substitute POL
One-Sided Upper Confidence Level, %		1	PU (Upper) Value:	1.42
99.0	1		5.500	
Location	Sample <u>Date</u>	Sample <u>Result</u>	Greater than <u>PU (Upper)</u>	
MW-LF-08	07/25/2017	0.830	n	
MW-LF-08	09/27/2017	0.798	n	

		User Supplie	d Information	
Background Date Ra Compliance Date Ra No. of Verification F	ange: 0 nnge: 0 Resamples: 1	05/11/2016     to     11/14/2       07/23/2017     to     9/28/20	2017 )17	
Run Id: 17				
Background Locatio	ons: AS-LF-01,AS-	LF-02,AS-LF-03,MW-LF	5-01,MW-LF-06	
<u>Parameter Code</u> <u>Parameter Name</u> 00940 Chlorides		<u>Uni</u> mg/l	Backgrour ts Sample Co L 27	nd <u>ount</u> <u>Option for LT Pts.</u> 0% to <= 15% Substitute POL
One-Sided Upper Confidence Level, %	, D			
98	.57		7.450	
Location	Sample <u>Date</u>	Sample <u>Result</u>	Greater than <u>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 Locatio	ons: AS-LF-01,AS-	LF-02,AS-LF-03,MW-LF	5-01,MW-LF-06	
<u>Parameter Code</u> 00945	<u>Parameter Name</u> Sulfate, tot	<u>Uni</u> mg/l	Backgrour ts <u>Sample Co</u> L 27	nd <u>Option for LT Pts.</u> > 50% to <= 100 % Substitute POL
One-Sided Upper Confidence Level, %	, D		PU (Upper) Value:	Substitute I QL
98	.57		7.890	
	Sample	Sample	Greater than	
Location	Date	Result	<u>PU (Upper)</u>	
MW-LF-08	07/25/2017	<0.500	n	
MW-LF-08	09/27/2017	<0.500	n	

: 05/11 07/23 nples: 1 AS-LF-01,AS-LF-0	/2016 to 11/14// /2017 to 9/28/2( 2,AS-LF-03,MW-LF	2017 117	
AS-LF-01,AS-LF-0	2,AS-LF-03,MW-LF		
AS-LF-01,AS-LF-0	2,AS-LF-03,MW-LF		
		-01,MW-LF-06	
<u>rameter Name</u> llcium, tot	<u>Uni</u> ug/L	Background ts <u>Sample Cou</u> 33	l <u>int</u> <u>Option for LT Pts.</u> > 15% to <= 50% Substitute POL
		PU (Upper) Value:	
		5.500	
Sample <u>Date</u>	Sample <u>Result</u>	Greater than <u>PU (Upper)</u>	
07/25/2017	1.000	n	
09/27/2017	1.149	n	
AS-LF-01,AS-LF-0	2,AS-LF-03,MW-LF	-01,MW-LF-06	
<u>rameter Name</u> Ilorides	<u>Uni</u> mg/l	Background ts <u>Sample Cou</u> L 27	l <u>Int</u> <u>Option for LT Pts.</u> 0% to <= 15% Substitute
		PU (Upper) Value:	rQL
		7.450	
Sample	Sample	Greater than	
Date	Result	<u>PU (Upper)</u>	
07/25/2017	6.070	n	
09/27/2017	6.170	n	
	Sample Date 07/25/2017 09/27/2017 AS-LF-01,AS-LF-0 vrameter Name llorides Sample Date 07/25/2017 09/27/2017	SampleSampleDateResult07/25/20171.00009/27/20171.149AS-LF-01,AS-LF-02,AS-LF-03,MW-LFtrameter NameUniturameter NameUnitor/assesSamplebloridesSampleDateResult07/25/20176.07009/27/20176.170	Sample       Sample       Greater than         Date       Result       PU (Upper)         07/25/2017       1.000       n         09/27/2017       1.149       n         Background Sample Cou         trameter Name       Units       Sample Cou         ofrides       Zample Cou       Sample Cou         blorides       PU (Upper)       27         Sample Cou       Sample Cou       Sample Cou         oframe       Units       Sample Cou         oframe       Units       Sample Cou         oframe       Units       Sample Cou         oframe       Note       Sample Cou         off       Sample Cou       Sample Cou

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         Parameter Code       Parameter Name       Units       Background         0945       Sulfate, to       Impl.       27       Spow to << 100 %, Substitute PQL         One-Sided Upper       Sumple       Greater than       PU (Upper) Value:       Substitute PQL         One-Sided Upper       Parameter Name       Result       PU (Upper)       Substitute PQL         NW-LF-10       07/25/2017       3.260       n       -       -         Run Id:       30       Substitute PQL       0       -       -         Run Id:       30       n       -       -       -         Run Id:       30       Substitute       Quitter to a substitute       -       -         Option for LT Pts.       Ug/L       Sample       Sample       -       -         Run Id:       30       N       -       -       -       -       -         Option for LT Pts.       Ug/L       <			User Supplie	d Information	
Rm H:       27         Background Location:       SALF-01,AS-LF-02,AS-LF-03,MV-LF-01 Substitute PQL       Background Sample Count ngL       Dinis Sample Count ngL       Background Substitute PQL       Option for LT Pts. Substitute PQL         Cons-Sided Upper Confidence Level, %       PU (Upper) Value:       PU (Upper) Value:       PU (Upper) Value:         Non-Sided Upper Confidence Level, %       Sample       Greater than Pate       PU (Upper)         Mw-LF-10       07/25/2017       3.260       n         MW-LF-10       09/27/2017       3.490       n         Mw-LF-10       09/27/2017       3.490       n         Run H:       30       Sample Count Jupper       Sample Count Jupper         Run H:       30       Sample Count Jupper       Sample Count Jupper         Run H:       30       n       PU (Upper)         Run H:       30       Sample Count Jupper       Sample	Background Date R: Compliance Date Ra No. of Verification R	ange: 05/ nge: 07/2 lesamples: 1	11/2016 to 11/14/2 23/2017 to 9/28/20	2017 17	
Background Location:       AS-LF-01,AS-LF-02,AS-LF-03,WW-LF-01,WW-LF-00       Background         Parameter Code 00945       Parameter Name Substitute POL       Inits Mm/L       Background 27       Option for LT Pts. >50% to <= 100 % Substitute POL         One-Sided Upper Confidence Level, %       PU (Upper) Value:       No       Substitute POL         98.57       7.890         Sample       Sample       Greater than         Location       Date       Result       PU (Upper)         MW-LF-10       09/27/2017       3.490       n         MW-LF-10       09/27/2017       3.490       n         MW-LF-10       Option for LT Pts.       Put (Upper)         MW-LF-10       09/27/2017       3.490       n         MW-LF-10       09/27/2017       3.490       n       Put (Upper)         MW-LF-10       Option for LT Pts.       Put (Upper)       Put (Upper)         Run Id:       30       Sample Count ug/L       Sample Count 33       Option for LT Pts. >15% to <= 50% Substitute PQL         Option for LT Pts.       Sample Count ug/L       Sample Count 33       Sample Count PQL       Sample	Run Id: 27				
Parameter Code 00945Parameter Name Sulfate, totUnits mg/LSample Count Sample Count 27Option for LT Pts. > 50%, to <= 100 % Substitute PQLOne-Sided Upper Confidence Level, % 98.57PU (Upper) Value: 7.890Substitute PQLOne-Sided Upper SampleSample ResultGreater than PU (Upper)LocationDate 09/27/2017Result 3.260PU (Upper)MW-LF-1009/27/20173.260nMW-LF-1009/27/20173.490nMW-LF-1009/27/20173.490nMW-LF-1009/27/20173.490nBackground Locations:AS-LF-01,AS-LF-02,AS-LF-03,MW-LF-01,MW-LF-06 Background Locations:Parameter Code 0916Parameter Name ug/LUnits ug/LOption for LT Pts. >> 15% to <= 50% Substitute PQLOne-Sided Upper Confidence Level, % 99.01PU (Upper) Value: Greater than LocationOption for LT Pts. >> 15% to <= 50% Substitute PQLOne-Sided Upper Confidence Level, % 99.01Sample Greater than LocationOption for LT Pts. >> 15% to <= 50% Substitute PQLOne-Sided Upper One-Sided Upper One-Sided UpperSample Greater than LocationOption for LT Pts. >>> 15% to <= 50% Substitute PQLOne-Sided Upper One-Sided UpperSample DateGreater than PU (Upper)DateResult PU (Upper)PU (Upper)MW-LF-1107/25/20170.195nMW-LF-1109/27/20170.200n	Background Locatio	ns: AS-LF-01,AS-LF	-02,AS-LF-03,MW-LF	-01,MW-LF-06	
PU (Upper) Value:         Confidence Level, %         98.57       7.890         Sample       Sample       Greater than         Location       Date       Result       PU (Upper)         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-01         MW-LF-10       Option for LT Pts.         00916       Parameter Name Calcium, tot       Units ug/L       Sample Count 33       Option for LT Pts.         00916       Parameter Name Calcium, tot       Units       Sample Count PQL       Option for LT Pts.         00916       Parameter Name Calcium, tot       Units       Sample Count PQL       Option for LT Pts.         99.01       5.500       Sample       Greater than       Encention         Mw-LF-11       Date       Result       PU (Upper)         MW-LF-11       07/25/2017       0.200       n	<u>Parameter Code</u> 00945	<u>Parameter Name</u> Sulfate, tot	<u>ne Units</u> mg/L		Ind <u>Count</u> <u>Option for LT Pts.</u> > 50% to <= 100 % Substitute PQL
98.577.890LocationDateSample ResultGreater than PU (Upper)MW-LF-1007/25/20173.260nMW-LF-1009/27/20173.490nMW-LF-1009/27/20173.490nTransfer Sample Count ug/LParameter Code 0916Parameter Name Calcium, totUnits ug/LSample Count 33Option for LT Pts. >15% to <= 50% Substitute PQLOne-Sided Upper Confidence Level, %SampleSampleGreater than DateSample SampleSample SampleSample SampleSample SampleSample SampleSample SampleSample SampleSample SampleSample SampleSample SampleSample SampleSample SampleSample SampleSample SampleSample SampleSample SampleSample SampleSample SampleSample SampleSample SampleSample SampleSample SampleSample SampleSample SampleSample SampleSample SampleSample Sample	One-Sided Upper Confidence Level, %			PU (Upper) Value:	
Sample LocationSample DateGreater than PU(Upper)MW-LF-1007/25/20173.260nMW-LF-1009/27/20173.490nRun Id:303Background Locations: 	98	.57		7.890	
MW-LF-10 $07/25/2017$ $3.260$ nMW-LF-10 $09/27/2017$ $3.490$ nRun Id: $30$ $30$ Background Locations: $AS-LF-01,AS-LF-02,AS-LF-03,MW-LF-01,MW-LF-06$ BackgroundParameter CodeParameter NameUnitsSample CountOption for LT Pts.00916Calcium, tot $ug/L$ $33$ > 15% to <= 50% Substitute	Location	Sample <u>Date</u>	Sample <u>Result</u>	Greater than <u>PU (Upper)</u>	
MW-LF-10 $09/27/2017$ $3.490$ nRun Id:30Background Locations: $AS-LF-01, AS-LF-02, AS-LF-03, MW-LF-01, MW-LF-06$ BackgroundBackgroundParameter CodeParameter Name Calcium, totUnits ug/LSample Count 33One-Sided Upper Confidence Level, % 99.01PU (Upper) Value: 5.500SampleSampleGreater than PU (Upper)LocationDateResultPU (Upper) PU (Upper)MW-LF-1107/25/20170.195n	MW-LF-10	07/25/2017	3.260	n	
Run Id: 30Background Locations:AS-LF-01,AS-LF-02,AS-LF-03,MW-LF-01,MW-LF-06 BackgroundParameter Code 00916Parameter Name Calcium, totUnits ug/LSample Count 33Option for LT Pts. > 15% to <= 50% Substitute PQLOne-Sided Upper Confidence Level, % 99.01PU (Upper) Value: Sample> 15% to <= 50% Substitute PQLSampleSample ResultGreater than PU (Upper)MW-LF-1107/25/20170.195n	MW-LF-10	09/27/2017	3.490	n	
Background Location:       AS-LF-01,AS-LF-02,AS-LF-03,WW-LF-01,WW-LF-06 Background       Background         Parameter Code 00916       Parameter Name Calcium, tot       Units ug/L       Sample Count 33       Option for LT Pts. > 15% to <= 50% Substitute PQL         One-Sided Upper Confidence Level, % $Y$ $Y$ $Y$ $Y$ $y_0.1$ Sample       Greater than $Y$ $Y$ $Y$ MW-LF-11 $0/25/2017$ $0.195$ n $Y$ $Y$	Run Id: 30				
Parameter Code 00916Parameter Name Calcium, totUnits ug/LSample Count 33Option for LT Pts. > 15% to <= 50% Substitute PQLOne-Sided Upper Confidence Level, %PU (Upper) Value: $5.500$ SampleSampleSampleSampleGreater than PU (Upper)LocationDateResultPU:Upper)nMW-LF-1109/27/20170.200n	Background Locatio	ns: AS-LF-01,AS-LF	-02,AS-LF-03,MW-LF	-01,MW-LF-06	
One-Sided Upper Confidence Level, % 99.01 5.500 Sample Sample Greater than Location Date Result PU (Upper) MW-LF-11 07/25/2017 0.195 n	<u>Parameter Code</u> 00916	<u>Parameter Name</u> Calcium, tot	<u>Unit</u> ug/L	Backgrou <u>Sample C</u> 33	ind <u>Count</u> <u>Option for LT Pts.</u> > 15% to <= 50% Substitute POL
99.015.500SampleSampleLocationDateDateResultPU (Upper)MW-LF-1109/27/20170.200n	One-Sided Upper Confidence Level, %		]	PU (Upper) Value:	
SampleSampleGreater thanLocationDateResultPU (Upper)MW-LF-1107/25/20170.195nMW-LF-1109/27/20170.200n	99	.01		5.500	
MW-LF-11 07/25/2017 0.195 n MW-LF-11 09/27/2017 0.200 n	Location	Sample <u>Date</u>	Sample <u>Result</u>	Greater than <u>PU (Upper)</u>	
MW-LF-11 09/27/2017 0.200 n	MW-LF-11	07/25/2017	0.195	n	
	MW-LF-11	09/27/2017	0.200	n	

		User Supplie	d Information	
Background Date Rar Compliance Date Ran No. of Verification Re	nge: 05/1 gge: 07/2 esamples: 1	1/2016 to 11/14/2 3/2017 to 9/28/20	2017 17	
Run Id: 31				
Background Location	s: AS-LF-01,AS-LF-	02,AS-LF-03,MW-LF	-01,MW-LF-06	
<u>Parameter Code</u> 00940	<u>Parameter Name</u> Chlorides	<u>Unit</u> mg/I	Background Sample Con 27	d <u>unt</u> <u>Option for LT Pts.</u> 0% to <= 15% Substitute PQL
One-Sided Upper		]	PU (Upper) Value:	
98.5	57		7.450	
	Sample	Sample	Greater than	
Location	Date	Result	<u>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 Location	s: AS-LF-01,AS-LF-	02,AS-LF-03,MW-LF	-01,MW-LF-06	
			Backgroun	d
<u>Parameter Code</u> 00945	<u>Parameter Name</u> Sulfate, tot	<u>Unit</u> mg/I	<u>Sample Con</u>	unt Option for LT Pts. > 50% to <= 100 % Substitute POL
One-Sided Upper Confidence Level, %		]	PU (Upper) Value:	Substance I QL
98.5	57		7.890	
	Sample	Sample	Greater than	
Location	Date	Result	PU (Upper)	
MW-LF-11	07/25/2017	< 0.500	n	
MW-LF-11	09/27/2017	<0.500	n	

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       Background         Parameter Code       Parameter Name       Units       Sample Count       Option for LT Pts.         00916       Calcium, tot       ug/L       33       >15% to <= 50% Substitut         POL       Sample       Greater than       >15% to <= 50% Substitut       PQL         One-Sided Upper       07/25/2017       1.310       n           MW-LF-22       09/26/2017       2.090       n            MW-LF-22       09/26/2017       2.090       n              MW-LF-22       09/26/2017       2.090       n <t< th=""><th></th><th></th><th>User Sup</th><th>oplied Informatio</th><th>n</th><th></th></t<>			User Sup	oplied Informatio	n	
Run Id:37Background Locations:AS-LF-01,AS-LF-02,AS-LF-03,MW-LF-01,MW-LF-06 Background ug/LBackground Sample Count 00916Option for LT Pts. >15% to <= 50% Substitut PQLOne-Sided Upper Confidence Level, %PU (Upper) Value: Sample 9.01Option for LT Pts. >15% to <= 50% Substitut PQLMW-LF-22Sample 9.02Sample Result PU (Upper)Greater than PU (Upper)MW-LF-2209/26/20171.310nMW-LF-2209/26/20172.090nMW-LF-2209/26/20172.090nMW-LF-2209/26/20172.090nConstitution Q0940AS-LF-01,AS-LF-02,AS-LF-03,MW-LF-01,MW-LF-06 ChloridesBackground Asmple Count Date PU (Upper) Value: Con-Sided Upper PU (Upper) Value: Con-Sided Upper Cone-Sided Upper Cone-Sid	Background Date Ra Compliance Date Ra No. of Verification F	ange: inge: Resamples: 1	05/11/2016 to 1 07/23/2017 to 9/	1/14/2017 28/2017		
Background Locations:       AS-LF-01,AS-LF-02,AS-LF-03,MW-LF-01,MW-LF-01       Background         Parameter Code 00916       Parameter Name Calcium, tot       Units ug/L       Sample Count 33       Option for LT Pts. >15% to <= 50% Substitut PQL         One-Sided Upper Confidence Level, %       Sample       Sample       Greater than         99.01       5.500         Sample       Sample       Greater than         Location       Date       Result       PU (Upper)         MW-LF-22       09/26/2017       2.090       n         MW-LF-22       09/26/2017       2.090       n         MW-LF-22       Option for LT Pts.       Option for LT Pts.         MW-LF-22       Option for LT Pts.       Option for LT Pts.         Option for LT Pts.       Option for LT Pts.       Option for LT Pts.         Option for LT Pts.       Option for LT Pts.       Option for LT Pts.         Option for LT Pts.       Date       Background         Constided Upper Guides       As-LF-01,AS-LF-02,AS-LF-03,MW-LF-01,MW-LF-01       Background         Descilor docations:       As-LF-01,AS-LF-02,AS-LF-03,MW-LF-01,MW-LF-01       Option for LT Pts.         Option for LT Pts.       Option for LT Pts.       Option for LT Pts.         Option for LT Pts.       Option for LT Pts.	Run Id: 37					
Background Sample Count ug/LOption for LT Pts. > 15% to <= 50% Substitut PQLOne-Sided Upper Confidence Level, %PU (Upper) Value: S500>15% to <= 50% Substitut PQL99.015.500Sample LocationSample DateGreater than PU (Upper)MW-LF-2207/25/20171.310nMW-LF-2209/26/20172.090nMW-LF-2209/26/20172.090nMW-LF-2209/26/20172.090nMW-LF-2209/26/20172.090nMW-LF-2209/26/20172.090nMW-LF-2209/26/20172.090nMW-LF-2209/26/20172.090nMW-LF-2209/26/20172.090n	Background Locatio	ons: AS-LF-01,A	S-LF-02,AS-LF-03,M	W-LF-01,MW-LF-06	i	
PU (Upper) Value:         PU (Upper) Value:         99.01       5.500         Sample       Sample       Greater than         Location       Date       Result       PU (Upper)         MW-LF-22       07/25/2017       1.310       n         MW-LF-22       09/26/2017       2.090       n         Multi       38       Background Locations:       AS-LF-01,AS-LF-02,AS-LF-03,MW-LF-01,MW-LF-06       Background         Parameter Code       Parameter Name       Units       Sample Count       Option for LT Pts.         00940       Parameter Name       Pu (Upper) Value:       Pol       Pol         One-Sided Upper       Pu (Upper) Value:       Pu (Upper) Value:       Pu (Upper) Value:	<u>Parameter Code</u> 00916	<u>Parameter Name</u> Calcium, tot		<u>Units</u> ug/L	Background <u>Sample Count</u> 33	<u>Option for LT Pts.</u> > 15% to <= 50% Substitute PQL
99.01       5.500         Location       Date       Sample       Greater than         Location       Date       Result       PU (Upper)         MW-LF-22       07/25/2017       1.310       n         MW-LF-22       09/26/2017       2.090       n         Run Id:       38       38       Sackground Locations:       AS-LF-01,AS-LF-02,AS-LF-03,MW-LF-01,MW-LF-06         Parameter Code       Parameter Name Chlorides       Units mg/L       Sample Count 27       Option for LT Pts. 0% to <= 15% Substitute PQL         One-Sided Upper Cone-Sided Upper       FU (Upper) Value:       PU (Upper) Value:	One-Sided Upper Confidence Level, %	, D		PU (Upper) Val	lue:	
Sample       Sample       Greater than         Location       Date       Result       PU (Upper)         MW-LF-22       07/25/2017       1.310       n         MW-LF-22       09/26/2017       2.090       n         MW-LF-22       09/26/2017       2.090       n         MW-LF-22       09/26/2017       2.090       n         MW-LF-22       09/26/2017       2.090       n         Murret       38       Sample Count       Sample Count         Background Locations:       AS-LF-01,AS-LF-02,AS-LF-03,MW-LF-01,MW-LF-06       Background         Parameter Code       Parameter Name       Units       Background         00940       Chlorides       Units       Sample Count       Option for LT Pts.         00940       Chlorides       PU (Upper) Value:       PQL         One-Sided Upper Confidence Level, %       PU (Upper) Value:       PU (Upper) Value:	99	.01		5.500		
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         Parameter Code       Parameter Name       Units         00940       Chlorides       Mg/L       27         One-Sided Upper       PU (Upper) Value:         Confidence Level, %       7.450	Location	Sample <u>Date</u>	Sample <u>Result</u>	Greater that <u>PU (Uppe</u>	an er)	
MW-LF-22 09/26/2017 2.00 n Run Id: 38 Background Locations: AS-LF-01,AS-LF-02,AS-LF-03,MW-LF-01,MW-LF-06 Parameter Code Parameter Name Units Background Parameter Code Chlorides mg/L 27 Option for LT Pts. 00940 00 00 00 to <= 15% Substitute PQL One-Sided Upper PU (Upper) Value: 00957 7450	MW-LF-22	07/25/2017	1.310	n		
Run Id: 38 Background Locations: AS-LF-01,AS-LF-02,AS-LF-03,MW-LF-01,MW-LF-06 Background Parameter Code Parameter Name Units Sample Count Option for LT Pts. 00940 Chlorides mg/L 27 0% to <= 15% Substitute PQL One-Sided Upper PU (Upper) Value: Confidence Level, %	MW-LF-22	09/26/2017	2.090	n		
Background Locations: AS-LF-01,AS-LF-02,AS-LF-03,MW-LF-01,MW-LF-06 Background Parameter Code Parameter Name Option for LT Pts. 00940 Chlorides mg/L 27 Oftion for LT Pts. 0% to <= 15% Substitute PQL One-Sided Upper One-Sided Upper One-Sided Upper One-Sided Upper PU (Upper) Value: Confidence Level, %	Run Id: 38					
Background       Parameter Code     Parameter Name     Units     Sample Count     Option for LT Pts.       00940     Chlorides     mg/L     27     0% to <= 15% Substitute	Background Locatio	ons: AS-LF-01,A	S-LF-02,AS-LF-03,M	W-LF-01,MW-LF-06	j 	
One-Sided Upper PU (Upper) Value: Confidence Level, % 98 57 7 450	<u>Parameter Code</u> 00940	<u>Parameter Name</u> Chlorides		<u>Units</u> mg/L	Background <u>Sample Count</u> 27	<u>Option for LT Pts.</u> 0% to <= 15% Substitute POL
98.57 7.450	One-Sided Upper Confidence Level, %	, 0		PU (Upper) Va	lue:	
	98	.57		7.450		
Sample Sample Greater than	<b>x</b>	Sample	Sample	Greater that	an	
Location Date Result PU (Upper)	Location	Date	<u>Kesult</u>	<u>PU (Uppe</u>	<u>er)</u>	
MW-LF-22 07/25/2017 8.850 y	MW-LF-22	07/25/2017	8.850	у		
MW-LF-22 09/26/2017 11.600 y	MW-LF-22	09/26/2017	11.600	у		

		User Supplied	Information		
Background Date Range:	05/11/2010	5 to 11/14/20	17		
Compliance Date Range:	07/23/2017	to 9/28/201	7		
No. of Verification Resamples:	: 1				
Run Id: 41					
<b>Background Locations:</b>	AS-LF-01,AS-LF-02,AS	-LF-03,MW-LF-0	)1,MW-LF-06	_	
			Back	ground	
Parameter Code Parame	eter Name	<u>Units</u>	<u>Sam</u> r	ole Count	<u>Option for LT Pts.</u>
00945 Sulfate,	tot	mg/L		27	> 50% to <= 100 %
0 011 111					Substitute PQL
One-Sided Upper		P	U (Upper) Value:		
98.57			7.890		
	Sample	Sample	Greater than		
Location	Date	Result	PU (Upper)		
MW-LF-22	07/25/2017	<0.500	n		
MW-LF-22	09/26/2017	<0.500	n		

Post Hoc Trend Analysis		Run Id: 8
Location ID: MW-LF-07 Confidence Level: 0.95 Date Range: 05/12/2016 to 09/27/2017 Option for LT Points: > 50% to <= 100 % Substitute PQL	Parameter Code: Parameter: Units: Percent of ND:	01022 Boron, total ug/L 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	

Post Hoc Trend Analysis		Run Id: 9
Location ID: MW-LF-07 Confidence Level: 0.95 Date Range: 05/12/2016 to 09/27/2017 Option for LT Points: 0% to <= 15% Substitute PQL	Parameter Code: Parameter: Units: Percent of ND:	00916 Calcium, tot ug/L 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	

Post Hoc Trend Analysis		Run Id: 10
Location ID: MW-LF-07 Confidence Level: 0.95 Date Range: 05/12/2016 to 09/27/2017 Option for LT Points: 0% to <= 15% Substitute PQL	Parameter Code: Parameter: Units: Percent of ND:	00940 Chlorides mg/L 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	

Post Hoc Trend Analysis			Run Id:	11
Location ID: MW-LF-07 Confidence Level: 0.95 Date Range: 05/12/2016 to 09/27/2017 Option for LT Points: 0% to <= 15% Substitute PQL	Parameter Code: Parameter: Units: Percent of ND:	00400 Field pH S.U. 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			

Post Hoc Trend Analysis		Run Id: 12
Location ID: MW-LF-07 Confidence Level: 0.95 Date Range: 05/12/2016 to 09/27/2017 Option for LT Points: > 50% to <= 100 % Substitute PQL	Parameter Code: Parameter: Units: Percent of ND:	00951 Fluoride, total mg/L 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	

Post Hoc Trend Analysis		Run Id: 13
Location ID: MW-LF-07 Confidence Level: 0.95 Date Range: 05/12/2016 to 09/27/2017 Option for LT Points: > 50% to <= 100 % Substitute PQL	Parameter Code: Parameter: Units: Percent of ND:	00945 Sulfate, tot mg/L 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	
Post Hoc Trend Analysis		Run Id: 14
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Location ID: MW-LF-07 Confidence Level: 0.95 Date Range: 05/12/2016 to 09/27/2017 Option for LT Points: 0% to <= 15% Substitute PQL	Parameter Code: Parameter: Units: Percent of ND:	00515 Total Dissolved Solids mg/L 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	

Post Hoc Trend Analysis		Run Id: 15
Location ID: MW-LF-08 Confidence Level: 0.95 Date Range: 05/12/2016 to 09/27/2017 Option for LT Points: > 50% to <= 100 % Substitute PQL	Parameter Code: Parameter: Units: Percent of ND:	01022 Boron, total ug/L 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	

Post Hoc Trend Analysis		Run Id: 16
Location ID: MW-LF-08 Confidence Level: 0.95 Date Range: 05/12/2016 to 09/27/2017 Option for LT Points: 0% to <= 15% Substitute PQL	Parameter Code: Parameter: Units: Percent of ND:	00916 Calcium, tot ug/L 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	

Post Hoc Trend Analysis		Run Id: 17
Location ID: MW-LF-08 Confidence Level: 0.95 Date Range: 05/12/2016 to 09/27/2017 Option for LT Points: 0% to <= 15% Substitute PQL	Parameter Code: Parameter: Units: Percent of ND:	00940 Chlorides mg/L 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	

Post Hoc Trend Analysis			Run Id: 18
Location ID: MW-LF-08 Confidence Level: 0.95 Date Range: 05/12/2016 to 09/27/2017 Option for LT Points: 0% to <= 15% Substitute PQL	Parameter Code: Parameter: Units: Percent of ND:	00400 Field pH S.U. 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		

Post Hoc Trend Analysis		Run Id: 19
Location ID: MW-LF-08 Confidence Level: 0.95 Date Range: 05/12/2016 to 09/27/2017 Option for LT Points: > 50% to <= 100 % Substitute PQL	Parameter Code: Parameter: Units: Percent of ND:	00951 Fluoride, total mg/L 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	

Post Hoc Trend Analysis		Run Id: 20
Location ID: MW-LF-08 Confidence Level: 0.95 Date Range: 05/12/2016 to 09/27/2017 Option for LT Points: > 50% to <= 100 % Substitute PQL	Parameter Code: Parameter: Units: Percent of ND:	00945 Sulfate, tot mg/L 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	

Post Hoc Trend Analysis		Run Id: 21
Location ID: MW-LF-08 Confidence Level: 0.95 Date Range: 05/12/2016 to 09/27/2017 Option for LT Points: 0% to <= 15% Substitute PQL	Parameter Code: Parameter: Units: Percent of ND:	00515 Total Dissolved Solids mg/L 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	

Post Hoc Trend Analysis		Run Id: 22
Location ID: MW-LF-10 Confidence Level: 0.95 Date Range: 05/12/2016 to 09/27/2017 Option for LT Points: > 50% to <= 100 % Substitute PQL	Parameter Code: Parameter: Units: Percent of ND:	01022 Boron, total ug/L 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	

Post Hoc Trend Analysis		Run Id: 23
Location ID: MW-LF-10 Confidence Level: 0.95 Date Range: 05/12/2016 to 09/27/2017 Option for LT Points: 0% to <= 15% Substitute PQL	Parameter Code: Parameter: Units: Percent of ND:	00916 Calcium, tot ug/L 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	

Post Hoc Trend Analysis			Run Id: 24
Location ID: MW-LF-10 Confidence Level: 0.95 Date Range: 05/12/2016 to 09/27/2017 Option for LT Points: 0% to <= 15% Substitute PQL	Parameter Code: Parameter: Units: Percent of ND:	00940 Chlorides mg/L 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		

Post Hoc Trend Analysis			Run Id:	25
Location ID: MW-LF-10 Confidence Level: 0.95 Date Range: 05/12/2016 to 09/27/2017 Option for LT Points: 0% to <= 15% Substitute PQL	Parameter Code: Parameter: Units: Percent of ND:	00400 Field pH S.U. 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			

Post Hoc Trend Analysis		Run Id: 26
Location ID: MW-LF-10 Confidence Level: 0.95 Date Range: 05/12/2016 to 09/27/2017 Option for LT Points: > 50% to <= 100 % Substitute PQL	Parameter Code: Parameter: Units: Percent of ND:	00951 Fluoride, total mg/L 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	

Post Hoc Trend Analysis		Run Id: 27
Location ID: MW-LF-10 Confidence Level: 0.95 Date Range: 05/12/2016 to 09/27/2017 Option for LT Points: > 15% to <= 50% Substitute PQL	Parameter Code: Parameter: Units: Percent of ND:	00945 Sulfate, tot mg/L 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	

Post Hoc Trend Analysis		Run Id: 28
Location ID: MW-LF-10 Confidence Level: 0.95 Date Range: 05/12/2016 to 09/27/2017 Option for LT Points: 0% to <= 15% Substitute PQL	Parameter Code: Parameter: Units: Percent of ND:	00515 Total Dissolved Solids mg/L 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	

Post Hoc Trend Analysis		Run Id: 29
Location ID: MW-LF-11 Confidence Level: 0.95 Date Range: 05/12/2016 to 09/27/2017 Option for LT Points: > 50% to <= 100 % Substitute PQL	Parameter Code: Parameter: Units: Percent of ND:	01022 Boron, total ug/L 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	

Post Hoc Trend Analysis		Run Id: 30
Location ID: MW-LF-11 Confidence Level: 0.95 Date Range: 05/12/2016 to 09/27/2017 Option for LT Points: 0% to <= 15% Substitute PQL	Parameter Code: Parameter: Units: Percent of ND:	00916 Calcium, tot ug/L 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	

Post Hoc Trend Analysis		Run Id: 31
Location ID: MW-LF-11 Confidence Level: 0.95 Date Range: 05/12/2016 to 09/27/2017 Option for LT Points: 0% to <= 15% Substitute PQL	Parameter Code: Parameter: Units: Percent of ND:	00940 Chlorides mg/L 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	

Post Hoc Trend Analysis			Run Id: 32
Location ID: MW-LF-11 Confidence Level: 0.95 Date Range: 05/12/2016 to 09/27/2017 Option for LT Points: 0% to <= 15% Substitute PQL	Parameter Code: Parameter: Units: Percent of ND:	00400 Field pH S.U. 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		

Post Hoc Trend Analysis		Run Id: 33
Location ID: MW-LF-11 Confidence Level: 0.95 Date Range: 05/12/2016 to 09/27/2017 Option for LT Points: > 50% to <= 100 % Substitute PQL	Parameter Code: Parameter: Units: Percent of ND:	00951 Fluoride, total mg/L 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	

Post Hoc Trend Analysis		Run Id: 34
Location ID: MW-LF-11 Confidence Level: 0.95 Date Range: 05/12/2016 to 09/27/2017 Option for LT Points: > 50% to <= 100 % Substitute PQL	Parameter Code: Parameter: Units: Percent of ND:	00945 Sulfate, tot mg/L 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	

Post Hoc Trend Analysis		Run Id: 35
Location ID: MW-LF-11 Confidence Level: 0.95 Date Range: 05/12/2016 to 09/27/2017 Option for LT Points: 0% to <= 15% Substitute PQL	Parameter Code: Parameter: Units: Percent of ND:	00515 Total Dissolved Solids mg/L 0
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	

Post Hoc Trend Analysis		Run Id: 36
Location ID: MW-LF-22 Confidence Level: 0.95 Date Range: 05/12/2016 to 09/26/2017 Option for LT Points: > 50% to <= 100 % Substitute PQL	Parameter Code: Parameter: Units: Percent of ND:	01022 Boron, total ug/L 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	

Post Hoc Trend Analysis		Run Id: 37
Location ID: MW-LF-22 Confidence Level: 0.95 Date Range: 05/12/2016 to 09/26/2017 Option for LT Points: 0% to <= 15% Substitute PQL	Parameter Code: Parameter: Units: Percent of ND:	00916 Calcium, tot ug/L 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	

Post Hoc Trend Analysis		Run Id: 38
Location ID: MW-LF-22 Confidence Level: 0.95 Date Range: 05/12/2016 to 09/26/2017 Option for LT Points: 0% to <= 15% Substitute PQL	Parameter Code: Parameter: Units: Percent of ND:	00940 Chlorides mg/L 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	

Post Hoc Trend Analysis			Run Id: 39
Location ID: MW-LF-22 Confidence Level: 0.95 Date Range: 05/12/2016 to 09/26/2017 Option for LT Points: 0% to <= 15% Substitute PQL	Parameter Code: Parameter: Units: Percent of ND:	00400 Field pH S.U. 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		

Post Hoc Trend Analysis		Run Id: 40
Location ID: MW-LF-22 Confidence Level: 0.95 Date Range: 05/12/2016 to 09/26/2017 Option for LT Points: > 50% to <= 100 % Substitute PQL	Parameter Code: Parameter: Units: Percent of ND:	00951 Fluoride, total mg/L 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	

Post Hoc Trend Analysis		Run Id: 41
Location ID: MW-LF-22 Confidence Level: 0.95 Date Range: 05/12/2016 to 09/26/2017 Option for LT Points: > 50% to <= 100 % Substitute PQL	Parameter Code: Parameter: Units: Percent of ND:	00945 Sulfate, tot mg/L 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	

Post Hoc Trend Analysis		Run Id: 42	
Location ID: MW-LF-22 Confidence Level: 0.95 Date Range: 05/12/2016 to 09/26/2017 Option for LT Points: 0% to <= 15% Substitute PQL	Parameter Code: Parameter: Units: Percent of ND:	00515 Total Dissolved Solids mg/L 0	
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		