



# 2017 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

## EPA CCR RULE COMPLIANCE

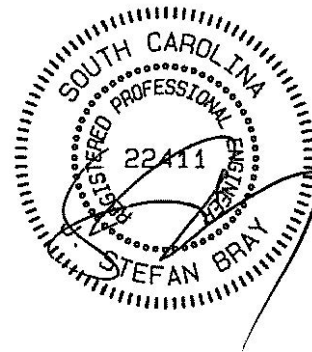
### SOUTH CAROLINA ELECTRIC & GAS: Williams Station: Class Three Landfill

January 2018

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## 1.0 INTRODUCTION

This document presents the *2017 Annual Groundwater Monitoring and Corrective Action* report for the Class 3 landfill at South Carolina Electric & Gas (SCE&G) Williams Station Highway 52 Class 3 Landfill in Goose Creek, Berkeley 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

Nine Type II groundwater monitoring wells (designated MW-LF-20 through MW-LF-28, MW-LF-22D and MW-LF-23D) were installed at Williams Station Highway 52 Class Three Landfill in March, April and November 2016 to serve as EPA CCR Rule Compliance monitoring wells. Seven of the Type II groundwater monitoring wells (MW-LF-20 through MW-LF-26) were initially installed at the site in March 2016. Subsequent groundwater gauging indicated that the volume of groundwater in wells MW-LF-22 and MW-LF-23 was insufficient to allow for collection of representative groundwater samples from the wells. Consequently, replacement wells were installed to greater depths immediately adjacent to MW-LF-22 and MW-LF-23 in April 2016 to penetrate deeper into the surficial aquifer and allow for collection of representative groundwater samples at those locations. The replacement wells are designated MW-LF-22D and MW-LF-23D, respectively. Two additional background monitoring wells, designated MW-LF-27 and MW-LF-28, were installed at the site in November 2016 at locations hydraulically up gradient of the landfill. Rising head permeability (slug) tests were conducted at monitoring wells MW-LF-20, MW-LF-21, MW-LF-22D, MW-LF-23D, MW-LF-24, MW-LF-25 and MW-LF-26, as well as at existing monitoring well MW-LF-10, in May 2016; additional slug tests were conducted at monitoring wells MW-LF-27 and MW-LF-28 in January 2017. A site location map is presented as **Figure 1** and a site map showing the locations and designations of the monitoring wells at Williams Station Highway 52 Landfill is presented as **Figure 2**. A South Carolina licensed well driller with S&ME, Inc. of Wilmington, North Carolina (SC License #1583) performed the drilling and installation of monitoring wells MW-LF-20 through MW-LF-26. A South Carolina licensed well driller with Red Dog Drilling of Charlotte, North Carolina (SC License #1230) performed the drilling and installation of monitoring wells MW-LF-22D, MW-LF-23D, MW-LF-27 and MW-LF-28. 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 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-10 and MW-LF-11 are included as part of the monitoring well network for US groundwater monitoring. The locations and designations of the monitoring wells are shown in **Figure 2**. Existing monitoring wells MW-LF-10 and MW-



LF-11, as well as new monitoring wells MW-LF-27 and MW-LF-28, 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-20, MW-LF-21, MW-LF-22D, MW-LF-23D, MW-LF-24, MW-LF-25 and MW-LF-26) 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 monitoring wells MW-LF-10, MW-LF-11, MW-LF-20, MW-LF-21, MW-LF-22D, MW-LF-23D, MW-LF-24, MW-LF-25 and MW-LF-26 beginning in May 2016 and ending in July 2017. Groundwater samples were collected from monitoring wells MW-LF-10, MW-LF-11, MW-LF-20, MW-LF-21, MW-LF-22D, MW-LF-23D, MW-LF-24, MW-LF-25 and MW-LF-26 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 December 2016). One groundwater sample was collected for analysis during each of the independent monitoring events. Monitoring wells MW-LF-27 and MW-LF-28 were added to the monitoring well network as additional background monitoring wells beginning with the November 2016 groundwater monitoring event. Five independent groundwater samples were collected for field and laboratory analysis from background monitoring wells MW-LF-27 and MW-LF-28 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 December 2016). One groundwater sample was collected from monitoring wells MW-LF-27 and MW-LF-28 during each of the independent monitoring events.

All independent groundwater samples collected from monitoring wells MW-LF-10, MW-LF-11, MW-LF-20, MW-LF-21, MW-LF-22D, MW-LF-23D, MW-LF-24, MW-LF-25, MW-LF-26, MW-LF-27 and MW-LF-28 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).

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-10, MW-LF-11, MW-LF-20, MW-LF-21, MW-LF-22D, MW-LF-23D, MW-LF-24, MW-LF-25, MW-LF-26, MW-LF-27 and MW-LF-28. 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 during the September 2017 Detection Monitoring event 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).

### **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 monitoring wells during the independent rounds of monitoring and the first round of Detection Monitoring are presented **Appendix A**. The results indicate that the pH of the groundwater at the site, including at background locations, generally falls within the EPA CCR Rule standard range of 6.5 to 8.5 standard units. Notable exceptions are for groundwater samples collected from monitoring wells MW-24-LF and MW-26-LF which generally exhibited pH values slightly below the EPA CCR Rule standard range. The results further indicate that the reported concentrations of chloride, fluoride and sulfate 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). However, concentrations of total dissolved solids (TDS) exceeded the EPA Secondary MCL of 500 mg/L in the groundwater samples collected from monitoring wells MW-LF-20, MW-LF-21, MW-LF-22D, MW-LF-25 and MW-LF-26. It is noted that boron was not detected in any of the groundwater samples collected from the 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 calcium in the groundwater samples collected from compliance monitoring wells MW-LF-20, MW-LF-21, MW-LF-24, MW-LF-25 and MW-LF-26 show statistically significant increases over background concentrations (as determined from the data for groundwater samples collected from background monitoring wells MW-LF-10, MW-LF-11, MW-LF-27 and MW-LF-28). In addition, the statistical analysis indicates that chloride in the groundwater samples collected from compliance monitoring wells MW-LF-24, MW-LF-25 and MW-LF-26 and sulfate in the groundwater samples collected from compliance monitoring wells MW-LF-22D, MW-LF-23D, MW-LF-24, MW-LF-25 and MW-LF-26 also show statistically significant increases over background concentrations. Furthermore, the statistical analysis indicates that the concentrations of TDS in the groundwater samples collected



from compliance monitoring wells MW-LF-20, MW-LF-21, MW-LF-22D, MW-LF-23D., MW-LF-24, MW-LF-25 and MW-LF-26 show statistically significant increases over background concentrations. No other statistically significant increases over background concentrations were observed for the CCR Rule Appendix III constituents in the groundwater samples collected from the 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 calcium, chloride, sulfate 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 outfall.





#### **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 of calcium, chloride, sulfate, and TDS in the groundwater samples collected from the monitoring wells during the September 2017 Detection Monitoring event are likely attributable to a source(s) other than the Class 3 Landfill. Consequently, it is further anticipated that Detection Monitoring will be resumed in 2018. Two rounds of Detection Monitoring are, therefore, anticipated to be completed in 2018 with groundwater samples being collected from monitoring wells MW-LF-10, MW-LF-11, MW-LF-20, MW-LF-21, MW-LF-22D, MW-LF-23D, MW-LF-24, MW-LF-25, MW-LF-26, MW-LF-27 and MW-LF-28.



**SCE&G Williams Station  
Highway 52 Class 3  
ISW Landfill**

Source: USGS 7.5' Topographic Quadrangle Series  
Moncks Corner, SC 2014 and Mount Holly, SC 2014

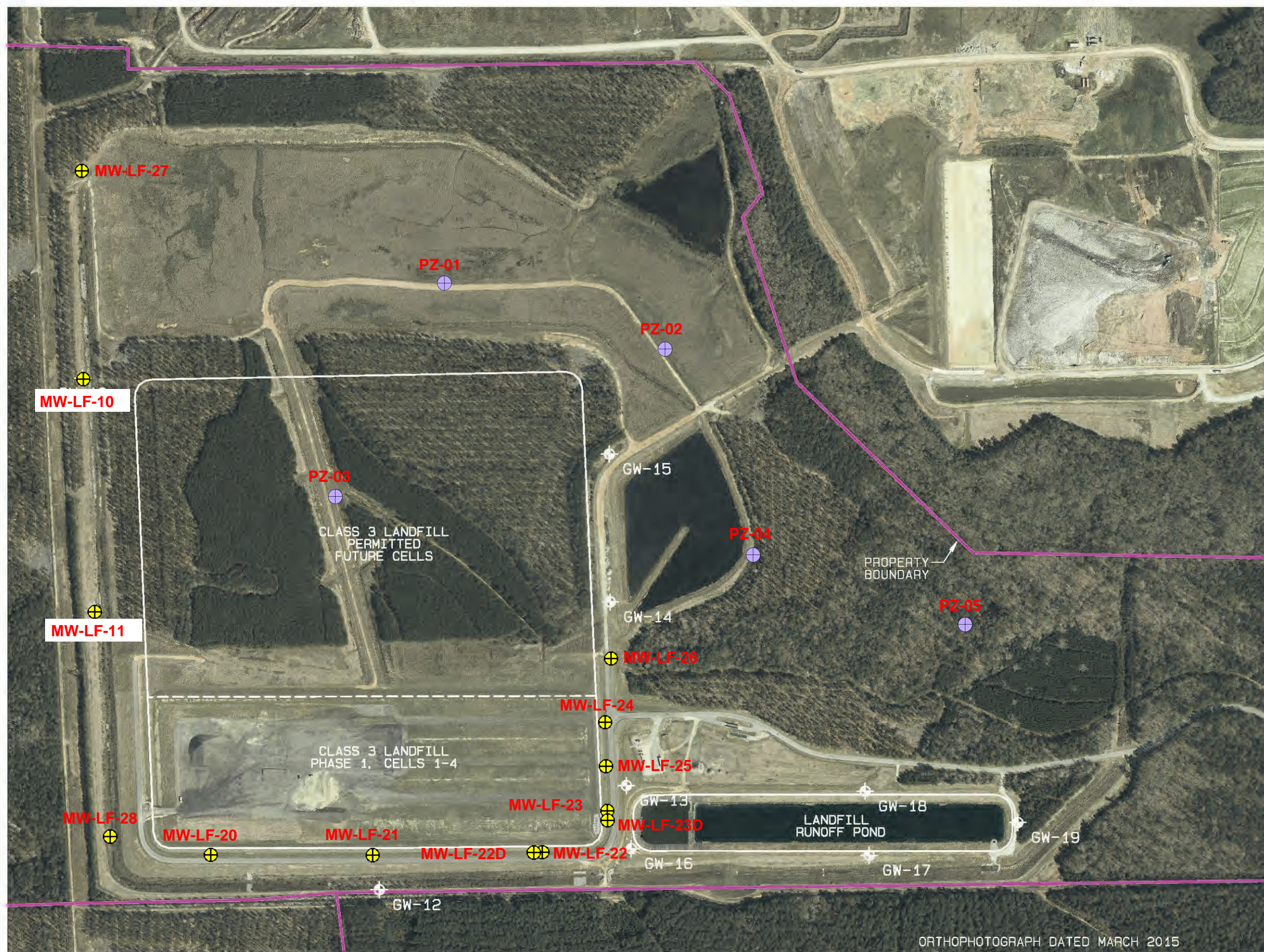





**Nautilus Geologic Consulting, PLLC**  
 11112 Branding Iron Place  
 Wendell, NC 27591  
 Office: (919) 366-3663  
 Cell: (919) 995-0363

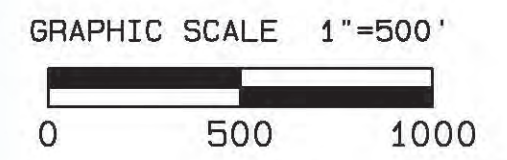
**SITE LOCATION MAP**  
 SCE&G Williams Station Highway 52 Class 3 ISW Landfill  
 Moncks Corner, Berkeley County, South Carolina

Drawn by:	Reviewed by:	Project #:	Drawing #:	Figure No. <b>1</b>
USGS		Scale: 1:24,000	Drawing Date: 8/01/2016	

c:\Users\abray\Desktop\ Hwy 52\HWY 52 LF - WELLS.dwg Wed Oct 28, 2015 3:17:28PM



-  GROUNDWATER MONITORING WELL  
GW-10
-  CCR Rule Compliance Groundwater Monitoring Well  
GW-20
-  Piezometer  
PZ-01



REVISION	DATE
1)	
2)	
3)	
4)	



**WILLIAMS STATION  
HIGHWAY 52  
CLASS THREE LANDFILL**

**CCR Rule Compliance  
Groundwater Monitoring Wells**

JOB NUMBER  
**SHEET  
2**



## **APPENDIX A**

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

**EPA CCR Rule Compliance Monitoring Wells  
Groundwater Monitoring Data  
South Carolina Electric & Gas: Williams Station Highway 52 Class Three Landfill**

Williams Station Highway 52 Class Three Landfill

Gauging Date: 05/11/16													
Monitoring Well ID	Well Data			Initial Gauging		Final Gauging		Final Water Quality Indicator Parameters					
	PVC Pipe Elevation, ft.	Ground Surface Elevation, ft.	Stickup, ft.	Depth to Groundwater, ft.	Groundwater Elevation, ft.	Depth to Groundwater, ft.	Groundwater Elevation, ft.	Temperature °C	pH S.U.	Sp. Cond. µS/cm	Turbidity NTU	ORP mV	DO mg/L
	GW-10	52.28	49.60	2.68	8.70	43.58	9.77	42.51	19.5	7.1	537	1.80	-2.0
GW-20	60.81	56.70	4.11	21.91	38.90	23.01	37.80	23.3	6.7	909	3.91	14.8	1.20
GW-21	56.14	52.50	3.64	18.97	37.17	19.61	36.53	22.3	7.0	804	3.28	19.7	2.04
GW-22D	50.36	47.10	3.26	26.04	24.32	27.22	23.14	24.7	7.3	742	9.87	-10.2	1.10
GW-23D	49.69	46.20	3.49	15.68	34.01	17.28	32.41	25.9	7.2	515	3.79	4.8	2.40
GW-24	52.40	48.70	3.70	16.06	36.34	16.68	35.72	22.4	6.6	877	3.91	36.9	3.01
GW-25	50.93	47.40	3.53	15.40	35.53	16.04	34.89	22.7	6.9	727	4.83	25.4	5.76
GW-26	55.21	51.20	4.01	25.06	30.15	25.44	29.77	25.4	6.4	1559	3.23	-27.9	1.01

## GEL LABORATORIES LLC

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

### Certificate of Analysis Report for

GEEL003 GEL Engineering, LLC

Client SDG: 397240 GEL Work Order: 397240

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

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

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

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

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



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

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: May 25, 2016

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd  
  
Charleston, South Carolina 29417  
Contact: Robert Gardner  
Project: Williams 52 RCRA

Client Sample ID: GW-10 Project: SCEG01616C  
Sample ID: 397240001 Client ID: GEEL003  
Matrix: Ground Water  
Collect Date: 11-MAY-16 08:48  
Receive Date: 12-MAY-16  
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography											
SW846 9056A Anions "As Received"											
Fluoride		0.541	0.033	0.100	mg/L	1	MXL2	05/13/16	0024	1566745	1
Metals Analysis-ICP-MS											
SW846 3005A/6020A Liquid "As Received"											
Lithium		12.2	2.00	10.0	ug/L	1	BCD1	05/17/16	1507	1566761	2
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid "As Received"											
Radium-228	U	ND	1.70	3.00	pCi/L		AXM6	05/23/16	1425	1567148	3
Rad Radium-226											
Lucas Cell, Ra226, liquid "As Received"											
Radium-226		1.37	0.472	1.00	pCi/L		LXP1	05/24/16	0725	1567602	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JP1	05/12/16	1720	1566760

The following Analytical Methods were performed:

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

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			94.3	(15%-125%)

Notes:

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: May 25, 2016

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd

Charleston, South Carolina 29417

Contact: Robert Gardner  
Project: Williams 52 RCRA

Client Sample ID: GW-20 Project: SCEG01616C  
Sample ID: 397240002 Client ID: GEEL003  
Matrix: Ground Water  
Collect Date: 11-MAY-16 09:57  
Receive Date: 12-MAY-16  
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography											
SW846 9056A Anions "As Received"											
Fluoride		0.127	0.033	0.100	mg/L	1	MXL2	05/13/16	0203	1566745	1
Metals Analysis-ICP-MS											
SW846 3005A/6020A Liquid "As Received"											
Lithium	J	3.47	2.00	10.0	ug/L	1	BCD1	05/17/16	1535	1566761	2
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid "As Received"											
Radium-228	U	ND	1.69	3.00	pCi/L		AXM6	05/23/16	1427	1567148	3
Rad Radium-226											
Lucas Cell, Ra226, liquid "As Received"											
Radium-226		0.383	0.306	1.00	pCi/L		LXP1	05/24/16	0725	1567602	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JP1	05/12/16	1720	1566760

The following Analytical Methods were performed:

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

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			85.1	(15%-125%)

Notes:



# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: May 25, 2016

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd  
  
Charleston, South Carolina 29417  
Contact: Robert Gardner  
Project: Williams 52 RCRA

Client Sample ID: GW-21  
Sample ID: 397240003  
Matrix: Ground Water  
Collect Date: 11-MAY-16 11:00  
Receive Date: 12-MAY-16  
Collector: Client  
Project: SCEG01616C  
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography											
SW846 9056A Anions "As Received"											
Fluoride		0.155	0.033	0.100	mg/L	1	MXL2	05/13/16	0236	1566745	1
Metals Analysis-ICP-MS											
SW846 3005A/6020A Liquid "As Received"											
Lithium	J	2.50	2.00	10.0	ug/L	1	BCD1	05/17/16	1539	1566761	2
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid "As Received"											
Radium-228	U	ND	1.60	3.00	pCi/L		AXM6	05/23/16	1427	1567148	3
Rad Radium-226											
Lucas Cell, Ra226, liquid "As Received"											
Radium-226	U	ND	0.385	1.00	pCi/L		LXP1	05/24/16	0725	1567602	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JP1	05/12/16	1720	1566760

The following Analytical Methods were performed:

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

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			93.2	(15%-125%)

Notes:

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: May 25, 2016

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd  
  
Charleston, South Carolina 29417  
Contact: Robert Gardner  
Project: Williams 52 RCRA

Client Sample ID: DUP Project: SCEG01616C  
Sample ID: 397240004 Client ID: GEEL003  
Matrix: Ground Water  
Collect Date: 11-MAY-16 11:20  
Receive Date: 12-MAY-16  
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography											
SW846 9056A Anions "As Received"											
Fluoride		0.156	0.033	0.100	mg/L	1	MXL2	05/13/16	0309	1566745	1
Metals Analysis-ICP-MS											
SW846 3005A/6020A Liquid "As Received"											
Lithium	J	2.43	2.00	10.0	ug/L	1	BCD1	05/17/16	1542	1566761	2
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid "As Received"											
Radium-228	U	ND	1.52	3.00	pCi/L		AXM6	05/23/16	1427	1567148	3
Rad Radium-226											
Lucas Cell, Ra226, liquid "As Received"											
Radium-226		0.740	0.460	1.00	pCi/L		LXP1	05/24/16	0725	1567602	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JP1	05/12/16	1720	1566760

The following Analytical Methods were performed:

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

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			90.4	(15%-125%)

Notes:

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: May 25, 2016

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd  
  
Charleston, South Carolina 29417  
Contact: Robert Gardner  
Project: Williams 52 RCRA

Client Sample ID: Field Blank Project: SCEG01616C  
Sample ID: 397240005 Client ID: GEEL003  
Matrix: Water  
Collect Date: 11-MAY-16 12:00  
Receive Date: 12-MAY-16  
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography											
SW846 9056A Anions "As Received"											
Fluoride	U	ND	0.033	0.100	mg/L	1	MXL2	05/13/16	0341	1566745	1
Metals Analysis-ICP-MS											
SW846 3005A/6020A Liquid "As Received"											
Lithium	U	ND	2.00	10.0	ug/L	1	BCD1	05/17/16	1546	1566761	2
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid "As Received"											
Radium-228	U	ND	1.51	3.00	pCi/L		AXM6	05/23/16	1427	1567148	3
Rad Radium-226											
Lucas Cell, Ra226, liquid "As Received"											
Radium-226	U	ND	0.494	1.00	pCi/L		LXP1	05/24/16	0725	1567602	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JP1	05/12/16	1720	1566760

The following Analytical Methods were performed:

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

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			86.6	(15%-125%)

Notes:

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: May 25, 2016

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd  
  
Charleston, South Carolina 29417  
Contact: Robert Gardner  
Project: Williams 52 RCRA

Client Sample ID: GW-22D Project: SCEG01616C  
Sample ID: 397240006 Client ID: GEEL003  
Matrix: Ground Water  
Collect Date: 11-MAY-16 12:13  
Receive Date: 12-MAY-16  
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography											
SW846 9056A Anions "As Received"											
Fluoride		0.304	0.033	0.100	mg/L	1	MXL2	05/13/16	0414	1566745	1
Metals Analysis-ICP-MS											
SW846 3005A/6020A Liquid "As Received"											
Lithium	J	5.78	2.00	10.0	ug/L	1	BCD1	05/17/16	1549	1566761	2
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid "As Received"											
Radium-228	U	ND	2.09	3.00	pCi/L		AXM6	05/23/16	1427	1567148	3
Rad Radium-226											
Lucas Cell, Ra226, liquid "As Received"											
Radium-226		1.49	0.525	1.00	pCi/L		LXP1	05/24/16	0725	1567602	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JP1	05/12/16	1720	1566760

The following Analytical Methods were performed:

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

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			70.8	(15%-125%)

Notes:

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: May 25, 2016

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd  
  
Charleston, South Carolina 29417  
Contact: Robert Gardner  
Project: Williams 52 RCRA

Client Sample ID: GW-23D Project: SCEG01616C  
Sample ID: 397240007 Client ID: GEEL003  
Matrix: Ground Water  
Collect Date: 11-MAY-16 14:01  
Receive Date: 12-MAY-16  
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography											
SW846 9056A Anions "As Received"											
Fluoride		0.366	0.033	0.100	mg/L	1	MXL2	05/13/16	0553	1566745	1
Metals Analysis-ICP-MS											
SW846 3005A/6020A Liquid "As Received"											
Lithium	J	2.52	2.00	10.0	ug/L	1	BCD1	05/18/16	1358	1566761	2
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid "As Received"											
Radium-228		1.50	1.49	3.00	pCi/L		AXM6	05/23/16	1427	1567148	3
Rad Radium-226											
Lucas Cell, Ra226, liquid "As Received"											
Radium-226		0.694	0.431	1.00	pCi/L		LXP1	05/24/16	0755	1567602	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JP1	05/12/16	1720	1566760

The following Analytical Methods were performed:

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

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			88.8	(15%-125%)

Notes:

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: May 25, 2016

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd  
  
Charleston, South Carolina 29417  
Contact: Robert Gardner  
Project: Williams 52 RCRA

Client Sample ID: GW-25  
Sample ID: 397240008  
Matrix: Ground Water  
Collect Date: 11-MAY-16 14:53  
Receive Date: 12-MAY-16  
Collector: Client  
Project: SCEG01616C  
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography											
SW846 9056A Anions "As Received"											
Fluoride		0.424	0.033	0.100	mg/L	1	MXL2	05/13/16	0626	1566745	1
Metals Analysis-ICP-MS											
SW846 3005A/6020A Liquid "As Received"											
Lithium	J	2.36	2.00	10.0	ug/L	1	BCD1	05/18/16	1401	1566761	2
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid "As Received"											
Radium-228	U	ND	1.72	3.00	pCi/L		AXM6	05/23/16	1427	1567148	3
Rad Radium-226											
Lucas Cell, Ra226, liquid "As Received"											
Radium-226		0.894	0.535	1.00	pCi/L		LXP1	05/24/16	0755	1567602	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JP1	05/12/16	1720	1566760

The following Analytical Methods were performed:

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

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

Notes:

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: May 25, 2016

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd  
  
Charleston, South Carolina 29417  
Contact: Robert Gardner  
Project: Williams 52 RCRA

Client Sample ID: GW-24 Project: SCEG01616C  
Sample ID: 397240009 Client ID: GEEL003  
Matrix: Ground Water  
Collect Date: 11-MAY-16 15:58  
Receive Date: 12-MAY-16  
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography											
SW846 9056A Anions "As Received"											
Fluoride		0.338	0.033	0.100	mg/L	1	MXL2	05/13/16	0659	1566745	1
Metals Analysis-ICP-MS											
SW846 3005A/6020A Liquid "As Received"											
Lithium	J	3.93	2.00	10.0	ug/L	1	BCD1	05/18/16	1405	1566761	2
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid "As Received"											
Radium-228	U	ND	2.03	3.00	pCi/L		AXM6	05/25/16	0957	1567148	3
Rad Radium-226											
Lucas Cell, Ra226, liquid "As Received"											
Radium-226		0.956	0.552	1.00	pCi/L		LXP1	05/24/16	0755	1567602	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JP1	05/12/16	1720	1566760

The following Analytical Methods were performed:

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

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			87.8	(15%-125%)

Notes:

# GEL LABORATORIES LLC

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## Certificate of Analysis

Report Date: May 25, 2016

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd  
  
Charleston, South Carolina 29417  
Contact: Robert Gardner  
Project: Williams 52 RCRA

Client Sample ID: GW-26 Project: SCEG01616C  
Sample ID: 397240010 Client ID: GEEL003  
Matrix: Ground Water  
Collect Date: 11-MAY-16 16:44  
Receive Date: 12-MAY-16  
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography											
SW846 9056A Anions "As Received"											
Fluoride		0.118	0.033	0.100	mg/L	1	MXL2	05/13/16	0732	1566745	1
Metals Analysis-ICP-MS											
SW846 3005A/6020A Liquid "As Received"											
Lithium	J	4.41	2.00	10.0	ug/L	1	BCD1	05/18/16	1408	1566761	2
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid "As Received"											
Radium-228		1.49	1.31	3.00	pCi/L		AXM6	05/23/16	1427	1567148	3
Rad Radium-226											
Lucas Cell, Ra226, liquid "As Received"											
Radium-226		1.18	0.454	1.00	pCi/L		LXP1	05/24/16	0755	1567602	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JP1	05/12/16	1720	1566760

The following Analytical Methods were performed:

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

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			96.9	(15%-125%)

Notes:





# GEL LABORATORIES LLC

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## QC Summary

Workorder: 397240

Page 2 of 3

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Rad Ra-226</b>											
Batch	1567602										
Radium-226		2.70		2.02	pCi/L	28.5*		(0%-20%)	LXP1	05/24/16	09:10
QC1203549578	LCS										
Radium-226	24.4			26.6	pCi/L		109	(75%-125%)		05/24/16	09:10
QC1203549575	MB										
Radium-226			U	0.192	pCi/L					05/24/16	09:10
QC1203549577	397447007	MS									
Radium-226	122	2.70		127	pCi/L		102	(75%-125%)		05/24/16	09:10

**Notes:**

The Qualifiers in this report are defined as follows:

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

# GEL LABORATORIES LLC

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## QC Summary

Workorder: 397240

Page 3 of 3

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

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

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

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

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

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



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

May 18, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB22333**

**Williams Hwy 52 GW 10-NPDES/CCR**

Date & Time Sampled: May 11, 2016 08:48

Date & Time Submitted: May 12, 2016 15:00

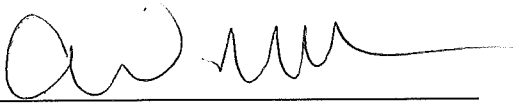
Collected by: C.SANDEL Location Code: WLG10TDS

GW 10

Login Record File: 160513002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	15.8	0.50	mg/L	5/16/16 04:12	LS
pH by SM4500HB	7.17	0.00	S.U.	5/13/16 11:15	CDB
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC EPA 300.0	3.31	0.50	mg/L	5/16/16 04:12	LS
Total Dissolved Solid-SM2540C	270	2.0	mg/L	5/16/16 12:46	CDB

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

Approved By: 



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

May 18, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB22334**

**Williams Hwy 52 GW 20-NPDES/CCR**

Date & Time Sampled: May 11, 2016 09:57  
 Date & Time Submitted: May 12, 2016 15:00  
 Collected by: C.SANDEL Location Code: WLG20TDS

GW 20

Login Record File: 160513002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	7.81	0.50	mg/L	5/16/16 04:12	LS
pH by SM4500HB	6.87	0.00	S.U.	5/13/16 11:15	CDB
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC EPA 300.0	35.67	0.50	mg/L	5/16/16 04:12	LS
Total Dissolved Solid-SM2540C	510	2.0	mg/L	5/16/16 12:46	CDB

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

Approved By: 



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

May 18, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB22335**

**Williams Hwy 52 GW 21-NPDES/CCR**

Date & Time Sampled: May 11, 2016 11:00

Date & Time Submitted: May 12, 2016 15:00

Collected by: C.SANDEL Location Code: WLG21TDS

GW 21

Login Record File: 160513002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	7.88	0.50	mg/L	5/16/16 04:12	LS
pH by SM4500HB	7.10	0.00	S.U.	5/13/16 11:15	CDB
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC EPA 300.0	30.3	0.50	mg/L	5/16/16 04:12	LS
Total Dissolved Solid-SM2540C	479	2.0	mg/L	5/16/16 12:46	CDB

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

Approved By: 



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

May 18, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB22336**

**Williams Hwy 52 DUP -NPDES/CCR**

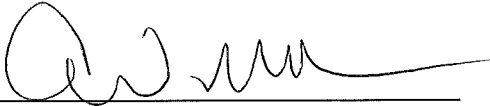
Date & Time Sampled: May 11, 2016 11:20  
 Date & Time Submitted: May 12, 2016 15:00  
 Collected by: C.SANDEL Location Code: WLGDUPTDS

GW 10

Login Record File: 160513002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	7.84	0.50	mg/L	5/16/16 04:12	LS
pH by SM4500HB	7.13	0.00	S.U.	5/13/16 11:15	CDB
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC EPA 300.0	30.4	0.50	mg/L	5/16/16 04:12	LS
Total Dissolved Solid-SM2540C	478	2.0	mg/L	5/16/16 12:46	CDB

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

Approved By: 



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

May 18, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB22337**

**Williams Hwy 52 FIELD BLANK-NPDES/CCR**


Date & Time Sampled: May 11, 2016 12:00  
 Date & Time Submitted: May 12, 2016 15:00  
 Collected by: C.SANDEL Location Code: WLGFBTDS

GW 10

Login Record File: 160513002

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	7.63	0.00	S.U.	5/13/16 11:15	CDB
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC EPA 300.0	Less than	0.50	mg/L	5/16/16 04:12	LS
Total Dissolved Solid-SM2540C	Less than	2.0	mg/L	5/16/16 12:46	CDB

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

Approved By: 





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

May 18, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB22338**

**Williams Hwy 52 GW 22D-NPDES/CCR**

Date & Time Sampled: May 11, 2016 12:13  
 Date & Time Submitted: May 12, 2016 15:00  
 Collected by: C.SANDEL Location Code: WLG22DTDS

GW 22D

Login Record File: 160513002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	11.2	0.50	mg/L	5/16/16 04:12	LS
pH by SM4500HB	7.36	0.00	S.U.	5/13/16 11:15	CDB
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC EPA 300.0	135	0.50	mg/L	5/16/16 04:12	LS
Total Dissolved Solid-SM2540C	476	2.0	mg/L	5/16/16 12:46	CDB

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

Approved By: 



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

May 18, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB22339**

**Williams Hwy 52 GW 23D-NPDES/CCR**

Date & Time Sampled: May 11, 2016 14:01  
 Date & Time Submitted: May 12, 2016 15:00  
 Collected by: C.SANDEL Location Code: WLG23DTDS

GW 23D

Login Record File: 160513002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	12.6	0.50	mg/L	5/16/16 04:12	LS
pH by SM4500HB	7.62	0.00	S.U.	5/13/16 11:15	CDB
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC EPA 300.0	29.6	0.50	mg/L	5/16/16 04:12	LS
Total Dissolved Solid-SM2540C	196	2.0	mg/L	5/16/16 12:46	CDB

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

Approved By: 



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

May 18, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB22340**

**Williams Hwy 52 GW 25-NPDES/CCR**


Date & Time Sampled: May 11, 2016 14:53  
 Date & Time Submitted: May 12, 2016 15:00  
 Collected by: C.SANDEL Location Code: WLG25TDS

GW 25

Login Record File: 160513002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	21.9	0.50	mg/L	5/16/16 04:12	LS
pH by SM4500HB	7.22	0.00	S.U.	5/13/16 11:15	CDB
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC EPA 300.0	16.9	0.50	mg/L	5/16/16 04:12	LS
Total Dissolved Solid-SM2540C	423	2.0	mg/L	5/16/16 12:46	CDB

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

Approved By: 



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

May 18, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB22341**

**Williams Hwy 52 GW 24-NPDES/CCR**

Date & Time Sampled: May 11, 2016 15:58  
 Date & Time Submitted: May 12, 2016 15:00  
 Collected by: C.SANDEL Location Code: WLG24TDS

GW 24

Login Record File: 160513002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	17.9	0.50	mg/L	5/16/16 04:12	LS
pH by SM4500HB	6.84	0.00	S.U.	5/13/16 11:15	CDB
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC EPA 300.0	20.6	0.50	mg/L	5/16/16 04:12	LS
Total Dissolved Solid-SM2540C	509	2.0	mg/L	5/16/16 12:46	CDB

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

Approved By: 



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

May 18, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB22342**

**Williams Hwy 52 GW 26-NPDES/CCR**

Date & Time Sampled: May 11, 2016 16:44  
 Date & Time Submitted: May 12, 2016 15:00  
 Collected by: C.SANDEL Location Code: WLG26TDS

GW 26

Login Record File: 160513002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	154	0.50	mg/L	5/16/16 04:12	LS
pH by SM4500HB	6.56	0.00	S.U.	5/13/16 11:15	CDB
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC EPA 300.0	73.9	0.50	mg/L	5/16/16 04:12	LS
Total Dissolved Solid-SM2540C	876	2.0	mg/L	5/16/16 12:46	CDB

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

Approved By: 



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

May 19, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB22343**

**Williams Hwy 52 GW 10-NPDES/CCR**

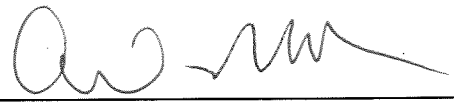
Date & Time Sampled: May 11, 2016 08:48  
 Date & Time Submitted: May 12, 2016 15:00  
 Collected by: C.SANDEL Location Code: WLG10TM

GW 10

Login Record File: 160513002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Arsenic by ICP_MS EPA 200.8	1.0	1.0	ppb	5/16/16 15:04	MC
Barium (CWA) 200.7	15.7	10.0	ppb	5/19/16 07:58	MC
Beryllium EPA 200.7	Less than	1.0	ppb	5/19/16 07:58	MC
Boron - EPA 200.7	Less than	1000	ppb	5/19/16 07:58	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Calcium EPA 200.7	58600	100	ppb	5/19/16 07:58	MC
Chromium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Cobalt by ICP_MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Lead by ICP-MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Mercury (CWA) by EPA 245.2	Less than	1.0	ppb	5/18/16 14:08	MC
Molybdenum - EPA 200.8	2.2	1.0	ppb	5/16/16 15:04	MC
Selenium by ICP-MS EPA 200.8	Less than	5.0	ppb	5/16/16 15:04	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC

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

Approved By: 



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May 19, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB22344**

**Williams Hwy 52 GW 20-NPDES/CCR**

Date & Time Sampled: May 11, 2016 09:57  
 Date & Time Submitted: May 12, 2016 15:00  
 Collected by: C.SANDEL Location Code: WLG20TM

GW 20

Login Record File: 160513002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Arsenic by ICP_MS EPA 200.8	1.7	1.0	ppb	5/16/16 15:04	MC
Barium (CWA) 200.7	52.8	10.0	ppb	5/19/16 07:58	MC
Beryllium EPA 200.7	Less than	1.0	ppb	5/19/16 07:58	MC
Boron - EPA 200.7	Less than	1000	ppb	5/19/16 07:58	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Calcium EPA 200.7	122000	100	ppb	5/19/16 07:58	MC
Chromium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Cobalt by ICP_MS EPA 200.8	1.5	1.0	ppb	5/16/16 15:04	MC
Lead by ICP-MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Mercury (CWA) by EPA 245.2	Less than	1.0	ppb	5/18/16 14:08	MC
Molybdenum - EPA 200.8	2.9	1.0	ppb	5/16/16 15:04	MC
Selenium by ICP-MS EPA 200.8	Less than	5.0	ppb	5/16/16 15:04	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC

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

Approved By: 



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May 19, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB22345**

**Williams Hwy 52 GW 21-NPDES/CCR**

Date & Time Sampled: May 11, 2016 11:00  
 Date & Time Submitted: May 12, 2016 15:00  
 Collected by: C.SANDEL Location Code: WLG21TM

GW 21

Login Record File: 160513002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Arsenic by ICP_MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Barium (CWA) 200.7	32.0	10.0	ppb	5/19/16 07:58	MC
Beryllium EPA 200.7	Less than	1.0	ppb	5/19/16 07:58	MC
Boron - EPA 200.7	Less than	1000	ppb	5/19/16 07:58	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Calcium EPA 200.7	89400	100	ppb	5/19/16 07:58	MC
Chromium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Cobalt by ICP_MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Lead by ICP-MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Mercury (CWA) by EPA 245.2	Less than	1.0	ppb	5/18/16 14:08	MC
Molybdenum - EPA 200.8	3.3	1.0	ppb	5/16/16 15:04	MC
Selenium by ICP-MS EPA 200.8	Less than	5.0	ppb	5/16/16 15:04	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC

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

Approved By: 





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

May 19, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB22346**

**Williams Hwy 52 DUP -NPDES/CCR**

Date & Time Sampled: May 11, 2016 11:20

Date & Time Submitted: May 12, 2016 15:00

Collected by: C.SANDEL Location Code: WLGDUPTM

GW 10

Login Record File: 160513002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Arsenic by ICP_MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Barium (CWA) 200.7	32.9	10.0	ppb	5/19/16 07:58	MC
Beryllium EPA 200.7	Less than	1.0	ppb	5/19/16 07:58	MC
Boron - EPA 200.7	Less than	1000	ppb	5/19/16 07:58	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Calcium EPA 200.7	88800	100	ppb	5/19/16 07:58	MC
Chromium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Cobalt by ICP_MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Lead by ICP-MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	5/18/16 14:08	MC
Molybdenum - EPA 200.8	3.2	1.0	ppb	5/16/16 15:04	MC
Selenium by ICP-MS EPA 200.8	Less than	5.0	ppb	5/16/16 15:04	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC

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

Approved By: 



Central Laboratory (P-08)  
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 Fax: (803) 217-9911

May 19, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB22347**

**Williams Hwy 52 FIELD BLANK-NPDES/CCR**

Date & Time Sampled: May 11, 2016 12:00  
 Date & Time Submitted: May 12, 2016 15:00  
 Collected by: C.SANDEL Location Code: WLGFBTM

GW 10

Login Record File: 160513002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Arsenic by ICP_MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Barium (CWA) 200.7	Less than	10.0	ppb	5/19/16 07:58	MC
Beryllium EPA 200.7	Less than	1.0	ppb	5/19/16 07:58	MC
Boron - EPA 200.7	Less than	1000	ppb	5/19/16 07:58	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Calcium EPA 200.7	Less than	100	ppb	5/19/16 07:58	MC
Chromium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Cobalt by ICP_MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Lead by ICP-MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	5/18/16 14:08	MC
Molybdenum - EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Selenium by ICP-MS EPA 200.8	Less than	5.0	ppb	5/16/16 15:04	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC

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

Approved By: 



Central Laboratory (P-08)  
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May 19, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB22348**

**Williams Hwy 52 GW 22D-NPDES/CCR**

Date & Time Sampled: May 11, 2016 12:13  
 Date & Time Submitted: May 12, 2016 15:00  
 Collected by: C.SANDEL Location Code: WLG22DTM

GW 22D

Login Record File: 160513002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Arsenic by ICP_MS EPA 200.8	2.3	1.0	ppb	5/16/16 15:04	MC
Barium (CWA) 200.7	15.8	10.0	ppb	5/19/16 07:58	MC
Beryllium EPA 200.7	Less than	1.0	ppb	5/19/16 07:58	MC
Boron - EPA 200.7	Less than	1000	ppb	5/19/16 07:58	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Calcium EPA 200.7	85200	100	ppb	5/19/16 07:58	MC
Chromium by ICP_MS EPA 200.8	5.9	1.0	ppb	5/16/16 15:04	MC
Cobalt by ICP_MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Lead by ICP-MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	5/18/16 14:08	MC
Molybdenum - EPA 200.8	37.0	1.0	ppb	5/16/16 15:04	MC
Selenium by ICP-MS EPA 200.8	Less than	5.0	ppb	5/16/16 15:04	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	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: **AB22349**

**Williams Hwy 52 GW 23D-NPDES/CCR**

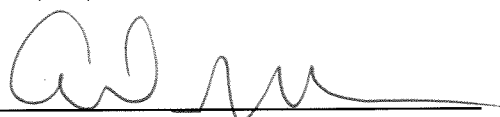
Date & Time Sampled: May 11, 2016 14:01  
 Date & Time Submitted: May 12, 2016 15:00  
 Collected by: C.SANDEL Location Code: WLG23DTM

GW 23D

Login Record File: 160513002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Arsenic by ICP_MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Barium (CWA) 200.7	13.2	10.0	ppb	5/19/16 07:58	MC
Beryllium EPA 200.7	Less than	1.0	ppb	5/19/16 07:58	MC
Boron - EPA 200.7	Less than	1000	ppb	5/19/16 07:58	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Calcium EPA 200.7	29300	100	ppb	5/19/16 07:58	MC
Chromium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Cobalt by ICP_MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Lead by ICP-MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	5/18/16 14:08	MC
Molybdenum - EPA 200.8	16.3	1.0	ppb	5/16/16 15:04	MC
Selenium by ICP-MS EPA 200.8	Less than	5.0	ppb	5/16/16 15:04	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	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: **AB22350**

**Williams Hwy 52 GW 25-NPDES/CCR**

Date & Time Sampled: May 11, 2016 14:53  
 Date & Time Submitted: May 12, 2016 15:00  
 Collected by: C.SANDEL Location Code: WLG25TM

GW 25

Login Record File: 160513002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Arsenic by ICP_MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Barium (CWA) 200.7	29.9	10.0	ppb	5/19/16 07:58	MC
Beryllium EPA 200.7	Less than	1.0	ppb	5/19/16 07:58	MC
Boron - EPA 200.7	Less than	1000	ppb	5/19/16 07:58	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Calcium EPA 200.7	81500	100	ppb	5/19/16 07:58	MC
Chromium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Cobalt by ICP_MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Lead by ICP-MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	5/18/16 14:08	MC
Molybdenum - EPA 200.8	4.8	1.0	ppb	5/16/16 15:04	MC
Selenium by ICP-MS EPA 200.8	Less than	5.0	ppb	5/16/16 15:04	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	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  
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May 19, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB22351**

**Williams Hwy 52 GW 24-NPDES/CCR**

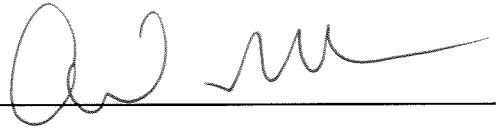
Date & Time Sampled: May 11, 2016 15:58  
 Date & Time Submitted: May 12, 2016 15:00  
 Collected by: C.SANDEL Location Code: WLG24TM

GW 24

Login Record File: 160513002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Arsenic by ICP_MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Barium (CWA) 200.7	58.0	10.0	ppb	5/19/16 07:58	MC
Beryllium EPA 200.7	Less than	1.0	ppb	5/19/16 07:58	MC
Boron - EPA 200.7	Less than	1000	ppb	5/19/16 07:58	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Calcium EPA 200.7	126000	100	ppb	5/19/16 07:58	MC
Chromium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Cobalt by ICP_MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Lead by ICP-MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	5/18/16 14:08	MC
Molybdenum - EPA 200.8	2.2	1.0	ppb	5/16/16 15:04	MC
Selenium by ICP-MS EPA 200.8	Less than	5.0	ppb	5/16/16 15:04	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	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: **AB22352**

**Williams Hwy 52 GW 26-NPDES/CCR**

Date & Time Sampled: May 11, 2016 16:44  
 Date & Time Submitted: May 12, 2016 15:00  
 Collected by: C.SANDEL Location Code: WLG26TM

GW 26

Login Record File: 160513002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Arsenic by ICP_MS EPA 200.8	1.1	1.0	ppb	5/16/16 15:04	MC
Barium (CWA) 200.7	81.8	10.0	ppb	5/19/16 07:58	MC
Beryllium EPA 200.7	Less than	1.0	ppb	5/19/16 07:58	MC
Boron - EPA 200.7	Less than	1000	ppb	5/19/16 07:58	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Calcium EPA 200.7	160000	100	ppb	5/19/16 07:58	MC
Chromium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Cobalt by ICP_MS EPA 200.8	6.1	1.0	ppb	5/16/16 15:04	MC
Lead by ICP-MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	5/18/16 14:08	MC
Molybdenum - EPA 200.8	1.0	1.0	ppb	5/16/16 15:04	MC
Selenium by ICP-MS EPA 200.8	Less than	5.0	ppb	5/16/16 15:04	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	5/16/16 15:04	MC

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

Approved By: 

**EPA CCR Rule Compliance Monitoring Wells  
Groundwater Monitoring Data  
South Carolina Electric & Gas: Williams Station Highway 52 Class Three Landfill**

Williams Station Highway 52 Class Three Landfill

Monitoring Well ID	Well Data			Gauging Date:				Final Water Quality Indicator Parameters					
	PVC Pipe Elevation, ft.	Ground Surface Elevation, ft.	Stickup, ft.	7/13/16 Initial Gauging		7/13/16 Final Gauging		Temperature °C	pH S.U.	Sp. Cond. µS/cm	Turbidity NTU	ORP mV	DO mg/L
				Depth to Groundwater, ft.	Groundwater Elevation, ft.	Depth to Groundwater, ft.	Groundwater Elevation, ft.						
GW-10	52.28	49.60	2.68	8.72	43.56	8.93	43.35	23.9	7.0	435	9.66	-56.7	1.21
GW-20	60.81	56.70	4.11	21.52	39.29	22.50	38.31	23.4	6.1	889	20.70	-1.8	0.25
GW-21	56.14	52.50	3.64	17.28	38.86	18.20	37.94	24.1	6.4	793	15.60	18.0	0.18
GW-22D	50.36	47.10	3.26	15.59	34.77	16.43	33.93	29.6	6.9	918	13.00	-34.5	0.30
GW-23D	49.69	46.20	3.49	14.42	35.27	15.29	34.40	25.3	7.1	632	11.20	8.6	0.23
GW-24	52.40	48.70	3.70	15.05	37.35	15.34	37.06	24.4	5.8	648	12.50	30.3	0.27
GW-25	50.93	47.40	3.53	14.44	36.49	14.61	36.32	23.1	6.5	709	15.20	29.1	0.70
GW-26	55.21	51.20	4.01	24.51	30.70	24.71	30.50	24.7	6.2	1219	15.00	-51.3	0.35



## GEL LABORATORIES LLC

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

### Certificate of Analysis Report for

GEEL003 GEL Engineering, LLC

Client SDG: 401582 GEL Work Order: 401582

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

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

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

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

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

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



# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: July 26, 2016

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd  
  
Charleston, South Carolina 29417  
Contact: Robert Gardner  
Project: Williams 52 RCRA

Client Sample ID: GW-20 Project: SCEG01616C  
Sample ID: 401582001 Client ID: GEEL003  
Matrix: Ground Water  
Collect Date: 13-JUL-16 09:49  
Receive Date: 14-JUL-16  
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride		0.137	0.033	0.100	mg/L		1	MXL2	07/14/16	1639	1581843	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	J	3.75	2.00	10.0	ug/L	1.00	1	BAJ	07/20/16	1735	1581864	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	2.01	3.00	pCi/L			AXM6	07/25/16	1138	1582425	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		7.08	0.456	1.00	pCi/L			LXP1	07/26/16	0800	1582028	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JP1	07/14/16	1635	1581863

The following Analytical Methods were performed:

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

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			92.9	(15%-125%)

### Notes:

Column headers are defined as follows:

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

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: July 26, 2016

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52 RCRA

Client Sample ID: GW-21	Project: SCEG01616C
Sample ID: 401582002	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 13-JUL-16 10:54	
Receive Date: 14-JUL-16	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride		0.136	0.033	0.100	mg/L		1	MXL2	07/14/16	1709	1581843	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	J	4.69	2.00	10.0	ug/L	1.00	1	BAJ	07/20/16	1748	1581864	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	1.70	3.00	pCi/L			AXM6	07/25/16	1138	1582425	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.24	0.529	1.00	pCi/L			LXP1	07/26/16	0800	1582028	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JP1	07/14/16	1635	1581863

The following Analytical Methods were performed:

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

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			97.3	(15%-125%)

**Notes:**

Column headers are defined as follows:

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

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: July 26, 2016

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52 RCRA

Client Sample ID: GW-22D	Project: SCEG01616C
Sample ID: 401582003	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 13-JUL-16 11:49	
Receive Date: 14-JUL-16	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride		0.219	0.033	0.100	mg/L		1	MXL2	07/14/16	1739	1581843	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	J	6.23	2.00	10.0	ug/L	1.00	1	BAJ	07/20/16	1750	1581864	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	2.01	3.00	pCi/L			AXM6	07/25/16	1138	1582425	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.07	0.349	1.00	pCi/L			LXP1	07/26/16	0800	1582028	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JP1	07/14/16	1635	1581863

The following Analytical Methods were performed:

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

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			61.4	(15%-125%)

**Notes:**

Column headers are defined as follows:

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

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: July 26, 2016

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52 RCRA

Client Sample ID: GW-10	Project: SCEG01616C
Sample ID: 401582004	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 13-JUL-16 12:56	
Receive Date: 14-JUL-16	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride		0.634	0.033	0.100	mg/L		1	MXL2	07/14/16	1809	1581843	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	J	8.40	2.00	10.0	ug/L	1.00	1	BAJ	07/20/16	1801	1581864	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	1.43	3.00	pCi/L			AXM6	07/25/16	1138	1582425	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		2.78	0.445	1.00	pCi/L			LXP1	07/26/16	0800	1582028	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JP1	07/14/16	1635	1581863

The following Analytical Methods were performed:

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

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

**Notes:**

Column headers are defined as follows:

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

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: July 26, 2016

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52 RCRA

Client Sample ID: Field Blank	Project: SCEG01616C
Sample ID: 401582005	Client ID: GEEL003
Matrix: Water	
Collect Date: 13-JUL-16 13:05	
Receive Date: 14-JUL-16	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	U	ND	0.033	0.100	mg/L		1	MXL2	07/14/16	1839	1581843	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	U	ND	2.00	10.0	ug/L	1.00	1	BAJ	07/20/16	1803	1581864	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	1.36	3.00	pCi/L			AXM6	07/25/16	1139	1582425	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.515	0.370	1.00	pCi/L			LXP1	07/26/16	0800	1582028	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JP1	07/14/16	1635	1581863

The following Analytical Methods were performed:

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

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			103	(15%-125%)

**Notes:**

Column headers are defined as follows:

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

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: July 26, 2016

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52 RCRA

Client Sample ID: GW-26	Project: SCEG01616C
Sample ID: 401582006	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 13-JUL-16 14:20	
Receive Date: 14-JUL-16	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride		0.111	0.033	0.100	mg/L		1	MXL2	07/14/16	2009	1581843	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	J	2.70	2.00	10.0	ug/L	1.00	1	BAJ	07/20/16	1806	1581864	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	1.50	3.00	pCi/L			AXM6	07/25/16	1139	1582425	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.966	0.308	1.00	pCi/L			LXP1	07/26/16	0800	1582028	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JP1	07/14/16	1635	1581863

The following Analytical Methods were performed:

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

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			94.5	(15%-125%)

**Notes:**

Column headers are defined as follows:

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

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: July 26, 2016

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52 RCRA

Client Sample ID: DUP	Project: SCEG01616C
Sample ID: 401582007	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 13-JUL-16 14:40	
Receive Date: 14-JUL-16	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride		0.106	0.033	0.100	mg/L		1	MXL2	07/14/16	2039	1581843	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	J	2.31	2.00	10.0	ug/L	1.00	1	BAJ	07/20/16	1808	1581864	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	2.65	3.00	pCi/L			AXM6	07/25/16	1139	1582425	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.44	0.431	1.00	pCi/L			LXP1	07/26/16	0835	1582028	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JP1	07/14/16	1635	1581863

The following Analytical Methods were performed:

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

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

**Notes:**

Column headers are defined as follows:

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



# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: July 26, 2016

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52 RCRA

Client Sample ID: GW-24	Project: SCEG01616C
Sample ID: 401582008	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 13-JUL-16 16:58	
Receive Date: 14-JUL-16	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride		0.399	0.033	0.100	mg/L		1	MXL2	07/14/16	2109	1581843	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	J	5.07	2.00	10.0	ug/L	1.00	1	BAJ	07/20/16	1811	1581864	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	1.77	3.00	pCi/L			AXM6	07/25/16	1139	1582425	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.638	0.459	1.00	pCi/L			LXP1	07/26/16	0835	1582028	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JP1	07/14/16	1635	1581863

The following Analytical Methods were performed:

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

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

**Notes:**

Column headers are defined as follows:

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

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: July 26, 2016

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52 RCRA

Client Sample ID: GW-25	Project: SCEG01616C
Sample ID: 401582009	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 13-JUL-16 17:56	
Receive Date: 14-JUL-16	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride		0.538	0.033	0.100	mg/L		1	MXL2	07/14/16	2138	1581843	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	J	5.78	2.00	10.0	ug/L	1.00	1	BAJ	07/20/16	1813	1581864	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	1.37	3.00	pCi/L			AXM6	07/25/16	1139	1582425	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.309	0.247	1.00	pCi/L			LXP1	07/26/16	0835	1582028	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JP1	07/14/16	1635	1581863

The following Analytical Methods were performed:

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

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

**Notes:**

Column headers are defined as follows:

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

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: July 26, 2016

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52 RCRA

Client Sample ID: GW-23D	Project: SCEG01616C
Sample ID: 401582010	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 13-JUL-16 18:55	
Receive Date: 14-JUL-16	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride		0.313	0.033	0.100	mg/L		1	MXL2	07/14/16	2208	1581843	1
Metals Analysis-ICP-MS												
SW846 3005A/6020A Liquid "As Received"												
Lithium	J	4.80	2.00	10.0	ug/L	1.00	1	BAJ	07/20/16	1816	1581864	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	1.67	3.00	pCi/L			AXM6	07/25/16	1142	1582425	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.662	0.509	1.00	pCi/L			LXP1	07/26/16	0835	1582028	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JP1	07/14/16	1635	1581863

The following Analytical Methods were performed:

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

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

**Notes:**

Column headers are defined as follows:

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

# GEL LABORATORIES LLC

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

## QC Summary

Report Date: July 26, 2016

Page 1 of 3

GEL Engineering, LLC  
2040 Savage Rd  
Charleston, South Carolina

Contact: Robert Gardner

Workorder: 401582

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Ion Chromatography</b>											
Batch	1581843										
QC1203585137	401582010	DUP									
Fluoride		0.313		0.315	mg/L	0.51	^	(+/-0.100)	MXL2	07/14/16	22:38
QC1203585136	LCS										
Fluoride	2.50			2.45	mg/L			(90%-110%)		07/14/16	16:09
QC1203585135	MB										
Fluoride			U	ND	mg/L					07/14/16	15:40
QC1203585138	401582010	PS									
Fluoride	2.50	0.313		2.77	mg/L			(90%-110%)		07/14/16	23:08
<b>Metals Analysis - ICPMS</b>											
Batch	1581864										
QC1203585215	401582001	DUP									
Lithium		J	3.75	J	3.81	ug/L	1.75	^	(+/-10.0)	BAJ	07/20/16 17:38
QC1203585214	LCS										
Lithium	50.0			57.1	ug/L			(80%-120%)		07/20/16	17:33
QC1203585213	MB										
Lithium			U	ND	ug/L					07/20/16	17:30
QC1203585216	401582001	MS									
Lithium	50.0	J	3.75		54.3	ug/L			101	(75%-125%)	07/20/16 17:40
QC1203585217	401582001	SDILT									
Lithium		J	3.75	U	ND	ug/L	N/A		(0%-10%)		07/20/16 17:45
<b>Rad Gas Flow</b>											
Batch	1582425										
QC1203586518	401582008	DUP									
Radium-228		U	-0.0616	U	0.930	pCi/L	N/A		N/A	AXM6	07/25/16 11:42
QC1203586519	LCS										
Radium-228	45.1			45.2	pCi/L			(75%-125%)		07/25/16	11:42
QC1203586517	MB										
Radium-228			U	0.522	pCi/L					07/25/16	11:42
<b>Rad Ra-226</b>											
Batch	1582028										
QC1203585538	401582001	DUP									

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## QC Summary

Workorder: 401582

Page 2 of 3

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Rad Ra-226</b>											
Batch	1582028										
Radium-226		7.08		7.31	pCi/L	3.16		(0%-20%)	LXP1	07/26/16	08:35
QC1203585540	LCS										
Radium-226	24.4			22.7	pCi/L		93.1	(75%-125%)		07/26/16	09:10
QC1203585537	MB										
Radium-226			U	0.211	pCi/L					07/26/16	08:35
QC1203585539	401582001	MS									
Radium-226	122	7.08		133	pCi/L		103	(75%-125%)		07/26/16	09:10

**Notes:**

The Qualifiers in this report are defined as follows:

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

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## QC Summary

Workorder: 401582

Page 3 of 3

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
U		Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.									
UI		Gamma Spectroscopy--Uncertain identification									
UJ		Gamma Spectroscopy--Uncertain identification									
UL		Not considered detected. The associated number is the reported concentration, which may be inaccurate due to a low bias.									
X		Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier									
Y		Other specific qualifiers were required to properly define the results. Consult case narrative.									
Z		Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.									
^		RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.									
d		5-day BOD--The 2:1 depletion requirement was not met for this sample									
e		5-day BOD--Test replicates show more than 30% difference between high and low values. The data is qualified per the method and can be used for reporting purposes									
h		Preparation or preservation holding time was exceeded									

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

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

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

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

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



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July 26, 2016

REPORT TO:
Mike Moore C221

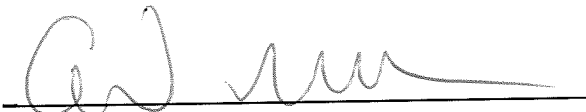
Sample ID: **AB22979** Williams Hwy 52 GW 20-NPDES/CCR  
 Date & Time Sampled: July 13, 2016 09:49  
 Date & Time Submitted: July 15, 2016 09:55  
 Collected by: ANDERSON,D Location Code: WLG20TM

GW 20

Login Record File: 160715003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	MDL	Units	Completed Analysis Date & Time		Chemist
Antimony by ICP-MS EPA 200.8	Less than	5.0	ppb	7/22/16	09:17	MC
Arsenic by ICP_MS EPA 200.8	Less than	10.0	ppb	7/26/16	14:28	MC
Barium (CWA) 200.7	53.7	10.0	ppb	7/21/16	08:41	MC
Beryllium EPA 200.7	Less than	1.0	ppb	7/21/16	08:41	MC
Boron - EPA 200.7	Less than	1000	ppb	7/21/16	08:41	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	7/22/16	09:17	MC
Calcium EPA 200.7	169000	100	ppb	7/21/16	08:41	MC
Chromium by ICP_MS EPA 200.8	Less than	1.0	ppb	7/26/16	14:28	MC
Cobalt by ICP_MS EPA 200.8	3.2	1.0	ppb	7/26/16	14:28	MC
Lead by ICP-MS EPA 200.8	Less than	1.0	ppb	7/22/16	09:17	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	7/19/16	14:13	MC
Molybdenum - EPA 200.8	1.8	1.0	ppb	7/22/16	09:17	MC
Selenium by ICP-MS EPA 200.8	Less than	10.0	ppb	7/26/16	14:28	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	7/26/16	14:28	MC

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

Approved by: 



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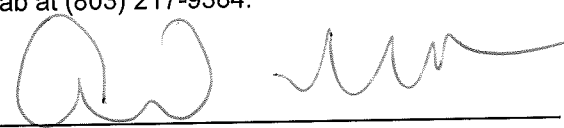
Sample ID: **AB22981 Williams Hwy 52 GW 21-NPDES/CCR**  
 Date & Time Sampled: July 13, 2016 10:54  
 Date & Time Submitted: July 15, 2016 09:55  
 Collected by: ANDERSON,D Location Code: WLG21TM

GW 21

Login Record File: 160715003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	MDL	Units	Completed Analysis Date & Time		Chemist
Antimony by ICP-MS EPA 200.8	Greater than	5.0	ppb	7/22/16	09:17	MC
Arsenic by ICP_MS EPA 200.8	Less than	10.0	ppb	7/26/16	14:28	MC
Barium (CWA) 200.7	27.2	10.0	ppb	7/21/16	08:41	MC
Beryllium EPA 200.7	Less than	1.0	ppb	7/21/16	08:41	MC
Boron - EPA 200.7	Less than	1000	ppb	7/21/16	08:41	MC
Cadmium by ICP_MS EPA 200.8	Greater than	1.0	ppb	7/22/16	09:17	MC
Calcium EPA 200.7	111000	100	ppb	7/21/16	08:41	MC
Chromium by ICP_MS EPA 200.8	Less than	1.0	ppb	7/26/16	14:28	MC
Cobalt by ICP_MS EPA 200.8	2.0	1.0	ppb	7/26/16	14:28	MC
Lead by ICP-MS EPA 200.8	Greater than	1.0	ppb	7/22/16	09:17	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	7/19/16	14:13	MC
Molybdenum - EPA 200.8	1.8	1.0	ppb	7/22/16	09:17	MC
Selenium by ICP-MS EPA 200.8	Less than	10.0	ppb	7/26/16	14:28	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	7/26/16	14:28	MC

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

Approved by: 





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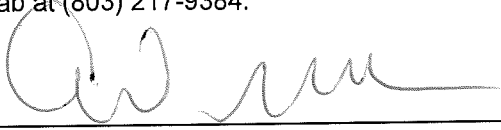
Sample ID: **AB22983 Williams Hwy 52 GW 22D-NPDES/CCR**  
 Date & Time Sampled: July 13, 2016 11:49  
 Date & Time Submitted: July 15, 2016 09:55  
 Collected by: ANDERSON,D Location Code: WLG22DTM

GW 22D

Login Record File: 160715003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	MDL	Units	Completed Analysis Date & Time		Chemist
Antimony by ICP-MS EPA 200.8	Less than	5.0	ppb	7/22/16	09:17	MC
Arsenic by ICP_MS EPA 200.8	Less than	10.0	ppb	7/26/16	14:28	MC
Barium (CWA) 200.7	10.6	10.0	ppb	7/21/16	08:41	MC
Beryllium EPA 200.7	Less than	1.0	ppb	7/21/16	08:41	MC
Boron - EPA 200.7	Less than	1000	ppb	7/21/16	08:41	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	7/22/16	09:17	MC
Calcium EPA 200.7	97800	100	ppb	7/21/16	08:41	MC
Chromium by ICP_MS EPA 200.8	Less than	1.0	ppb	7/26/16	14:28	MC
Cobalt by ICP_MS EPA 200.8	Less than	1.0	ppb	7/26/16	14:28	MC
Lead by ICP-MS EPA 200.8	Less than	1.0	ppb	7/22/16	09:17	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	7/19/16	14:13	MC
Molybdenum - EPA 200.8	15.7	1.0	ppb	7/22/16	09:17	MC
Selenium by ICP-MS EPA 200.8	Less than	10.0	ppb	7/26/16	14:28	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	7/26/16	14:28	MC

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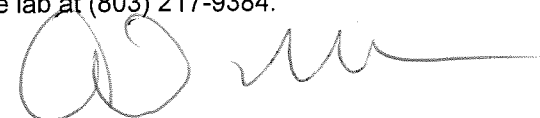
Sample ID: **AB22985 Williams Hwy 52 GW 10-NPDES/CCR**  
 Date & Time Sampled: July 13, 2016 12:56  
 Date & Time Submitted: July 15, 2016 09:55  
 Collected by: ANDERSON,D Location Code: WLG10TM

GW 10

Login Record File: 160715003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	MDL	Units	Completed Analysis Date & Time		Chemist
Antimony by ICP-MS EPA 200.8	Less than	5.0	ppb	7/22/16	09:17	MC
Arsenic by ICP_MS EPA 200.8	Less than	10.0	ppb	7/26/16	14:28	MC
Barium (CWA) 200.7	18.0	10.0	ppb	7/21/16	08:41	MC
Beryllium EPA 200.7	Less than	1.0	ppb	7/21/16	08:41	MC
Boron - EPA 200.7	Less than	1000	ppb	7/21/16	08:41	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	7/22/16	09:17	MC
Calcium EPA 200.7	48800	100	ppb	7/21/16	08:41	MC
Chromium by ICP_MS EPA 200.8	Less than	1.0	ppb	7/26/16	14:28	MC
Cobalt by ICP_MS EPA 200.8	Less than	1.0	ppb	7/26/16	14:28	MC
Lead by ICP-MS EPA 200.8	Less than	1.0	ppb	7/22/16	09:17	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	7/19/16	14:13	MC
Molybdenum - EPA 200.8	1.7	1.0	ppb	7/22/16	09:17	MC
Selenium by ICP-MS EPA 200.8	Less than	10.0	ppb	7/26/16	14:28	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	7/26/16	14:28	MC

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

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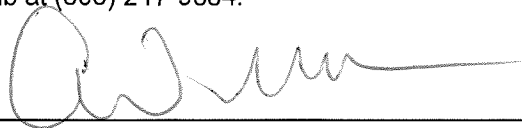
Sample ID: **AB22987 Williams Hwy 52 FIELD**  
 Date & Time Sampled: July 13, 2016 13:05  
 Date & Time Submitted: July 15, 2016 09:55  
 Collected by: ANDERSON,D Location Code: WLGFBTM

GW 10

Login Record File: 160715003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	MDL	Units	Completed Analysis Date & Time		Chemist
Antimony by ICP-MS EPA 200.8	Less than	5.0	ppb	7/22/16	09:17	MC
Arsenic by ICP_MS EPA 200.8	Less than	10.0	ppb	7/26/16	14:28	MC
Barium (CWA) 200.7	Less than	10.0	ppb	7/21/16	08:41	MC
Beryllium EPA 200.7	Less than	1.0	ppb	7/21/16	08:41	MC
Boron - EPA 200.7	Less than	1000	ppb	7/21/16	08:41	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	7/22/16	09:17	MC
Calcium EPA 200.7	Less than	100	ppb	7/21/16	08:41	MC
Chromium by ICP_MS EPA 200.8	Less than	1.0	ppb	7/26/16	14:28	MC
Cobalt by ICP_MS EPA 200.8	Less than	1.0	ppb	7/26/16	14:28	MC
Lead by ICP-MS EPA 200.8	Less than	1.0	ppb	7/22/16	09:17	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	7/19/16	14:13	MC
Molybdenum - EPA 200.8	Less than	1.0	ppb	7/22/16	09:17	MC
Selenium by ICP-MS EPA 200.8	Less than	10.0	ppb	7/26/16	14:28	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	7/26/16	14:28	MC

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

Approved by: 



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July 27, 2016

REPORT TO:
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Sample ID: **AB22989**

**Williams Hwy 52 GW 26-NPDES/CCR**

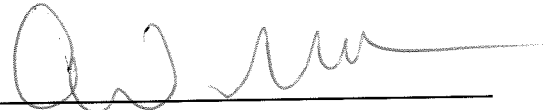
Date & Time Sampled: July 13, 2016 14:20  
 Date & Time Submitted: July 15, 2016 09:55  
 Collected by: ANDERSON,D Location Code: WLG26TM

GW 26

Login Record File: 160715003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS EPA 200.8	Less than	1.0	ppb	7/27/16 12:24	MC
Arsenic by ICP_MS EPA 200.8	Less than	10.0	ppb	7/26/16 16:23	MC
Barium (CWA) 200.7	74.3	10.0	ppb	7/21/16 08:14	MC
Beryllium EPA 200.7	Less than	1.0	ppb	7/21/16 08:14	MC
Boron - EPA 200.7	Less than	1000	ppb	7/21/16 08:14	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	7/27/16 12:24	MC
Calcium EPA 200.7	143000	100	ppb	7/21/16 08:14	MC
Chromium by ICP_MS EPA 200.8	Less than	1.0	ppb	7/26/16 16:23	MC
Cobalt by ICP_MS EPA 200.8	12.6	1.0	ppb	7/26/16 16:23	MC
Lead by ICP-MS EPA 200.8	Less than	1.0	ppb	7/27/16 12:24	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	7/19/16 14:13	MC
Molybdenum - EPA 200.8	Less than	1.0	ppb	7/27/16 12:24	MC
Selenium by ICP-MS EPA 200.8	Less than	10.0	ppb	7/26/16 16:23	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	7/26/16 16:23	MC

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

Approved By: 



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July 27, 2016

REPORT TO:
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Sample ID: **AB22991**

**Williams Hwy 52 GW 26-NPDES/CCR**

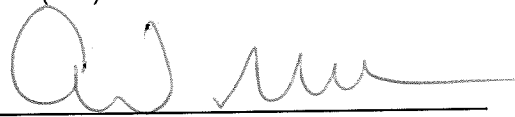
Date & Time Sampled: July 13, 2016 14:40  
 Date & Time Submitted: July 15, 2016 09:55  
 Collected by: ANDERSON,D Location Code: WLG26TM

GW 26

Login Record File: 160715003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS EPA 200.8	Less than	1.0	ppb	7/27/16 12:24	MC
Arsenic by ICP_MS EPA 200.8	Less than	10.0	ppb	7/26/16 16:23	MC
Barium (CWA) 200.7	74.7	10.0	ppb	7/21/16 08:14	MC
Beryllium EPA 200.7	Less than	1.0	ppb	7/21/16 08:14	MC
Boron - EPA 200.7	Less than	1000	ppb	7/21/16 08:14	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	7/27/16 12:24	MC
Calcium EPA 200.7	146000	100	ppb	7/21/16 08:14	MC
Chromium by ICP_MS EPA 200.8	Less than	1.0	ppb	7/26/16 16:23	MC
Cobalt by ICP_MS EPA 200.8	12.1	1.0	ppb	7/26/16 16:23	MC
Lead by ICP-MS EPA 200.8	Less than	1.0	ppb	7/27/16 12:24	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	7/19/16 14:13	MC
Molybdenum - EPA 200.8	Less than	1.0	ppb	7/27/16 12:24	MC
Selenium by ICP-MS EPA 200.8	Less than	10.0	ppb	7/26/16 16:23	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	7/26/16 16:23	MC

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

Approved By: 



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July 27, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB22993**

**Williams Hwy 52 GW 24-NPDES/CCR**

Date & Time Sampled: July 13, 2016 16:58  
 Date & Time Submitted: July 15, 2016 09:55  
 Collected by: ANDERSON, D Location Code: WLG24TM

GW 24

Login Record File: 160715003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS EPA 200.8	Less than	1.0	ppb	7/27/16 12:24	MC
Arsenic by ICP_MS EPA 200.8	Less than	10.0	ppb	7/26/16 16:23	MC
Barium (CWA) 200.7	46.0	10.0	ppb	7/21/16 08:14	MC
Beryllium EPA 200.7	Less than	1.0	ppb	7/21/16 08:14	MC
Boron - EPA 200.7	Less than	1000	ppb	7/21/16 08:14	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	7/27/16 12:24	MC
Calcium EPA 200.7	118000	100	ppb	7/21/16 08:14	MC
Chromium by ICP_MS EPA 200.8	Less than	1.0	ppb	7/26/16 16:23	MC
Cobalt by ICP_MS EPA 200.8	2.2	1.0	ppb	7/26/16 16:23	MC
Lead by ICP-MS EPA 200.8	Less than	1.0	ppb	7/27/16 12:24	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	7/19/16 14:13	MC
Molybdenum - EPA 200.8	1.0	1.0	ppb	7/27/16 12:24	MC
Selenium by ICP-MS EPA 200.8	Less than	10.0	ppb	7/26/16 16:23	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	7/26/16 16:23	MC

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

Approved By: 



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July 27, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB22995**

**Williams Hwy 52 GW 25-NPDES/CCR**

Date & Time Sampled: July 13, 2016 17:56  
 Date & Time Submitted: July 15, 2016 09:55  
 Collected by: ANDERSON,D Location Code: WLG25TM

GW 25

Login Record File: 160715003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS EPA 200.8	Less than	1.0	ppb	7/27/16 12:24	MC
Arsenic by ICP_MS EPA 200.8	Less than	10.0	ppb	7/26/16 16:23	MC
Barium (CWA) 200.7	20.8	10.0	ppb	7/21/16 08:14	MC
Beryllium EPA 200.7	Less than	1.0	ppb	7/21/16 08:14	MC
Boron - EPA 200.7	Less than	1000	ppb	7/21/16 08:14	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	7/27/16 12:24	MC
Calcium EPA 200.7	110000	100	ppb	7/21/16 08:14	MC
Chromium by ICP_MS EPA 200.8	Less than	1.0	ppb	7/26/16 16:23	MC
Cobalt by ICP_MS EPA 200.8	Less than	1.0	ppb	7/26/16 16:23	MC
Lead by ICP-MS EPA 200.8	Less than	1.0	ppb	7/27/16 12:24	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	7/19/16 14:13	MC
Molybdenum - EPA 200.8	3.8	1.0	ppb	7/27/16 12:24	MC
Selenium by ICP-MS EPA 200.8	Less than	10.0	ppb	7/26/16 16:23	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	7/26/16 16:23	MC

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

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



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

July 27, 2016

<b>REPORT TO:</b>
Mike Moore C221

Sample ID: **AB22997**

**Williams Hwy 52 GW 23D-NPDES/CCR**

Date & Time Sampled: July 13, 2016 18:55  
 Date & Time Submitted: July 15, 2016 09:55  
 Collected by: ANDERSON,D Location Code: WLG23DTM

GW 23D

Login Record File: 160715003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS EPA 200.8	Less than	1.0	ppb	7/27/16 12:24	MC
Arsenic by ICP_MS EPA 200.8	Less than	10.0	ppb	7/26/16 16:23	MC
Barium (CWA) 200.7	10.8	10.0	ppb	7/21/16 08:14	MC
Beryllium EPA 200.7	Less than	1.0	ppb	7/21/16 08:14	MC
Boron - EPA 200.7	Less than	1000	ppb	7/21/16 08:14	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	7/27/16 12:24	MC
Calcium EPA 200.7	65400	100	ppb	7/21/16 08:14	MC
Chromium by ICP_MS EPA 200.8	Less than	1.0	ppb	7/26/16 16:23	MC
Cobalt by ICP_MS EPA 200.8	Less than	1.0	ppb	7/26/16 16:23	MC
Lead by ICP-MS EPA 200.8	Less than	1.0	ppb	7/27/16 12:24	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	7/19/16 14:13	MC
Molybdenum - EPA 200.8	17.5	1.0	ppb	7/27/16 12:24	MC
Selenium by ICP-MS EPA 200.8	Less than	10.0	ppb	7/26/16 16:23	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	7/26/16 16:23	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  
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 Fax: (803) 217-9911

July 26, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB22978**    **Williams Hwy 52 GW 20-NPDES/CCR**  
 Date & Time Sampled: July 13, 2016    09:49  
 Date & Time Submitted: July 15, 2016    09:55  
 Collected by: ANDERSON,D    Location Code: WLG20TDS

GW 20

Login Record File: 160715003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	MDL	Units	Completed Analysis Date & Time		Chemist
Chlorides by IC EPA 300.0	9.0	0.50	PPM	7/19/16	12:27	LS
pH by SM4500HB	6.84	0.00	S.U.	7/20/16	09:43	PRC
Sulfates by IC EPA 300.0	22.8	0.50	PPM	7/19/16	12:27	LS
Total Dissolved Solid-SM2540C	648	2.0	mg/L	7/18/16	15:23	PRC

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

Approved by: \_\_\_\_\_



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

July 26, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB22980 Williams Hwy 52 GW 21-NPDES/CCR**  
 Date & Time Sampled: July 13, 2016 10:54  
 Date & Time Submitted: July 15, 2016 09:55  
 Collected by: ANDERSON,D Location Code: WLG21TDS

GW 21

Login Record File: 160715003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	MDL	Units	Completed Analysis Date & Time		Chemist
Chlorides by IC EPA 300.0	9.2	0.50	PPM	7/19/16	12:41	LS
pH by SM4500HB	6.74	0.00	S.U.	7/20/16	09:43	PRC
Sulfates by IC EPA 300.0	17.9	0.50	PPM	7/19/16	12:41	LS
Total Dissolved Solid-SM2540C	545	2.0	mg/L	7/15/16	14:29	PRC

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

Approved by: 



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

July 26, 2016

REPORT TO:
Mike Moore C221

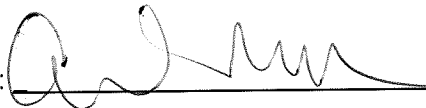
Sample ID: **AB22982 Williams Hwy 52 GW 22D-NPDES/CCR**  
 Date & Time Sampled: July 13, 2016 11:49  
 Date & Time Submitted: July 15, 2016 09:55  
 Collected by: ANDERSON,D Location Code: WLG22DTDS

GW 22D

Login Record File: 160715003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	MDL	Units	Completed Analysis Date & Time		Chemist
Chlorides by IC EPA 300.0	10.1	2.5	PPM	7/19/16	12:56	LS
pH by SM4500HB	7.20	0.00	S.U.	7/20/16	09:43	PRC
Sulfates by IC EPA 300.0	119	2.5	PPM	7/19/16	12:56	LS
Total Dissolved Solid-SM2540C	622	2.0	mg/L	7/18/16	15:23	PRC

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

Approved by: 



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

July 26, 2016

REPORT TO:
Mike Moore C221

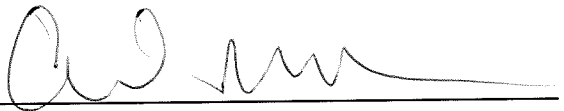
Sample ID: **AB22984 Williams Hwy 52 GW 10-NPDES/CCR**  
 Date & Time Sampled: July 13, 2016 12:56  
 Date & Time Submitted: July 15, 2016 09:55  
 Collected by: ANDERSON,D Location Code: WLG10TDS

GW 10

Login Record File: 160715003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	MDL	Units	Completed Analysis Date & Time		Chemist
Chlorides by IC EPA 300.0	15.6	0.50	PPM	7/19/16	15:04	LS
pH by SM4500HB	6.90	0.00	S.U.	7/20/16	09:43	PRC
Sulfates by IC EPA 300.0	3.4	0.50	PPM	7/19/16	15:04	LS
Total Dissolved Solid-SM2540C	234	2.0	mg/L	7/18/16	15:23	PRC

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

Approved by: 



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

July 26, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB22986**    **Williams Hwy 52 FIELD**  
 Date & Time Sampled: July 13, 2016    13:05  
 Date & Time Submitted: July 15, 2016    09:55  
 Collected by: ANDERSON,D    Location Code: WLGFBTDS

GW 10

Login Record File: 160715003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	MDL	Units	Completed Analysis Date & Time		Chemist
Chlorides by IC EPA 300.0	LESS THAN	0.50	PPM	7/19/16	15:19	LS
pH by SM4500HB	7.21	0.00	S.U.	7/20/16	09:43	PRC
Sulfates by IC EPA 300.0	0.69	0.50	PPM	7/19/16	15:19	LS
Total Dissolved Solid-SM2540C	495	2.0	mg/L	7/15/16	14:29	PRC

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

Approved by: 



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

July 26, 2016

REPORT TO:
Mike Moore C221

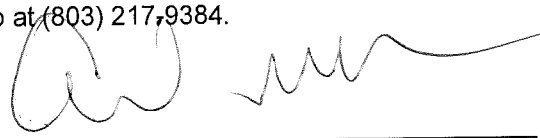
Sample ID: **AB22988** Williams Hwy 52 GW 26-NPDES/CCR  
 Date & Time Sampled: July 13, 2016 14:20  
 Date & Time Submitted: July 15, 2016 09:55  
 Collected by: ANDERSON,D Location Code: WLG26TDS

GW 26

Login Record File: 160715003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	MDL	Units	Completed Analysis Date & Time		Chemist
Chlorides by IC EPA 300.0	161	2.5	PPM	7/19/16	15:33	LS
pH by SM4500HB	6.44	0.00	S.U.	7/20/16	09:43	PRC
Sulfates by IC EPA 300.0	85.7	2.5	PPM	7/19/16	15:33	LS
Total Dissolved Solid-SM2540C	873	2.0	mg/L	7/18/16	15:23	PRC

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

Approved by: 



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

July 26, 2016

REPORT TO:
Mike Moore C221

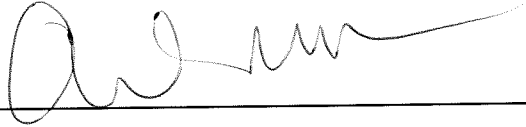
Sample ID: **AB22990 Williams Hwy 52 GW 26-NPDES/CCR**  
 Date & Time Sampled: July 13, 2016 14:40  
 Date & Time Submitted: July 15, 2016 09:55  
 Collected by: ANDERSON,D Location Code: WLG26TDS

GW 26

Login Record File: 160715003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	MDL	Units	Completed Analysis Date & Time		Chemist
Chlorides by IC EPA 300.0	163	2.5	PPM	7/19/16	15:47	LS
pH by SM4500HB	6.42	0.00	S.U.	7/20/16	09:43	PRC
Sulfates by IC EPA 300.0	91.2	2.5	PPM	7/19/16	15:47	LS
Total Dissolved Solid-SM2540C	857	2.0	mg/L	7/18/16	15:23	PRC

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

Approved by: 



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

July 26, 2016

REPORT TO:
Mike Moore C221

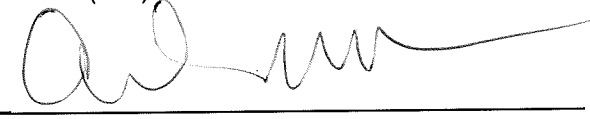
Sample ID: **AB22992 Williams Hwy 52 GW 24-NPDES/CCR**  
 Date & Time Sampled: July 13, 2016 16:58  
 Date & Time Submitted: July 15, 2016 09:55  
 Collected by: ANDERSON,D Location Code: WLG24TDS

GW 24

Login Record File: 160715003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	MDL	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	20.8	0.50	PPM	7/19/16 16:02	LS
pH by SM4500HB	6.69	0.00	S.U.	7/20/16 09:43	PRC
Sulfates by IC EPA 300.0	42.0	0.50	PPM	7/19/16 16:02	LS
Total Dissolved Solid-SM2540C	495	2.0	mg/L	7/15/16 14:29	PRC

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

Approved by: 





Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
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July 26, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB22994 Williams Hwy 52 GW 25-NPDES/CCR**  
 Date & Time Sampled: July 13, 2016 17:56  
 Date & Time Submitted: July 15, 2016 09:55  
 Collected by: ANDERSON,D Location Code: WLG25TDS

GW 25

Login Record File: 160715003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	MDL	Units	Completed Analysis Date & Time		Chemist
Chlorides by IC EPA 300.0	21.6	0.50	PPM	7/19/16	17:13	LS
pH by SM4500HB	6.99	0.00	S.U.	7/20/16	09:43	PRC
Sulfates by IC EPA 300.0	20.1	0.50	PPM	7/19/16	17:13	LS
Total Dissolved Solid-SM2540C	523	2.0	mg/L	7/18/16	15:23	PRC

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

Approved by: \_\_\_\_\_



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

July 26, 2016

REPORT TO:
Mike Moore C221

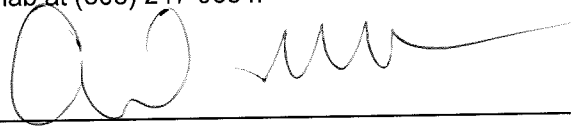
Sample ID: **AB22996 Williams Hwy 52 GW 23D-NPDES/CCR**  
 Date & Time Sampled: July 13, 2016 18:55  
 Date & Time Submitted: July 15, 2016 09:55  
 Collected by: ANDERSON, D Location Code: WLG23DTDS

GW 23D

Login Record File: 160715003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	MDL	Units	Completed Analysis Date & Time		Chemist
Chlorides by IC EPA 300.0	14.0	0.50	mg/L	7/19/16	16:16	LS
pH by SM4500HB	7.41	0.00	S.U.	7/20/16	09:43	PRC
Sulfates by IC EPA 300.0	44.4	0.50	PPM	7/19/16	16:16	LS
Total Dissolved Solid-SM2540C	456	2.0	mg/L	7/18/16	15:23	PRC

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

Approved by: 

**EPA CCR Rule Compliance Monitoring Wells  
Groundwater Monitoring Data  
South Carolina Electric & Gas: Williams Station Highway 52 Class Three Landfill**

Williams Station Highway 52 Class Three Landfill

Monitoring Well ID	Well Data			Gauging Date: 09/13/16				Final Water Quality Indicator Parameters					
	PVC Pipe Elevation, ft.	Ground Surface Elevation, ft.	Stickup, ft.	Initial Gauging		Final Gauging		Temperature °C	pH S.U.	Sp. Cond. µS/cm	Turbidity NTU	ORP mV	DO mg/L
				Depth to Groundwater, ft.	Groundwater Elevation, ft.	Depth to Groundwater, ft.	Groundwater Elevation, ft.						
GW-10	52.28	49.60	2.68	9.14	43.14	10.97	41.31	24.0	6.8	147	4.61	55	3.16
GW-20	60.81	56.70	4.11	20.87	39.94	23.31	37.50	23.8	6.5	1100	9.67	-10	1.99
GW-21	56.14	52.50	3.64	15.66	40.48	18.75	37.39	26.7	6.7	1030	5.64	-7	1.01
GW-22D	50.36	47.10	3.26	13.83	36.53	19.12	31.24	27.2	7.0	917	9.73	-21	0.98
GW-23D	49.69	46.20	3.49	14.17	35.52	18.83	30.86	25.6	7.2	765	5.53	31	0.95
GW-24	52.40	48.70	3.70	15.00	37.40	16.05	36.35	27.8	6.6	938	5.74	-13	0.88
GW-25	50.93	47.40	3.53	14.15	36.78	15.25	35.68	25.7	6.9	886	6.17	81	1.07
GW-26	55.21	51.20	4.01	24.00	31.21	24.47	30.74	28.5	6.2	1370	5.38	-3	0.98

## GEL LABORATORIES LLC

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

### Certificate of Analysis Report for

GEEL003 GEL Engineering, LLC

Client SDG: 405773 GEL Work Order: 405773

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

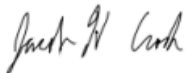
- \* A quality control analyte recovery is outside of specified acceptance criteria
- \*\* Analyte is a Tracer compound
- \*\* Analyte is a surrogate compound
- H Analytical holding time was exceeded
- J Value is estimated
- U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

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

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

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

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



# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: October 11, 2016

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52 RCRA

Client Sample ID: GW-10	Project: SCEG01616C
Sample ID: 405773001	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 13-SEP-16 08:50	
Receive Date: 13-SEP-16	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Chloride		6.50	0.067	0.200	mg/L		1	MAR1	09/15/16	0029	1598494	1
Fluoride		0.119	0.033	0.100	mg/L		1					
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	J	5.04	2.00	10.0	ug/L	1.00	1	SKJ	09/21/16	1833	1598376	2
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	1.72	3.00	pCi/L			AXM6	10/03/16	1639	1602003	3
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226	U	ND	0.193	1.00	pCi/L			LXP1	10/05/16	0835	1600164	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	09/14/16	0840	1598375

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 200.8 SC_NPDES	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			94.4	(15%-125%)

**Notes:**

Column headers are defined as follows:

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

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: October 11, 2016

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52 RCRA

Client Sample ID: GW-20	Project: SCEG01616C
Sample ID: 405773002	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 13-SEP-16 10:01	
Receive Date: 13-SEP-16	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Chloride		9.48	0.067	0.200	mg/L		1	MAR1	09/15/16	0205	1598494	1
Fluoride		0.193	0.033	0.100	mg/L		1					
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	J	4.08	2.00	10.0	ug/L	1.00	1	SKJ	09/21/16	1857	1598376	2
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	1.77	3.00	pCi/L			AXM6	10/03/16	1639	1602003	3
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226	U	ND	0.366	1.00	pCi/L			LXP1	10/05/16	0835	1600164	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	09/14/16	0840	1598375

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 200.8 SC_NPDES	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			103	(15%-125%)

**Notes:**

Column headers are defined as follows:

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

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: October 11, 2016

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52 RCRA

Client Sample ID: DUP	Project: SCEG01616C
Sample ID: 405773003	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 13-SEP-16 10:20	
Receive Date: 13-SEP-16	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Chloride		9.46	0.067	0.200	mg/L		1	MAR1	09/15/16	0237	1598494	1
Fluoride		0.192	0.033	0.100	mg/L		1					
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	J	4.29	2.00	10.0	ug/L	1.00	1	SKJ	09/21/16	1901	1598376	2
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228		2.32	1.41	3.00	pCi/L			AXM6	10/03/16	1639	1602003	3
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226		0.575	0.422	1.00	pCi/L			LXP1	10/05/16	0835	1600164	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	09/14/16	0840	1598375

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 200.8 SC_NPDES	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			76.1	(15%-125%)

**Notes:**

Column headers are defined as follows:

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

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: October 11, 2016

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52 RCRA

Client Sample ID: Field Blank	Project: SCEG01616C
Sample ID: 405773004	Client ID: GEEL003
Matrix: Water	
Collect Date: 13-SEP-16 10:50	
Receive Date: 13-SEP-16	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Chloride	U	ND	0.067	0.200	mg/L		1	MAR1	09/15/16	0309	1598494	1
Fluoride	U	ND	0.033	0.100	mg/L		1					
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	U	ND	2.00	10.0	ug/L	1.00	1	SKJ	09/21/16	1905	1598376	2
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	1.28	3.00	pCi/L			AXM6	10/03/16	1639	1602003	3
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226		0.598	0.420	1.00	pCi/L			LXP1	10/05/16	0835	1600164	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	09/14/16	0840	1598375

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 200.8 SC_NPDES	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			91.1	(15%-125%)

**Notes:**

Column headers are defined as follows:

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



# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: October 11, 2016

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52 RCRA

Client Sample ID: GW-21	Project: SCEG01616C
Sample ID: 405773005	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 13-SEP-16 11:10	
Receive Date: 13-SEP-16	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Fluoride		0.176	0.033	0.100	mg/L		1	MAR1	09/15/16	0340	1598494	1
Chloride		9.74	0.134	0.400	mg/L		2	MAR1	09/15/16	1154	1598494	2
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	J	5.85	2.00	10.0	ug/L	1.00	1	SKJ	09/21/16	1909	1598376	3
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	2.72	3.00	pCi/L			AXM6	10/03/16	1639	1602003	4
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226		0.679	0.392	1.00	pCi/L			LXP1	10/05/16	0835	1600164	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	09/14/16	0840	1598375

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			73.8	(15%-125%)

**Notes:**

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: October 11, 2016

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd

Charleston, South Carolina 29417

Contact: Robert Gardner  
Project: Williams 52 RCRA

Client Sample ID: GW-21

Project: SCEG01616C

Sample ID: 405773005

Client ID: GEEL003

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Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

Lc/LC: Critical Level

DL: Detection Limit

PF: Prep Factor

MDA: Minimum Detectable Activity

RL: Reporting Limit

MDC: Minimum Detectable Concentration

SQL: Sample Quantitation Limit

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: October 11, 2016

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52 RCRA

Client Sample ID: GW-22D	Project: SCEG01616C
Sample ID: 405773006	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 13-SEP-16 12:00	
Receive Date: 13-SEP-16	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Fluoride		0.274	0.033	0.100	mg/L		1	MAR1	09/15/16	0412	1598494	1
Chloride		9.49	0.134	0.400	mg/L		2	MAR1	09/15/16	1226	1598494	2
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	J	8.78	2.00	10.0	ug/L	1.00	1	SKJ	09/21/16	1921	1598376	3
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	2.98	3.00	pCi/L			AXM6	10/03/16	1639	1602003	4
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226		0.826	0.431	1.00	pCi/L			LXP1	10/05/16	0835	1600164	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	09/14/16	0840	1598375

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

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

**Notes:**

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: October 11, 2016

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd

Charleston, South Carolina 29417

Contact: Robert Gardner  
Project: Williams 52 RCRA

Client Sample ID: GW-22D  
Sample ID: 405773006

Project: SCEG01616C  
Client ID: GEEL003

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Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

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

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: October 11, 2016

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52 RCRA

Client Sample ID: GW-23D	Project: SCEG01616C
Sample ID: 405773007	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 13-SEP-16 12:40	
Receive Date: 13-SEP-16	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Fluoride		0.331	0.033	0.100	mg/L		1	MAR1	09/15/16	0548	1598494	1
Chloride		14.1	0.134	0.400	mg/L		2	MAR1	09/15/16	1258	1598494	2
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	J	4.71	2.00	10.0	ug/L	1.00	1	SKJ	09/21/16	1925	1598376	3
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	1.29	3.00	pCi/L			AXM6	10/03/16	1639	1602003	4
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226		0.648	0.354	1.00	pCi/L			LXP1	10/05/16	0907	1600164	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	09/14/16	0840	1598375

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			96.1	(15%-125%)

**Notes:**

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: October 11, 2016

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd

Charleston, South Carolina 29417

Contact: Robert Gardner  
Project: Williams 52 RCRA

Client Sample ID: GW-23D  
Sample ID: 405773007

Project: SCEG01616C  
Client ID: GEEL003

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Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

SQL: Sample Quantitation Limit

# GEL LABORATORIES LLC

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## Certificate of Analysis

Report Date: October 11, 2016

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52 RCRA

Client Sample ID: GW-25	Project: SCEG01616C
Sample ID: 405773008	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 13-SEP-16 13:22	
Receive Date: 13-SEP-16	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Fluoride		0.733	0.033	0.100	mg/L		1	MAR1	09/15/16	0620	1598494	1
Chloride		19.6	0.335	1.00	mg/L		5	MAR1	09/15/16	1330	1598494	2
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	J	7.42	2.00	10.0	ug/L	1.00	1	SKJ	09/21/16	1929	1598376	3
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	1.42	3.00	pCi/L			AXM6	10/03/16	1639	1602003	4
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226		0.415	0.269	1.00	pCi/L			LXP1	10/05/16	0907	1600164	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	09/14/16	0840	1598375

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			89.3	(15%-125%)

**Notes:**

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: October 11, 2016

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd

Charleston, South Carolina 29417

Contact: Robert Gardner  
Project: Williams 52 RCRA

Client Sample ID: GW-25  
Sample ID: 405773008

Project: SCEG01616C  
Client ID: GEEL003

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Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

SQL: Sample Quantitation Limit



# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: October 11, 2016

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52 RCRA

Client Sample ID: GW-24	Project: SCEG01616C
Sample ID: 405773009	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 13-SEP-16 14:02	
Receive Date: 13-SEP-16	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Fluoride		0.371	0.033	0.100	mg/L		1	MAR1	09/15/16	0652	1598494	1
Chloride		17.1	0.335	1.00	mg/L		5	MAR1	09/15/16	1402	1598494	2
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	J	3.81	2.00	10.0	ug/L	1.00	1	SKJ	09/21/16	1932	1598376	3
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228		2.03	1.69	3.00	pCi/L			AXM6	10/03/16	1640	1602003	4
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226	U	ND	0.359	1.00	pCi/L			LXP1	10/05/16	0907	1600164	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	09/14/16	0840	1598375

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			80.5	(15%-125%)

**Notes:**

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: October 11, 2016

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd

Charleston, South Carolina 29417

Contact: Robert Gardner  
Project: Williams 52 RCRA

Client Sample ID: GW-24

Sample ID: 405773009

Project: SCEG01616C

Client ID: GEEL003

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Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

SQL: Sample Quantitation Limit

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: October 11, 2016

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52 RCRA

Client Sample ID: GW-26	Project: SCEG01616C
Sample ID: 405773010	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 13-SEP-16 14:40	
Receive Date: 13-SEP-16	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Fluoride		0.161	0.033	0.100	mg/L		1	MAR1	09/15/16	0724	1598494	1
Chloride		149	3.35	10.0	mg/L		50	MAR1	09/15/16	1434	1598494	2
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	U	ND	2.00	10.0	ug/L	1.00	1	SKJ	09/21/16	1936	1598376	3
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228		1.99	1.45	3.00	pCi/L			AXM6	10/03/16	1640	1602003	4
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226		1.10	0.356	1.00	pCi/L			LXP1	10/05/16	0907	1600164	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	09/14/16	0840	1598375

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			95.2	(15%-125%)

**Notes:**

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: October 11, 2016

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd

Charleston, South Carolina 29417

Contact: Robert Gardner  
Project: Williams 52 RCRA

Client Sample ID: GW-26

Sample ID: 405773010

Project: SCEG01616C

Client ID: GEEL003

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Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

SQL: Sample Quantitation Limit

# GEL LABORATORIES LLC

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

## QC Summary

Report Date: October 11, 2016

Page 1 of 3

GEL Engineering, LLC  
2040 Savage Rd  
Charleston, South Carolina

Contact: Robert Gardner

Workorder: 405773

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Ion Chromatography</b>											
Batch	1598494										
QC1203627131	405773001	DUP									
Chloride		6.50		6.51	mg/L	0.0892		(0%-20%)	MAR1	09/15/16	01:01
Fluoride		0.119		0.119	mg/L	0.0838	^	(+/-0.100)			
QC1203627130	LCS										
Chloride	5.00			4.77	mg/L		95.3	(90%-110%)		09/14/16	23:57
Fluoride	2.50			2.53	mg/L		101	(90%-110%)			
QC1203627129	MB										
Chloride			U	ND	mg/L					09/14/16	23:25
Fluoride			U	ND	mg/L						
QC1203627132	405773001	PS									
Chloride	5.00	6.50		11.8	mg/L		107	(90%-110%)		09/15/16	01:33
Fluoride	2.50	0.119		2.54	mg/L		97	(90%-110%)			
<b>Metals Analysis - ICPMS</b>											
Batch	1598376										
QC1203626805	405773001	DUP									
Lithium		J	5.04	J	4.86	ug/L	3.53	^	(+/-10.0)	SKJ	09/21/16 18:37
QC1203626804	LCS										
Lithium	50.0			51.6	ug/L		103	(80%-120%)		09/21/16	18:29
QC1203626803	MB										
Lithium			U	ND	ug/L					09/21/16	18:25
QC1203626806	405773001	MS									
Lithium	50.0	J	5.04		58.0	ug/L		106	(75%-125%)		09/21/16 18:41
QC1203626807	405773001	SDILT									
Lithium		J	5.04	U	ND	ug/L	N/A		(0%-10%)		09/21/16 18:45
<b>Rad Gas Flow</b>											
Batch	1602003										
QC1203635577	406126004	DUP									
Radium-228		U	1.10	U	1.26	pCi/L	N/A		N/A	AXM6	10/03/16 16:39
QC1203635578	LCS										

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## QC Summary

Workorder: 405773

Page 2 of 3

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Rad Gas Flow</b>											
Batch	1602003										
Radium-228	22.0			20.5	pCi/L		93.2	(75%-125%)		10/03/16	16:39
QC1203635576	MB										
Radium-228			U	0.294	pCi/L				AXM6	10/10/16	18:36
<b>Rad Ra-226</b>											
Batch	1600164										
QC1203631222	406126008 DUP										
Radium-226		0.999		0.983	pCi/L	1.61		(0% - 100%)	LXP1	10/05/16	10:10
QC1203631224	LCS										
Radium-226	24.4			21.2	pCi/L		86.7	(75%-125%)		10/05/16	10:10
QC1203631221	MB										
Radium-226			U	0.192	pCi/L					10/05/16	10:10
QC1203631223	406126008 MS										
Radium-226	122	0.999		130	pCi/L		106	(75%-125%)		10/05/16	10:10

**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 REMF Result > MDC/CL and < RDL
- N Metals--The Matrix spike sample recovery is not within specified control limits
- N/A RPD or %Recovery limits do not apply.

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## QC Summary

Workorder: 405773

Page 3 of 3

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
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									
UJ		Gamma Spectroscopy--Uncertain identification									
UL		Not considered detected. The associated number is the reported concentration, which may be inaccurate due to a low bias.									
X		Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier									
Y		Other specific qualifiers were required to properly define the results. Consult case narrative.									
Z		Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.									
^		RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.									
d		5-day BOD--The 2:1 depletion requirement was not met for this sample									
e		5-day BOD--Test replicates show more than 30% difference between high and low values. The data is qualified per the method and can be used for reporting purposes									
h		Preparation or preservation holding time was exceeded									

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

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

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

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

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



Central Laboratory (P-08)  
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September 20, 2016

REPORT TO:
Mike Moore

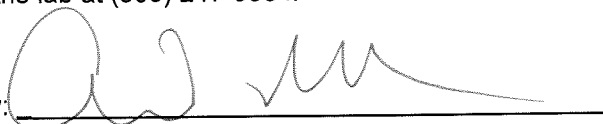
Sample ID: **AB23638 Williams Hwy 52 GW 10-NPDES/CCR**  
 Date & Time Sampled: September 13, 2016 08:50  
 Date & Time Submitted: September 15, 2016 11:05  
 Collected by: C.SANDEL Location Code: WLG10TM

GW 10

Login Record File: 160915002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	MDL	Units	Completed Analysis Date & Time		Chemist
Antimony by ICP-MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC
Arsenic by ICP_MS EPA 200.8	1.5	1.0	ppb	9/20/16	11:30	MC
Barium (CWA) 200.7	26.4	10.0	ppb	9/20/16	12:28	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	9/20/16	12:28	CDB
Boron - EPA 200.7	Less than	1000	ppb	9/20/16	12:28	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC
Calcium EPA 200.7	21600	100	ppb	9/20/16	12:28	CDB
Chromium by ICP_MS EPA 200.8	2.0	1.0	ppb	9/20/16	11:30	MC
Cobalt by ICP_MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC
Lead by ICP-MS EPA 200.8	1.1	1.0	ppb	9/20/16	11:30	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	9/20/16	18:35	MC
Molybdenum - EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC
Selenium by ICP-MS EPA 200.8	Less than	5.0	ppb	9/20/16	11:30	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC

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

Approved by: 





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September 20, 2016

REPORT TO:
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Sample ID: **AB23639 Williams Hwy 52 GW 20-NPDES/CCR**  
 Date & Time Sampled: September 13, 2016 10:01  
 Date & Time Submitted: September 15, 2016 11:05  
 Collected by: C.SANDEL Location Code: WLG20TM

GW 20

Login Record File: 160915002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	MDL	Units	Completed Analysis Date & Time		Chemist
Antimony by ICP-MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC
Arsenic by ICP_MS EPA 200.8	6.8	1.0	ppb	9/20/16	11:30	MC
Barium (CWA) 200.7	55.7	10.0	ppb	9/20/16	12:28	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	9/20/16	12:28	CDB
Boron - EPA 200.7	Less than	1000	ppb	9/20/16	12:28	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC
Calcium EPA 200.7	173000	100	ppb	9/20/16	12:28	CDB
Chromium by ICP_MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC
Cobalt by ICP_MS EPA 200.8	2.6	1.0	ppb	9/20/16	11:30	MC
Lead by ICP-MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	9/20/16	18:35	MC
Molybdenum - EPA 200.8	1.8	1.0	ppb	9/20/16	11:30	MC
Selenium by ICP-MS EPA 200.8	Less than	5.0	ppb	9/20/16	11:30	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC

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

Approved by: 



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September 20, 2016

REPORT TO:
Mike Moore

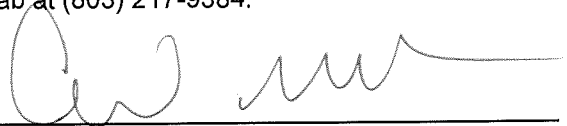
Sample ID: **AB23640 Williams Hwy 52 DUP -NPDES/CCR**  
 Date & Time Sampled: September 13, 2016 10:20  
 Date & Time Submitted: September 15, 2016 11:05  
 Collected by: C.SANDEL Location Code: WLGDUPTM

GW 10

Login Record File: 160915002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	MDL	Units	Completed Analysis Date & Time		Chemist
Antimony by ICP-MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC
Arsenic by ICP_MS EPA 200.8	6.9	1.0	ppb	9/20/16	11:30	MC
Barium (CWA) 200.7	57.3	10.0	ppb	9/20/16	12:28	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	9/20/16	12:28	CDB
Boron - EPA 200.7	Less than	1000	ppb	9/20/16	12:28	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC
Calcium EPA 200.7	176000	100	ppb	9/20/16	12:28	CDB
Chromium by ICP_MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC
Cobalt by ICP_MS EPA 200.8	2.9	1.0	ppb	9/20/16	11:30	MC
Lead by ICP-MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	9/20/16	18:35	MC
Molybdenum - EPA 200.8	2.0	1.0	ppb	9/20/16	11:30	MC
Selenium by ICP-MS EPA 200.8	Less than	5.0	ppb	9/20/16	11:30	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC

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

Approved by: 



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September 20, 2016

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Mike Moore

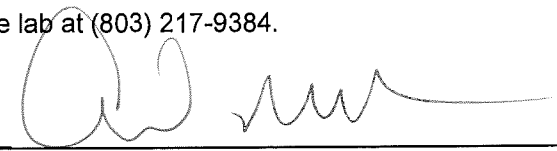
Sample ID: **AB23641 Williams Hwy 52 GW 21-NPDES/CCR**  
 Date & Time Sampled: September 13, 2016 11:10  
 Date & Time Submitted: September 15, 2016 11:05  
 Collected by: C.SANDEL Location Code: WLG21TM

GW 21

Login Record File: 160915002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	MDL	Units	Completed Analysis Date & Time		Chemist
Antimony by ICP-MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC
Arsenic by ICP_MS EPA 200.8	4.0	1.0	ppb	9/20/16	11:30	MC
Barium (CWA) 200.7	36.6	10.0	ppb	9/20/16	12:28	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	9/20/16	12:28	CDB
Boron - EPA 200.7	Less than	1000	ppb	9/20/16	12:28	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC
Calcium EPA 200.7	139000	100	ppb	9/20/16	12:28	CDB
Chromium by ICP_MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC
Cobalt by ICP_MS EPA 200.8	2.4	1.0	ppb	9/20/16	11:30	MC
Lead by ICP-MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	9/20/16	18:35	MC
Molybdenum - EPA 200.8	1.6	1.0	ppb	9/20/16	11:30	MC
Selenium by ICP-MS EPA 200.8	Less than	5.0	ppb	9/20/16	11:30	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC

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

Approved by: 



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September 20, 2016

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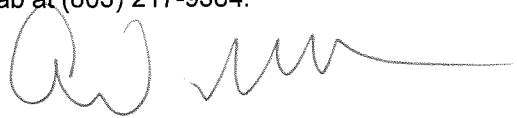
Sample ID: **AB23642 Williams Hwy 52 FIELD**  
 Date & Time Sampled: September 13, 2016 10:50  
 Date & Time Submitted: September 15, 2016 11:05  
 Collected by: C.SANDEL Location Code: WLGFBTM

GW 10

Login Record File: 160915002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	MDL	Units	Completed Analysis Date & Time		Chemist
Antimony by ICP-MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC
Arsenic by ICP_MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC
Barium (CWA) 200.7	Less than	10.0	ppb	9/20/16	12:28	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	9/20/16	12:28	CDB
Boron - EPA 200.7	Less than	1000	ppb	9/20/16	12:28	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC
Calcium EPA 200.7	Less than	100	ppb	9/20/16	12:28	CDB
Chromium by ICP_MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC
Cobalt by ICP_MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC
Lead by ICP-MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	9/20/16	18:35	MC
Molybdenum - EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC
Selenium by ICP-MS EPA 200.8	Less than	5.0	ppb	9/20/16	11:30	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC

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

Approved by: 



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September 20, 2016

REPORT TO:
Mike Moore

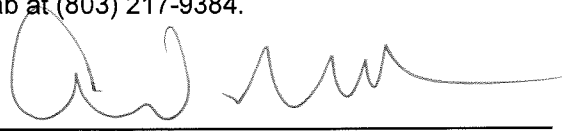
Sample ID: **AB23643 Williams Hwy 52 GW 22D-NPDES/CCR**  
 Date & Time Sampled: September 13, 2016 12:00  
 Date & Time Submitted: September 15, 2016 11:05  
 Collected by: C.SANDEL Location Code: WLG22DTM

GW 22D

Login Record File: 160915002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	MDL	Units	Completed Analysis Date & Time		Chemist
Antimony by ICP-MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC
Arsenic by ICP_MS EPA 200.8	4.7	1.0	ppb	9/20/16	11:30	MC
Barium (CWA) 200.7	Less than	10.0	ppb	9/20/16	12:28	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	9/20/16	12:28	CDB
Boron - EPA 200.7	Less than	1000	ppb	9/20/16	12:28	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC
Calcium EPA 200.7	96800	100	ppb	9/20/16	12:28	CDB
Chromium by ICP_MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC
Cobalt by ICP_MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC
Lead by ICP-MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	9/20/16	18:35	MC
Molybdenum - EPA 200.8	12.2	1.0	ppb	9/20/16	11:30	MC
Selenium by ICP-MS EPA 200.8	Less than	5.0	ppb	9/20/16	11:30	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC

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

Approved by: 



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**2102 North Lake Drive**  
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September 20, 2016

**REPORT TO:**

Mike Moore


Sample ID: **AB23644 Williams Hwy 52 GW 23-NPDES/CCR**  
 Date & Time Sampled: September 13, 2016 12:40  
 Date & Time Submitted: September 15, 2016 11:05  
 Collected by: C.SANDEL Location Code: WLG23TM

GW 23

Login Record File: 160915002

<b>CERTIFIED BY SCDHEC (LAB ID 32006):</b>	<b>Result</b>	<b>MDL</b>	<b>Units</b>	<b>Completed Analysis Date &amp; Time</b>		<b>Chemist</b>
Antimony by ICP-MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC
Arsenic by ICP_MS EPA 200.8	1.7	1.0	ppb	9/20/16	11:30	MC
Barium (CWA) 200.7	12.8	10.0	ppb	9/20/16	12:28	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	9/20/16	12:28	CDB
Boron - EPA 200.7	Less than	1000	ppb	9/20/16	12:28	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC
Calcium EPA 200.7	70300	100	ppb	9/20/16	12:28	CDB
Chromium by ICP_MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC
Cobalt by ICP_MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC
Lead by ICP-MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	9/20/16	18:35	MC
Molybdenum - EPA 200.8	14.3	1.0	ppb	9/20/16	11:30	MC
Selenium by ICP-MS EPA 200.8	Less than	5.0	ppb	9/20/16	11:30	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC

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

Approved by: 



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September 20, 2016

REPORT TO:
Mike Moore

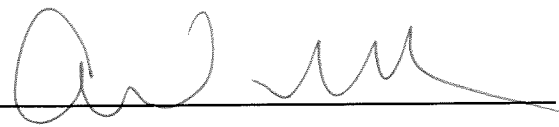
Sample ID: **AB23645 Williams Hwy 52 GW 25-NPDES/CCR**  
 Date & Time Sampled: September 13, 2016 13:22  
 Date & Time Submitted: September 15, 2016 11:05  
 Collected by: C.SANDEL Location Code: WLG25TM

GW 25

Login Record File: 160915002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	MDL	Units	Completed Analysis Date & Time		Chemist
Antimony by ICP-MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC
Arsenic by ICP_MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC
Barium (CWA) 200.7	20.2	10.0	ppb	9/20/16	12:28	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	9/20/16	12:28	CDB
Boron - EPA 200.7	Less than	1000	ppb	9/20/16	12:28	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC
Calcium EPA 200.7	119000	100	ppb	9/20/16	12:28	CDB
Chromium by ICP_MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC
Cobalt by ICP_MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC
Lead by ICP-MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	9/20/16	18:35	MC
Molybdenum - EPA 200.8	4.6	1.0	ppb	9/20/16	11:30	MC
Selenium by ICP-MS EPA 200.8	Less than	5.0	ppb	9/20/16	11:30	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC

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

Approved by: 



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September 20, 2016

REPORT TO:
Mike Moore

Sample ID: **AB23646 Williams Hwy 52 GW 24-NPDES/CCR**  
 Date & Time Sampled: September 13, 2016 14:02  
 Date & Time Submitted: September 15, 2016 11:05  
 Collected by: C.SANDEL Location Code: WLG24TM

GW 24

Login Record File: 160915002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	MDL	Units	Completed Analysis Date & Time		Chemist
Antimony by ICP-MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC
Arsenic by ICP_MS EPA 200.8	3.2	1.0	ppb	9/20/16	11:30	MC
Barium (CWA) 200.7	50.8	10.0	ppb	9/20/16	12:28	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	9/20/16	12:28	CDB
Boron - EPA 200.7	Less than	1000	ppb	9/20/16	12:28	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC
Calcium EPA 200.7	145000	100	ppb	9/20/16	12:28	CDB
Chromium by ICP_MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC
Cobalt by ICP_MS EPA 200.8	2.2	1.0	ppb	9/20/16	11:30	MC
Lead by ICP-MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	9/20/16	18:35	MC
Molybdenum - EPA 200.8	1.5	1.0	ppb	9/20/16	11:30	MC
Selenium by ICP-MS EPA 200.8	Less than	5.0	ppb	9/20/16	11:30	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC

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

Approved by: 





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

September 20, 2016

REPORT TO:
Mike Moore

Sample ID: **AB23647 Williams Hwy 52 GW 26-NPDES/CCR**  
 Date & Time Sampled: September 13, 2016 14:40  
 Date & Time Submitted: September 15, 2016 11:05  
 Collected by: C.SANDEL Location Code: WLG26TM

GW 26

Login Record File: 160915002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	MDL	Units	Completed Analysis Date & Time		Chemist
Antimony by ICP-MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC
Arsenic by ICP_MS EPA 200.8	4.0	1.0	ppb	9/20/16	11:30	MC
Barium (CWA) 200.7	80.6	10.0	ppb	9/20/16	12:28	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	9/20/16	12:28	CDB
Boron - EPA 200.7	Less than	1000	ppb	9/20/16	12:28	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC
Calcium EPA 200.7	168000	100	ppb	9/20/16	12:28	CDB
Chromium by ICP_MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC
Cobalt by ICP_MS EPA 200.8	10.5	1.0	ppb	9/20/16	11:30	MC
Lead by ICP-MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	9/20/16	18:35	MC
Molybdenum - EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC
Selenium by ICP-MS EPA 200.8	Less than	5.0	ppb	9/20/16	11:30	MC
Thallium by ICP-MS EPA 200.8	Less than	1.0	ppb	9/20/16	11:30	MC

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

Approved by: 



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

September 30, 2016

REPORT TO:
Mike Moore

Sample ID: **AB23613**

**Williams Hwy 52 GW 10-NPDES/CCR**

Date & Time Sampled: September 13, 2016 08:50  
 Date & Time Submitted: September 15, 2016 11:05  
 Collected by: C.SANDEL Location Code: WLG10TDS

GW 10

Login Record File: 160915002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	6.37	0.50	mg/L	9/22/16 05:33	LS
Sulfates by IC EPA 300.0	7.57	0.50	mg/L	9/22/16 05:33	LS
Total Dissolved Solid-SM2540C	149	2.0	mg/L	9/16/16 14:07	PRC

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

Approved By: 



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

September 30, 2016

<b>REPORT TO:</b>
Mike Moore

Sample ID: **AB23614**

**Williams Hwy 52 GW 20-NPDES/CCR**

Date & Time Sampled: September 13, 2016 10:01  
 Date & Time Submitted: September 15, 2016 11:05  
 Collected by: C.SANDEL Location Code: WLG20TDS

GW 20

Login Record File: 160915002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	8.92	0.50	mg/L	9/22/16 05:33	LS
Sulfates by IC EPA 300.0	15.8	0.50	mg/L	9/22/16 05:33	LS
Total Dissolved Solid-SM2540C	668	2.0	mg/L	9/16/16 14:07	PRC

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

Approved By: 



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

September 30, 2016

REPORT TO:
Mike Moore

Sample ID: **AB23615**

**Williams Hwy 52 DUP -NPDES/CCR**

Date & Time Sampled: September 13, 2016 10:20  
 Date & Time Submitted: September 15, 2016 11:05  
 Collected by: C.SANDEL Location Code: WLGDUPTDS

GW 10

Login Record File: 160915002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	8.92	0.50	mg/L	9/22/16 05:33	LS
Sulfates by IC EPA 300.0	15.9	0.50	mg/L	9/22/16 05:33	LS
Total Dissolved Solid-SM2540C	667	2.0	mg/L	9/16/16 14:07	PRC

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

Approved By: 



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

September 30, 2016

REPORT TO:
Mike Moore

Sample ID: **AB23616**

**Williams Hwy 52 GW 21-NPDES/CCR**

Date & Time Sampled: September 13, 2016 11:10  
 Date & Time Submitted: September 15, 2016 11:05  
 Collected by: C.SANDEL Location Code: WLG21TDS

GW 21

Login Record File: 160915002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	10.0	0.50	mg/L	9/22/16 05:33	LS
Sulfates by IC EPA 300.0	12.7	0.50	mg/L	9/22/16 05:33	LS
Total Dissolved Solid-SM2540C	646	2.0	mg/L	9/16/16 14:07	PRC

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

Approved By: 



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

September 30, 2016

REPORT TO:
Mike Moore

Sample ID: **AB23617**

**Williams Hwy 52 FIELD BLANK-NPDES/CCR**

Date & Time Sampled: September 13, 2016 10:50  
 Date & Time Submitted: September 15, 2016 11:05  
 Collected by: C.SANDEL Location Code: WLGFBTDS

GW 10

Login Record File: 160915002

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	9/22/16 05:33	LS
Sulfates by IC EPA 300.0	LESS THAN	0.50	mg/L	9/22/16 05:33	LS
Total Dissolved Solid-SM2540C	4.0	2.0	mg/L	9/16/16 14:07	PRC

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

Approved By: 



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

September 30, 2016

REPORT TO:
Mike Moore

Sample ID: **AB23618**

**Williams Hwy 52 GW 22D-NPDES/CCR**


Date & Time Sampled: September 13, 2016 12:00  
 Date & Time Submitted: September 15, 2016 11:05  
 Collected by: C.SANDEL Location Code: WLG22DTDS

GW 22D

Login Record File: 160915002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	9.960	1.0	mg/L	9/22/16 05:33	LS
Sulfates by IC EPA 300.0	79.4	1.0	mg/L	9/22/16 05:33	LS
Total Dissolved Solid-SM2540C	602	2.0	mg/L	9/16/16 14:07	PRC

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

Approved By: 



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

September 30, 2016

REPORT TO:
Mike Moore

Sample ID: **AB23619**

**Williams Hwy 52 GW 23D-NPDES/CCR**

Date & Time Sampled: September 13, 2016 12:40

Date & Time Submitted: September 15, 2016 11:05

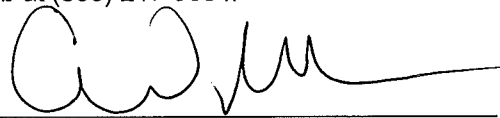
Collected by: C.SANDEL Location Code: WLG23DTDS

GW 23D

Login Record File: 160915002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	14.3	0.50	mg/L	9/22/16 05:33	LS
Sulfates by IC EPA 300.0	35.5	0.50	mg/L	9/22/16 05:33	LS
Total Dissolved Solid-SM2540C	474	2.0	mg/L	9/16/16 14:07	PRC

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

Approved By: 





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

September 30, 2016

REPORT TO:
Mike Moore

Sample ID: **AB23620**

**Williams Hwy 52 GW 25-NPDES/CCR**

Date & Time Sampled: September 13, 2016 13:22

Date & Time Submitted: September 15, 2016 11:05

Collected by: C.SANDEL

Location Code: WLG25TDS

GW 25

Login Record File: 160915002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	20.5	0.50	mg/L	9/22/16 05:33	LS
Sulfates by IC EPA 300.0	23.1	0.50	mg/L	9/22/16 05:33	LS
Total Dissolved Solid-SM2540C	545	2.0	mg/L	9/20/16 09:19	PRC

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

Approved By: 



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

September 30, 2016

REPORT TO:
Mike Moore

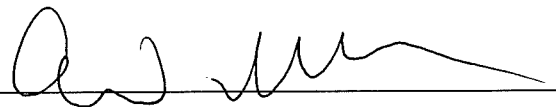
Sample ID: **AB23621 Williams Hwy 52 GW 24-NPDES/CCR**  
 Date & Time Sampled: September 13, 2016 14:02  
 Date & Time Submitted: September 15, 2016 11:05  
 Collected by: C.SANDEL Location Code: WLG24TDS

GW 24

Login Record File: 160915002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	MDL	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	19.0	0.50	mg/L	9/22/16 05:33	LS
Sulfates by IC EPA 300.0	24.6	0.50	mg/L	9/22/16 05:33	LS
Total Dissolved Solid-SM2540C	539	2.0	mg/L	9/20/16 09:19	PRC

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

Approved by: 



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

September 30, 2016

REPORT TO:
Mike Moore

Sample ID: **AB23622**

**Williams Hwy 52 GW 26-NPDES/CCR**

Date & Time Sampled: September 13, 2016 14:40

Date & Time Submitted: September 15, 2016 11:05

Collected by: C.SANDEL

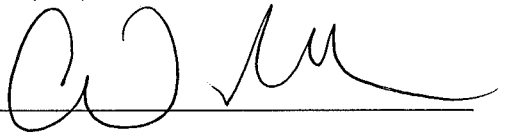
Location Code: WLG26TDS

GW 26

Login Record File: 160915002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	163	0.50	mg/L	9/22/16 05:33	LS
Sulfates by IC EPA 300.0	82.4	0.50	mg/L	9/22/16 05:33	LS
Total Dissolved Solid-SM2540C	865	2.0	mg/L	9/20/16 09:19	PRC

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

Approved By: 

**Williams Station Highway 52 Class Three Landfill**  
**EPA CCR Rule Compliance Monitoring Wells**  
**Groundwater Monitoring Data**  
**South Carolina Electric & Gas: Williams Station Highway 52 Class Three Landfill**

Gauging Date:11/16-17/16													
Monitoring Well ID	Well Data			Initial Gauging		Final Gauging		Final Water Quality Indicator Parameters					
	PVC Pipe Elevation, ft.	Ground Surface Elevation, ft.	Stickup, ft.	Depth to Groundwater, ft.	Groundwater Elevation, ft.	Depth to Groundwater, ft.	Groundwater Elevation, ft.	Temperature °C	pH S.U.	Sp. Cond. µS/cm	Turbidity NTU	ORP mV	DO mg/L
GW-10	52.28	49.60	2.68	9.02	43.26	10.11	42.17	22.8	6.9	281	5.04	134.2	2.41
GW-11	51.72			11.49	43.26	11.64	42.17	23.3	6.3	167	3.20	199.3	0.67
GW-20	60.81	56.70	4.11	20.60	40.21	22.88	37.93	23.0	6.6	1100	4.64	3.1	1.36
GW-21	56.14	52.50	3.64	15.31	40.83	18.22	37.92	23.3	6.6	1081	4.10	3.1	0.57
GW-22	50.33	46.90	3.43		50.33		50.33						
GW-22D	50.36	47.10	3.26	14.17	36.19	18.69	31.67	23.1	7.0	954	4.09	23.6	0.50
GW-23	49.99	46.20	3.79		49.99		49.99						
GW-23D	49.69	46.20	3.49	13.59	36.10	17.26	32.43	24.0	7.1	826	3.24	76.4	0.47
GW-24	52.40	48.70	3.70	16.05	36.35	17.01	35.39	24.3	6.2	900	4.95	11.4	0.79
GW-25	50.93	47.40	3.53	15.04	35.89	16.02	34.91	24.3	6.8	929	4.04	98.7	1.11
GW-26	55.21	51.20	4.01	24.13	31.08	24.49	30.72	22.1	6.0	1517	4.52	15.6	1.01
GW-27	53.26			9.36	43.90	9.65	43.61	22.0	7.2	355	5.40	99.1	3.88
GW-28	51.23			10.58	40.65	10.73	40.50	23.1	6.6	226	3.96	131.1	5.49

## GEL LABORATORIES LLC

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

### Certificate of Analysis Report for

GEEL003 GEL Engineering, LLC

Client SDG: 410763 GEL Work Order: 410763

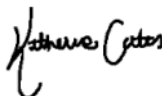
**The Qualifiers in this report are defined as follows:**

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

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

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

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



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

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: December 13, 2016

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: GW-20	Project: SCEG01616C
Sample ID: 410763001	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 16-NOV-16 15:16	
Receive Date: 17-NOV-16	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Chloride		9.44	0.067	0.200	mg/L		1	MAR1	12/01/16	1743	1618157	1
Fluoride		0.231	0.033	0.100	mg/L		1					
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	J	5.51	2.00	10.0	ug/L	1.00	1	BAJ	11/19/16	1949	1617315	2
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	1.67	3.00	pCi/L			AXM6	12/13/16	1124	1619875	3
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226	U	ND	0.280	1.00	pCi/L			LXP1	12/08/16	0915	1620646	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	CXW4	11/17/16	1828	1617314

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 200.8 SC_NPDES	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			98.5	(15%-125%)

**Notes:**

Column headers are defined as follows:

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

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: December 13, 2016

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: GW-21	Project: SCEG01616C
Sample ID: 410763002	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 16-NOV-16 16:20	
Receive Date: 17-NOV-16	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
EPA300.0 Fluoride in Liquid "As Received"												
Fluoride		0.233	0.033	0.100	mg/L		1	MAR1	12/01/16	1909	1618157	1
Chloride		10.1	0.134	0.400	mg/L		2	MAR1	12/02/16	1126	1618157	2
<b>Metals Analysis-ICP-MS</b>												
200.8/200.2 NPDES Metals "As Received"												
Lithium	J	6.04	2.00	10.0	ug/L	1.00	1	BAJ	11/19/16	2000	1617315	3
<b>Rad Gas Flow Proportional Counting</b>												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	1.98	3.00	pCi/L			AXM6	12/13/16	1124	1619875	4
<b>Rad Radium-226</b>												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226	U	ND	0.778	1.00	pCi/L			LXP1	12/08/16	0915	1620646	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	CXW4	11/17/16	1828	1617314

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			92.9	(15%-125%)

**Notes:**

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: December 13, 2016

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd

Charleston, South Carolina 29417

Contact: Robert Gardner  
Project: Williams 52

Client Sample ID: GW-21

Sample ID: 410763002

Project: SCEG01616C

Client ID: GEEL003

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Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

SQL: Sample Quantitation Limit



# GEL LABORATORIES LLC

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

## QC Summary

Report Date: December 13, 2016

Page 1 of 3

GEL Engineering, LLC  
2040 Savage Rd  
Charleston, South Carolina

Contact: Robert Gardner

Workorder: 410763

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Ion Chromatography</b>											
Batch	1618157										
QC1203674940	410763001	DUP									
Chloride		9.44		9.45	mg/L	0.0529		(0%-20%)	MAR1	12/01/16	18:12
Fluoride		0.231		0.237	mg/L	2.73	^	(+/-0.100)			
QC1203674941	410911011	DUP									
Chloride		147		148	mg/L	0.935		(0%-20%)		12/02/16	16:15
Fluoride		0.196		0.167	mg/L	16.4	^	(+/-0.100)		12/02/16	17:13
QC1203674939	LCS										
Chloride	5.00			4.81	mg/L			96.1 (90%-110%)		12/01/16	17:14
Fluoride	2.50			2.55	mg/L			102 (90%-110%)			
QC1203674938	MB										
Chloride			U	ND	mg/L					12/01/16	16:45
Fluoride			U	ND	mg/L						
QC1203674942	410763001	PS									
Chloride	5.00	9.44		15.2	mg/L			116* (90%-110%)		12/01/16	18:40
Fluoride	2.50	0.231		2.58	mg/L			94.1 (90%-110%)			
QC1203674943	410911011	PS									
Chloride	5.00	2.94		8.21	mg/L			105 (90%-110%)		12/02/16	16:44
Fluoride	2.50	0.196		2.57	mg/L			95 (90%-110%)		12/02/16	01:55
<b>Metals Analysis - ICPMS</b>											
Batch	1617315										
QC1203672743	410763001	DUP									
Lithium		J	5.51	J	5.62	ug/L	2	^	(+/-10.0)	BAJ	11/19/16 19:52
QC1203672742	LCS										
Lithium	50.0			49.1	ug/L			98.1 (80%-120%)		11/19/16	19:47
QC1203672741	MB										
Lithium			U	ND	ug/L					11/19/16	19:44
QC1203672744	410763001	MS									
Lithium	50.0	J	5.51		55.1	ug/L		99.2 (75%-125%)		11/19/16	19:54

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## QC Summary

Workorder: 410763

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Metals Analysis - ICPMS</b>											
Batch	1617315										
<hr/>											
QC1203672745	410763001	SDILT									
Lithium		J	5.51	U	ND	ug/L	N/A	(0%-10%)	BAJ	11/19/16	19:57
<b>Rad Gas Flow</b>											
Batch	1619875										
<hr/>											
QC1203679413	411026008	DUP									
Radium-228		U	1.52	U	1.30	pCi/L	N/A	N/A	AAXM6	12/13/16	11:28
QC1203679414	LCS										
Radium-228	21.5				24.0	pCi/L	111	(75%-125%)		12/13/16	11:30
QC1203679412	MB										
Radium-228			U	0.751	pCi/L					12/13/16	11:28
<b>Rad Ra-226</b>											
Batch	1620646										
<hr/>											
QC1203681508	411381001	DUP									
Radium-226			10.7		9.43	pCi/L	12.7	(0%-20%)	LXP1	12/08/16	10:55
QC1203681510	LCS										
Radium-226	24.4				18.7	pCi/L	76.8	(75%-125%)		12/08/16	11:25
QC1203681507	MB										
Radium-226			U	0.119	pCi/L					12/08/16	10:55
QC1203681509	411381001	MS									
Radium-226	122		10.7		137	pCi/L	104	(75%-125%)		12/08/16	10:55

**Notes:**

The Qualifiers in this report are defined as follows:

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

# GEL LABORATORIES LLC

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## QC Summary

Workorder: 410763

Page 3 of 3

Parname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
H	Analytical holding time was exceeded										
J	Value is estimated										
K	Analyte present. Reported value may be biased high. Actual value is expected to be lower.										
L	Analyte present. Reported value may be biased low. Actual value is expected to be higher.										
M	M if above MDC and less than LLD										
M	REMP Result > MDC/CL and < RDL										
N	Metals--The Matrix spike sample recovery is not within specified control limits										
N/A	RPD or %Recovery limits do not apply.										
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 Lc										
U	Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.										
UI	Gamma Spectroscopy--Uncertain identification										
UJ	Gamma Spectroscopy--Uncertain identification										
UL	Not considered detected. The associated number is the reported concentration, which may be inaccurate due to a low bias.										
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier										
Y	Other specific qualifiers were required to properly define the results. Consult case narrative.										
Z	Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.										
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.										
d	5-day BOD--The 2:1 depletion requirement was not met for this sample										
e	5-day BOD--Test replicates show more than 30% difference between high and low values. The data is qualified per the method and can be used for reporting purposes										
h	Preparation or preservation holding time was exceeded										

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

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

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

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

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

# GEL LABORATORIES LLC

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## Certificate of Analysis Report for

GEEL003 GEL Engineering, LLC

Client SDG: 410911 GEL Work Order: 410911

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

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

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

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

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



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

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: December 14, 2016

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: GW-27	Project: SCEG01616C
Sample ID: 410911001	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 17-NOV-16 09:57	
Receive Date: 18-NOV-16	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Chloride		4.85	0.067	0.200	mg/L		1	MAR1	12/01/16	1938	1618157	1
Fluoride		0.318	0.033	0.100	mg/L		1					
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	U	ND	2.00	10.0	ug/L	1.00	1	BAJ	11/28/16	2203	1617848	2
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	1.75	3.00	pCi/L			AXM6	12/13/16	1519	1622076	3
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226		0.943	0.423	1.00	pCi/L			LXP1	12/12/16	0900	1620873	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	11/21/16	0714	1617847

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 200.8 SC_NPDES	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			93.9	(15%-125%)

**Notes:**

Column headers are defined as follows:

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

# GEL LABORATORIES LLC

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## Certificate of Analysis

Report Date: December 14, 2016

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd  
  
Charleston, South Carolina 29417  
Contact: Robert Gardner  
Project: Williams 52

Client Sample ID: GW-10 Project: SCEG01616C  
Sample ID: 410911002 Client ID: GEEL003  
Matrix: Ground Water  
Collect Date: 17-NOV-16 11:00  
Receive Date: 18-NOV-16  
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA300.0 Fluoride in Liquid "As Received"												
Fluoride		0.330	0.033	0.100	mg/L		1	MAR1	12/01/16	2007	1618157	1
Chloride		10.7	0.134	0.400	mg/L		2	MAR1	12/02/16	1155	1618157	2
Metals Analysis-ICP-MS												
200.8/200.2 NPDES Metals "As Received"												
Lithium	J	4.16	2.00	10.0	ug/L	1.00	1	BAJ	11/28/16	2214	1617848	3
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	2.15	3.00	pCi/L			AXM6	12/13/16	1519	1622076	4
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226	U	ND	0.530	1.00	pCi/L			LXP1	12/12/16	0900	1620873	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	11/21/16	0714	1617847

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

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

Notes:

# GEL LABORATORIES LLC

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## Certificate of Analysis

Report Date: December 14, 2016

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd

Charleston, South Carolina 29417

Contact: Robert Gardner  
Project: Williams 52

Client Sample ID: GW-10

Sample ID: 410911002

Project: SCEG01616C

Client ID: GEEL003

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Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

SQL: Sample Quantitation Limit

# GEL LABORATORIES LLC

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## Certificate of Analysis

Report Date: December 14, 2016

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd  
  
Charleston, South Carolina 29417  
Contact: Robert Gardner  
Project: Williams 52

Client Sample ID: GW-11 Project: SCEG01616C  
Sample ID: 410911003 Client ID: GEEL003  
Matrix: Ground Water  
Collect Date: 17-NOV-16 12:02  
Receive Date: 18-NOV-16  
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA300.0 Fluoride in Liquid "As Received"												
Chloride		5.68	0.067	0.200	mg/L		1	MAR1	12/01/16	2036	1618157	1
Fluoride		0.407	0.033	0.100	mg/L		1					
Metals Analysis-ICP-MS												
200.8/200.2 NPDES Metals "As Received"												
Lithium	J	4.33	2.00	10.0	ug/L	1.00	1	BAJ	11/28/16	2216	1617848	2
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	1.13	3.00	pCi/L			AXM6	12/13/16	1519	1622076	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.69	0.458	1.00	pCi/L			LXP1	12/12/16	0900	1620873	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	11/21/16	0714	1617847

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 200.8 SC_NPDES	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			92.5	(15%-125%)

### Notes:

Column headers are defined as follows:

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



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## Certificate of Analysis

Report Date: December 14, 2016

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: GW-28	Project: SCEG01616C
Sample ID: 410911004	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 17-NOV-16 12:59	
Receive Date: 18-NOV-16	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Chloride		4.05	0.067	0.200	mg/L		1	MAR1	12/01/16	2105	1618157	1
Fluoride		0.120	0.033	0.100	mg/L		1					
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	U	ND	2.00	10.0	ug/L	1.00	1	BAJ	11/28/16	2219	1617848	2
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	1.32	3.00	pCi/L			AXM6	12/13/16	1519	1622076	3
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226		0.897	0.500	1.00	pCi/L			LXP1	12/12/16	0900	1620873	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	11/21/16	0714	1617847

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 200.8 SC_NPDES	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

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

**Notes:**

Column headers are defined as follows:

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

# GEL LABORATORIES LLC

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## Certificate of Analysis

Report Date: December 14, 2016

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: GW-22D	Project: SCEG01616C
Sample ID: 410911005	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 17-NOV-16 13:55	
Receive Date: 18-NOV-16	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Fluoride		0.311	0.033	0.100	mg/L		1	MAR1	12/01/16	2232	1618157	1
Chloride		9.75	0.134	0.400	mg/L		2	MAR1	12/02/16	1224	1618157	2
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium		10.2	2.00	10.0	ug/L	1.00	1	BAJ	11/28/16	2227	1617848	3
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228		2.30	2.01	3.00	pCi/L			AXM6	12/13/16	1519	1622076	4
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226		0.324	0.191	1.00	pCi/L			LXP1	12/12/16	0900	1620873	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	11/21/16	0714	1617847

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			96.6	(15%-125%)

**Notes:**

# GEL LABORATORIES LLC

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## Certificate of Analysis

Report Date: December 14, 2016

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd

Charleston, South Carolina 29417  
Contact: Robert Gardner  
Project: Williams 52

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Client Sample ID:	GW-22D	Project:	SCEG01616C
Sample ID:	410911005	Client ID:	GEEL003

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Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

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

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: December 14, 2016

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: GW-23D	Project: SCEG01616C
Sample ID: 410911006	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 17-NOV-16 14:50	
Receive Date: 18-NOV-16	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
EPA300.0 Fluoride in Liquid "As Received"												
Fluoride		0.381	0.033	0.100	mg/L		1	MAR1	12/01/16	2301	1618157	1
Chloride		14.8	0.134	0.400	mg/L		2	MAR1	12/02/16	1253	1618157	2
<b>Metals Analysis-ICP-MS</b>												
200.8/200.2 NPDES Metals "As Received"												
Lithium	J	5.69	2.00	10.0	ug/L	1.00	1	BAJ	11/28/16	2230	1617848	3
<b>Rad Gas Flow Proportional Counting</b>												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	1.97	3.00	pCi/L			AXM6	12/13/16	1519	1622076	4
<b>Rad Radium-226</b>												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.518	0.466	1.00	pCi/L			LXP1	12/12/16	0900	1620873	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	11/21/16	0714	1617847

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

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

**Notes:**

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: December 14, 2016

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd

Charleston, South Carolina 29417

Contact: Robert Gardner  
Project: Williams 52

Client Sample ID: GW-23D  
Sample ID: 410911006

Project: SCEG01616C  
Client ID: GEEL003

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Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

SQL: Sample Quantitation Limit

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: December 14, 2016

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: GW-25	Project: SCEG01616C
Sample ID: 410911007	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 17-NOV-16 15:41	
Receive Date: 18-NOV-16	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
EPA300.0 Fluoride in Liquid "As Received"												
Fluoride		0.839	0.033	0.100	mg/L		1	MAR1	12/01/16	2330	1618157	1
Chloride		19.9	0.335	1.00	mg/L		5	MAR1	12/02/16	1321	1618157	2
<b>Metals Analysis-ICP-MS</b>												
200.8/200.2 NPDES Metals "As Received"												
Lithium	J	6.80	2.00	10.0	ug/L	1.00	1	BAJ	11/28/16	2232	1617848	3
<b>Rad Gas Flow Proportional Counting</b>												
GFPC, Ra228, Liquid "As Received"												
Radium-228		1.30	1.21	3.00	pCi/L			AXM6	12/13/16	1519	1622076	4
<b>Rad Radium-226</b>												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.694	0.384	1.00	pCi/L			LXP1	12/12/16	0935	1620873	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	11/21/16	0714	1617847

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

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

**Notes:**

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: December 14, 2016

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd

Charleston, South Carolina 29417

Contact: Robert Gardner  
Project: Williams 52

Client Sample ID: GW-25

Sample ID: 410911007

Project: SCEG01616C

Client ID: GEEL003

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Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

SQL: Sample Quantitation Limit

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: December 14, 2016

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: DUP	Project: SCEG01616C
Sample ID: 410911008	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 17-NOV-16 16:10	
Receive Date: 18-NOV-16	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Fluoride		0.843	0.033	0.100	mg/L		1	MAR1	12/01/16	2358	1618157	1
Chloride		20.2	0.335	1.00	mg/L		5	MAR1	12/02/16	1350	1618157	2
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	J	6.27	2.00	10.0	ug/L	1.00	1	BAJ	11/28/16	2235	1617848	3
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	1.43	3.00	pCi/L			AXM6	12/13/16	1519	1622076	4
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226		0.962	0.199	1.00	pCi/L			LXP1	12/12/16	0935	1620873	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	11/21/16	0714	1617847

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			92.7	(15%-125%)

**Notes:**



# GEL LABORATORIES LLC

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## Certificate of Analysis

Report Date: December 14, 2016

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd

Charleston, South Carolina 29417

Contact: Robert Gardner  
Project: Williams 52

Client Sample ID: DUP

Sample ID: 410911008

Project: SCEG01616C

Client ID: GEEL003

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Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

SQL: Sample Quantitation Limit

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: December 14, 2016

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: Field Blank	Project: SCEG01616C
Sample ID: 410911009	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 17-NOV-16 16:20	
Receive Date: 18-NOV-16	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Chloride	J	0.0932	0.067	0.200	mg/L		1	MAR1	12/02/16	0027	1618157	1
Fluoride	U	ND	0.033	0.100	mg/L		1					
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	U	ND	2.00	10.0	ug/L	1.00	1	BAJ	11/28/16	2238	1617848	2
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228		1.98	1.47	3.00	pCi/L			AXM6	12/13/16	1519	1622076	3
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226		0.297	0.207	1.00	pCi/L			LXP1	12/12/16	0935	1620873	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	11/21/16	0714	1617847

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 200.8 SC_NPDES	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			92.7	(15%-125%)

**Notes:**

Column headers are defined as follows:

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

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: December 14, 2016

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: GW-24	Project: SCEG01616C
Sample ID: 410911010	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 17-NOV-16 17:03	
Receive Date: 18-NOV-16	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Fluoride		0.343	0.033	0.100	mg/L		1	MAR1	12/02/16	0056	1618157	1
Chloride		18.2	0.335	1.00	mg/L		5	MAR1	12/02/16	1419	1618157	2
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	U	ND	2.00	10.0	ug/L	1.00	1	BAJ	11/28/16	2240	1617848	3
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228		1.55	1.49	3.00	pCi/L			AXM6	12/13/16	1519	1622076	4
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226		0.533	0.345	1.00	pCi/L			LXP1	12/12/16	0935	1620873	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	11/21/16	0714	1617847

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

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

**Notes:**

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: December 14, 2016

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd

Charleston, South Carolina 29417

Contact: Robert Gardner  
Project: Williams 52

Client Sample ID: GW-24

Sample ID: 410911010

Project: SCEG01616C

Client ID: GEEL003

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Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

SQL: Sample Quantitation Limit

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: December 14, 2016

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: GW-26	Project: SCEG01616C
Sample ID: 410911011	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 17-NOV-16 18:00	
Receive Date: 18-NOV-16	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Fluoride		0.196	0.033	0.100	mg/L		1	MAR1	12/02/16	0125	1618157	1
Chloride		147	3.35	10.0	mg/L		50	MAR1	12/02/16	1546	1618157	2
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	U	ND	2.00	10.0	ug/L	1.00	1	BAJ	11/30/16	1910	1620155	3
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228		2.25	1.92	3.00	pCi/L			AXM6	12/13/16	1519	1622076	4
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226		1.49	0.534	1.00	pCi/L			LXP1	12/12/16	0935	1620873	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	11/30/16	0731	1620154

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			79	(15%-125%)

**Notes:**

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: December 14, 2016

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd

Charleston, South Carolina 29417

Contact: Robert Gardner  
Project: Williams 52

Client Sample ID: GW-26

Sample ID: 410911011

Project: SCEG01616C

Client ID: GEEL003

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Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

SQL: Sample Quantitation Limit

# GEL LABORATORIES LLC

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

## QC Summary

Report Date: December 14, 2016

Page 1 of 4

GEL Engineering, LLC  
2040 Savage Rd  
Charleston, South Carolina

Contact: Robert Gardner

Workorder: 410911

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Ion Chromatography</b>											
Batch	1618157										
QC1203674940	410763001	DUP									
Chloride		9.44		9.45	mg/L	0.0529		(0%-20%)	MAR1	12/01/16	18:12
Fluoride		0.231		0.237	mg/L	2.73	^	(+/-0.100)			
QC1203674941	410911011	DUP									
Chloride		147		148	mg/L	0.935		(0%-20%)		12/02/16	16:15
Fluoride		0.196		0.167	mg/L	16.4	^	(+/-0.100)		12/02/16	17:13
QC1203674939	LCS										
Chloride	5.00			4.81	mg/L			96.1 (90%-110%)		12/01/16	17:14
Fluoride	2.50			2.55	mg/L			102 (90%-110%)			
QC1203674938	MB										
Chloride			U	ND	mg/L					12/01/16	16:45
Fluoride			U	ND	mg/L						
QC1203674942	410763001	PS									
Chloride	5.00	9.44		15.2	mg/L			116* (90%-110%)		12/01/16	18:40
Fluoride	2.50	0.231		2.58	mg/L			94.1 (90%-110%)			
QC1203674943	410911011	PS									
Chloride	5.00	2.94		8.21	mg/L			105 (90%-110%)		12/02/16	16:44
Fluoride	2.50	0.196		2.57	mg/L			95 (90%-110%)		12/02/16	01:55
<b>Metals Analysis - ICPMS</b>											
Batch	1617848										
QC1203674046	410911001	DUP									
Lithium			U	ND	U	ND	ug/L	N/A		BAJ	11/28/16 22:06
QC1203674045	LCS										
Lithium	50.0			50.7	ug/L			101 (80%-120%)		11/28/16	22:00
QC1203674044	MB										
Lithium			U	ND	ug/L					11/28/16	21:58
QC1203674048	410911001	MS									
Lithium	50.0	U	ND	54.1	ug/L			104 (75%-125%)		11/28/16	22:08

# GEL LABORATORIES LLC

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

## QC Summary

Workorder: 410911

Page 2 of 4

Parname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Metals Analysis - ICPMS</b>											
Batch	1617848										
QC1203674050	410911001	SDILT									
Lithium		U	ND	U	ND	ug/L	N/A	(0%-10%)	BAJ	11/28/16	22:11
Batch	1620155										
QC1203680215	410911011	DUP									
Lithium		U	ND	J	2.10	ug/L	200		BAJ	11/30/16	19:13
QC1203680214	LCS										
Lithium	50.0				50.1	ug/L	100	(80%-120%)		11/30/16	19:07
QC1203680213	MB										
Lithium			U		ND	ug/L				11/30/16	19:05
QC1203680216	410911011	MS									
Lithium	50.0	U	ND		47.2	ug/L	90.4	(75%-125%)		11/30/16	19:15
QC1203680217	410911011	SDILT									
Lithium		U	ND	U	ND	ug/L	N/A	(0%-10%)		11/30/16	19:18
<b>Rad Gas Flow</b>											
Batch	1622076										
QC1203685137	410911010	DUP									
Radium-228			1.55		1.94	pCi/L	22	(0% - 100%)	AXM6	12/13/16	15:18
QC1203685138	LCS										
Radium-228	21.5				20.9	pCi/L	97.3	(75%-125%)		12/13/16	15:21
QC1203685136	MB										
Radium-228			U		1.14	pCi/L				12/13/16	15:18
<b>Rad Ra-226</b>											
Batch	1620873										
QC1203682143	410911001	DUP									
Radium-226			0.943		1.22	pCi/L	25.4	(0% - 100%)	LXP1	12/12/16	10:10
QC1203682145	LCS										
Radium-226	24.4				19.7	pCi/L	80.6	(75%-125%)		12/12/16	10:40
QC1203682142	MB										
Radium-226					0.196	pCi/L				12/12/16	10:10
QC1203682144	410911001	MS									
Radium-226	122		0.943		97.2	pCi/L	78.9	(75%-125%)		12/12/16	10:40



# GEL LABORATORIES LLC

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

## QC Summary

Workorder: 410911

Page 3 of 4

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
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**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 Lc
- U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
- UI Gamma Spectroscopy--Uncertain identification
- UJ Gamma Spectroscopy--Uncertain identification
- UL Not considered detected. The associated number is the reported concentration, which may be inaccurate due to a low bias.
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y Other specific qualifiers were required to properly define the results. Consult case narrative.
- Z Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
- ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
- d 5-day BOD--The 2:1 depletion requirement was not met for this sample

# GEL LABORATORIES LLC

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

## QC Summary

Workorder: 410911

Page 4 of 4

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
e		5-day BOD--Test replicates show more than 30% difference between high and low values. The data is qualified per the method and can be used for reporting purposes									
h		Preparation or preservation holding time was exceeded									

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.  
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

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

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

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



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

December 19, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB24676**

**Williams Hwy 52 GW 20-NPDES/CCR**

Date & Time Sampled: November 16, 2016 15:16

Date & Time Submitted: November 18, 2016 10:40

Collected by: RUCKER,S Location Code: WLG20TDS

GW 20

Login Record File: 161118002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	9.64	0.5	mg/L	11/23/16 23:50	LS
pH by SM4500HB	6.83	0.00	S.U.	11/18/16 12:05	BF
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC EPA 300.0	13.7	0.5	mg/L	11/23/16 23:50	LS
Total Dissolved Solid-SM2540C	646	2.0	mg/L	11/21/16 15:30	BF

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

Approved By: 



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

December 19, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB24678**

**Williams Hwy 52 GW 21-NPDES/CCR**

Date & Time Sampled: November 16, 2016 16:20

Date & Time Submitted: November 18, 2016 10:40

Collected by: RUCKER,S Location Code: WLG21TDS

GW 21

Login Record File: 161118002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	10.6	0.5	mg/L	11/23/16 23:50	LS
pH by SM4500HB	6.78	0.00	S.U.	11/18/16 12:05	BF
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC EPA 300.0	10.4	0.5	mg/L	11/23/16 23:50	LS
Total Dissolved Solid-SM2540C	710	2.0	mg/L	11/21/16 15:30	BF

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

Approved By: 



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

December 19, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB24680**

**Williams Hwy 52 GW 27-NPDES/CCR**


Date & Time Sampled: November 17, 2016 09:57  
 Date & Time Submitted: November 18, 2016 10:40  
 Collected by: RUCKER,S Location Code: WLG27TDS

GW 27

Login Record File: 161118002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	4.84	1.0	mg/L	11/23/16 23:50	LS
pH by SM4500HB	7.28	0.00	S.U.	11/18/16 12:05	BF
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC EPA 300.0	5.69	1.0	mg/L	11/23/16 23:50	LS
Total Dissolved Solid-SM2540C	189	2.0	mg/L	11/21/16 15:30	BF

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

Approved By: 



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

December 19, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB24682**

**Williams Hwy 52 GW 10-NPDES/CCR**

Date & Time Sampled: November 17, 2016 11:00  
 Date & Time Submitted: November 18, 2016 10:40  
 Collected by: RUCKER,S Location Code: WLG10TDS

GW 10

Login Record File: 161118002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	10.9	0.5	mg/L	11/23/16 23:50	LS
pH by SM4500HB Holding Time of 15 minutes has been exceeded.	6.84	0.00	S.U.	11/18/16 12:05	BF
Sulfates by IC EPA 300.0	4.12	0.5	mg/L	11/23/16 23:50	LS
Total Dissolved Solid-SM2540C	174	2.0	mg/L	11/21/16 15:30	BF

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

Approved By: 



Central Laboratory (P-08)  
2102 North Lake Drive  
Columbia, SC 29212  
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December 19, 2016

<b>REPORT TO:</b>
Mike Moore C221

Sample ID: **AB24684**

**Williams Hwy 52 GW 11-NPDES/CCR**

Date & Time Sampled: November 17, 2016 12:02  
Date & Time Submitted: November 18, 2016 10:40  
Collected by: RUCKER,S Location Code: WLG11TDS

GW 11

Login Record File: 161118002

<b>CERTIFIED BY SCDHEC (LAB ID 32006):</b>	<b>Result</b>	<b>Reporting Limit(MRL)</b>	<b>Units</b>	<b>Completed Analysis Date &amp; Time</b>	<b>Chemist</b>
Chlorides by IC EPA 300.0	5.93	0.5	mg/L	11/23/16 23:50	LS
pH by SM4500HB Holding Time of 15 minutes has been exceeded.	6.62	0.00	S.U.	11/18/16 12:05	BF
Sulfates by IC EPA 300.0	1.73	0.5	mg/L	11/23/16 23:50	LS
Total Dissolved Solid-SM2540C	94	2.0	mg/L	11/21/16 15:30	BF

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

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



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

December 19, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB24686**

**Williams Hwy 52 GW 28-NPDES/CCR**

Date & Time Sampled: November 17, 2016 12:59

Date & Time Submitted: November 18, 2016 10:40

Collected by: RUCKER,S Location Code: WLG28TDS

GW 28

Login Record File: 161118002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	4.26	1.0	mg/L	11/23/16 23:50	LS
pH by SM4500HB	6.86	0.00	S.U.	11/18/16 12:05	BF
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC EPA 300.0	4.85	1.0	mg/L	11/23/16 23:50	LS
Total Dissolved Solid-SM2540C	120	2.0	mg/L	11/21/16 15:30	BF

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

Approved By: 





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

December 19, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB24688**

**Williams Hwy 52 GW 22D-NPDES/CCR**

Date & Time Sampled: November 17, 2016 13:55  
 Date & Time Submitted: November 18, 2016 10:40  
 Collected by: RUCKER,S Location Code: WLG22DTDS

GW 22D

Login Record File: 161118002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	10.1	1.0	mg/L	11/23/16 23:50	LS
pH by SM4500HB Holding Time of 15 minutes has been exceeded.	7.13	0.00	S.U.	11/18/16 12:05	BF
Sulfates by IC EPA 300.0	65.7	1.0	mg/L	11/23/16 23:50	LS
Total Dissolved Solid-SM2540C	529	2.0	mg/L	11/21/16 15:30	BF

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

Approved By: 



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

December 19, 2016

<b>REPORT TO:</b>
Mike Moore C221

Sample ID: **AB24690**

**Williams Hwy 52 GW 23D-NPDES/CCR**

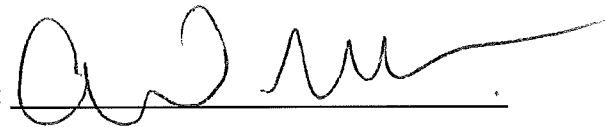
Date & Time Sampled: November 17, 2016 14:50  
 Date & Time Submitted: November 18, 2016 10:40  
 Collected by: RUCKER,S Location Code: WLG23DTDS

GW 23D

Login Record File: 161118002

<b>CERTIFIED BY SCDHEC (LAB ID 32006):</b>	<b>Result</b>	<b>Reporting Limit(MRL)</b>	<b>Units</b>	<b>Completed Analysis Date &amp; Time</b>	<b>Chemist</b>
Chlorides by IC EPA 300.0	14.8	0.5	mg/L	11/23/16 23:50	LS
pH by SM4500HB Holding Time of 15 minutes has been exceeded.	7.27	0.00	S.U.	11/18/16 12:05	BF
Sulfates by IC EPA 300.0	31.3	0.5	mg/L	11/23/16 23:50	LS
Total Dissolved Solid-SM2540C	463	2.0	mg/L	11/21/16 15:30	BF

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

Approved By: 



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

December 19, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB24692**

**Williams Hwy 52 GW 25-NPDES/CCR**

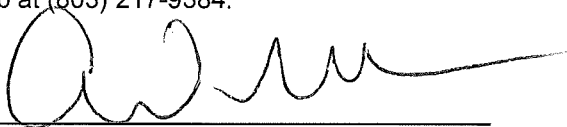
Date & Time Sampled: November 17, 2016 15:41  
 Date & Time Submitted: November 18, 2016 10:40  
 Collected by: RUCKER,S Location Code: WLG25TDS

GW 25

Login Record File: 161118002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	21.0	0.5	mg/L	11/23/16 23:50	LS
pH by SM4500HB Holding Time of 15 minutes has been exceeded.	6.94	0.00	S.U.	11/18/16 12:05	BF
Sulfates by IC EPA 300.0	29.6	0.5	mg/L	11/23/16 23:50	LS
Total Dissolved Solid-SM2540C	537	2.0	mg/L	11/21/16 15:30	BF

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

Approved By: 



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

December 19, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB24694**

**Williams Hwy 52 DUP -NPDES/CCR**

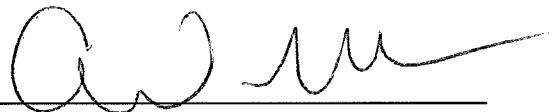
Date & Time Sampled: November 17, 2016 16:10  
 Date & Time Submitted: November 18, 2016 10:40  
 Collected by: RUCKER,S Location Code: WLGDUPTDS

GW 10

Login Record File: 161118002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	21.0	0.5	mg/L	11/23/16 23:50	LS
pH by SM4500HB Holding Time of 15 minutes has been exceeded.	6.97	0.00	S.U.	11/18/16 12:05	BF
Sulfates by IC EPA 300.0	29.4	0.5	mg/L	11/23/16 23:50	LS
Total Dissolved Solid-SM2540C	535	2.0	mg/L	11/21/16 15:30	BF

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

Approved By: 



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

December 19, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB24696**

**Williams Hwy 52 FIELD BLANK-NPDES/CCR**

Date & Time Sampled: November 17, 2016 16:20  
 Date & Time Submitted: November 18, 2016 10:40  
 Collected by: RUCKER,S Location Code: WLGFBTDS

GW 10

Login Record File: 161118002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	less than	0.5	mg/L	11/23/16 23:50	LS
pH by SM4500HB	7.70	0.00	S.U.	11/18/16 12:05	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	6	2.0	mg/L	11/21/16 15:30	BF

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

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



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

December 19, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB24698**

**Williams Hwy 52 GW 24-NPDES/CCR**

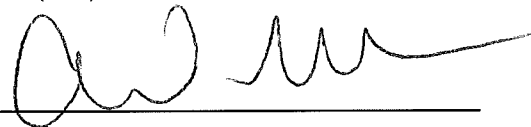
Date & Time Sampled: November 17, 2016 17:03  
 Date & Time Submitted: November 18, 2016 10:40  
 Collected by: RUCKER,S Location Code: WLG24TDS

GW 24

Login Record File: 161118002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	19.4	0.5	mg/L	11/23/16 23:50	LS
pH by SM4500HB	6.42	0.00	S.U.	11/18/16 12:05	BF
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC EPA 300.0	22.0	0.5	mg/L	11/23/16 23:50	LS
Total Dissolved Solid-SM2540C	520	2.0	mg/L	11/21/16 15:30	BF

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

Approved By: 



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

December 19, 2016

REPORT TO:
Mike Moore C221

Sample ID: **AB24700**

**Williams Hwy 52 GW 26-NPDES/CCR**

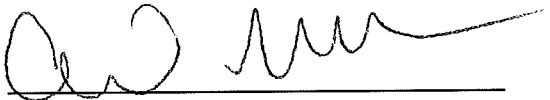
Date & Time Sampled: November 17, 2016 18:00  
 Date & Time Submitted: November 18, 2016 10:40  
 Collected by: RUCKER,S Location Code: WLG26TDS

GW 26

Login Record File: 161118002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	156	1.0	mg/L	11/23/16 23:50	LS
pH by SM4500HB Holding Time of 15 minutes has been exceeded.	6.29	0.00	S.U.	11/18/16 12:05	BF
Sulfates by IC EPA 300.0	76.3	1.0	mg/L	11/23/16 23:50	LS
Total Dissolved Solid-SM2540C	860	2.0	mg/L	11/21/16 15:30	BF

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

Approved By: 

**EPA CCR Rule Compliance Monitoring Wells  
Groundwater Monitoring Data  
South Carolina Electric & Gas: Williams Station Highway 52 Class Three Landfill**

Williams Station Highway 52 Class Three Landfill

Monitoring Well ID	Well Data			Gauging Date:1/19- 1/20/2017				Final Water Quality Indicator Parameters					
	PVC Pipe Elevation, ft.	Ground Surface Elevation, ft.	Stickup, ft.	Initial Gauging		Final Gauging		Temperature °C	pH S.U.	Sp. Cond. µS/cm	Turbidity NTU	ORP mV	DO mg/L
				Depth to Groundwater, ft.	Groundwater Elevation, ft.	Depth to Groundwater, ft.	Groundwater Elevation, ft.						
GW-10	52.28	49.60	2.68	7.44	44.84	10.10	42.18	18.2	6.9	281	5.04	134.2	2.41
GW-11	51.72			10.68	41.04	11.13	40.59	19.2	6.4	137	9.15	85.7	3.24
GW-20	60.81	56.70	4.11	21.22	39.59	23.20	37.61	21.5	6.6	1090	4.95	-26.3	0.89
GW-21	56.14	52.50	3.64	16.78	39.36	18.60	37.54	21.8	6.7	1050	9.39	36.1	0.63
GW-22	50.33	46.90	3.43		50.33		50.33						
GW-22D	50.36	47.10	3.26	16.27	34.09	19.52	30.84	21.6	7.1	936	9.25	54.5	0.57
GW-23	49.99	46.20	3.79		49.99		49.99						
GW-23D	49.69	46.20	3.49	12.67	37.02	17.23	32.46	21.8	7.2	807	7.22	57.6	2.23
GW-24	52.40	48.70	3.70	16.88	35.52	17.64	34.76	21.6	6.5	974	9.85	50.5	0.73
GW-25	50.93	47.40	3.53	16.21	34.72	17.15	33.78	22.5	6.9	898	6.93	57.5	0.94
GW-26	55.21	51.20	4.01	24.70	30.51	25.30	29.91	21.2	6.1	1542	6.43	-6.0	1.18
GW-27	53.26			6.67	46.59	7.18	46.08	20.4	6.9	519	1.17	6.0	8.37
GW-28	51.23			9.42	41.81	9.78	41.45	19.1	6.6	200	7.93	79	3.28



# GEL LABORATORIES LLC

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

## Certificate of Analysis Report for

GEEL003 GEL Engineering, LLC

Client SDG: 414775 GEL Work Order: 414775

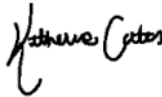
**The Qualifiers in this report are defined as follows:**

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

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

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

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



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

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: February 16, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: GW-24	Project: SCEG01616C
Sample ID: 414775001	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 20-JAN-17 08:33	
Receive Date: 20-JAN-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Fluoride		0.460	0.033	0.100	mg/L		1	MAR1	01/25/17	0003	1633027	1
Chloride		17.0	0.335	1.00	mg/L		5	MAR1	01/26/17	1336	1633027	2
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	J	2.92	2.00	10.0	ug/L	1.00	1	BAJ	01/25/17	2107	1633222	3
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	1.26	3.00	pCi/L			AXM6	01/30/17	0907	1633606	4
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226		2.36	0.508	1.00	pCi/L			LXP1	02/13/17	1040	1633270	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	01/23/17	0839	1633221

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

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

**Notes:**

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: February 16, 2017

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd

Charleston, South Carolina 29417

Contact: Robert Gardner  
Project: Williams 52

Client Sample ID: GW-24

Sample ID: 414775001

Project: SCEG01616C

Client ID: GEEL003

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Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

SQL: Sample Quantitation Limit

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: February 16, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: GW-26	Project: SCEG01616C
Sample ID: 414775002	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 20-JAN-17 09:17	
Receive Date: 20-JAN-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Fluoride		0.215	0.033	0.100	mg/L		1	MAR1	01/25/17	0032	1633027	1
Chloride		146	3.35	10.0	mg/L		50	MAR1	01/26/17	1404	1633027	2
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	J	2.29	2.00	10.0	ug/L	1.00	1	BAJ	01/25/17	2109	1633222	3
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	2.03	3.00	pCi/L			AXM6	01/30/17	0907	1633606	4
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226		0.604	0.185	1.00	pCi/L			LXP1	02/13/17	1040	1633270	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	01/23/17	0839	1633221

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

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

**Notes:**

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: February 16, 2017

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd

Charleston, South Carolina 29417

Contact: Robert Gardner  
Project: Williams 52

Client Sample ID: GW-26

Project: SCEG01616C

Sample ID: 414775002

Client ID: GEEL003

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Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

Lc/LC: Critical Level

DL: Detection Limit

PF: Prep Factor

MDA: Minimum Detectable Activity

RL: Reporting Limit

MDC: Minimum Detectable Concentration

SQL: Sample Quantitation Limit

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: February 16, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: GW-27	Project: SCEG01616C
Sample ID: 414775003	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 20-JAN-17 10:32	
Receive Date: 20-JAN-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Fluoride		0.288	0.033	0.100	mg/L		1	MAR1	01/25/17	0101	1633027	1
Chloride		10.1	0.134	0.400	mg/L		2	MAR1	01/26/17	1433	1633027	2
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	U	ND	2.00	10.0	ug/L	1.00	1	BAJ	01/25/17	2112	1633222	3
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228		1.46	1.35	3.00	pCi/L			AXM6	01/30/17	0907	1633606	4
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226		1.06	0.490	1.00	pCi/L			LXP1	02/13/17	1040	1633270	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	01/23/17	0839	1633221

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			93.2	(15%-125%)

**Notes:**

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: February 16, 2017

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd

Charleston, South Carolina 29417

Contact: Robert Gardner  
Project: Williams 52

Client Sample ID: GW-27

Sample ID: 414775003

Project: SCEG01616C

Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

SQL: Sample Quantitation Limit

# GEL LABORATORIES LLC

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

## QC Summary

Report Date: February 16, 2017

Page 1 of 4

GEL Engineering, LLC  
2040 Savage Rd  
Charleston, South Carolina

Contact: Robert Gardner

Workorder: 414775

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Ion Chromatography</b>											
Batch	1633027										
QC1203712222	414666010	DUP									
Chloride		21.6		21.5	mg/L	0.363		(0%-20%)	MAR1	01/27/17	16:47
Fluoride		0.723		0.727	mg/L	0.551		(0%-20%)		01/24/17	22:36
QC1203714085	414775003	DUP									
Chloride		10.1		10.1	mg/L	0.0258		(0%-20%)		01/26/17	15:02
Fluoride		0.288		0.290	mg/L	0.865 ^		(+/-0.100)		01/25/17	01:30
QC1203712221	LCS										
Chloride	5.00			4.91	mg/L		98.2	(90%-110%)		01/24/17	16:21
Fluoride	2.50			2.53	mg/L		101	(90%-110%)			
QC1203712220	MB										
Chloride			U	ND	mg/L					01/24/17	15:52
Fluoride			U	ND	mg/L						
QC1203712223	414666010	PS									
Chloride	5.00	4.31		9.77	mg/L		109	(90%-110%)		01/27/17	17:15
Fluoride	2.50	0.723		3.20	mg/L		99.1	(90%-110%)		01/24/17	23:05
QC1203714086	414775003	PS									
Chloride	5.00	5.03		10.6	mg/L		111 *	(90%-110%)		01/26/17	15:31
Fluoride	2.50	0.288		2.75	mg/L		98.3	(90%-110%)		01/25/17	01:59



# GEL LABORATORIES LLC

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

## QC Summary

Workorder: 414775

Page 2 of 4

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Metals Analysis - ICPMS</b>											
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
QC1203712685	MB										
Lithium			U	ND	ug/L					01/25/17	19:58
QC1203712689	414773008	MS									
Lithium	50.0	J	2.53	51.6	ug/L		98.1	(75%-125%)		01/25/17	20:09
QC1203712690	414773009	MS									
Lithium	50.0	U	ND	45.2	ug/L		89.9	(75%-125%)		01/25/17	20:19
QC1203712691	414773008	SDILT									
Lithium	J	2.53	U	ND	ug/L	N/A		(0%-10%)		01/25/17	20:11
QC1203712692	414773009	SDILT									
Lithium	U	ND	U	ND	ug/L	N/A		(0%-10%)		01/25/17	20:22
<b>Rad Gas Flow</b>											
Batch	1633606										
QC1203713806	414833009	DUP									
Radium-228	U	0.494	U	-0.153	pCi/L	N/A			N/A AXM6	01/30/17	09:14
QC1203713807	LCS										
Radium-228	21.1			22.2	pCi/L		105	(75%-125%)		01/30/17	09:14
QC1203713805	MB										
Radium-228			U	0.638	pCi/L					01/30/17	09:11

# GEL LABORATORIES LLC

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

## QC Summary

Workorder: 414775

Page 3 of 4

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Rad Ra-226</b>											
Batch	1633270										
QC1203712844	414666001	DUP									
Radium-226		U	0.198	0.345	pCi/L	54.2		(0% - 100%)	LXP1	02/13/17	11:10
QC1203712846	LCS										
Radium-226	26.0			24.3	pCi/L		93.7	(75%-125%)		02/13/17	11:40
QC1203712843	MB										
Radium-226				0.314	pCi/L					02/13/17	11:10
QC1203712845	414666001	MS									
Radium-226	130	U	0.198	133	pCi/L		102	(75%-125%)		02/13/17	11:10

**Notes:**

The Qualifiers in this report are defined as follows:

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

# GEL LABORATORIES LLC

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## QC Summary

Workorder: 414775

Page 4 of 4

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

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

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

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

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

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

# GEL LABORATORIES LLC

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

## Certificate of Analysis Report for

GEEL003 GEL Engineering, LLC

Client SDG: 414666 GEL Work Order: 414666

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

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

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

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

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

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



# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: February 16, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: GW-10	Project: SCEG01616C
Sample ID: 414666001	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 19-JAN-17 09:26	
Receive Date: 20-JAN-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Fluoride		0.534	0.033	0.100	mg/L		1	MAR1	01/24/17	1649	1633027	1
Chloride		16.8	0.134	0.400	mg/L		2	MAR1	01/26/17	0818	1633027	2
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium		21.3	2.00	10.0	ug/L	1.00	1	BAJ	01/24/17	2138	1633112	3
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	1.94	3.00	pCi/L			AXM6	01/31/17	1013	1633896	4
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226	U	ND	0.237	1.00	pCi/L			LXP1	02/13/17	0930	1633270	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	CXW4	01/20/17	1700	1633111

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			80.5	(15%-125%)

**Notes:**

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: February 16, 2017

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd

Charleston, South Carolina 29417

Contact: Robert Gardner  
Project: Williams 52

Client Sample ID: GW-10  
Sample ID: 414666001

Project: SCEG01616C  
Client ID: GEEL003

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Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

SQL: Sample Quantitation Limit

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: February 16, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: GW-11	Project: SCEG01616C
Sample ID: 414666002	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 19-JAN-17 10:10	
Receive Date: 20-JAN-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Chloride		5.06	0.067	0.200	mg/L		1	MAR1	01/24/17	1718	1633027	1
Fluoride		0.337	0.033	0.100	mg/L		1					
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	J	3.85	2.00	10.0	ug/L	1.00	1	BAJ	01/24/17	2149	1633112	2
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	1.72	3.00	pCi/L			AXM6	01/31/17	1013	1633896	3
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226		1.16	0.507	1.00	pCi/L			LXP1	02/13/17	0930	1633270	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	CXW4	01/20/17	1700	1633111

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 200.8 SC_NPDES	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			95.3	(15%-125%)

**Notes:**

Column headers are defined as follows:

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

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: February 16, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: GW-28	Project: SCEG01616C
Sample ID: 414666003	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 19-JAN-17 10:59	
Receive Date: 20-JAN-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Chloride		3.97	0.067	0.200	mg/L		1	MAR1	01/24/17	1747	1633027	1
Fluoride		0.146	0.033	0.100	mg/L		1					
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	U	ND	2.00	10.0	ug/L	1.00	1	BAJ	01/24/17	2157	1633112	2
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	1.37	3.00	pCi/L			AXM6	01/31/17	1013	1633896	3
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226		0.792	0.408	1.00	pCi/L			LXP1	02/13/17	1005	1633270	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	CXW4	01/20/17	1700	1633111

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 200.8 SC_NPDES	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			84.1	(15%-125%)

**Notes:**

Column headers are defined as follows:

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



# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: February 16, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: GW-20	Project: SCEG01616C
Sample ID: 414666004	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 19-JAN-17 12:06	
Receive Date: 20-JAN-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Fluoride		0.285	0.033	0.100	mg/L		1	MAR1	01/24/17	1816	1633027	1
Chloride		9.94	0.134	0.400	mg/L		2	MAR1	01/26/17	0847	1633027	2
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	J	5.19	2.00	10.0	ug/L	1.00	1	BAJ	01/24/17	2159	1633112	3
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	2.13	3.00	pCi/L			AXM6	01/31/17	1013	1633896	4
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226		5.90	0.383	1.00	pCi/L			LXP1	02/13/17	1005	1633270	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	CXW4	01/20/17	1700	1633111

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			95	(15%-125%)

**Notes:**

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: February 16, 2017

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd

Charleston, South Carolina 29417

Contact: Robert Gardner  
Project: Williams 52

Client Sample ID: GW-20

Project: SCEG01616C

Sample ID: 414666004

Client ID: GEEL003

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Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

Lc/LC: Critical Level

DL: Detection Limit

PF: Prep Factor

MDA: Minimum Detectable Activity

RL: Reporting Limit

MDC: Minimum Detectable Concentration

SQL: Sample Quantitation Limit

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: February 16, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: GW-21	Project: SCEG01616C
Sample ID: 414666005	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 19-JAN-17 12:54	
Receive Date: 20-JAN-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Fluoride		0.288	0.033	0.100	mg/L		1	MAR1	01/24/17	1845	1633027	1
Chloride		10.7	0.134	0.400	mg/L		2	MAR1	01/26/17	0915	1633027	2
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	J	6.05	2.00	10.0	ug/L	1.00	1	BAJ	01/24/17	2202	1633112	3
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	1.99	3.00	pCi/L			AXM6	01/31/17	1014	1633896	4
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226	U	ND	0.261	1.00	pCi/L			LXP1	02/13/17	1005	1633270	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	CXW4	01/20/17	1700	1633111

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			96.9	(15%-125%)

**Notes:**

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: February 16, 2017

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd

Charleston, South Carolina 29417

Contact: Robert Gardner  
Project: Williams 52

Client Sample ID: GW-21

Project: SCEG01616C

Sample ID: 414666005

Client ID: GEEL003

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Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

Lc/LC: Critical Level

DL: Detection Limit

PF: Prep Factor

MDA: Minimum Detectable Activity

RL: Reporting Limit

MDC: Minimum Detectable Concentration

SQL: Sample Quantitation Limit

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: February 16, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: DUP	Project: SCEG01616C
Sample ID: 414666006	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 19-JAN-17 13:15	
Receive Date: 20-JAN-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Fluoride		0.287	0.033	0.100	mg/L		1	MAR1	01/24/17	1914	1633027	1
Chloride		10.8	0.134	0.400	mg/L		2	MAR1	01/26/17	0944	1633027	2
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	J	5.62	2.00	10.0	ug/L	1.00	1	BAJ	01/24/17	2205	1633112	3
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	1.56	3.00	pCi/L			AXM6	01/31/17	1014	1633896	4
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226		0.793	0.506	1.00	pCi/L			LXP1	02/13/17	1005	1633270	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	CXW4	01/20/17	1700	1633111

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			90.4	(15%-125%)

**Notes:**

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: February 16, 2017

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd

Charleston, South Carolina 29417

Contact: Robert Gardner  
Project: Williams 52

Client Sample ID: DUP

Sample ID: 414666006

Project: SCEG01616C

Client ID: GEEL003

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Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

SQL: Sample Quantitation Limit

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: February 16, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: Field Blank	Project: SCEG01616C
Sample ID: 414666007	Client ID: GEEL003
Matrix: Water	
Collect Date: 19-JAN-17 13:30	
Receive Date: 20-JAN-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Chloride	J	0.0822	0.067	0.200	mg/L		1	MAR1	01/24/17	1943	1633027	1
Fluoride	U	ND	0.033	0.100	mg/L		1					
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	U	ND	2.00	10.0	ug/L	1.00	1	BAJ	01/24/17	2207	1633112	2
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	1.59	3.00	pCi/L			AXM6	01/31/17	1014	1633896	3
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226	U	ND	0.327	1.00	pCi/L			LXP1	02/13/17	1005	1633270	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	CXW4	01/20/17	1700	1633111

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 200.8 SC_NPDES	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

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

**Notes:**

Column headers are defined as follows:

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

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: February 16, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: GW-22D	Project: SCEG01616C
Sample ID: 414666008	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 19-JAN-17 13:56	
Receive Date: 20-JAN-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Fluoride		0.366	0.033	0.100	mg/L		1	MAR1	01/24/17	2012	1633027	1
Chloride		10.1	0.134	0.400	mg/L		2	MAR1	01/26/17	1013	1633027	2
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium		16.1	2.00	10.0	ug/L	1.00	1	BAJ	01/24/17	2210	1633112	3
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	2.08	3.00	pCi/L			AXM6	01/31/17	1014	1633896	4
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226	U	ND	0.426	1.00	pCi/L			LXP1	02/13/17	1005	1633270	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	CXW4	01/20/17	1700	1633111

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			92.5	(15%-125%)

**Notes:**



# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: February 16, 2017

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd

Charleston, South Carolina 29417

Contact: Robert Gardner  
Project: Williams 52

Client Sample ID: GW-22D  
Sample ID: 414666008

Project: SCEG01616C  
Client ID: GEEL003

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Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

SQL: Sample Quantitation Limit

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: February 16, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: GW-23D	Project: SCEG01616C
Sample ID: 414666009	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 19-JAN-17 14:43	
Receive Date: 20-JAN-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Fluoride		0.434	0.033	0.100	mg/L		1	MAR1	01/24/17	2139	1633027	1
Chloride		15.0	0.134	0.400	mg/L		2	MAR1	01/26/17	1042	1633027	2
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	J	6.66	2.00	10.0	ug/L	1.00	1	BAJ	01/24/17	2213	1633112	3
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	1.72	3.00	pCi/L			AXM6	01/31/17	1018	1633896	4
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226		0.617	0.345	1.00	pCi/L			LXP1	02/13/17	1040	1633270	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	CXW4	01/20/17	1700	1633111

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			89.9	(15%-125%)

**Notes:**

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: February 16, 2017

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd

Charleston, South Carolina 29417

Contact: Robert Gardner  
Project: Williams 52

Client Sample ID: GW-23D  
Sample ID: 414666009

Project: SCEG01616C  
Client ID: GEEL003

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Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

SQL: Sample Quantitation Limit

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: February 16, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: GW-25	Project: SCEG01616C
Sample ID: 414666010	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 19-JAN-17 15:36	
Receive Date: 20-JAN-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Fluoride		0.723	0.033	0.100	mg/L		1	MAR1	01/24/17	2207	1633027	1
Chloride		21.6	0.335	1.00	mg/L		5	MAR1	01/27/17	1618	1633027	2
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	J	8.16	2.00	10.0	ug/L	1.00	1	BAJ	01/24/17	2215	1633112	3
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	1.14	3.00	pCi/L			AXM6	01/31/17	1018	1633896	4
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226		0.306	0.234	1.00	pCi/L			LXP1	02/13/17	1040	1633270	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	CXW4	01/20/17	1700	1633111

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

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

**Notes:**

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: February 16, 2017

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd

Charleston, South Carolina 29417

Contact: Robert Gardner  
Project: Williams 52

Client Sample ID: GW-25  
Sample ID: 414666010

Project: SCEG01616C  
Client ID: GEEL003

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Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

SQL: Sample Quantitation Limit

# GEL LABORATORIES LLC

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

## QC Summary

Report Date: February 16, 2017

Page 1 of 4

GEL Engineering, LLC  
2040 Savage Rd  
Charleston, South Carolina

Contact: Robert Gardner

Workorder: 414666

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Ion Chromatography</b>											
Batch	1633027										
QC1203712222	414666010	DUP									
Chloride		21.6		21.5	mg/L	0.363		(0%-20%)	MAR1	01/27/17	16:47
Fluoride		0.723		0.727	mg/L	0.551		(0%-20%)		01/24/17	22:36
QC1203714085	414775003	DUP									
Chloride		10.1		10.1	mg/L	0.0258		(0%-20%)		01/26/17	15:02
Fluoride		0.288		0.290	mg/L	0.865 ^		(+/-0.100)		01/25/17	01:30
QC1203712221	LCS										
Chloride	5.00			4.91	mg/L		98.2	(90%-110%)		01/24/17	16:21
Fluoride	2.50			2.53	mg/L		101	(90%-110%)			
QC1203712220	MB										
Chloride			U	ND	mg/L					01/24/17	15:52
Fluoride			U	ND	mg/L						
QC1203712223	414666010	PS									
Chloride	5.00	4.31		9.77	mg/L		109	(90%-110%)		01/27/17	17:15
Fluoride	2.50	0.723		3.20	mg/L		99.1	(90%-110%)		01/24/17	23:05
QC1203714086	414775003	PS									
Chloride	5.00	5.03		10.6	mg/L		111 *	(90%-110%)		01/26/17	15:31
Fluoride	2.50	0.288		2.75	mg/L		98.3	(90%-110%)		01/25/17	01:59

# GEL LABORATORIES LLC

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

## QC Summary

Workorder: 414666

Page 2 of 4

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Metals Analysis - ICPMS</b>											
Batch	1633112										
QC1203712445	414666001	DUP									
Lithium		21.3		21.5	ug/L	0.654 ^		(+/-10.0)	BAJ	01/24/17	21:41
QC1203712444	LCS										
Lithium	50.0			50.4	ug/L		101	(80%-120%)		01/24/17	21:36
QC1203712443	MB										
Lithium			U	ND	ug/L					01/24/17	21:33
QC1203712446	414666001	MS									
Lithium	50.0	21.3		73.8	ug/L		105	(75%-125%)		01/24/17	21:44
QC1203712447	414666001	SDILT									
Lithium		21.3	J	4.25	ug/L	.488		(0%-10%)		01/24/17	21:46
<b>Rad Gas Flow</b>											
Batch	1633896										
QC1203714548	414945004	DUP									
Radium-228			U	0.961		1.84	pCi/L	62.8		(0% - 100%)	AXM6 01/31/17 10:21
QC1203714549	LCS										
Radium-228	21.1			22.6	pCi/L		107	(75%-125%)		01/31/17	10:21
QC1203714547	MB										
Radium-228			U	0.988	pCi/L					01/31/17	11:37
<b>Rad Ra-226</b>											
Batch	1633270										
QC1203712844	414666001	DUP									
Radium-226			U	0.198		0.345	pCi/L	54.2		(0% - 100%)	LXP1 02/13/17 11:10
QC1203712846	LCS										
Radium-226	26.0			24.3	pCi/L		93.7	(75%-125%)		02/13/17	11:40

# GEL LABORATORIES LLC

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

## QC Summary

Workorder: 414666

Page 3 of 4

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Rad Ra-226</b>											
Batch		1633270									
QC1203712843		MB									
Radium-226				0.314	pCi/L				LXP1	02/13/17	11:10
QC1203712845		414666001	MS								
Radium-226	130	U	0.198	133	pCi/L		102	(75%-125%)		02/13/17	11:10

**Notes:**

The Qualifiers in this report are defined as follows:

- \*\* Analyte is a Tracer compound
- < Result is less than value reported
- > Result is greater than value reported
- B The target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- E %difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- E General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
- FA Failed analysis.
- FB Mercury was found present at quantifiable concentrations in field blanks received with these samples. Data associated with the blank are deemed invalid for reporting to regulatory agencies
- H Analytical holding time was exceeded
- J Value is estimated
- K Analyte present. Reported value may be biased high. Actual value is expected to be lower.
- L Analyte present. Reported value may be biased low. Actual value is expected to be higher.
- M M if above MDC and less than LLD
- M REMP Result > MDC/CL and < RDL
- N Metals--The Matrix spike sample recovery is not within specified control limits
- N/A RPD or %Recovery limits do not apply.
- N1 See case narrative
- ND Analyte concentration is not detected above the detection limit
- NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Q One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
- R Per section 9.3.4.1 of Method 1664 Revision B, due to matrix spike recovery issues, this result may not be reported or used for regulatory compliance purposes.
- R Sample results are rejected
- U Analyte was analyzed for but not detected above the Lc
- U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.



# GEL LABORATORIES LLC

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

## QC Summary

Workorder: 414666

Page 4 of 4

Parname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
UI	Gamma Spectroscopy--Uncertain identification										
UJ	Gamma Spectroscopy--Uncertain identification										
UL	Not considered detected. The associated number is the reported concentration, which may be inaccurate due to a low bias.										
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier										
Y	Other specific qualifiers were required to properly define the results. Consult case narrative.										
Z	Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.										
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.										
d	5-day BOD--The 2:1 depletion requirement was not met for this sample										
e	5-day BOD--Test replicates show more than 30% difference between high and low values. The data is qualified per the method and can be used for reporting purposes										
h	Preparation or preservation holding time was exceeded										

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

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

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

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

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



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

January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB25389**

**Williams Hwy 52 GW 10-NPDES/CCR**

Date & Time Sampled: January 19, 2017 09:26  
 Date & Time Submitted: January 20, 2017 14:35  
 Collected by: C.SANDEL Location Code: WLG10TDS

GW 10

Login Record File: 170123003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	17.1	0.50	mg/L	2/1/17 12:50	EB
pH by SM4500HB	10.36	0.00	S.U.	1/23/17 10:47	BF
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC EPA 300.0	9.54	0.50	mg/L	2/1/17 12:50	EB
Total Dissolved Solid-SM2540C	204	2.0	mg/L	1/24/17 13:30	BF

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

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



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

January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB25390**

**Williams Hwy 52 GW 11-NPDES/CCR**

Date & Time Sampled: January 19, 2017 10:10  
 Date & Time Submitted: January 20, 2017 14:35  
 Collected by: C.SANDEL Location Code: WLG11TDS

GW 11

Login Record File: 170123003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	3.04	0.50	mg/L	2/1/17 12:50	EB
pH by SM4500HB	6.58	0.00	S.U.	1/23/17 10:47	BF
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC EPA 300.0	5.13	0.50	mg/L	2/1/17 12:50	EB
Total Dissolved Solid-SM2540C	89	2.0	mg/L	1/24/17 13:30	BF

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

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



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

January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB25391**

**Williams Hwy 52 GW 28-NPDES/CCR**

Date & Time Sampled: January 19, 2017 10:59  
 Date & Time Submitted: January 20, 2017 14:35  
 Collected by: C.SANDEL Location Code: WLG28TDS

GW 28

Login Record File: 170123003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	3.98	0.50	mg/L	2/1/17 12:50	EB
pH by SM4500HB	6.68	0.00	S.U.	1/23/17 10:47	BF
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC EPA 300.0	.827	0.50	mg/L	2/1/17 12:50	EB
Total Dissolved Solid-SM2540C	96	2.0	mg/L	1/24/17 13:30	BF

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

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



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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB25392**

**Williams Hwy 52 GW 20-NPDES/CCR**

Date & Time Sampled: January 19, 2017 12:06  
 Date & Time Submitted: January 20, 2017 14:35  
 Collected by: C.SANDEL Location Code: WLG20TDS

GW 20

Login Record File: 170123003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	10.2	0.50	mg/L	2/1/17 12:50	EB
pH by SM4500HB Holding Time of 15 minutes has been exceeded.	6.75	0.00	S.U.	1/23/17 10:47	BF
Sulfates by IC EPA 300.0	12.1	0.50	mg/L	2/1/17 12:50	EB
Total Dissolved Solid-SM2540C	624	2.0	mg/L	1/24/17 13:30	BF

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

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



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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB25393**

**Williams Hwy 52 GW 21-NPDES/CCR**

Date & Time Sampled: January 19, 2017 12:54  
 Date & Time Submitted: January 20, 2017 14:35  
 Collected by: C.SANDEL Location Code: WLG21TDS

GW 21

Login Record File: 170123003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	11.0	0.50	mg/L	2/1/17 12:50	EB
pH by SM4500HB Holding Time of 15 minutes has been exceeded.	6.82	0.00	S.U.	1/23/17 10:47	BF
Sulfates by IC EPA 300.0	9.78	0.50	mg/L	2/1/17 12:50	EB
Total Dissolved Solid-SM2540C	590	2.0	mg/L	1/24/17 13:30	BF

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

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



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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB25394**

**Williams Hwy 52 DUP -NPDES/CCR**

Date & Time Sampled: January 19, 2017 13:15  
 Date & Time Submitted: January 20, 2017 14:35  
 Collected by: C.SANDEL Location Code: WLGDUPTDS

GW 10

Login Record File: 170123003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	11.0	0.50	mg/L	2/1/17 12:50	EB
pH by SM4500HB Holding Time of 15 minutes has been exceeded.	6.83	0.00	S.U.	1/23/17 10:47	BF
Sulfates by IC EPA 300.0	8.15	0.50	mg/L	2/1/17 12:50	EB
Total Dissolved Solid-SM2540C	608	2.0	mg/L	1/24/17 13:30	BF

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

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



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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB25395**

**Williams Hwy 52 FIELD BLANK-NPDES/CCR**

Date & Time Sampled: January 19, 2017 13:30  
 Date & Time Submitted: January 20, 2017 14:35  
 Collected by: C.SANDEL Location Code: WLGFBTDS

GW 10

Login Record File: 170123003

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	2/1/17 12:50	EB
pH by SM4500HB	8.13	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	2/1/17 12:50	EB
Total Dissolved Solid-SM2540C	3	2.0	mg/L	1/24/17 13:30	BF

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

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





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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB25396**

**Williams Hwy 52 GW 22D-NPDES/CCR**

Date & Time Sampled: January 19, 2017 13:56

Date & Time Submitted: January 20, 2017 14:35

Collected by: C.SANDEL Location Code: WLG22DTDS

GW 22D

Login Record File: 170123003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	10.2	0.50	mg/L	2/1/17 12:50	EB
pH by SM4500HB	7.26	0.00	S.U.	1/23/17 10:47	BF
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC EPA 300.0	63.0	0.50	mg/L	2/1/17 12:50	EB
Total Dissolved Solid-SM2540C	544	2.0	mg/L	1/24/17 13:30	BF

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

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



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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB25397**

**Williams Hwy 52 GW 23D-NPDES/CCR**

Date & Time Sampled: January 19, 2017 14:43

Date & Time Submitted: January 20, 2017 14:35

Collected by: C.SANDEL Location Code: WLG23DTDS

GW 23D

Login Record File: 170123003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	14.8	0.50	mg/L	2/1/17 12:50	EB
pH by SM4500HB	7.35	0.00	S.U.	1/23/17 10:47	BF
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC EPA 300.0	32.6	0.50	mg/L	2/1/17 12:50	EB
Total Dissolved Solid-SM2540C	421	2.0	mg/L	1/24/17 13:30	BF

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

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



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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB25398**

**Williams Hwy 52 GW 25-NPDES/CCR**

Date & Time Sampled: January 19, 2017 15:36  
 Date & Time Submitted: January 20, 2017 14:35  
 Collected by: C.SANDEL Location Code: WLG25TDS

GW 25

Login Record File: 170123003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	22.3	0.50	mg/L	2/1/17 12:50	EB
pH by SM4500HB Holding Time of 15 minutes has been exceeded.	7.11	0.00	S.U.	1/23/17 10:47	BF
Sulfates by IC EPA 300.0	40.3	0.50	mg/L	2/1/17 12:50	EB
Total Dissolved Solid-SM2540C	519	2.0	mg/L	1/24/17 13:30	BF

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

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



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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB25399**

**Williams Hwy 52 GW 24-NPDES/CCR**

Date & Time Sampled: January 20, 2017 08:33  
 Date & Time Submitted: January 20, 2017 14:35  
 Collected by: C.SANDEL Location Code: WLG24TDS

GW 24

Login Record File: 170123003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	17.8	0.50	mg/L	2/1/17 12:50	EB
pH by SM4500HB Holding Time of 15 minutes has been exceeded.	6.69	0.00	S.U.	1/23/17 10:47	BF
Sulfates by IC EPA 300.0	12.0	0.50	mg/L	2/1/17 12:50	EB
Total Dissolved Solid-SM2540C	543	2.0	mg/L	1/24/17 13:30	BF

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

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



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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB25400**

**Williams Hwy 52 GW 26-NPDES/CCR**

Date & Time Sampled: January 20, 2017 09:17  
 Date & Time Submitted: January 20, 2017 14:35  
 Collected by: C.SANDEL Location Code: WLG26TDS

GW 26

Login Record File: 170123003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	155	1.00	mg/L	2/1/17 12:50	EB
pH by SM4500HB	6.28	0.00	S.U.	1/23/17 10:47	BF
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC EPA 300.0	75.6	1.00	mg/L	2/1/17 12:50	EB
Total Dissolved Solid-SM2540C	884	2.0	mg/L	1/24/17 13:30	BF

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

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



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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB25401**

**Williams Hwy 52 GW 27-NPDES/CCR**

Date & Time Sampled: January 20, 2017 10:32  
 Date & Time Submitted: January 20, 2017 14:35  
 Collected by: C.SANDEL Location Code: WLG27TDS

GW 27

Login Record File: 170123003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	10.1	0.50	mg/L	2/1/17 12:50	EB
pH by SM4500HB Holding Time of 15 minutes has been exceeded.	7.07	0.00	S.U.	1/23/17 10:47	BF
Sulfates by IC EPA 300.0	12.0	0.50	mg/L	2/1/17 12:50	EB
Total Dissolved Solid-SM2540C	294	2.0	mg/L	1/24/17 13:30	BF

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

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



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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB25402**

**Williams Hwy 52 GW 10-NPDES/CCR**

Date & Time Sampled: January 19, 2017 09:26  
 Date & Time Submitted: January 20, 2017 14:35  
 Collected by: C.SANDEL Location Code: WLG10TM

GW 10

Login Record File: 170123003

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 15:49	MC
Arsenic by ICP_MS 200.8	2.5	1.0	ppb	1/23/17 15:49	MC
Barium by ICP-OES 200.7	54.3	10	ppb	1/25/17 15:26	PRC
Beryllium EPA 200.7	Less than	2.0	ppb	1/25/17 15:26	PRC
Boron - EPA 200.7	Less than	1000	ppb	1/25/17 15:26	PRC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Calcium EPA 200.7	14830	100	ppb	1/25/17 15:26	PRC
Chromium by ICP_MS 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Lead by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Lithium (CWA) 200.7	20.6	2	ppb	1/25/17 15:26	PRC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	1/24/17 15:58	PRC
Molybdenum - EPA 200.8	4.7	1.0	ppb	1/23/17 15:49	MC
Selenium by ICP-MS 200.8	Less than	5.0	ppb	1/23/17 15:49	MC
Thallium by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:49	MC

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

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



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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB25403**

**Williams Hwy 52 GW 11-NPDES/CCR**

Date & Time Sampled: January 19, 2017 10:10  
 Date & Time Submitted: January 20, 2017 14:35  
 Collected by: C.SANDEL Location Code: WLG11TM

GW 11

Login Record File: 170123003

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 15:49	MC
Arsenic by ICP_MS 200.8	1.4	1.0	ppb	1/23/17 15:49	MC
Barium by ICP-OES 200.7	Less than	10	ppb	1/25/17 15:26	PRC
Beryllium EPA 200.7	Less than	2.0	ppb	1/25/17 15:26	PRC
Boron - EPA 200.7	Less than	1000	ppb	1/25/17 15:26	PRC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Calcium EPA 200.7	15600	100	ppb	1/25/17 15:26	PRC
Chromium by ICP_MS 200.8	4.5	1.0	ppb	1/23/17 15:49	MC
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Lead by ICP-MS 200.8	1.0	1.0	ppb	1/23/17 15:49	MC
Lithium (CWA) 200.7	4.6	2	ppb	1/25/17 15:26	PRC
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 15:49	MC
Selenium by ICP-MS 200.8	Less than	5.0	ppb	1/23/17 15:49	MC
Thallium by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:49	MC

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

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





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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB25404**

**Williams Hwy 52 GW 28-NPDES/CCR**

Date & Time Sampled: January 19, 2017 10:59  
 Date & Time Submitted: January 20, 2017 14:35  
 Collected by: C.SANDEL Location Code: WLG28TM

GW 28

Login Record File: 170123003

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 15:49	MC
Arsenic by ICP_MS 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Barium by ICP-OES 200.7	10.1	10	ppb	1/26/17 15:26	PRC
Beryllium EPA 200.7	Less than	2.0	ppb	1/26/17 15:26	PRC
Boron - EPA 200.7	Less than	1000	ppb	1/26/17 15:26	PRC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Calcium EPA 200.7	29900	100	ppb	1/26/17 15:26	PRC
Chromium by ICP_MS 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Lead by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Lithium (CWA) 200.7	Less than	2	ppb	1/26/17 15:26	PRC
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 15:49	MC
Selenium by ICP-MS 200.8	Less than	5.0	ppb	1/23/17 15:49	MC
Thallium by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:49	MC

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

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



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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB25405**

**Williams Hwy 52 GW 20-NPDES/CCR**

Date & Time Sampled: January 19, 2017 12:06  
 Date & Time Submitted: January 20, 2017 14:35  
 Collected by: C.SANDEL Location Code: WLG20TM

GW 20

Login Record File: 170123003

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 15:49	MC
Arsenic by ICP_MS 200.8	5.2	1.0	ppb	1/23/17 15:49	MC
Barium by ICP-OES 200.7	47.6	10	ppb	1/25/17 15:26	PRC
Beryllium EPA 200.7	Less than	2.0	ppb	1/25/17 15:26	PRC
Boron - EPA 200.7	Less than	1000	ppb	1/25/17 15:26	PRC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Calcium EPA 200.7	154000	100	ppb	1/25/17 15:26	PRC
Chromium by ICP_MS 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Cobalt by ICP_MS 200.8	1.9	1.0	ppb	1/23/17 15:49	MC
Lead by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Lithium (CWA) 200.7	5.0	2	ppb	1/25/17 15:26	PRC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	1/24/17 15:58	PRC
Molybdenum - EPA 200.8	1.4	1.0	ppb	1/23/17 15:49	MC
Selenium by ICP-MS 200.8	Less than	5.0	ppb	1/23/17 15:49	MC
Thallium by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:49	MC

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

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



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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB25406**

**Williams Hwy 52 GW 21-NPDES/CCR**

Date & Time Sampled: January 19, 2017 12:54  
 Date & Time Submitted: January 20, 2017 14:35  
 Collected by: C.SANDEL Location Code: WLG21TM

GW 21

Login Record File: 170123003

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 15:49	MC
Arsenic by ICP_MS 200.8	3.0	1.0	ppb	1/23/17 15:49	MC
Barium by ICP-OES 200.7	33.5	10	ppb	1/25/17 15:26	PRC
Beryllium EPA 200.7	Less than	2.0	ppb	1/25/17 15:26	PRC
Boron - EPA 200.7	Less than	1000	ppb	1/25/17 15:26	PRC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Calcium EPA 200.7	128600	1000	ppb	1/25/17 15:26	PRC
Chromium by ICP_MS 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Cobalt by ICP_MS 200.8	2.1	1.0	ppb	1/23/17 15:49	MC
Lead by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Lithium (CWA) 200.7	5.7	2	ppb	1/25/17 15:26	PRC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	1/24/17 15:58	PRC
Molybdenum - EPA 200.8	1.3	1.0	ppb	1/23/17 15:49	MC
Selenium by ICP-MS 200.8	Less than	5.0	ppb	1/23/17 15:49	MC
Thallium by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:49	MC

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

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



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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB25407**

**Williams Hwy 52 DUP -NPDES/CCR**

Date & Time Sampled: January 19, 2017 13:15  
 Date & Time Submitted: January 20, 2017 14:35  
 Collected by: C.SANDEL Location Code: WLGDUPTM

GW 10

Login Record File: 170123003

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 15:49	MC
Arsenic by ICP_MS 200.8	2.9	1.0	ppb	1/23/17 15:49	MC
Barium by ICP-OES 200.7	33.6	10	ppb	1/25/17 15:26	PRC
Beryllium EPA 200.7	Less than	2.0	ppb	1/25/17 15:26	PRC
Boron - EPA 200.7	Less than	1000	ppb	1/25/17 15:26	PRC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Calcium EPA 200.7	128400	1000	ppb	1/25/17 15:26	PRC
Chromium by ICP_MS 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Cobalt by ICP_MS 200.8	2.1	1.0	ppb	1/23/17 15:49	MC
Lead by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Lithium (CWA) 200.7	5.8	2	ppb	1/25/17 15:26	PRC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	1/24/17 15:58	PRC
Molybdenum - EPA 200.8	1.3	1.0	ppb	1/23/17 15:49	MC
Selenium by ICP-MS 200.8	Less than	5.0	ppb	1/23/17 15:49	MC
Thallium by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:49	MC

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

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



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

January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB25408**

**Williams Hwy 52 FIELD BLANK-NPDES/CCR**

Date & Time Sampled: January 19, 2017 13:30  
 Date & Time Submitted: January 20, 2017 14:35  
 Collected by: C.SANDEL Location Code: WLGFBTM

GW 10

Login Record File: 170123003

<b>CERTIFIED BY SCDHEC (LAB ID 32006):</b>	<b>Result</b>	<b>Reporting Limit(MRL)</b>	<b>Units</b>	<b>Completed Analysis Date &amp; Time</b>	<b>Chemist</b>
Antimony by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Arsenic by ICP_MS 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Barium by ICP-OES 200.7	Less than	10	ppb	1/25/17 15:26	PRC
Beryllium EPA 200.7	Less than	2.0	ppb	1/25/17 15:26	PRC
Boron - EPA 200.7	Less than	1000	ppb	1/25/17 15:26	PRC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Calcium EPA 200.7	Less than	100	ppb	1/25/17 15:26	PRC
Chromium by ICP_MS 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Lead by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Lithium (CWA) 200.7	Less than	2.0	ppb	1/25/17 15:26	PRC
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 15:49	MC
Selenium by ICP-MS 200.8	Less than	5.0	ppb	1/23/17 15:49	MC
Thallium by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:49	MC

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

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



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 Fax: (803) 217-9911

January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB25409**

**Williams Hwy 52 GW 22D-NPDES/CCR**

Date & Time Sampled: January 19, 2017 13:56

Date & Time Submitted: January 20, 2017 14:35

Collected by: C.SANDEL Location Code: WLG22DTM

GW 22D

Login Record File: 170123003

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 15:49	MC
Arsenic by ICP_MS 200.8	1.9	1.0	ppb	1/23/17 15:49	MC
Barium by ICP-OES 200.7	10.9	10	ppb	1/25/17 15:26	PRC
Beryllium EPA 200.7	Less than	2.0	ppb	1/25/17 15:26	PRC
Boron - EPA 200.7	Less than	1000	ppb	1/25/17 15:26	PRC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Calcium EPA 200.7	89200	100	ppb	1/25/17 15:26	PRC
Chromium by ICP_MS 200.8	2.4	1.0	ppb	1/23/17 15:49	MC
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Lead by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Lithium (CWA) 200.7	14.7	2.0	ppb	1/25/17 15:26	PRC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	1/24/17 15:58	PRC
Molybdenum - EPA 200.8	8.8	1.0	ppb	1/23/17 15:49	MC
Selenium by ICP-MS 200.8	Less than	5.0	ppb	1/23/17 15:49	MC
Thallium by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:49	MC

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

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



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

January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB25410**

**Williams Hwy 52 GW 23D-NPDES/CCR**

Date & Time Sampled: January 19, 2017 14:43

Date & Time Submitted: January 20, 2017 14:35

Collected by: C.SANDEL Location Code: WLG23DTM

GW 23D

Login Record File: 170123003

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 15:49	MC
Arsenic by ICP_MS 200.8	1.0	1.0	ppb	1/23/17 15:49	MC
Barium by ICP-OES 200.7	10.7	10	ppb	1/25/17 15:26	PRC
Beryllium EPA 200.7	Less than	2.0	ppb	1/25/17 15:26	PRC
Boron - EPA 200.7	Less than	1000	ppb	1/25/17 15:26	PRC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Calcium EPA 200.7	68500	100	ppb	1/25/17 15:26	PRC
Chromium by ICP_MS 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Lead by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Lithium (CWA) 200.7	6.2	2.0	ppb	1/25/17 15:26	PRC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	1/24/17 15:58	PRC
Molybdenum - EPA 200.8	9.5	1.0	ppb	1/23/17 15:49	MC
Selenium by ICP-MS 200.8	Less than	5.0	ppb	1/23/17 15:49	MC
Thallium by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:49	MC

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

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



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 Columbia, SC 29212  
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 Fax: (803) 217-9911

January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB25411**

**Williams Hwy 52 GW 25-NPDES/CCR**

Date & Time Sampled: January 19, 2017 15:36  
 Date & Time Submitted: January 20, 2017 14:35  
 Collected by: C.SANDEL Location Code: WLG25TM

GW 25

Login Record File: 170123003

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 15:49	MC
Arsenic by ICP_MS 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Barium by ICP-OES 200.7	16.0	10	ppb	1/25/17 15:26	PRC
Beryllium EPA 200.7	Less than	2.0	ppb	1/25/17 15:26	PRC
Boron - EPA 200.7	Less than	1000	ppb	1/25/17 15:26	PRC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Calcium EPA 200.7	107700	1000	ppb	1/25/17 15:26	PRC
Chromium by ICP_MS 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Lead by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Lithium (CWA) 200.7	8.3	2.0	ppb	1/25/17 15:26	PRC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	1/24/17 15:58	PRC
Molybdenum - EPA 200.8	4.1	1.0	ppb	1/23/17 15:49	MC
Selenium by ICP-MS 200.8	Less than	5.0	ppb	1/23/17 15:49	MC
Thallium by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:49	MC

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

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





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

January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB25412**

**Williams Hwy 52 GW 24-NPDES/CCR**

Date & Time Sampled: January 20, 2017 08:33  
 Date & Time Submitted: January 20, 2017 14:35  
 Collected by: C.SANDEL Location Code: WLG24TM

GW 24

Login Record File: 170123003

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 15:49	MC
Arsenic by ICP_MS 200.8	1.6	1.0	ppb	1/23/17 15:49	MC
Barium by ICP-OES 200.7	46.4	10	ppb	1/25/17 15:26	PRC
Beryllium EPA 200.7	Less than	2.0	ppb	1/25/17 15:26	PRC
Boron - EPA 200.7	Less than	1000	ppb	1/25/17 15:26	PRC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Calcium EPA 200.7	147000	1000	ppb	1/25/17 15:26	PRC
Chromium by ICP_MS 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Cobalt by ICP_MS 200.8	2.6	1.0	ppb	1/23/17 15:49	MC
Lead by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Lithium (CWA) 200.7	3.3	2.0	ppb	1/25/17 15:26	PRC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	1/24/17 15:58	PRC
Molybdenum - EPA 200.8	1.2	1.0	ppb	1/23/17 15:49	MC
Selenium by ICP-MS 200.8	Less than	5.0	ppb	1/23/17 15:49	MC
Thallium by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:49	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  
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 Tel: (803)217-9384  
 Fax: (803) 217-9911

January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB25413**

**Williams Hwy 52 GW 26-NPDES/CCR**

Date & Time Sampled: January 20, 2017 09:17  
 Date & Time Submitted: January 20, 2017 14:35  
 Collected by: C.SANDEL Location Code: WLG26TM

GW 26

Login Record File: 170123003

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 15:49	MC
Arsenic by ICP_MS 200.8	5.0	1.0	ppb	1/23/17 15:49	MC
Barium by ICP-OES 200.7	74.7	10	ppb	1/25/17 15:26	PRC
Beryllium EPA 200.7	Less than	2.0	ppb	1/25/17 15:26	PRC
Boron - EPA 200.7	Less than	1000	ppb	1/25/17 15:26	PRC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Calcium EPA 200.7	164200	1000	ppb	1/25/17 15:26	PRC
Chromium by ICP_MS 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Cobalt by ICP_MS 200.8	7.4	1.0	ppb	1/23/17 15:49	MC
Lead by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Lithium (CWA) 200.7	2.5	2.0	ppb	1/25/17 15:26	PRC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	1/31/17 15:22	PRC
Molybdenum - EPA 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Selenium by ICP-MS 200.8	Less than	5.0	ppb	1/23/17 15:49	MC
Thallium by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:49	MC

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

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



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

January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB25414**

**Williams Hwy 52 GW 27-NPDES/CCR**

Date & Time Sampled: January 20, 2017 10:32  
 Date & Time Submitted: January 20, 2017 14:35  
 Collected by: C.SANDEL Location Code: WLG27TM

GW 27

Login Record File: 170123003

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 15:49	MC
Arsenic by ICP_MS 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Barium by ICP-OES 200.7	24.6	10	ppb	1/25/17 15:26	PRC
Beryllium EPA 200.7	Less than		ppb	1/25/17 15:26	PRC
Boron - EPA 200.7	Less than	1000	ppb	1/25/17 15:26	PRC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Calcium EPA 200.7	81640	1000	ppb	1/25/17 15:26	PRC
Chromium by ICP_MS 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Lead by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:49	MC
Lithium (CWA) 200.7	Less than	2.0	ppb	1/25/17 15:26	PRC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	1/31/17 15:22	PRC
Molybdenum - EPA 200.8	1.6	1.0	ppb	1/23/17 15:49	MC
Selenium by ICP-MS 200.8	Less than	5.0	ppb	1/23/17 15:49	MC
Thallium by ICP-MS 200.8	Less than	1.0	ppb	1/23/17 15:49	MC

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

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

**EPA CCR Rule Compliance Monitoring Wells  
Groundwater Monitoring Data  
South Carolina Electric & Gas: Williams Station Highway 52 Class Three Landfill**

Gauging Date:03/27/2017				Final Water Quality Indicator Parameters					
Monitoring Well ID	PVC Pipe Elevation, ft.	Depth to Groundwater, ft.	Groundwater Elevation, ft.	Temperature °C	pH S.U.	Sp. Cond. µS/cm	Turbidity NTU	ORP mV	DO mg/L
GW-10	52.28	8.25	44.03	19.1	7.4	367	7.27	130.1	0.8
GW-11	51.72	10.58	41.14	20.2	6.4	136	9.26	188.0	1.57
GW-20	60.81	21.72	39.09	22.8	6.5	912	5.47	103.3	0.54
GW-21	56.14	17.95	38.19	20.1	6.7	835	9.18	73.7	0.44
GW-22D	50.36	17.58	32.78	22.6	7.1	774	8.93	143.7	0.98
GW-23D	49.69	15.18	34.51	23.2	7.2	710	7.92	139.2	1.77
GW-24	52.40	17.06	35.34	22.8	6.5	840	9.28	85.2	0.32
GW-25	50.93	16.34	34.59	22.5	6.8	768	6.97	110.9	0.48
GW-26	55.21	25.40	29.81	24.0	6.0	1340	6.28	22.2	0.44
GW-27	53.25	7.89	45.36	20.9	6.8	467	8.03	121.7	0.34
GW-28	51.20	10.27	40.93	19.0	6.4	130	8.12	200.7	2.59

**GEL LABORATORIES LLC**

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

**Certificate of Analysis Report  
for**

GEEL003 GEL Engineering, LLC

Client SDG: 419419 GEL Work Order: 419419

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

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

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

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

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



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

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: April 24, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: GW-21	Project: SCEG01616C
Sample ID: 419419001	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 28-MAR-17 08:35	
Receive Date: 29-MAR-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Fluoride		0.243	0.033	0.100	mg/L		1	MXL2	03/29/17	1926	1651888	1
Chloride		11.0	0.134	0.400	mg/L		2	MXL2	03/30/17	1634	1651888	2
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	J	5.26	2.00	10.0	ug/L	1.00	1	BAJ	03/31/17	2046	1651686	3
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	1.12	3.00	pCi/L			AXM6	04/14/17	1110	1652760	4
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226		0.470	0.345	1.00	pCi/L			MXH8	04/21/17	0750	1652782	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	03/29/17	0849	1651685

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

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

**Notes:**

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: April 24, 2017

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd

Charleston, South Carolina 29417

Contact: Robert Gardner  
Project: Williams 52

Client Sample ID: GW-21

Sample ID: 419419001

Project: SCEG01616C

Client ID: GEEL003

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Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

SQL: Sample Quantitation Limit

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: April 24, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: DUP	Project: SCEG01616C
Sample ID: 419419002	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 28-MAR-17 09:00	
Receive Date: 29-MAR-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Fluoride		0.243	0.033	0.100	mg/L		1	MXL2	03/29/17	2053	1651888	1
Chloride		11.0	0.134	0.400	mg/L		2	MXL2	03/30/17	1703	1651888	2
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	J	4.96	2.00	10.0	ug/L	1.00	1	BAJ	03/31/17	2057	1651686	3
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	1.93	3.00	pCi/L			AXM6	04/14/17	1110	1652760	4
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226		0.353	0.180	1.00	pCi/L			MXH8	04/21/17	0750	1652782	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	03/29/17	0849	1651685

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

Surrogate/Tracer	Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer		GFPC, Ra228, Liquid "As Received"			96.7	(15%-125%)

**Notes:**



# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: April 24, 2017

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd

Charleston, South Carolina 29417

Contact: Robert Gardner  
Project: Williams 52

Client Sample ID: DUP

Sample ID: 419419002

Project: SCEG01616C

Client ID: GEEL003

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Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

SQL: Sample Quantitation Limit

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: April 24, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: Field Blank	Project: SCEG01616C
Sample ID: 419419003	Client ID: GEEL003
Matrix: Water	
Collect Date: 28-MAR-17 09:15	
Receive Date: 29-MAR-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Chloride	J	0.0975	0.067	0.200	mg/L		1	MXL2	03/29/17	2122	1651888	1
Fluoride	U	ND	0.033	0.100	mg/L		1					
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	U	ND	2.00	10.0	ug/L	1.00	1	BAJ	03/31/17	2105	1651686	2
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228		2.42	2.10	3.00	pCi/L			AXM6	04/14/17	1111	1652760	3
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226		0.169	0.161	1.00	pCi/L			MXH8	04/21/17	0750	1652782	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	03/29/17	0849	1651685

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 200.8 SC_NPDES	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			88.7	(15%-125%)

**Notes:**

Column headers are defined as follows:

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

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: April 24, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: GW-22D	Project: SCEG01616C
Sample ID: 419419004	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 28-MAR-17 10:29	
Receive Date: 29-MAR-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Fluoride		0.305	0.033	0.100	mg/L		1	MXL2	03/29/17	2150	1651888	1
Chloride		10.4	0.134	0.400	mg/L		2	MXL2	03/30/17	1830	1651888	2
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium		10.5	2.00	10.0	ug/L	1.00	1	BAJ	03/31/17	2108	1651686	3
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	1.46	3.00	pCi/L			AXM6	04/14/17	1111	1652760	4
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226	U	ND	0.195	1.00	pCi/L			MXH8	04/21/17	0750	1652782	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	03/29/17	0849	1651685

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

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

**Notes:**

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: April 24, 2017

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd

Charleston, South Carolina 29417

Contact: Robert Gardner  
Project: Williams 52

Client Sample ID: GW-22D  
Sample ID: 419419004

Project: SCEG01616C  
Client ID: GEEL003

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Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

SQL: Sample Quantitation Limit

# GEL LABORATORIES LLC

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## Certificate of Analysis

Report Date: April 24, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: GW-23D	Project: SCEG01616C
Sample ID: 419419005	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 28-MAR-17 11:36	
Receive Date: 29-MAR-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Fluoride		0.361	0.033	0.100	mg/L		1	MXL2	03/29/17	2219	1651888	1
Chloride		15.6	0.134	0.400	mg/L		2	MXL2	03/30/17	1858	1651888	2
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	J	6.95	2.00	10.0	ug/L	1.00	1	BAJ	03/31/17	2110	1651686	3
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228		1.80	1.52	3.00	pCi/L			AXM6	04/14/17	1111	1652760	4
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226	U	ND	0.157	1.00	pCi/L			MXH8	04/21/17	0750	1652782	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	03/29/17	0849	1651685

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

Surrogate/Tracer	Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer		GFPC, Ra228, Liquid "As Received"			91.7	(15%-125%)

**Notes:**

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: April 24, 2017

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd

Charleston, South Carolina 29417

Contact: Robert Gardner  
Project: Williams 52

Client Sample ID: GW-23D  
Sample ID: 419419005

Project: SCEG01616C  
Client ID: GEEL003

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Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

SQL: Sample Quantitation Limit

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: April 24, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: GW-25	Project: SCEG01616C
Sample ID: 419419006	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 28-MAR-17 12:34	
Receive Date: 29-MAR-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Fluoride		0.630	0.033	0.100	mg/L		1	MXL2	03/29/17	2248	1651888	1
Chloride		22.7	0.335	1.00	mg/L		5	MXL2	03/30/17	1927	1651888	2
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	J	9.06	2.00	10.0	ug/L	1.00	1	BAJ	03/31/17	2113	1651686	3
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	1.62	3.00	pCi/L			AXM6	04/14/17	1111	1652760	4
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226	U	ND	0.255	1.00	pCi/L			MXH8	04/21/17	0750	1652782	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	03/29/17	0849	1651685

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			83.5	(15%-125%)

**Notes:**

# GEL LABORATORIES LLC

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## Certificate of Analysis

Report Date: April 24, 2017

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd

Charleston, South Carolina 29417

Contact: Robert Gardner  
Project: Williams 52

Client Sample ID: GW-25

Project: SCEG01616C

Sample ID: 419419006

Client ID: GEEL003

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Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

Lc/LC: Critical Level

DL: Detection Limit

PF: Prep Factor

MDA: Minimum Detectable Activity

RL: Reporting Limit

MDC: Minimum Detectable Concentration

SQL: Sample Quantitation Limit



# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: April 24, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: GW-24	Project: SCEG01616C
Sample ID: 419419007	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 28-MAR-17 13:31	
Receive Date: 29-MAR-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Fluoride		0.460	0.033	0.100	mg/L		1	MXL2	03/29/17	2317	1651888	1
Chloride		18.0	0.335	1.00	mg/L		5	MXL2	03/30/17	1956	1651888	2
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	J	4.26	2.00	10.0	ug/L	1.00	1	BAJ	03/31/17	2116	1651686	3
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228		2.12	1.50	3.00	pCi/L			AXM6	04/17/17	1636	1652760	4
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226	U	ND	0.253	1.00	pCi/L			MXH8	04/21/17	0750	1652782	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	03/29/17	0849	1651685

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			79.2	(15%-125%)

**Notes:**

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: April 24, 2017

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd

Charleston, South Carolina 29417

Contact: Robert Gardner  
Project: Williams 52

Client Sample ID: GW-24

Sample ID: 419419007

Project: SCEG01616C

Client ID: GEEL003

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Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

SQL: Sample Quantitation Limit

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: April 24, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: GW-26	Project: SCEG01616C
Sample ID: 419419008	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 28-MAR-17 14:47	
Receive Date: 29-MAR-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
EPA300.0 Fluoride in Liquid "As Received"												
Fluoride		0.232	0.033	0.100	mg/L		1	MXL2	03/29/17	2346	1651888	1
Chloride		155	3.35	10.0	mg/L		50	MXL2	03/30/17	2025	1651888	2
<b>Metals Analysis-ICP-MS</b>												
200.8/200.2 NPDES Metals "As Received"												
Lithium	J	2.75	2.00	10.0	ug/L	1.00	1	BAJ	03/31/17	2119	1651686	3
<b>Rad Gas Flow Proportional Counting</b>												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	1.76	3.00	pCi/L			AXM6	04/14/17	1111	1652760	4
<b>Rad Radium-226</b>												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.795	0.190	1.00	pCi/L			MXH8	04/21/17	0750	1652782	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	03/29/17	0849	1651685

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			99.2	(15%-125%)

**Notes:**

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: April 24, 2017

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd

Charleston, South Carolina 29417

Contact: Robert Gardner  
Project: Williams 52

Client Sample ID: GW-26

Project: SCEG01616C

Sample ID: 419419008

Client ID: GEEL003

---

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

Lc/LC: Critical Level

DL: Detection Limit

PF: Prep Factor

MDA: Minimum Detectable Activity

RL: Reporting Limit

MDC: Minimum Detectable Concentration

SQL: Sample Quantitation Limit

# GEL LABORATORIES LLC

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

## QC Summary

Report Date: April 24, 2017

Page 1 of 4

GEL Engineering, LLC  
2040 Savage Rd  
Charleston, South Carolina

Contact: Robert Gardner

Workorder: 419419

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Ion Chromatography</b>											
Batch	1651888										
QC1203757880	419304001	DUP									
Chloride		17.2		17.2	mg/L	0.169		(0%-20%)	MXL2	03/30/17	14:38
Fluoride		0.442		0.442	mg/L	0.136	^	(+/-0.100)		03/29/17	16:33
QC1203757881	419419008	DUP									
Chloride		155		155	mg/L	0.0935		(0%-20%)		03/30/17	20:54
Fluoride		0.232		0.229	mg/L	1.3	^	(+/-0.100)		03/30/17	00:15
QC1203757879	LCS										
Chloride	5.00			4.92	mg/L			98.5 (90%-110%)		03/29/17	15:35
Fluoride	2.50			2.52	mg/L			101 (90%-110%)			
QC1203757878	MB										
Chloride			U	ND	mg/L					03/29/17	15:06
Fluoride			U	ND	mg/L						
QC1203757882	419304001	PS									
Chloride	5.00	3.44		8.90	mg/L			109 (90%-110%)		03/30/17	15:07
Fluoride	2.50	0.442		3.02	mg/L			103 (90%-110%)		03/29/17	17:02
QC1203757883	419419008	PS									
Chloride	5.00	3.10		8.60	mg/L			110 (90%-110%)		03/30/17	21:23
Fluoride	2.50	0.232		2.61	mg/L			95 (90%-110%)		03/30/17	00:44

# GEL LABORATORIES LLC

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

## QC Summary

Workorder: 419419

Page 2 of 4

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Metals Analysis - ICPMS</b>											
Batch 1651686											
QC1203757366	419419001	DUP									
Lithium		J	5.26	J	5.18	ug/L	1.65 ^	(+/-10.0)	BAJ	03/31/17	20:49
QC1203757365	LCS										
Lithium	50.0				50.6	ug/L		101 (80%-120%)		03/31/17	20:43
QC1203757364	MB										
Lithium			U		ND	ug/L				03/31/17	20:41
QC1203757367	419419001	MS									
Lithium	50.0	J	5.26		51.0	ug/L		91.4 (75%-125%)		03/31/17	20:51
QC1203757368	419419001	SDILT									
Lithium		J	5.26	U	ND	ug/L	N/A	(0%-10%)		03/31/17	20:54
<b>Rad Gas Flow</b>											
Batch 1652760											
QC1203759832	419419008	DUP									
Radium-228		U	0.353	U	0.170	pCi/L	N/A		N/AAXM6	04/14/17	11:17
QC1203759833	LCS										
Radium-228	20.6				21.4	pCi/L		104 (75%-125%)		04/14/17	11:17
QC1203759831	MB										
Radium-228					1.46	pCi/L				04/14/17	11:16
<b>Rad Ra-226</b>											
Batch 1652782											
QC1203759884	419419006	DUP									
Radium-226		U	0.124	U	0.184	pCi/L	N/A		N/AMXH8	04/21/17	08:55
QC1203759886	LCS										
Radium-226	26.0				24.0	pCi/L		92.4 (75%-125%)		04/21/17	08:55

# GEL LABORATORIES LLC

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

## QC Summary

Workorder: 419419

Page 3 of 4

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Rad Ra-226</b>											
Batch		1652782									
QC1203759883		MB									
Radium-226			U	0.112	pCi/L				MXH8	04/21/17	08:55
QC1203759885		419419006	MS								
Radium-226	130	U	0.124	105	pCi/L		81	(75%-125%)		04/21/17	08:55

**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

Workorder: 419419

Page 4 of 4

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

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

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

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

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

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



## GEL LABORATORIES LLC

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### Certificate of Analysis Report for

GEEL003 GEL Engineering, LLC

Client SDG: 419304 GEL Work Order: 419304

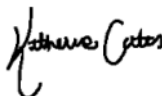
**The Qualifiers in this report are defined as follows:**

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

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

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

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



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

# GEL LABORATORIES LLC

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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: Williams 52

Client Sample ID: GW-10	Project: SCEG01616C
Sample ID: 419304001	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 27-MAR-17 11:19	
Receive Date: 28-MAR-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA300.0 Fluoride in Liquid "As Received"												
Fluoride		0.442	0.033	0.100	mg/L		1	MXL2	03/29/17	1604	1651888	1
Chloride		17.2	0.335	1.00	mg/L		5	MXL2	03/30/17	1410	1651888	2
Metals Analysis-ICP-MS												
200.8/200.2 NPDES Metals "As Received"												
Lithium		11.8	2.00	10.0	ug/L	1.00	1	BAJ	04/07/17	2009	1651280	3
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	0.487	3.00	pCi/L			AXM6	04/11/17	1203	1651318	4
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.944	0.391	1.00	pCi/L			MXH8	04/13/17	1045	1651331	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	03/28/17	0843	1651279

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

Surrogate/Tracer	Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer		GFPC, Ra228, Liquid "As Received"			91	(15%-125%)

**Notes:**

# GEL LABORATORIES LLC

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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: Williams 52

Client Sample ID: GW-10

Project: SCEG01616C

Sample ID: 419304001

Client ID: GEEL003

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Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

Lc/LC: Critical Level

DL: Detection Limit

PF: Prep Factor

MDA: Minimum Detectable Activity

RL: Reporting Limit

MDC: Minimum Detectable Concentration

SQL: Sample Quantitation Limit

# GEL LABORATORIES LLC

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## Certificate of Analysis

Report Date: April 14, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: GW-11	Project: SCEG01616C
Sample ID: 419304002	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 27-MAR-17 12:11	
Receive Date: 28-MAR-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Chloride		5.09	0.067	0.200	mg/L		1	MXL2	03/29/17	1730	1651888	1
Fluoride		0.310	0.033	0.100	mg/L		1					
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	J	3.48	2.00	10.0	ug/L	1.00	1	BAJ	04/07/17	2019	1651280	2
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	0.528	3.00	pCi/L			AXM6	04/11/17	1203	1651318	3
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226		5.50	0.352	1.00	pCi/L			MXH8	04/13/17	1045	1651331	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	03/28/17	0843	1651279

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 200.8 SC_NPDES	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

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

**Notes:**

Column headers are defined as follows:

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

# GEL LABORATORIES LLC

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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: Williams 52

Client Sample ID: GW-28	Project: SCEG01616C
Sample ID: 419304003	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 27-MAR-17 13:00	
Receive Date: 28-MAR-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Chloride		3.71	0.067	0.200	mg/L		1	MXL2	03/29/17	1759	1651888	1
Fluoride		0.145	0.033	0.100	mg/L		1					
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	U	ND	2.00	10.0	ug/L	1.00	1	BAJ	04/07/17	2022	1651280	2
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	0.510	3.00	pCi/L			AXM6	04/11/17	1203	1651318	3
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226		2.51	0.287	1.00	pCi/L			MXH8	04/13/17	1045	1651331	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	03/28/17	0843	1651279

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 200.8 SC_NPDES	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

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

**Notes:**

Column headers are defined as follows:

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

# GEL LABORATORIES LLC

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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: Williams 52

Client Sample ID: GW-27	Project: SCEG01616C
Sample ID: 419304004	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 27-MAR-17 13:53	
Receive Date: 28-MAR-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
EPA300.0 Fluoride in Liquid "As Received"												
Fluoride		0.273	0.033	0.100	mg/L		1	MXL2	03/29/17	1828	1651888	1
Chloride		13.3	0.134	0.400	mg/L		2	MXL2	03/30/17	1536	1651888	2
<b>Metals Analysis-ICP-MS</b>												
200.8/200.2 NPDES Metals "As Received"												
Lithium	U	ND	2.00	10.0	ug/L	1.00	1	BAJ	04/07/17	2025	1651280	3
<b>Rad Gas Flow Proportional Counting</b>												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	0.558	3.00	pCi/L			AXM6	04/11/17	1203	1651318	4
<b>Rad Radium-226</b>												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		3.45	0.422	1.00	pCi/L			MXH8	04/13/17	1045	1651331	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	03/28/17	0843	1651279

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			83.1	(15%-125%)

**Notes:**

# GEL LABORATORIES LLC

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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: Williams 52

Client Sample ID: GW-27

Sample ID: 419304004

Project: SCEG01616C

Client ID: GEEL003

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Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

SQL: Sample Quantitation Limit

# GEL LABORATORIES LLC

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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: Williams 52

Client Sample ID: GW-20	Project: SCEG01616C
Sample ID: 419304005	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 27-MAR-17 15:05	
Receive Date: 28-MAR-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
EPA300.0 Fluoride in Liquid "As Received"												
Fluoride		0.239	0.033	0.100	mg/L		1	MXL2	03/29/17	1857	1651888	1
Chloride		10.2	0.134	0.400	mg/L		2	MXL2	03/30/17	1605	1651888	2
<b>Metals Analysis-ICP-MS</b>												
200.8/200.2 NPDES Metals "As Received"												
Lithium	J	5.04	2.00	10.0	ug/L	1.00	1	BAJ	04/07/17	2027	1651280	3
<b>Rad Gas Flow Proportional Counting</b>												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	0.551	3.00	pCi/L			AXM6	04/11/17	1203	1651318	4
<b>Rad Radium-226</b>												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.566	0.249	1.00	pCi/L			MXH8	04/13/17	1045	1651331	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	03/28/17	0843	1651279

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			79.7	(15%-125%)

**Notes:**



# GEL LABORATORIES LLC

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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: Williams 52

Client Sample ID: GW-20

Sample ID: 419304005

Project: SCEG01616C

Client ID: GEEL003

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Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

SQL: Sample Quantitation Limit

# GEL LABORATORIES LLC

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

## QC Summary

Report Date: April 14, 2017

Page 1 of 4

GEL Engineering, LLC  
2040 Savage Rd  
Charleston, South Carolina

Contact: Robert Gardner

Workorder: 419304

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Ion Chromatography</b>											
Batch	1651888										
QC1203757880	419304001	DUP									
Chloride		17.2		17.2	mg/L	0.169		(0%-20%)	MXL2	03/30/17	14:38
Fluoride		0.442		0.442	mg/L	0.136	^	(+/-0.100)		03/29/17	16:33
QC1203757881	419419008	DUP									
Chloride		155		155	mg/L	0.0935		(0%-20%)		03/30/17	20:54
Fluoride		0.232		0.229	mg/L	1.3	^	(+/-0.100)		03/30/17	00:15
QC1203757879	LCS										
Chloride	5.00			4.92	mg/L			98.5 (90%-110%)		03/29/17	15:35
Fluoride	2.50			2.52	mg/L			101 (90%-110%)			
QC1203757878	MB										
Chloride			U	ND	mg/L					03/29/17	15:06
Fluoride			U	ND	mg/L						
QC1203757882	419304001	PS									
Chloride	5.00	3.44		8.90	mg/L			109 (90%-110%)		03/30/17	15:07
Fluoride	2.50	0.442		3.02	mg/L			103 (90%-110%)		03/29/17	17:02
QC1203757883	419419008	PS									
Chloride	5.00	3.10		8.60	mg/L			110 (90%-110%)		03/30/17	21:23
Fluoride	2.50	0.232		2.61	mg/L			95 (90%-110%)		03/30/17	00:44

# GEL LABORATORIES LLC

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

## QC Summary

Workorder: 419304

Page 2 of 4

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Metals Analysis - ICPMS</b>											
Batch	1651280										
QC1203756291		419304001	DUP								
Lithium				11.8		11.3	ug/L	3.7 ^	(+/-10.0)	BAJ	04/07/17 20:12
QC1203756290		LCS									
Lithium	50.0					49.3	ug/L		98.5 (80%-120%)		04/07/17 20:06
QC1203756289		MB									
Lithium			U			ND	ug/L				04/07/17 20:04
QC1203756292		419304001	MS								
Lithium	50.0			11.8		58.5	ug/L		93.4 (75%-125%)		04/07/17 20:14
QC1203756293		419304001	SDILT								
Lithium				11.8	J	2.38	ug/L	1.14	(0%-10%)		04/07/17 20:17
<b>Rad Gas Flow</b>											
Batch	1651318										
QC1203756431		419043004	DUP								
Radium-228			U	0.569		1.24	pCi/L	74.5	(0% - 100%)	AXM6	04/11/17 12:05
QC1203756432		LCS									
Radium-228	6.89					7.53	pCi/L		109 (75%-125%)		04/11/17 12:05
QC1203756430		MB									
Radium-228			U			0.358	pCi/L				04/11/17 12:03
<b>Rad Ra-226</b>											
Batch	1651331										
QC1203756459		419043006	DUP								
Radium-226				0.517		0.846	pCi/L	48.3	(0% - 100%)	MXH8	04/13/17 11:20
QC1203756461		LCS									
Radium-226	26.0					23.3	pCi/L		89.9 (75%-125%)		04/13/17 11:20

# GEL LABORATORIES LLC

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## QC Summary

Workorder: 419304

Page 3 of 4

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Rad Ra-226</b>											
Batch	1651331										
QC1203756458	MB										
Radium-226			U	0.0848	pCi/L				MXH8	04/13/17	10:45
QC1203756460	419043006	MS									
Radium-226	130	0.517		120	pCi/L		92	(75%-125%)		04/13/17	11:20

**Notes:**

The Qualifiers in this report are defined as follows:

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

# GEL LABORATORIES LLC

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

## QC Summary

Workorder: 419304

Page 4 of 4

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

UJ Gamma Spectroscopy--Uncertain identification

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

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

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

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

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

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

e 5-day BOD--Test replicates show more than 30% difference between high and low values. The data is qualified per the method and can be used for reporting purposes

h Preparation or preservation holding time was exceeded

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

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

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

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

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



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

January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB26448**

**Williams Hwy 52 GW 10-NPDES/CCR**

Date & Time Sampled: March 27, 2017 11:19  
 Date & Time Submitted: March 29, 2017 09:10  
 Collected by: S.RUCKER Location Code: WLG10TDS

GW 10

Login Record File: 170329002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	17.15	0.50	mg/L	4/12/17 00:04	EB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	7.14	0.00	S.U.	3/29/17 12:20	BF
Sulfates by IC EPA 300.0	5.40	0.50	mg/L	4/12/17 00:04	EB
Total Dissolved Solid-SM2540C	277	2.0	mg/L	3/31/17 14:00	CDB

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

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



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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB26449**

**Williams Hwy 52 GW 11-NPDES/CCR**

Date & Time Sampled: March 27, 2017 12:11  
 Date & Time Submitted: March 29, 2017 09:10  
 Collected by: S.RUCKER Location Code: WLG11TDS

GW 11

Login Record File: 170329002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	5.04	0.50	mg/L	4/12/17 00:04	EB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	6.46	0.00	S.U.	3/29/17 12:20	BF
Sulfates by IC EPA 300.0	1.45	0.50	mg/L	4/12/17 00:04	EB
Total Dissolved Solid-SM2540C	101	2.0	mg/L	3/31/17 14:00	CDB

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

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



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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB26450**

**Williams Hwy 52 GW 28-NPDES/CCR**

Date & Time Sampled: March 27, 2017 13:00  
 Date & Time Submitted: March 29, 2017 09:10  
 Collected by: S.RUCKER Location Code: WLG28TDS

GW 28

Login Record File: 170329002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	3.68	0.50	mg/L	4/12/17 00:04	EB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	6.60	0.00	S.U.	3/29/17 12:20	BF
Sulfates by IC EPA 300.0	0.92	0.50	mg/L	4/12/17 00:04	EB
Total Dissolved Solid-SM2540C	95	2.0	mg/L	3/31/17 14:00	CDB

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

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





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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB26451**

**Williams Hwy 52 GW 27-NPDES/CCR**

Date & Time Sampled: March 27, 2017 13:53  
 Date & Time Submitted: March 29, 2017 09:10  
 Collected by: S.RUCKER Location Code: WLG27TDS

GW 27

Login Record File: 170329002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	12.78	0.50	mg/L	4/12/17 00:04	EB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	6.98	0.00	S.U.	3/29/17 12:20	BF
Sulfates by IC EPA 300.0	11.33	0.50	mg/L	4/12/17 00:04	EB
Total Dissolved Solid-SM2540C	314	2.0	mg/L	3/31/17 14:00	CDB

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

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



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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB26452**

**Williams Hwy 52 GW 20-NPDES/CCR**

Date & Time Sampled: March 27, 2017 15:05  
 Date & Time Submitted: March 29, 2017 09:10  
 Collected by: S.RUCKER Location Code: WLG20TDS

GW 20

Login Record File: 170329002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	10.05	0.50	mg/L	4/12/17 00:04	EB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	6.73	0.00	S.U.	3/29/17 12:20	BF
Sulfates by IC EPA 300.0	10.30	0.50	mg/L	4/12/17 00:04	EB
Total Dissolved Solid-SM2540C	644	2.0	mg/L	3/31/17 14:00	CDB

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

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



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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB26453**

**Williams Hwy 52 GW 21-NPDES/CCR**

Date & Time Sampled: March 28, 2017 08:35  
 Date & Time Submitted: March 29, 2017 09:10  
 Collected by: S.RUCKER Location Code: WLG21TDS

GW 21

Login Record File: 170329002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	10.76	0.50	mg/L	4/12/17 00:04	EB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	6.94	0.00	S.U.	3/29/17 12:20	BF
Sulfates by IC EPA 300.0	8.42	0.50	mg/L	4/12/17 00:04	EB
Total Dissolved Solid-SM2540C	613	2.0	mg/L	3/31/17 14:00	CDB

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

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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB26454**

**Williams Hwy 52 DUP -NPDES/CCR**

Date & Time Sampled: March 28, 2017 09:00  
 Date & Time Submitted: March 29, 2017 09:10  
 Collected by: S.RUCKER Location Code: WLGDUPTDS

GW 10

Login Record File: 170329002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	10.75	0.50	mg/L	4/12/17 00:04	EB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	6.94	0.00	S.U.	3/29/17 12:20	BF
Sulfates by IC EPA 300.0	8.46	0.50	mg/L	4/12/17 00:04	EB
Total Dissolved Solid-SM2540C	608	2.0	mg/L	3/31/17 14:00	CDB

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

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



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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB26455**

**Williams Hwy 52 FIELD BLANK-NPDES/CCR**

Date & Time Sampled: March 28, 2017 09:15  
 Date & Time Submitted: March 29, 2017 09:10  
 Collected by: S.RUCKER Location Code: WLGFBTDS

GW 10

Login Record File: 170329002

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	4/12/17 00:04	EB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	7.55	0.00	S.U.	3/29/17 12:20	BF
Sulfates by IC EPA 300.0	Less than	0.50	mg/L	4/12/17 00:04	EB
Total Dissolved Solid-SM2540C	14	2.0	mg/L	3/31/17 14:00	CDB

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

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



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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB26456**

**Williams Hwy 52 GW 22D-NPDES/CCR**

Date & Time Sampled: March 28, 2017 10:29  
 Date & Time Submitted: March 29, 2017 09:10  
 Collected by: S.RUCKER Location Code: WLG22DTDS

GW 22D

Login Record File: 170329002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	10.18	0.50	mg/L	4/12/17 00:04	EB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	7.22	0.00	S.U.	3/29/17 12:20	BF
Sulfates by IC EPA 300.0	60.9	0.50	mg/L	4/12/17 00:04	EB
Total Dissolved Solid-SM2540C	533	2.0	mg/L	3/31/17 14:00	CDB

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

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



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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB26457**

**Williams Hwy 52 GW 23D-NPDES/CCR**

Date & Time Sampled: March 28, 2017 11:36  
 Date & Time Submitted: March 29, 2017 09:10  
 Collected by: S.RUCKER Location Code: WLG23DTDS

GW 23D

Login Record File: 170329002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	14.80	0.50	mg/L	4/12/17 00:04	EB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	7.18	0.00	S.U.	3/29/17 12:20	BF
Sulfates by IC EPA 300.0	29.89	0.50	mg/L	4/12/17 00:04	EB
Total Dissolved Solid-SM2540C	483	2.0	mg/L	3/31/17 14:00	CDB

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

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



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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB26458**

**Williams Hwy 52 GW 25-NPDES/CCR**

Date & Time Sampled: March 28, 2017 12:34  
 Date & Time Submitted: March 29, 2017 09:10  
 Collected by: S.RUCKER Location Code: WLG25TDS

GW 25

Login Record File: 170329002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	22.21	0.50	mg/L	4/12/17 00:04	EB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	7.05	0.00	S.U.	3/29/17 12:20	BF
Sulfates by IC EPA 300.0	41.24	0.50	mg/L	4/12/17 00:04	EB
Total Dissolved Solid-SM2540C	534	2.0	mg/L	3/31/17 14:00	CDB

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

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





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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB26459**

**Williams Hwy 52 GW 24-NPDES/CCR**

Date & Time Sampled: March 28, 2017 13:31  
 Date & Time Submitted: March 29, 2017 09:10  
 Collected by: S.RUCKER Location Code: WLG24TDS

GW 24

Login Record File: 170329002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	17.41	0.50	mg/L	4/12/17 00:04	EB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	6.66	0.00	S.U.	3/29/17 12:20	BF
Sulfates by IC EPA 300.0	9.28	0.50	mg/L	4/12/17 00:04	EB
Total Dissolved Solid-SM2540C	561	2.0	mg/L	3/31/17 14:00	CDB

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

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



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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB26460**

**Williams Hwy 52 GW 26-NPDES/CCR**

Date & Time Sampled: March 28, 2017 14:47  
 Date & Time Submitted: March 29, 2017 09:10  
 Collected by: S.RUCKER Location Code: WLG26TDS

GW 26

Login Record File: 170329002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	151.5	2.5	mg/L	4/12/17 00:04	EB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	6.25	0.00	S.U.	3/29/17 12:20	BF
Sulfates by IC EPA 300.0	71.5	2.5	mg/L	4/12/17 00:04	EB
Total Dissolved Solid-SM2540C	910	2.0	mg/L	3/31/17 14:00	CDB

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

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



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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB26461**

**Williams Hwy 52 GW 10-NPDES/CCR**

Date & Time Sampled: March 27, 2017 11:19  
 Date & Time Submitted: March 29, 2017 09:10  
 Collected by: S.RUCKER Location Code: WLG10TM

GW 10

Login Record File: 170329002

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	3/29/17 16:00	MC
Arsenic by ICP_MS 200.8	1.3	1.0	ppb	3/29/17 16:00	MC
Barium by ICP-OES 200.7	39.7	10.0	ppb	3/30/17 09:47	MC
Beryllium EPA 200.7	Less than	2.0	ppb	3/30/17 09:47	MC
Boron - EPA 200.7	Less than	1000	ppb	3/30/17 09:47	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Calcium EPA 200.7	38600	1000	ppb	3/30/17 09:47	MC
Chromium by ICP_MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Lead by ICP-MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Lithium (CWA) 200.7	11.8	2.0	ppb	3/30/17 09:47	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	3/30/17 14:26	PRC
Molybdenum - EPA 200.8	1.9	1.0	ppb	3/29/17 16:00	MC
Selenium by ICP-MS 200.8	Less than	5.0	ppb	3/29/17 16:00	MC
Thallium by ICP-MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC

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

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



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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB26462**

**Williams Hwy 52 GW 11-NPDES/CCR**

Date & Time Sampled: March 27, 2017 12:11  
 Date & Time Submitted: March 29, 2017 09:10  
 Collected by: S.RUCKER Location Code: WLG11TM

GW 11

Login Record File: 170329002

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	3/29/17 16:00	MC
Arsenic by ICP_MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Barium by ICP-OES 200.7	Less than	10.0	ppb	3/30/17 09:47	MC
Beryllium EPA 200.7	Less than	2.0	ppb	3/30/17 09:47	MC
Boron - EPA 200.7	Less than	1000	ppb	3/30/17 09:47	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Calcium EPA 200.7	16600	1000	ppb	3/30/17 09:47	MC
Chromium by ICP_MS 200.8	1.4	1.0	ppb	3/29/17 16:00	MC
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Lead by ICP-MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Lithium (CWA) 200.7	3.8	2.0	ppb	3/30/17 09:47	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	3/30/17 14:26	PRC
Molybdenum - EPA 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Selenium by ICP-MS 200.8	Less than	5.0	ppb	3/29/17 16:00	MC
Thallium by ICP-MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC

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

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



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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB26463**

**Williams Hwy 52 GW 28-NPDES/CCR**

Date & Time Sampled: March 27, 2017 13:00  
 Date & Time Submitted: March 29, 2017 09:10  
 Collected by: S.RUCKER Location Code: WLG28TM

GW 28

Login Record File: 170329002

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	3/29/17 16:00	MC
Arsenic by ICP_MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Barium by ICP-OES 200.7	Less than	10.0	ppb	3/30/17 09:47	MC
Beryllium EPA 200.7	Less than	2.0	ppb	3/30/17 09:47	MC
Boron - EPA 200.7	Less than	1000	ppb	3/30/17 09:47	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Calcium EPA 200.7	23800	1000	ppb	3/30/17 09:47	MC
Chromium by ICP_MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Lead by ICP-MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Lithium (CWA) 200.7	Less than	2.0	ppb	3/30/17 09:47	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	3/30/17 14:26	PRC
Molybdenum - EPA 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Selenium by ICP-MS 200.8	Less than	5.0	ppb	3/29/17 16:00	MC
Thallium by ICP-MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC

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

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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB26464**

**Williams Hwy 52 GW 27-NPDES/CCR**

Date & Time Sampled: March 27, 2017 13:53  
 Date & Time Submitted: March 29, 2017 09:10  
 Collected by: S.RUCKER Location Code: WLG27TM

GW 27

Login Record File: 170329002

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	3/29/17 16:00	MC
Arsenic by ICP_MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Barium by ICP-OES 200.7	22.4	10.0	ppb	3/30/17 09:47	MC
Beryllium EPA 200.7	Less than	2.0	ppb	3/30/17 09:47	MC
Boron - EPA 200.7	Less than	1000	ppb	3/30/17 09:47	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Calcium EPA 200.7	87100	1000	ppb	3/30/17 09:47	MC
Chromium by ICP_MS 200.8	1.7	1.0	ppb	3/29/17 16:00	MC
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Lead by ICP-MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Lithium (CWA) 200.7	Less than	2.0	ppb	3/30/17 09:47	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	3/30/17 14:26	PRC
Molybdenum - EPA 200.8	1.6	1.0	ppb	3/29/17 16:00	MC
Selenium by ICP-MS 200.8	Less than	5.0	ppb	3/29/17 16:00	MC
Thallium by ICP-MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC

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

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



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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB26465**

**Williams Hwy 52 GW 20-NPDES/CCR**

Date & Time Sampled: March 27, 2017 15:05  
 Date & Time Submitted: March 29, 2017 09:10  
 Collected by: S.RUCKER Location Code: WLG20TM

GW 20

Login Record File: 170329002

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	3/29/17 16:00	MC
Arsenic by ICP_MS 200.8	4.0	1.0	ppb	3/29/17 16:00	MC
Barium by ICP-OES 200.7	54.1	10.0	ppb	3/30/17 09:47	MC
Beryllium EPA 200.7	Less than	2.0	ppb	3/30/17 09:47	MC
Boron - EPA 200.7	Less than	1000	ppb	3/30/17 09:47	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Calcium EPA 200.7	157000	1000	ppb	3/30/17 09:47	MC
Chromium by ICP_MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Cobalt by ICP_MS 200.8	1.3	1.0	ppb	3/29/17 16:00	MC
Lead by ICP-MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Lithium (CWA) 200.7	5.4	2.0	ppb	3/30/17 09:47	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	3/30/17 14:26	PRC
Molybdenum - EPA 200.8	1.1	1.0	ppb	3/29/17 16:00	MC
Selenium by ICP-MS 200.8	Less than	5.0	ppb	3/29/17 16:00	MC
Thallium by ICP-MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC

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

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



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

January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB26466**

**Williams Hwy 52 GW 21-NPDES/CCR**

Date & Time Sampled: March 28, 2017 08:35  
 Date & Time Submitted: March 29, 2017 09:10  
 Collected by: S.RUCKER Location Code: WLG21TM

GW 21

Login Record File: 170329002

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	3/29/17 16:00	MC
Arsenic by ICP_MS 200.8	2.3	1.0	ppb	3/29/17 16:00	MC
Barium by ICP-OES 200.7	33.2	10.0	ppb	3/30/17 09:47	MC
Beryllium EPA 200.7	Less than	2.0	ppb	3/30/17 09:47	MC
Boron - EPA 200.7	Less than	1000	ppb	3/30/17 09:47	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Calcium EPA 200.7	130000	1000	ppb	3/30/17 09:47	MC
Chromium by ICP_MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Cobalt by ICP_MS 200.8	2.1	1.0	ppb	3/29/17 16:00	MC
Lead by ICP-MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Lithium (CWA) 200.7	5.0	2.0	ppb	3/30/17 09:47	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	3/30/17 14:26	PRC
Molybdenum - EPA 200.8	1.1	1.0	ppb	3/29/17 16:00	MC
Selenium by ICP-MS 200.8	Less than	5.0	ppb	3/29/17 16:00	MC
Thallium by ICP-MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC

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

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





Central Laboratory (P-08)  
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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB26467**

**Williams Hwy 52 DUP -NPDES/CCR**

Date & Time Sampled: March 28, 2017 09:00  
 Date & Time Submitted: March 29, 2017 09:10  
 Collected by: S.RUCKER Location Code: WLGDUPTM

GW 10

Login Record File: 170329002

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	3/29/17 16:00	MC
Arsenic by ICP_MS 200.8	2.3	1.0	ppb	3/29/17 16:00	MC
Barium by ICP-OES 200.7	33.5	10.0	ppb	3/30/17 09:47	MC
Beryllium EPA 200.7	Less than	2.0	ppb	3/30/17 09:47	MC
Boron - EPA 200.7	Less than	1000	ppb	3/30/17 09:47	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Calcium EPA 200.7	130000	1000	ppb	3/30/17 09:47	MC
Chromium by ICP_MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Cobalt by ICP_MS 200.8	2.0	1.0	ppb	3/29/17 16:00	MC
Lead by ICP-MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Lithium (CWA) 200.7	5.0	2.0	ppb	3/30/17 09:47	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	3/30/17 14:26	PRC
Molybdenum - EPA 200.8	1.1	1.0	ppb	3/29/17 16:00	MC
Selenium by ICP-MS 200.8	Less than	5.0	ppb	3/29/17 16:00	MC
Thallium by ICP-MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC

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

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



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

January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB26468**

**Williams Hwy 52 FIELD BLANK-NPDES/CCR**

Date & Time Sampled: March 28, 2017 09:15  
 Date & Time Submitted: March 29, 2017 09:10  
 Collected by: S.RUCKER Location Code: WLGFBTM

GW 10

Login Record File: 170329002

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	3/29/17 16:00	MC
Arsenic by ICP_MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Barium by ICP-OES 200.7	Less than	10.0	ppb	3/30/17 09:47	MC
Beryllium EPA 200.7	Less than	2.0	ppb	3/30/17 09:47	MC
Boron - EPA 200.7	Less than	1000	ppb	3/30/17 09:47	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Calcium EPA 200.7	Less than	100	ppb	3/30/17 09:47	MC
Chromium by ICP_MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Lead by ICP-MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Lithium (CWA) 200.7	Less than	2.0	ppb	3/30/17 09:47	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	3/30/17 14:26	PRC
Molybdenum - EPA 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Selenium by ICP-MS 200.8	Less than	5.0	ppb	3/29/17 16:00	MC
Thallium by ICP-MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC

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

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



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

January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB26469**

**Williams Hwy 52 GW 22D-NPDES/CCR**

Date & Time Sampled: March 28, 2017 10:29

Date & Time Submitted: March 29, 2017 09:10

Collected by: S.RUCKER Location Code: WLG22DTM

GW 22D

Login Record File: 170329002

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	3/29/17 16:00	MC
Arsenic by ICP_MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Barium by ICP-OES 200.7	Less than	10.0	ppb	3/30/17 09:47	MC
Beryllium EPA 200.7	Less than	2.0	ppb	3/30/17 09:47	MC
Boron - EPA 200.7	Less than	1000	ppb	3/30/17 09:47	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Calcium EPA 200.7	79800	1000	ppb	3/30/17 09:47	MC
Chromium by ICP_MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Lead by ICP-MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Lithium (CWA) 200.7	10.3	2.0	ppb	3/30/17 09:47	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	3/30/17 14:26	PRC
Molybdenum - EPA 200.8	8.6	1.0	ppb	3/29/17 16:00	MC
Selenium by ICP-MS 200.8	Less than	5.0	ppb	3/29/17 16:00	MC
Thallium by ICP-MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC

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

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



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

January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB26470**

**Williams Hwy 52 GW 23D-NPDES/CCR**

Date & Time Sampled: March 28, 2017 11:36  
 Date & Time Submitted: March 29, 2017 09:10  
 Collected by: S.RUCKER Location Code: WLG23DTM

GW 23D

Login Record File: 170329002

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	3/29/17 16:00	MC
Arsenic by ICP_MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Barium by ICP-OES 200.7	10.5	10.0	ppb	3/30/17 09:47	MC
Beryllium EPA 200.7	Less than	2.0	ppb	3/30/17 09:47	MC
Boron - EPA 200.7	Less than	1000	ppb	3/30/17 09:47	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Calcium EPA 200.7	71700	1000	ppb	3/30/17 09:47	MC
Chromium by ICP_MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Lead by ICP-MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Lithium (CWA) 200.7	6.9	2.0	ppb	3/30/17 09:47	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	3/30/17 14:26	PRC
Molybdenum - EPA 200.8	9.9	1.0	ppb	3/29/17 16:00	MC
Selenium by ICP-MS 200.8	Less than	5.0	ppb	3/29/17 16:00	MC
Thallium by ICP-MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC

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

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



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 Fax: (803) 217-9911

January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB26471**

**Williams Hwy 52 GW 25-NPDES/CCR**

Date & Time Sampled: March 28, 2017 12:34  
 Date & Time Submitted: March 29, 2017 09:10  
 Collected by: S.RUCKER Location Code: WLG25TM

GW 25

Login Record File: 170329002

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	3/29/17 16:00	MC
Arsenic by ICP_MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Barium by ICP-OES 200.7	17.4	10.0	ppb	3/30/17 09:47	MC
Beryllium EPA 200.7	Less than	2.0	ppb	3/30/17 09:47	MC
Boron - EPA 200.7	Less than	1000	ppb	3/30/17 09:47	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Calcium EPA 200.7	110000	1000	ppb	3/30/17 09:47	MC
Chromium by ICP_MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Lead by ICP-MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Lithium (CWA) 200.7	9.3	2.0	ppb	3/30/17 09:47	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	3/30/17 14:26	PRC
Molybdenum - EPA 200.8	3.7	1.0	ppb	3/29/17 16:00	MC
Selenium by ICP-MS 200.8	Less than	5.0	ppb	3/29/17 16:00	MC
Thallium by ICP-MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC

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

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



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

January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB26472**

**Williams Hwy 52 GW 24-NPDES/CCR**

Date & Time Sampled: March 28, 2017 13:31  
 Date & Time Submitted: March 29, 2017 09:10  
 Collected by: S.RUCKER Location Code: WLG24TM

GW 24

Login Record File: 170329002

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	3/29/17 16:00	MC
Arsenic by ICP_MS 200.8	1.5	1.0	ppb	3/29/17 16:00	MC
Barium by ICP-OES 200.7	51.1	10.0	ppb	3/30/17 09:47	MC
Beryllium EPA 200.7	Less than	2.0	ppb	3/30/17 09:47	MC
Boron - EPA 200.7	Less than	1000	ppb	3/30/17 09:47	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Calcium EPA 200.7	146000	1000	ppb	3/30/17 09:47	MC
Chromium by ICP_MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Cobalt by ICP_MS 200.8	1.6	1.0	ppb	3/29/17 16:00	MC
Lead by ICP-MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Lithium (CWA) 200.7	4.2	2.0	ppb	3/30/17 09:47	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	3/30/17 14:26	PRC
Molybdenum - EPA 200.8	1.1	1.0	ppb	3/29/17 16:00	MC
Selenium by ICP-MS 200.8	Less than	5.0	ppb	3/29/17 16:00	MC
Thallium by ICP-MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC

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

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



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 Fax: (803) 217-9911

January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB26473**

**Williams Hwy 52 GW 26-NPDES/CCR**

Date & Time Sampled: March 28, 2017 14:47  
 Date & Time Submitted: March 29, 2017 09:10  
 Collected by: S.RUCKER Location Code: WLG26TM

GW 26

Login Record File: 170329002

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	3/29/17 16:00	MC
Arsenic by ICP_MS 200.8	4.4	1.0	ppb	3/29/17 16:00	MC
Barium by ICP-OES 200.7	78.9	10.0	ppb	3/30/17 09:47	MC
Beryllium EPA 200.7	Less than	2.0	ppb	3/30/17 09:47	MC
Boron - EPA 200.7	Less than	1000	ppb	3/30/17 09:47	MC
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Calcium EPA 200.7	165000	1000	ppb	3/30/17 09:47	MC
Chromium by ICP_MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Cobalt by ICP_MS 200.8	7.1	1.0	ppb	3/29/17 16:00	MC
Lead by ICP-MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Lithium (CWA) 200.7	2.5	2.0	ppb	3/30/17 09:47	MC
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	3/30/17 14:26	PRC
Molybdenum - EPA 200.8	Less than	1.0	ppb	3/29/17 16:00	MC
Selenium by ICP-MS 200.8	Less than	5.0	ppb	3/29/17 16:00	MC
Thallium by ICP-MS 200.8	Less than	1.0	ppb	3/29/17 16:00	MC

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

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

**EPA CCR Rule Compliance Monitoring Wells  
Groundwater Monitoring Data  
South Carolina Electric & Gas: Williams Station Highway 52 Class Three Landfill**

Gauging Date:05/23-25/2017				Final Water Quality Indicator Parameters					
Monitoring Well ID	PVC Pipe Elevation, ft.	Depth to Groundwater, ft.	Groundwater Elevation, ft.	Temperature °C	pH S.U.	Sp. Cond. µS/cm	Turbidity NTU	ORP mV	DO mg/L
GW-10	52.28	7.96	44.32	20	7.4	506	7.36	-85.0	1.01
GW-11	51.72	11.10	40.62	20.6	7.0	250	7.28	-7.5	1.28
GW-20	60.81	21.56	39.25	22.1	6.3	1,065	9.56	5.6	0.73
GW-21	56.14	17.70	38.44	21.5	6.5	1,026	6.47	0.9	0.77
GW-22D	50.36	16.97	33.39	22.2	6.9	885	6.36	151	1.07
GW-23D	49.69	14.72	34.97	21.7	7.0	794	5.69	3.8	0.87
GW-24	52.40	16.35	36.05	21.7	6.4	917	6.12	-13.4	0.64
GW-25	50.93	15.69	35.24	21.7	6.8	889	5.63	-2.4	1.14
GW-26	55.21	25.25	29.96	22.4	5.9	1,452	5.74	-14.8	0.79
GW-27	53.25	8.33	44.92	20.1	6.6	599	6.54	-24.5	1.05
GW-28	51.22	10.38	40.84	20.8	6.4	165	5.69	31.7	3.61



## GEL LABORATORIES LLC

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

### Certificate of Analysis Report for

GEEL003 GEL Engineering, LLC

Client SDG: 424115 GEL Work Order: 424115

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

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

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

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

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

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



# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: June 21, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: GW-22D	Project: SCEG01616C
Sample ID: 424115001	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 24-MAY-17 09:12	
Receive Date: 25-MAY-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
EPA300.0 Fluoride in Liquid "As Received"												
Fluoride		0.252	0.033	0.100	mg/L		1	MXL2	06/03/17	0838	1670502	1
Chloride		9.17	0.134	0.400	mg/L		2	MXL2	06/05/17	1616	1670502	2
<b>Metals Analysis-ICP-MS</b>												
200.8/200.2 NPDES Metals "As Received"												
Lithium		12.4	2.00	10.0	ug/L	1.00	1	BAJ	05/27/17	1708	1668713	3
<b>Rad Gas Flow Proportional Counting</b>												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	1.16	3.00	pCi/L			BXF1	06/19/17	1529	1668804	4
<b>Rad Radium-226</b>												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.273	0.232	1.00	pCi/L			MXH8	06/21/17	0820	1668815	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	05/26/17	0852	1668711

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

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

**Notes:**

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: June 21, 2017

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd

Charleston, South Carolina 29417

Contact: Robert Gardner  
Project: Williams 52

Client Sample ID: GW-22D  
Sample ID: 424115001

Project: SCEG01616C  
Client ID: GEEL003

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Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

SQL: Sample Quantitation Limit

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: June 21, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: GW-23D	Project: SCEG01616C
Sample ID: 424115002	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 24-MAY-17 10:05	
Receive Date: 25-MAY-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Fluoride		0.317	0.033	0.100	mg/L		1	MXL2	06/03/17	0907	1670502	1
Chloride		14.2	0.134	0.400	mg/L		2	MXL2	06/05/17	1645	1670502	2
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	J	8.90	2.00	10.0	ug/L	1.00	1	BAJ	05/27/17	1727	1668713	3
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	1.80	3.00	pCi/L			BXF1	06/19/17	1529	1668804	4
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226		0.471	0.180	1.00	pCi/L			MXH8	06/21/17	0820	1668815	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	05/26/17	0852	1668711

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			97.6	(15%-125%)

**Notes:**

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: June 21, 2017

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd

Charleston, South Carolina 29417

Contact: Robert Gardner  
Project: Williams 52

Client Sample ID: GW-23D  
Sample ID: 424115002

Project: SCEG01616C  
Client ID: GEEL003

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Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

SQL: Sample Quantitation Limit

# GEL LABORATORIES LLC

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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: Williams 52

Client Sample ID: GW-25	Project: SCEG01616C
Sample ID: 424115003	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 24-MAY-17 10:56	
Receive Date: 25-MAY-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Fluoride		0.546	0.033	0.100	mg/L		1	MXL2	06/03/17	0937	1670502	1
Chloride		20.3	0.335	1.00	mg/L		5	MXL2	06/05/17	1714	1670502	2
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium		10.5	2.00	10.0	ug/L	1.00	1	BAJ	05/27/17	1740	1668713	3
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	1.10	3.00	pCi/L			BXF1	06/19/17	1529	1668804	4
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226		0.202	0.172	1.00	pCi/L			MXH8	06/21/17	0820	1668815	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	05/26/17	0852	1668711

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

Surrogate/Tracer	Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer		GFPC, Ra228, Liquid "As Received"			92	(15%-125%)

**Notes:**

# GEL LABORATORIES LLC

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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: Williams 52

Client Sample ID: GW-25

Sample ID: 424115003

Project: SCEG01616C

Client ID: GEEL003

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Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

SQL: Sample Quantitation Limit

# GEL LABORATORIES LLC

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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: Williams 52

Client Sample ID: GW-24	Project: SCEG01616C
Sample ID: 424115004	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 24-MAY-17 12:00	
Receive Date: 25-MAY-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Fluoride		0.390	0.033	0.100	mg/L		1	MXL2	06/03/17	1006	1670502	1
Chloride		17.2	0.134	0.400	mg/L		2	MXL2	06/05/17	1744	1670502	2
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	J	3.84	2.00	10.0	ug/L	1.00	1	BAJ	05/27/17	1743	1668713	3
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	1.63	3.00	pCi/L			BXF1	06/19/17	1529	1668804	4
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226		0.266	0.157	1.00	pCi/L			MXH8	06/21/17	0820	1668815	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	05/26/17	0852	1668711

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

Surrogate/Tracer	Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer		GFPC, Ra228, Liquid "As Received"			94.7	(15%-125%)

**Notes:**



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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: Williams 52

Client Sample ID: GW-24

Sample ID: 424115004

Project: SCEG01616C

Client ID: GEEL003

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Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

SQL: Sample Quantitation Limit

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## Certificate of Analysis

Report Date: June 21, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: GW-26	Project: SCEG01616C
Sample ID: 424115005	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 24-MAY-17 13:06	
Receive Date: 25-MAY-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Fluoride		0.165	0.033	0.100	mg/L		1	MXL2	06/03/17	1035	1670502	1
Chloride		137	3.35	10.0	mg/L		50	MXL2	06/05/17	1813	1670502	2
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	J	2.86	2.00	10.0	ug/L	1.00	1	BAJ	05/27/17	1746	1668713	3
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	1.36	3.00	pCi/L			BXF1	06/19/17	1529	1668804	4
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226	U	ND	0.372	1.00	pCi/L			MXH8	06/21/17	0820	1668815	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	05/26/17	0852	1668711

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			78	(15%-125%)

**Notes:**

# GEL LABORATORIES LLC

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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: Williams 52

Client Sample ID: GW-26

Project: SCEG01616C

Sample ID: 424115005

Client ID: GEEL003

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Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

Lc/LC: Critical Level

DL: Detection Limit

PF: Prep Factor

MDA: Minimum Detectable Activity

RL: Reporting Limit

MDC: Minimum Detectable Concentration

SQL: Sample Quantitation Limit

# GEL LABORATORIES LLC

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## Certificate of Analysis

Report Date: June 21, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: GW-10	Project: SCEG01616C
Sample ID: 424115006	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 25-MAY-17 09:20	
Receive Date: 25-MAY-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Fluoride		0.368	0.033	0.100	mg/L		1	MXL2	06/03/17	1204	1670502	1
Chloride		15.7	0.134	0.400	mg/L		2	MXL2	06/05/17	1843	1670502	2
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium		39.8	2.00	10.0	ug/L	1.00	1	BAJ	05/27/17	1750	1668713	3
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	1.29	3.00	pCi/L			BXF1	06/19/17	1650	1668804	4
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226		0.630	0.166	1.00	pCi/L			MXH8	06/21/17	0820	1668815	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	05/26/17	0852	1668711

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

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

**Notes:**

# GEL LABORATORIES LLC

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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: Williams 52

Client Sample ID: GW-10

Project: SCEG01616C

Sample ID: 424115006

Client ID: GEEL003

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Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

Lc/LC: Critical Level

DL: Detection Limit

PF: Prep Factor

MDA: Minimum Detectable Activity

RL: Reporting Limit

MDC: Minimum Detectable Concentration

SQL: Sample Quantitation Limit

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: June 21, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: GW-11	Project: SCEG01616C
Sample ID: 424115007	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 25-MAY-17 10:20	
Receive Date: 25-MAY-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Chloride		5.33	0.067	0.200	mg/L		1	MXL2	06/03/17	1233	1670502	1
Fluoride		0.336	0.033	0.100	mg/L		1					
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	J	4.00	2.00	10.0	ug/L	1.00	1	BAJ	05/27/17	1759	1668713	2
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	1.01	3.00	pCi/L			BXF1	06/19/17	1529	1668804	3
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226		0.435	0.145	1.00	pCi/L			MXH8	06/21/17	0820	1668815	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	05/26/17	0852	1668711

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 200.8 SC_NPDES	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			95.3	(15%-125%)

**Notes:**

Column headers are defined as follows:

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

# GEL LABORATORIES LLC

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

## QC Summary

Report Date: June 21, 2017

Page 1 of 4

GEL Engineering, LLC  
2040 Savage Rd  
Charleston, South Carolina

Contact: Robert Gardner

Workorder: 424115

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Ion Chromatography</b>											
Batch	1670502										
QC1203802629	424115007	DUP									
Chloride		5.33		5.33	mg/L	0.00375		(0%-20%)	MXL2	06/03/17	13:02
Fluoride		0.336		0.345	mg/L	2.44	^	(+/-0.100)			
QC1203802628	LCS										
Chloride	5.00			4.57	mg/L			(90%-110%)		06/03/17	08:08
Fluoride	2.50			2.31	mg/L			(90%-110%)			
QC1203802627	MB										
Chloride			U	ND	mg/L					06/03/17	07:39
Fluoride			U	ND	mg/L						
QC1203802630	424115007	PS									
Chloride	5.00	5.33		10.6	mg/L			(90%-110%)		06/03/17	13:32
Fluoride	2.50	0.336		2.70	mg/L			(90%-110%)			
<b>Metals Analysis - ICPMS</b>											
Batch	1668713										
QC1203798168	424115001	DUP									
Lithium		12.4		12.2	ug/L	0.919	^	(+/-10.0)	BAJ	05/27/17	17:12
QC1203798169	424115002	DUP									
Lithium	J	8.90	J	9.32	ug/L	4.65	^	(+/-10.0)		05/27/17	17:31
QC1203798167	LCS										
Lithium	50.0			52.4	ug/L			(80%-120%)		05/27/17	17:05

# GEL LABORATORIES LLC

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## QC Summary

Workorder: 424115

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Metals Analysis - ICPMS</b>											
Batch	1668713										
QC1203798166		MB									
Lithium			U	ND	ug/L				BAJ	05/27/17	17:02
QC1203798170	424115001	MS									
Lithium	50.0	12.4		61.0	ug/L		97.3	(75%-125%)		05/27/17	17:15
QC1203798171	424115002	MS									
Lithium	50.0	J	8.90	59.6	ug/L		101	(75%-125%)		05/27/17	17:34
QC1203798172	424115001	SDILT									
Lithium		12.4	J	2.45	ug/L	.777		(0%-10%)		05/27/17	17:18
QC1203798173	424115002	SDILT									
Lithium		J	8.90	U	ND	ug/L	N/A	(0%-10%)		05/27/17	17:37
<b>Rad Gas Flow</b>											
Batch	1668804										
QC1203798409	424115006	DUP									
Radium-228		U	0.561	U	0.390	pCi/L	N/A		N/A	BXF1	06/19/17 16:50
QC1203798410	LCS										
Radium-228	20.2			19.0	pCi/L		94.1	(75%-125%)		06/19/17	15:33
QC1203798408	MB										
Radium-228			U	0.546	pCi/L					06/19/17	15:29
<b>Rad Ra-226</b>											
Batch	1668815										
QC1203798449	424115006	DUP									
Radium-226		0.630		0.725	pCi/L	14.1		(0% - 100%)	MXH8	06/21/17	09:30
QC1203798451	LCS										
Radium-226	26.0			20.0	pCi/L		77.2	(75%-125%)		06/21/17	09:30



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## QC Summary

Workorder: 424115

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Rad Ra-226</b>											
Batch	1668815										
QC1203798448	MB										
Radium-226			U	0.0822	pCi/L				MXH8	06/21/17	09:30
QC1203798450	424115006 MS										
Radium-226	130	0.630		120	pCi/L		91.8	(75%-125%)		06/21/17	09:30

**Notes:**

The Qualifiers in this report are defined as follows:

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

Workorder: 424115

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

UJ Gamma Spectroscopy--Uncertain identification

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

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

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

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

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

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

e 5-day BOD--Test replicates show more than 30% difference between high and low values. The data is qualified per the method and can be used for reporting purposes

h Preparation or preservation holding time was exceeded

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

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

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

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

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

## GEL LABORATORIES LLC

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

### Certificate of Analysis Report for

GEEL003 GEL Engineering, LLC

Client SDG: 423868 GEL Work Order: 423868

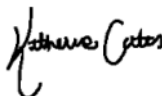
**The Qualifiers in this report are defined as follows:**

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

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

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

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



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

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: June 15, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: GW-27	Project: SCEG01616C
Sample ID: 423868001	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 23-MAY-17 10:45	
Receive Date: 23-MAY-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Fluoride		0.244	0.033	0.100	mg/L		1	MAR1	06/01/17	1212	1668347	1
Chloride		12.2	0.134	0.400	mg/L		2	MAR1	06/02/17	1430	1668347	2
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	U	ND	2.00	10.0	ug/L	1.00	1	BAJ	05/30/17	1407	1667907	3
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	1.51	3.00	pCi/L			BXF1	06/13/17	1501	1668800	4
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226		0.537	0.287	1.00	pCi/L			MXH8	06/14/17	0920	1668812	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	05/24/17	0735	1667906

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			95.9	(15%-125%)

**Notes:**

# GEL LABORATORIES LLC

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## Certificate of Analysis

Report Date: June 15, 2017

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd

Charleston, South Carolina 29417

Contact: Robert Gardner  
Project: Williams 52

Client Sample ID: GW-27

Project: SCEG01616C

Sample ID: 423868001

Client ID: GEEL003

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Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

Lc/LC: Critical Level

DL: Detection Limit

PF: Prep Factor

MDA: Minimum Detectable Activity

RL: Reporting Limit

MDC: Minimum Detectable Concentration

SQL: Sample Quantitation Limit

# GEL LABORATORIES LLC

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## Certificate of Analysis

Report Date: June 15, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: GW-28	Project: SCEG01616C
Sample ID: 423868002	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 23-MAY-17 11:37	
Receive Date: 23-MAY-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Chloride		3.52	0.067	0.200	mg/L		1	MAR1	06/01/17	1241	1668347	1
Fluoride	J	0.0851	0.033	0.100	mg/L		1					
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	U	ND	2.00	10.0	ug/L	1.00	1	BAJ	05/30/17	1427	1667907	2
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	1.52	3.00	pCi/L			BXF1	06/13/17	1501	1668800	3
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226	U	ND	0.337	1.00	pCi/L			MXH8	06/14/17	0920	1668812	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	05/24/17	0735	1667906

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 200.8 SC_NPDES	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

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

**Notes:**

Column headers are defined as follows:

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

# GEL LABORATORIES LLC

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## Certificate of Analysis

Report Date: June 15, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: GW-20	Project: SCEG01616C
Sample ID: 423868003	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 23-MAY-17 12:19	
Receive Date: 23-MAY-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Chloride		9.78	0.067	0.200	mg/L		1	MAR1	06/02/17	1458	1668347	1
Fluoride		0.182	0.033	0.100	mg/L		1					
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	J	5.86	2.00	10.0	ug/L	1.00	1	BAJ	05/30/17	1430	1667907	2
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	1.38	3.00	pCi/L			BXF1	06/13/17	1458	1668800	3
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226	U	ND	0.387	1.00	pCi/L			MXH8	06/14/17	0920	1668812	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	05/24/17	0735	1667906

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 200.8 SC_NPDES	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

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

**Notes:**

Column headers are defined as follows:

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

# GEL LABORATORIES LLC

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## Certificate of Analysis

Report Date: June 15, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: Field Blank	Project: SCEG01616C
Sample ID: 423868004	Client ID: GEEL003
Matrix: Water	
Collect Date: 23-MAY-17 12:25	
Receive Date: 23-MAY-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Chloride	U	ND	0.067	0.200	mg/L		1	MAR1	06/01/17	1339	1668347	1
Fluoride	U	ND	0.033	0.100	mg/L		1					
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	U	ND	2.00	10.0	ug/L	1.00	1	BAJ	05/30/17	1433	1667907	2
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	1.59	3.00	pCi/L			BXF1	06/13/17	1458	1668800	3
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226	U	ND	0.351	1.00	pCi/L			MXH8	06/14/17	0920	1668812	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	05/24/17	0735	1667906

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 200.8 SC_NPDES	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			97.8	(15%-125%)

**Notes:**

Column headers are defined as follows:

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



# GEL LABORATORIES LLC

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## Certificate of Analysis

Report Date: June 15, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: GW-21	Project: SCEG01616C
Sample ID: 423868005	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 23-MAY-17 13:12	
Receive Date: 23-MAY-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Fluoride		0.172	0.033	0.100	mg/L		1	MAR1	06/01/17	1408	1668347	1
Chloride		10.0	0.134	0.400	mg/L		2	MAR1	06/02/17	1527	1668347	2
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	J	6.06	2.00	10.0	ug/L	1.00	1	BAJ	05/30/17	1436	1667907	3
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	1.45	3.00	pCi/L			BXF1	06/13/17	1458	1668800	4
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226		0.326	0.166	1.00	pCi/L			MXH8	06/14/17	0920	1668812	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	05/24/17	0735	1667906

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

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

**Notes:**

# GEL LABORATORIES LLC

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## Certificate of Analysis

Report Date: June 15, 2017

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd

Charleston, South Carolina 29417

Contact: Robert Gardner  
Project: Williams 52

Client Sample ID: GW-21

Sample ID: 423868005

Project: SCEG01616C

Client ID: GEEL003

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Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

SQL: Sample Quantitation Limit

# GEL LABORATORIES LLC

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## Certificate of Analysis

Report Date: June 15, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: dup	Project: SCEG01616C
Sample ID: 423868006	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 23-MAY-17 13:30	
Receive Date: 23-MAY-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Fluoride		0.184	0.033	0.100	mg/L		1	MAR1	06/01/17	1436	1668347	1
Chloride		9.96	0.134	0.400	mg/L		2	MAR1	06/02/17	1556	1668347	2
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	J	6.20	2.00	10.0	ug/L	1.00	1	BAJ	05/30/17	1439	1667907	3
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	1.32	3.00	pCi/L			BXF1	06/13/17	1615	1668800	4
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226	U	ND	0.325	1.00	pCi/L			MXH8	06/14/17	0920	1668812	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	SXW1	05/24/17	0735	1667906

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			94.3	(15%-125%)

**Notes:**

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: June 15, 2017

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd

Charleston, South Carolina 29417

Contact: Robert Gardner  
Project: Williams 52

Client Sample ID: dup

Sample ID: 423868006

Project: SCEG01616C

Client ID: GEEL003

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Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

SQL: Sample Quantitation Limit

# GEL LABORATORIES LLC

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

## QC Summary

Report Date: June 15, 2017

Page 1 of 4

GEL Engineering, LLC  
2040 Savage Rd  
Charleston, South Carolina

Contact: Robert Gardner

Workorder: 423868

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Ion Chromatography</b>											
Batch	1668347										
QC1203797356	423868006	DUP									
Chloride		9.96		9.95	mg/L	0.119		(0%-20%)	MAR1	06/02/17	16:25
Fluoride		0.184		0.182	mg/L	1.53	^	(+/-0.100)		06/01/17	15:05
QC1203797355	LCS										
Chloride	5.00			4.51	mg/L			(90%-110%)		06/01/17	11:43
Fluoride	2.50			2.37	mg/L			(90%-110%)			
QC1203797354	MB										
Chloride			U	ND	mg/L					06/01/17	11:14
Fluoride			U	ND	mg/L						
QC1203797357	423868006	PS									
Chloride	5.00	4.98		10.3	mg/L			(90%-110%)		06/02/17	16:54
Fluoride	2.50	0.184		2.58	mg/L			(90%-110%)		06/01/17	15:34
<b>Metals Analysis - ICPMS</b>											
Batch	1667907										
QC1203796211	423868001	DUP									
Lithium		U	ND	U	ND	ug/L	N/A		BAJ	05/30/17	14:11
QC1203796210	LCS										
Lithium	50.0			53.3	ug/L			(80%-120%)		05/30/17	14:04
QC1203796209	MB										
Lithium			U	ND	ug/L					05/30/17	14:01

# GEL LABORATORIES LLC

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

## QC Summary

Workorder: 423868

Page 2 of 4

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Metals Analysis - ICPMS</b>											
Batch	1667907										
QC1203796212	423868001	MS									
Lithium	50.0	U	ND	49.6	ug/L		97.3	(75%-125%)	BAJ	05/30/17	14:14
QC1203796213	423868001	SDILT									
Lithium		U	ND U	ND	ug/L	N/A		(0%-10%)		05/30/17	14:17
<b>Rad Gas Flow</b>											
Batch	1668800										
QC1203798393	421339005	DUP									
Radium-228		U	0.515	1.27	pCi/L	84.8		(0% - 100%)	BXF1	06/13/17	16:15
QC1203798396	LCS										
Radium-228	15.2			16.1	pCi/L		106	(75%-125%)		06/13/17	16:15
QC1203798392	MB										
Radium-228			U	0.337	pCi/L					06/13/17	14:57
QC1203798394	421339005	MS									
Radium-228	61.9	U	0.515	67.4	pCi/L		109	(75%-125%)		06/13/17	14:57
QC1203798395	421339005	MSD									
Radium-228	61.9	U	0.515	55.1	pCi/L	20.1*	88.9	(0%-20%)		06/13/17	14:57
<b>Rad Ra-226</b>											
Batch	1668812										
QC1203798435	421339005	DUP									
Radium-226			0.265	0.361	pCi/L	30.6		(0% - 100%)	MXH8	06/14/17	09:50
QC1203798438	LCS										
Radium-226	16.2			14.3	pCi/L		87.9	(75%-125%)		06/14/17	09:50
QC1203798434	MB										
Radium-226			U	0.0537	pCi/L					06/14/17	09:50

# GEL LABORATORIES LLC

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

## QC Summary

Workorder: 423868

Page 3 of 4

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Rad Ra-226</b>											
Batch	1668812										
QC1203798436	421339005	MS									
Radium-226	130	0.265		119	pCi/L		91.3	(75%-125%)	MXH8	06/14/17	09:50
QC1203798437	421339005	MSD									
Radium-226	130	0.265		116	pCi/L	2.07	89.4	(0%-20%)		06/14/17	09:50

**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

# GEL LABORATORIES LLC

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

## QC Summary

Workorder: 423868

Page 4 of 4

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

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

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

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

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

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





Central Laboratory (P-08)  
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 Fax: (803) 217-9911

January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB27250**

**Williams Hwy 52 GW 27-NPDES/CCR**

Date & Time Sampled: May 23, 2017 10:45  
 Date & Time Submitted: May 25, 2017 12:43  
 Collected by: C.SANDEL Location Code: WLG27TDS

GW 27

Login Record File: 170525002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	12.94	0.50	mg/L	5/27/17 00:43	EB & BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	7.18	0.00	S.U.	5/25/17 15:25	BF
Sulfates by IC EPA 300.0	13.97	0.50	mg/L	5/27/17 00:43	EB & BB
Total Dissolved Solid-SM2540C	330	2.0	mg/L	5/26/17 13:00	BF

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

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



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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB27251**

**Williams Hwy 52 GW 28-NPDES/CCR**

Date & Time Sampled: May 23, 2017 11:37  
 Date & Time Submitted: May 25, 2017 12:43  
 Collected by: C.SANDEL Location Code: WLG28TDS

GW 28

Login Record File: 170525002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	3.98	0.50	mg/L	5/27/17 00:43	EB & BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	6.58	0.00	S.U.	5/25/17 15:25	BF
Sulfates by IC EPA 300.0	1.36	0.50	mg/L	5/27/17 00:43	EB & BB
Total Dissolved Solid-SM2540C	68	2.0	mg/L	5/26/17 13:00	BF

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

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



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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB27252**

**Williams Hwy 52 GW 20-NPDES/CCR**

Date & Time Sampled: May 23, 2017 12:19  
 Date & Time Submitted: May 25, 2017 12:43  
 Collected by: C.SANDEL Location Code: WLG20TDS

GW 20

Login Record File: 170525002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	9.06	0.50	mg/L	5/27/17 00:43	EB & BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	6.82	0.00	S.U.	5/25/17 15:25	BF
Sulfates by IC EPA 300.0	9.91	0.50	mg/L	5/27/17 00:43	EB & BB
Total Dissolved Solid-SM2540C	619	2.0	mg/L	5/26/17 13:00	BF

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

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



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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB27253**

**Williams Hwy 52 FIELD BLANK-NPDES/CCR**

Date & Time Sampled: May 23, 2017 12:25  
 Date & Time Submitted: May 25, 2017 12:43  
 Collected by: C.SANDEL Location Code: WLGFBTDS

GW 10

Login Record File: 170525002

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	5/27/17 00:43	EB & BB
pH by SM4500HB(2011)	7.14	0.00	S.U.	5/25/17 15:25	BF
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC EPA 300.0	Less than	0.50	mg/L	5/27/17 00:43	EB & BB
Total Dissolved Solid-SM2540C	14	2.0	mg/L	5/26/17 13:00	BF

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

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



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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB27254**

**Williams Hwy 52 GW 21-NPDES/CCR**

Date & Time Sampled: May 23, 2017 13:12  
 Date & Time Submitted: May 25, 2017 12:43  
 Collected by: C.SANDEL Location Code: WLG21TDS

GW 21

Login Record File: 170525002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	9.91	0.50	mg/L	5/27/17 00:43	EB & BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	6.86	0.00	S.U.	5/25/17 15:25	BF
Sulfates by IC EPA 300.0	9.35	0.50	mg/L	5/27/17 00:43	EB & BB
Total Dissolved Solid-SM2540C	575	2.0	mg/L	5/26/17 13:00	BF

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

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



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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB27255**

**Williams Hwy 52 DUP -NPDES/CCR**

Date & Time Sampled: May 23, 2017 13:30  
 Date & Time Submitted: May 25, 2017 12:43  
 Collected by: C.SANDEL Location Code: WLGDUPTDS

GW 10

Login Record File: 170525002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	9.89	0.50	mg/L	5/27/17 00:43	EB & BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	6.89	0.00	S.U.	5/25/17 15:25	BF
Sulfates by IC EPA 300.0	9.30	0.50	mg/L	5/27/17 00:43	EB & BB
Total Dissolved Solid-SM2540C	602	2.0	mg/L	5/26/17 13:00	BF

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

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



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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB27256**

**Williams Hwy 52 GW 22D-NPDES/CCR**

Date & Time Sampled: May 24, 2017 09:12

Date & Time Submitted: May 25, 2017 12:43

Collected by: C.SANDEL Location Code: WLG22DTDS

GW 22D

Login Record File: 170525002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	9.35	0.50	mg/L	5/27/17 00:43	EB & BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	7.18	0.00	S.U.	5/25/17 15:25	BF
Sulfates by IC EPA 300.0	77	0.50	mg/L	5/27/17 00:43	EB & BB
Total Dissolved Solid-SM2540C	550	2.0	mg/L	5/26/17 13:00	BF

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

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



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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB27257**

**Williams Hwy 52 GW 23D-NPDES/CCR**

Date & Time Sampled: May 24, 2017 10:05

Date & Time Submitted: May 25, 2017 12:43

Collected by: C.SANDEL Location Code: WLG23DTDS

GW 23D

Login Record File: 170525002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	13.90	0.50	mg/L	5/27/17 00:43	EB & BB
pH by SM4500HB(2011)	7.28	0.00	S.U.	5/25/17 15:25	BF
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC EPA 300.0	31.39	0.50	mg/L	5/27/17 00:43	EB & BB
Total Dissolved Solid-SM2540C	492	2.0	mg/L	5/26/17 13:00	BF

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

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





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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB27258**

**Williams Hwy 52 GW 25-NPDES/CCR**

Date & Time Sampled: May 24, 2017 10:56  
 Date & Time Submitted: May 25, 2017 12:43  
 Collected by: C.SANDEL Location Code: WLG25TDS

GW 25

Login Record File: 170525002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	21.7	0.50	mg/L	5/27/17 00:43	EB & BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	7.02	0.00	S.U.	5/25/17 15:25	BF
Sulfates by IC EPA 300.0	51.3	0.50	mg/L	5/27/17 00:43	EB & BB
Total Dissolved Solid-SM2540C	536	2.0	mg/L	5/26/17 13:00	BF

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

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



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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB27259**

**Williams Hwy 52 GW 24-NPDES/CCR**

Date & Time Sampled: May 24, 2017 12:00  
 Date & Time Submitted: May 25, 2017 12:43  
 Collected by: C.SANDEL Location Code: WLG24TDS

GW 24

Login Record File: 170525002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	16.37	0.50	mg/L	5/27/17 00:43	EB & BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	6.78	0.00	S.U.	5/25/17 15:25	BF
Sulfates by IC EPA 300.0	9.06	0.50	mg/L	5/30/17 00:43	EB & BB
Total Dissolved Solid-SM2540C	510	2.0	mg/L	5/26/17 13:00	BF

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

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



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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB27260**

**Williams Hwy 52 GW 26-NPDES/CCR**

Date & Time Sampled: May 24, 2017 13:06  
 Date & Time Submitted: May 25, 2017 12:43  
 Collected by: C.SANDEL Location Code: WLG26TDS

GW 26

Login Record File: 170525002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	68.0	0.50	mg/L	5/27/17 00:43	EB & BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	6.29	0.00	S.U.	5/25/17 15:25	BF
Sulfates by IC EPA 300.0	35.33	0.50	mg/L	5/27/17 00:43	EB & BB
Total Dissolved Solid-SM2540C	878	2.0	mg/L	5/26/17 13:00	BF

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

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



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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB27261**

**Williams Hwy 52 GW 10-NPDES/CCR**

Date & Time Sampled: May 25, 2017 09:20  
 Date & Time Submitted: May 25, 2017 12:43  
 Collected by: C.SANDEL Location Code: WLG10TDS

GW 10

Login Record File: 170525002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	16.42	0.50	mg/L	5/27/17 00:43	EB & BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	7.07	0.00	S.U.	5/25/17 15:25	BF
Sulfates by IC EPA 300.0	4.95	0.50	mg/L	5/27/17 00:43	EB & BB
Total Dissolved Solid-SM2540C	241	2.0	mg/L	5/26/17 13:00	BF

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

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



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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB27262**

**Williams Hwy 52 GW 11-NPDES/CCR**

Date & Time Sampled: May 25, 2017 10:20  
 Date & Time Submitted: May 25, 2017 12:43  
 Collected by: C.SANDEL Location Code: WLG11TDS

GW 11

Login Record File: 170525002

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	5.16	0.50	mg/L	5/27/17 00:43	EB & BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	7.00	0.00	S.U.	5/25/17 15:25	BF
Sulfates by IC EPA 300.0	1.34	0.50	mg/L	5/27/17 00:43	EB & BB
Total Dissolved Solid-SM2540C	98	2.0	mg/L	5/26/17 13:00	BF

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

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



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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB27263**

**Williams Hwy 52 GW 27-NPDES/CCR**

Date & Time Sampled: May 23, 2017 10:45  
 Date & Time Submitted: May 25, 2017 12:43  
 Collected by: C.SANDEL Location Code: WLG27TM

GW 27

Login Record File: 170525002

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	5/31/17 15:43	CDB
Arsenic by ICP_MS 200.8	1.2	1.0	ppb	5/31/17 15:43	CDB
Barium by ICP-OES 200.7	23.4	10.0	ppb	5/31/17 16:30	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	5/31/17 16:30	CDB
Boron - EPA 200.7	Less than	1000	ppb	5/31/17 16:30	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Calcium EPA 200.7	94600	1000	ppb	5/31/17 16:30	CDB
Chromium by ICP_MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Lead by ICP-MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Lithium (CWA) 200.7	Less than	2.0	ppb	5/31/17 16:30	CDB
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	6/16/17 14:33	PRC
Molybdenum - EPA 200.8	1.4	1.0	ppb	5/31/17 15:43	CDB
Selenium by ICP-MS 200.8	Less than	5.0	ppb	5/31/17 15:43	CDB
Thallium by ICP-MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB

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

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



Central Laboratory (P-08)  
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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB27264**

**Williams Hwy 52 GW 28-NPDES/CCR**

Date & Time Sampled: May 23, 2017 11:37  
 Date & Time Submitted: May 25, 2017 12:43  
 Collected by: C.SANDEL Location Code: WLG28TM

GW 28

Login Record File: 170525002

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	5/31/17 15:43	CDB
Arsenic by ICP_MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Barium by ICP-OES 200.7	Less than	10.0	ppb	5/31/17 16:30	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	5/31/17 16:30	CDB
Boron - EPA 200.7	Less than	1000	ppb	5/31/17 16:30	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Calcium EPA 200.7	17300	1000	ppb	5/31/17 16:30	CDB
Chromium by ICP_MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Lead by ICP-MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Lithium (CWA) 200.7	Less than	2.0	ppb	5/31/17 16:30	CDB
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	6/16/17 14:33	PRC
Molybdenum - EPA 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Selenium by ICP-MS 200.8	Less than	5.0	ppb	5/31/17 15:43	CDB
Thallium by ICP-MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB

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

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



Central Laboratory (P-08)  
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 Tel: (803)217-9384  
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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB27265**

**Williams Hwy 52 GW 20-NPDES/CCR**

Date & Time Sampled: May 23, 2017 12:19  
 Date & Time Submitted: May 25, 2017 12:43  
 Collected by: C.SANDEL Location Code: WLG20TM

GW 20

Login Record File: 170525002

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	5/31/17 15:43	CDB
Arsenic by ICP_MS 200.8	4.2	1.0	ppb	5/31/17 15:43	CDB
Barium by ICP-OES 200.7	54.0	10.0	ppb	5/31/17 16:30	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	5/31/17 16:30	CDB
Boron - EPA 200.7	Less than	1000	ppb	5/31/17 16:30	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Calcium EPA 200.7	158900	1000	ppb	5/31/17 16:30	CDB
Chromium by ICP_MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Cobalt by ICP_MS 200.8	1.4	1.0	ppb	5/31/17 15:43	CDB
Lead by ICP-MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Lithium (CWA) 200.7	5.2	2.0	ppb	5/31/17 16:30	CDB
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	6/16/17 14:33	PRC
Molybdenum - EPA 200.8	1.1	1.0	ppb	5/31/17 15:43	CDB
Selenium by ICP-MS 200.8	Less than	5.0	ppb	5/31/17 15:43	CDB
Thallium by ICP-MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB

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

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





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

January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB27266**

**Williams Hwy 52 FIELD BLANK-NPDES/CCR**

Date & Time Sampled: May 23, 2017 12:25  
 Date & Time Submitted: May 25, 2017 12:43  
 Collected by: C.SANDEL Location Code: WLGFBTM

GW 10

Login Record File: 170525002

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	5/31/17 15:43	CDB
Arsenic by ICP_MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Barium by ICP-OES 200.7	Less than	10.0	ppb	5/31/17 16:30	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	5/31/17 16:30	CDB
Boron - EPA 200.7	Less than	1000	ppb	5/31/17 16:30	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Calcium EPA 200.7	Less than	100	ppb	5/31/17 16:30	CDB
Chromium by ICP_MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Lead by ICP-MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Lithium (CWA) 200.7	Less than	2.0	ppb	5/31/17 16:30	CDB
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	6/16/17 14:33	PRC
Molybdenum - EPA 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Selenium by ICP-MS 200.8	Less than	5.0	ppb	5/31/17 15:43	CDB
Thallium by ICP-MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB

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

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



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

January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB27267**

**Williams Hwy 52 GW 21-NPDES/CCR**

Date & Time Sampled: May 23, 2017 13:12  
 Date & Time Submitted: May 25, 2017 12:43  
 Collected by: C.SANDEL Location Code: WLG21TM

GW 21

Login Record File: 170525002

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	5/31/17 15:43	CDB
Arsenic by ICP_MS 200.8	2.8	1.0	ppb	5/31/17 15:43	CDB
Barium by ICP-OES 200.7	34.5	10.0	ppb	5/31/17 16:30	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	5/31/17 16:30	CDB
Boron - EPA 200.7	Less than	1000	ppb	5/31/17 16:30	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Calcium EPA 200.7	130800	1000	ppb	5/31/17 16:30	CDB
Chromium by ICP_MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Cobalt by ICP_MS 200.8	1.2	1.0	ppb	5/31/17 15:43	CDB
Lead by ICP-MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Lithium (CWA) 200.7	5.4	2.0	ppb	5/31/17 16:30	CDB
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	6/16/17 14:33	PRC
Molybdenum - EPA 200.8	1.1	1.0	ppb	5/31/17 15:43	CDB
Selenium by ICP-MS 200.8	Less than	5.0	ppb	5/31/17 15:43	CDB
Thallium by ICP-MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB

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

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



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 Fax: (803) 217-9911

January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB27268**

**Williams Hwy 52 DUP -NPDES/CCR**

Date & Time Sampled: May 23, 2017 13:30  
 Date & Time Submitted: May 25, 2017 12:43  
 Collected by: C.SANDEL Location Code: WLGDUPTM

GW 10

Login Record File: 170525002

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	5/31/17 15:43	CDB
Arsenic by ICP_MS 200.8	2.8	1.0	ppb	5/31/17 15:43	CDB
Barium by ICP-OES 200.7	35.6	10.0	ppb	5/31/17 16:30	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	5/31/17 16:30	CDB
Boron - EPA 200.7	Less than	1000	ppb	5/31/17 16:30	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Calcium EPA 200.7	130500	1000	ppb	5/31/17 16:30	CDB
Chromium by ICP_MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Cobalt by ICP_MS 200.8	1.2	1.0	ppb	5/31/17 15:43	CDB
Lead by ICP-MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Lithium (CWA) 200.7	5.5	2.0	ppb	5/31/17 16:30	CDB
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	6/16/17 14:33	PRC
Molybdenum - EPA 200.8	1.1	1.0	ppb	5/31/17 15:43	CDB
Selenium by ICP-MS 200.8	Less than	5.0	ppb	5/31/17 15:43	CDB
Thallium by ICP-MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB

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

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



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January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB27269**

**Williams Hwy 52 GW 22D-NPDES/CCR**

Date & Time Sampled: May 24, 2017 09:12  
 Date & Time Submitted: May 25, 2017 12:43  
 Collected by: C.SANDEL Location Code: WLG22DTM

GW 22D

Login Record File: 170525002

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	5/31/17 15:43	CDB
Arsenic by ICP_MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Barium by ICP-OES 200.7	Less than	10.0	ppb	5/31/17 16:30	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	5/31/17 16:30	CDB
Boron - EPA 200.7	Less than	1000	ppb	5/31/17 16:30	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Calcium EPA 200.7	86000	1000	ppb	5/31/17 16:30	CDB
Chromium by ICP_MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Lead by ICP-MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Lithium (CWA) 200.7	10.3	2.0	ppb	5/31/17 16:30	CDB
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	6/16/17 14:33	PRC
Molybdenum - EPA 200.8	9.2	1.0	ppb	5/31/17 15:43	CDB
Selenium by ICP-MS 200.8	Less than	5.0	ppb	5/31/17 15:43	CDB
Thallium by ICP-MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB

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

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



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

January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB27270**

**Williams Hwy 52 GW 23D-NPDES/CCR**

Date & Time Sampled: May 24, 2017 10:05  
 Date & Time Submitted: May 25, 2017 12:43  
 Collected by: C.SANDEL Location Code: WLG23DTM

GW 23D

Login Record File: 170525002

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	5/31/17 15:43	CDB
Arsenic by ICP_MS 200.8	1.1	1.0	ppb	5/31/17 15:43	CDB
Barium by ICP-OES 200.7	Less than	10.0	ppb	5/31/17 16:30	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	5/31/17 16:30	CDB
Boron - EPA 200.7	Less than	1000	ppb	5/31/17 16:30	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Calcium EPA 200.7	71880	1000	ppb	5/31/17 16:30	CDB
Chromium by ICP_MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Lead by ICP-MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Lithium (CWA) 200.7	7.5	2.0	ppb	5/31/17 16:30	CDB
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	6/16/17 14:33	PRC
Molybdenum - EPA 200.8	12.8	1.0	ppb	5/31/17 15:43	CDB
Selenium by ICP-MS 200.8	Less than	5.0	ppb	5/31/17 15:43	CDB
Thallium by ICP-MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB

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

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



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

January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB27271**

**Williams Hwy 52 GW 25-NPDES/CCR**

Date & Time Sampled: May 24, 2017 10:56  
 Date & Time Submitted: May 25, 2017 12:43  
 Collected by: C.SANDEL Location Code: WLG25TM

GW 25

Login Record File: 170525002

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	5/31/17 15:43	CDB
Arsenic by ICP_MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Barium by ICP-OES 200.7	14.6	10.0	ppb	5/31/17 16:30	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	5/31/17 16:30	CDB
Boron - EPA 200.7	Less than	1000	ppb	5/31/17 16:30	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Calcium EPA 200.7	110100	1000	ppb	5/31/17 16:30	CDB
Chromium by ICP_MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Lead by ICP-MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Lithium (CWA) 200.7	8.8	2.0	ppb	5/31/17 16:30	CDB
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	6/16/17 14:33	PRC
Molybdenum - EPA 200.8	3.7	1.0	ppb	5/31/17 15:43	CDB
Selenium by ICP-MS 200.8	Less than	5.0	ppb	5/31/17 15:43	CDB
Thallium by ICP-MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB

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

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



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 Fax: (803) 217-9911

January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB27272**

**Williams Hwy 52 GW 24-NPDES/CCR**

Date & Time Sampled: May 24, 2017 12:00  
 Date & Time Submitted: May 25, 2017 12:43  
 Collected by: C.SANDEL Location Code: WLG24TM

GW 24

Login Record File: 170525002

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	5/31/17 15:43	CDB
Arsenic by ICP_MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Barium by ICP-OES 200.7	46.1	10.0	ppb	5/31/17 16:30	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	5/31/17 16:30	CDB
Boron - EPA 200.7	Less than	1000	ppb	5/31/17 16:30	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Calcium EPA 200.7	138700	1000	ppb	5/31/17 16:30	CDB
Chromium by ICP_MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Cobalt by ICP_MS 200.8	1.4	1.0	ppb	5/31/17 15:43	CDB
Lead by ICP-MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Lithium (CWA) 200.7	3.4	2.0	ppb	5/31/17 16:30	CDB
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	6/16/17 14:33	PRC
Molybdenum - EPA 200.8	1.0	1.0	ppb	5/31/17 15:43	CDB
Selenium by ICP-MS 200.8	Less than	5.0	ppb	5/31/17 15:43	CDB
Thallium by ICP-MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB

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

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



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

January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB27273**

**Williams Hwy 52 GW 26-NPDES/CCR**

Date & Time Sampled: May 24, 2017 13:06  
 Date & Time Submitted: May 25, 2017 12:43  
 Collected by: C.SANDEL Location Code: WLG26TM

GW 26

Login Record File: 170525002

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	5/31/17 15:43	CDB
Arsenic by ICP_MS 200.8	4.5	1.0	ppb	5/31/17 15:43	CDB
Barium by ICP-OES 200.7	72.9	10.0	ppb	5/31/17 16:30	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	5/31/17 16:30	CDB
Boron - EPA 200.7	Less than	1000	ppb	5/31/17 16:30	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Calcium EPA 200.7	157800	1000	ppb	5/31/17 16:30	CDB
Chromium by ICP_MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Cobalt by ICP_MS 200.8	7.2	1.0	ppb	5/31/17 15:43	CDB
Lead by ICP-MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Lithium (CWA) 200.7	2.2	2.0	ppb	5/31/17 16:30	CDB
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	6/16/17 14:33	PRC
Molybdenum - EPA 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Selenium by ICP-MS 200.8	Less than	5.0	ppb	5/31/17 15:43	CDB
Thallium by ICP-MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB

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

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





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

January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB27274**

**Williams Hwy 52 GW 10-NPDES/CCR**

Date & Time Sampled: May 25, 2017 09:20  
 Date & Time Submitted: May 25, 2017 12:43  
 Collected by: C.SANDEL Location Code: WLG10TM

GW 10

Login Record File: 170525002

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	5/31/17 15:43	CDB
Arsenic by ICP_MS 200.8	1.2	1.0	ppb	5/31/17 15:43	CDB
Barium by ICP-OES 200.7	128	10.0	ppb	5/31/17 16:30	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	5/31/17 16:30	CDB
Boron - EPA 200.7	Less than	1000	ppb	5/31/17 16:30	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Calcium EPA 200.7	32340	1000	ppb	5/31/17 16:30	CDB
Chromium by ICP_MS 200.8	3.9	1.0	ppb	5/31/17 15:43	CDB
Cobalt by ICP_MS 200.8	1.2	1.0	ppb	5/31/17 15:43	CDB
Lead by ICP-MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Lithium (CWA) 200.7	31.0	2.0	ppb	5/31/17 16:30	CDB
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	6/16/17 14:33	PRC
Molybdenum - EPA 200.8	2.7	1.0	ppb	5/31/17 15:43	CDB
Selenium by ICP-MS 200.8	Less than	5.0	ppb	5/31/17 15:43	CDB
Thallium by ICP-MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB

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

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



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

January 25, 2018

REPORT TO:
Mike Moore C221

Sample ID: **AB27275**

**Williams Hwy 52 GW 11-NPDES/CCR**

Date & Time Sampled: May 25, 2017 10:20  
 Date & Time Submitted: May 25, 2017 12:43  
 Collected by: C.SANDEL Location Code: WLG11TM

GW 11

Login Record File: 170525002

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	5/31/17 15:43	CDB
Arsenic by ICP_MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Barium by ICP-OES 200.7	Less than	10.0	ppb	5/31/17 16:30	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	5/31/17 16:30	CDB
Boron - EPA 200.7	Less than	1000	ppb	5/31/17 16:30	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Calcium EPA 200.7	19320	1000	ppb	5/31/17 16:30	CDB
Chromium by ICP_MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Cobalt by ICP_MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Lead by ICP-MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Lithium (CWA) 200.7	3.8	2.0	ppb	5/31/17 16:30	CDB
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	6/16/17 14:33	PRC
Molybdenum - EPA 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB
Selenium by ICP-MS 200.8	Less than	5.0	ppb	5/31/17 15:43	CDB
Thallium by ICP-MS 200.8	Less than	1.0	ppb	5/31/17 15:43	CDB

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

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

**EPA CCR Rule Compliance Monitoring Wells  
Groundwater Monitoring Data  
South Carolina Electric & Gas: Williams Station Highway 52 Class Three Landfill**

Gauging Date:07/25-26/2017				Final Water Quality Indicator Parameters					
Monitoring Well ID	PVC Pipe Elevation, ft.	Depth to Groundwater, ft.	Groundwater Elevation, ft.	Temperature °C	pH S.U.	Sp. Cond. µS/cm	Turbidity NTU	ORP mV	DO mg/L
GW-10	52.28	7.29	44.99	22.2	7.7	493	5.66	-18.0	0.4
GW-11	51.72	10.67	41.05	22.8	7.1	317	5.16	-1.9	0.45
GW-20	60.81	20.90	39.91	22.1	6.5	1,077	5.79	-6.1	0.45
GW-21	56.14	16.33	39.81	22.4	6.6	1,035	6.31	10.9	0.47
GW-22D	50.36	15.08	35.28	24.0	6.9	947	9.22	-87.9	0.48
GW-23D	49.69	13.92	35.77	22.7	6.9	850	7.85	22.6	1.13
GW-24	52.40	15.35	37.05	21.8	6.4	935	6.15	-19.2	1.44
GW-25	50.93	14.75	36.18	21.6	6.7	972	6.54	1.3	1.87
GW-26	55.21	24.32	30.89	19.9	6.0	1,540	7.23	-19.1	0.83
GW-27	53.25	7.42	45.83	20.9	6.9	661	5.13	-37.2	0.70
GW-28	51.22	9.57	41.65	22.9	7.0	270	5.35	-18.4	0.47

## GEL LABORATORIES LLC

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

### Certificate of Analysis Report for

GEEL003 GEL Engineering, LLC

Client SDG: 428949 GEL Work Order: 428949

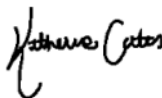
**The Qualifiers in this report are defined as follows:**

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

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

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

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



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

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: August 15, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: GW-27	Project: SCEG01615C
Sample ID: 428949001	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 25-JUL-17 10:52	
Receive Date: 26-JUL-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Fluoride		0.265	0.033	0.100	mg/L		1	MXL2	07/28/17	2126	1686727	1
Chloride		16.2	0.134	0.400	mg/L		2	MXL2	07/31/17	1633	1686727	2
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	U	ND	2.00	10.0	ug/L	1.00	1	SKJ	08/10/17	1530	1686062	3
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	1.31	3.00	pCi/L			JXC9	08/15/17	1117	1686439	4
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226		1.63	0.676	1.00	pCi/L			MXH8	08/10/17	0925	1686419	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	JXM8	07/27/17	1700	1686061

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

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

**Notes:**

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: August 15, 2017

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd

Charleston, South Carolina 29417

Contact: Robert Gardner  
Project: Williams 52

Client Sample ID: GW-27

Sample ID: 428949001

Project: SCEG01615C

Client ID: GEEL003

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Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

SQL: Sample Quantitation Limit

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: August 15, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: Field Blank	Project: SCEG01615C
Sample ID: 428949002	Client ID: GEEL003
Matrix: Water	
Collect Date: 25-JUL-17 11:30	
Receive Date: 26-JUL-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Chloride	J	0.0815	0.067	0.200	mg/L		1	MXL2	07/28/17	2253	1686727	1
Fluoride	U	ND	0.033	0.100	mg/L		1					
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	U	ND	2.00	10.0	ug/L	1.00	1	SKJ	08/10/17	1554	1686062	2
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	1.10	3.00	pCi/L			JXC9	08/15/17	1117	1686439	3
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226	U	ND	0.535	1.00	pCi/L			MXH8	08/10/17	0925	1686419	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	JXM8	07/27/17	1700	1686061

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 200.8 SC_NPDES	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			96.6	(15%-125%)

**Notes:**

Column headers are defined as follows:

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

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: August 15, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: GW-10	Project: SCEG01615C
Sample ID: 428949003	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 25-JUL-17 11:35	
Receive Date: 26-JUL-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Fluoride		0.515	0.033	0.100	mg/L		1	MXL2	07/28/17	2322	1686727	1
Chloride		17.1	0.335	1.00	mg/L		5	MXL2	07/31/17	1800	1686727	2
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium		34.5	2.00	10.0	ug/L	1.00	1	SKJ	08/10/17	1558	1686062	3
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	1.46	3.00	pCi/L			JXC9	08/15/17	1118	1686439	4
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226	U	ND	0.424	1.00	pCi/L			MXH8	08/10/17	0925	1686419	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	JXM8	07/27/17	1700	1686061

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	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:**



# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: August 15, 2017

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd

Charleston, South Carolina 29417

Contact: Robert Gardner  
Project: Williams 52

Client Sample ID: GW-10

Sample ID: 428949003

Project: SCEG01615C

Client ID: GEEL003

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Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

SQL: Sample Quantitation Limit

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: August 15, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: GW-11	Project: SCEG01615C
Sample ID: 428949004	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 25-JUL-17 12:20	
Receive Date: 26-JUL-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Chloride		5.83	0.067	0.200	mg/L		1	MXL2	07/28/17	2351	1686727	1
Fluoride		0.324	0.033	0.100	mg/L		1					
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	J	4.51	2.00	10.0	ug/L	1.00	1	SKJ	08/10/17	1602	1686062	2
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	0.860	3.00	pCi/L			JXC9	08/15/17	1118	1686439	3
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226		4.55	0.399	1.00	pCi/L			MXH8	08/10/17	0925	1686419	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	JXM8	07/27/17	1700	1686061

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 200.8 SC_NPDES	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			101	(15%-125%)

**Notes:**

Column headers are defined as follows:

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

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: August 15, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: GW-28	Project: SCEG01615C
Sample ID: 428949005	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 25-JUL-17 13:07	
Receive Date: 26-JUL-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
EPA300.0 Fluoride in Liquid "As Received"												
Chloride		3.58	0.067	0.200	mg/L		1	MXL2	07/29/17	0019	1686727	1
Fluoride	J	0.0938	0.033	0.100	mg/L		1					
<b>Metals Analysis-ICP-MS</b>												
200.8/200.2 NPDES Metals "As Received"												
Lithium	U	ND	2.00	10.0	ug/L	1.00	1	SKJ	08/10/17	1606	1686062	2
<b>Rad Gas Flow Proportional Counting</b>												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	1.79	3.00	pCi/L			JXC9	08/15/17	1118	1686439	3
<b>Rad Radium-226</b>												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.39	0.475	1.00	pCi/L			MXH8	08/10/17	0925	1686419	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	JXM8	07/27/17	1700	1686061

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 200.8 SC_NPDES	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			91.3	(15%-125%)

**Notes:**

Column headers are defined as follows:

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

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: August 15, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: DUP	Project: SCEG01615C
Sample ID: 428949006	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 25-JUL-17 13:20	
Receive Date: 26-JUL-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Chloride		3.54	0.067	0.200	mg/L		1	MXL2	07/29/17	0048	1686727	1
Fluoride	J	0.0974	0.033	0.100	mg/L		1					
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	U	ND	2.00	10.0	ug/L	1.00	1	SKJ	08/10/17	1630	1686062	2
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	1.44	3.00	pCi/L			JXC9	08/15/17	1118	1686439	3
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226		0.856	0.587	1.00	pCi/L			MXH8	08/10/17	0955	1686419	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	JXM8	07/27/17	1700	1686061

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 200.8 SC_NPDES	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			106	(15%-125%)

**Notes:**

Column headers are defined as follows:

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

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: August 15, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: GW-20	Project: SCEG01615C
Sample ID: 428949007	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 25-JUL-17 14:13	
Receive Date: 26-JUL-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Chloride		9.74	0.067	0.200	mg/L		1	MXL2	07/29/17	0215	1686727	1
Fluoride		0.175	0.033	0.100	mg/L		1					
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	J	6.99	2.00	10.0	ug/L	1.00	1	SKJ	08/10/17	1634	1686062	2
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	1.01	3.00	pCi/L			JXC9	08/15/17	1118	1686439	3
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226	U	ND	0.581	1.00	pCi/L			MXH8	08/10/17	0955	1686419	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	JXM8	07/27/17	1700	1686061

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 200.8 SC_NPDES	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			102	(15%-125%)

**Notes:**

Column headers are defined as follows:

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

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: August 15, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: GW-21	Project: SCEG01615C
Sample ID: 428949008	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 25-JUL-17 14:54	
Receive Date: 26-JUL-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Fluoride		0.161	0.033	0.100	mg/L		1	MXL2	07/29/17	0244	1686727	1
Chloride		9.60	0.134	0.400	mg/L		2	MXL2	07/31/17	1829	1686727	2
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	J	7.26	2.00	10.0	ug/L	1.00	1	SKJ	08/10/17	1637	1686062	3
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	1.15	3.00	pCi/L			JXC9	08/15/17	1118	1686439	4
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226	U	ND	0.528	1.00	pCi/L			MXH8	08/10/17	0955	1686419	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	JXM8	07/27/17	1700	1686061

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			102	(15%-125%)

**Notes:**

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: August 15, 2017

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd

Charleston, South Carolina 29417

Contact: Robert Gardner  
Project: Williams 52

Client Sample ID: GW-21

Sample ID: 428949008

Project: SCEG01615C

Client ID: GEEL003

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Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

SQL: Sample Quantitation Limit

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: August 15, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: GW-22D	Project: SCEG01615C
Sample ID: 428949009	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 25-JUL-17 15:37	
Receive Date: 26-JUL-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Fluoride		0.250	0.033	0.100	mg/L		1	MXL2	07/29/17	0313	1686727	1
Chloride		9.69	0.134	0.400	mg/L		2	MXL2	07/31/17	1858	1686727	2
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium		12.9	2.00	10.0	ug/L	1.00	1	SKJ	08/10/17	1641	1686062	3
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	1.60	3.00	pCi/L			JXC9	08/15/17	1118	1686439	4
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226	U	ND	0.641	1.00	pCi/L			MXH8	08/10/17	0955	1686419	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	JXM8	07/27/17	1700	1686061

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			80.8	(15%-125%)

**Notes:**



# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: August 15, 2017

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd

Charleston, South Carolina 29417  
Contact: Robert Gardner  
Project: Williams 52

Client Sample ID: GW-22D  
Sample ID: 428949009

Project: SCEG01615C  
Client ID: GEEL003

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Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

SQL: Sample Quantitation Limit

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: August 15, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: GW-23D	Project: SCEG01615C
Sample ID: 428949010	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 26-JUL-17 10:31	
Receive Date: 26-JUL-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Fluoride		0.318	0.033	0.100	mg/L		1	MXL2	07/29/17	0342	1686727	1
Chloride		14.6	0.134	0.400	mg/L		2	MXL2	07/31/17	2024	1686727	2
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	J	9.21	2.00	10.0	ug/L	1.00	1	SKJ	08/10/17	1653	1686062	3
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	1.23	3.00	pCi/L			JXC9	08/15/17	1118	1686439	4
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226		0.745	0.335	1.00	pCi/L			MXH8	08/10/17	0955	1686419	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	JXM8	07/27/17	1700	1686061

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			102	(15%-125%)

**Notes:**

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: August 15, 2017

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd

Charleston, South Carolina 29417

Contact: Robert Gardner  
Project: Williams 52

Client Sample ID: GW-23D  
Sample ID: 428949010

Project: SCEG01615C  
Client ID: GEEL003

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Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

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

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: August 15, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: GW-25	Project: SCEG01615C
Sample ID: 428949011	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 26-JUL-17 11:13	
Receive Date: 26-JUL-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Fluoride		0.530	0.033	0.100	mg/L		1	MXL2	07/29/17	0411	1686727	1
Chloride		21.2	0.335	1.00	mg/L		5	MXL2	07/31/17	2053	1686727	2
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium		10.8	2.00	10.0	ug/L	1.00	1	SKJ	08/10/17	1657	1686062	3
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228		1.03	0.936	3.00	pCi/L			JXC9	08/15/17	1118	1686439	4
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226	U	ND	0.523	1.00	pCi/L			MXH8	08/10/17	0955	1686419	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	JXM8	07/27/17	1700	1686061

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			101	(15%-125%)

**Notes:**

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: August 15, 2017

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd

Charleston, South Carolina 29417

Contact: Robert Gardner  
Project: Williams 52

Client Sample ID: GW-25

Project: SCEG01615C

Sample ID: 428949011

Client ID: GEEL003

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Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

Lc/LC: Critical Level

DL: Detection Limit

PF: Prep Factor

MDA: Minimum Detectable Activity

RL: Reporting Limit

MDC: Minimum Detectable Concentration

SQL: Sample Quantitation Limit

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: August 15, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: GW-24	Project: SCEG01615C
Sample ID: 428949012	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 26-JUL-17 11:48	
Receive Date: 26-JUL-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
EPA300.0 Fluoride in Liquid "As Received"												
Fluoride		0.362	0.033	0.100	mg/L		1	MXL2	07/29/17	0440	1686727	1
Chloride		17.5	0.335	1.00	mg/L		5	MXL2	07/31/17	2122	1686727	2
<b>Metals Analysis-ICP-MS</b>												
200.8/200.2 NPDES Metals "As Received"												
Lithium	J	5.00	2.00	10.0	ug/L	1.00	1	SKJ	08/10/17	1701	1686062	3
<b>Rad Gas Flow Proportional Counting</b>												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	ND	1.08	3.00	pCi/L			JXC9	08/15/17	1118	1686439	4
<b>Rad Radium-226</b>												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226	U	ND	0.485	1.00	pCi/L			MXH8	08/10/17	0955	1686419	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	JXM8	07/27/17	1700	1686061

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			98.1	(15%-125%)

**Notes:**

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: August 15, 2017

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd

Charleston, South Carolina 29417

Contact: Robert Gardner  
Project: Williams 52

Client Sample ID: GW-24

Sample ID: 428949012

Project: SCEG01615C

Client ID: GEEL003

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Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

SQL: Sample Quantitation Limit

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: August 15, 2017

Company : GEL Engineering, LLC  
 Address : 2040 Savage Rd  
  
 Charleston, South Carolina 29417  
 Contact: Robert Gardner  
 Project: Williams 52

Client Sample ID: GW-26	Project: SCEG01615C
Sample ID: 428949013	Client ID: GEEL003
Matrix: Ground Water	
Collect Date: 26-JUL-17 12:30	
Receive Date: 26-JUL-17	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>												
<b>EPA300.0 Fluoride in Liquid "As Received"</b>												
Fluoride		0.193	0.033	0.100	mg/L		1	MXL2	07/29/17	0509	1686727	1
Chloride		150	1.34	4.00	mg/L		20	MXL2	08/01/17	1207	1686727	2
<b>Metals Analysis-ICP-MS</b>												
<b>200.8/200.2 NPDES Metals "As Received"</b>												
Lithium	J	2.49	2.00	10.0	ug/L	1.00	1	SKJ	08/10/17	1705	1686062	3
<b>Rad Gas Flow Proportional Counting</b>												
<b>GFPC, Ra228, Liquid "As Received"</b>												
Radium-228	U	ND	1.16	3.00	pCi/L			JXC9	08/15/17	1118	1686439	4
<b>Rad Radium-226</b>												
<b>Lucas Cell, Ra226, liquid "As Received"</b>												
Radium-226		8.26	0.613	1.00	pCi/L			MXH8	08/10/17	0955	1686419	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	JXM8	07/27/17	1700	1686061

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 200.8 SC_NPDES	
4	EPA 904.0/SW846 9320 Modified	
5	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			102	(15%-125%)

**Notes:**



# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: August 15, 2017

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd

Charleston, South Carolina 29417

Contact: Robert Gardner  
Project: Williams 52

Client Sample ID: GW-26

Sample ID: 428949013

Project: SCEG01615C

Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

SQL: Sample Quantitation Limit

# GEL LABORATORIES LLC

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

## QC Summary

Report Date: August 15, 2017

Page 1 of 4

GEL Engineering, LLC  
2040 Savage Rd  
Charleston, South Carolina

Contact: Robert Gardner

Workorder: 428949

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Ion Chromatography</b>											
Batch	1686727										
QC1203841824	428949001	DUP									
Chloride		16.2		16.1	mg/L	0.232		(0%-20%)	MXL2	07/31/17	17:02
Fluoride		0.265		0.265	mg/L	0.113	^	(+/-0.100)		07/28/17	21:55
QC1203841825	428949013	DUP									
Chloride		150		150	mg/L	0.188		(0%-20%)		08/01/17	12:36
Fluoride		0.193		0.192	mg/L	0.936	^	(+/-0.100)		07/29/17	05:38
QC1203841823	LCS										
Chloride	5.00			4.87	mg/L			97.4	(90%-110%)	07/28/17	20:57
Fluoride	2.50			2.45	mg/L			98.1	(90%-110%)		
QC1203841822	MB										
Chloride			U	ND	mg/L					07/28/17	20:28
Fluoride			U	ND	mg/L						
QC1203841826	428949001	PS									
Chloride	5.00	8.08		13.6	mg/L			110	(90%-110%)	07/31/17	17:31
Fluoride	2.50	0.265		2.58	mg/L			92.4	(90%-110%)	07/28/17	22:24
QC1203841827	428949013	PS									
Chloride	5.00	7.49		13.0	mg/L			110	(90%-110%)	08/01/17	13:05
Fluoride	2.50	0.193		2.50	mg/L			92.3	(90%-110%)	07/29/17	06:06

# GEL LABORATORIES LLC

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

## QC Summary

Workorder: 428949

Page 2 of 4

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Metals Analysis - ICPMS</b>											
Batch 1686062											
QC1203840117	428949001	DUP									
Lithium		U	ND	U	ND	ug/L	N/A		SKJ	08/10/17	15:34
QC1203840118	428949005	DUP									
Lithium		U	ND	U	ND	ug/L	N/A			08/10/17	16:10
QC1203840116	LCS										
Lithium	50.0				50.4	ug/L	101	(80%-120%)		08/10/17	15:27
QC1203840115	MB										
Lithium			U		ND	ug/L				08/10/17	15:23
QC1203840119	428949001	MS									
Lithium	50.0	U	ND		47.8	ug/L	93.6	(75%-125%)		08/10/17	15:38
QC1203840120	428949005	MS									
Lithium	50.0	U	ND		52.5	ug/L	101	(75%-125%)		08/10/17	16:14
QC1203840121	428949001	SDILT									
Lithium		U	ND	U	ND	ug/L	N/A	(0%-10%)		08/10/17	15:42
QC1203840122	428949005	SDILT									
Lithium		U	ND	U	ND	ug/L	N/A	(0%-10%)		08/10/17	16:18
<b>Rad Gas Flow</b>											
Batch 1686439											
QC1203840968	428949003	DUP									
Radium-228		U	0.925	U	0.600	pCi/L	N/A		N/A	JXC9	08/15/17 11:26
QC1203840969	LCS										
Radium-228	19.8				15.7	pCi/L	79.3	(75%-125%)		08/15/17	11:26
QC1203840967	MB										
Radium-228			U		0.741	pCi/L				08/15/17	11:26

# GEL LABORATORIES LLC

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

## QC Summary

Workorder: 428949

Page 3 of 4

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Rad Ra-226</b>											
Batch	1686419										
QC1203840909	428949001	DUP									
Radium-226		1.63		1.03	pCi/L	45.1		(0% - 100%)	MXH8	08/10/17	11:00
QC1203840911	LCS										
Radium-226	26.0			24.5	pCi/L		94.4	(75%-125%)		08/10/17	11:00
QC1203840908	MB										
Radium-226			U	0.0453	pCi/L					08/10/17	10:30
QC1203840910	428949001	MS									
Radium-226	130	1.63		111	pCi/L		84.6	(75%-125%)		08/10/17	11:00

**Notes:**

The Qualifiers in this report are defined as follows:

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

# GEL LABORATORIES LLC

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

## QC Summary

Workorder: 428949

Page 4 of 4

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

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

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

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

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

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



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

January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB27973**

**Williams Hwy 52 GW 27-NPDES/CCR**

Date & Time Sampled: July 25, 2017 10:52  
 Date & Time Submitted: July 26, 2017 14:50  
 Collected by: C.SANDEL Location Code: WLG27TDS

GW 27

Login Record File: 170726004

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	16.51	0.50	mg/L	7/28/17 06:47	BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	7.15	0.00	S.U.	7/31/17 11:53	PRC
Sulfates by IC EPA 300.0	35.14	0.50	mg/L	7/28/17 06:47	BB
Total Dissolved Solid-SM2540C	332	2.0	mg/L	8/1/17 12:10	BF

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

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



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

January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB27974**

**Williams Hwy 52 FIELD BLANK-NPDES/CCR**

Date & Time Sampled: July 25, 2017 11:30  
 Date & Time Submitted: July 26, 2017 14:50  
 Collected by: C.SANDEL Location Code: WLGFBTDS

GW 10

Login Record File: 170726004

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	7/28/17 06:47	BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	6.66	0.00	S.U.	7/31/17 11:53	PRC
Sulfates by IC EPA 300.0	Less than	0.50	mg/L	7/28/17 06:47	BB
Total Dissolved Solid-SM2540C	7	2.0	mg/L	8/1/17 12:10	BF

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

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



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

January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB27975**

**Williams Hwy 52 GW 10-NPDES/CCR**

Date & Time Sampled: July 25, 2017 11:35  
 Date & Time Submitted: July 26, 2017 14:50  
 Collected by: C.SANDEL Location Code: WLG10TDS

GW 10

Login Record File: 170726004

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	19.45	0.50	mg/L	7/28/17 06:47	BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	11.31	0.00	S.U.	7/31/17 11:53	PRC
Sulfates by IC EPA 300.0	5.51	0.50	mg/L	7/28/17 06:47	BB
Total Dissolved Solid-SM2540C	196	2.0	mg/L	8/1/17 12:10	BF

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

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





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

January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB27976**

**Williams Hwy 52 GW 11-NPDES/CCR**

Date & Time Sampled: July 25, 2017 12:20  
 Date & Time Submitted: July 26, 2017 14:50  
 Collected by: C.SANDEL Location Code: WLG11TDS

GW 11

Login Record File: 170726004

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	5.99	0.50	mg/L	7/28/17 06:47	BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	6.60	0.00	S.U.	7/31/17 11:53	PRC
Sulfates by IC EPA 300.0	1.47	0.50	mg/L	7/28/17 06:47	BB
Total Dissolved Solid-SM2540C	105	2.0	mg/L	8/1/17 12:10	BF

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

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



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

January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB27977**

**Williams Hwy 52 GW 28-NPDES/CCR**

Date & Time Sampled: July 25, 2017 13:07  
 Date & Time Submitted: July 26, 2017 14:50  
 Collected by: C.SANDEL Location Code: WLG28TDS

GW 28

Login Record File: 170726004

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	3.86	0.50	mg/L	7/28/17 06:47	BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	6.58	0.00	S.U.	7/31/17 11:53	PRC
Sulfates by IC EPA 300.0	1.72	0.50	mg/L	7/28/17 06:47	BB
Total Dissolved Solid-SM2540C	95	2.0	mg/L	8/1/17 12:10	BF

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

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



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

January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB27978**

**Williams Hwy 52 DUP -NPDES/CCR**

Date & Time Sampled: July 25, 2017 13:20  
 Date & Time Submitted: July 26, 2017 14:50  
 Collected by: C.SANDEL Location Code: WLGDUPTDS

GW 10

Login Record File: 170726004

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	3.60	0.50	mg/L	7/28/17 06:47	BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	6.59	0.00	S.U.	7/31/17 11:53	PRC
Sulfates by IC EPA 300.0	1.64	0.50	mg/L	7/28/17 06:47	BB
Total Dissolved Solid-SM2540C	96	2.0	mg/L	8/1/17 12:10	BF

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

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



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January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB27979**

**Williams Hwy 52 GW 20-NPDES/CCR**

Date & Time Sampled: July 25, 2017 14:13  
 Date & Time Submitted: July 26, 2017 14:50  
 Collected by: C.SANDEL Location Code: WLG20TDS

GW 20

Login Record File: 170726004

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	9.70	0.50	mg/L	7/28/17 06:47	BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	6.78	0.00	S.U.	7/31/17 11:53	PRC
Sulfates by IC EPA 300.0	9.24	0.50	mg/L	7/28/17 06:47	BB
Total Dissolved Solid-SM2540C	663	2.0	mg/L	8/1/17 12:10	BF

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

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



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January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB27980**

**Williams Hwy 52 GW 21-NPDES/CCR**

Date & Time Sampled: July 25, 2017 14:54  
 Date & Time Submitted: July 26, 2017 14:50  
 Collected by: C.SANDEL Location Code: WLG21TDS

GW 21

Login Record File: 170726004

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	10.10	0.50	mg/L	7/28/17 06:47	BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	6.86	0.00	S.U.	7/31/17 11:53	PRC
Sulfates by IC EPA 300.0	8.37	0.50	mg/L	7/28/17 06:47	BB
Total Dissolved Solid-SM2540C	621	2.0	mg/L	8/1/17 12:10	BF

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

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



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January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB27981**

**Williams Hwy 52 GW 22D-NPDES/CCR**

Date & Time Sampled: July 25, 2017 15:37

Date & Time Submitted: July 26, 2017 14:50

Collected by: C.SANDEL Location Code: WLG22DTDS

GW 22D

Login Record File: 170726004

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	9.97	0.50	mg/L	7/28/17 06:47	BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	7.17	0.00	S.U.	7/31/17 11:53	PRC
Sulfates by IC EPA 300.0	72.67	0.50	mg/L	7/28/17 06:47	BB
Total Dissolved Solid-SM2540C	592	2.0	mg/L	8/1/17 12:10	BF

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

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



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January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB27982**

**Williams Hwy 52 GW 23D-NPDES/CCR**

Date & Time Sampled: July 26, 2017 10:31

Date & Time Submitted: July 26, 2017 14:50

Collected by: C.SANDEL Location Code: WLG23DTDS

GW 23D

Login Record File: 170726004

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	15.60	0.50	mg/L	7/28/17 06:47	BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	7.40	0.00	S.U.	7/31/17 11:53	PRC
Sulfates by IC EPA 300.0	30.75	0.50	mg/L	7/28/17 06:47	BB
Total Dissolved Solid-SM2540C	512	2.0	mg/L	8/1/17 12:10	BF

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

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



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January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB27983**

**Williams Hwy 52 GW 25-NPDES/CCR**

Date & Time Sampled: July 26, 2017 11:13  
 Date & Time Submitted: July 26, 2017 14:50  
 Collected by: C.SANDEL Location Code: WLG25TDS

GW 25

Login Record File: 170726004

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	23.41	0.50	mg/L	7/28/17 06:47	BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	7.11	0.00	S.U.	7/31/17 11:53	PRC
Sulfates by IC EPA 300.0	49.187	0.50	mg/L	7/28/17 06:47	BB
Total Dissolved Solid-SM2540C	566	2.0	mg/L	8/1/17 12:10	BF

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

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





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January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB27984**

**Williams Hwy 52 GW 24-NPDES/CCR**

Date & Time Sampled: July 26, 2017 11:48  
 Date & Time Submitted: July 26, 2017 14:50  
 Collected by: C.SANDEL Location Code: WLG24TDS

GW 24

Login Record File: 170726004

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	21.58	0.50	mg/L	7/28/17 06:47	BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	6.43	0.00	S.U.	7/31/17 11:53	PRC
Sulfates by IC EPA 300.0	31.99	0.50	mg/L	7/28/17 06:47	BB
Total Dissolved Solid-SM2540C	450	2.0	mg/L	8/1/17 12:10	BF

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

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



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January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB27985**

**Williams Hwy 52 GW 26-NPDES/CCR**

Date & Time Sampled: July 26, 2017 12:30  
 Date & Time Submitted: July 26, 2017 14:50  
 Collected by: C.SANDEL Location Code: WLG26TDS

GW 26

Login Record File: 170726004

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	155.1	1.00	mg/L	7/28/17 06:47	BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	6.41	0.00	S.U.	7/31/17 11:53	PRC
Sulfates by IC EPA 300.0	76.86	1.00	mg/L	7/28/17 06:47	BB
Total Dissolved Solid-SM2540C	875	2.0	mg/L	8/1/17 12:10	BF

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

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



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January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB27986**

**Williams Hwy 52 GW 27-NPDES/CCR**

Date & Time Sampled: July 25, 2017 10:52  
 Date & Time Submitted: July 26, 2017 14:50  
 Collected by: C.SANDEL Location Code: WLG27TM

GW 27

Login Record File: 170726004

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Arsenic by ICP_MS 200.8	1.1	1.0	ppb	8/2/17 12:39	CDB
Barium by ICP-OES 200.7	22.2	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	94600	1000	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	Less than	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	Less than	2.0	ppb	7/31/17 13:57	CDB
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	8/1/17 14:16	MC
Molybdenum - EPA 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Selenium by ICP-MS 200.8	Less than	5.0	ppb	8/2/17 12:39	CDB
Thallium by ICP-MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB

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

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



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January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB27987**

**Williams Hwy 52 FIELD BLANK-NPDES/CCR**

Date & Time Sampled: July 25, 2017 11:30  
 Date & Time Submitted: July 26, 2017 14:50  
 Collected by: C.SANDEL Location Code: WLGFBTM

GW 10

Login Record File: 170726004

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Arsenic by ICP_MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Barium by ICP-OES 200.7	Less than	10.0	ppb	7/31/17 14:39	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	7/31/17 14:39	CDB
Boron - EPA 200.7	Less than	1000	ppb	7/31/17 14:39	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Calcium EPA 200.7	Less than	100	ppb	7/31/17 14:39	CDB
Chromium by ICP_MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Cobalt by ICP_MS 200.8	Less than	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	Less than	2.0	ppb	7/31/17 14:39	CDB
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	8/1/17 14:16	MC
Molybdenum - EPA 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Selenium by ICP-MS 200.8	Less than	5.0	ppb	8/2/17 12:39	CDB
Thallium by ICP-MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB

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

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



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January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB27988**

**Williams Hwy 52 GW 10-NPDES/CCR**

Date & Time Sampled: July 25, 2017 11:35  
 Date & Time Submitted: July 26, 2017 14:50  
 Collected by: C.SANDEL Location Code: WLG10TM

GW 10

Login Record File: 170726004

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Arsenic by ICP_MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Barium by ICP-OES 200.7	190	10.0	ppb	7/31/17 14:39	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	7/31/17 14:39	CDB
Boron - EPA 200.7	Less than	1000	ppb	7/31/17 14:39	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Calcium EPA 200.7	41510	1000	ppb	7/31/17 14:39	CDB
Chromium by ICP_MS 200.8	1.8	1.0	ppb	8/2/17 12:39	CDB
Cobalt by ICP_MS 200.8	Less than	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	30.6	2.0	ppb	7/31/17 14:39	CDB
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	8/1/17 14:16	MC
Molybdenum - EPA 200.8	3.7	1.0	ppb	8/2/17 12:39	CDB
Selenium by ICP-MS 200.8	Less than	5.0	ppb	8/2/17 12:39	CDB
Thallium by ICP-MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB

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

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



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January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB27989**

**Williams Hwy 52 GW 11-NPDES/CCR**

Date & Time Sampled: July 25, 2017 12:20  
 Date & Time Submitted: July 26, 2017 14:50  
 Collected by: C.SANDEL Location Code: WLG11TM

GW 11

Login Record File: 170726004

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Arsenic by ICP_MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Barium by ICP-OES 200.7	Less than	10.0	ppb	7/31/17 14:39	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	7/31/17 14:39	CDB
Boron - EPA 200.7	Less than	1000	ppb	7/31/17 14:39	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Calcium EPA 200.7	20050	1000	ppb	7/31/17 14:39	CDB
Chromium by ICP_MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Cobalt by ICP_MS 200.8	Less than	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	4.0	2.0	ppb	7/31/17 14:39	CDB
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	8/1/17 14:16	MC
Molybdenum - EPA 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Selenium by ICP-MS 200.8	Less than	5.0	ppb	8/2/17 12:39	CDB
Thallium by ICP-MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB

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

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



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January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB27990**

**Williams Hwy 52 GW 28-NPDES/CCR**

Date & Time Sampled: July 25, 2017 13:07  
 Date & Time Submitted: July 26, 2017 14:50  
 Collected by: C.SANDEL Location Code: WLG28TM

GW 28

Login Record File: 170726004

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Arsenic by ICP_MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Barium by ICP-OES 200.7	Less than	10.0	ppb	7/31/17 14:39	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	7/31/17 14:39	CDB
Boron - EPA 200.7	Less than	1000	ppb	7/31/17 14:39	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Calcium EPA 200.7	18440	1000	ppb	7/31/17 14:39	CDB
Chromium by ICP_MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Cobalt by ICP_MS 200.8	Less than	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	Less than	2.0	ppb	7/31/17 14:39	CDB
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	8/1/17 14:16	MC
Molybdenum - EPA 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Selenium by ICP-MS 200.8	Less than	5.0	ppb	8/2/17 12:39	CDB
Thallium by ICP-MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB

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

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



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January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB27991**

**Williams Hwy 52 DUP -NPDES/CCR**

Date & Time Sampled: July 25, 2017 13:20  
 Date & Time Submitted: July 26, 2017 14:50  
 Collected by: C.SANDEL Location Code: WLGDUPTM

GW 10

Login Record File: 170726004

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Arsenic by ICP_MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Barium by ICP-OES 200.7	Less than	10.0	ppb	7/31/17 14:39	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	7/31/17 14:39	CDB
Boron - EPA 200.7	Less than	1000	ppb	7/31/17 14:39	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Calcium EPA 200.7	18640	1000	ppb	7/31/17 14:39	CDB
Chromium by ICP_MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Cobalt by ICP_MS 200.8	Less than	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	Less than	2.0	ppb	7/31/17 14:39	CDB
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	8/1/17 14:16	MC
Molybdenum - EPA 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Selenium by ICP-MS 200.8	Less than	5.0	ppb	8/2/17 12:39	CDB
Thallium by ICP-MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB

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

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





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January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB27992**

**Williams Hwy 52 GW 20-NPDES/CCR**

Date & Time Sampled: July 25, 2017 14:13  
 Date & Time Submitted: July 26, 2017 14:50  
 Collected by: C.SANDEL Location Code: WLG20TM

GW 20

Login Record File: 170726004

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Arsenic by ICP_MS 200.8	4.6	1.0	ppb	8/2/17 12:39	CDB
Barium by ICP-OES 200.7	54.6	10.0	ppb	7/31/17 14:39	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	7/31/17 14:39	CDB
Boron - EPA 200.7	Less than	1000	ppb	7/31/17 14:39	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Calcium EPA 200.7	155700	2000	ppb	7/31/17 14:39	CDB
Chromium by ICP_MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Cobalt by ICP_MS 200.8	1.4	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	5.9	2.0	ppb	7/31/17 14:39	CDB
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	8/1/17 14:16	MC
Molybdenum - EPA 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Selenium by ICP-MS 200.8	Less than	5.0	ppb	8/2/17 12:39	CDB
Thallium by ICP-MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB

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

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



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

January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB27993**

**Williams Hwy 52 GW 21-NPDES/CCR**

Date & Time Sampled: July 25, 2017 14:54  
 Date & Time Submitted: July 26, 2017 14:50  
 Collected by: C.SANDEL Location Code: WLG21TM

GW 21

Login Record File: 170726004

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Arsenic by ICP_MS 200.8	2.5	1.0	ppb	8/2/17 12:39	CDB
Barium by ICP-OES 200.7	31.9	10.0	ppb	7/31/17 14:39	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	7/31/17 14:39	CDB
Boron - EPA 200.7	Less than	1000	ppb	7/31/17 14:39	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Calcium EPA 200.7	127300	2000	ppb	7/31/17 14:39	CDB
Chromium by ICP_MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Cobalt by ICP_MS 200.8	Less than	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	6.0	2.0	ppb	7/31/17 14:39	CDB
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	8/1/17 14:16	MC
Molybdenum - EPA 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Selenium by ICP-MS 200.8	Less than	5.0	ppb	8/2/17 12:39	CDB
Thallium by ICP-MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB

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

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



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

January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB27994**

**Williams Hwy 52 GW 22D-NPDES/CCR**

Date & Time Sampled: July 25, 2017 15:37  
 Date & Time Submitted: July 26, 2017 14:50  
 Collected by: C.SANDEL Location Code: WLG22DTM

GW 22D

Login Record File: 170726004

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Arsenic by ICP_MS 200.8	1.4	1.0	ppb	8/2/17 12:39	CDB
Barium by ICP-OES 200.7	Less than	10.0	ppb	7/31/17 14:39	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	7/31/17 14:39	CDB
Boron - EPA 200.7	Less than	1000	ppb	7/31/17 14:39	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Calcium EPA 200.7	89040	1000	ppb	7/31/17 14:39	CDB
Chromium by ICP_MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Cobalt by ICP_MS 200.8	Less than	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	10.3	2.0	ppb	7/31/17 14:39	CDB
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	8/1/17 14:16	MC
Molybdenum - EPA 200.8	8.1	1.0	ppb	8/2/17 12:39	CDB
Selenium by ICP-MS 200.8	Less than	5.0	ppb	8/2/17 12:39	CDB
Thallium by ICP-MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB

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

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



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

January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB27995**

**Williams Hwy 52 GW 23D-NPDES/CCR**

Date & Time Sampled: July 26, 2017 10:31  
 Date & Time Submitted: July 26, 2017 14:50  
 Collected by: C.SANDEL Location Code: WLG23DTM

GW 23D

Login Record File: 170726004

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Arsenic by ICP_MS 200.8	1.9	1.0	ppb	8/2/17 12:39	CDB
Barium by ICP-OES 200.7	Less than	10.0	ppb	7/31/17 14:39	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	7/31/17 14:39	CDB
Boron - EPA 200.7	Less than	1000	ppb	7/31/17 14:39	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Calcium EPA 200.7	75000	1000	ppb	7/31/17 14:39	CDB
Chromium by ICP_MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Cobalt by ICP_MS 200.8	Less than	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	7.8	2.0	ppb	7/31/17 14:39	CDB
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	8/1/17 14:16	MC
Molybdenum - EPA 200.8	10.8	1.0	ppb	8/2/17 12:39	CDB
Selenium by ICP-MS 200.8	Less than	5.0	ppb	8/2/17 12:39	CDB
Thallium by ICP-MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB

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

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



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

January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB27996**

**Williams Hwy 52 GW 25-NPDES/CCR**

Date & Time Sampled: July 26, 2017 11:13  
 Date & Time Submitted: July 26, 2017 14:50  
 Collected by: C.SANDEL Location Code: WLG25TM

GW 25

Login Record File: 170726004

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Arsenic by ICP_MS 200.8	1.2	1.0	ppb	8/2/17 12:39	CDB
Barium by ICP-OES 200.7	15.6	10.0	ppb	7/31/17 14:39	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	7/31/17 14:39	CDB
Boron - EPA 200.7	Less than	1000	ppb	7/31/17 14:39	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Calcium EPA 200.7	112700	2000	ppb	7/31/17 15:15	CDB
Chromium by ICP_MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Cobalt by ICP_MS 200.8	Less than	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	9.3	2.0	ppb	7/31/17 14:39	CDB
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	8/1/17 14:16	MC
Molybdenum - EPA 200.8	3.5	1.0	ppb	8/2/17 12:39	CDB
Selenium by ICP-MS 200.8	Less than	5.0	ppb	8/2/17 12:39	CDB
Thallium by ICP-MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB

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

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



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

January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB27997**

**Williams Hwy 52 GW 24-NPDES/CCR**

Date & Time Sampled: July 26, 2017 11:48  
 Date & Time Submitted: July 26, 2017 14:50  
 Collected by: C.SANDEL Location Code: WLG24TM

GW 24

Login Record File: 170726004

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Arsenic by ICP_MS 200.8	2.4	1.0	ppb	8/2/17 12:39	CDB
Barium by ICP-OES 200.7	42.1	10.0	ppb	7/31/17 14:39	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	7/31/17 14:39	CDB
Boron - EPA 200.7	Less than	1000	ppb	7/31/17 14:39	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Calcium EPA 200.7	136100	2000	ppb	7/31/17 15:15	CDB
Chromium by ICP_MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Cobalt by ICP_MS 200.8	1.6	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	4.0	2.0	ppb	7/31/17 14:39	CDB
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	8/1/17 14:16	MC
Molybdenum - EPA 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Selenium by ICP-MS 200.8	Less than	5.0	ppb	8/2/17 12:39	CDB
Thallium by ICP-MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB

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

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



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

January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB27998**

**Williams Hwy 52 GW 26-NPDES/CCR**

Date & Time Sampled: July 26, 2017 12:30  
 Date & Time Submitted: July 26, 2017 14:50  
 Collected by: C.SANDEL Location Code: WLG26TM

GW 26

Login Record File: 170726004

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Antimony by ICP-MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Arsenic by ICP_MS 200.8	4.5	1.0	ppb	8/2/17 12:39	CDB
Barium by ICP-OES 200.7	72.6	10.0	ppb	7/31/17 14:39	CDB
Beryllium EPA 200.7	Less than	2.0	ppb	7/31/17 14:39	CDB
Boron - EPA 200.7	Less than	1000	ppb	7/31/17 14:39	CDB
Cadmium by ICP_MS EPA 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Calcium EPA 200.7	167900	2000	ppb	7/31/17 15:15	CDB
Chromium by ICP_MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Cobalt by ICP_MS 200.8	6.8	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	2.3	2.0	ppb	7/31/17 14:39	CDB
Mercury (CWA) by EPA 245.2	Less than	0.2	ppb	8/1/17 14:16	MC
Molybdenum - EPA 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB
Selenium by ICP-MS 200.8	Less than	5.0	ppb	8/2/17 12:39	CDB
Thallium by ICP-MS 200.8	Less than	1.0	ppb	8/2/17 12:39	CDB

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

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

**EPA CCR Rule Compliance Monitoring Wells  
Groundwater Monitoring Data  
South Carolina Electric & Gas: Williams Station Highway 52 Class Three Landfill**

Gauging Date:09/20/2017				Final Water Quality Indicator Parameters					
Monitoring Well ID	PVC Pipe Elevation, ft.	Depth to Groundwater, ft.	Groundwater Elevation, ft.	Temperature °C	pH S.U.	Sp. Cond. µS/cm	Turbidity NTU	ORP mV	DO mg/L
GW-10	52.29	6.95	45.34	23.9	8.4	379	6.03	-69.7	0.48
GW-11	51.72	10.34	41.38	24.7	6.7	291	6.58	78.2	0.60
GW-20	60.81	20.21	40.60	23.4	6.5	1,100	5.40	-6.2	0.56
GW-21	56.14	15.20	40.94	24.4	6.5	1,065	5.22	17.3	0.38
GW-22D	50.36	13.76	36.60	22.9	6.7	963	6.38	200	0.34
GW-23D	49.69	14.09	35.60	22.8	6.9	861	6.83	174	0.49
GW-24	52.40	14.81	37.59	24.3	6.3	902	5.36	-5.1	0.50
GW-25	50.93	14.24	36.69	23.2	6.7	1,035	6.52	29.4	0.64
GW-26	55.21	23.46	31.75	26.3	6.0	1,639	5.27	-19.4	1.22
GW-27	53.25	6.32	46.93	22.2	6.7	609	7.44	-2.4	0.80
GW-28	51.22	9.35	41.87	24.3	6.7	230	5.95	90.9	0.65



**GEL LABORATORIES LLC**

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

**Certificate of Analysis Report  
for**

GEEL003 GEL Engineering, LLC

Client SDG: 433252 GEL Work Order: 433252

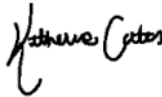
**The Qualifiers in this report are defined as follows:**

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

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

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

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



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

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: September 26, 2017

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd  
  
Charleston, South Carolina 29417  
Contact: Robert Gardner  
Project: Williams 52

Client Sample ID: GW-27 Project: SCEG01616C  
Sample ID: 433252001 Client ID: GEEL003  
Matrix: Ground Water  
Collect Date: 20-SEP-17 08:59  
Receive Date: 20-SEP-17  
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA300.0 Fluoride in Liquid "As Received"												
Fluoride		0.267	0.033	0.100	mg/L		1	MAR1	09/21/17	1843	1702508	1
Chloride		13.6	0.335	1.00	mg/L		5	MAR1	09/22/17	1102	1702508	2

The following Analytical Methods were performed:

Method	Description	Analyst	Comments
1	EPA 300.0		
2	EPA 300.0		

### Notes:

Column headers are defined as follows:

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

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: September 26, 2017

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd  
  
Charleston, South Carolina 29417  
Contact: Robert Gardner  
Project: Williams 52

Client Sample ID: Field Blank Project: SCEG01616C  
Sample ID: 433252002 Client ID: GEEL003  
Matrix: Water  
Collect Date: 20-SEP-17 09:30  
Receive Date: 20-SEP-17  
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA300.0 Fluoride in Liquid "As Received"												
Chloride	U	ND	0.067	0.200	mg/L		1	MAR1	09/21/17	1912	1702508	1
Fluoride	U	ND	0.033	0.100	mg/L		1					

The following Analytical Methods were performed:

Method	Description	Analyst	Comments
1	EPA 300.0		

### Notes:

Column headers are defined as follows:

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



# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: September 26, 2017

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd  
  
Charleston, South Carolina 29417  
Contact: Robert Gardner  
Project: Williams 52

Client Sample ID: GW-11 Project: SCEG01616C  
Sample ID: 433252004 Client ID: GEEL003  
Matrix: Ground Water  
Collect Date: 20-SEP-17 10:15  
Receive Date: 20-SEP-17  
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA300.0 Fluoride in Liquid "As Received"												
Chloride		6.06	0.067	0.200	mg/L		1	MAR1	09/21/17	2010	1702508	1
Fluoride		0.368	0.033	0.100	mg/L		1					

The following Analytical Methods were performed:

Method	Description	Analyst	Comments
1	EPA 300.0		

### Notes:

Column headers are defined as follows:

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

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: September 26, 2017

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd  
  
Charleston, South Carolina 29417  
Contact: Robert Gardner  
Project: Williams 52

---

Client Sample ID: GW-28 Project: SCEG01616C  
Sample ID: 433252005 Client ID: GEEL003  
Matrix: Ground Water  
Collect Date: 20-SEP-17 11:07  
Receive Date: 20-SEP-17  
Collector: Client

---

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA300.0 Fluoride in Liquid "As Received"												
Chloride		3.57	0.067	0.200	mg/L		1	MAR1	09/21/17	2039	1702508	1
Fluoride		0.118	0.033	0.100	mg/L		1					

The following Analytical Methods were performed:

---

Method	Description	Analyst	Comments
1	EPA 300.0		

### Notes:

Column headers are defined as follows:

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

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: September 26, 2017

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd  
  
Charleston, South Carolina 29417  
Contact: Robert Gardner  
Project: Williams 52

---

Client Sample ID: DUP Project: SCEG01616C  
Sample ID: 433252006 Client ID: GEEL003  
Matrix: Ground Water  
Collect Date: 20-SEP-17 11:15  
Receive Date: 20-SEP-17  
Collector: Client

---

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA300.0 Fluoride in Liquid "As Received"												
Chloride		3.58	0.067	0.200	mg/L		1	MAR1	09/21/17	2108	1702508	1
Fluoride		0.121	0.033	0.100	mg/L		1					

The following Analytical Methods were performed:

---

Method	Description	Analyst	Comments
1	EPA 300.0		

### Notes:

Column headers are defined as follows:

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





# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: September 26, 2017

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd  
  
Charleston, South Carolina 29417  
Contact: Robert Gardner  
Project: Williams 52

Client Sample ID: GW-21  
Sample ID: 433252008  
Matrix: Ground Water  
Collect Date: 20-SEP-17 13:07  
Receive Date: 20-SEP-17  
Collector: Client

Project: SCEG01616C  
Client ID: GEEL003

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA300.0 Fluoride in Liquid "As Received"												
Fluoride		0.258	0.033	0.100	mg/L		1	MAR1	09/21/17	2205	1702508	1
Chloride		9.93	0.134	0.400	mg/L		2	MAR1	09/22/17	1159	1702508	2

The following Analytical Methods were performed:

Method	Description	Analyst	Comments
1	EPA 300.0		
2	EPA 300.0		

### Notes:

Column headers are defined as follows:

DF: Dilution Factor  
DL: Detection Limit  
MDA: Minimum Detectable Activity  
MDC: Minimum Detectable Concentration

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

# GEL LABORATORIES LLC

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

## QC Summary

Report Date: September 26, 2017

Page 1 of 2

GEL Engineering, LLC  
2040 Savage Rd  
Charleston, South Carolina

Contact: Robert Gardner

Workorder: 433252

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Ion Chromatography</b>											
Batch	1702508										
QC1203879595	433252008	DUP									
Chloride		9.93		9.92	mg/L	0.0605		(0%-20%)	MAR1	09/22/17	12:28
Fluoride		0.258		0.245	mg/L	5.37	^	(+/-0.100)		09/21/17	23:32
QC1203879594	LCS										
Chloride	5.00			4.82	mg/L			(90%-110%)		09/21/17	18:14
Fluoride	2.50			2.48	mg/L			(90%-110%)			
QC1203879593	MB										
Chloride			U	ND	mg/L					09/21/17	17:45
Fluoride			U	ND	mg/L						
QC1203879596	433252008	PS									
Chloride	10.0	4.96		14.3	mg/L			(90%-110%)		09/22/17	12:57
Fluoride	2.50	0.258		2.55	mg/L			(90%-110%)		09/22/17	00:01

- Notes:**
- The Qualifiers in this report are defined as follows:
  - < Result is less than value reported
  - > Result is greater than value reported
  - B The target analyte was detected in the associated blank.
  - E General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
  - H Analytical holding time was exceeded
  - J Value is estimated
  - N/A RPD or %Recovery limits do not apply.
  - NI See case narrative
  - ND Analyte concentration is not detected above the detection limit

# GEL LABORATORIES LLC

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

## QC Summary

Workorder: 433252

Page 2 of 2

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

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

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

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

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

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

**GEL LABORATORIES LLC**

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

**Certificate of Analysis Report  
for**

GEEL003 GEL Engineering, LLC

Client SDG: 433379 GEL Work Order: 433379

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

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

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

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

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



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

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: September 28, 2017

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd  
  
Charleston, South Carolina 29417  
Contact: Robert Gardner  
Project: Williams 52

---

Client Sample ID: GW-22D Project: SCEG01616C  
Sample ID: 433379001 Client ID: GEEL003  
Matrix: Ground Water  
Collect Date: 21-SEP-17 08:36  
Receive Date: 21-SEP-17  
Collector: Client

---

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA300.0 Fluoride in Liquid "As Received"												
Fluoride		0.251	0.033	0.100	mg/L		1	MAR1	09/23/17	0324	1703121	1
Chloride		9.62	0.134	0.400	mg/L		2	RXB5	09/25/17	1322	1703121	2

The following Analytical Methods were performed:

---

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	

### Notes:

Column headers are defined as follows:

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

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Report Date: September 28, 2017

Company : GEL Engineering, LLC  
Address : 2040 Savage Rd  
  
Charleston, South Carolina 29417  
Contact: Robert Gardner  
Project: Williams 52

---

Client Sample ID: GW-23D Project: SCEG01616C  
Sample ID: 433379002 Client ID: GEEL003  
Matrix: Ground Water  
Collect Date: 21-SEP-17 09:28  
Receive Date: 21-SEP-17  
Collector: Client

---

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA300.0 Fluoride in Liquid "As Received"												
Fluoride		0.309	0.033	0.100	mg/L		1	MAR1	09/23/17	0352	1703121	1
Chloride		14.2	0.134	0.400	mg/L		2	RXB5	09/25/17	1352	1703121	2

The following Analytical Methods were performed:

---

Method	Description	Analyst	Comments
1	EPA 300.0		
2	EPA 300.0		

### Notes:

Column headers are defined as follows:

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









# GEL LABORATORIES LLC

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

## QC Summary

Report Date: September 28, 2017

Page 1 of 2

GEL Engineering, LLC  
2040 Savage Rd  
Charleston, South Carolina

Contact: Robert Gardner

Workorder: 433379

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Ion Chromatography</b>											
Batch	1703121										
QC1203881120	433379005	DUP									
Chloride		135		136	mg/L	1.17		(0%-20%)	RXB5	09/25/17	15:47
Fluoride		0.185		0.185	mg/L	0.217 ^		(+/-0.100)	MAR1	09/23/17	05:48
QC1203881119	LCS										
Chloride	5.00			4.61	mg/L		92.2	(90%-110%)		09/23/17	02:55
Fluoride	2.50			2.45	mg/L		97.9	(90%-110%)			
QC1203881118	MB										
Chloride			U	ND	mg/L					09/23/17	02:26
Fluoride			U	ND	mg/L						
QC1203881121	433379005	PS									
Chloride	5.00	2.70		7.57	mg/L		97.4	(90%-110%)	RXB5	09/25/17	16:16
Fluoride	2.50	0.185		2.50	mg/L		92.7	(90%-110%)	MAR1	09/23/17	06:17

**Notes:**

The Qualifiers in this report are defined as follows:

- < Result is less than value reported
- > Result is greater than value reported
- B The target analyte was detected in the associated blank.
- E General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
- H Analytical holding time was exceeded
- J Value is estimated
- N/A RPD or %Recovery limits do not apply.
- NI See case narrative
- ND Analyte concentration is not detected above the detection limit





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

January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB28674**

**Williams Hwy 52 GW 27-NPDES/CCR**

Date & Time Sampled: September 20, 2017 08:59

Date & Time Submitted: September 21, 2017 14:18

Collected by: C.SANDEL Location Code: WLG27TDS

GW 27

Login Record File: 170921003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	14.2	0.50	mg/L	9/25/17 11:46	BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	7.18	0.00	S.U.	9/22/17 11:18	PRC
Sulfates by IC EPA 300.0	32.0	0.50	mg/L	9/25/17 11:46	BB
Total Dissolved Solid-SM2540C	318	2.0	mg/L	9/25/17 16:20	PRC

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

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



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

January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB28675**

**Williams Hwy 52 FIELD BLANK-NPDES/CCR**

Date & Time Sampled: September 20, 2017 09:30  
 Date & Time Submitted: September 21, 2017 14:18  
 Collected by: C.SANDEL Location Code: WLGFBTDS

GW 10

Login Record File: 170921003

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	9/25/17 11:46	BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	7.17	0.00	S.U.	9/22/17 11:18	PRC
Sulfates by IC EPA 300.0	Less than	0.50	mg/L	9/25/17 11:46	BB
Total Dissolved Solid-SM2540C	Less than	2.0	mg/L	9/25/17 16:20	PRC

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

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



**Central Laboratory (P-08)**  
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**Columbia, SC 29212**  
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January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB28676**

**Williams Hwy 52 GW 10-NPDES/CCR**

Date & Time Sampled: September 20, 2017 09:38

Date & Time Submitted: September 21, 2017 14:18

Collected by: C.SANDEL Location Code: WLG10TDS

GW 10

Login Record File: 170921003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	19.7	0.50	mg/L	9/25/17 11:46	BB
pH by SM4500HB(2011)	10.80	0.00	S.U.	9/22/17 11:18	PRC
Holding Time of 15 minutes has been exceeded.					
Sulfates by IC EPA 300.0	6.0	0.50	mg/L	9/25/17 11:46	BB
Total Dissolved Solid-SM2540C	167	2.0	mg/L	9/25/17 16:20	PRC

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

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



Central Laboratory (P-08)  
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January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB28677**

**Williams Hwy 52 GW 11-NPDES/CCR**

Date & Time Sampled: September 20, 2017 10:15  
 Date & Time Submitted: September 21, 2017 14:18  
 Collected by: C.SANDEL Location Code: WLG11TDS

GW 11

Login Record File: 170921003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	6.1	0.50	mg/L	9/25/17 11:46	BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	6.79	0.00	S.U.	9/22/17 11:18	PRC
Sulfates by IC EPA 300.0	1.8	0.50	mg/L	9/25/17 11:46	BB
Total Dissolved Solid-SM2540C	110	2.0	mg/L	9/25/17 16:20	PRC

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

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



Central Laboratory (P-08)  
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January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB28678**

**Williams Hwy 52 GW 28-NPDES/CCR**

Date & Time Sampled: September 20, 2017 11:07  
 Date & Time Submitted: September 21, 2017 14:18  
 Collected by: C.SANDEL Location Code: WLG28TDS

GW 28

Login Record File: 170921003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	3.6	0.50	mg/L	9/25/17 11:46	BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	6.64	0.00	S.U.	9/22/17 11:18	PRC
Sulfates by IC EPA 300.0	3.1	0.50	mg/L	9/25/17 11:46	BB
Total Dissolved Solid-SM2540C	73	2.0	mg/L	9/25/17 16:20	PRC

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

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





**Central Laboratory (P-08)**  
**2102 North Lake Drive**  
**Columbia, SC 29212**  
 Tel: (803)217-9384  
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January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB28679**

**Williams Hwy 52 DUP -NPDES/CCR**

Date & Time Sampled: September 20, 2017 11:15

Date & Time Submitted: September 21, 2017 14:18

Collected by: C.SANDEL Location Code: WLGDUPTDS

GW 10

Login Record File: 170921003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	3.6	0.50	mg/L	9/25/17 11:46	BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	6.62	0.00	S.U.	9/22/17 11:18	PRC
Sulfates by IC EPA 300.0	3.0	0.50	mg/L	9/25/17 11:46	BB
Total Dissolved Solid-SM2540C	74	2.0	mg/L	9/25/17 16:20	PRC

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

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



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

January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB28680**

**Williams Hwy 52 GW 20-NPDES/CCR**

Date & Time Sampled: September 20, 2017 12:17

Date & Time Submitted: September 21, 2017 14:18

Collected by: C.SANDEL Location Code: WLG20TDS

GW 20

Login Record File: 170921003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	9.8	0.50	mg/L	9/25/17 11:46	BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	6.86	0.00	S.U.	9/22/17 11:18	PRC
Sulfates by IC EPA 300.0	9.1	0.50	mg/L	9/25/17 11:46	BB
Total Dissolved Solid-SM2540C	631	2.0	mg/L	9/25/17 16:20	PRC

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

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



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

January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB28681**

**Williams Hwy 52 GW 21-NPDES/CCR**

Date & Time Sampled: September 20, 2017 13:07

Date & Time Submitted: September 21, 2017 14:18

Collected by: C.SANDEL Location Code: WLG21TDS

GW 21

Login Record File: 170921003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	10.36	0.50	mg/L	9/25/17 11:46	BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	6.95	0.00	S.U.	9/22/17 11:18	PRC
Sulfates by IC EPA 300.0	8.7	0.50	mg/L	9/25/17 11:46	BB
Total Dissolved Solid-SM2540C	594	2.0	mg/L	9/25/17 16:20	PRC

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

Approved By: \_\_\_\_\_



**Central Laboratory (P-08)**  
**2102 North Lake Drive**  
**Columbia, SC 29212**  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB28682**

**Williams Hwy 52 GW 22D-NPDES/CCR**

Date & Time Sampled: September 21, 2017 08:36

Date & Time Submitted: September 21, 2017 14:18

Collected by: C.SANDEL Location Code: WLG22DTDS

GW 22D

Login Record File: 170921003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	10.0	0.50	mg/L	9/25/17 11:46	BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	7.25	0.00	S.U.	9/22/17 11:18	PRC
Sulfates by IC EPA 300.0	65.3	0.50	mg/L	9/25/17 11:46	BB
Total Dissolved Solid-SM2540C	581	2.0	mg/L	9/25/17 16:20	PRC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB28683**

**Williams Hwy 52 GW 23D-NPDES/CCR**

Date & Time Sampled: September 21, 2017 09:28

Date & Time Submitted: September 21, 2017 14:18

Collected by: C.SANDEL Location Code: WLG23DTDS

GW 23D

Login Record File: 170921003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	14.5	0.50	mg/L	9/25/17 11:46	BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	7.33	0.00	S.U.	9/22/17 11:18	PRC
Sulfates by IC EPA 300.0	28.6	0.50	mg/L	9/25/17 11:46	BB
Total Dissolved Solid-SM2540C	495	2.0	mg/L	9/25/17 16:20	PRC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB28684**

**Williams Hwy 52 GW 25-NPDES/CCR**

Date & Time Sampled: September 21, 2017 10:15

Date & Time Submitted: September 21, 2017 14:18

Collected by: C.SANDEL Location Code: WLG25TDS

GW 25

Login Record File: 170921003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	21.8	0.50	mg/L	9/25/17 11:46	BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	7.13	0.00	S.U.	9/22/17 11:18	PRC
Sulfates by IC EPA 300.0	51.8	0.50	mg/L	9/25/17 11:46	BB
Total Dissolved Solid-SM2540C	572	2.0	mg/L	9/25/17 16:20	PRC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB28685**

**Williams Hwy 52 GW 24-NPDES/CCR**

Date & Time Sampled: September 21, 2017 11:00

Date & Time Submitted: September 21, 2017 14:18

Collected by: C.SANDEL Location Code: WLG24TDS

GW 24

Login Record File: 170921003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	22.4	0.50	mg/L	9/25/17 11:46	BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	6.54	0.00	S.U.	9/22/17 11:18	PRC
Sulfates by IC EPA 300.0	34.8	0.50	mg/L	9/25/17 11:46	BB
Total Dissolved Solid-SM2540C	493	2.0	mg/L	9/25/17 16:20	PRC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



Central Laboratory (P-08)  
 2102 North Lake Drive  
 Columbia, SC 29212  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB28686**

**Williams Hwy 52 GW 26-NPDES/CCR**

Date & Time Sampled: September 21, 2017 11:32

Date & Time Submitted: September 21, 2017 14:18

Collected by: C.SANDEL Location Code: WLG26TDS

GW 26

Login Record File: 170921003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Chlorides by IC EPA 300.0	161	1.0	mg/L	9/27/17 11:12	BB
pH by SM4500HB(2011) Holding Time of 15 minutes has been exceeded.	6.46	0.00	S.U.	9/22/17 11:18	PRC
Sulfates by IC EPA 300.0	73.3	1.0	mg/L	9/27/17 11:12	BB
Total Dissolved Solid-SM2540C	2802	2.0	mg/L	9/25/17 16:20	PRC

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_





**Central Laboratory (P-08)**  
**2102 North Lake Drive**  
**Columbia, SC 29212**  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB28687**

**Williams Hwy 52 GW 27-NPDES/CCR**

Date & Time Sampled: September 20, 2017 08:59

Date & Time Submitted: September 21, 2017 14:18

Collected by: C.SANDEL Location Code: WLG27TM

GW 27

Login Record File: 170921003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Boron - EPA 200.7	Less than	1000	ppb	9/25/17 14:59	CDB
Calcium EPA 200.7	86730	1000	ppb	9/25/17 14:59	CDB

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



**Central Laboratory (P-08)**  
**2102 North Lake Drive**  
**Columbia, SC 29212**  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB28688**

**Williams Hwy 52 FIELD BLANK-NPDES/CCR**

Date & Time Sampled: September 20, 2017 09:30  
 Date & Time Submitted: September 21, 2017 14:18  
 Collected by: C.SANDEL Location Code: WLGFBTM

GW 10

Login Record File: 170921003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Boron - EPA 200.7	Less than	1000	ppb	9/25/17 14:59	CDB
Calcium EPA 200.7	Less than	100	ppb	9/25/17 14:59	CDB

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



**Central Laboratory (P-08)**  
**2102 North Lake Drive**  
**Columbia, SC 29212**  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB28689**

**Williams Hwy 52 GW 10-NPDES/CCR**

Date & Time Sampled: September 20, 2017 09:38

Date & Time Submitted: September 21, 2017 14:18

Collected by: C.SANDEL Location Code: WLG10TM

GW 10

Login Record File: 170921003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Boron - EPA 200.7	Less than	1000	ppb	9/25/17 14:59	CDB
Calcium EPA 200.7	29490	1000	ppb	9/25/17 14:59	CDB

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



**Central Laboratory (P-08)**  
**2102 North Lake Drive**  
**Columbia, SC 29212**  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB28690**

**Williams Hwy 52 GW 11-NPDES/CCR**

Date & Time Sampled: September 20, 2017 10:15

Date & Time Submitted: September 21, 2017 14:18

Collected by: C.SANDEL Location Code: WLG11TM

GW 11

Login Record File: 170921003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Boron - EPA 200.7	Less than	1000	ppb	9/25/17 14:59	CDB
Calcium EPA 200.7	20180	1000	ppb	9/25/17 14:59	CDB

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



**Central Laboratory (P-08)**  
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 Fax: (803) 217-9911

January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB28691**

**Williams Hwy 52 GW 28-NPDES/CCR**

Date & Time Sampled: September 20, 2017 11:07

Date & Time Submitted: September 21, 2017 14:18

Collected by: C.SANDEL Location Code: WLG28TM

GW 28

Login Record File: 170921003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Boron - EPA 200.7	Less than	1000	ppb	9/25/17 14:59	CDB
Calcium EPA 200.7	17460	1000	ppb	9/25/17 14:59	CDB

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



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 Fax: (803) 217-9911

January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB28692**

**Williams Hwy 52 DUP -NPDES/CCR**

Date & Time Sampled: September 20, 2017 11:15  
 Date & Time Submitted: September 21, 2017 14:18  
 Collected by: C.SANDEL Location Code: WLGDUPTM

GW 10

Login Record File: 170921003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Boron - EPA 200.7	Less than	1000	ppb	9/25/17 14:59	CDB
Calcium EPA 200.7	17350	1000	ppb	9/25/17 14:59	CDB

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



**Central Laboratory (P-08)**  
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 Tel: (803)217-9384  
 Fax: (803) 217-9911

January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB28693**

**Williams Hwy 52 GW 20-NPDES/CCR**

Date & Time Sampled: September 20, 2017 12:17

Date & Time Submitted: September 21, 2017 14:18

Collected by: C.SANDEL Location Code: WLG20TM

GW 20

Login Record File: 170921003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Boron - EPA 200.7	Less than	1000	ppb	9/25/17 14:59	CDB
Calcium EPA 200.7	148900	1000	ppb	9/25/17 14:59	CDB

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



**Central Laboratory (P-08)**  
**2102 North Lake Drive**  
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 Tel: (803)217-9384  
 Fax: (803) 217-9911

January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB28694**

**Williams Hwy 52 GW 21-NPDES/CCR**

Date & Time Sampled: September 20, 2017 13:07

Date & Time Submitted: September 21, 2017 14:18

Collected by: C.SANDEL Location Code: WLG21TM

GW 21

Login Record File: 170921003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Boron - EPA 200.7	Less than	1000	ppb	9/25/17 14:59	CDB
Calcium EPA 200.7	125800	1000	ppb	9/25/17 14:59	CDB

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_





**Central Laboratory (P-08)**  
**2102 North Lake Drive**  
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 Tel: (803)217-9384  
 Fax: (803) 217-9911

January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB28695**

**Williams Hwy 52 GW 22D-NPDES/CCR**

Date & Time Sampled: September 21, 2017 08:36

Date & Time Submitted: September 21, 2017 14:18

Collected by: C.SANDEL Location Code: WLG22DTM

GW 22D

Login Record File: 170921003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Boron - EPA 200.7	Less than	1000	ppb	9/25/17 14:59	CDB
Calcium EPA 200.7	86790	1000	ppb	9/25/17 14:59	CDB

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



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**2102 North Lake Drive**  
**Columbia, SC 29212**  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB28696**

**Williams Hwy 52 GW 23D-NPDES/CCR**

Date & Time Sampled: September 21, 2017 09:28

Date & Time Submitted: September 21, 2017 14:18

Collected by: C.SANDEL Location Code: WLG23DTM

GW 23D

Login Record File: 170921003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Boron - EPA 200.7	Less than	1000	ppb	9/25/17 14:59	CDB
Calcium EPA 200.7	74060	1000	ppb	9/25/17 14:59	CDB

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



**Central Laboratory (P-08)**  
**2102 North Lake Drive**  
**Columbia, SC 29212**  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB28697**

**Williams Hwy 52 GW 25-NPDES/CCR**

Date & Time Sampled: September 21, 2017 10:15

Date & Time Submitted: September 21, 2017 14:18

Collected by: C.SANDEL Location Code: WLG25TM

GW 25

Login Record File: 170921003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Boron - EPA 200.7	Less than	1000	ppb	9/25/17 14:59	CDB
Calcium EPA 200.7	117200	1000	ppb	9/25/17 14:59	CDB

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



**Central Laboratory (P-08)**  
**2102 North Lake Drive**  
**Columbia, SC 29212**  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB28698**

**Williams Hwy 52 GW 24-NPDES/CCR**

Date & Time Sampled: September 21, 2017 11:00

Date & Time Submitted: September 21, 2017 14:18

Collected by: C.SANDEL Location Code: WLG24TM

GW 24

Login Record File: 170921003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Boron - EPA 200.7	Less than	1000	ppb	9/25/17 14:59	CDB
Calcium EPA 200.7	123000	1000	ppb	9/25/17 14:59	CDB

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



**Central Laboratory (P-08)**  
**2102 North Lake Drive**  
**Columbia, SC 29212**  
 Tel: (803)217-9384  
 Fax: (803) 217-9911

January 25, 2018

REPORT TO:
Mike Moore

Sample ID: **AB28699**

**Williams Hwy 52 GW 26-NPDES/CCR**

Date & Time Sampled: September 21, 2017 11:32

Date & Time Submitted: September 21, 2017 14:18

Collected by: C.SANDEL Location Code: WLG26TM

GW 26

Login Record File: 170921003

CERTIFIED BY SCDHEC (LAB ID 32006):	Result	Reporting Limit(MRL)	Units	Completed Analysis Date & Time	Chemist
Boron - EPA 200.7	Less than	1000	ppb	9/25/17 14:59	CDB
Calcium EPA 200.7	174800	1000	ppb	9/25/17 14:59	CDB

If there are any questions concerning this sample, please contact the lab at (803) 217-9384.

Approved By: \_\_\_\_\_



## **APPENDIX B**

### **Statistical Analysis of Detection Monitoring Groundwater Quality Results**

## Williams (Hwy 52)

## Detection Monitoring Summary

Run Id: 1**Location Id:** MW-LF-20**Compliance Test:** Double Quantification Rule

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Boron, total mg/L	07/25/2017	AB27992	--	--	< 1.000	n		--
Boron, total mg/L	09/20/2017	AB28693	--	--	< 1.000	n		--

Run Id: 2**Location Id:** MW-LF-20**Compliance Test:** Parametric Prediction Interval on Background

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Ca ug/L	07/26/2017	AB27992	1 of 2	106.597	156.000	y		None
Ca ug/L	09/20/2017	AB28693	1 of 2	106.597	148.900	y		None

Run Id: 3**Location Id:** MW-LF-20**Compliance Test:** Non-Parametric Prediction Interval on Background Useing largest background data value.

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Chlorides mg/L	07/25/2017	AB27979	1 of 2	19.70	9.70	n		--
Chlorides mg/L	09/20/2017	AB28680	1 of 2	19.70	9.80	n		--

Run Id: 4**Location Id:** MW-LF-20

NOTE: If trend test is performed, the background slope is listed under the Upper Limit heading and the compliance slope is listed under the Compliance Result heading.

Detection Monitoring Summary

Run Id: 4

**Location Id:** MW-LF-20

**Compliance Test:** Parametric Prediction Interval on Background

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Field pH S.U.	07/26/2017	FLD20170725	1 of 2	7.866	6.500	n/n		--
Field pH S.U.	09/20/2017	FLD20170920	1 of 2	7.866	6.500	n/n		--

Run Id: 5

**Location Id:** MW-LF-20

**Compliance Test:** Parametric Prediction Interval on Background

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Fluoride, total mg/L	07/26/2017	428949007	1 of 2	0.614	0.175	n		--
Fluoride, total mg/L	09/20/2017	433252007	1 of 2	0.614	0.264	n		--

Run Id: 6

**Location Id:** MW-LF-20

**Compliance Test:** Parametric Prediction Interval on Background

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
SO4 mg/L	07/26/2017	AB27979	1 of 2	28.067	9.240	n		--
SO4 mg/L	09/20/2017	AB28680	1 of 2	28.067	9.100	n		--

Run Id: 7

**Location Id:** MW-LF-20

NOTE: If trend test is performed, the background slope is listed under the Upper Limit heading and the compliance slope is listed under the Compliance Result heading.



### Detection Monitoring Summary

Run Id: 7

Location Id: MW-LF-20

Compliance Test: Parametric Prediction Interval on Background

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Total Dissolved Solids mg/L	07/26/2017	AB27979	1 of 2	427.268	663.000	y		None
Total Dissolved Solids mg/L	09/20/2017	AB28680	1 of 2	427.268	631.000	y		None

Run Id: 8

Location Id: MW-LF-21

Compliance Test: Double Quantification Rule

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Boron, total mg/L	07/25/2017	AB27993	--	--	< 1.000	n		--
Boron, total mg/L	09/20/2017	AB28694	--	--	< 1.000	n		--

Run Id: 9

Location Id: MW-LF-21

Compliance Test: Parametric Prediction Interval on Background

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Ca ug/L	07/26/2017	AB27993	1 of 2	106.597	127.000	y		None
Ca ug/L	09/20/2017	AB28694	1 of 2	106.597	125.800	y		None

Run Id: 10

Location Id: MW-LF-21

NOTE: If trend test is performed, the background slope is listed under the Upper Limit heading and the compliance slope is listed under the Compliance Result heading.

Detection Monitoring Summary

Run Id: 10

**Location Id:** MW-LF-21

**Compliance Test:** Non-Parametric Prediction Interval on Background Useing largest background data value.

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Chlorides mg/L	07/25/2017	AB27980	1 of 2	19.70	10.10	n		--
Chlorides mg/L	09/20/2017	AB28681	1 of 2	19.70	10.36	n		--

Run Id: 11

**Location Id:** MW-LF-21

**Compliance Test:** Parametric Prediction Interval on Background

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Field pH S.U.	07/26/2017	FLD20170725	1 of 2	7.866	6.600	n/n		--
Field pH S.U.	09/20/2017	FLD20170920	1 of 2	7.866	6.500	n/n		--

Run Id: 12

**Location Id:** MW-LF-21

**Compliance Test:** Parametric Prediction Interval on Background

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Fluoride, total mg/L	07/26/2017	428949008	1 of 2	0.614	0.161	n		--
Fluoride, total mg/L	09/20/2017	433252008	1 of 2	0.614	0.258	n		--

Run Id: 13

**Location Id:** MW-LF-21

NOTE: If trend test is performed, the background slope is listed under the Upper Limit heading and the compliance slope is listed under the Compliance Result heading.

Detection Monitoring Summary

Run Id: 13

**Location Id:** MW-LF-21

**Compliance Test:** Parametric Prediction Interval on Background

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
SO4 mg/L	07/26/2017	AB27980	1 of 2	28.067	8.370	n		--
SO4 mg/L	09/20/2017	AB28681	1 of 2	28.067	8.700	n		--

Run Id: 14

**Location Id:** MW-LF-21

**Compliance Test:** Parametric Prediction Interval on Background

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Total Dissolved Solids mg/L	07/26/2017	AB27980	1 of 2	427.268	621.000	y		None
Total Dissolved Solids mg/L	09/20/2017	AB28681	1 of 2	427.268	594.000	y		None

Run Id: 15

**Location Id:** MW-LF-22D

**Compliance Test:** Double Quantification Rule

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Boron, total mg/L	07/25/2017	AB27994	--	--	< 1.000	n		--
Boron, total mg/L	09/21/2017	AB28695	--	--	< 1.000	n		--

Run Id: 16

**Location Id:** MW-LF-22D

NOTE: If trend test is performed, the background slope is listed under the Upper Limit heading and the compliance slope is listed under the Compliance Result heading.

Detection Monitoring Summary

Run Id: 16

**Location Id:** MW-LF-22D

**Compliance Test:** Parametric Prediction Interval on Background

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Ca ug/L	07/26/2017	AB27994	1 of 2	106.597	89.000	n		--
Ca ug/L	09/21/2017	AB28695	1 of 2	106.597	86.790	n		--

Run Id: 17

**Location Id:** MW-LF-22D

**Compliance Test:** Non-Parametric Prediction Interval on Background Using largest background data value.

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Chlorides mg/L	07/25/2017	AB27981	1 of 2	19.70	9.97	n		--
Chlorides mg/L	09/21/2017	AB28682	1 of 2	19.70	10.00	n		--

Run Id: 18

**Location Id:** MW-LF-22D

**Compliance Test:** Parametric Prediction Interval on Background

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Field pH S.U.	07/26/2017	FLD20170725	1 of 2	7.866	6.900	n/n		--
Field pH S.U.	09/20/2017	FLD20170920	1 of 2	7.866	6.700	n/n		--

Run Id: 19

**Location Id:** MW-LF-22D

NOTE: If trend test is performed, the background slope is listed under the Upper Limit heading and the compliance slope is listed under the Compliance Result heading.

Detection Monitoring Summary

Run Id: 19

Location Id: MW-LF-22D

Compliance Test: Parametric Prediction Interval on Background

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Fluoride, total mg/L	07/26/2017	428949009	1 of 2	0.614	0.250	n		--

Run Id: 20

Location Id: MW-LF-22D

Compliance Test: Parametric Prediction Interval on Background

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
SO4 mg/L	07/26/2017	AB27981	1 of 2	28.067	72.670	y		Downward
SO4 mg/L	09/21/2017	AB28682	1 of 2	28.067	65.300	y		Downward

Run Id: 21

Location Id: MW-LF-22D

Compliance Test: Parametric Prediction Interval on Background

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Total Dissolved Solids mg/L	07/26/2017	AB27981	1 of 2	427.268	592.000	y		None
Total Dissolved Solids mg/L	09/21/2017	AB28682	1 of 2	427.268	581.000	y		None

Run Id: 22

Location Id: MW-LF-23D

Compliance Test: Double Quantification Rule

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
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NOTE: If trend test is performed, the background slope is listed under the Upper Limit heading and the compliance slope is listed under the Compliance Result heading.

Detection Monitoring Summary

Run Id: 22

**Location Id:** MW-LF-23D

Boron, total mg/L	07/26/2017	AB27995	--	--	< 1.000	n	--
Boron, total mg/L	09/21/2017	AB28696	--	--	< 1.000	n	--

Run Id: 23

**Location Id:** MW-LF-23D

**Compliance Test:** Parametric Prediction Interval on Background

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Ca ug/L	07/26/2017	AB27995	1 of 2	106.597	75.000	n		--
Ca ug/L	09/21/2017	AB28696	1 of 2	106.597	74.060	n		--

Run Id: 24

**Location Id:** MW-LF-23D

**Compliance Test:** Non-Parametric Prediction Interval on Background Using largest background data value.

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Chlorides mg/L	07/26/2017	AB27982	1 of 2	19.70	15.60	n		--
Chlorides mg/L	09/21/2017	AB28683	1 of 2	19.70	14.50	n		--

Run Id: 25

**Location Id:** MW-LF-23D

**Compliance Test:** Parametric Prediction Interval on Background

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Field pH S.U.	07/26/2017	FLD20170726	1 of 2	7.866	6.900	n/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 Monitoring Summary

Run Id: 25

Location Id: MW-LF-23D

Field pH S.U.	09/20/2017	FLD20170920	1 of 2	7.866	6.900	n/n	--
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Run Id: 26

Location Id: MW-LF-23D

Compliance Test: Parametric Prediction Interval on Background

Parameter	Sample Date	Lab Id	Re Testing	Upper Limit	Compliance Result	Exceedance	Possible SSI	Post-Hoc Trend
Fluoride, total mg/L	07/26/2017	428949010	1 of 2	0.614	0.318	n	--	

Run Id: 27

Location Id: MW-LF-23D

Compliance Test: Parametric Prediction Interval on Background

Parameter	Sample Date	Lab Id	Re Testing	Upper Limit	Compliance Result	Exceedance	Possible SSI	Post-Hoc Trend
SO4 mg/L	07/26/2017	AB27982	1 of 2	28.067	30.750	y	None	
SO4 mg/L	09/21/2017	AB28683	1 of 2	28.067	28.600	y	None	

Run Id: 28

Location Id: MW-LF-23D

Compliance Test: Parametric Prediction Interval on Background

Parameter	Sample Date	Lab Id	Re Testing	Upper Limit	Compliance Result	Exceedance	Possible SSI	Post-Hoc Trend
Total Dissolved Solids mg/L	07/26/2017	AB27982	1 of 2	427.268	512.000	y	Upward	
Total Dissolved Solids mg/L	09/21/2017	AB28683	1 of 2	427.268	495.000	y	Upward	

Run Id: 29

NOTE: If trend test is performed, the background slope is listed under the Upper Limit heading and the compliance slope is listed under the Compliance Result heading.

### Detection Monitoring Summary

Run Id: 29

Location Id: MW-LF-24

Compliance Test: Double Quantification Rule

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Boron, total mg/L	07/26/2017	AB27997	--	--	< 1.000	n		--
Boron, total mg/L	09/21/2017	AB28698	--	--	< 1.000	n		--

Run Id: 30

Location Id: MW-LF-24

Compliance Test: Parametric Prediction Interval on Background

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Ca ug/L	07/26/2017	AB27997	1 of 2	106.597	136.000	y		None
Ca ug/L	09/21/2017	AB28698	1 of 2	106.597	123.000	y		None

Run Id: 31

Location Id: MW-LF-24

Compliance Test: Non-Parametric Prediction Interval on Background Using largest background data value.

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Chlorides mg/L	07/26/2017	AB27984	1 of 2	19.70	21.58	y		None
Chlorides mg/L	09/21/2017	AB28685	1 of 2	19.70	22.40	y		None

Run Id: 32

Location Id: MW-LF-24

NOTE: If trend test is performed, the background slope is listed under the Upper Limit heading and the compliance slope is listed under the Compliance Result heading.



Detection Monitoring Summary

Run Id: 32

Location Id: MW-LF-24

Compliance Test: Parametric Prediction Interval on Background

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Field pH S.U.	07/26/2017	FLD20170726	1 of 2	7.866	6.400	n/n		--
Field pH S.U.	09/20/2017	FLD20170920	1 of 2	7.866	6.300	n/n		--

Run Id: 33

Location Id: MW-LF-24

Compliance Test: Parametric Prediction Interval on Background

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Fluoride, total mg/L	07/26/2017	428949012	1 of 2	0.614	0.362	n		--

Run Id: 34

Location Id: MW-LF-24

Compliance Test: Parametric Prediction Interval on Background

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
SO4 mg/L	07/26/2017	AB27984	1 of 2	28.067	31.990	y		None
SO4 mg/L	09/21/2017	AB28685	1 of 2	28.067	34.800	y		None

Run Id: 35

Location Id: MW-LF-24

Compliance Test: Parametric Prediction Interval on Background

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
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NOTE: If trend test is performed, the background slope is listed under the Upper Limit heading and the compliance slope is listed under the Compliance Result heading.

Detection Monitoring Summary

Run Id: 35

**Location Id:** MW-LF-24

Total Dissolved Solids mg/L	07/26/2017	AB27984	1 of 2	427.268	450.000	y	None
Total Dissolved Solids mg/L	09/21/2017	AB28685	1 of 2	427.268	493.000	y	None

Run Id: 36

**Location Id:** MW-LF-25

**Compliance Test:** Double Quantification Rule

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Boron, total mg/L	07/26/2017	AB27996	--	--	< 1.000	n		--
Boron, total mg/L	09/21/2017	AB28697	--	--	< 1.000	n		--

Run Id: 37

**Location Id:** MW-LF-25

**Compliance Test:** Parametric Prediction Interval on Background

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Ca ug/L	07/26/2017	AB27996	1 of 2	106.597	113.000	y		None
Ca ug/L	09/21/2017	AB28697	1 of 2	106.597	117.200	y		None

Run Id: 38

**Location Id:** MW-LF-25

**Compliance Test:** Non-Parametric Prediction Interval on Background Using largest background data value.

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Chlorides mg/L	07/26/2017	AB27983	1 of 2	19.70	23.41	y		None

NOTE: If trend test is performed, the background slope is listed under the Upper Limit heading and the compliance slope is listed under the Compliance Result heading.

Detection Monitoring Summary

Run Id: 38

**Location Id:** MW-LF-25

Chlorides mg/L	09/21/2017	AB28684	1 of 2	19.70	21.80	y	None
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Run Id: 39

**Location Id:** MW-LF-25

**Compliance Test:** Parametric Prediction Interval on Background

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Field pH S.U.	07/26/2017	FLD20170726	1 of 2	7.866	6.700	n/n		--
Field pH S.U.	09/20/2017	FLD20170920	1 of 2	7.866	6.700	n/n		--

Run Id: 40

**Location Id:** MW-LF-25

**Compliance Test:** Parametric Prediction Interval on Background

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Fluoride, total mg/L	07/26/2017	428949011	1 of 2	0.614	0.530	n		--

Run Id: 41

**Location Id:** MW-LF-25

**Compliance Test:** Parametric Prediction Interval on Background

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
SO4 mg/L	07/26/2017	AB27983	1 of 2	28.067	49.187	y		Upward
SO4 mg/L	09/21/2017	AB28684	1 of 2	28.067	51.800	y		Upward

Run Id: 42

NOTE: If trend test is performed, the background slope is listed under the Upper Limit heading and the compliance slope is listed under the Compliance Result heading.

## Detection Monitoring Summary

Run Id: 42**Location Id:** MW-LF-25**Compliance Test:** Parametric Prediction Interval on Background

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Total Dissolved Solids mg/L	07/26/2017	AB27983	1 of 2	427.268	566.000	y		Upward
Total Dissolved Solids mg/L	09/21/2017	AB28684	1 of 2	427.268	572.000	y		Upward

Run Id: 43**Location Id:** MW-LF-26**Compliance Test:** Double Quantification Rule

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Boron, total mg/L	07/26/2017	AB27998	--	--	< 1.000	n		--
Boron, total mg/L	09/21/2017	AB28699	--	--	< 1.000	n		--

Run Id: 44**Location Id:** MW-LF-26**Compliance Test:** Parametric Prediction Interval on Background

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Ca ug/L	07/26/2017	AB27998	1 of 2	106.597	168.000	y		None
Ca ug/L	09/21/2017	AB28699	1 of 2	106.597	174.800	y		None

Run Id: 45**Location Id:** MW-LF-26

NOTE: If trend test is performed, the background slope is listed under the Upper Limit heading and the compliance slope is listed under the Compliance Result heading.

Detection Monitoring Summary

Run Id: 45

Location Id: MW-LF-26

Compliance Test: Non-Parametric Prediction Interval on Background Useing largest background data value.

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Chlorides mg/L	07/26/2017	AB27985	1 of 2	19.70	155.10	y		None
Chlorides mg/L	09/21/2017	AB28686	1 of 2	19.70	161.00	y		None

Run Id: 46

Location Id: MW-LF-26

Compliance Test: Parametric Prediction Interval on Background

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Field pH S.U.	07/26/2017	FLD20170726	1 of 2	7.866	6.000	n/y		--
Field pH S.U.	09/20/2017	FLD20170920	1 of 2	7.866	6.000	n/y		--

Run Id: 47

Location Id: MW-LF-26

Compliance Test: Parametric Prediction Interval on Background

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Fluoride, total mg/L	07/26/2017	428949013	1 of 2	0.614	0.193	n		--

Run Id: 48

Location Id: MW-LF-26

Compliance Test: Parametric Prediction Interval on Background

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
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NOTE: If trend test is performed, the background slope is listed under the Upper Limit heading and the compliance slope is listed under the Compliance Result heading.

Detection Monitoring Summary

Run Id: 48

**Location Id:** MW-LF-26

SO4 mg/L	07/26/2017	AB27985	1 of 2	28.067	76.860	y	None
SO4 mg/L	09/21/2017	AB28686	1 of 2	28.067	73.300	y	None

Run Id: 49

**Location Id:** MW-LF-26

**Compliance Test:** Parametric Prediction Interval on Background

<u>Parameter</u>	<u>Sample Date</u>	<u>Lab Id</u>	<u>Re Testing</u>	<u>Upper Limit</u>	<u>Compliance Result</u>	<u>Exceedance</u>	<u>Possible SSI</u>	<u>Post-Hoc Trend</u>
Total Dissolved Solids mg/L	07/26/2017	AB27985	1 of 2	427.268	875.000	y		None
Total Dissolved Solids mg/L	09/21/2017	AB28686	1 of 2	427.268	2802.000	y		None

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 Background Results Non-Detect

Location Id: MW-LF-20  
Parameter: Boron, total

Run Id: 1

Method: Double Quantification Rule  
Percent ND: 100  
ND Approach: > 50% to <= 100 % Substitute PQL

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<u>Sample Date</u>	<u>Modified Result</u>	<u>Analysis Result</u>	<u>Detection Limit</u>	<u>PQL</u>	<u>RL</u>	<u>Non Detect</u>	<u>Exceedance</u>
07/25/2017	1.000	0.216	0.044	1.000	0.000	Y	N
09/20/2017	1.000	0.225	0.044	1.000	0.000	Y	N

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**All Background Results Non-Detect**

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**Location Id:** MW-LF-21

Run Id: 8

**Parameter:** Boron, total**Method:** Double Quantification Rule**Percent ND:** 100**ND Approach:** > 50% to <= 100 % Substitute PQL

<u>Sample Date</u>	<u>Modified Result</u>	<u>Analysis Result</u>	<u>Detection Limit</u>	<u>PQL</u>	<u>RL</u>	<u>Non Detect</u>	<u>Exceedance</u>
07/25/2017	1.000	0.239	0.044	1.000	0.000	Y	N
09/20/2017	1.000	0.214	0.044	1.000	0.000	Y	N

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**All Background Results Non-Detect**

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**Location Id:** MW-LF-22D

Run Id: 15

**Parameter:** Boron, total**Method:** Double Quantification Rule**Percent ND:** 100**ND Approach:** > 50% to <= 100 % Substitute PQL

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<u>Sample Date</u>	<u>Modified Result</u>	<u>Analysis Result</u>	<u>Detection Limit</u>	<u>PQL</u>	<u>RL</u>	<u>Non Detect</u>	<u>Exceedance</u>
07/25/2017	1.000	0.339	0.044	1.000	0.000	Y	N
09/21/2017	1.000	0.327	0.044	1.000	0.000	Y	N

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**All Background Results Non-Detect**

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**Location Id:** MW-LF-23D

Run Id: 22

**Parameter:** Boron, total**Method:** Double Quantification Rule**Percent ND:** 100**ND Approach:** > 50% to <= 100 % Substitute PQL

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<u>Sample Date</u>	<u>Modified Result</u>	<u>Analysis Result</u>	<u>Detection Limit</u>	<u>PQL</u>	<u>RL</u>	<u>Non Detect</u>	<u>Exceedance</u>
07/26/2017	1.000	0.279	0.044	1.000	0.000	Y	N
09/21/2017	1.000	0.272	0.044	1.000	0.000	Y	N

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**All Background Results Non-Detect**

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**Location Id:** MW-LF-24

Run Id: 29

**Parameter:** Boron, total**Method:** Double Quantification Rule**Percent ND:** 100**ND Approach:** > 50% to <= 100 % Substitute PQL

<u>Sample Date</u>	<u>Modified Result</u>	<u>Analysis Result</u>	<u>Detection Limit</u>	<u>PQL</u>	<u>RL</u>	<u>Non Detect</u>	<u>Exceedance</u>
07/26/2017	1.000	0.066	0.044	1.000	0.000	Y	N
09/21/2017	1.000	0.047	0.044	1.000	0.000	Y	N

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**All Background Results Non-Detect**

**Location Id:** MW-LF-25  
**Parameter:** Boron, total

Run Id: 36

**Method:** Double Quantification Rule  
**Percent ND:** 100  
**ND Approach:** > 50% to <= 100 % Substitute PQL

<u>Sample Date</u>	<u>Modified Result</u>	<u>Analysis Result</u>	<u>Detection Limit</u>	<u>PQL</u>	<u>RL</u>	<u>Non Detect</u>	<u>Exceedance</u>
07/26/2017	1.000	0.123	0.044	1.000	0.000	Y	N
09/21/2017	1.000	0.112	0.044	1.000	0.000	Y	N

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**All Background Results Non-Detect**

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**Location Id:** MW-LF-26

Run Id: 43

**Parameter:** Boron, total**Method:** Double Quantification Rule**Percent ND:** 100**ND Approach:** > 50% to <= 100 % Substitute PQL

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<u>Sample Date</u>	<u>Modified Result</u>	<u>Analysis Result</u>	<u>Detection Limit</u>	<u>PQL</u>	<u>RL</u>	<u>Non Detect</u>	<u>Exceedance</u>
07/26/2017	1.000	0.108	0.044	1.000	0.000	Y	N
09/21/2017	1.000	0.104	0.044	1.000	0.000	Y	N

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**All Background Results Non-Detect**

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**Williams (Hwy 52)**  
**Parametric Prediction Interval on Background - Background Data Calculation**

<u>Number Of Locations:</u>	7	<u>Annual Site Wide False Positive Rate (SWFPR):</u>	0.10
<u>Number Of Parameters:</u>	7	<u>Sample Events per Year:</u>	2
<u>Sampling Plan:</u>	Interwell	<u>Verification Sampling:</u>	Pass 1 of 2 (one resample)

**Background Locations:**    MW-LF-10,MW-LF-11,MW-LF-27,MW-LF-28

Insufficient Background:    0  
DOR Tests:    1

<b><u>Parameter Name:</u></b>	<b>Ca, ug/L</b>	<u>Background Date Range:</u>	05/10/2016 to 09/21/2017
<u>Alpha Per Test FPR:</u>	0.00124	<u>Option for LT Pts:</u>	0% to <= 15% Substitute ½ PQL
<u>Total Pts</u>	27	<u>Kappa for Selected Verification Plan:</u>	1.920
<u>LT Pts</u>	0	<u>Mean</u>	39.4467
<u>%LT Pts</u>	0	<u>StdDev</u>	26.7774
<u>Normal/Log Normal</u>	n/y	<u>In Mean</u>	3.4789
<u>Log Transformed:</u>	y	<u>In StdDev</u>	0.6199

<b><u>Parameter Name:</u></b>	<b>Field pH, S.U.</b>	<u>Background Date Range:</u>	05/10/2016 to 09/21/2017
<u>Alpha Per Test FPR:</u>	0.00124	<u>Option for LT Pts:</u>	0% to <= 15% Substitute ½ PQL
<u>Total Pts</u>	27	<u>Kappa for Selected Verification Plan:</u>	2.100
<u>LT Pts</u>	0	<u>Mean</u>	6.9000
<u>%LT Pts</u>	0	<u>StdDev</u>	0.4540
<u>Normal/Log Normal</u>	n/y	<u>In Mean</u>	1.9295
<u>Log Transformed:</u>	y	<u>In StdDev</u>	0.0633

<b><u>Parameter Name:</u></b>	<b>Fluoride, total, mg/L</b>	<u>Background Date Range:</u>	05/10/2016 to 09/21/2017
<u>Alpha Per Test FPR:</u>	0.00124	<u>Option for LT Pts:</u>	0% to <= 15% Substitute ½ PQL
<u>Total Pts</u>	27	<u>Kappa for Selected Verification Plan:</u>	1.920
<u>LT Pts</u>	1	<u>Mean</u>	0.3109
<u>%LT Pts</u>	7	<u>StdDev</u>	0.1581
<u>Normal/Log Normal</u>	y/n	<u>In Mean</u>	-1.3425
<u>Log Transformed:</u>	n	<u>In StdDev</u>	0.6753

**Williams (Hwy 52)**  
**Parametric Prediction Interval on Background - Background Data Calculation**

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<u>Number Of Locations:</u>	7	<u>Annual Site Wide False Positive Rate (SWFPR):</u>	0.10
<u>Number Of Parameters:</u>	7	<u>Sample Events per Year:</u>	2
<u>Sampling Plan:</u>	Interwell	<u>Verification Sampling:</u>	Pass 1 of 2 (one resample)

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<b><u>Parameter Name:</u></b>	<b>SO4, mg/L</b>	<u>Background Date Range:</u>	05/10/2016 to 09/21/2017
<u>Alpha Per Test FPR:</u>	0.00124	<u>Option for LT Pts:</u>	0% to <= 15% Substitute ½ PQL
<u>Total Pts</u>	27	<u>Kappa for Selected Verification Plan:</u>	1.920
<u>LT Pts</u>	0	<u>Mean</u>	6.8751
<u>%LT Pts</u>	0	<u>StdDev</u>	8.4772
<u>Normal/Log Normal</u>	n/y	<u>In Mean</u>	1.4193
<u>Log Transformed:</u>	y	<u>In StdDev</u>	0.9976

<b><u>Parameter Name:</u></b>	<b>Total Dissolved Solids, mg/L</b>	<u>Background Date Range:</u>	05/10/2016 to 09/21/2017
<u>Alpha Per Test FPR:</u>	0.00124	<u>Option for LT Pts:</u>	0% to <= 15% Substitute ½ PQL
<u>Total Pts</u>	27	<u>Kappa for Selected Verification Plan:</u>	1.920
<u>LT Pts</u>	0	<u>Mean</u>	179.0000
<u>%LT Pts</u>	0	<u>StdDev</u>	89.8854
<u>Normal/Log Normal</u>	n/y	<u>In Mean</u>	5.0606
<u>Log Transformed:</u>	y	<u>In StdDev</u>	0.5192

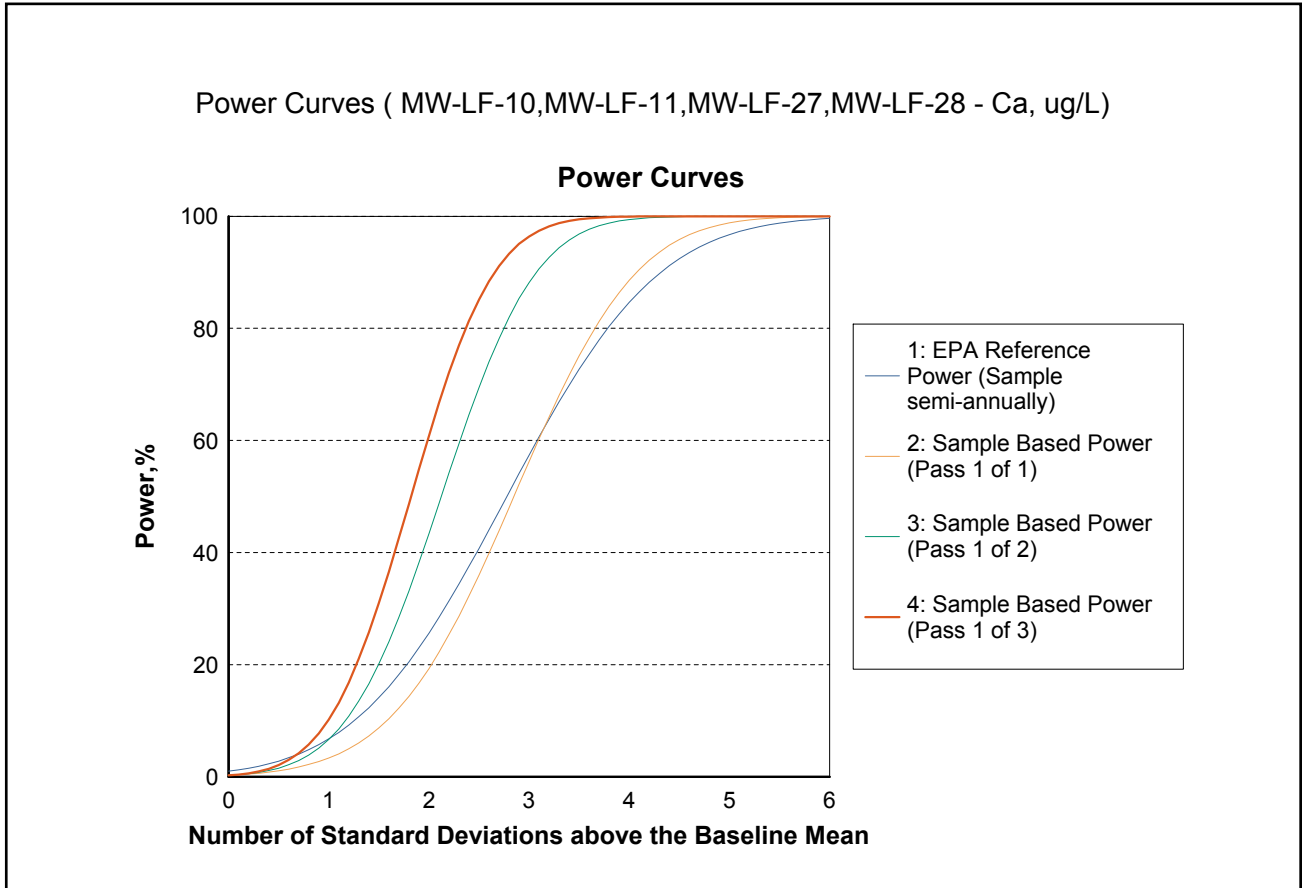


**Williams (Hwy 52)**  
**Parametric Prediction Interval on Background - Background Data Calculation**

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<u>Number Of Locations:</u>	7	<u>Annual Site Wide False Positive Rate (SWFPR):</u>	0.10
<u>Number Of Parameters:</u>	7	<u>Sample Events per Year:</u>	2
<u>Sampling Plan:</u>	Interwell	<u>Verification Sampling:</u>	Pass 1 of 2 (one resample)

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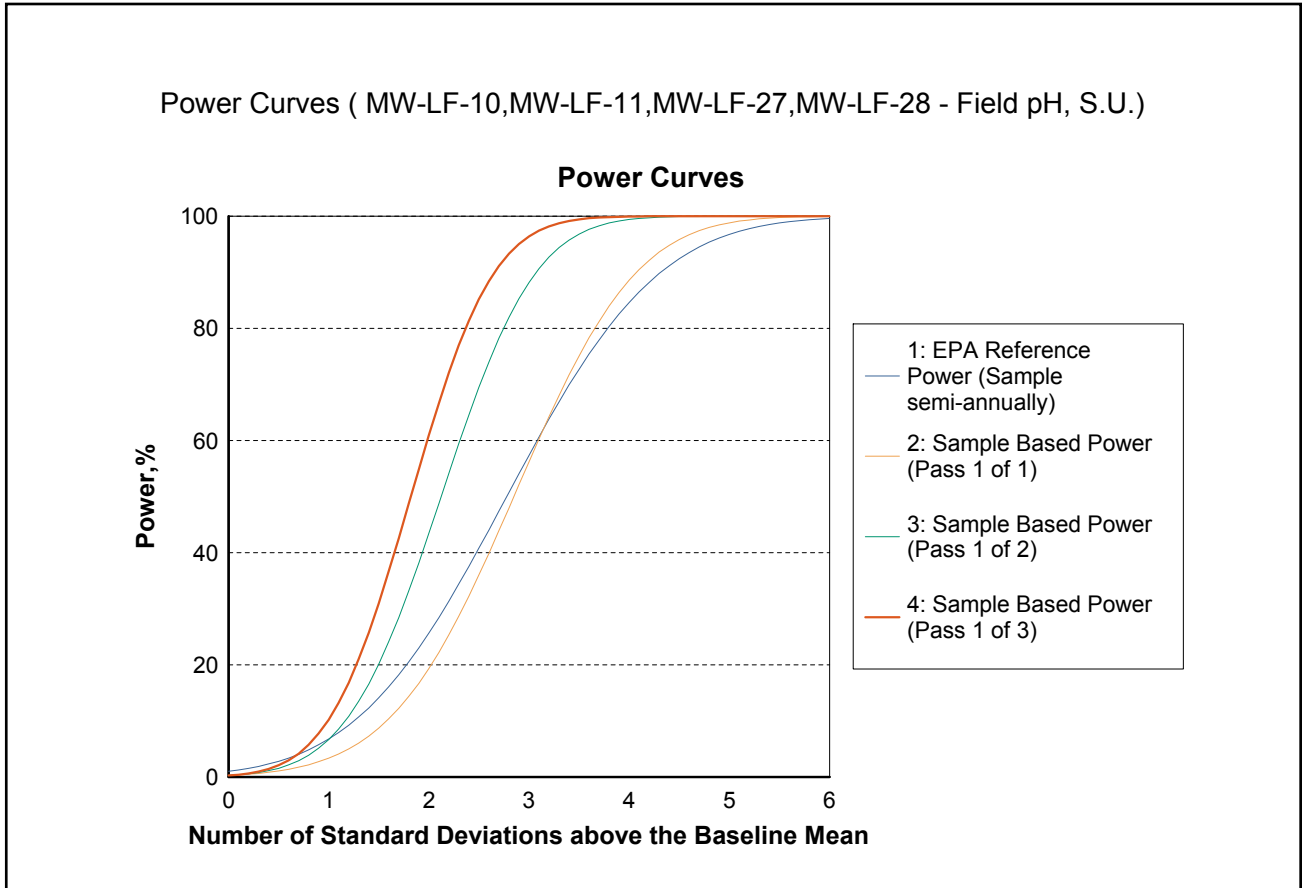


**Williams (Hwy 52)**  
**Parametric Prediction Interval on Background - Background Data Calculation**

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<u>Number Of Locations:</u>	7	<u>Annual Site Wide False Positive Rate (SWFPR):</u>	0.10
<u>Number Of Parameters:</u>	7	<u>Sample Events per Year:</u>	2
<u>Sampling Plan:</u>	Interwell	<u>Verification Sampling:</u>	Pass 1 of 2 (one resample)

---









**Williams (Hwy 52)  
Parametric Prediction Interval on Background - Compliance Analysis**

**User Supplied Information**

**Sided:** 1  
**Background Date Range:** 05/10/2016 to 09/21/2017  
**Compliance Date Range:** 07/24/2017 to 09/21/2017  
**Compliance Locations:** MW-LF-20,MW-LF-21,MW-LF-22D,MW-LF-23D,MW-LF-24,MW-LF-25,MW-LF-26  
**Background Locations:** MW-LF-10,MW-LF-11,MW-LF-27,MW-LF-28

**Location** MW-LF-20

Run Id: 2

**Parameter Name:** Ca, ug/L

**Option for LT Pts (Compliance Data)** : 0% to <= 15% Substitute PQL

<u>Sample Date</u>	<u>Analysis Result</u>	<u>Upper Limit</u>	<u>Upper Limit</u>	Result >
7/26/2017	156.000	106.597		y
9/20/2017	148.900	106.597		y

Run Id: 4

**Parameter Name:** Field pH, S.U.

**Option for LT Pts (Compliance Data)** : 0% to <= 15% Substitute PQL

<u>Sample Date</u>	<u>Analysis Result</u>	<u>Upper Limit</u>	<u>Upper Limit</u>	Result >	<u>Lower Limit</u>	<u>Lower Limit</u>	Result <
7/26/2017	6.500	7.866		n	6.028		n
9/20/2017	6.500	7.866		n	6.028		n

Run Id: 5

**Parameter Name:** Fluoride, total, mg/L

**Option for LT Pts (Compliance Data)** : 0% to <= 15% Substitute PQL

<u>Sample Date</u>	<u>Analysis Result</u>	<u>Upper Limit</u>	<u>Upper Limit</u>	Result >
7/26/2017	0.175	0.614		n
9/20/2017	0.264	0.614		n

Run Id: 6

**Parameter Name:** SO4, mg/L

**Option for LT Pts (Compliance Data)** : 0% to <= 15% Substitute PQL

Result >

Prediction Interval is based on Normal Distribution and the number of compliance periods (k).

**Williams (Hwy 52)  
Parametric Prediction Interval on Background - Compliance Analysis**

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**User Supplied Information**

**Sided:** 1  
**Background Date Range:** 05/10/2016 to 09/21/2017  
**Compliance Date Range:** 07/24/2017 to 09/21/2017  
**Compliance Locations:** MW-LF-20,MW-LF-21,MW-LF-22D,MW-LF-23D,MW-LF-24,MW-LF-25,MW-LF-26  
**Background Locations:** MW-LF-10,MW-LF-11,MW-LF-27,MW-LF-28

<u>Sample Date</u>	<u>Analysis Result</u>	<u>Upper Limit</u>	<u>Upper Limit</u>
7/26/2017	9.240	28.067	n
9/20/2017	9.100	28.067	n

Run Id: 7

**Parameter Name:** Total Dissolved Solids, mg/L  
**Option for LT Pts (Compliance Data)** : 0% to <= 15% Substitute PQL

<u>Sample Date</u>	<u>Analysis Result</u>	<u>Upper Limit</u>	<u>Upper Limit</u>	Result >
7/26/2017	663.000	427.268		y
9/20/2017	631.000	427.268		y

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Prediction Interval is based on Normal Distribution and the number of compliance periods (k).

**Williams (Hwy 52)  
Parametric Prediction Interval on Background - Compliance Analysis**

**User Supplied Information**

**Sided:** 1  
**Background Date Range:** 05/10/2016 to 09/21/2017  
**Compliance Date Range:** 07/24/2017 to 09/21/2017  
**Compliance Locations:** MW-LF-20,MW-LF-21,MW-LF-22D,MW-LF-23D,MW-LF-24,MW-LF-25,MW-LF-26  
**Background Locations:** MW-LF-10,MW-LF-11,MW-LF-27,MW-LF-28

**Location** MW-LF-21

Run Id: 9

**Parameter Name:** Ca, ug/L

**Option for LT Pts (Compliance Data)** : 0% to <= 15% Substitute PQL

<u>Sample Date</u>	<u>Analysis Result</u>	<u>Upper Limit</u>	<u>Upper Limit</u>	Result >
7/26/2017	127.000	106.597		y
9/20/2017	125.800	106.597		y

Run Id: 11

**Parameter Name:** Field pH, S.U.

**Option for LT Pts (Compliance Data)** : 0% to <= 15% Substitute PQL

<u>Sample Date</u>	<u>Analysis Result</u>	<u>Upper Limit</u>	<u>Upper Limit</u>	Result >	<u>Lower Limit</u>	<u>Lower Limit</u>	Result <
7/26/2017	6.600	7.866		n	6.028		n
9/20/2017	6.500	7.866		n	6.028		n

Run Id: 12

**Parameter Name:** Fluoride, total, mg/L

**Option for LT Pts (Compliance Data)** : 0% to <= 15% Substitute PQL

<u>Sample Date</u>	<u>Analysis Result</u>	<u>Upper Limit</u>	<u>Upper Limit</u>	Result >
7/26/2017	0.161	0.614		n
9/20/2017	0.258	0.614		n

Run Id: 13

**Parameter Name:** SO4, mg/L

**Option for LT Pts (Compliance Data)** : 0% to <= 15% Substitute PQL

Result >

Prediction Interval is based on Normal Distribution and the number of compliance periods (k).



**Williams (Hwy 52)  
Parametric Prediction Interval on Background - Compliance Analysis**

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**User Supplied Information**

**Sided:** 1  
**Background Date Range:** 05/10/2016 to 09/21/2017  
**Compliance Date Range:** 07/24/2017 to 09/21/2017  
**Compliance Locations:** MW-LF-20,MW-LF-21,MW-LF-22D,MW-LF-23D,MW-LF-24,MW-LF-25,MW-LF-26  
**Background Locations:** MW-LF-10,MW-LF-11,MW-LF-27,MW-LF-28

<u>Sample Date</u>	<u>Analysis Result</u>	<u>Upper Limit</u>	<u>Upper Limit</u>
7/26/2017	8.370	28.067	n
9/20/2017	8.700	28.067	n

Run Id: 14

**Parameter Name:** Total Dissolved Solids, mg/L  
**Option for LT Pts (Compliance Data)** : 0% to <= 15% Substitute PQL

<u>Sample Date</u>	<u>Analysis Result</u>	<u>Upper Limit</u>	<u>Upper Limit</u>	Result >
7/26/2017	621.000	427.268		y
9/20/2017	594.000	427.268		y

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Prediction Interval is based on Normal Distribution and the number of compliance periods (k).

## Williams (Hwy 52) Parametric Prediction Interval on Background - Compliance Analysis

### User Supplied Information

**Sided:** 1  
**Background Date Range:** 05/10/2016 to 09/21/2017  
**Compliance Date Range:** 07/24/2017 to 09/21/2017  
**Compliance Locations:** MW-LF-20,MW-LF-21,MW-LF-22D,MW-LF-23D,MW-LF-24,MW-LF-25,MW-LF-26  
**Background Locations:** MW-LF-10,MW-LF-11,MW-LF-27,MW-LF-28

**Location** MW-LF-22D

Run Id: 16

**Parameter Name:** Ca, ug/L

**Option for LT Pts (Compliance Data)** : 0% to <= 15% Substitute PQL

<u>Sample Date</u>	<u>Analysis Result</u>	<u>Upper Limit</u>	<u>Upper Limit</u>	Result >
7/26/2017	89.000	106.597		n
9/21/2017	86.790	106.597		n

Run Id: 18

**Parameter Name:** Field pH, S.U.

**Option for LT Pts (Compliance Data)** : 0% to <= 15% Substitute PQL

<u>Sample Date</u>	<u>Analysis Result</u>	<u>Upper Limit</u>	<u>Upper Limit</u>	Result >	Result <
					<u>Lower Limit</u>
7/26/2017	6.900	7.866		n	6.028
9/20/2017	6.700	7.866		n	6.028

Run Id: 19

**Parameter Name:** Fluoride, total, mg/L

**Option for LT Pts (Compliance Data)** : 0% to <= 15% Substitute PQL

<u>Sample Date</u>	<u>Analysis Result</u>	<u>Upper Limit</u>	<u>Upper Limit</u>	Result >
7/26/2017	0.250	0.614		n

Run Id: 20

**Parameter Name:** SO4, mg/L

**Option for LT Pts (Compliance Data)** : 0% to <= 15% Substitute PQL

<u>Sample Date</u>	<u>Analysis Result</u>	<u>Upper Limit</u>	<u>Upper Limit</u>	Result >
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Prediction Interval is based on Normal Distribution and the number of compliance periods (k).

**Williams (Hwy 52)**  
**Parametric Prediction Interval on Background - Compliance Analysis**

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**User Supplied Information**

**Sided:** 1  
**Background Date Range:** 05/10/2016 to 09/21/2017  
**Compliance Date Range:** 07/24/2017 to 09/21/2017  
**Compliance Locations:** MW-LF-20,MW-LF-21,MW-LF-22D,MW-LF-23D,MW-LF-24,MW-LF-25,MW-LF-26  
**Background Locations:** MW-LF-10,MW-LF-11,MW-LF-27,MW-LF-28

7/26/2017	72.670	28.067	y
9/21/2017	65.300	28.067	y

Run Id: 21

**Parameter Name:** Total Dissolved Solids, mg/L  
**Option for LT Pts (Compliance Data)** : 0% to <= 15% Substitute PQL

<u>Sample Date</u>	<u>Analysis Result</u>	<u>Upper Limit</u>	<u>Upper Limit</u>	Result >
7/26/2017	592.000	427.268		y
9/21/2017	581.000	427.268		y

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Prediction Interval is based on Normal Distribution and the number of compliance periods (k).

**Williams (Hwy 52)  
Parametric Prediction Interval on Background - Compliance Analysis**

**User Supplied Information**

**Sided:** 1  
**Background Date Range:** 05/10/2016 to 09/21/2017  
**Compliance Date Range:** 07/24/2017 to 09/21/2017  
**Compliance Locations:** MW-LF-20,MW-LF-21,MW-LF-22D,MW-LF-23D,MW-LF-24,MW-LF-25,MW-LF-26  
**Background Locations:** MW-LF-10,MW-LF-11,MW-LF-27,MW-LF-28

**Location** MW-LF-23D

Run Id: 23

**Parameter Name:** Ca, ug/L

**Option for LT Pts (Compliance Data)** : 0% to <= 15% Substitute PQL

<u>Sample Date</u>	<u>Analysis Result</u>	<u>Upper Limit</u>	<u>Upper Limit</u>	Result >
7/26/2017	75.000	106.597		n
9/21/2017	74.060	106.597		n

Run Id: 25

**Parameter Name:** Field pH, S.U.

**Option for LT Pts (Compliance Data)** : 0% to <= 15% Substitute PQL

<u>Sample Date</u>	<u>Analysis Result</u>	<u>Upper Limit</u>	<u>Upper Limit</u>	Result >	<u>Lower Limit</u>	<u>Lower Limit</u>	Result <
7/26/2017	6.900	7.866		n	6.028		n
9/20/2017	6.900	7.866		n	6.028		n

Run Id: 26

**Parameter Name:** Fluoride, total, mg/L

**Option for LT Pts (Compliance Data)** : 0% to <= 15% Substitute PQL

<u>Sample Date</u>	<u>Analysis Result</u>	<u>Upper Limit</u>	<u>Upper Limit</u>	Result >
7/26/2017	0.318	0.614		n

Run Id: 27

**Parameter Name:** SO4, mg/L

**Option for LT Pts (Compliance Data)** : 0% to <= 15% Substitute PQL

<u>Sample Date</u>	<u>Analysis Result</u>	<u>Upper Limit</u>	<u>Upper Limit</u>	Result >
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Prediction Interval is based on Normal Distribution and the number of compliance periods (k).

**Williams (Hwy 52)  
Parametric Prediction Interval on Background - Compliance Analysis**

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**User Supplied Information**

**Sided:** 1  
**Background Date Range:** 05/10/2016 to 09/21/2017  
**Compliance Date Range:** 07/24/2017 to 09/21/2017  
**Compliance Locations:** MW-LF-20,MW-LF-21,MW-LF-22D,MW-LF-23D,MW-LF-24,MW-LF-25,MW-LF-26  
**Background Locations:** MW-LF-10,MW-LF-11,MW-LF-27,MW-LF-28

7/26/2017	30.750	28.067	y
9/21/2017	28.600	28.067	y

Run Id: 28

**Parameter Name:** Total Dissolved Solids, mg/L  
**Option for LT Pts (Compliance Data)** : 0% to <= 15% Substitute PQL

<u>Sample Date</u>	<u>Analysis Result</u>	<u>Upper Limit</u>	<u>Upper Limit</u>	Result >
7/26/2017	512.000	427.268		y
9/21/2017	495.000	427.268		y

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Prediction Interval is based on Normal Distribution and the number of compliance periods (k).

**Williams (Hwy 52)  
Parametric Prediction Interval on Background - Compliance Analysis**

**User Supplied Information**

**Sided:** 1  
**Background Date Range:** 05/10/2016 to 09/21/2017  
**Compliance Date Range:** 07/24/2017 to 09/21/2017  
**Compliance Locations:** MW-LF-20,MW-LF-21,MW-LF-22D,MW-LF-23D,MW-LF-24,MW-LF-25,MW-LF-26  
**Background Locations:** MW-LF-10,MW-LF-11,MW-LF-27,MW-LF-28

**Location** MW-LF-24

Run Id: 30

**Parameter Name:** Ca, ug/L

**Option for LT Pts (Compliance Data)** : 0% to <= 15% Substitute PQL

<u>Sample Date</u>	<u>Analysis Result</u>	<u>Upper Limit</u>	<u>Upper Limit</u>	Result >
7/26/2017	136.000	106.597		y
9/21/2017	123.000	106.597		y

Run Id: 32

**Parameter Name:** Field pH, S.U.

**Option for LT Pts (Compliance Data)** : 0% to <= 15% Substitute PQL

<u>Sample Date</u>	<u>Analysis Result</u>	<u>Upper Limit</u>	<u>Upper Limit</u>	Result >	<u>Lower Limit</u>	<u>Lower Limit</u>	Result <
7/26/2017	6.400	7.866		n	6.028		n
9/20/2017	6.300	7.866		n	6.028		n

Run Id: 33

**Parameter Name:** Fluoride, total, mg/L

**Option for LT Pts (Compliance Data)** : 0% to <= 15% Substitute PQL

<u>Sample Date</u>	<u>Analysis Result</u>	<u>Upper Limit</u>	<u>Upper Limit</u>	Result >
7/26/2017	0.362	0.614		n

Run Id: 34

**Parameter Name:** SO4, mg/L

**Option for LT Pts (Compliance Data)** : 0% to <= 15% Substitute PQL

<u>Sample Date</u>	<u>Analysis Result</u>	<u>Upper Limit</u>	<u>Upper Limit</u>	Result >
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Prediction Interval is based on Normal Distribution and the number of compliance periods (k).

**Williams (Hwy 52)  
Parametric Prediction Interval on Background - Compliance Analysis**

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**User Supplied Information**

**Sided:** 1  
**Background Date Range:** 05/10/2016 to 09/21/2017  
**Compliance Date Range:** 07/24/2017 to 09/21/2017  
**Compliance Locations:** MW-LF-20,MW-LF-21,MW-LF-22D,MW-LF-23D,MW-LF-24,MW-LF-25,MW-LF-26  
**Background Locations:** MW-LF-10,MW-LF-11,MW-LF-27,MW-LF-28

7/26/2017	31.990	28.067	y
9/21/2017	34.800	28.067	y

Run Id: 35

**Parameter Name:** Total Dissolved Solids, mg/L  
**Option for LT Pts (Compliance Data)** : 0% to <= 15% Substitute PQL

<u>Sample Date</u>	<u>Analysis Result</u>	<u>Upper Limit</u>	<u>Upper Limit</u>	Result >
7/26/2017	450.000	427.268		y
9/21/2017	493.000	427.268		y

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Prediction Interval is based on Normal Distribution and the number of compliance periods (k).

**Williams (Hwy 52)  
Parametric Prediction Interval on Background - Compliance Analysis**

**User Supplied Information**

**Sided:** 1  
**Background Date Range:** 05/10/2016 to 09/21/2017  
**Compliance Date Range:** 07/24/2017 to 09/21/2017  
**Compliance Locations:** MW-LF-20,MW-LF-21,MW-LF-22D,MW-LF-23D,MW-LF-24,MW-LF-25,MW-LF-26  
**Background Locations:** MW-LF-10,MW-LF-11,MW-LF-27,MW-LF-28

**Location** MW-LF-25

Run Id: 37

**Parameter Name:** Ca, ug/L

**Option for LT Pts (Compliance Data)** : 0% to <= 15% Substitute PQL

<u>Sample Date</u>	<u>Analysis Result</u>	<u>Upper Limit</u>	<u>Upper Limit</u>	Result >
7/26/2017	113.000	106.597		y
9/21/2017	117.200	106.597		y

Run Id: 39

**Parameter Name:** Field pH, S.U.

**Option for LT Pts (Compliance Data)** : 0% to <= 15% Substitute PQL

<u>Sample Date</u>	<u>Analysis Result</u>	<u>Upper Limit</u>	<u>Upper Limit</u>	Result >	<u>Lower Limit</u>	<u>Lower Limit</u>	Result <
7/26/2017	6.700	7.866		n	6.028		n
9/20/2017	6.700	7.866		n	6.028		n

Run Id: 40

**Parameter Name:** Fluoride, total, mg/L

**Option for LT Pts (Compliance Data)** : 0% to <= 15% Substitute PQL

<u>Sample Date</u>	<u>Analysis Result</u>	<u>Upper Limit</u>	<u>Upper Limit</u>	Result >
7/26/2017	0.530	0.614		n

Run Id: 41

**Parameter Name:** SO4, mg/L

**Option for LT Pts (Compliance Data)** : 0% to <= 15% Substitute PQL

<u>Sample Date</u>	<u>Analysis Result</u>	<u>Upper Limit</u>	<u>Upper Limit</u>	Result >
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Prediction Interval is based on Normal Distribution and the number of compliance periods (k).



**Williams (Hwy 52)**  
**Parametric Prediction Interval on Background - Compliance Analysis**

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**User Supplied Information**

**Sided:** 1  
**Background Date Range:** 05/10/2016 to 09/21/2017  
**Compliance Date Range:** 07/24/2017 to 09/21/2017  
**Compliance Locations:** MW-LF-20,MW-LF-21,MW-LF-22D,MW-LF-23D,MW-LF-24,MW-LF-25,MW-LF-26  
**Background Locations:** MW-LF-10,MW-LF-11,MW-LF-27,MW-LF-28

7/26/2017	49.187	28.067	y
9/21/2017	51.800	28.067	y

Run Id: 42

**Parameter Name:** Total Dissolved Solids, mg/L  
**Option for LT Pts (Compliance Data)** : 0% to <= 15% Substitute PQL

<u>Sample Date</u>	<u>Analysis Result</u>	<u>Upper Limit</u>	<u>Upper Limit</u>	Result >
7/26/2017	566.000	427.268		y
9/21/2017	572.000	427.268		y

---

Prediction Interval is based on Normal Distribution and the number of compliance periods (k).

**Williams (Hwy 52)  
Parametric Prediction Interval on Background - Compliance Analysis**

**User Supplied Information**

**Sided:** 1  
**Background Date Range:** 05/10/2016 to 09/21/2017  
**Compliance Date Range:** 07/24/2017 to 09/21/2017  
**Compliance Locations:** MW-LF-20,MW-LF-21,MW-LF-22D,MW-LF-23D,MW-LF-24,MW-LF-25,MW-LF-26  
**Background Locations:** MW-LF-10,MW-LF-11,MW-LF-27,MW-LF-28

**Location** MW-LF-26

Run Id: 44

**Parameter Name:** Ca, ug/L

**Option for LT Pts (Compliance Data)** : 0% to <= 15% Substitute PQL

<u>Sample Date</u>	<u>Analysis Result</u>	<u>Upper Limit</u>	<u>Upper Limit</u>	Result >
7/26/2017	168.000	106.597		y
9/21/2017	174.800	106.597		y

Run Id: 46

**Parameter Name:** Field pH, S.U.

**Option for LT Pts (Compliance Data)** : 0% to <= 15% Substitute PQL

<u>Sample Date</u>	<u>Analysis Result</u>	<u>Upper Limit</u>	<u>Upper Limit</u>	Result >	<u>Lower Limit</u>	<u>Lower Limit</u>	Result <
7/26/2017	6.000	7.866		n	6.028		y
9/20/2017	6.000	7.866		n	6.028		y

Run Id: 47

**Parameter Name:** Fluoride, total, mg/L

**Option for LT Pts (Compliance Data)** : 0% to <= 15% Substitute PQL

<u>Sample Date</u>	<u>Analysis Result</u>	<u>Upper Limit</u>	<u>Upper Limit</u>	Result >
7/26/2017	0.193	0.614		n

Run Id: 48

**Parameter Name:** SO4, mg/L

**Option for LT Pts (Compliance Data)** : 0% to <= 15% Substitute PQL

<u>Sample Date</u>	<u>Analysis Result</u>	<u>Upper Limit</u>	<u>Upper Limit</u>	Result >
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Prediction Interval is based on Normal Distribution and the number of compliance periods (k).

**Williams (Hwy 52)  
Parametric Prediction Interval on Background - Compliance Analysis**

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**User Supplied Information**

**Sided:** 1  
**Background Date Range:** 05/10/2016 to 09/21/2017  
**Compliance Date Range:** 07/24/2017 to 09/21/2017  
**Compliance Locations:** MW-LF-20,MW-LF-21,MW-LF-22D,MW-LF-23D,MW-LF-24,MW-LF-25,MW-LF-26  
**Background Locations:** MW-LF-10,MW-LF-11,MW-LF-27,MW-LF-28

7/26/2017	76.860	28.067	y
9/21/2017	73.300	28.067	y

Run Id: 49

**Parameter Name:** Total Dissolved Solids, mg/L  
**Option for LT Pts (Compliance Data)** : 0% to <= 15% Substitute PQL

<u>Sample Date</u>	<u>Analysis Result</u>	<u>Upper Limit</u>	<u>Upper Limit</u>	Result >
7/26/2017	875.000	427.268		y
9/21/2017	2,802.000	427.268		y

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Prediction Interval is based on Normal Distribution and the number of compliance periods (k).

**Williams (Hwy 52)**  
**Parametric Prediction Interval on Background - Compliance Analysis**

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**User Supplied Information**

**Sided:** 1  
**Background Date Range:** 05/10/2016 to 09/21/2017  
**Compliance Date Range:** 07/24/2017 to 09/21/2017  
**Compliance Locations:** MW-LF-20,MW-LF-21,MW-LF-22D,MW-LF-23D,MW-LF-24,MW-LF-25,MW-LF-26  
**Background Locations:** MW-LF-10,MW-LF-11,MW-LF-27,MW-LF-28

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Prediction Interval is based on Normal Distribution and the number of compliance periods (k).

**Williams (Hwy 52)  
Non-Parametric Prediction Interval on Background**

**User Supplied Information**

**Background Date Range:** 05/10/2016 to 09/21/2017  
**Compliance Date Range:** 07/24/2017 to 9/21/2017  
**No. of Verification Resamples:** 1

Run Id: 3

**Background Locations:** MW-LF-10,MW-LF-11,MW-LF-27,MW-LF-28

<u>Parameter Code</u>	<u>Parameter Name</u>	<u>Units</u>	<u>Background Sample Count</u>	<u>Option for LT Pts.</u>
00940	Chlorides	mg/L	27	0% to <= 15% Substitute PQL

<b>One-Sided Upper Confidence Level, %</b>	<b>PU (Upper) Value:</b>
98.34	19.70

<u>Location</u>	<u>Sample Date</u>	<u>Sample Result</u>	<u>Greater than PU (Upper)</u>
MW-LF-20	07/25/2017	9.70	n
MW-LF-20	09/20/2017	9.80	n

Run Id: 10

**Background Locations:** MW-LF-10,MW-LF-11,MW-LF-27,MW-LF-28

<u>Parameter Code</u>	<u>Parameter Name</u>	<u>Units</u>	<u>Background Sample Count</u>	<u>Option for LT Pts.</u>
00940	Chlorides	mg/L	27	0% to <= 15% Substitute PQL

<b>One-Sided Upper Confidence Level, %</b>	<b>PU (Upper) Value:</b>
98.34	19.70

<u>Location</u>	<u>Sample Date</u>	<u>Sample Result</u>	<u>Greater than PU (Upper)</u>
MW-LF-21	07/25/2017	10.10	n
MW-LF-21	09/20/2017	10.36	n

**Williams (Hwy 52)  
Non-Parametric Prediction Interval on Background**

**User Supplied Information**

**Background Date Range:** 05/10/2016 to 09/21/2017  
**Compliance Date Range:** 07/24/2017 to 9/21/2017  
**No. of Verification Resamples:** 1

Run Id: 17

**Background Locations:** MW-LF-10,MW-LF-11,MW-LF-27,MW-LF-28

<u>Parameter Code</u>	<u>Parameter Name</u>	<u>Units</u>	<u>Background Sample Count</u>	<u>Option for LT Pts.</u>
00940	Chlorides	mg/L	27	0% to <= 15% Substitute PQL

<b>One-Sided Upper Confidence Level, %</b>	<b>PU (Upper) Value:</b>
98.34	19.70

<u>Location</u>	<u>Sample Date</u>	<u>Sample Result</u>	<u>Greater than PU (Upper)</u>
MW-LF-22D	07/25/2017	9.97	n
MW-LF-22D	09/21/2017	10.00	n

Run Id: 24

**Background Locations:** MW-LF-10,MW-LF-11,MW-LF-27,MW-LF-28

<u>Parameter Code</u>	<u>Parameter Name</u>	<u>Units</u>	<u>Background Sample Count</u>	<u>Option for LT Pts.</u>
00940	Chlorides	mg/L	27	0% to <= 15% Substitute PQL

<b>One-Sided Upper Confidence Level, %</b>	<b>PU (Upper) Value:</b>
98.34	19.70

<u>Location</u>	<u>Sample Date</u>	<u>Sample Result</u>	<u>Greater than PU (Upper)</u>
MW-LF-23D	07/26/2017	15.60	n
MW-LF-23D	09/21/2017	14.50	n

**Williams (Hwy 52)  
Non-Parametric Prediction Interval on Background**

**User Supplied Information**

**Background Date Range:** 05/10/2016 to 09/21/2017  
**Compliance Date Range:** 07/24/2017 to 9/21/2017  
**No. of Verification Resamples:** 1

Run Id: 31

**Background Locations:** MW-LF-10,MW-LF-11,MW-LF-27,MW-LF-28

<u>Parameter Code</u>	<u>Parameter Name</u>	<u>Units</u>	<u>Background Sample Count</u>	<u>Option for LT Pts.</u>
00940	Chlorides	mg/L	27	0% to <= 15% Substitute PQL

**One-Sided Upper Confidence Level, %** **PU (Upper) Value:**  
 98.34 19.70

<u>Location</u>	<u>Sample Date</u>	<u>Sample Result</u>	<u>Greater than PU (Upper)</u>
MW-LF-24	07/26/2017	21.58	y
MW-LF-24	09/21/2017	22.40	y

Run Id: 38

**Background Locations:** MW-LF-10,MW-LF-11,MW-LF-27,MW-LF-28

<u>Parameter Code</u>	<u>Parameter Name</u>	<u>Units</u>	<u>Background Sample Count</u>	<u>Option for LT Pts.</u>
00940	Chlorides	mg/L	27	0% to <= 15% Substitute PQL

**One-Sided Upper Confidence Level, %** **PU (Upper) Value:**  
 98.34 19.70

<u>Location</u>	<u>Sample Date</u>	<u>Sample Result</u>	<u>Greater than PU (Upper)</u>
MW-LF-25	07/26/2017	23.41	y
MW-LF-25	09/21/2017	21.80	y

**Williams (Hwy 52)  
Non-Parametric Prediction Interval on Background**

**User Supplied Information**

**Background Date Range:** 05/10/2016 to 09/21/2017  
**Compliance Date Range:** 07/24/2017 to 9/21/2017  
**No. of Verification Resamples:** 1

Run Id: 45

**Background Locations:** MW-LF-10,MW-LF-11,MW-LF-27,MW-LF-28

<u>Parameter Code</u>	<u>Parameter Name</u>	<u>Units</u>	<u>Background Sample Count</u>	<u>Option for LT Pts.</u>
00940	Chlorides	mg/L	27	0% to <= 15% Substitute PQL

<b>One-Sided Upper Confidence Level, %</b>	<b>PU (Upper) Value:</b>
98.34	19.70

<u>Location</u>	<u>Sample Date</u>	<u>Sample Result</u>	<u>Greater than PU (Upper)</u>
MW-LF-26	07/26/2017	155.10	y
MW-LF-26	09/21/2017	161.00	y



**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

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**Post Hoc Trend Analysis**

Run Id: 1

<b>Location ID:</b> MW-LF-20	<b>Parameter Code:</b> 01022
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Boron, total
<b>Date Range:</b> 05/11/2016 to 09/20/2017	<b>Units:</b> mg/L
<b>Option for LT Points:</b> > 50% to <= 100 % Substitute PQL	<b>Percent of ND:</b> 100

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	0.000	mg/L per year
Lower Confidence Limit of Slope, M1:	0.000	mg/L per year
Upper Confidence Limit of Slope, M2+1:	0.000	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.000
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None

**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 2

<b>Location ID:</b> MW-LF-20	<b>Parameter Code:</b> 00916
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Ca
<b>Date Range:</b> 05/11/2016 to 09/20/2017	<b>Units:</b> ug/L
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	-1.818	ug/L per year
Lower Confidence Limit of Slope, M1:	-19.367	ug/L per year
Upper Confidence Limit of Slope, M2+1:	20.893	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

**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 3

<b>Location ID:</b> MW-LF-20	<b>Parameter Code:</b> 00940
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Chlorides
<b>Date Range:</b> 05/11/2016 to 09/20/2017	<b>Units:</b> mg/L
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	1.02	mg/L per year
Lower Confidence Limit of Slope, M1:	0.07	mg/L per year
Upper Confidence Limit of Slope, M2+1:	2.30	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.77
Z test:	1.64
At the 1.0 % Confidence Level (One-Sided Test):	Upward

**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 4

<b>Location ID:</b> MW-LF-20	<b>Parameter Code:</b> 00400
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Field pH
<b>Date Range:</b> 05/11/2016 to 09/20/2017	<b>Units:</b> S.U.
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	-0.059	S.U. per year
Lower Confidence Limit of Slope, M1:	-0.210	S.U. per year
Upper Confidence Limit of Slope, M2+1:	0.257	S.U. per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-0.661
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None

**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 5

<b>Location ID:</b> MW-LF-20	<b>Parameter Code:</b> 00951
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Fluoride, total
<b>Date Range:</b> 05/11/2016 to 09/20/2017	<b>Units:</b> mg/L
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	0.056	mg/L per year
Lower Confidence Limit of Slope, M1:	-0.020	mg/L per year
Upper Confidence Limit of Slope, M2+1:	0.201	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.355
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None

**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 6

<b>Location ID:</b> MW-LF-20	<b>Parameter Code:</b> 00945
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> SO4
<b>Date Range:</b> 05/11/2016 to 09/20/2017	<b>Units:</b> mg/L
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	-9.959	mg/L per year
Lower Confidence Limit of Slope, M1:	-20.457	mg/L per year
Upper Confidence Limit of Slope, M2+1:	-6.452	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-3.649
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	Downward

**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 7

<b>Location ID:</b> MW-LF-20	<b>Parameter Code:</b> 00515
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Total Dissolved Solids
<b>Date Range:</b> 05/11/2016 to 09/20/2017	<b>Units:</b> mg/L
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	-5.598	mg/L per year
Lower Confidence Limit of Slope, M1:	-36.039	mg/L per year
Upper Confidence Limit of Slope, M2+1:	104.012	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

**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 8

<b>Location ID:</b> MW-LF-21	<b>Parameter Code:</b> 01022
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Boron, total
<b>Date Range:</b> 05/11/2016 to 09/20/2017	<b>Units:</b> mg/L
<b>Option for LT Points:</b> > 50% to <= 100 % Substitute PQL	<b>Percent of ND:</b> 100

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	0.000	mg/L per year
Lower Confidence Limit of Slope, M1:	0.000	mg/L per year
Upper Confidence Limit of Slope, M2+1:	0.000	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.000
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None



**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 9

<b>Location ID:</b> MW-LF-21	<b>Parameter Code:</b> 00916
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Ca
<b>Date Range:</b> 05/11/2016 to 09/20/2017	<b>Units:</b> ug/L
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	4.628	ug/L per year
Lower Confidence Limit of Slope, M1:	-8.579	ug/L per year
Upper Confidence Limit of Slope, M2+1:	30.546	ug/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

**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 10

<b>Location ID:</b> MW-LF-21	<b>Parameter Code:</b> 00940
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Chlorides
<b>Date Range:</b> 05/11/2016 to 09/20/2017	<b>Units:</b> mg/L
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	1.23	mg/L per year
Lower Confidence Limit of Slope, M1:	-0.27	mg/L per year
Upper Confidence Limit of Slope, M2+1:	2.79	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.36
Z test:	1.64
At the 1.0 % Confidence Level (One-Sided Test):	None

**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 11

<b>Location ID:</b> MW-LF-21	<b>Parameter Code:</b> 00400
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Field pH
<b>Date Range:</b> 05/11/2016 to 09/20/2017	<b>Units:</b> S.U.
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	-0.194	S.U. per year
Lower Confidence Limit of Slope, M1:	-0.398	S.U. per year
Upper Confidence Limit of Slope, M2+1:	0.054	S.U. per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.076
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None

**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 12

**Location ID:** MW-LF-21

**Parameter Code:** 00951

**Confidence Level:** 0.95

**Parameter:** Fluoride, total

**Date Range:** 05/11/2016 to 09/20/2017

**Units:** mg/L

**Option for LT Points:** 0% to <= 15% Substitute PQL

**Percent of ND:** 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	0.037	mg/L per year
Lower Confidence Limit of Slope, M1:	-0.042	mg/L per year
Upper Confidence Limit of Slope, M2+1:	0.152	mg/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

**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 13

<b>Location ID:</b> MW-LF-21	<b>Parameter Code:</b> 00945
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> SO4
<b>Date Range:</b> 05/11/2016 to 09/20/2017	<b>Units:</b> mg/L
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	-7.524	mg/L per year
Lower Confidence Limit of Slope, M1:	-15.873	mg/L per year
Upper Confidence Limit of Slope, M2+1:	-2.762	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-3.023
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	Downward

**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 14

<b>Location ID:</b> MW-LF-21	<b>Parameter Code:</b> 00515
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Total Dissolved Solids
<b>Date Range:</b> 05/11/2016 to 09/20/2017	<b>Units:</b> mg/L
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	49.535	mg/L per year
Lower Confidence Limit of Slope, M1:	-60.332	mg/L per year
Upper Confidence Limit of Slope, M2+1:	122.909	mg/L 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

**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 15

<b>Location ID:</b> MW-LF-22D	<b>Parameter Code:</b> 01022
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Boron, total
<b>Date Range:</b> 05/11/2016 to 09/21/2017	<b>Units:</b> mg/L
<b>Option for LT Points:</b> > 50% to <= 100 % Substitute PQL	<b>Percent of ND:</b> 100

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	0.000	mg/L per year
Lower Confidence Limit of Slope, M1:	0.000	mg/L per year
Upper Confidence Limit of Slope, M2+1:	0.000	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.000
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None

**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 16

<b>Location ID:</b> MW-LF-22D	<b>Parameter Code:</b> 00916
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Ca
<b>Date Range:</b> 05/11/2016 to 09/21/2017	<b>Units:</b> ug/L
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	-4.742	ug/L per year
Lower Confidence Limit of Slope, M1:	-14.103	ug/L per year
Upper Confidence Limit of Slope, M2+1:	3.073	ug/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



**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 17

<b>Location ID:</b> MW-LF-22D	<b>Parameter Code:</b> 00940
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Chlorides
<b>Date Range:</b> 05/11/2016 to 09/21/2017	<b>Units:</b> mg/L
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	-0.24	mg/L per year
Lower Confidence Limit of Slope, M1:	-1.00	mg/L per year
Upper Confidence Limit of Slope, M2+1:	0.10	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.05
Z test:	1.64
At the 1.0 % Confidence Level (One-Sided Test):	None

**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 18

<b>Location ID:</b> MW-LF-22D	<b>Parameter Code:</b> 00400
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Field pH
<b>Date Range:</b> 05/11/2016 to 09/20/2017	<b>Units:</b> S.U.
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	-0.211	S.U. per year
Lower Confidence Limit of Slope, M1:	-0.528	S.U. per year
Upper Confidence Limit of Slope, M2+1:	0.000	S.U. per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.507
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None

**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 19

**Location ID:** MW-LF-22D

**Parameter Code:** 00951

**Confidence Level:** 0.95

**Parameter:** Fluoride, total

**Date Range:** 05/11/2016 to 07/25/2017

**Units:** mg/L

**Option for LT Points:** 0% to <= 15% Substitute PQL

**Percent of ND:** 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	-0.014	mg/L per year
Lower Confidence Limit of Slope, M1:	-0.106	mg/L per year
Upper Confidence Limit of Slope, M2+1:	0.111	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-0.124
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None

**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 20

<b>Location ID:</b> MW-LF-22D	<b>Parameter Code:</b> 00945
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> SO4
<b>Date Range:</b> 05/11/2016 to 09/21/2017	<b>Units:</b> mg/L
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	-40.339	mg/L per year
Lower Confidence Limit of Slope, M1:	-73.611	mg/L per year
Upper Confidence Limit of Slope, M2+1:	-3.934	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.981
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	Downward

**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 21

<b>Location ID:</b> MW-LF-22D	<b>Parameter Code:</b> 00515
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Total Dissolved Solids
<b>Date Range:</b> 05/11/2016 to 09/21/2017	<b>Units:</b> mg/L
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	47.980	mg/L per year
Lower Confidence Limit of Slope, M1:	-69.215	mg/L per year
Upper Confidence Limit of Slope, M2+1:	94.938	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.521
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None

**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 22

<b>Location ID:</b> MW-LF-23D	<b>Parameter Code:</b> 01022
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Boron, total
<b>Date Range:</b> 05/11/2016 to 09/21/2017	<b>Units:</b> mg/L
<b>Option for LT Points:</b> > 50% to <= 100 % Substitute PQL	<b>Percent of ND:</b> 100

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	0.000	mg/L per year
Lower Confidence Limit of Slope, M1:	0.000	mg/L per year
Upper Confidence Limit of Slope, M2+1:	0.000	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.000
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None

**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 23

<b>Location ID:</b> MW-LF-23D	<b>Parameter Code:</b> 00916
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Ca
<b>Date Range:</b> 05/11/2016 to 09/21/2017	<b>Units:</b> ug/L
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	8.381	ug/L per year
Lower Confidence Limit of Slope, M1:	5.266	ug/L per year
Upper Confidence Limit of Slope, M2+1:	18.143	ug/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	2.815
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	Upward

**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 24

<b>Location ID:</b> MW-LF-23D	<b>Parameter Code:</b> 00940
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Chlorides
<b>Date Range:</b> 05/11/2016 to 09/21/2017	<b>Units:</b> mg/L
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	1.33	mg/L per year
Lower Confidence Limit of Slope, M1:	0.00	mg/L per year
Upper Confidence Limit of Slope, M2+1:	2.16	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.49
Z test:	1.64
At the 1.0 % Confidence Level (One-Sided Test):	None



**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 25

<b>Location ID:</b> MW-LF-23D	<b>Parameter Code:</b> 00400
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Field pH
<b>Date Range:</b> 05/11/2016 to 09/20/2017	<b>Units:</b> S.U.
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	-0.194	S.U. per year
Lower Confidence Limit of Slope, M1:	-0.325	S.U. per year
Upper Confidence Limit of Slope, M2+1:	0.000	S.U. per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.885
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	Downward

**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 26

**Location ID:** MW-LF-23D

**Parameter Code:** 00951

**Confidence Level:** 0.95

**Parameter:** Fluoride, total

**Date Range:** 05/11/2016 to 07/26/2017

**Units:** mg/L

**Option for LT Points:** 0% to <= 15% Substitute PQL

**Percent of ND:** 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	-0.010	mg/L per year
Lower Confidence Limit of Slope, M1:	-0.117	mg/L per year
Upper Confidence Limit of Slope, M2+1:	0.088	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-0.124
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None

**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 27

<b>Location ID:</b> MW-LF-23D	<b>Parameter Code:</b> 00945
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> SO4
<b>Date Range:</b> 05/11/2016 to 09/21/2017	<b>Units:</b> mg/L
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	-3.866	mg/L per year
Lower Confidence Limit of Slope, M1:	-12.884	mg/L per year
Upper Confidence Limit of Slope, M2+1:	0.314	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.355
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None

**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 28

<b>Location ID:</b> MW-LF-23D	<b>Parameter Code:</b> 00515
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Total Dissolved Solids
<b>Date Range:</b> 05/11/2016 to 09/21/2017	<b>Units:</b> mg/L
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	56.267	mg/L per year
Lower Confidence Limit of Slope, M1:	24.888	mg/L per year
Upper Confidence Limit of Slope, M2+1:	202.578	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	2.606
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	Upward

**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 29

<b>Location ID:</b> MW-LF-24	<b>Parameter Code:</b> 01022
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Boron, total
<b>Date Range:</b> 05/11/2016 to 09/21/2017	<b>Units:</b> mg/L
<b>Option for LT Points:</b> > 50% to <= 100 % Substitute PQL	<b>Percent of ND:</b> 100

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	0.000	mg/L per year
Lower Confidence Limit of Slope, M1:	0.000	mg/L per year
Upper Confidence Limit of Slope, M2+1:	0.000	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.000
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None

**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 30

<b>Location ID:</b> MW-LF-24	<b>Parameter Code:</b> 00916
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Ca
<b>Date Range:</b> 05/11/2016 to 09/21/2017	<b>Units:</b> ug/L
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	2.854	ug/L per year
Lower Confidence Limit of Slope, M1:	-21.594	ug/L per year
Upper Confidence Limit of Slope, M2+1:	22.666	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

**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 31

<b>Location ID:</b> MW-LF-24	<b>Parameter Code:</b> 00940
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Chlorides
<b>Date Range:</b> 05/11/2016 to 09/21/2017	<b>Units:</b> mg/L
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	1.05	mg/L per year
Lower Confidence Limit of Slope, M1:	-3.97	mg/L per year
Upper Confidence Limit of Slope, M2+1:	3.33	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.10
Z test:	1.64
At the 1.0 % Confidence Level (One-Sided Test):	None

**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 32

<b>Location ID:</b> MW-LF-24	<b>Parameter Code:</b> 00400
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Field pH
<b>Date Range:</b> 05/11/2016 to 09/20/2017	<b>Units:</b> S.U.
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	-0.176	S.U. per year
Lower Confidence Limit of Slope, M1:	-0.295	S.U. per year
Upper Confidence Limit of Slope, M2+1:	0.365	S.U. per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-0.848
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None



**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 33

**Location ID:** MW-LF-24

**Parameter Code:** 00951

**Confidence Level:** 0.95

**Parameter:** Fluoride, total

**Date Range:** 05/11/2016 to 07/26/2017

**Units:** mg/L

**Option for LT Points:** 0% to <= 15% Substitute PQL

**Percent of ND:** 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	0.024	mg/L per year
Lower Confidence Limit of Slope, M1:	-0.158	mg/L per year
Upper Confidence Limit of Slope, M2+1:	0.130	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.499
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None

**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 34

<b>Location ID:</b> MW-LF-24	<b>Parameter Code:</b> 00945
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> SO4
<b>Date Range:</b> 05/11/2016 to 09/21/2017	<b>Units:</b> mg/L
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	-7.353	mg/L per year
Lower Confidence Limit of Slope, M1:	-24.828	mg/L per year
Upper Confidence Limit of Slope, M2+1:	14.282	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

**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 35

<b>Location ID:</b> MW-LF-24	<b>Parameter Code:</b> 00515
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Total Dissolved Solids
<b>Date Range:</b> 05/11/2016 to 09/21/2017	<b>Units:</b> mg/L
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	-15.593	mg/L per year
Lower Confidence Limit of Slope, M1:	-81.659	mg/L per year
Upper Confidence Limit of Slope, M2+1:	58.186	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

**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 36

<b>Location ID:</b> MW-LF-25	<b>Parameter Code:</b> 01022
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Boron, total
<b>Date Range:</b> 05/11/2016 to 09/21/2017	<b>Units:</b> mg/L
<b>Option for LT Points:</b> > 50% to <= 100 % Substitute PQL	<b>Percent of ND:</b> 100

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	0.000	mg/L per year
Lower Confidence Limit of Slope, M1:	0.000	mg/L per year
Upper Confidence Limit of Slope, M2+1:	0.000	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.000
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None

**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 37

<b>Location ID:</b> MW-LF-25	<b>Parameter Code:</b> 00916
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Ca
<b>Date Range:</b> 05/11/2016 to 09/21/2017	<b>Units:</b> ug/L
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	6.949	ug/L per year
Lower Confidence Limit of Slope, M1:	-0.851	ug/L per year
Upper Confidence Limit of Slope, M2+1:	25.054	ug/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.277
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None

**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 38

<b>Location ID:</b> MW-LF-25	<b>Parameter Code:</b> 00940
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Chlorides
<b>Date Range:</b> 05/11/2016 to 09/21/2017	<b>Units:</b> mg/L
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	0.72	mg/L per year
Lower Confidence Limit of Slope, M1:	-0.72	mg/L per year
Upper Confidence Limit of Slope, M2+1:	2.11	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.94
Z test:	1.64
At the 1.0 % Confidence Level (One-Sided Test):	None

**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 39

<b>Location ID:</b> MW-LF-25	<b>Parameter Code:</b> 00400
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Field pH
<b>Date Range:</b> 05/11/2016 to 09/20/2017	<b>Units:</b> S.U.
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	-0.132	S.U. per year
Lower Confidence Limit of Slope, M1:	-0.220	S.U. per year
Upper Confidence Limit of Slope, M2+1:	0.000	S.U. per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.312
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None

**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 40

**Location ID:** MW-LF-25

**Parameter Code:** 00951

**Confidence Level:** 0.95

**Parameter:** Fluoride, total

**Date Range:** 05/11/2016 to 07/26/2017

**Units:** mg/L

**Option for LT Points:** 0% to <= 15% Substitute PQL

**Percent of ND:** 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	-0.018	mg/L per year
Lower Confidence Limit of Slope, M1:	-0.424	mg/L per year
Upper Confidence Limit of Slope, M2+1:	0.406	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-0.124
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None



**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 41

<b>Location ID:</b> MW-LF-25	<b>Parameter Code:</b> 00945
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> SO4
<b>Date Range:</b> 05/11/2016 to 09/21/2017	<b>Units:</b> mg/L
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	27.943	mg/L per year
Lower Confidence Limit of Slope, M1:	22.059	mg/L per year
Upper Confidence Limit of Slope, M2+1:	33.741	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	3.440
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	Upward

**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 42

<b>Location ID:</b> MW-LF-25	<b>Parameter Code:</b> 00515
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Total Dissolved Solids
<b>Date Range:</b> 05/11/2016 to 09/21/2017	<b>Units:</b> mg/L
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	42.005	mg/L per year
Lower Confidence Limit of Slope, M1:	15.087	mg/L per year
Upper Confidence Limit of Slope, M2+1:	109.467	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.981
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	Upward

**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 43

<b>Location ID:</b> MW-LF-26	<b>Parameter Code:</b> 01022
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Boron, total
<b>Date Range:</b> 05/11/2016 to 09/21/2017	<b>Units:</b> mg/L
<b>Option for LT Points:</b> > 50% to <= 100 % Substitute PQL	<b>Percent of ND:</b> 100

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	0.000	mg/L per year
Lower Confidence Limit of Slope, M1:	0.000	mg/L per year
Upper Confidence Limit of Slope, M2+1:	0.000	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.000
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None

**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 44

<b>Location ID:</b> MW-LF-26	<b>Parameter Code:</b> 00916
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Ca
<b>Date Range:</b> 05/11/2016 to 09/21/2017	<b>Units:</b> ug/L
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	7.257	ug/L per year
Lower Confidence Limit of Slope, M1:	-1.550	ug/L per year
Upper Confidence Limit of Slope, M2+1:	22.904	ug/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.370
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None

**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 45

<b>Location ID:</b> MW-LF-26	<b>Parameter Code:</b> 00940
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Chlorides
<b>Date Range:</b> 05/11/2016 to 09/21/2017	<b>Units:</b> mg/L
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	-2.41	mg/L per year
Lower Confidence Limit of Slope, M1:	-18.58	mg/L per year
Upper Confidence Limit of Slope, M2+1:	5.82	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-0.42
Z test:	1.64
At the 1.0 % Confidence Level (One-Sided Test):	None

**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 46

<b>Location ID:</b> MW-LF-26	<b>Parameter Code:</b> 00400
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Field pH
<b>Date Range:</b> 05/11/2016 to 09/20/2017	<b>Units:</b> S.U.
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	-0.256	S.U. per year
Lower Confidence Limit of Slope, M1:	-0.443	S.U. per year
Upper Confidence Limit of Slope, M2+1:	-0.081	S.U. per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-2.425
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	Downward

**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 47

**Location ID:** MW-LF-26

**Parameter Code:** 00951

**Confidence Level:** 0.95

**Parameter:** Fluoride, total

**Date Range:** 05/11/2016 to 07/26/2017

**Units:** mg/L

**Option for LT Points:** 0% to <= 15% Substitute PQL

**Percent of ND:** 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	0.098	mg/L per year
Lower Confidence Limit of Slope, M1:	-0.001	mg/L per year
Upper Confidence Limit of Slope, M2+1:	0.151	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.608
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None

**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 48

<b>Location ID:</b> MW-LF-26	<b>Parameter Code:</b> 00945
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> SO4
<b>Date Range:</b> 05/11/2016 to 09/21/2017	<b>Units:</b> mg/L
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	-8.726	mg/L per year
Lower Confidence Limit of Slope, M1:	-22.425	mg/L per year
Upper Confidence Limit of Slope, M2+1:	2.263	mg/L per year

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.355
Z test:	1.645
At the 1.0 % Confidence Level (One-Sided Test):	None



**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**

---

**Post Hoc Trend Analysis**

Run Id: 49

<b>Location ID:</b> MW-LF-26	<b>Parameter Code:</b> 00515
<b>Confidence Level:</b> 0.95	<b>Parameter:</b> Total Dissolved Solids
<b>Date Range:</b> 05/11/2016 to 09/21/2017	<b>Units:</b> mg/L
<b>Option for LT Points:</b> 0% to <= 15% Substitute PQL	<b>Percent of ND:</b> 0

---

Theil-Sen Non-parametric estimate of the slope (One-Sided Test)

Median Slope:	19.810	mg/L per year
Lower Confidence Limit of Slope, M1:	-17.673	mg/L per year
Upper Confidence Limit of Slope, M2+1:	140.089	mg/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

**Williams (Hwy 52)**  
**Theil Sen Mann-Kendall Trend Analysis**