DOMINION ENERGY SOUTH CAROLINA

WILLIAMS STATION HIGHWAY 52 CLASS III INDUSTRIAL LANDFILL

BERKELEY COUNTY, SOUTH CAROLINA

EPA CCR RULE COMPLIANCE

2023 CCR ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

January 31, 2024

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Executive Summary

Dominion Energy South Carolina (DESC) operates an offsite Class III Industrial Landfill (Unit) for the disposal of coal combustion residuals (CCR) at the Williams Generating Station (Station) located near Goose Creek, in Berkeley County, South Carolina. The Unit receives CCR generated from the combustion of coal at the Station. Management of the CCR at the Unit is performed pursuant to national criteria established in Title 40 of the Code of Federal Regulations (40 CFR), Part 257 (CCR Rule), effective April 19, 2015, and subsequent revisions to the CCR Rule. Pursuant to the CCR Rule, the Station operator is required to complete an *Annual Groundwater Monitoring and Corrective Action Report* for the Unit by January 31st, annually.

This report documents the status of the CCR groundwater monitoring program for the Unit, summarizes key actions completed, describes issues encountered, actions taken to resolve identified concerns, and planned key activities for the upcoming year.

In accordance with 40 CFR Part 257.90(e)(6), the following information is being provided as an overview of the current status of groundwater monitoring and corrective action for the Unit:

i. At the start of the current annual reporting period, indicate whether the CCR unit was operating under the detection monitoring program in §257.94 or the assessment monitoring program in §257.95.

- At the start of 2023, the Unit was operating under the detection monitoring program in accordance with §257.94.

ii. At the end of the current annual reporting period, indicate whether the CCR unit was operating under the detection monitoring program in §257.94 or the assessment monitoring program in §257.95.

- At the end of 2023, the Unit was operating under the detection monitoring program in accordance with §257.94.

iii. If it was determined that there was a statistically significant increase over background for one or more constituents listed in Appendix III to this part pursuant to §257.94(e).

a. Identify those constituents listed in Appendix III to this part and the names of the monitoring wells associated with such an increase.

- In 2023, there were SSIs over background for the following Appendix III constituents at the following wells:
  - Calcium – MW-LF-20, MW-LF-21, MW-LF-22D, MW-LF-24, MW-LF-25, and MW-LF-26

- Chloride – MW-LF-26
- Fluoride – MW-LF-25
- Sulfate – MW-LF-25 and MW-LF-26
- Total Dissolved Solids (TDS) – MW-LF-20, MW-LF-21, MW-LF-22D, MW-LF-23D, MW-LF-24, MW-LF-25, and MW-LF-26

b. Provide the date when the assessment program was initiated for the CCR unit.

- The Unit is in the detection monitoring program and has not initiated assessment monitoring to date.

iv. If it was determined that there was a statistically significant level above the groundwater protection standard for one or more constituents listed in Appendix IV to this part pursuant to §257.95(g).

a. *Identify those constituents listed in Appendix IV to this part and the names of the monitoring wells associated with such an increase.*

- The Unit is in the detection monitoring program and Appendix IV constituents were not evaluated in 2023.

b. Provide the date when the assessment of corrective measures was initiated for the CCR unit.

- The Unit has not entered the assessment monitoring program and therefore not applicable.

c. Provide the date when the public meeting was held for the assessment of corrective measures for the CCR unit.

- The Unit has not entered the assessment monitoring program and therefore not applicable.

d. Provide the date when the assessment of corrective measures was completed for the CCR unit.

- The Unit has not entered the assessment monitoring program and therefore not applicable.

v. Whether a remedy was selected pursuant to §257.97 during the current annual reporting period, and if so, the date of the remedy selection.

- The Unit has not entered the assessment monitoring program and therefore not applicable.

vi. Whether remedial activities were initiated or are ongoing pursuant to §257.98 during the current annual reporting period.

- Remedial activities were not initiated or are not ongoing during this current annual reporting period.

Section 1
Introduction

This *2023 CCR Annual Groundwater Monitoring and Corrective Action Report* (Report) was prepared on behalf of Dominion Energy South Carolina (DESC) for the Williams Generating Station (Station) offsite Highway 52 Class III Industrial Landfill (Unit) located near Goose Creek, in Berkeley County, South Carolina. Coal combustion residuals (CCR) are produced as part of the electrical generation operations at the Station, transported offsite, and disposed of in the Unit. The CCR Unit is managed in accordance with the South Carolina Department of Health and Environmental Control (SC DHEC) Class III Solid Waste Permit (Permit # LF03-00001) and national criteria established by the CCR Rule. DESC installed a groundwater monitoring system at the Unit that is subject to the groundwater monitoring and corrective action requirements provided under 40 CFR §257.90 through §257.98. In accordance with 40 CFR §257.90(e), DESC must prepare an annual report that provides information regarding the groundwater monitoring and corrective action program at the Unit. This Report provides the monitoring and corrective action data and data evaluations for the semiannual CCR monitoring compliance events performed in March and October 2023.

1.1 Site Location

The Station is operated by DESC and is located at 2242 Bushy Park Road in Berkeley County, South Carolina (**Figure 1**). The Station is located approximately 6 miles northeast of Goose Creek, South Carolina. The Unit is located offsite at 2381 Highway 52 in Moncks Corner, Berkeley County, South Carolina (also depicted on **Figure 1**).

1.2 Site History

The Williams Highway 52 Landfill began operation as a Class III Industrial Landfill in 2010 (Permit LF3-00001). The Unit consists of a total of 12 cells, of which only 4 cells (Cells 1-4) are constructed and in service today. The Unit receives both fly ash and flue gas desulfurization (FGD) waste from the Station located about 6 miles from the Unit in Goose Creek, South Carolina.

1.3 Key Actions

Key actions for the Unit to date are as follows:

- Initiated the Detection Monitoring Program (DMP) on May 11, 2016, with the collection of eight (8) baseline/background samples and completed the background monitoring activities on July 25, 2017, pursuant to 40 CFR §257.94(b).

- Conducted the initial DMP compliance sampling event on September 26-27, 2017, pursuant to 40 CFR §257.94.
- Placed a copy of the Units Groundwater Monitoring Plan (GMP) documenting the design information for the monitoring wells pursuant to 40 CFR §257.91(e)(1) in the Station's operating record on October 17, 2017, pursuant to 40 CFR §257.105(h)(2).
- Certified the groundwater monitoring system pursuant to 40 CFR §257.91(f) and posted the Certification in the Station's operating record on October 17, 2017, pursuant to 40 CFR §257.105(h)(3).
- Certified the selection of a statistical method pursuant to 40 CFR §257.93(f)(6) and posted the Certification in the Station's operating record on October 17, 2017, pursuant to 40 CFR §257.105(h)(4).
- Background concentrations of Appendix III constituents were updated using United States Environmental Protection Agency-approved statistical procedures in August 2021.
- In 2023, DESC completed an Alternate Source Demonstration (ASD) per 40 CFR §257.94(e)(2) in response to potential Statistically Significant Increases (SSIs) identified during the statistical evaluation of the data generated from the second semiannual 2022 (September 2022) detection monitoring event. The ASD was certified by a South Carolina-registered professional engineer. As required by 40 CFR §257.94(e)(2), a copy of the ASD is included in **Appendix A**. Based on the successful evaluation and the results presented in the ASD, DESC continued with detection monitoring in accordance with 40 CFR §257.94.
- In January 2023, DESC installed three new groundwater monitoring wells (MW-LF-29, MW-LF-30, and MW-LF-31) along the northern edge of the Unit as part of an evaluation of the United States Environmental Protection Agency (EPA) CCR Compliance Monitoring Well Network performed by TRC in July 2022. The newly installed groundwater monitoring wells were sampled monthly from January 2023 through August 2023, to collect eight rounds of background monitoring data.
- Conducted the first semiannual 2023 detection monitoring between March 20 - 23, 2023 and completed the sample analyses on April 6, 2023, pursuant to 40 CFR §257.94(b).
- Completed a successful ASD on October 3, 2023, per 40 CFR §257.94(e)(2) for the potential SSIs identified during the first semiannual 2023 detection monitoring event. The ASD was certified by a South Carolina-registered professional engineer. As required by 40 CFR §257.94(e)(2), a copy of the ASD is included in this Report and provided in **Appendix B**. DESC continued with detection monitoring in accordance with 40 CFR §257.94.
- Conducted the second semiannual 2023 detection monitoring between October 3 – 4, 2023 and completed the sample analyses on October 18, 2023, pursuant to 40 CFR §257.94(b).

- In November 2023, DESC installed four new groundwater monitoring wells (MW-LF-32, MW-LF-33, MW-LF-34, and MW-LF-35) along the northern and western edges of the Unit as part of the continued evaluation of the EPA CCR Compliance Monitoring Well Network. The newly installed groundwater monitoring wells are scheduled to be sampled monthly from January 2024 through August 2024, to collect eight rounds of background monitoring data.

1.4 Monitoring Program Concerns

Based on the ongoing evaluation of the EPA CCR Compliance Monitoring Well Network, there remains a data gap with respect to the groundwater flow direction at the waste boundary of the Unit. As such, additional monitoring wells were installed in November 2023 to assist with better understanding groundwater flow at the waste boundary of the Unit. Continuation of the well network and groundwater flow evaluation will continue in 2024.

Section 2
Site Information

2.1 Monitoring Well Network

Groundwater monitoring wells (MW-LF-20, MW-LF-21, MW-LF-22, MW-LF-23, MW-LF-24, MW-LF-25, and MW-LF-26) were installed in March 2016 at the Unit to serve as the CCR Compliance Monitoring Well Network. Following installation in March 2016, subsequent groundwater gauging of wells MW-LF-22 and MW-LF-23 indicated insufficient groundwater sampling volumes in the wells. In April 2016, replacement wells were installed to greater depths adjacent to MW-LF-22 and MW-LF-23 and designated as MW-LF-22D and MW-LF-23D. Additional background monitoring wells were installed in November 2016 (MW-LF-27 and MW-LF-28) at hydraulicly upgradient locations. Existing monitoring wells MW-LF-10 and MW-LF-11, utilized for other monitoring programs for the Unit, were incorporated into the monitoring network in 2016.

The Compliance Monitoring Well Network currently consists of the following monitoring wells:

- Background monitoring wells - MW-LF-10, MW-LF-11, MW-LF-27, and MW-LF-28.
- Downgradient monitoring wells - MW-LF-20, MW-LF-21, MW-LF-22D, MW-LF-23D, MW-LF-24, MW-LF-25, and MW-LF-26.

The location of the CCR Rule Compliance Monitoring Well Network is presented on **Figure 2**.

2.2 Monitoring Well Installation and Decommissioning Activities

DESC installed three new monitoring wells (MW-LF-29, MW-LF-30, and MW-LF-31) and four piezometers (MW-LF-32, MW-LF-33, MW-LF-34, and MW-LF-35) during 2023. DESC did not decommission any existing wells in the certified groundwater monitoring system during 2023.

2.3 Groundwater Potentiometric Surface Evaluation

Current and historical static water level data for the Station are summarized in **Table 1**. Per requirements of the CCR Rule 40 CFR 257.93(c), the rate and direction of groundwater flow within the uppermost aquifer beneath the Unit must be determined after each sampling event. Groundwater potentiometric surface maps were prepared using water level data obtained from both semiannual sampling events conducted in March and October 2023. Using the groundwater contours from March 22 (**Figure 3**) and October 3 (**Figure 4**), the average horizontal hydraulic gradient was calculated using the following equation:

$$i = (h^1 - h^2)/S$$

Where:

i = horizontal hydraulic gradient (unitless)
h^1 = water elevation in well 1 (feet)
h^2 = water elevation in well 2 (feet)
S = horizontal distance between well 1 and well 2 (feet)

The groundwater seepage velocity was calculated using the following formula:

$$Vs = ki/n_e$$

Where:

Vs = Groundwater seepage velocity (feet/day)
k = hydraulic conductivity (feet/day)
i = horizontal hydraulic gradient (unitless)
n_e = effective porosity (percent)

The result for each semiannual event is presented separately in Sections 2.3.1 and 2.3.2. As presented, the estimated groundwater seepage velocity in the uppermost aquifer beneath the Unit is between 4 to 5 ft/year. Furthermore, the overall interpreted data indicates that the groundwater flow direction and velocity remain consistent with previous calculations for the Unit. The groundwater monitoring network continues to monitor the uppermost aquifer in accordance with the CCR Rule.

2.3.1 First Semiannual 2023 Detection Monitoring Program

The groundwater potentiometric surface map for March 20, 2023 is presented in **Figure 3**. Using an estimated effective porosity value of 7% and estimated average hydraulic conductivity value of 0.09 ft/day, the average rate of groundwater flow for the uppermost aquifer beneath the Unit was calculated to be 3.17 ft/year.

Well 1	Well 2	h^1 (ft)	h^2 (ft)	S (ft)	i	K (ft/day)	n_e	Vs (ft/day)	Vs (ft/yr.)
MW-LF-30	MW-LF-29	43.29	36.33	725	0.0096	0.09	0.07	0.0126	4.61
MW-LF-31	MW-LF-20	44.75	39.62	900	0.0057			0.0075	2.74
42' contour	MW-LF-25	42.00	36.50	1,220	0.0045			0.0059	2.17
Hydraulic conductivity and effective porosity values from February 2021: Analysis of Groundwater Flow Rate and Direction – Class III Landfill Wells (Nautilus 2021). Results from the March 2023 slug testing conducted by TRC are also included in the hydraulic conductivity estimate (TRC 2023).						Average		0.0087	3.17

2.3.2 Second Semiannual 2023 Detection Monitoring Program

The groundwater potentiometric surface map for October 3, 2023 is presented in **Figure 4**. Using an estimated effective porosity value of 7% and estimated average hydraulic conductivity

value of 0.09 ft/day, the average rate of groundwater flow for the uppermost aquifer beneath the Unit was calculated to be 2.54 ft/year.

Well 1	Well 2	h^1 (ft)	h^2 (ft)	S (ft)	i	K (ft/day)	n_e	Vs (ft/day)	Vs (ft/yr.)
MW-LF-30	MW-LF-29	42.31	36.62	725	0.0078	0.09	0.07	0.0103	3.77
MW-LF-31	MW-LF-20	44.59	40.86	900	0.0041			0.0055	1.99
42' contour	MW-LF-25	42.00	38.49	910	0.0039			0.0051	1.85
Hydraulic conductivity and effective porosity values from February 2021: Analysis of Groundwater Flow Rate and Direction – Class III Landfill Wells (Nautilus 2021). Results from the March 2023 slug testing conducted by TRC are also included in the hydraulic conductivity estimate (TRC 2023).						Average		0.0070	2.54

Section 3
Field Activities

CCR-related groundwater sampling activities that occurred during 2023 are summarized in the following sections.

3.1 Compliance Monitoring Program Sampling Activities

As per 40 CFR §257.94(c), two semiannual DMP sampling events were completed for the constituents and parameters listed in Appendix III of the CCR Rule. Summaries of the 2023 DMP sampling events are presented below.

2023 Monitoring Event	Sample Dates	Final Laboratory Package Receipt Date
First Semiannual Detection Monitoring Program Event	March 20 - 23, 2023	April 6, 2023
Second Semiannual Detection Monitoring Program Event	October 3 - 4, 2023	October 18, 2023

During each of the DMP sampling events, the compliance monitoring wells were sampled in accordance with the Unit's Groundwater Monitoring Plan (GMP).

Samples collected during the semiannual sampling events were submitted to GEL Laboratories (GEL) in Charleston, South Carolina under proper chain-of-custody procedures. GEL is a SC DHEC Environmental Laboratory Certification Program (ELCP) accredited laboratory for analysis of CCR Rule constituents (GEL certification #10120001).

Section 4
Laboratory Analytical Results

Laboratory analytical results from the DMP sampling events conducted in 2023 are summarized in the following sections.

4.1 First Semiannual 2023 Detection Monitoring Program Event

The groundwater samples collected during the first semiannual DMP event were analyzed by GEL for the constituents and parameters listed in Appendix III of the CCR Rule. The laboratory certificates of analysis, chain-of-custody forms, and field notes for the sampling event are presented in **Appendix C**. A summary of the CCR sampling data for the Unit is included in **Table 2**.

4.2 Second Semiannual 2023 Detection Monitoring Program Event

The groundwater samples collected during the second semiannual DMP event were analyzed by GEL for the constituents and parameters listed in Appendix III of the CCR Rule. The laboratory certificates of analysis, chain-of-custody forms, and field notes for the sampling event are presented in **Appendix D**. A summary of the CCR sampling data for the Unit is included in **Table 3**.

Section 5
Data Quality Validation

Third-party data validation services were provided by Environmental Standards, Inc. for the DMP sampling events. The reviews were performed with guidance from the US EPA data validation guidelines. A discussion of the findings is presented below.

5.1 First Semiannual 2023 Compliance Event Findings

The following field quality assurance (QA) and quality control (QC) samples for this event included:

- One blind duplicate sample was collected from MW-LF-20 on March 22, 2023.
- Additional sample volume was collected at MW-LF-28 on March 22, 2023, to allow for the laboratory to conduct a matrix spike (MS) and matrix spike duplicate (MSD) quality control check.
- A field blank was collected at MW-LF-11 on March 22, 2023, and MW-LF-10 on March 23, 2023, using laboratory provided deionized water. The field blank was used to assess for potential contaminants from field conditions during sampling activities.

These QA/QC samples were analyzed for the same constituents as the groundwater samples. Based on review of the laboratory-provided QC data and Environmental Standards recommendations, the data for this sampling event were determined to meet the data quality objectives for the project. A copy of the data validation report is included in **Appendix C**.

5.2 Second Semiannual 2023 Compliance Event Findings

The following field QA/QC samples for this event included:

- One blind duplicate sample was collected from MW-LF-21 on October 4, 2023.
- Additional sample volume was collected at MW-LF-28 on October 4, 2023, to allow for the laboratory to conduct a MS/MSD quality control check.
- A field blank was collected at MW-LF-21 on October 4, 2023, using laboratory provided deionized water. The field blank was used to assess for potential contaminants from field conditions during sampling activities.

These QA/QC samples were analyzed for the same constituents as the groundwater samples. Based on review of the laboratory-provided QC data and Environmental Standards recommendations, the data for this sampling event were determined to meet the data quality objectives for the project. A copy of the data validation report is included in **Appendix D**.

Section 6
Statistical Evaluation of Groundwater Data

Statistical evaluation of the semiannual DMP data was performed in accordance with the statistical method certified by a qualified South Carolina-registered professional engineer. The certified statistical method has been posted to the Unit's operating record. Statistical evaluations completed in 2023 are summarized in the following sections.

6.1 Site-Specific Background Evaluations

Compliance data from each semiannual event was evaluated against site-specific background values as follows.

6.1.1 First Semiannual 2023 Compliance Event

Pursuant to 40 CFR §257.94, TRC evaluated Appendix III constituent detections against site-specific background values that were established for the DMP (**Appendix E**). Based on that evaluation, the following Appendix III SSIs were identified for the first semiannual 2023 event (**Table 2**):

- Calcium (MW-LF-20, MW-LF-21, MW-LF-24, MW-LF-25, and MW-LF-26)
- Chloride (MW-LF-26)
- Sulfate (MW-LF-25 and MW-LF-26)
- Total Dissolved Solids (TDS) (MW-LF-20, MW-LF-21, MW-LF-22D, MW-LF-23D, MW-LF-24, MW-LF-25, and MW-LF-26)

An ASD and certification was prepared for this SSI and is attached as **Appendix B**.

6.1.2 Second Semiannual 2023 Compliance Event

Pursuant to 40 CFR §257.94, TRC evaluated Appendix III constituent detections against site-specific background values that were established for the DMP (**Appendix F**). Based on that evaluation, the following Appendix III SSIs were identified for the second semiannual 2023 event (**Table 3**):

- Calcium (MW-LF-20, MW-LF-21, MW-LF-22D, MW-LF-24, MW-LF-25, and MW-LF-26)
- Chloride (MW-LF-26)
- Fluoride (MW-LF-25)
- Sulfate (MW-LF-25)

- TDS (MW-LF-20, MW-LF-21, MW-LF-22D, MW-LF-23D, MW-LF-24, MW-LF-25, and MW-LF-26)

An ASD evaluation of the data from the second semiannual 2023 compliance event will be performed during the first quarter of 2024 per 40 CFR §257.94(e)(2).

Section 7
Conclusions

7.1 Findings

The first semiannual 2023 DMP compliance sampling event was conducted on March 20-23, 2023, with sample analyses completed on April 6, 2023. The second semiannual 2023 DMP compliance sampling event was conducted on October 3-4, 2023, with sample analyses completed on October 18, 2023. These groundwater sampling and analysis activities were conducted in accordance with the requirements of the Unit's GMP for the CCR Rule network.

Evaluation of the monitoring results from the first semiannual 2023 event identified SSIs above the background value for calcium, chloride, sulfate, and TDS. A successful ASD was completed for the potential SSI identified during the first semiannual 2023 detection monitoring event. The ASD was certified by a South Carolina-registered professional engineer and presented in this Report (**Appendix B**).

Monitoring results from the second semiannual 2023 event identified exceedances above the background value for calcium, chloride, fluoride, sulfate, and TDS. An ASD evaluation is being conducted in accordance with the applicable CCR Rule timeframe.

7.2 Planned Activities

Based on the results from the 2023 monitoring activities, DESC intends to continue with semiannual groundwater monitoring activities in 2024 that are consistent with the provisions in the CCR Rule [Part 257.94] and prepare an ASD to address 2023 second semiannual Appendix III SSIs. Additionally, continued evaluation of the EPA CCR Compliance Monitoring Well Network will occur throughout 2024. The Groundwater Monitoring System Certification will be revised if changes to the monitoring well network are determined to better monitoring groundwater of the Unit.

Section 8
References

Environmental Protection Agency (EPA). 2015. Federal Register. Volume 80. No. 74. Friday April 17, 2015. Part II. Environmental Protection Agency. *40 CFR Parts 257and 261. Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule.* [EPA-HQ-RCRA–2009–0640; FRL–9919–44–OSWER]. RIN–2050–AE81.

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Nautilus 2020. RCRA Groundwater Monitoring Report for the July 2020 Sampling Event, Williams Generating Station Highway 52 Class III Landfill. Goose Creek, SC: Nautilus Geologic Consulting, PLLC.

Nautilus 2021. Analysis of Groundwater Flow Rate and Direction: September 2020 Monitoring Data, Cope Station: Class III Landfill, Wateree Station: Class III Landfill, FGD Pond, Ash Pond, Williams Station: FGD Pond, Highway 52 Class III Landfill: Nautilus Geologic Consulting, PLLC. February 2021.

TRC 2023. Groundwater Monitoring Well Installation Report, Williams Station Highway 52 Class III Landfill, Berkely County, South Carolina: TRC Environmental Corporation.

Section 9
Signature Page

This *2023 CCR Annual Groundwater Monitoring and Corrective Action Report* (Report) has been prepared by a qualified groundwater scientist on behalf of Dominion Energy South Carolina (DESC) for the Highway 52 Class III Industrial Landfill associated with the Williams Generating Station. This Report satisfied the reporting requirements specified in Title 40 CFR §257.90(e) *et seq.* [Disposal of Coal Combustion Residuals (CCR) from Electric Utilities (CCR Rule; Federal Register Vol. 80, No. 74, 21302-21501 on April 17, 2015, as amended)].

Name: Richard A. Mayer Jr., P.G.

Expiration Date: June 30, 2025

Company: TRC Environmental Corporation

Date: January 31, 2024

(SEAL)

Tables

Table 1
Summary of Historical CCR Static Water Level Data
Dominion Energy South Carolina - Williams Station Highway 52 Class III Landfill
Goose Creek, Berkeley County, South Carolina

Monitoring Well ID	Top of Casing Elevation (ft. AMSL)	Date	Depth to Water (feet)	Static Water Level Elevation (ft. AMSL)
MW-LF-10	52.29	5/11/2016	8.71	43.58
		7/13/2016	8.73	43.56
		9/13/2016	9.15	43.14
		11/17/2016	8.97	43.32
		1/19/2017	7.44	44.85
		3/27/2017	8.25	44.04
		5/25/2017	7.96	44.33
		7/25/2017	7.29	45.00
		9/20/2017	6.95	45.34
		3/13/2018	8.12	44.17
		9/19/2018	8.26	44.03
		11/28/2018	8.15	44.14
		3/18/2019	8.04	44.25
		5/20/2019	8.80	43.49
		9/17/2019	7.94	44.35
		3/12/2020	7.11	45.18
		5/12/2020	7.89	44.40
		9/15/2020	7.69	44.60
		10/28/2020	7.18	45.11
		3/11/2021	7.45	44.84
		9/21/2021	7.15	45.14
		3/23/2022	8.67	43.62
		9/21/2022	7.85	44.44
		3/22/2023	8.09	44.20
		4/12/2023	7.65	44.64
		5/16/2023	8.16	44.13
		6/16/2023	7.45	44.84
		7/19/2023	7.44	44.85
		8/23/2023	6.99	45.30
		10/3/2023	8.15	44.14
MW-LF-11	51.72	11/17/2016	11.49	40.23
		1/19/2017	10.68	41.04
		3/27/2017	11.25	40.47
		5/25/2017	11.10	40.62
		7/25/2017	10.67	41.05
		9/20/2017	10.34	41.38
		3/13/2018	11.13	40.59
		9/19/2018	10.89	40.83
		11/28/2018	10.73	40.99
		3/18/2019	11.07	40.65
		5/20/2019	11.78	39.94
		9/17/2019	11.04	40.68
		3/12/2020	10.68	41.04
		5/12/2020	11.57	40.15
		9/15/2020	11.10	40.62
		10/28/2020	10.64	41.08
		3/11/2021	10.88	40.84
		9/21/2021	10.49	41.23
		3/23/2022	11.83	39.89
		9/21/2022	11.35	40.37
		3/22/2023	11.33	40.39
		4/12/2023	11.00	40.72
		5/16/2023	11.46	40.26
		6/16/2023	11.16	40.56
		7/19/2023	11.27	40.45
		8/23/2023	10.86	40.86
		10/3/2023	11.44	40.28

Notes:
1) ft AMSL = feet above mean sea level.

Table 1
Summary of Historical CCR Static Water Level Data
Dominion Energy South Carolina - Williams Station Highway 52 Class III Landfill
Goose Creek, Berkeley County, South Carolina

Monitoring Well ID	Top of Casing Elevation (ft. AMSL)	Date	Depth to Water (feet)	Static Water Level Elevation (ft. AMSL)
MW-LF-20	60.81	5/11/2016	21.91	38.90
		7/13/2016	21.52	39.29
		9/13/2016	20.87	39.94
		11/16/2016	20.60	40.21
		1/19/2017	21.34	39.47
		3/27/2017	21.72	39.09
		5/23/2017	21.56	39.25
		7/25/2017	20.90	39.91
		9/20/2017	20.21	40.60
		3/13/2018	21.29	39.52
		9/19/2018	20.26	40.55
		11/28/2018	20.21	40.60
		3/18/2019	21.38	39.43
		5/21/2019	21.31	39.50
		9/17/2019	20.22	40.59
		3/11/2020	21.18	39.63
		5/12/2020	21.41	39.40
		9/15/2020	20.35	40.46
		10/28/2020	20.18	40.63
		3/11/2021	21.55	39.26
		9/21/2021	20.19	40.62
		3/23/2022	21.14	39.67
		9/21/2022	20.01	40.80
		3/22/2023	21.19	39.62
		4/12/2023	21.02	39.79
		5/16/2023	20.95	39.86
		6/16/2023	20.54	40.27
		7/19/2023	20.48	40.33
		8/23/2023	19.97	40.84
		10/3/2023	19.95	40.86
MW-LF-21	56.14	5/11/2016	18.97	37.17
		7/13/2016	17.28	38.86
		9/13/2016	15.66	40.48
		11/16/2016	15.31	40.83
		1/19/2017	16.81	39.33
		3/27/2017	17.95	38.19
		5/23/2017	17.70	38.44
		7/25/2017	16.33	39.81
		9/20/2017	15.20	40.94
		3/13/2018	17.92	38.22
		9/19/2018	14.42	41.72
		11/28/2018	14.12	42.02
		3/18/2019	16.32	39.82
		5/21/2019	15.83	40.31
		9/17/2019	12.91	43.23
		3/11/2020	15.77	40.37
		5/12/2020	16.01	40.13
		9/15/2020	13.62	42.52
		10/28/2020	13.37	42.77
		3/11/2021	16.56	39.58
		9/21/2021	13.81	42.33
		3/23/2022	16.63	39.51
		9/21/2022	13.43	42.71
		3/22/2023	16.53	39.61
		4/12/2023	16.41	39.73
		5/16/2023	16.12	40.02
		6/16/2023	15.42	40.72
		7/19/2023	14.92	41.22
		8/23/2023	13.75	42.39
		10/3/2023	13.09	43.05

Notes:
1) ft AMSL = feet above mean sea level.

Table 1
Summary of Historical CCR Static Water Level Data
Dominion Energy South Carolina - Williams Station Highway 52 Class III Landfill
Goose Creek, Berkeley County, South Carolina

Monitoring Well ID	Top of Casing Elevation (ft. AMSL)	Date	Depth to Water (feet)	Static Water Level Elevation (ft. AMSL)
MW-LF-22	50.33	5/11/2016	21.58	28.75
		7/13/2016	16.33	34.00
		9/13/2016	13.78	36.55
		11/16/2016	14.20	36.13
		1/19/2017	16.05	34.28
		3/28/2017	17.43	32.90
		5/24/2017	17.29	33.04
		7/25/2017	15.54	34.79
		9/21/2017	13.59	36.74
		3/13/2018	17.33	33.00
		9/20/2018	13.33	37.00
		3/18/2019	16.78	33.55
		5/21/2019	16.61	33.72
		9/18/2019	12.97	37.36
		3/11/2020	16.37	33.96
		9/15/2020	12.86	37.47
		3/11/2021	16.19	34.14
		9/21/2021	12.40	37.93
		3/23/2022	16.36	33.97
		9/21/2022	12.16	38.17
		3/22/2023	15.97	34.36
		4/12/2023	16.00	34.33
		5/16/2023	15.63	34.70
		6/16/2023	14.85	35.48
		7/19/2023	13.50	36.83
		8/23/2023	12.21	38.12
		10/3/2023	12.01	38.32
MW-LF-22D	50.36	5/11/2016	16.04	34.32
		7/13/2016	15.59	34.77
		9/13/2016	13.83	36.53
		11/16/2016	14.11	36.25
		1/19/2017	16.27	34.09
		3/28/2017	17.58	32.78
		5/24/2017	16.97	33.39
		7/25/2017	15.08	35.28
		9/21/2017	13.76	36.60
		3/13/2018	17.48	32.88
		9/20/2018	13.47	36.89
		11/29/2018	13.95	36.41
		3/18/2019	16.98	33.38
		5/21/2019	16.42	33.94
		9/18/2019	13.11	37.25
		3/11/2020	16.49	33.87
		5/13/2020	16.15	34.21
		9/15/2020	12.91	37.45
		10/28/2020	12.94	37.42
		3/11/2021	16.35	34.01
		9/21/2021	12.35	38.01
		3/23/2022	16.29	34.07
		9/21/2022	12.13	38.23
		3/22/2023	15.95	34.41
		5/16/2023	15.32	35.04
		6/16/2023	14.39	35.97
		7/19/2023	13.53	36.83
		8/23/2023	12.22	38.14
		10/3/2023	11.97	38.39

Notes:
1) ft AMSL = feet above mean sea level.

Table 1
Summary of Historical CCR Static Water Level Data
Dominion Energy South Carolina - Williams Station Highway 52 Class III Landfill
Goose Creek, Berkeley County, South Carolina

Monitoring Well ID	Top of Casing Elevation (ft. AMSL)	Date	Depth to Water (feet)	Static Water Level Elevation (ft. AMSL)
MW-LF-23	49.99	5/11/2016	19.66	30.33
		7/13/2016	16.26	33.73
		9/13/2016	15.61	34.38
		11/16/2016	15.44	34.55
		1/19/2017	15.34	34.65
		3/28/2017	15.96	34.03
		5/24/2017	15.95	34.04
		7/25/2017	15.30	34.69
		9/21/2017	15.15	34.84
		3/13/2018	16.72	33.27
		9/20/2018	14.99	35.00
		3/18/2019	15.61	34.38
		5/21/2019	14.90	35.09
		9/18/2019	13.32	36.67
		3/11/2020	15.11	34.88
		9/15/2020	12.53	37.46
		3/11/2021	14.20	35.79
		9/21/2021	12.13	37.86
		3/23/2022	14.40	35.59
		9/21/2022	12.36	37.63
		3/22/2023	13.77	36.22
		4/12/2023	13.79	36.20
		5/16/2023	13.33	36.66
		6/16/2023	12.69	37.30
		7/19/2023	12.39	37.60
		8/23/2023	11.70	38.29
		10/3/2023	12.25	37.74
MW-LF-23D	49.69	5/11/2016	15.68	34.01
		7/13/2016	14.42	35.27
		9/13/2016	14.17	35.52
		11/16/2016	13.55	36.14
		1/19/2017	12.97	36.72
		3/28/2017	15.18	34.51
		5/24/2017	14.72	34.97
		7/25/2017	13.92	35.77
		9/21/2017	14.09	35.60
		3/13/2018	15.72	33.97
		9/20/2018	13.72	35.97
		11/29/2018	14.38	35.31
		3/19/2019	14.08	35.61
		5/21/2019	13.33	36.36
		9/18/2019	13.02	36.67
		3/11/2020	14.22	35.47
		5/13/2020	14.00	35.69
		9/16/2020	12.50	37.19
		10/29/2020	13.06	36.63
		3/11/2021	14.62	35.07
		9/21/2021	12.12	37.57
		3/23/2022	14.14	35.55
		9/21/2022	12.39	37.30
		3/22/2023	13.97	35.72
		5/16/2023	14.24	35.45
		6/16/2023	12.83	36.86
		7/19/2023	12.48	37.21
		8/23/2023	11.94	37.75
		10/3/2023	12.31	37.38

Notes:
1) ft AMSL = feet above mean sea level.

Table 1
Summary of Historical CCR Static Water Level Data
Dominion Energy South Carolina - Williams Station Highway 52 Class III Landfill
Goose Creek, Berkeley County, South Carolina

Monitoring Well ID	Top of Casing Elevation (ft. AMSL)	Date	Depth to Water (feet)	Static Water Level Elevation (ft. AMSL)
MW-LF-24	52.40	5/11/2016	16.06	36.34
		7/13/2016	15.05	37.35
		9/13/2016	15.00	37.40
		11/17/2016	16.01	36.39
		1/20/2017	16.93	35.47
		3/28/2017	17.06	35.34
		5/24/2017	16.35	36.05
		7/26/2017	15.35	37.05
		9/21/2017	14.81	37.59
		3/13/2018	15.95	36.45
		9/20/2018	14.10	38.30
		11/29/2018	14.95	37.45
		3/19/2019	16.26	36.14
		5/21/2019	15.55	36.85
		9/18/2019	14.52	37.88
		3/11/2020	15.55	36.85
		5/13/2020	15.40	37.00
		9/15/2020	13.69	38.71
		10/29/2020	14.12	38.28
		3/11/2021	15.50	36.90
		9/21/2021	13.90	38.50
		3/23/2022	15.85	36.55
		9/21/2022	13.66	38.74
		3/22/2023	15.37	37.03
		4/12/2023	15.26	37.14
		5/16/2023	13.92	38.48
		6/16/2023	14.21	38.19
		7/19/2023	13.76	38.64
		8/23/2023	13.09	39.31
		10/3/2023	13.75	38.65
MW-LF-25	50.93	5/11/2016	15.40	35.53
		7/13/2016	14.44	36.49
		9/13/2016	14.15	36.78
		11/17/2016	15.00	35.93
		1/19/2017	16.30	34.63
		3/28/2017	16.34	34.59
		5/24/2017	15.69	35.24
		7/26/2017	14.75	36.18
		9/21/2017	14.24	36.69
		3/13/2018	15.60	35.33
		9/20/2018	13.69	37.24
		11/29/2018	14.26	36.67
		3/19/2019	16.17	34.76
		5/21/2019	15.39	35.54
		9/18/2019	13.73	37.20
		3/11/2020	15.39	35.54
		5/13/2020	14.66	36.27
		9/16/2020	12.96	37.97
		10/29/2020	13.40	37.53
		3/11/2021	15.35	35.58
		9/21/2021	12.34	38.59
		3/23/2022	15.19	35.74
		9/21/2022	12.29	38.64
		3/22/2023	14.43	36.50
		4/12/2023	15.40	35.53
		5/16/2023	14.94	35.99
		6/16/2023	12.70	38.23
		7/19/2023	12.93	38.00
		8/23/2023	12.10	38.83
		10/3/2023	12.44	38.49

Notes:
1) ft AMSL = feet above mean sea level.

Table 1
Summary of Historical CCR Static Water Level Data
Dominion Energy South Carolina - Williams Station Highway 52 Class III Landfill
Goose Creek, Berkeley County, South Carolina

Monitoring Well ID	Top of Casing Elevation (ft. AMSL)	Date	Depth to Water (feet)	Static Water Level Elevation (ft. AMSL)
MW-LF-26	55.21	5/11/2016	25.06	30.15
		7/13/2016	24.51	30.70
		9/13/2016	24.00	31.21
		11/17/2016	24.05	31.16
		1/20/2017	24.76	30.45
		3/28/2017	25.40	29.81
		5/24/2017	25.25	29.96
		7/26/2017	24.32	30.89
		9/21/2017	23.45	31.76
		3/13/2018	25.09	30.12
		9/20/2018	23.63	31.58
		11/29/2018	23.54	31.67
		3/19/2019	24.90	30.31
		5/21/2019	25.08	30.13
		9/18/2019	23.70	31.51
		3/11/2020	24.25	30.96
		5/13/2020	24.61	30.60
		9/16/2020	23.57	31.64
		10/29/2020	22.84	32.37
		3/11/2021	24.47	30.74
		9/21/2021	23.40	31.81
		3/23/2022	24.97	30.24
		9/21/2022	23.26	31.95
		3/22/2023	24.75	30.46
		4/12/2023	24.66	30.55
		5/16/2023	24.78	30.43
		6/16/2023	24.23	30.98
		7/19/2023	23.99	31.22
		8/23/2023	23.15	32.06
		10/3/2023	23.18	32.03
MW-LF-27	53.25	11/17/2016	9.01	44.24
		1/20/2017	6.49	46.76
		3/27/2017	7.71	45.54
		5/23/2017	8.15	45.10
		7/25/2017	7.24	46.01
		9/20/2017	6.14	47.11
		3/13/2018	8.48	44.77
		9/19/2018	8.46	44.79
		11/28/2018	7.65	45.60
		3/18/2019	7.36	45.89
		5/20/2019	9.44	43.81
		9/17/2019	8.24	45.01
		3/12/2020	5.16	48.09
		5/12/2020	7.81	45.44
		9/15/2020	8.18	45.07
		10/28/2020	6.85	46.40
		3/11/2021	5.85	47.40
		9/21/2021	7.02	46.23
		3/23/2022	8.89	44.36
		9/21/2022	8.29	44.96
		3/22/2023	7.49	45.76
		4/12/2023	6.90	46.35
		5/16/2023	8.50	44.75
		6/16/2023	7.87	45.38
		7/19/2023	8.02	45.23
		8/23/2023	7.35	45.90
		10/3/2023	9.01	44.24

Notes:
1) ft AMSL = feet above mean sea level.

Table 1
Summary of Historical CCR Static Water Level Data
Dominion Energy South Carolina - Williams Station Highway 52 Class III Landfill
Goose Creek, Berkeley County, South Carolina

Monitoring Well ID	Top of Casing Elevation (ft. AMSL)	Date	Depth to Water (feet)	Static Water Level Elevation (ft. AMSL)
MW-LF-28	51.22	11/17/2016	10.54	40.68
		1/19/2017	9.41	41.81
		3/27/2017	10.26	40.96
		5/23/2017	10.37	40.85
		7/25/2017	9.56	41.66
		9/20/2017	9.34	41.88
		3/13/2018	10.36	40.86
		9/19/2018	9.65	41.57
		11/28/2018	9.60	41.62
		3/18/2019	9.97	41.25
		5/20/2019	11.08	40.14
		9/17/2019	10.07	41.15
		3/12/2020	9.18	42.04
		5/12/2020	10.05	41.17
		9/15/2020	9.70	41.52
		10/28/2020	9.32	41.90
		3/11/2021	9.21	42.01
		9/21/2021	5.72	45.50
		3/23/2022	10.52	40.70
		9/21/2022	10.11	41.11
		3/22/2023	9.58	41.64
		4/12/2023	9.28	41.94
		5/16/2023	9.64	41.58
		6/16/2023	9.33	41.89
		7/19/2023	9.58	41.64
		8/23/2023	9.25	41.97
		10/3/2023	9.79	41.43
PZ-01	44.51	3/11/2021	5.70	38.81
		9/21/2021	6.71	37.80
		3/23/2022	5.81	38.70
		9/21/2022	6.49	38.02
		3/22/2023	6.27	38.24
		4/12/2023	5.81	38.70
		5/16/2023	6.71	37.80
		6/16/2023	6.26	38.25
		7/19/2023	6.68	37.83
		8/23/2023	6.30	38.21
		10/3/2023	7.09	37.42
PZ-02	45.67	3/11/2021	5.85	39.82
		9/21/2021	6.98	38.69
		3/23/2022	6.65	39.02
		9/21/2022	6.43	39.24
		3/22/2023	6.81	38.86
		4/12/2023	6.74	38.93
		5/16/2023	6.92	38.75
		6/16/2023	6.19	39.48
		7/19/2023	6.41	39.26
		8/23/2023	5.99	39.68
		10/3/2023	7.24	38.43

Notes:
1) ft AMSL = feet above mean sea level.

Table 1
Summary of Historical CCR Static Water Level Data
Dominion Energy South Carolina - Williams Station Highway 52 Class III Landfill
Goose Creek, Berkeley County, South Carolina

Monitoring Well ID	Top of Casing Elevation (ft. AMSL)	Date	Depth to Water (feet)	Static Water Level Elevation (ft. AMSL)
PZ-03	47.97	3/11/2021	4.40	43.57
		9/21/2021	7.35	40.62
		3/23/2022	7.91	40.06
		9/21/2022	7.80	40.17
		3/22/2023	7.01	40.96
		4/12/2023	7.82	40.15
		5/16/2023	7.56	40.41
		6/16/2023	7.41	40.56
		7/19/2023	7.54	40.43
		8/23/2023	7.44	40.53
		10/3/2023	8.99	38.98
PZ-04	38.90	3/11/2021	10.97	27.93
		9/21/2021	12.39	26.51
		3/23/2022	11.01	27.89
		9/21/2022	9.98	28.92
		3/22/2023	10.87	28.03
		4/12/2023	10.75	28.15
		5/16/2023	10.60	28.30
		6/16/2023	10.29	28.61
		7/19/2023	10.20	28.70
		8/23/2023	9.80	29.10
		10/3/2023	10.11	28.79
MW-LF-29	41.68	3/22/2023	5.35	36.33
		4/12/2023	4.97	36.71
		5/16/2023	5.25	36.43
		6/16/2023	4.69	36.99
		7/19/2023	4.43	37.25
		8/23/2023	3.93	37.75
		10/3/2023	5.06	36.62
MW-LF-30	49.54	3/22/2023	6.25	43.29
		4/12/2023	5.59	43.95
		5/16/2023	6.59	42.95
		6/16/2023	5.99	43.55
		7/19/2023	6.34	43.20
		8/23/2023	5.79	43.75
		10/3/2023	7.23	42.31
MW-LF-31	53.14	3/22/2023	8.39	44.75
		4/12/2023	8.15	44.99
		5/16/2023	8.63	44.51
		6/16/2023	8.01	45.13
		7/19/2023	7.84	45.30
		8/23/2023	7.26	45.88
		10/3/2023	8.55	44.59

Notes:
1) ft AMSL = feet above mean sea level.

Table 2
Summary of First Semiannual 2023 Detection Monitoring Program Sampling Event Data
Dominion Energy South Carolina - Williams Station Highway 52 Class III Landfill
Moncks Corner, Berkeley County, South Carolina

			Background Wells																Downgradient Wells							
		Sample ID:	MW-LF-10				MW-LF-11				MW-LF-27				MW-LF-28				MW-LF-20				MW-LF-20 Duplicate			
		Sample Date:	03/23/2023				03/22/2023				03/23/2023				03/22/2023				03/22/2023				03/22/2023			
Parameter Name	**Units**	**Background Threshold Values**	**Result**	**Qual**	**MDL**	**QL**	**Result**	**Qual**	**MDL**	**QL**	**Result**	**Qual**	**MDL**	**QL**	**Result**	**Qual**	**MDL**	**QL**	**Result**	**Qual**	**MDL**	**QL**	**Result**	**Qual**	**MDL**	**QL**
CCR Appendix III																										
Boron	µg/L	500	**64.0**		4.00	15.0	25.9	U	25.9	25.9	**31.1**		4.00	15.0	12.6	U	4.00	15.0	**200**		20.0	75.0	**215**		20.0	75.0
Calcium	µg/L	94,600	**57,400**		300	1,000	**14,600**		30.0	100	**30,200**		30.0	100	**7,410**		30.0	100	**140,000**		150	500	**142,000**		150	500
Chloride	mg/L	28.6	**21.2**		0.335	1.00	**5.23**		0.0670	0.200	**19.8**		0.335	1.00	**5.88**		0.0670	0.200	**12.6**		0.335	1.00	**12.7**		0.335	1.00
Fluoride	mg/L	0.651	**0.413**		0.0330	0.100	**0.278**		0.0330	0.100	**0.107**		0.0330	0.100	**0.082**	J	0.0330	0.100	**0.240**		0.0330	0.100	**0.160**		0.0330	0.100
pH	SU	5.4 - 7.8	6.65		0.01	0.01	6.10		0.01	0.01	6.25		0.01	0.01	5.59		0.01	0.01	6.48		0.01	0.01	--		--	--
Sulfate	mg/L	40.2	**4.92**		0.133	0.400	**1.31**		0.133	0.400	**10.2**		0.133	0.400	**0.760**		0.133	0.400	**6.69**		0.133	0.400	**6.84**		0.133	0.400
Total Dissolved Solids	mg/L	389	**302**		2.38	10.0	**62.0**		2.38	10.0	**148**		2.38	10.0	**19.0**		2.38	10.0	**630**		4.76	20.0	**620**		4.76	20.0
Field Parameters																										
Conductivity	µS/cm	--	548.05		0.1	0.1	152.26		0.1	0.1	298.3		0.1	0.1	69.89		0.1	0.1	1,086.2		0.1	0.1	--		--	--
Dissolved Oxygen	mg/L	--	1.56		0.01	0.01	1.92		0.01	0.01	0.39		0.01	0.01	4.58		0.01	0.01	0.70		0.01	0.01	--		--	--
Oxidation Reduction Potential	millivolts	--	109.8		0.1	0.1	72.3		0.1	0.1	31.5		0.1	0.1	109.8		0.1	0.1	72.8		0.1	0.1	--		--	--
Temperature	C	--	21.81		0.01	0.01	18.35		0.01	0.01	23.38		0.01	0.01	17.93		0.01	0.01	20.65		0.01	0.01	--		--	--
Turbidity	NTU	--	1.31		0.1	0.1	0.82		0.1	0.1	10.25		0.1	0.1	0.00		0.1	0.1	4.66		0.1	0.1	--		--	--

Notes:
MDL = Method Detection Limit
QL = Quantitation Limit
mg/L = Milligram per liter
µg/L = Microgram per liter
µS/cm = MicroSiemen per centimeter
SU = Standard Units
C = Degrees Celsius
NTU = Nephelometric Turbidity Unit
-- = Not applicable
CCR = Coal Combustion Residuals

Qualifiers (Qual)
U = The analyte was not detected above the level of the sample reporting limit
J = Value is estimated

= Concentration greater than Background Threshold Values

Bold font = Detected constituent

Table 2
Summary of First Semiannual 2023 Detection Monitoring Program Sampling Event Data
Dominion Energy South Carolina - Williams Station Highway 52 Class III Landfill
Moncks Corner, Berkeley County, South Carolina

			Downgradient Wells																					
		Sample ID:	**MW-LF-21**				**MW-LF-22D**				**MW-LF-23D**				**MW-LF-24**				**MW-LF-25**				**MW-LF-26**			
		Sample Date:	**03/23/2023**				**03/23/2023**				**03/23/2023**				**03/23/2023**				**03/23/2023**				**03/23/2023**			
Parameter Name	**Units**	**Background Threshold Values**	**Result**	**Qual**	**MDL**	**QL**	**Result**	**Qual**	**MDL**	**QL**	**Result**	**Qual**	**MDL**	**QL**	**Result**	**Qual**	**MDL**	**QL**	**Result**	**Qual**	**MDL**	**QL**	**Result**	**Qual**	**MDL**	**QL**
CCR Appendix III																										
Boron	µg/L	500	**198**		20.0	75.0	**324**		20.0	75.0	**291**		20.0	75.0	**79.6**		4.00	15.0	**44.4**		4.00	15.0	**163**		4.00	15.0
Calcium	µg/L	94,600	**120,000**		150	500	**80,100**		150	500	**66,000**		150	500	**103,000**		300	1,000	**203,000**		300	1,000	**152,000**		300	1,000
Chloride	mg/L	28.6	**11.7**		0.335	1.00	**10.5**		0.335	1.00	**15.8**		0.335	1.00	**20.6**		0.335	1.00	**9.73**		0.134	0.400	**141**		1.68	5.00
Fluoride	mg/L	0.651	**0.260**		0.0330	0.100	**0.209**		0.0330	0.100	**0.303**		0.0330	0.100	**0.409**		0.0330	0.100	**0.628**		0.0330	0.100	**0.315**		0.0330	0.100
pH	SU	5.4 - 7.8	6.51		0.01	0.01	6.80		0.01	0.01	6.97		0.01	0.01	6.27		0.01	0.01	6.65		0.01	0.01	6.07		0.01	0.01
Sulfate	mg/L	40.2	**7.38**		0.133	0.400	**32.5**		0.665	2.00	**22.4**		0.665	2.00	**18.3**		0.133	0.400	**505**		6.65	20.0	**58.5**		3.33	10.0
Total Dissolved Solids	mg/L	389	**598**		4.76	20.0	**576**		2.38	10.0	**494**		2.38	10.0	**428**		2.38	10.0	**1,050**		4.76	20.0	**890**		2.76	20.0
Field Parameters																										
Conductivity	µS/cm	--	1,079.6		0.1	0.1	978.01		0.1	0.1	849.71		0.1	0.1	778.19		0.1	0.1	1,361.9		0.1	0.1	1,550.9		0.1	0.1
Dissolved Oxygen	mg/L	--	0.45		0.01	0.01	1.03		0.01	0.01	2.08		0.01	0.01	0.39		0.01	0.01	3.75		0.01	0.01	0.73		0.01	0.01
Oxidation Reduction Potential	millivolts	--	95.1		0.1	0.1	99.7		0.1	0.1	113.4		0.1	0.1	32.7		0.1	0.1	63.8		0.1	0.1	-15.7		0.1	0.1
Temperature	C	--	26.26		0.01	0.01	25.28		0.01	0.01	21.38		0.01	0.01	22.91		0.01	0.01	22.60		0.01	0.01	21.26		0.01	0.01
Turbidity	NTU	--	1.71		0.1	0.1	2.97		0.1	0.1	2.32		0.1	0.1	4.97		0.1	0.1	0.77		0.1	0.1	2.83		0.1	0.1

Notes:
MDL = Method Detection Limit
QL = Quantitation Limit
mg/L = Milligram per liter
µg/L = Microgram per liter
µS/cm = MicroSiemen per centimeter
SU = Standard Units
C = Degrees Celsius
NTU = Nephelometric Turbidity Unit
-- = Not applicable
CCR = Coal Combustion Residuals

Qualifiers (Qual)
U = The analyte was not detected above the level of the sample reporting limit
J = Value is estimated

= Concentration greater than Background Threshold Values

Bold font = Detected constituent

Table 3
Summary of Second Semiannual 2023 Detection Monitoring Program Sampling Event Data
Dominion Energy South Carolina - Williams Station Highway 52 Class III Landfill
Moncks Corner, Berkeley County, South Carolina

			Background Wells																Downgradient Wells							
		Sample ID:	MW-LF-10				MW-LF-11				MW-LF-27				MW-LF-28				MW-LF-20				MW-LF-21			
		Sample Date:	10/04/2023				10/04/2023				10/04/2023				10/04/2023				10/04/2023				10/04/2023			
Parameter Name	**Units**	**Background Threshold Values**	**Result**	**Qual**	**MDL**	**QL**	**Result**	**Qual**	**MDL**	**QL**	**Result**	**Qual**	**MDL**	**QL**	**Result**	**Qual**	**MDL**	**QL**	**Result**	**Qual**	**MDL**	**QL**	**Result**	**Qual**	**MDL**	**QL**
CCR Appendix III																										
Boron	µg/L	500	**84.8**		4.00	15.0	**34.1**		4.00	15.0	**38.7**		4.00	15.0	**13.8**	J	4.00	15.0	**234**		20.0	75.0	**215**		20.0	75.0
Calcium	µg/L	94,600	**74,100**		150	500	**20,800**		30.0	100	**40,600**		30.0	100	**5,370**		30.0	100	**157,000**		150	500	**136,000**		150	500
Chloride	mg/L	28.6	**15.0**		0.134	0.400	**7.04**		0.0670	0.200	**9.25**		0.0670	0.200	**5.87**		0.0670	0.200	**11.8**		0.134	0.400	**11.1**		0.134	0.400
Fluoride	mg/L	0.651	**0.555**		0.0330	0.100	**0.415**		0.0330	0.100	**0.319**		0.0330	0.100	**0.104**		0.0330	0.100	**0.337**		0.0330	0.100	**0.249**	J	0.0330	0.100
pH	SU	5.4 - 7.8	7.12		0.01	0.01	6.35		0.01	0.01	6.81		0.01	0.01	5.57		0.01	0.01	6.17		0.01	0.01	6.19		0.01	0.01
Sulfate	mg/L	40.2	**3.86**		0.133	0.400	**1.25**		0.133	0.400	**3.02**		0.133	0.400	**0.583**		0.133	0.400	**6.36**		0.133	0.400	**6.91**		0.133	0.400
Total Dissolved Solids	mg/L	389	**336**		2.38	10.0	**86.0**		2.38	10.0	**143**		2.38	10.0	**3.00**	J	2.38	10.0	**638**		2.38	10.0	**616**		2.38	10.0
Field Parameters																										
Conductivity	µS/cm	--	631.07		0.1	0.1	184.81		0.1	0.1	303.62		0.1	0.1	59.86		0.1	0.1	1,070.3		0.1	0.1	1,089.5		0.1	0.1
Dissolved Oxygen	mg/L	--	0.07		0.01	0.01	0.21		0.01	0.01	0.05		0.01	0.01	3.86		0.01	0.01	1.04		0.01	0.01	0.26		0.01	0.01
Oxidation Reduction Potential	millivolts	--	-22.4		0.1	0.1	72.1		0.1	0.1	-69.8		0.1	0.1	157.4		0.1	0.1	62.8		0.1	0.1	-10.9		0.1	0.1
Temperature	C	--	25.29		0.01	0.01	27.38		0.01	0.01	23.71		0.01	0.01	27.69		0.01	0.01	25.83		0.01	0.01	25.23		0.01	0.01
Turbidity	NTU	--	0.73		0.1	0.1	0.84		0.1	0.1	3.67		0.1	0.1	0.75		0.1	0.1	0.95		0.1	0.1	0.96		0.1	0.1

Notes:
MDL = Method Detection Limit
QL = Quantitation Limit
mg/L = Milligram per liter
µg/L = Microgram per liter
µS/cm = MicroSiemen per centimeter
SU = Standard Units
C = Degrees Celsius
NTU = Nephelometric Turbidity Unit
-- = Not applicable
CCR = Coal Combustion Residuals

Qualifiers (Qual)
U = The analyte was not detected above the level of the sample reporting limit
J = Value is estimated

= Concentration greater than Background Threshold Values

Bold font = Detected constituent

Table 3
Summary of Second Semiannual 2023 Detection Monitoring Program Sampling Event Data
Dominion Energy South Carolina - Williams Station Highway 52 Class III Landfill
Moncks Corner, Berkeley County, South Carolina

			Downgradient Wells																					
		Sample ID:	**MW-LF-21 Duplicate**				**MW-LF-22D**				**MW-LF-23D**				**MW-LF-24**				**MW-LF-25**				**MW-LF-26**			
		Sample Date:	**10/04/2023**				**10/04/2023**				**10/04/2023**				**10/04/2023**				**10/04/2023**				**10/04/2023**			
Parameter Name	**Units**	**Background Threshold Values**	**Result**	**Qual**	**MDL**	**QL**	**Result**	**Qual**	**MDL**	**QL**	**Result**	**Qual**	**MDL**	**QL**	**Result**	**Qual**	**MDL**	**RL**	**Result**	**Qual**	**MDL**	**QL**	**Result**	**Qual**	**MDL**	**QL**
CCR Appendix III																										
Boron	µg/L	500	**211**		20.0	75.0	**366**		20.0	75.0	**299**		20.0	75.0	**94.2**		4.00	15.0	**36.8**		4.00	15.0	**156**		4.00	15.0
Calcium	µg/L	94,600	**140,000**		150	500	**100,000**		150	500	**75,500**		150	500	**125,000**		150	500	**214,000**		150	500	**176,000**		150	500
Chloride	mg/L	28.6	**11.2**		0.134	0.400	**10.1**		0.134	0.400	**16.6**		0.134	0.400	**17.9**		0.134	0.400	**7.06**		0.0670	0.200	**137**		1.34	4.00
Fluoride	mg/L	0.651	**0.417**	J	0.0330	0.100	**0.383**		0.0330	0.100	**0.468**		0.0330	0.100	**0.589**		0.0330	0.100	**0.668**		0.0330	0.100	**0.310**		0.0660	0.200
pH	SU	5.4 - 7.8	--		--	--	6.56		0.01	0.01	6.74		0.01	0.01	6.23		0.01	0.01	6.45		0.01	0.01	6.25		0.01	0.01
Sulfate	mg/L	40.2	**6.80**		0.133	0.400	**31.4**		0.266	0.800	**21.2**		0.266	0.800	**8.70**		0.133	0.400	**357**		5.32	16.0	**27.0**		0.266	0.800
Total Dissolved Solids	mg/L	389	**610**		2.38	10.0	**586**		2.38	10.0	**484**		2.38	10.0	**481**		2.38	10.0	**842**		4.76	20.0	**844**		4.76	20.0
Field Parameters																										
Conductivity	µS/cm	--	--		--	--	1,020.4		0.1	0.1	896.32		0.1	0.1	870.56		0.1	0.1	1,252.1		0.1	0.1	1,565.3		0.1	0.1
Dissolved Oxygen	mg/L	--	--		--	--	0.22		0.01	0.01	0.7		0.01	0.01	0.2		0.01	0.01	1.42		0.01	0.01	0.11		0.01	0.01
Oxidation Reduction Potential	millivolts	--	--		--	--	22.8		0.1	0.1	16.8		0.1	0.1	-48.9		0.1	0.1	34.1		0.1	0.1	-66.5		0.1	0.1
Temperature	C	--	--		--	--	25.72		0.01	0.01	28.08		0.01	0.01	29.15		0.01	0.01	29.53		0.01	0.01	28.31		0.01	0.01
Turbidity	NTU	--	--		--	--	0.96		0.1	0.1	0.27		0.1	0.1	0.36		0.1	0.1	0.53		0.1	0.1	2.55		0.1	0.1

Notes:
MDL = Method Detection Limit
QL = Quantitation Limit
mg/L = Milligram per liter
µg/L = Microgram per liter
µS/cm = MicroSiemen per centimeter
SU = Standard Units
C = Degrees Celsius
NTU = Nephelometric Turbidity Unit
-- = Not applicable
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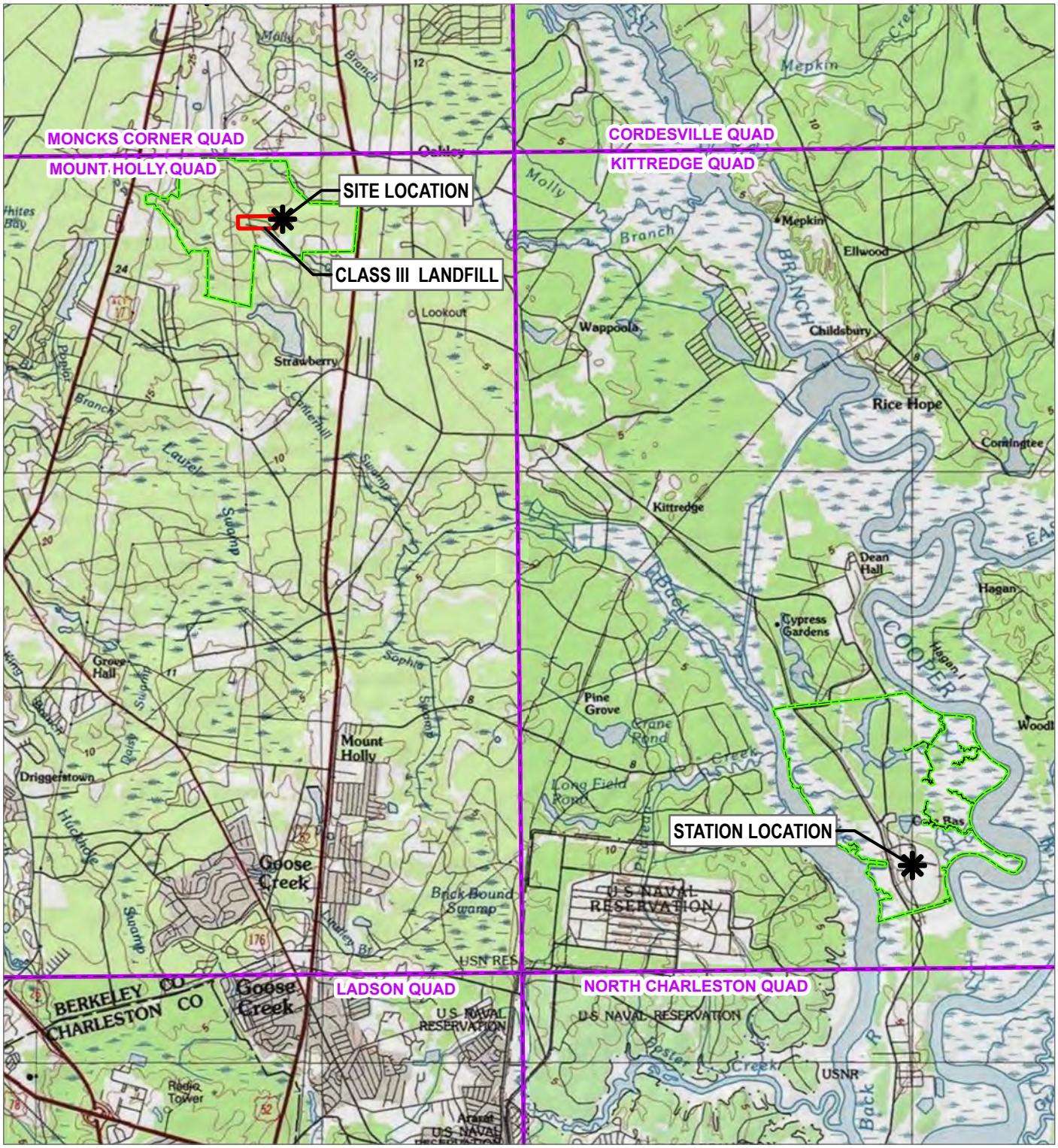
Qualifiers (Qual)
U = The analyte was not detected above the level of the sample reporting limit
J = Value is estimated

= Concentration greater than Background Threshold Values

Bold font = Detected constituent

Figures



LEGEND

- SITE LOCATION
- CLASS III LANDFILL BOUNDARY
- PROPERTY BOUNDARY
- USGS 24K QUAD BOUNDARY

BASE MAP: USA TOPO MAPS MAP SERVICE
DATA SOURCES: TRC

N

0 4,000 8,000

FEET

1:96,000 1" = 8,000'

PROJECT: DOMINION ENERGY SOUTH CAROLINA
WILLIAMS STATION HIGHWAY 52 LANDFILL
MONCKS CORNER, SOUTH CAROLINA 29461

TITLE: SITE LOCATION MAP

DRAWN BY:	L. LILL	PROJ. NO.:	416559.0006.0000
CHECKED BY:	J. YONTS		
APPROVED BY:	R. MAYER		FIGURE 1
DATE:	SEPTEMBER 2023		

TRC
50 INTERNATIONAL DRIVE
PATEWOOD PLAZA THREE, SUITE 150
GREENVILLE, SC 29615
PHONE: 864.281.0030

FILE: 2023_FIGURES

LEGEND

- CCR BACKGROUND MONITORING WELL
- CCR DOWNGRADIENT MONITORING WELL
- NEW MONITORING WELL INSTALLATION LOCATION
- CLASS III LANDFILL BOUNDARY
- PROPERTY BOUNDARY

NOTES:

1. AERIAL IMAGE FROM ESRI WORLD IMAGERY DATED OCTOBER, 2022.

1:6,000
1" = 500'

0 250 500 FEET

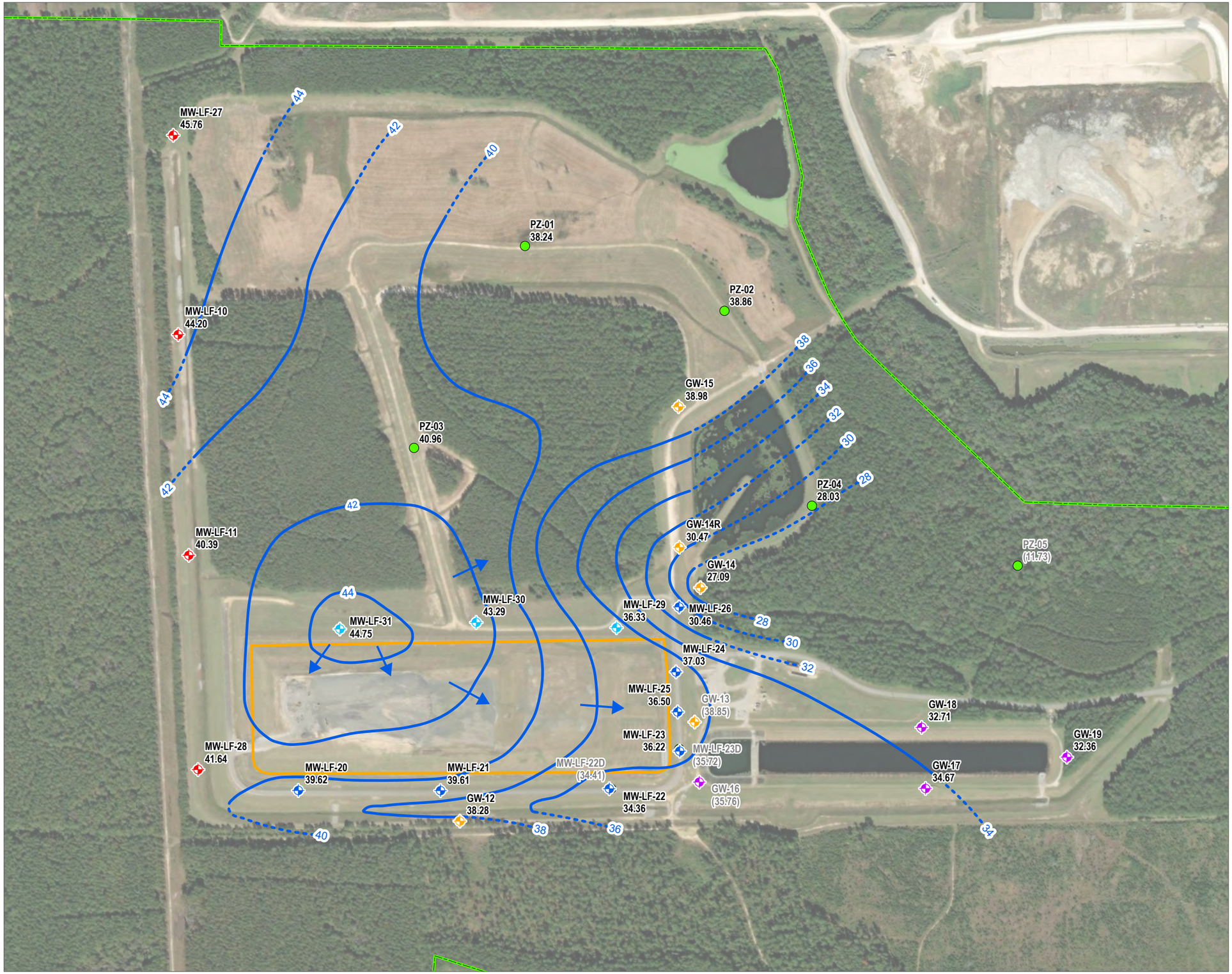
PROJECT:
DESC WILLIAMS STATION
HIGHWAY 52 CLASS III LANDFILL
MONCKS CORNER, SOUTH CAROLINA

TITLE:
CCR RULE COMPLIANCE
MONITORING WELL NETWORK

DRAWN BY:	L. LILL	PROJ. NO.:	416559.0006.0000
CHECKED BY:	J. YONTS		**FIGURE 2**
APPROVED BY:	R. MAYER		
DATE:	SEPTEMBER 2023		

TRC
50 INTERNATIONAL DRIVE
PATEWOOD PLAZA THREE, SUITE 150
GREENVILLE, SC 29615
PHONE: 864.281.0030

FILE: 2023_Figures.aprx



LEGEND

- CCR BACKGROUND MONITORING WELL
- CCR DOWNGRADIENT MONITORING WELL
- NPDES MONITORING WELL
- RCRA MONITORING WELL
- NEW MONITORING WELL INSTALLATION LOCATION
- EVENT PIEZOMETER
- CLASS III LANDFILL
- PROPERTY BOUNDARY
- APPROXIMATE GROUNDWATER FLOW DIRECTION
- WATER TABLE ELEVATION IN FEET ABOVE MEAN SEA LEVEL (2' CONTOUR INTERVALS) - DASHED WHERE INFERRED
- **40.98** WATER ELEVATION (FT. MSL)

NOTES:

1. AERIAL IMAGE FROM ESRI WORLD IMAGERY DATED OCTOBER, 2022.
2. ELEVATIONS SHOWN IN PARENTHESE ARE BELOW THE WATER TABLE OR WERE CONSIDERED AS INACCURATE, AND WERE NOT USED IN PREPARATION OF THIS MAP.

1:6,000
1" = 500'
0 250 500 FEET

PROJECT:
DESC WILLIAMS STATION
HIGHWAY 52 CLASS III LANDFILL
MONCKS CORNER, SOUTH CAROLINA

TITLE:
GROUNDWATER POTENTIOMETRIC SURFACE MAP - MARCH 22, 2023

DRAWN BY:	L. LILL	PROJ. NO.:	416559.0006.0000
CHECKED BY:	J. YONTS		**FIGURE 3**
APPROVED BY:	R. MAYER		
DATE:	DECEMBER 2023		

TRC
50 INTERNATIONAL DRIVE
PATEWOOD PLAZA THREE, SUITE 150
GREENVILLE, SC 29615
PHONE: 864.281.0030

FILE: 2023_Figures.aprx

Coordinate System: NAD 1983 StatePlane South Carolina FIPS 3900 Feet - Map Rotation: 0
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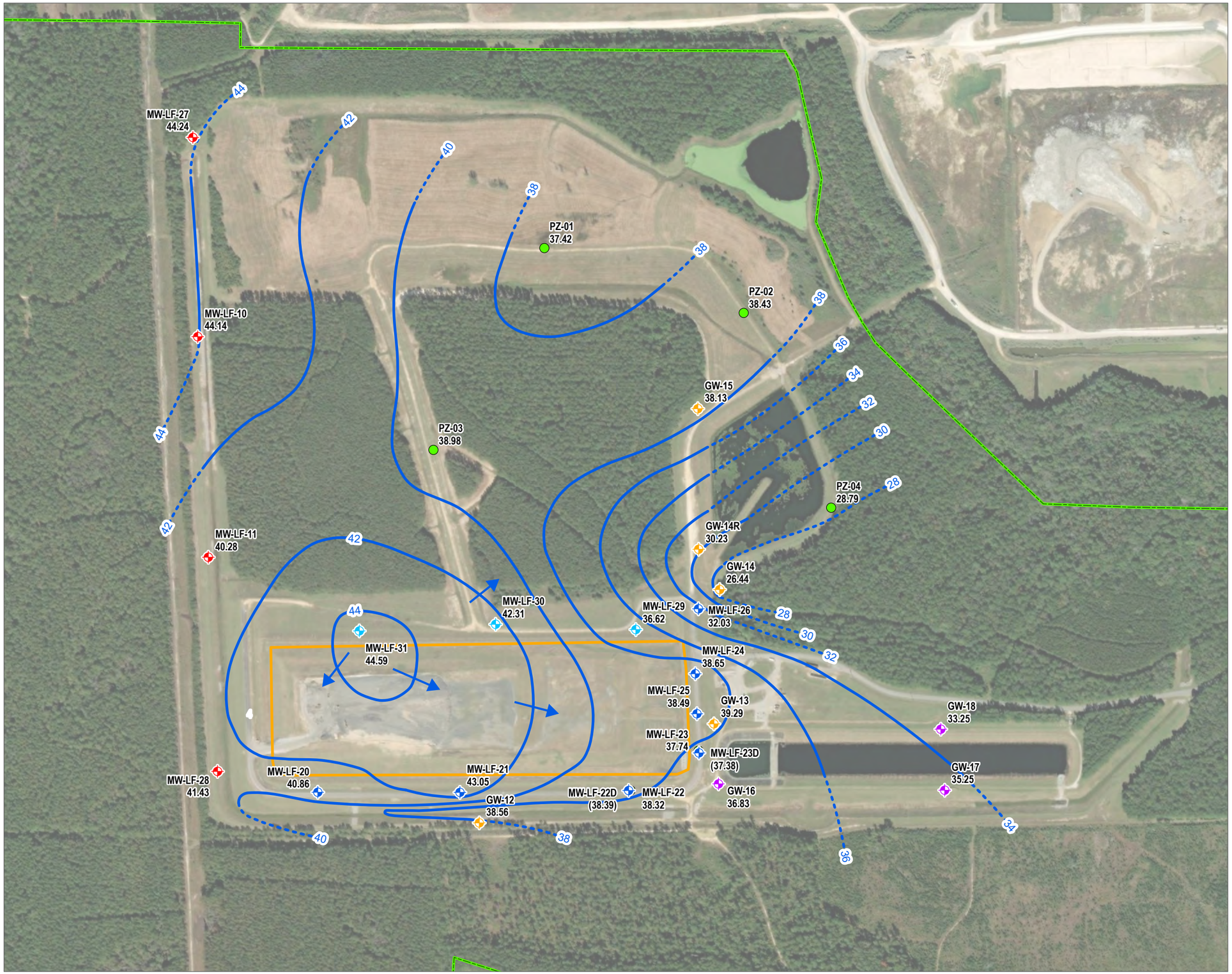

LEGEND

- CCR BACKGROUND MONITORING WELL
- CCR DOWNGRADIENT MONITORING WELL
- NPDES MONITORING WELL
- RCRA MONITORING WELL
- NEW MONITORING WELL INSTALLATION LOCATION
- EVENT PIEZOMETER
- CLASS III LANDFILL
- PROPERTY BOUNDARY
- APPROXIMATE GROUNDWATER FLOW DIRECTION
- WATER TABLE ELEVATION IN FEET ABOVE MEAN SEA LEVEL (2' CONTOUR INTERVALS) - DASHED WHERE INFERRED
- **37.86** WATER ELEVATION (FT. MSL)

NOTES:

1. AERIAL IMAGE FROM ESRI WORLD IMAGERY DATED OCTOBER, 2022.
2. ELEVATIONS SHOWN IN PARENTHESE ARE BELOW THE WATER TABLE OR WERE CONSIDERED AS INACCURATE, AND WERE NOT USED IN THE PREPARATION OF THIS MAP.

1:6,000
1" = 500'
0 250 500 FEET

PROJECT:
DESC WILLIAMS STATION
HIGHWAY 52 CLASS III LANDFILL
MONCKS CORNER, SOUTH CAROLINA

TITLE:
GROUNDWATER POTENTIOMETRIC SURFACE MAP - OCTOBER 3, 2023

DRAWN BY:	L. LILL	PROJ. NO.:	416559.0006.0000
CHECKED BY:	J. YONTS		**FIGURE 4**
APPROVED BY:	R. MAYER		
DATE:	DECEMBER 2023		

TRC
50 INTERNATIONAL DRIVE
PATEWOOD PLAZA THREE, SUITE 150
GREENVILLE, SC 29615
PHONE: 864.281.0030

FILE: 2023_Figures.aprx

Appendix A
September 2022 Alternate Source Demonstration

DOMINION ENERGY SOUTH CAROLINA

WILLIAMS STATION HIGHWAY 52 CLASS III LANDFILL

BERKELEY COUNTY, SOUTH CAROLINA

EPA CCR RULE COMPLIANCE

ALTERNATE SOURCE DEMONSTRATION REPORT

Second Semiannual 2022 Detection Monitoring Event

March 31, 2023

Nakia W. Addison, P.E.
Senior Engineer

Richard A. Mayer Jr., P.G.
Project Hydrogeologist

50 INTERNATIONAL DRIVE, SUITE 150, GREENVILLE, SC 29615, ● 864.281.0030 PHONE ● 864.281.0288 FAX ● WWW.TRCCOMPANIES.COM

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List of Tables

Executive Summary

Dominion Energy South Carolina (DESC) completed the second semiannual 2022 detection monitoring event (sampling event) in September 2022 for the Williams Station (Station) Highway 52 Class III Industrial Landfill (Unit). The sampling event was conducted pursuant to the *Criteria for Classification of Solid Waste Disposal Facilities and Practices; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule*, 40 CFR Part 257 (CCR Rule). The Unit constitutes a coal combustion residuals (CCR) Unit per the CCR Rule. Per 40 CFR §257.94, the samples were analyzed for the Appendix III detection monitoring parameters. Upon receipt of the laboratory analytical results, statistical analysis was performed and evaluated for potential statistically significant increases (SSI) above background concentrations.

The following SSIs above background concentrations were identified in samples from the second semiannual 2022 sampling event based on direct comparisons made between the statistically derived background threshold values (95 percent upper prediction limit) and the downgradient monitoring results:

- MW-LF-20: calcium and total dissolved solids (TDS)
- MW-LF-21: calcium and TDS
- MW-LF-22D: TDS
- MW-LF-23D: TDS
- MW-LF-24: calcium and TDS
- MW-LF-25: calcium, fluoride, sulfate, and TDS
- MW-LF-26: calcium, chloride, sulfate, and TDS

The information provided in this report serves as DESC's Alternate Source Demonstration (ASD) prepared in accordance with 40 CFR §257.94(e)(2) and is intended to demonstrate that the SSIs are not due to a release from the Unit to groundwater, but are due to the following:

- Natural variation in groundwater quality within the area.

Therefore, based on the information provided in this ASD report, DESC intends to continue to conduct semiannual detection monitoring for Appendix III constituents in accordance with 40 CFR §257.94 at the certified groundwater monitoring well system (Certified Monitoring Well Network) for the CCR Unit.

Section 1
Introduction

1.1 Background

Dominion Energy South Carolina (DESC) operates an offsite Class III Industrial Landfill (Unit) for the disposal of coal combustion residuals (CCR) at the Williams Generating Station (Station). The Unit is located at 2381 Highway 52 in Moncks Corner, Berkley County, South Carolina as shown on **Figure 1**. The existing Unit consists of cells 1 through 4 which were constructed as the first phase of development in 2008. These cells were placed into operation in accordance with an operation plan approval issued by the South Carolina Department of Health and Environmental Control (SCDHEC) in 2010 and operates under SCDHEC Solid Waste Permit No. LF-3-00001.

The Unit receives both fly ash and flue gas desulfurization (FGD) waste from the Station located about 6 miles from the Unit in Goose Creek, South Carolina. The Unit includes a liner system consisting of a minimum 2-foot-thick compacted clay layer (maximum permeability of 1×10^{-7} cm/sec) overlain by a leachate collection system.

The Unit accepts CCR for disposal in accordance with the federal *Criteria for Classification of Solid Waste Disposal Facilities and Practices; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule* (CCR Rule), effective October 19, 2015, and subsequent Final Rules promulgated by the United States Environmental Protection Agency (USEPA).

1.2 Groundwater Monitoring and Statistical Analysis

In accordance with 40 CFR §257.90 through §257.94, DESC installed a groundwater monitoring system for the Unit and has collected samples from the Certified Monitoring Well Network for laboratory analysis for CCR constituents and performed statistical analysis of the collected samples. DESC installed a Certified Monitoring Well Network for the Unit in accordance with 40 CFR §257.90 and §257.91. The location of the EPA CCR Rule Compliance Monitoring Well Network is presented on **Figure 2**. The Certified Monitoring Well Network consists of 11 wells installed into the subsurface to monitor shallow groundwater as follows:

- Four wells were installed as background monitoring wells and include MW-LF-10, MW-LF-11, MW-LF-27, and MW-LF-28.
- Seven wells were installed as compliance monitoring wells and include MW-LF-20, MW-LF-21, MW-LF-22D, MW-LF-23D, MW-LF-24, MW-LF-25, and MW-LF-26.

Pursuant to 40 CFR §257.91(f), DESC obtained certification by a qualified South Carolina-registered professional engineer (P.E.) stating that the Certified Monitoring Well Network has been designed and constructed to meet the requirements of 40 CFR §257.91 of the CCR Rule (Garrett & Moore 2017).

As discussed above, the Unit is currently being monitored pursuant to the CCR Rule. A groundwater sampling and analysis plan including selection of statistical procedures to evaluate groundwater data was prepared per the CCR Rule (Nautilus 2016). Eight quarterly background CCR detection monitoring events were performed from May 2016 through July 2017 in accordance with 40 CFR §257.93(d) and §257.94(b). The eight quarterly detection monitoring background samples were analyzed for Appendix III to Part 257 – Constituents for Detection Monitoring and for Appendix IV to Part 257 – Constituents for Assessment Monitoring.

Following completion of quarterly background detection monitoring in July 2017, DESC implemented semiannual detection monitoring per 40 CFR §257.94(b) for the Unit. The initial detection monitoring event was performed in September 2017. Subsequent detection monitoring events, with associated verification sampling when appropriate, have been performed on a semiannual basis since September 2017. DESC completed the second 2022 semiannual detection monitoring event in September 2022. Per the CCR Rule, the semiannual detection monitoring event samples were analyzed for Appendix III constituents.

After completion of each semiannual detection monitoring event, the Appendix III laboratory analytical data were statistically evaluated to identify potential statistically significant increases (SSIs) for Appendix III constituents above background levels. In accordance with 40 CFR §257.93(f)(6), DESC obtained certification by a qualified South Carolina-registered P.E. stating that the selected statistical method is appropriate for evaluating the groundwater monitoring data for the Unit (SCE&G 2017).

Pursuant to 40 CFR §257.93(h), statistical analysis of the laboratory analytical data was performed to identify potential SSIs for the second semiannual 2022 detection monitoring event. Data from the second semiannual 2022 detection monitoring event is presented in **Table 1**. A total of 16 SSIs were identified for four Appendix III constituents: calcium, chloride, fluoride, sulfate, and total dissolved solids (TDS).

1.3 Purpose

Pursuant to 40 CFR §257.94(e)(2), DESC may demonstrate that a source other than the CCR Unit caused the SSIs identified or that the SSIs resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. The purpose of this report is to provide written documentation of the successful ASD for the SSIs identified for the second semiannual 2022 detection monitoring event, pursuant to 40 CFR §257.94(e)(2) of the CCR Rule.

1.4 Site Hydrogeology

The Station is located in the outer Coastal Plain of South Carolina. The uppermost aquifer in the Coastal Plain of South Carolina is the unconfined surficial aquifer. In most areas, the surficial aquifer consists of discontinuous layers of sand, clay and locally occurring beds of shell and limestone.

The Unit is located within the Ashley-Cooper River Subbasin (Ashley-Combahee-Edisto (ACE) Basin watershed) of the Coastal Plain physiographic province. Aquifers and confining units in the South Carolina portion of the Coastal Plain are composed of crystalline carbonate rocks, sand, clay, silt, and gravel that contain large volumes of high-quality groundwater (SAWSC 2016). The Unit groundwater monitoring wells are within the surficial aquifer of the Cooper geologic formation. This formation varies from a phosphatic, calcareous clay and clayey calcarenite in the upper section underlain by a clayey, very fine-grained limestone (USGS 1996). According to *State of South Carolina Resources Commission Report Number 139* (1985), the Cooper formation is approximately 130 feet thick beneath the site. This unit functions as a confining layer beneath the overlying surficial aquifer. Groundwater flow beneath the Unit is generally to the east/southeast as depicted on **Figure 3**. Hydraulic conductivity values in the surficial aquifer at the Landfill range from 1.71×10^{-5} cm/s to 8.97×10^{-4} cm/s with an estimated groundwater flow velocities of between 0.001 to 0.157 feet/day (Nautilus 2021).

1.5 General Groundwater Quality

Regionally, groundwater quality in the Ashley-Cooper River Subbasin consists of a sodium bicarbonate water type grading to a sodium chloride water type with depth and proximity to the coast (SCDNR 2009). The USEPA has established National Primary Drinking Water Regulations that define a permitted maximum contaminant level (MCL) for specific constituents in drinking water. The primary MCLs are legally enforceable standards that were established to protect public health by limiting the levels of contaminants in drinking water. Additionally, the USEPA has established non-enforceable secondary MCLs for guidelines to assist public water systems in managing their drinking water for aesthetic consideration such as taste, color, and odor. Reported water quality concentrations for select primary and/or secondary drinking water contaminants compared to USEPA MCLs are provided in the table below.

Ashley-Cooper River Subbasin Groundwater Water Quality

	Concentration Range		USEPA
Constituent	Low	High	MCL
Calcium (mg/L)	10	250	None
Chloride (mg/L)	2.2	500	250 (Secondary)
Fluoride	0.1	5.0	4.0 (Primary)
Sulfate (mg/L)	1.0	1,000	250 (Secondary)
TDS (mg/L)	20	2,800	500 (Secondary)

Note: mg/L = milligram per liter

As noted in the table above, the natural range of groundwater quality within the Ashley-Cooper River Subbasin exceeds the primary drinking water MCL for fluoride and the secondary drinking water MCLs for chloride, sulfate, and TDS (SCDNR 2009). A primary or secondary drinking water MCL has not been established for calcium however, the natural range of groundwater quality in the Ashley-Cooper River Subbasin is reported to be in the range of 10 mg/L to 250 mg/L (SCDNR 2009).

Section 2
Alternate Source Demonstration

Pursuant to 40 CFR §257.94(e)(2), DESC may demonstrate that a source other than the CCR Unit caused the SSI or that the SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. As discussed previously, the second semiannual 2022 detection monitoring event was performed in September 2022. Statistical analysis of the second semiannual 2022 detection monitoring data was performed pursuant to 40 CFR §257.93(f) and (g) and in accordance with the Statistical Methods Certification (SCE&G 2017) and the Statistical Analysis Plan. Based on either increasing trends at 95% confidence levels using Thiel-Sen's trend test and/or interwell prediction limits statistical analyses, the following SSIs were identified:

- MW-LF-20: calcium and TDS
- MW-LF-21: calcium and TDS
- MW-LF-22D: TDS
- MW-LF-23D: TDS
- MW-LF-24: calcium and TDS
- MW-LF-25: calcium, fluoride, sulfate, and TDS
- MW-LF-26: calcium, chloride, sulfate, and TDS

All other Appendix III constituent concentrations were within their trends at 95% confidence levels using Thiel-Sen's trend and/or interwell prediction limits in all the CCR Rule groundwater monitoring system wells.

A discussion for each of the individual SSIs and associated evidence demonstrating that the SSIs were not caused by a release from the Unit is provided in the subsections below.

2.1 Calcium at MW-LF-20, MW-LF-21, MW-LF-24, MW-LF-25, and MW-LF-26

The calcium SSIs identified at MW-LF-20, MW-LF-21, MW-LF-24, MW-LF-25, and MW-LF-26 are the result of natural variation in groundwater quality from areas upgradient from the Unit. The following evidence supports this determination:

- Calcium was detected in MW-LF-20 (149 mg/L), MW-LF-21 (116 mg/L), MW-LF-24 (110 mg/L), MW-LF-25 (166 mg/L), and MW-LF-26 (166 mg/L) during the September 2022 sampling event. These concentrations exceed the background threshold value of 94.6 mg/L. Reported regional calcium concentrations for groundwater in the Unit area range between 10 mg/L to 250 mg/L (SCDNR 2009). The detected calcium concentrations for MW-LF-20, MW-LF-21, MW-LF-24, MW-LF-25, and MW-LF-26 fall within the range of natural variation in area groundwater quality.

2.2 Chloride at MW-LF-26

The chloride SSI identified at MW-LF-26 is the result of natural variation in groundwater quality from areas upgradient from the Unit. The following evidence supports this determination:

- Chloride was detected in MW-LF-26 at a concentration of 137 mg/L in the September 2022 sample. This concentration exceeds the background threshold value of 28.6 mg/L. Reported regional chloride concentrations for groundwater in the Unit area range between 2.2 mg/L to 500 mg/L (SCDNR 2009). The detected chloride concentration for MW-LF-26 falls within the range of natural variation in area groundwater quality.

2.3 Fluoride at MW-LF-25

The fluoride SSI identified at MW-LF-25 is the result of natural variation in groundwater quality from areas upgradient from the Unit. The following evidence supports this determination:

- Fluoride was detected in MW-LF-25 at a concentration of 0.990 mg/L in the September 2022 sample. This concentration exceeds the background threshold value of 0.756 mg/L. Reported regional fluoride concentrations for groundwater in the Unit area range between 0.1 mg/L to 5.0 mg/L (SCDNR 2009). The detected fluoride concentration for MW-LF-25 falls within the range of natural variation in area groundwater quality.

2.4 Sulfate at MW-LF-25 and MW-LF-26

The sulfate SSIs identified at MW-LF-25 and MW-LF-26 are the result of natural variation in groundwater quality from areas upgradient from the Unit. The following evidence supports this determination:

- Sulfate was detected in MW-LF-25 (316 mg/L) and MW-LF-26 (53.9 mg/L) during the September 2022 sampling event. These concentrations exceed the background threshold value of 45.2 mg/L. Reported regional sulfate concentrations for groundwater in the Unit area range between 1 mg/L to 1,000 mg/L (SCDNR 2009). The detected sulfate concentrations for MW-LF-25 and MW-LF-26 fall within the range of natural variation in area groundwater.

2.5 TDS at MW-LF-20, MW-LF-21, MW-LF-22D, MW-LF-23D, MW-LF-24, MW-LF-25, and MW-LF-26

The TDS SSIs identified at MW-LF-20, MW-LF-21, MW-LF-22D, MW-LF-23D, MW-LF-24, MW-LF-25, and MW-LF-26 are the result of natural variation in groundwater quality from areas upgradient from the Unit. The following evidence supports this determination:

- TDS was detected in MW-LF-20 (656 mg/L), MW-LF-21 (612 mg/L), MW-LF-22D (583 mg/L), MW-LF-23D (501 mg/L), MW-LF-24 (478 mg/L), MW-LF-25 (956 mg/L), and MW-LF-26 (890 mg/L) during the September 2022 sampling event. These concentrations exceed the background threshold value of 389 mg/L. Reported regional TDS concentrations for groundwater in the Unit

area range between 20 mg/L to 2,800 mg/L (SCDNR 2009). The detected calcium concentrations for MW-LF-20, MW-LF-21, MW-LF-22D, MW-LF-23D, MW-LF-24, MW-LF-25, and MW-LF-26 fall within the range of natural variation in area groundwater quality.

2.6 Additional Support for ASD

2.6.1 Geochemical Evaluation

Most natural waters contain cations and anions found in equilibrium (Piper 1944). Evaluation of the geochemistry of groundwater can assist in understanding the source(s) of the dissolved constituents. A geochemical analysis of major cations (calcium, magnesium, sodium, and potassium) and anions (total alkalinity, chloride, fluoride, and sulfate) was conducted in September 2022 and the sampling event data is presented in **Table 2**. A useful tool to graph the major distribution of the dissolved constituents in groundwater is through the use of a Piper diagram (Piper 1944). A Piper diagram was prepared using the September 2022 geochemical data and presented as **Figure 4**. The following observations were noted:

- With respect to anions (bottom right triangle of Piper diagram), MW-LF-20, MW-LF-21, and MW-LF-24 plotted closely (within the 80 to 100% bicarbonate distribution) with background wells MW-LF-10 and MW-LF-11, along with downgradient wells MW-LF-22D and MW-LF-23D.
- With respect to cations (bottom left triangle of Piper diagram), MW-LF-20, MW-LF-21, MW-LF-24, MW-LF-25, and MW-LF-26 plotted closely (within the 40 to 60% calcium distribution) with background wells MW-LF-10, MW-LF-11, MW-LF-27, and MW-LF-28 and downgradient well MW-LF-25.
- With respect to the overall hydrochemical distribution (diamond in Piper diagram), MW-LF-20, MW-LF-21, and MW-LF-24 plotted within the same area of the diamond as background wells MW-LF-10, and MW-LF-11, along with downgradient wells MW-LF-22D and MW-LF-23D within the magnesium bicarbonate type water hydrochemical facies.

Evaluation of the geochemical distribution of cations and anions in the groundwater samples suggests that the water type for MW-LF-20, MW-LF-21, and MW-LF-24 has similarities to that of background wells MW-LF-10 and MW-LF-11. This observation suggests that the source for calcium at MW-LF-20, MW-LF-21, and MW-LF-24 is not from the Unit. The similar geochemical signature of MW-LF-20, MW-LF-21, and MW-LF-24 with background wells MW-LF-10 and MW-LF-11 further suggests that the SSI for calcium is the result of natural variations of calcium in the groundwater at the site.

2.6.2 Coal Ash Indicator Parameters

There are several constituents which are good indicators of coal ash impacts with lithium being one of them. Previous analysis of leachate from the Unit have indicated detections of lithium between 1,710 microgram per liter (µg/L) and 4,396 µg/L (Nautilus, 2021). Total lithium was analyzed during the September 2022 event and was detected at concentrations ranging from 2.52 µg/L (laboratory estimate at MW-LF-27) to 18.7 µg/L (MW-LF-22D). Historically, lithium has been detected at concentrations below 2.0 µg/L to a maximum of 39.8 µg/L observed in background well MW-LF-10 in May 2017 (Nautilus, 2021). Naturally occurring concentrations of lithium in South Carolina groundwater generally exhibits a range of between less than 5 µg/L to approximately 60 µg/L (Lindsey et al., 2021). The historical levels of lithium detected are within the range of naturally occurring groundwater concentrations and two orders of magnitude less than what is detected in leachate from the Unit.

The absence of lithium above naturally occurring groundwater levels within the Unit monitoring well network suggests that a release of leachate from the Unit has not occurred.

Section 3
Conclusions

The information provided in this report serves as the ASD prepared in accordance with 40 CFR §257.94(e)(2) of the CCR Rule and demonstrates that the SSIs determined based on statistical analysis of the second semiannual 2022 detection monitoring event performed in September of 2022 was not due to a release from the CCR Unit to the subsurface.

Based on the information provided in this ASD report, DESC will continue to conduct semiannual detection monitoring in accordance with 40 CFR §257.94 at the Certified Monitoring Well Network for the CCR Unit.

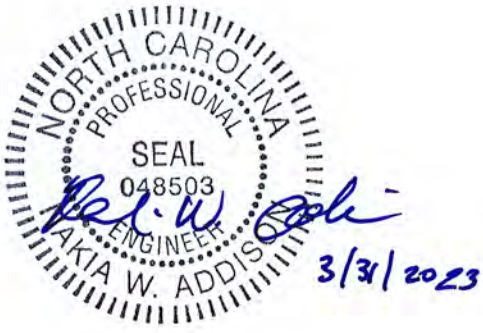
Additional observation wells were installed in January 2023 in the vicinity of the Unit to further refine hydrogeologic conditions. The results of the hydrogeological evaluation may be used to help optimize the groundwater monitoring well network for the Unit.

Section 4
Certification

I hereby certify that the alternative source demonstration presented within this document for the DESC Williams Highway 52 Coal Ash Disposal Landfill CCR Unit has been prepared to meet the requirements of Title 40 CFR §257.94(e)2 of the Federal CCR Rule. This document is accurate and has been prepared in accordance with good engineering practices, including the consideration of applicable industry standards, and with the requirements of Title 40 CFR §257.94(e) 2.

Name: Nakia W. Addison, P.E. **Expiration Date:** June 30, 2024

Company: TRC Engineers, Inc. **Date:** March 31, 2023



(SEAL)

Section 5
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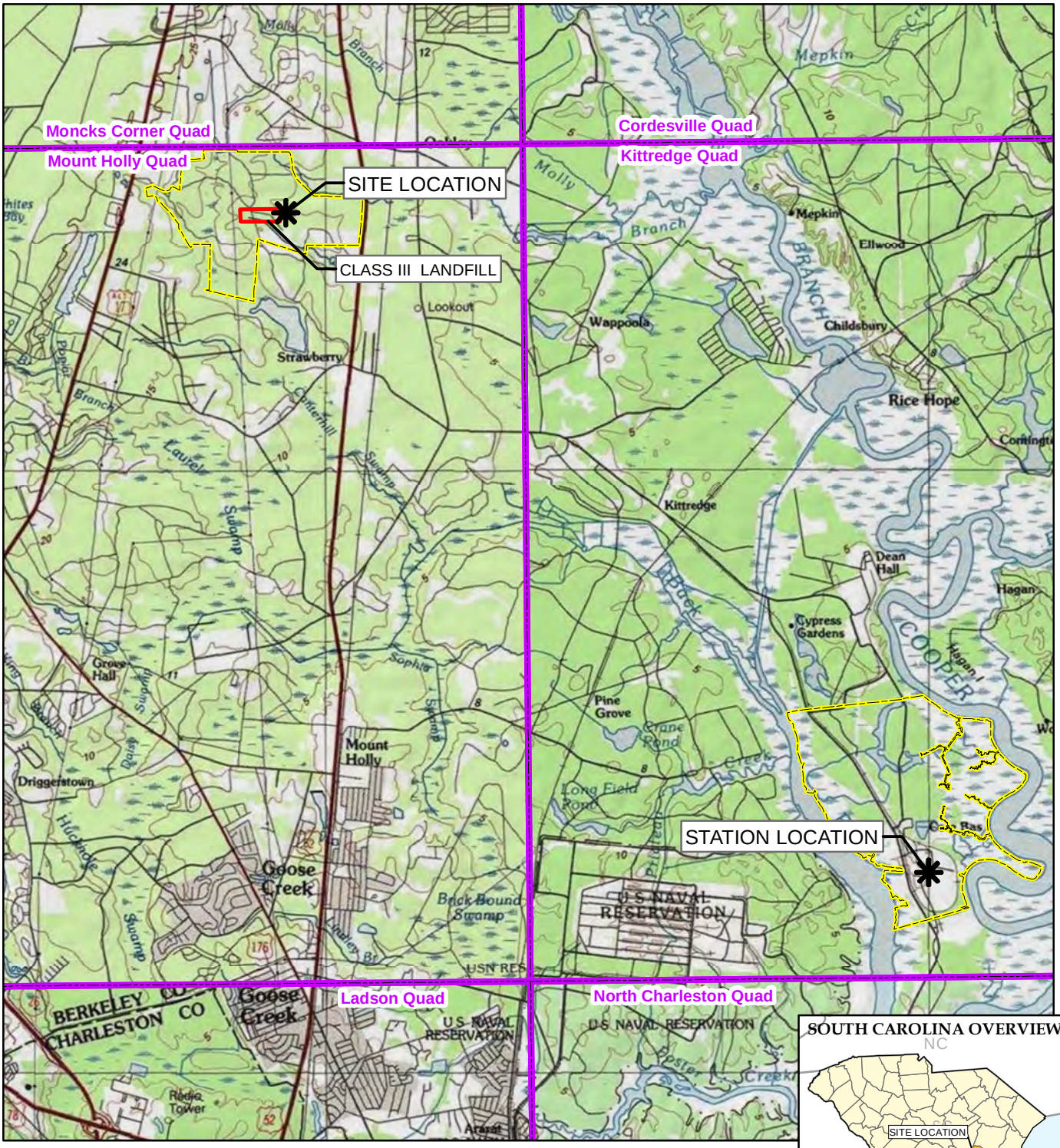
Figures

TRC - GIS



BASE MAP FROM USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE SERIES.

SOUTH CAROLINA OVERVIEW

N

SITE LOCATION

PROPERTY BOUNDARY

USGS 24k QUAD BOUNDARY

CLASS III LANDFILL BOUNDARY

1 " = 8,000 '
1:96,000

0 2,000 4,000 8,000
Feet

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Patewood Plaza Three
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Phone: 864.281.0030

DOMINION ENERGY SOUTH CAROLINA
WILLIAMS STATION HIGHWAY 52 LANDFILL
MONCKS CORNER, SOUTH CAROLINA 29461

FIGURE 1
SITE LOCATION MAP

DRAWN BY:	J. YONTS
APPROVED BY:	R. MAYER
PROJECT NO:	416559.0006.0000
FILE NO.	Figure1_Site_Location_Map_CCR.mxd
DATE:	MARCH 2023

LEGEND

- CCR Background Monitoring Well
- CCR Downgradient Monitoring Well
- Class III Landfill Boundary
- Property Boundary

NOTE: Aerial Image from ESRI World Imagery dated April 2022.

N W E S

0 500 1,000 Feet

1 " = 500 '
1:6,000

PROJECT:
DESC WILLIAMS STATION
HIGHWAY 52 CLASS III LANDFILL
GOOSE CREEK, SOUTH CAROLINA

TITLE:
CCR RULE COMPLIANCE MONITORING WELL NETWORK

DRAWN BY:	J. YONTS	PROJ. NO.:	416559.0006.0000
CHECKED BY:	D. SZYNAL		
APPROVED BY:	R. MAYER		**FIGURE 2**
DATE:	MARCH 2023		

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FILE NO.: Figure2_Williams_HWY52_CCR_LF_Well_Network.mxd

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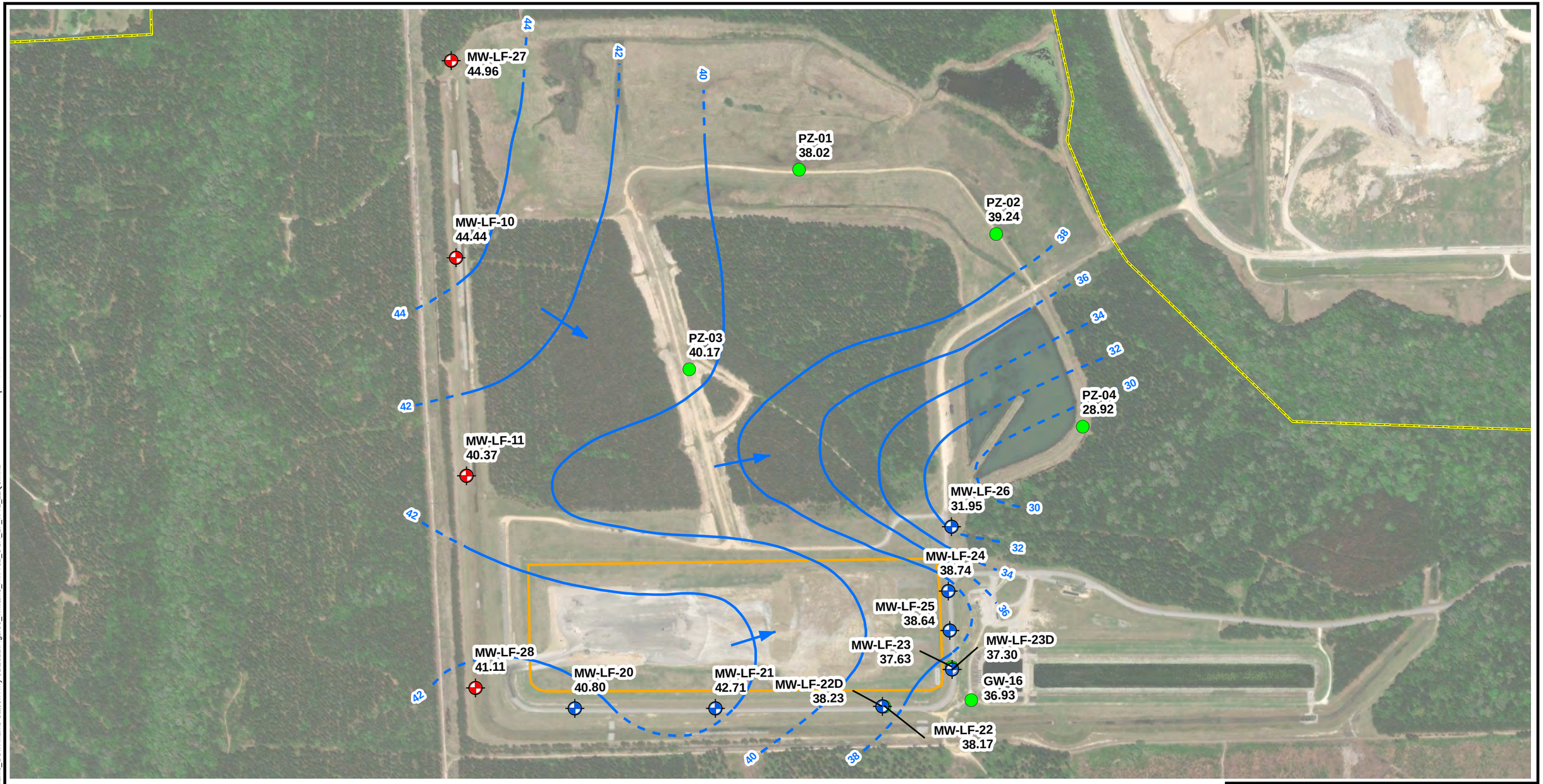
Map Rotation: 0
TRC - GIS



LEGEND

- CCR Background Monitoring Well
- CCR Downgradient Monitoring Well
- Event Piezometer
- Class III Landfill Boundary
- Property Boundary
- Water Table Elevation in feet above mean sea level (2' Contour Intervals) - Dashed where inferred.
- Approximate Groundwater Flow Direction
- **40.80** Water Elevation (FT MSL)

NOTE: Aerial Image from ESRI World Imagery dated April 2022.

N W E S

0 500 1,000 Feet

1 " = 500 '
1:6,000

PROJECT:
DESC WILLIAMS STATION
HIGHWAY 52 CLASS III LANDFILL
GOOSE CREEK, SOUTH CAROLINA

TITLE:
GROUNDWATER POTENTIOMETRIC SURFACE MAP - SEPTEMBER 21, 2022

DRAWN BY:	J. YONTS	PROJ. NO.:	416559.0006.0000
CHECKED BY:	D. SZYNAL		
APPROVED BY:	R. MAYER		**FIGURE 3**
DATE:	MARCH 2023		

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FILE NO.: Figure3_Williams_HWY52_CCR_LF_WTL_22Q3.mxd

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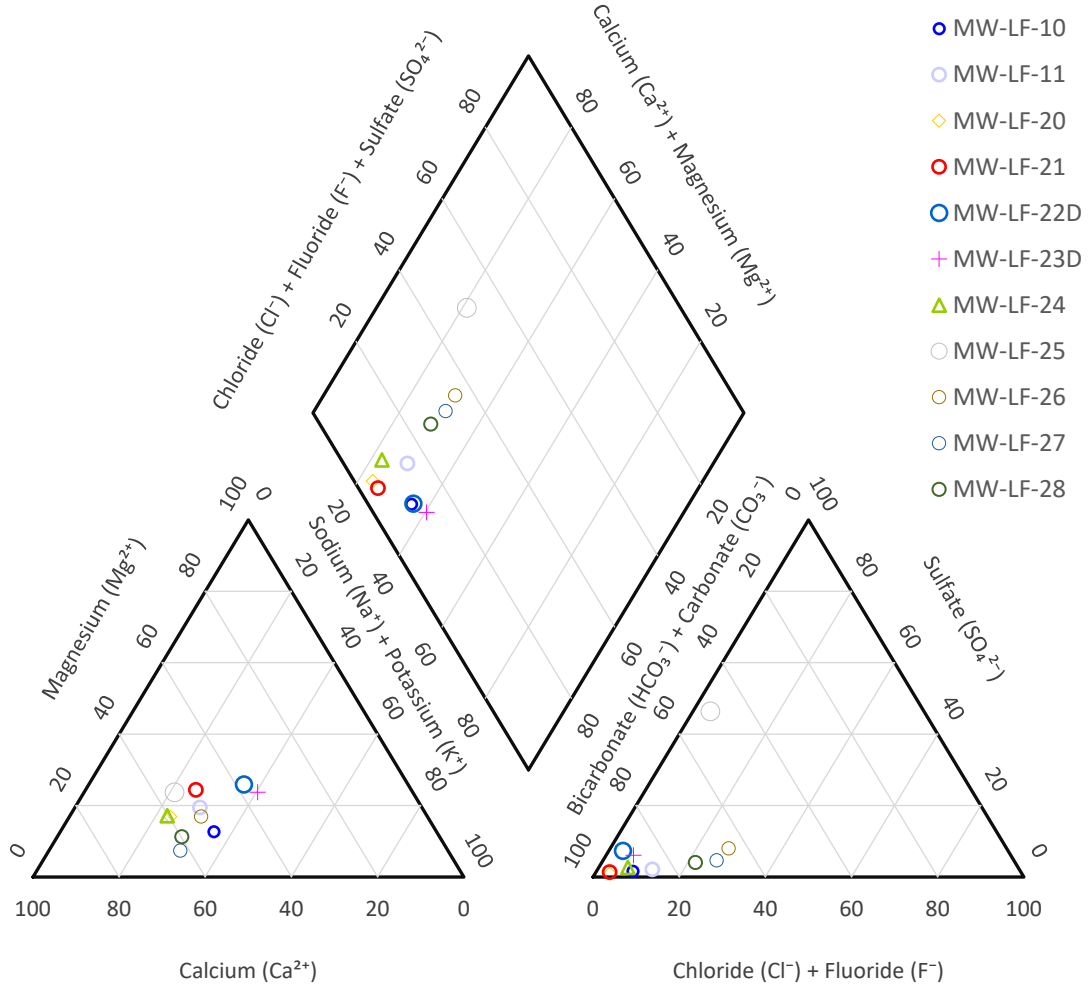
Map Rotation: 0
TRC - GIS

FIGURE 4
DESC Williams Hwy 52 Landfill
Class III Landfill
Piper Diagram - September 2022



Tables

Table 1
Summary of Second Semiannual 2022 Detection Monitoring Program Sampling Event Data
Dominion Energy South Carolina - Williams Station Highway 52 Class III Landfill
Moncks Corner, Berkeley County, South Carolina

			Background Wells																Downgradient Wells							
		Sample ID:	MW-LF-10				MW-LF-11				MW-LF-27				MW-LF-28				MW-LF-20				MW-LF-21			
		Sample Date:	09/21/2022				09/21/2022				09/22/2022				09/22/2022				09/22/2022				09/21/2022			
Parameter Name	**Units**	**Background Threshold Values**	**Result**	**Qual**	**MDL**	**QL**	**Result**	**Qual**	**MDL**	**QL**	**Result**	**Qual**	**MDL**	**QL**	**Result**	**Qual**	**MDL**	**QL**	**Result**	**Qual**	**MDL**	**QL**	**Result**	**Qual**	**MDL**	**QL**
CCR Appendix III																										
Boron	µg/L	500	**70.8**		4.00	15.0	**31.9**		4.00	15.0	**34.7**		4.00	15.0	**16.1**		4.00	15.0	**228**		20.0	75.0	**211**		20.0	75.0
Calcium	mg/L	94.6	**68.7**		0.300	1.000	**19.3**		0.030	0.100	**46.1**		0.030	0.100	**8.39**		0.030	0.100	**149**		0.150	0.500	**116**		0.150	0.500
Chloride	mg/L	28.6	**17.0**		0.335	1.00	**6.48**		0.0670	0.200	**19.3**		0.335	1.00	**5.87**		0.0670	0.200	**11.7**		0.134	0.400	**10.9**		0.134	0.400
Fluoride	mg/L	0.756	**0.453**		0.0330	0.100	**0.272**		0.0330	0.100	**0.223**		0.0330	0.100	**0.110**		0.0330	0.100	**0.203**		0.0330	0.100	**0.223**		0.0330	0.100
pH	SU	5.16 - 8.33	6.68		0.01	0.01	5.80		0.01	0.01	6.21		0.01	0.01	5.86		0.01	0.01	6.28		0.01	0.01	6.30		0.01	0.01
Sulfate	mg/L	45.2	**4.62**		0.133	0.400	**1.56**		0.133	0.400	**4.69**		0.133	0.400	**1.51**		0.133	0.400	**4.24**		0.133	0.400	**6.35**		0.133	0.400
Total Dissolved Solids	mg/L	389	**365**		2.38	10.0	**84.0**		2.38	10.0	**194**		2.38	10.0	**40.0**		2.38	10.0	**656**		2.38	10.0	**612**		2.38	10.0
Field Parameters																										
Conductivity	µS/cm	--	804.89		0.1	0.1	199.77		0.1	0.1	468.98		0.1	0.1	171.54		0.1	0.1	1369.8		0.1	0.1	1274.9		0.1	0.1
Dissolved Oxygen	mg/L	--	0.33		0.01	0.01	1.20		0.01	0.01	0.30		0.01	0.01	2.27		0.01	0.01	0.86		0.01	0.01	0.26		0.01	0.01
Temperature	C	--	28.83		0.01	0.01	28.66		0.01	0.01	24.60		0.01	0.01	25.45		0.01	0.01	27.26		0.01	0.01	28.59		0.01	0.01
Turbidity	NTU	--	2.64		0.1	0.1	2.78		0.1	0.1	3.82		0.1	0.1	2.28		0.1	0.1	2.93		0.1	0.1	2.64		0.1	0.1
Depth to Water	ft btoc	--	7.85		0.01	0.01	11.35		0.01	0.01	8.29		0.01	0.01	10.11		0.01	0.01	20.01		0.01	0.01	13.43		0.01	0.01
Groundwater Elevation	ft msl	--	44.44		0.01	0.01	40.37		0.01	0.01	44.96		0.01	0.01	41.11		0.01	0.01	40.80		0.01	0.01	42.71		0.01	0.01
Oxidation Reduction Potential	millivolts	--	113.7		0.1	0.1	42.7		0.1	0.1	7.9		0.1	0.1	58.5		0.1	0.1	48.9		0.1	0.1	31.9		0.1	0.1

Notes:
MDL = Method Detection Limit
QL = Quantitation Limit
mg/L = Milligram per liter
µg/L = Microgram per liter
µS/cm = MicroSiemen per centimeter
SU = Standard Units
C = Degrees Celsius
NTU = Nephelometric Turbidity Unit
ft btoc = feet below top of casing
ft msl = feet above mean sea level
-- = Not applicable

Qualifiers (Qual)
= Concentration greater than Background Threshold Values

Bold font = Detected constituent
* - Groundwater Elevation data collected on September 21, 2022

Table 1
Summary of Second Semiannual 2022 Detection Monitoring Program Sampling Event Data
Dominion Energy South Carolina - Williams Station Highway 52 Class III Landfill
Moncks Corner, Berkeley County, South Carolina

			Downgradient Wells																			
		Sample ID:	MW-LF-22D				MW-LF-23D				MW-LF-24				MW-LF-25				MW-LF-26			
		Sample Date:	09/22/2022				09/21/2022				09/22/2022				09/21/2022				09/22/2022			
Parameter Name	**Units**	**Background Threshold Values**	**Result**	**Qual**	**MDL**	**QL**	**Result**	**Qual**	**MDL**	**QL**	**Result**	**Qual**	**MDL**	**QL**	**Result**	**Qual**	**MDL**	**QL**	**Result**	**Qual**	**MDL**	**QL**
CCR Appendix III																						
Boron	µg/L	500	**347**		20.0	75.0	**292**		20.0	75.0	**87.7**		4.00	15.0	**78.7**		4.00	15.0	**149**		4.00	15.0
Calcium	mg/L	94.6	**83.3**		0.150	0.500	**68.1**		0.150	0.500	**110**		0.150	0.500	**166**		0.300	1.00	**166**		0.300	1.00
Chloride	mg/L	28.6	**10.5**		0.134	0.400	**16.3**		0.134	0.400	**18.0**		0.335	1.00	**18.4**		2.68	8.00	**137**		1.34	4.00
Fluoride	mg/L	0.756	**0.286**		0.0330	0.100	**0.348**		0.0330	0.100	**0.485**		0.0330	0.100	**0.990**		0.0330	0.100	**0.255**		0.0330	0.100
pH	SU	5.16 - 8.33	6.32		0.01	0.01	6.70		0.01	0.01	5.88		0.01	0.01	6.19		0.01	0.01	5.57		0.01	0.01
Sulfate	mg/L	45.2	**32.8**		0.266	0.800	**21.7**		0.266	0.800	**10.1**		0.133	0.400	**316**		5.32	16.0	**53.9**		2.66	8.00
Total Dissolved Solids	mg/L	389	**583**		2.38	10.0	**501**		2.38	10.0	**478**		2.38	10.0	**956**		2.38	10.0	**890**		2.38	10.0
Field Parameters																						
Conductivity	µS/cm	--	1042		0.1	0.1	1051.2		0.1	0.1	865.02		0.1	0.1	1397		0.1	0.1	1641		0.1	0.1
Dissolved Oxygen	mg/L	--	0.30		0.01	0.01	0.45		0.01	0.01	0.37		0.01	0.01	3.08		0.01	0.01	0.40		0.01	0.01
Temperature	C	--	30.94		0.01	0.01	28.93		0.01	0.01	26.78		0.01	0.01	28.29		0.01	0.01	26.50		0.01	0.01
Turbidity	NTU	--	2.56		0.1	0.1	1.99		0.1	0.1	2.18		0.1	0.1	1.77		0.1	0.1	2.76		0.1	0.1
Depth to Water	ft btoc	--	12.13		0.01	0.01	12.39		0.01	0.01	13.66		0.01	0.01	12.29		0.01	0.01	23.26		0.01	0.01
Groundwater Elevation	ft msl	--	38.23		0.01	0.01	37.30		0.01	0.01	38.74		0.01	0.01	38.64		0.01	0.01	31.95		0.01	0.01
Oxidation Reduction Potential	millivolts	--	52.9		0.1	0.1	108.6		0.1	0.1	37.4		0.1	0.1	77.3		0.1	0.1	41.6		0.1	0.1

Notes:
MDL = Method Detection Limit
QL = Quantitation Limit
mg/L = Milligram per liter
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SU = Standard Units
C = Degrees Celsius
NTU = Nephelometric Turbidity Unit
ft btoc = feet below top of casing
ft msl = feet above mean sea level
-- = Not applicable

Qualifiers (Qual)
= Concentration greater than Background Threshold Values

Bold font = Detected constituent
* - Groundwater Elevation data collected on September 21, 2022

Table 2
Summary of Alternate Source Demonstration Parameters - September 2022
Dominion Energy South Carolina - Williams Station Highway 52 Class III Landfill
Moncks Corner, Berkeley County, South Carolina

		Background Wells															
	Sample ID:	**MW-LF-10**				**MW-LF-11**				**MW-LF-27**				**MW-LF-28**			
	Sample Date:	**09/21/2022**				**09/21/2022**				**09/22/2022**				**09/22/2022**			
Parameter Name	**Units**	**Result**	**Qual**	**MDL**	**QL**	**Result**	**Qual**	**MDL**	**QL**	**Result**	**Qual**	**MDL**	**QL**	**Result**	**Qual**	**MDL**	**QL**
Total Metals																	
Lithium	ug/L	**14.2**		2.00	10.0	**4.50**	J	2.00	10.0	**2.52**	J	2.00	10.0	**2.86**	J	2.00	10.0
Magnesium	ug/L	**10200**		10.0	15.0	**4420**		10.0	15.0	**3320**		10.0	15.0	**955**		10.0	15.0
Potassium	ug/L	**7130**		80.0	300	**2540**		80.0	300	**3460**		80.0	300	**1120**		80.0	300
Sodium	ug/L	**50200**		80.0	250	**11000**		80.0	250	**24000**		80.0	250	**4000**		80.0	250
Alkalinity via SM2320B																	
Alkalinity, Total as CaCO3	mg/L	**327**		1.45	4.00	**80.4**		1.45	4.00	**88.6**		1.45	4.00	**35.6**		1.45	4.00
Alkalinity, Bicarbonate	mg/L	**327**		1.45	4.00	**80.4**		1.45	4.00	**88.6**		1.45	4.00	**35.6**		1.45	4.00
Alkalinity, Carbonate	mg/L	1.45	U	1.45	4.00	1.45	U	1.45	4.00	1.45	U	1.45	4.00	1.45	U	1.45	4.00

Notes:
MDL = Method Detection Limit
QL = Quantitation Limit
mg/L = Milligram per liter
µg/L = Microgram per liter

Qualifiers (Qual)
J = Estimated Results
U = Samples reported below their respective MDL
Bold font = Detected constituent

Table 2
Summary of Alternate Source Demonstration Parameters - September 2022
Dominion Energy South Carolina - Williams Station Highway 52 Class III Landfill
Moncks Corner, Berkeley County, South Carolina

		Downgradient Well																			
Sample ID:		**MW-LF-20**				**MW-LF-21**				**MW-LF-22D**				**MW-LF-23D**				**MW-LF-24**			
Sample Date:		**09/22/2022**				**09/21/2022**				**09/22/2022**				**09/21/2022**				**09/22/2022**			
Parameter Name	**Units**	**Result**	**Qual**	**MDL**	**QL**	**Result**	**Qual**	**MDL**	**QL**	**Result**	**Qual**	**MDL**	**QL**	**Result**	**Qual**	**MDL**	**QL**	**Result**	**Qual**	**MDL**	**QL**
Total Metals																					
Lithium	ug/L	**10.6**		2.00	10.0	**9.76**	J	2.00	10.0	**18.7**		2.00	10.0	**15.6**		2.00	10.0	**9.15**	J	2.00	10.0
Magnesium	ug/L	**25500**		10.0	15.0	**34300**		10.0	15.0	**34400**		10.0	15.0	**27200**		10.0	15.0	**19000**		10.0	15.0
Potassium	ug/L	**9010**		80.0	300	**10400**		80.0	300	**12000**		80.0	300	**10300**		80.0	300	**4320**		80.0	300
Sodium	ug/L	**61900**		800	2500	**62200**		800	2500	**83500**		1600	5000	**81500**		1600	5000	**44800**		80.0	250
Alkalinity via SM2320B																					
Alkalinity, Total as CaCO3	mg/L	**578**		1.45	4.00	**578**		1.45	4.00	**511**		1.45	4.00	**400**		1.45	4.00	**436**		1.45	4.00
Alkalinity, Bicarbonate	mg/L	**578**		1.45	4.00	**578**		1.45	4.00	**511**		1.45	4.00	**400**		1.45	4.00	**436**		1.45	4.00
Alkalinity, Carbonate	mg/L	1.45	U	1.45	4.00	1.45	U	1.45	4.00	1.45	U	1.45	4.00	1.45	U	1.45	4.00	1.45	U	1.45	4.00

Notes:
MDL = Method Detection Limit
QL = Quantitation Limit
mg/L = Milligram per liter
µg/L = Microgram per liter

Qualifiers (Qual)
J = Estimated Results
U = Samples reported below their respective MDL
Bold font = Detected constituent

Table 2
Summary of Alternate Source Demonstration Parameters _ September 2022
Dominion Energy South Carolina - Williams Station Highway 52 Class III Landfill
Moncks Corner, Berkeley County, South Carolina

		Downgradient Well							
	Sample ID:	MW-LF-25				MW-LF-26			
	Sample Date:	09/21/2022				09/22/2022			
Parameter Name	**Units**	**Result**	**Qual**	**MDL**	**QL**	**Result**	**Qual**	**MDL**	**QL**
Total Metals									
Lithium	ug/L	**13.1**		2.00	10.0	**4.78**	J	2.00	10.0
Magnesium	ug/L	**43200**		10.0	15.0	**32400**		10.0	15.0
Potassium	ug/L	**7080**		80.0	300	**3330**		80.0	300
Sodium	ug/L	**68100**		800	2500	**109000**		1600	5000
Alkalinity via SM2320B									
Alkalinity, Total as CaCO3	mg/L	**429**		1.45	4.00	**555**		1.45	4.00
Alkalinity, Bicarbonate	mg/L	**429**		1.45	4.00	**555**		1.45	4.00
Alkalinity, Carbonate	mg/L	1.45	U	1.45	4.00	1.45	U	1.45	4.00

Notes:
MDL = Method Detection Limit
QL = Quantitation Limit
mg/L = Milligram per liter
µg/L = Microgram per liter

Qualifiers (Qual)
J = Estimated Results
U = Samples reported below their respective MDL
Bold font = Detected constituent

Appendix B
March 2023 Alternate Source Demonstration

DOMINION ENERGY SOUTH CAROLINA

WILLIAMS STATION HIGHWAY 52 CLASS III LANDFILL

BERKELEY COUNTY, SOUTH CAROLINA

EPA CCR RULE COMPLIANCE

ALTERNATE SOURCE DEMONSTRATION REPORT

First Semiannual 2023 Detection Monitoring Event

October 3, 2023

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Executive Summary

Dominion Energy South Carolina (DESC) completed the first semiannual 2023 detection monitoring event in March 2023 for the Williams Generating Station (Station) Highway 52 Class III Industrial Landfill (Unit) pursuant to the *Criteria for Classification of Solid Waste Disposal Facilities and Practices; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule*, 40 CFR Part 257 (CCR Rule). The Unit constitutes a coal combustion residuals (CCR) Unit per the CCR Rule. Per 40 CFR §257.94, the samples were analyzed for the Appendix III detection monitoring parameters. Upon receipt of the laboratory analytical results, statistical analysis was performed and evaluated for potential statistically significant increases (SSI) above background concentrations.

The following SSIs were identified above background concentrations based on direct comparisons made between the statistically derived background threshold values (95 percent upper prediction limit) and the downgradient monitoring results:

- Calcium (MW-LF-20, MW-LF-21, MW-LF-24, MW-LF-25, and MW-LF-26).
- Chloride (MW-LF-26).
- Sulfate (MW-LF-25 and MW-LF-26).
- Total dissolved solids (MW-LF-20, MW-LF-21, MW-LF-22D, MW-LF-23D, MW-LF-24, MW-LF-25, and MW-LF-26).

The information provided in this report serves as DESC's alternate source demonstration (ASD) prepared in accordance with 40 CFR §257.94(e)(2) and is intended to demonstrate that the SSIs are not due to a release from the Unit to groundwater, but may be due to the following:

- An existing groundwater monitoring well network that may not be positioned to best represent monitoring of the groundwater quality passing the waste boundary of the Unit.

TRC is evaluating the current Certified Monitoring Well Network to determine if it satisfies the CCR rule for horizontal and vertical placements for monitoring groundwater at the waste boundary of the Unit. This evaluation began in January 2023 and is anticipated to conclude in October 2023. The review will include the evaluation of monthly groundwater level measurements and 8 independent sampling events for background parameter evaluation of the proposed monitoring well network.

Section 1
Introduction

1.1 Background

Dominion Energy South Carolina (DESC) operates an offsite Class III Industrial Landfill (Unit) for the disposal of coal combustion residuals (CCR) at the Williams Generating Station (Station). The Unit is located at 2381 Highway 52 in Moncks Corner, Berkley County, South Carolina as shown on **Figure 1**. The Unit consists of cells 1 through 4 which were constructed as the first phase of development in 2008. These cells were placed into operation in accordance with an operation plan approval issued by the South Carolina Department of Health and Environmental Control (SCDHEC) in 2010 and operates under SCDHEC Solid Waste Permit No. LF-3-00001.

The Unit receives both fly ash and flue gas desulfurization (FGD) waste from the Station located about 6 miles from the Unit in Goose Creek, South Carolina. The Unit includes a liner system consisting of a minimum 2-foot-thick compacted clay layer (maximum permeability of 1×10^{-7} cm/sec) overlain by a leachate collection system.

The Unit accepts CCR for disposal in accordance with the federal *Criteria for Classification of Solid Waste Disposal Facilities and Practices; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule* (CCR Rule), effective October 19, 2015, and subsequent Final Rules promulgated by the United States Environmental Protection Agency (USEPA).

1.2 Groundwater Monitoring and Statistical Analysis

In accordance with 40 CFR §257.90 through §257.94, DESC installed a groundwater monitoring system for the Unit, collected samples from the Certified Monitoring Well Network for laboratory analysis for CCR constituents, and performed statistical analysis of the collected samples. The location of the EPA CCR Rule Compliance Monitoring Well Network is presented on **Figure 2**. The Certified Monitoring Well Network consists of 11 wells installed into the subsurface to monitor shallow groundwater as follows:

- Four upgradient/background monitoring wells: MW-LF-10, MW-LF-11, MW-LF-27, and MW-LF-28.
- Seven downgradient monitoring wells: MW-LF-20, MW-LF-21, MW-LF-22D, MW-LF-23D, MW-LF-24, MW-LF-25, and MW-LF-26.

The first semiannual 2023 detection monitoring event was conducted March 22 – 23, 2023 and were analyzed for Appendix III constituents. Pursuant to 40 CFR §257.93(h), statistical analysis of the laboratory analytical data was performed to identify potential statistically significant increases (SSIs) above background. Data from the first semiannual 2023 detection monitoring event is presented in

Table 1. SSIs were identified for four Appendix III constituents: calcium, chloride, sulfate, and total dissolved solids (TDS).

1.3 Purpose

Pursuant to 40 CFR §257.94(e)(2), DESC may demonstrate that a source other than the Unit caused the SSIs identified or that the SSIs resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. The purpose of this report is to provide written documentation of the successful alternate source demonstration (ASD) for the SSIs identified for the first semiannual 2023 detection monitoring event.

1.4 Site Hydrogeology

The Station is located in the outer Coastal Plain of South Carolina. The uppermost aquifer in the Coastal Plain of South Carolina is the unconfined surficial aquifer. In most areas, the surficial aquifer consists of discontinuous layers of sand, clay and locally occurring beds of shell and limestone.

The Unit is located within the Ashley-Cooper River Subbasin (Ashley-Combahee-Edisto (ACE) Basin watershed) of the Coastal Plain physiographic province. Aquifers and confining units in the South Carolina portion of the Coastal Plain are composed of crystalline carbonate rocks, sand, clay, silt, and gravel that contain large volumes of high-quality groundwater (SAWSC 2016). The Unit groundwater monitoring wells are within the surficial aquifer of the Cooper geologic formation. The Cooper formation (or Cooper Marl) underlies most of the area south of the Santee River.

According to *State of South Carolina Resources Commission Report Number 139* (1985), the Cooper formation is approximately 130 feet thick beneath the site. This unit functions as a confining layer beneath the overlying surficial aquifer. Groundwater flow beneath the Unit is generally to the east/southeast as depicted on **Figure 3**, with an estimated groundwater flow velocity of between 0.001 to 0.157 feet/day.

Section 2
Alternate Source Demonstration

Pursuant to 40 CFR §257.94(e)(2), DESC may demonstrate that a source other than the Unit caused the SSI or that the SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. As discussed previously, the first semiannual 2023 detection monitoring event was performed March 22 – 23, 2023. Statistical analysis of the first semiannual 2023 detection monitoring data was performed pursuant to 40 CFR §257.93(f) and (g) and in accordance with the Statistical Methods Certification (SCE&G 2017). Based on either increasing trends at 95% confidence levels using Thiel-Sen's trend test and/or interwell prediction limits statistical analyses, the following SSIs were identified:

- Calcium (MW-LF-20, MW-LF-21, MW-LF-24, MW-LF-25, and MW-LF-26).
- Chloride (MW-LF-26).
- Sulfate (MW-LF-25 and MW-LF-26).
- Total dissolved solids (MW-LF-20, MW-LF-21, MW-LF-22D, MW-LF-23D, MW-LF-24, MW-LF-25, and MW-LF-26).

A discussion for each of the individual SSIs and associated evidence demonstrating that the SSIs were not caused by a release from the Unit is provided in the subsections below.

2.1 Calcium at MW-LF-20, MW-LF-21, MW-LF-24, MW-LF-25, and MW-LF-26

The calcium SSIs identified at MW-LF-20, MW-LF-21, MW-LF-24, MW-LF-25, and MW-LF-26 may be the result of an existing groundwater monitoring well network that may not be positioned to best represent monitoring of the groundwater quality upgradient of the Unit. The following evidence supports this determination:

- Calcium was detected in MW-LF-20 (140 mg/L), MW-LF-21 (120 mg/L), MW-LF-24 (103 mg/L), MW-LF-25 (203 mg/L), and MW-LF-26 (152 mg/L) during the March 2023 sampling event. These concentrations exceed the background threshold value of 94.6 mg/L. The background monitoring wells (MW-LF-10, MW-LF-11, MW-LF-27, and MW-LF-28) however, do not appear to be in an optimal position to adequately monitor representative background groundwater quality entering the Unit. As depicted on **Figure 3**, groundwater flow on the west/northwest portion of the Unit appears to be influenced by a north/south trending drainage ditch that originates near MW-LF-27, continuing south past MW-LF-10, MW-LF-11, and turns to the east beyond MW-LF-28. The drainage ditch was installed during the initial construction of the Unit to dewater shallow groundwater in the area. The wells are proximal to this ditch and are suspected to intercept surface water within the ditch and therefore do not represent background groundwater quality.

- As depicted on **Figure 3**, background monitoring well MW-LF-28 appears to be located downgradient from the Unit and therefore is not suitable as a background well.

2.2 Chloride at MW-LF-26

The chloride SSI identified at MW-LF-26 may be the result of an existing groundwater monitoring well network that may not be positioned to best represent monitoring of the groundwater quality upgradient of the Unit. The following evidence supports this determination:

- Chloride was detected in MW-LF-26 at a concentration of 141 mg/L in the March 2023 sample. This concentration exceeds the background threshold value of 28.6 mg/L. The background monitoring wells (MW-LF-10, MW-LF-11, MW-LF-27, and MW-LF-28) however, do not appear to be in an optimal position to adequately monitor representative background groundwater quality entering the Unit. As depicted on **Figure 3**, groundwater flow on the west/northwest portion of the Unit appears to be influenced by a north/south trending drainage ditch that originates near MW-LF-27, continuing south past MW-LF-10, MW-LF-11, and turns to the east beyond MW-LF-28. The drainage ditch was installed during the initial construction of the Unit to dewater shallow groundwater in the area. The wells are proximal to this ditch and are suspected to intercept surface water within the ditch and therefore do not represent background groundwater quality.
- As depicted on **Figure 3**, background monitoring well MW-LF-28 appears to be located downgradient from the Unit and therefore is not suitable as a background well.

2.3 Sulfate at MW-LF-25 and MW-LF-26

The sulfate SSIs identified at MW-LF-25 and MW-LF-26 may be the result of an existing groundwater monitoring well network that may not be positioned to best represent monitoring of the groundwater quality upgradient of the Unit. The following evidence supports this determination:

- Sulfate was detected in MW-LF-25 (505 mg/L) and MW-LF-26 (58.5 mg/L) during the March 2023 sampling event. These concentrations exceed the background threshold value of 40.2 mg/L. The background monitoring wells (MW-LF-10, MW-LF-11, MW-LF-27, and MW-LF-28) however, do not appear to be in an optimal position to adequately monitor representative background groundwater quality entering the Unit. As depicted on **Figure 3**, groundwater flow on the west/northwest portion of the Unit appears to be influenced by a north/south trending drainage ditch that originates near MW-LF-27, continuing south past MW-LF-10, MW-LF-11, and turns to the east beyond MW-LF-28. The drainage ditch was installed during the initial construction of the Unit to dewater shallow groundwater in the area. The wells are proximal to this ditch and are suspected to intercept surface water within the ditch and therefore do not represent background groundwater quality.
- As depicted on **Figure 3**, background monitoring well MW-LF-28 appears to be located downgradient from the Unit and therefore is not suitable as a background well.

2.4 TDS at MW-LF-20, MW-LF-21, MW-LF-22D, MW-LF-23D, MW-LF-24, MW-LF-25, and MW-LF-26

The TDS SSIs identified at MW-LF-20, MW-LF-21, MW-LF-22D, MW-LF-23D, MW-LF-24, MW-LF-25, and MW-LF-26 may be the result of an existing groundwater monitoring well network that may not be positioned to best represent monitoring of the groundwater quality upgradient of the Unit. The following evidence supports this determination:

- TDS was detected in MW-LF-20 (630 mg/L), MW-LF-21 (598 mg/L), MW-LF-22D (576 mg/L), MW-LF-23D (494 mg/L), MW-LF-24 (428 mg/L), MW-LF-25 (1,050 mg/L), and MW-LF-26 (890 mg/L) during the March 2023 sampling event. These concentrations exceed the background threshold value of 389 mg/L. The background monitoring wells (MW-LF-10, MW-LF-11, MW-LF-27, and MW-LF-28) however, do not appear to be in an optimal position to adequately monitor representative background groundwater quality entering the Unit. As depicted on **Figure 3**, groundwater flow on the west/northwest portion of the Unit appears to be influenced by a north/south trending drainage ditch that originates near MW-LF-27, continuing south past MW-LF-10, MW-LF-11, and turns to the east beyond MW-LF-28. The drainage ditch was installed during the initial construction of the Unit to dewater shallow groundwater in the area. The wells are proximal to this ditch and are suspected to intercept surface water within the ditch and therefore do not represent background groundwater quality.
- As depicted on **Figure 3**, background monitoring well MW-LF-28 appears to be located downgradient from the Unit and therefore is not suitable as a background well.

Section 3
Evaluation of CCR Well Network

Pursuant to 40 CFR §257.91(a)(2), the groundwater monitoring network should accurately represent the quality of groundwater passing the waste boundary of the Unit and monitor all potential contaminant pathways. TRC is evaluating the current Certified Monitoring Well Network to determine if it satisfies the CCR rule for horizontal and vertical placements for monitoring groundwater at the waste boundary of the Unit. This evaluation began in January 2023 and is anticipated to conclude in October 2023.

3.1 Evaluation of Background Monitoring Wells

Regional groundwater flow is to the east towards the Cooper River. Local groundwater flow on the western side of the Unit may be influenced by a manmade ditch which is orientated north/south and originates near MW-LF-27, continuing south past MW-LF-10, MW-LF-11, and then turns to the east beyond MW-LF-28. It is assumed the ditch may function as a potential localized groundwater discharge area for groundwater moving towards the Unit. The background wells are proximal to this ditch and are suspected to intercept surface water within the ditch and therefore do not represent background groundwater quality.

3.2 Evaluation of Downgradient Monitoring Wells

Downgradient wells MW-LF-20, MW-LF-21, MW-LF-22D, MW-LF-23D, MW-LF-24, and MW-LF-25 are located along the southern and eastern boundaries of the landfill. While well screens in MW-LF-20, MW-LF-21, MW-LF-24, and MW-LF-25 bracket the water table, well screens in MW-LF-22D and MW-LF-23D are somewhat deeper, extending to the top of the underlying confining unit. Each of these monitoring wells intercepts groundwater flowing from beneath the Unit and appear to be appropriate compliance monitoring wells.

Three new groundwater monitoring wells (MW-29, MW-LF-30, and MW-LF-31) were installed in January 2023 along the northern edge of the Unit waste boundary where no coverage previously existed. The newly installed monitoring wells are currently gauged for water levels monthly to evaluate groundwater flow on the northern portion of the Unit. The location of the new monitoring wells is depicted on **Figure 2**.

The three new monitoring wells have been sampled up to 8 times (January 2023 to August 2023) for background data collection in accordance with the CCR Rule in the circumstance that these monitoring wells may be used for compliance in the groundwater monitoring network. The data is currently being

evaluated by TRC, however, based on preliminary review, the proposed monitoring well network may include:

- Background monitoring wells – MW-LF-30 and MW-LF-31.
  - Remove existing CCR network wells MW-LF-10, MW-LF-11, MW-LF-27, and MW-LF-28 as they do not appear to provide representative background groundwater quality per CCR Rule §257.91(a)(1)(ii).
- Downgradient monitoring wells – MW-LF-20, MW-LF-21, MW-LF-22D, MW-LF-23D, MW-LF-24, and MW-LF-25.
  - Remove MW-LF-26 from the existing CCR well network as this well does not appear to monitor groundwater passing beneath the Unit.

The new network will be certified in accordance with the CCR Rule §257.91(f).

Section 4
Conclusions

The information provided in this report serves as the ASD prepared in accordance with 40 CFR §257.94(e)(2) of the CCR Rule and demonstrates that the SSIs were not due to a release from the Unit to the subsurface, but is most likely due to:

- An existing groundwater monitoring well network that may not be positioned to best represent monitoring of the groundwater quality passing the waste boundary of the Unit.

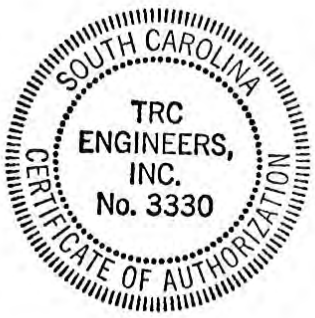
TRC is evaluating the current Certified Monitoring Well Network to determine if it satisfies the CCR rule for horizontal and vertical placements for monitoring groundwater at the waste boundary of the Unit. This evaluation began in January 2023 and is anticipated to conclude in October 2023. The review will include the evaluation of monthly groundwater level measurements and 8 independent sampling events for background parameter evaluation of the proposed monitoring well network.

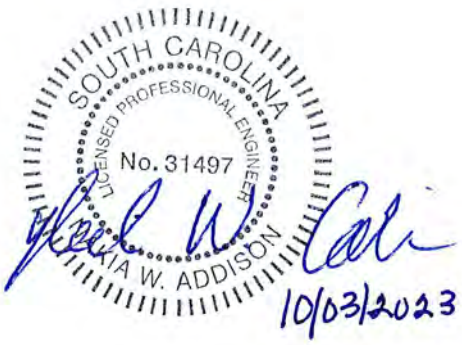
Section 5
Certification

I hereby certify that the alternative source demonstration presented within this document for the DESC Williams Highway 52 Coal Ash Disposal Landfill CCR Unit has been prepared to meet the requirements of Title 40 CFR §257.94(e)(2) of the Federal CCR Rule. This document is accurate and has been prepared in accordance with good engineering practices, including the consideration of applicable industry standards, and with the requirements of Title 40 CFR §257.94(e)(2).

Name: Nakia W. Addison, P.E. **Expiration Date:** June 30, 2024

Company: TRC Engineers, Inc. **Date:** October 3, 2023





(SEAL)

Section 6
References

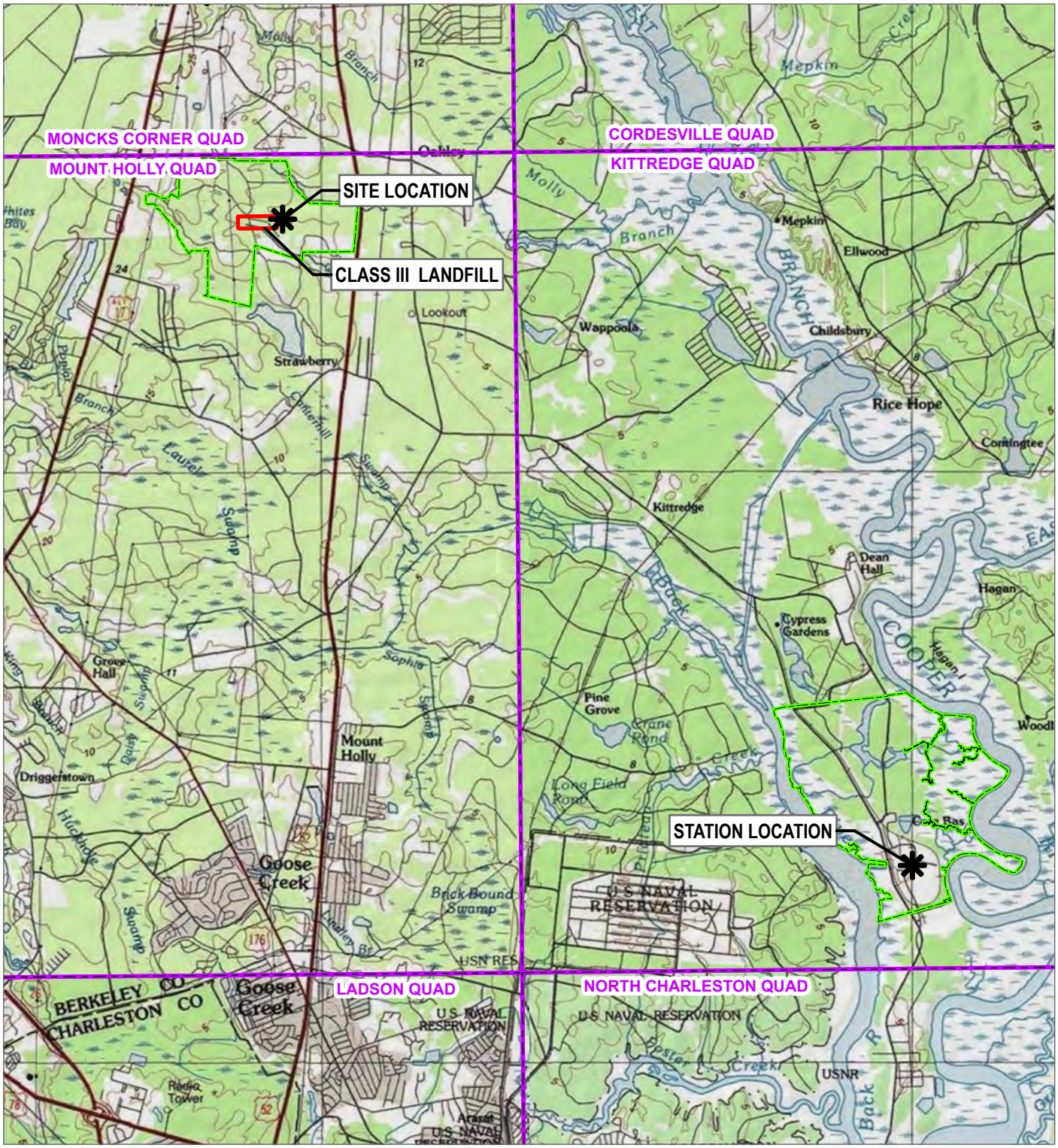
Garrett and Moore 2017. Groundwater Monitoring System Certification, Williams Station Landfill, Berkeley County, SC: Garrett & Moore, Inc.

Nautilus 2016. Groundwater Sampling and Analysis Plan, Williams Station Landfill. Berkeley County, SC: Nautilus Geologic Consulting, PLLC.

Nautilus 2021. Alternate Source Demonstration Report, Williams Station Class Three Landfill. Berkeley County, SC: Nautilus Geologic Consulting, PLLC.

South Carolina Electric & Gas (SCE&G). 2017. Groundwater Monitoring Data Statistical Analysis Plan Certification, SCE&G Williams Station Hwy 52 Class III Landfill. Goose Creek, SC.

Figures



LEGEND

- SITE LOCATION
- CLASS III LANDFILL BOUNDARY
- PROPERTY BOUNDARY
- USGS 24K QUAD BOUNDARY

BASE MAP: USA TOPO MAPS MAP SERVICE
DATA SOURCES: TRC

N

0 4,000 8,000

FEET

1:96,000 1" = 8,000'

PROJECT: DOMINION ENERGY SOUTH CAROLINA
WILLIAMS STATION HIGHWAY 52 LANDFILL
MONCKS CORNER, SOUTH CAROLINA 29461

TITLE: SITE LOCATION MAP

DRAWN BY:	L. LILL	PROJ. NO.:	416559.0006.0000
CHECKED BY:	J. YONTS		
APPROVED BY:	R. MAYER		FIGURE 1
DATE:	SEPTEMBER 2023		

TRC
50 INTERNATIONAL DRIVE
PATEWOOD PLAZA THREE, SUITE 150
GREENVILLE, SC 29615
PHONE: 864.281.0030

FILE: 2023_FIGURES

LEGEND

- CCR BACKGROUND MONITORING WELL
- CCR DOWNGRADIENT MONITORING WELL
- NEW MONITORING WELL INSTALLATION LOCATION
- CLASS III LANDFILL BOUNDARY
- PROPERTY BOUNDARY

NOTES:

1. AERIAL IMAGE FROM ESRI WORLD IMAGERY DATED OCTOBER, 2022.

1:6,000
1" = 500'

0 250 500 FEET

PROJECT:
DESC WILLIAMS STATION
HIGHWAY 52 CLASS III LANDFILL
MONCKS CORNER, SOUTH CAROLINA

TITLE:
SITE LAYOUT MAP

DRAWN BY:	L. LILL	PROJ. NO.:	416559.0006.0000
CHECKED BY:	J. YONTS		**FIGURE 2**
APPROVED BY:	R. MAYER		
DATE:	SEPTEMBER 2023		

TRC
50 INTERNATIONAL DRIVE
PATEWOOD PLAZA THREE, SUITE 150
GREENVILLE, SC 29615
PHONE: 864.281.0030

FILE: 2023_Figures.aprx

Coordinate System: NAD 1983 StatePlane South Carolina FIPS 3900 Feet Map Rotation: 0
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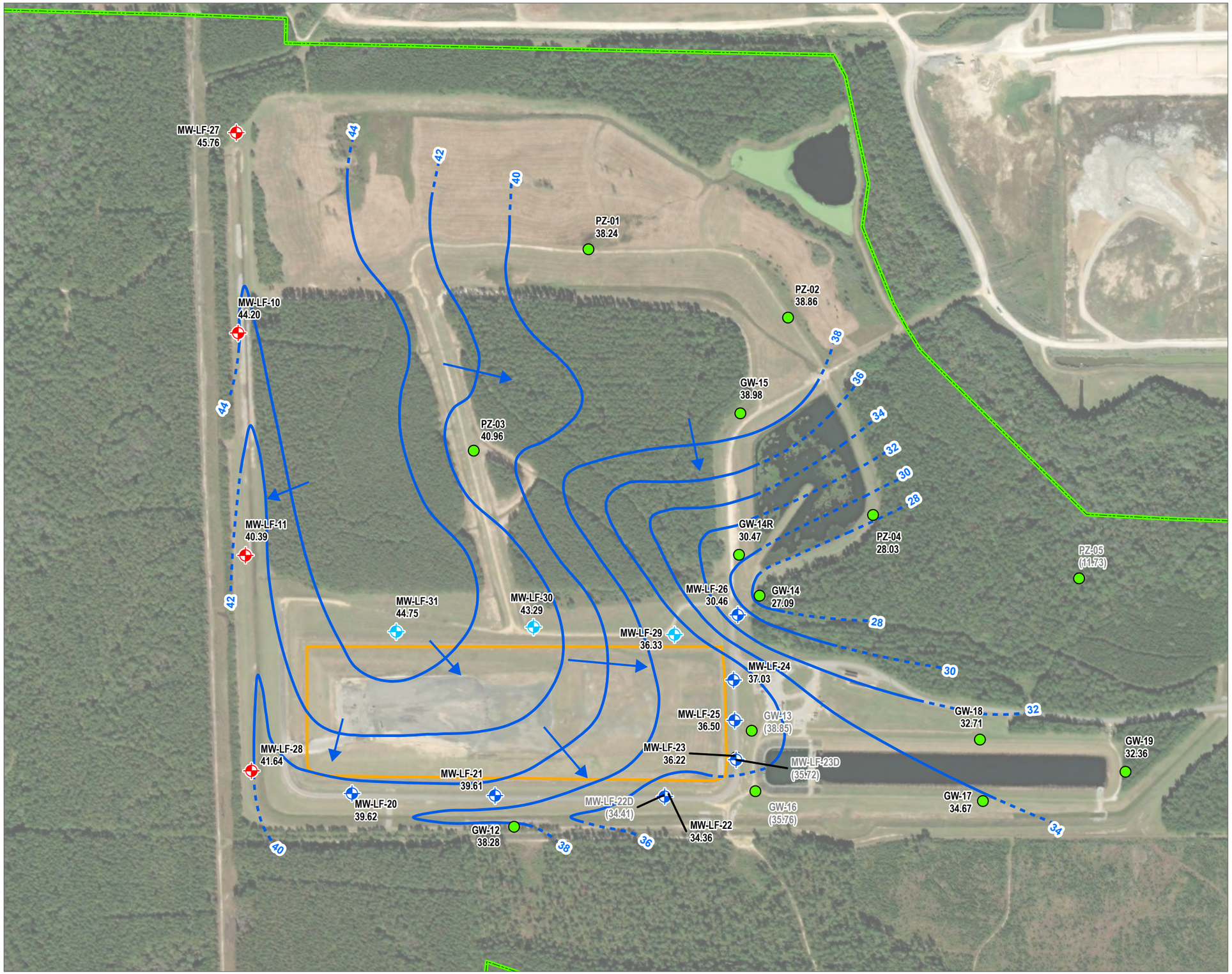

LEGEND

- CCR BACKGROUND MONITORING WELL
- CCR DOWNGRADIENT MONITORING WELL
- NEW MONITORING WELL INSTALLATION LOCATION
- EVENT PIEZOMETER
- CLASS III LANDFILL
- PROPERTY BOUNDARY
- APPROXIMATE GROUNDWATER FLOW DIRECTION
- WATER TABLE ELEVATION IN FEET ABOVE MEAN SEA LEVEL (2' CONTOUR INTERVALS) - DASHED WHERE INFERRED
- **40.98** WATER ELEVATION (FT. MSL)

NOTES:

1. AERIAL IMAGE FROM ESRI WORLD IMAGERY DATED OCTOBER, 2022.
2. ELEVATIONS SHOWN IN PARENTHESE ARE BELOW THE WATER TABLE OR WERE CONSIDERED AS INACCURATE, AND WERE NOT USED IN PREPARATION OF THIS MAP.

1:6,000
1" = 500'
0 250 500 FEET

PROJECT: DESC WILLIAMS STATION
HIGHWAY 52 CLASS III LANDFILL
MONCKS CORNER, SOUTH CAROLINA

TITLE: GROUNDWATER POTENTIOMETRIC MAP - MARCH 22, 2023

DRAWN BY:	L. LILL	PROJ. NO.:	416559.0006.0000
CHECKED BY:	J. YONTS		FIGURE 3
APPROVED BY:	R. MAYER		
DATE:	SEPTEMBER 2023		

TRC
50 INTERNATIONAL DRIVE
PATEWOOD PLAZA THREE, SUITE 150
GREENVILLE, SC 29615
PHONE: 864.281.0030

FILE: 2023_Figures.aprx

Coordinate System: NAD 1983 StatePlane West Virginia North FIPS 4701 Feet - Map Rotation: 0
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Table

Table 1
Summary of First Semiannual 2023 Detection Monitoring Program Sampling Event Data
Dominion Energy South Carolina - Williams Station Highway 52 Class III Landfill
Moncks Corner, Berkeley County, South Carolina

			Background Wells																Downgradient Wells							
		Sample ID:	MW-LF-10				MW-LF-11				MW-LF-27				MW-LF-28				MW-LF-20				MW-LF-20 DUP			
		Sample Date:	03/23/2023				03/22/2023				03/23/2023				03/22/2023				03/22/2023				03/22/2023			
Parameter Name	**Units**	**Background Threshold Values**	**Result**	**Qual**	**MDL**	**QL**	**Result**	**Qual**	**MDL**	**QL**	**Result**	**Qual**	**MDL**	**QL**	**Result**	**Qual**	**MDL**	**QL**	**Result**	**Qual**	**MDL**	**QL**	**Result**	**Qual**	**MDL**	**QL**
CCR Appendix III																										
Boron	µg/L	500	**64.0**		4.00	15.0	**25.9**	J	25.9	25.9	**31.1**		4.00	15.0	12.6	U	4.00	15.0	**200**		20.0	75.0	**215**		20.0	75.0
Calcium	mg/L	94.6	**57.4**		0.300	1.00	**14.6**		0.030	0.100	**30.2**		0.030	0.100	**7.41**		0.030	0.100	**140**		0.150	0.500	**142**		0.150	0.500
Chloride	mg/L	28.6	**21.20**		0.335	1.00	**5.23**		0.0670	0.200	**19.8**		0.335	1.00	**5.88**		0.0670	0.200	**12.6**		0.335	1.00	**12.7**		0.335	1.00
Fluoride	mg/L	0.651	**0.413**		0.0330	0.100	**0.278**		0.0330	0.100	**0.107**		0.0330	0.100	**0.082**	J	0.0330	0.100	**0.240**		0.0330	0.100	**0.160**		0.0330	0.100
pH	SU	5.4 - 7.8	6.65		0.01	0.01	6.10		0.01	0.01	6.25		0.01	0.01	5.59		0.01	0.01	6.48		0.01	0.01	6.48		0.01	0.01
Sulfate	mg/L	40.2	**4.92**		0.133	0.400	**1.31**		0.133	0.400	**10.2**		0.133	0.400	**0.760**		0.133	0.400	**6.69**		0.133	0.400	**6.84**		0.133	0.400
Total Dissolved Solids	mg/L	389	**302.0**		2.38	10.0	**62.0**		2.38	10.0	**148**		2.38	10.0	**19.0**		2.38	10.0	**630**		4.76	20.0	**620**		4.76	20.0
Field Parameters																										
Conductivity	µS/cm	--	548.05		0.1	0.1	152.26		0.1	0.1	298.3		0.1	0.1	69.89		0.1	0.1	1086.2		0.1	0.1	1086.2		0.1	0.1
Dissolved Oxygen	mg/L	--	1.56		0.01	0.01	1.92		0.01	0.01	0.39		0.01	0.01	4.58		0.01	0.01	0.70		0.01	0.01	0.70		0.01	0.01
Temperature	C	--	21.81		0.01	0.01	18.35		0.01	0.01	23.38		0.01	0.01	17.93		0.01	0.01	20.65		0.01	0.01	20.65		0.01	0.01
Turbidity	NTU	--	1.31		0.1	0.1	0.82		0.1	0.1	10.25		0.1	0.1	0.00		0.1	0.1	4.66		0.1	0.1	4.66		0.1	0.1
Oxidation Reduction Potential	millivolts	--	109.8		0.1	0.1	72.3		0.1	0.1	31.5		0.1	0.1	109.8		0.1	0.1	72.8		0.1	0.1	72.8		0.1	0.1

Notes:
MDL = Method Detection Limit
QL = Quantitation Limit
mg/L = Milligram per liter
µg/L = Microgram per liter
µS/cm = MicroSiemen per centimeter
SU = Standard Units
C = Degrees Celsius
NTU = Nephelometric Turbidity Unit
-- = Not applicable

Qualifiers (Qual)
U = The analyte was not detected above the level of the sample reporting limit
J = Value is estimated

= Concentration greater than Background Threshold Values

Bold font = Detected constituent

Table 1
Summary of First Semiannual 2023 Detection Monitoring Program Sampling Event Data
Dominion Energy South Carolina - Williams Station Highway 52 Class III Landfill
Moncks Corner, Berkeley County, South Carolina

			Downgradient Wells																					
		Sample ID:	MW-LF-21				MW-LF-22D				MW-LF-23D				MW-LF-24				MW-LF-25				MW-LF-26			
		Sample Date:	03/23/2023				03/23/2023				03/23/2023				03/23/2023				03/23/2023				03/23/2023			
Parameter Name	**Units**	**Background Threshold Values**	**Result**	**Qual**	**MDL**	**QL**	**Result**	**Qual**	**MDL**	**QL**	**Result**	**Qual**	**MDL**	**QL**	**Result**	**Qual**	**MDL**	**QL**	**Result**	**Qual**	**MDL**	**QL**	**Result**	**Qual**	**MDL**	**QL**
CCR Appendix III																										
Boron	µg/L	500	**198**		20.0	75.0	**324**		20.0	75.0	**291**		20.0	75.0	**79.6**		4.00	15.0	**44.4**		4.00	15.0	**163**		4.00	15.0
Calcium	mg/L	94.6	**120**		0.150	0.500	**80.1**		0.150	0.500	**66.0**		0.150	0.500	**103**		0.300	1.00	**203**		0.300	1.00	**152**		0.300	1.00
Chloride	mg/L	28.6	**11.7**		0.335	1.00	**10.5**		0.335	1.00	**15.8**		0.335	1.00	**20.6**		0.335	1.00	**9.73**		0.134	0.400	**141**		1.68	5.00
Fluoride	mg/L	0.651	**0.26**		0.0330	0.100	**0.209**		0.0330	0.100	**0.303**		0.0330	0.100	**0.409**		0.0330	0.100	**0.628**		0.0330	0.100	**0.315**		0.0330	0.100
pH	SU	5.4 - 7.8	6.51		0.01	0.01	6.80		0.01	0.01	6.97		0.01	0.01	6.27		0.01	0.01	6.65		0.01	0.01	6.07		0.01	0.01
Sulfate	mg/L	40.2	**7.38**		0.133	0.400	**32.5**		0.665	2.00	**22.4**		0.665	2.00	**18.3**		0.133	0.400	**505**		6.65	20.0	**58.5**		3.33	10.0
Total Dissolved Solids	mg/L	389	**598**		4.76	20.0	**576**		2.38	10.0	**494**		2.38	10.0	**428**		2.38	10.0	**1050**		4.76	20.0	**890**		2.76	20.0
Field Parameters																										
Conductivity	µS/cm	--	1079.6		0.1	0.1	978.01		0.1	0.1	849.71		0.1	0.1	778.19		0.1	0.1	1361.9		0.1	0.1	1550.9		0.1	0.1
Dissolved Oxygen	mg/L	--	0.45		0.01	0.01	1.03		0.01	0.01	2.08		0.01	0.01	0.39		0.01	0.01	3.75		0.01	0.01	0.73		0.01	0.01
Temperature	C	--	26.26		0.01	0.01	25.28		0.01	0.01	21.38		0.01	0.01	22.91		0.01	0.01	22.60		0.01	0.01	21.26		0.01	0.01
Turbidity	NTU	--	1.71		0.1	0.1	2.97		0.1	0.1	2.32		0.1	0.1	4.97		0.1	0.1	0.77		0.1	0.1	2.83		0.1	0.1
Oxidation Reduction Potential	millivolts	--	95.1		0.1	0.1	99.7		0.1	0.1	113.4		0.1	0.1	32.7		0.1	0.1	63.8		0.1	0.1	-15.7		0.1	0.1

Notes:
MDL = Method Detection Limit
QL = Quantitation Limit
mg/L = Milligram per liter
µg/L = Microgram per liter
µS/cm = MicroSiemen per centimeter
SU = Standard Units
C = Degrees Celsius
NTU = Nephelometric Turbidity Unit
-- = Not applicable

= Concentration greater than Background Threshold Values

Bold font = Detected constituent

Appendix C
First Semiannual Detection Monitoring Program Event Field Data Sheets, Laboratory Reports, and Data Validation Forms

GROUNDWATER LEVEL MEASUREMENT FORM

PROGRAM:	CCR/NPDES	**FACILITY:**	Williams Generating Station
DATE:	03/22/2023	**PROJECT NUMBER:**	416559.0006.0000
SAMPLER(S) NAME(S):	B. Medlin, A. Misiunas, R. Culp		

Well ID	Well Type	Time (hhmm)	Depth to GW (btoc,ft)	Depth to Bottom (btoc,ft)	Notes/Remarks
W52-GW-16	2" PVC	1005	12.04	NM	
W52-GW-17	2" PVC	1000	10.61	NM	
W52-GW-18	2" PVC	1031	12.36	NM	
W52-GW-19	2" PVC	0957	12.11	NM	
W52-GW-10	2" PVC	1215	8.09	NM	Same as MW-LF-10
W52-MW-LF-11	2" PVC	1224	11.33	NM	
W52-MW-LF-20	2" PVC	1332	21.19	NM	
W52-MW-LF-21	2" PVC	1100	16.53	NM	
W52-MW-LF-22D	2" PVC	1022	15.95	NM	
W52-MW-LF-23D	2" PVC	1109	13.97	NM	
W52-MW-LF-24	2" PVC	1120	15.37	NM	
W52-MW-LF-25	2" PVC	1117	14.43	NM	
W52-MW-LF-26	2" PVC	1436	24.75	NM	
W52-MW-LF-27	2" PVC	1202	7.49	NM	
W52-MW-LF-28	2" PVC	1232	9.58	NM	
see comments	2" PVC	0928	5.35	NM	Well ID: MW-LF-29
see comments	2" PVC	0934	6.25	NM	Well ID: MW-LF-30
see comments	2" PVC	0939	8.39	NM	Well ID: MW-LF-31
W52-GW-12	2" PVC	1357	13.29	NM	
W52-GW-13	2" PVC	1048	6.33	NM	
W52-GW-14	2" PVC	1418	7.01	NM	
W52-GW-14R	2" PVC	1433	10.47	NM	
W52-GW-15	2" PVC	1129	7.67	NM	
W52-MW-LF-22	2" PVC	1019	15.97	NM	
W52-MW-LF-23	2" PVC	1107	13.77	NM	
W52-PZ-01	2" PVC	1147	6.27	NM	
W52-PZ-02	2" PVC	1137	6.81	NM	

Notes:			
Field Team Leader Signature:	Jason A. Yonts Digitally signed by Jason A. Yonts Date: 2023.03.30 08:34:10 -04'00'	**Signature Date:**	03/30/2023

Clear All Values | Print | Submit

GROUNDWATER LEVEL MEASUREMENT FORM

PROGRAM:	CCR/NPDES	**FACILITY:**	Williams Generating Station
DATE:	03/22/2023	**PROJECT NUMBER:**	416559.0006.0000
SAMPLER(S) NAME(S):	B. Medlin, A. Misiunas, R. Culp		

Well ID	Well Type	Time (hhmm)	Depth to GW (btoc,ft)	Depth to Bottom (btoc,ft)	Notes/Remarks
W52-PZ-03	2" PVC	1154	7.01	NM	
W52-PZ-04	2" PVC	1412	10.87	NM	
W52-PZ-05	2" PVC	1444	13.42	NM	

Notes:	
Field Team Leader Signature:	Jason A. Yonts Digitally signed by Jason A. Yonts Date: 2023.03.30 08:34:30 -04'00'
Signature Date:	03/30/2023

Clear All Values | Print | Submit

WATER SAMPLE LOG

PROJECT NAME:	Williams Hwy 52 - LF CCR	PREPARED		CHECKED	
PROJECT NUMBER:	416559.0006.0000.3.2	BY: BJM	DATE: 3.23.23	BY: JMB	DATE: 3/27/23

SAMPLE ID: MW-LF-10 | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 0913	DATE: 3.23.23	SAMPLE	TIME: 0945	DATE: 3.23.23

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 8.13 T/ PVC

DEPTH TO BOTTOM: 20.70 T/ PVC

WELL VOLUME: 2.0 ☐ LITERS ☑ GALLONS

VOLUME REMOVED: 0.5 ☐ LITERS ☑ GALLONS

COLOR: Clear ODOR: none

TURBIDITY ☑ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

DISPOSAL METHOD: ☐ GROUND ☐ DRUM ☑ OTHER

PH: 6.65 SU CONDUCTIVITY: 548.05 umhos/cm

ORP: 109.8 mV DO: 1.56 mg/L

TURBIDITY: 1.31 NTU

☑ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 21.81 °C OTHER:

COLOR: Clear ODOR: none

FILTRATE (0.45 um) ☐ YES ☑ NO

FILTRATE COLOR: FILTRATE ODOR:

QC SAMPLE: ☐ MS/MSD ☐ DU-

POST TURBIDITY: 1.09 NTU TIME: 1017 DTW: 10.13

COMMENTS: FBLK-W52-CCR-23102 @ 0955

TIME	PURGE RATE (GPM or ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
0915	60	6.45	554.40	127.0	1.78	1.82	18.52	8.69	INITIAL
0920		6.61	553.71	120.3	1.66	1.87	19.35	9.05	
0925		6.63	551.80	115.1	1.60	1.96	19.63	9.47	
0930		6.64	549.25	112.6	1.60	1.34	20.42	9.74	
0935		6.65	549.64	111.7	1.59	1.23	20.90	9.78	
0940		6.65	548.32	110.9	1.62	1.26	21.25	9.82	
0945		6.65	548.05	109.8	1.56	1.31	21.81	9.89	0.5

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- **0.1** COND.: +/- **3 %** ORP: +/- **10** D.O.: +/- **10 %** TURB: +/- **10 %** or </= **5** TEMP.: +/- **3 %**

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
2	250 mL	PLASTIC	B	☐ Y ☑ N					☐ Y ☐ N
2	250 mL	PLASTIC	A	☐ Y ☑ N					☐ Y ☐ N
1	125 mL	PLASTIC	A	☐ Y ☑ N					☐ Y ☐ N
				☐ Y ☐ N					☐ Y ☐ N
				☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD:		DATE SHIPPED:		AIRBILL NUMBER:	
COC NUMBER:		SIGNATURE:		DATE SIGNED:	3-28-23

TRC WATER SAMPLE LOG

PROJECT NAME:	Williams Hwy 52 - LF CCR	PREPARED		CHECKED	
PROJECT NUMBER:	416559.0006.0000.3.2	BY: RPC	DATE: 03/22	BY: JMB	DATE: 3/27/23

SAMPLE ID: MW-LF-11 WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 1552	DATE: 03/22	SAMPLE	TIME: 1630	DATE: 03/22

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: ~~12.41~~ RC T/ PVC 11.35

DEPTH TO BOTTOM: 21.80 T/ PVC

WELL VOLUME: 1.67 ☐ LITERS ☑ GALLONS

VOLUME REMOVED: 1.0 ☐ LITERS ☑ GALLONS

COLOR: clear ODOR: None

TURBIDITY ☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

DISPOSAL METHOD: ☐ GROUND ☐ DRUM ☑ OTHER

PH: 6.10 SU CONDUCTIVITY: 152.26 umhos/cm

ORP: 72.3 mV DO: 1.92 mg/L

TURBIDITY: 0.82 NTU

☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 18.35 °C OTHER: —

COLOR: clear ODOR: —

FILTRATE (0.45 um) ☐ YES ☑ NO

FILTRATE COLOR: — FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☐ DU-

POST TURBIDITY: 0.93 NTU TIME: 1708 DTW: 11.54

COMMENTS:

TIME	PURGE RATE (GPM or ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1557	110	6.34	155.43	59.4	2.81	1.76	19.10	11.45	INITIAL
1602	110	6.16	153.74	62.6	2.53	1.17	18.72	11.47	
1607	110	6.14	154.03	66.2	2.42	1.60	18.70	11.50	
1612	110	6.12	153.30	68.6	2.26	1.12	18.73	11.51	
1617	110	6.11	153.02	70.0	2.15	1.18	18.36	11.54	
1622	110	6.11	153.31	71.4	1.97	0.86	18.16	11.54	
1627	110	6.10	151.73	71.7	2.04	0.99	18.30	11.54	
1630	110	6.10	152.26	72.3	1.92	0.82	18.35	11.54	1.0

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- **0.1** COND.: +/- **3 %** ORP: +/- **10** D.O.: +/- **10 %** TURB: +/- **10 %** or </= **5** TEMP.: +/- **3 %**

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
3	250 mL	PLASTIC	B	☐ Y ☑ N					☐ Y ☐ N
2	250 mL	PLASTIC	A	☐ Y ☑ N					☐ Y ☐ N
1	125 mL	PLASTIC	A	☐ Y ☑ N					☐ Y ☐ N
1	2 L	PLASTIC	B	☐ Y ☑ N					☐ Y ☐ N
				☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD:	DATE SHIPPED:	AIRBILL NUMBER:
COC NUMBER:	SIGNATURE:	DATE SIGNED:

~~REVISED 06/2011~~

TRC

WATER SAMPLE LOG

PROJECT NAME:	Williams Hwy 52 - LF CCR	PREPARED		CHECKED	
PROJECT NUMBER:	416559.0006.0000.3.2	BY: AGM	DATE: 3.22.23	BY: JMB	DATE: 3/27/23

SAMPLE ID: MW-LF-20 WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 1447	DATE: 3.22.23

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 21.13 T/ PVC

DEPTH TO BOTTOM: 32.82 T/ PVC

WELL VOLUME: 1.86 ☐ LITERS ☑ GALLONS

VOLUME REMOVED: 0.6 ☐ LITERS ☑ GALLONS

COLOR: clear ODOR: none

TURBIDITY ☐ NONE ☒ SLIGHT ☐ MODERATE ☐ VERY

DISPOSAL METHOD: ☐ GROUND ☐ DRUM ☑ OTHER

SAMPLE	TIME: 1520	DATE: 3.22.23

PH: 6.48 SU CONDUCTIVITY: 1086.2 umhos/cm

ORP: 72.8 mV DO: 0.70 mg/L

TURBIDITY: 4.66 NTU

☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 20.65 °C OTHER:

COLOR: clear ODOR: no odor

FILTRATE (0.45 um) ☐ YES ☑ NO

FILTRATE COLOR: FILTRATE ODOR:

QC SAMPLE: ☐ MS/MSD ☒ DU- WG2-CCR-23101 WG2-CCR-23101-3

POST TURBIDITY: 3.17 NTU TIME: 1715 DTW: 25.09

COMMENTS:

TIME	PURGE RATE (GPM or ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1450	75	6.53	1072.8	93.8	1.82	8.4	19.83	21.41	INITIAL
1455		6.49	1075.1	89.3	0.84	8.0	19.79	25.71	
1500		6.49	1086.0	86.2	0.77	6.73	19.73	21.92	
1505		6.49	1088.3	82.3	0.72	4.56	19.97	22.38	
1510		6.48	1087.9	80.1	0.68	4.15	20.20	22.75	
1515		6.48	1088.4	74.2	0.69	4.82	20.46	22.94	
1520		6.48	1086.2	72.8	0.70	4.66	20.65	23.19	0.6

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- **0.1** COND.: +/- **3 %** ORP: +/- **10** D.O.: +/- **10 %** TURB: +/- **10 %** or </= **5** TEMP.: +/- **3 %**

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
3	250 mL	PLASTIC	B	☐ Y ☑ N					☐ Y ☐ N
2	250 mL	PLASTIC	A	☐ Y ☑ N					☐ Y ☐ N
1	125 mL	PLASTIC	A	☐ Y ☑ N					☐ Y ☐ N
1	2 L	PLASTIC	B	☐ Y ☑ N					☐ Y ☐ N
				☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD:	DATE SHIPPED:	AIRBILL NUMBER:
COC NUMBER:	SIGNATURE:	DATE SIGNED:

~~REVISED 06/2011~~

WATER SAMPLE LOG

PROJECT NAME:	Williams Hwy 52 - LF CCR	PREPARED		CHECKED	
PROJECT NUMBER:	416559.0006.0000.3.2	BY: RPC	DATE: 03/23	BY: JMB	DATE: 3/27/23

SAMPLE ID: MW-LF-21 | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 1233	DATE: 03/23	SAMPLE	TIME: 1308	DATE: 03/23

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 16.52 T/ PVC

DEPTH TO BOTTOM: 28.20 T/ PVC

WELL VOLUME: 1.87 ☐ LITERS ☑ GALLONS

VOLUME REMOVED: 0.75 ☐ LITERS ☑ GALLONS

COLOR: Clear ODOR: None

TURBIDITY ☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

DISPOSAL METHOD: ☐ GROUND ☐ DRUM ☑ OTHER

PH: 6.51 SU CONDUCTIVITY: 1079.6 umhos/cm

ORP: 95.1 mV DO: 0.45 mg/L

TURBIDITY: 1.71 NTU

☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 26.26 °C OTHER: —

COLOR: clear ODOR: none

FILTRATE (0.45 um) ☐ YES ☑ NO

FILTRATE COLOR: — FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☐ DU-

POST TURBIDITY: 1.23 NTU TIME 1337 DTW: 18.40

COMMENTS:

TIME	PURGE RATE (GPM or ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1238	60	6.61	913.11	95.0	2.86	4.56	35.31	16.85	INITIAL
1243	60	6.53	1052.91	96.4	1.06	3.71	27.20	17.05	
1248	60	6.52	1075.5	96.4	0.70	2.34	26.01	17.25	
1253	60	6.52	1084.2	96.1	0.56	1.72	26.01	17.53	
1258	60	6.51	1083.4	95.8	0.51	2.07	26.12	17.75	
1303	60	6.51	1087.1	95.4	0.47	1.58	26.00	17.95	
1308	60	6.51	1079.6	95.1	0.45	1.71	26.26	18.06	0.75

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- **0.1** COND.: +/- **3 %** ORP: +/- **10** D.O.: +/- **10 %** TURB: +/- **10 %** or </= **5** TEMP.: +/- **3 %**

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
2	250 mL	PLASTIC	B	☐ Y ☑ N					☐ Y ☐ N
2	250 mL	PLASTIC	A	☐ Y ☑ N					☐ Y ☐ N
1	125 mL	PLASTIC	A	☐ Y ☑ N					☐ Y ☐ N
				☐ Y ☐ N					☐ Y ☐ N
				☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD:	DATE SHIPPED:	AIRBILL NUMBER:
COC NUMBER:	SIGNATURE:	DATE SIGNED:

~~REVISED 06/2011~~

WATER SAMPLE LOG

PROJECT NAME:	Williams Hwy 52 - LF CCR	PREPARED		CHECKED	
PROJECT NUMBER:	416559.0006.0000.3.2	BY: RPC	DATE: 03/23	BY: JMB	DATE: 3/27/23

SAMPLE ID: MW-LF-22D — WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 1100	DATE: 03/23	SAMPLE	TIME: 1155	DATE: 03/23

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 15.85 T/ PVC

DEPTH TO BOTTOM: 33.43 T/ PVC

WELL VOLUME: 2.81 ☐ LITERS ☑ GALLONS

VOLUME REMOVED: 0.80 ☐ LITERS ☑ GALLONS

COLOR: clear ODOR: None

TURBIDITY ☐ NONE ☒ SLIGHT ☐ MODERATE ☐ VERY

DISPOSAL METHOD: ☐ GROUND ☐ DRUM ☑ OTHER

PH: 6.80 SU CONDUCTIVITY: 978.01 umhos/cm

ORP: 99.7 mV DO: 1.03 mg/L

TURBIDITY: 2.97 NTU

☐ NONE ☒ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 25.28 °C OTHER: —

COLOR: clear ODOR: None

FILTRATE (0.45 um) ☐ YES ☑ NO

FILTRATE COLOR: — FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☐ DU-

POST TURBIDITY: 3.01 NTU TIME: 1224 DTW: 19.81

COMMENTS:

TIME	PURGE RATE (GPM or ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1105	60	6.85	929.05	105.6	2.57	71000	26.48	16.45	INITIAL
1110	60	6.80	973.69	101.7	1.03	71000	24.60	16.80	
1115	60	6.80	974.06	101.1	1.04	67.1	24.60	17.03	
1120	60	6.80	969.42	101.0	1.03	22.9	24.61	17.35	
1125	60	6.80	969.66	100.6	1.03	13.2	24.59	17.65	
1130	60	6.80	972.09	100.4	1.03	10.78	24.77	17.93	
1135	60	6.80	971.52	100.3	1.04	7.52	24.88	18.40	
1140	60	6.80	972.54	100.0	1.03	5.53	25.01	18.90	
1145	60	6.80	975.60	100.1	1.02	4.49	25.06	18.90	
1150	60	6.80	977.35	99.7	1.02	3.98	25.32	18.90	

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- **0.1** COND.: +/- **3 %** ORP: +/- **10** D.O.: +/- **10 %** TURB: +/- **10 %** or </= **5** TEMP.: +/- **3 %**

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
2	250 mL	PLASTIC	B	☐ Y ☑ N					☐ Y ☐ N
2	250 mL	PLASTIC	A	☐ Y ☑ N					☐ Y ☐ N
1	125 mL	PLASTIC	A	☐ Y ☑ N					☐ Y ☐ N
				☐ Y ☐ N					☐ Y ☐ N
				☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD:	DATE SHIPPED:	AIRBILL NUMBER:
COC NUMBER:	SIGNATURE:	DATE SIGNED:

TRC

WATER SAMPLE LOG

(CONTINUED FROM PREVIOUS PAGE)

PROJECT NAME:	Williams Hwy 52 - LF CCR	PREPARED		CHECKED	
PROJECT NUMBER:	416559.0006.0000.3.2	BY: BM / AM RC	DATE: 03/23	BY: JMB	DATE: 3/27/23

SAMPLE ID: MW-LF-220

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1155	60	6.80	978.01	99.7	1.03	2.97	25.28	19.00	0.80

SIGNATURE: _____ DATE SIGNED: 03/23/2023

TRC

WATER SAMPLE LOG

PROJECT NAME:	Williams Hwy 52 - LF CCR	PREPARED		CHECKED	
PROJECT NUMBER:	416559.0006.0000.3.2	BY: RPC	DATE: 03123	BY: JMB	DATE: 3/27/23

SAMPLE ID: MW-LF-23D | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 0912	DATE: 03123	SAMPLE	TIME: 0942	DATE: 03123

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 14.00 T/ PVC

DEPTH TO BOTTOM: 33.36 T/ PVC

WELL VOLUME: 3.10 ☐ LITERS ☑ GALLONS

VOLUME REMOVED: 1.0 ☐ LITERS ☑ GALLONS

COLOR: Clear ODOR: None

TURBIDITY ☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

DISPOSAL METHOD: ☐ GROUND ☐ DRUM ☑ OTHER

PH: 6.97 SU CONDUCTIVITY: 849.71 umhos/cm

ORP: 113.4 mV DO: 2.08 mg/L

TURBIDITY: 2.32 NTU

☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 21.38 °C OTHER: —

COLOR: Clear ODOR: None

FILTRATE (0.45 um) ☐ YES ☑ NO

FILTRATE COLOR: — FILTRATE ODOR: —

QC SAMPLE: ☐ MS/MSD ☐ DU-

POST TURBIDITY: 2.84 NTU TIME: 1039 DTW: 18.45

COMMENTS:

TIME	PURGE RATE (GPM or ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
0917	100	6.76	852.14	117.9	3.16	3.09	19.95	14.70	INITIAL
0922	80	6.90	855.43	115.3	1.94	2.98	20.27	15.00	
0927	70	6.94	852.94	114.5	1.99	2.68	20.59	15.35	
0932	50	6.96	849.85	114.2	2.14	2.73	20.82	15.57	
0937	50	6.96	861.72	113.8	2.14	2.57	21.07	15.80	
0942	50	6.97	849.71	113.4	2.08	2.32	21.38	16.19	1.0

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- **0.1** COND.: +/- **3 %** ORP: +/- **10** D.O.: +/- **10 %** TURB: +/- **10 %** or </= **5** TEMP.: +/- **3 %**

BOTTLES FILLED | PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
2	250 mL	PLASTIC	B	☐ Y ☑ N					☐ Y ☐ N
2	250 mL	PLASTIC	A	☐ Y ☑ N					☐ Y ☐ N
1	125 mL	PLASTIC	A	☐ Y ☑ N					☐ Y ☐ N
				☐ Y ☐ N					☐ Y ☐ N
				☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD:	DATE SHIPPED:	AIRBILL NUMBER:
COC NUMBER:	SIGNATURE:	DATE SIGNED:

~~REVISED 06/2011~~

WATER SAMPLE LOG

PROJECT NAME:	Williams Hwy 52 - LF CCR	PREPARED		CHECKED	
PROJECT NUMBER:	416559.0006.0000.3.2	BY: AGM	DATE: 3-23-23	BY: JMB	DATE: 3/27/23

SAMPLE ID: MW-LF-24 | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 1011	DATE: 3-23-23	SAMPLE	TIME: 1100	DATE: 3-23-23

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 15.38 T/ PVC

DEPTH TO BOTTOM: 25.41 T/ PVC

WELL VOLUME: 1.6 ☐ LITERS ☑ GALLONS

VOLUME REMOVED: 0.8 ☐ LITERS ☑ GALLONS

COLOR: hazy ODOR: none

TURBIDITY ☐ NONE ☐ SLIGHT ☒ MODERATE ☐ VERY

DISPOSAL METHOD: ☐ GROUND ☐ DRUM ☑ OTHER

PH: 6.27 SU CONDUCTIVITY: 778.19 umhos/cm

ORP: 32.7 mV DO: 0.39 mg/L

TURBIDITY: 4.97 NTU

☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 22.91 °C OTHER:

COLOR: clear ODOR: none

FILTRATE (0.45 um) ☐ YES ☑ NO

FILTRATE COLOR: FILTRATE ODOR:

QC SAMPLE: ☐ MS/MSD ☐ DU-

POST TURBIDITY: 5.29 NTU TIME: 1122 DTW: 16.28

COMMENTS:

TIME	PURGE RATE (GPM or ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1015	70	6.35	783.75	3.6	1.46	31.5	22.45	15.44	INITIAL
1020		6.31	788.37	15.4	0.77	15.9	22.19	15.50	
1025		6.29	788.55	26.6	0.63	11.7	22.27	15.56	
1030		6.29	786.61	29.8	0.59	10.69	22.37	15.68	
1035		6.28	784.34	33.7	0.53	7.04	22.51	15.74	
1040		6.27	784.05	35.5	0.46	8.90	22.78	15.89	
1045		6.27	782.10	35.7	0.46	7.64	22.83	15.96	
1050		6.27	782.03	36.0	0.43	6.25	22.82	15.98	
1055		6.26	775.51	33.6	0.40	6.27	22.81	16.04	
1100		6.27	778.19	32.7	0.39	4.97	22.91	16.09	0.8

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- **0.1** COND.: +/- **3 %** ORP: +/- **10** D.O.: +/- **10 %** TURB: +/- **10 %** or </= **5** TEMP.: +/- **3 %**

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
2	250 mL	PLASTIC	B	☐ Y ☑ N					☐ Y ☐ N
2	250 mL	PLASTIC	A	☐ Y ☑ N					☐ Y ☐ N
1	125 mL	PLASTIC	A	☐ Y ☑ N					☐ Y ☐ N
				☐ Y ☐ N					☐ Y ☐ N
				☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD:	DATE SHIPPED:	AIRBILL NUMBER:
COC NUMBER:	SIGNATURE:	DATE SIGNED:

WATER SAMPLE LOG

PROJECT NAME:	Williams Hwy 52 - LF CCR	PREPARED		CHECKED	
PROJECT NUMBER:	416559.0006.0000.3.2	BY: AGM	DATE: 3-23-23	BY: JMB	DATE: 3/27/23

SAMPLE ID: MW-LF-25 | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 1142	DATE: 3-23-23

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 14.50 T/ PVC

DEPTH TO BOTTOM: 24.21 T/ PVC

WELL VOLUME: 1.6 ☐ LITERS ☑ GALLONS

VOLUME REMOVED: 0.6 ☐ LITERS ☑ GALLONS

COLOR: light brown ODOR: none

TURBIDITY ☐ NONE ☒ SLIGHT ☐ MODERATE ☐ VERY

DISPOSAL METHOD: ☐ GROUND ☐ DRUM ☑ OTHER

SAMPLE	TIME: 1215	DATE: 3-23-23

PH: 6.65 SU CONDUCTIVITY: 1361.3 umhos/cm

ORP: 63.8 mV DO: 3.75 mg/L

TURBIDITY: 0.77 NTU

☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 22.60 °C OTHER:

COLOR: clear ODOR: none

FILTRATE (0.45 um) ☐ YES ☑ NO

FILTRATE COLOR: FILTRATE ODOR:

QC SAMPLE: ☐ MS/MSD ☐ DU-

POST TURBIDITY: 1.13 NTU TIME: 1231 DTW: 15.68

COMMENTS:

TIME	PURGE RATE (GPM or ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1145	80	6.72	1331.9	59.9	4.71	27.7	24.15	14.58	INITIAL
1150		6.67	1373.7	60.4	3.15	2.94	22.65	14.65	
1155		6.67	1375.3	61.1	3.28	1.16	22.75	14.82	
1200		6.66	1374.0	62.0	3.42	0.74	22.71	14.98	
1205		6.66	13684	62.9	3.60	1.01	22.64	15.09	
1210		6.66	1372.1	63.1	3.55	0.79	22.62	15.17	
1215		6.65	1361.9	63.8	3.75	0.77	22.60	15.23	0.6

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- **0.1** COND.: +/- **3 %** ORP: +/- **10** D.O.: +/- **10 %** TURB: +/- **10 %** or </= **5** TEMP.: +/- **3 %**

BOTTLES FILLED | PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
2	250 mL	PLASTIC	B	☐ Y ☑ N					☐ Y ☐ N
2	250 mL	PLASTIC	A	☐ Y ☑ N					☐ Y ☐ N
1	125 mL	PLASTIC	A	☐ Y ☑ N					☐ Y ☐ N
				☐ Y ☐ N					☐ Y ☐ N
				☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD:	DATE SHIPPED:	AIRBILL NUMBER:
COC NUMBER:	SIGNATURE:	DATE SIGNED:

WATER SAMPLE LOG

PROJECT NAME:	Williams Hwy 52 - LF CCR	PREPARED		CHECKED	
PROJECT NUMBER:	416559.0006.0000.3.2	BY: AGM	DATE: 3.23.23	BY: JMB	DATE: 3/27/23

SAMPLE ID: MW-LF-26 | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 0908	DATE: 3.23.23

PURGE METHOD: ☑ PUMP PERISTALTIC PUMP ☐ BAILER

DEPTH TO WATER: 24.74 T/ PVC

DEPTH TO BOTTOM: 33.45 T/ PVC

WELL VOLUME: 1.4 ☐ LITERS ☑ GALLONS

VOLUME REMOVED: 0.6 ☐ LITERS ☑ GALLONS

COLOR: clear ODOR: none

TURBIDITY ☐ NONE ☒ SLIGHT ☐ MODERATE ☐ VERY

DISPOSAL METHOD: ☐ GROUND ☐ DRUM ☑ OTHER

SAMPLE	TIME: 0940	DATE: 3.23.23

PH: 6.07 SU CONDUCTIVITY: 1550.9 umhos/cm

ORP: -15.7 mV DO: 0.73 mg/L

TURBIDITY: 2.83 NTU

☒ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY

TEMPERATURE: 21.26 °C OTHER:

COLOR: clear ODOR: none

FILTRATE (0.45 um) ☐ YES ☑ NO

FILTRATE COLOR: FILTRATE ODOR:

QC SAMPLE: ☐ MS/MSD ☐ DU-

POST TURBIDITY: 2.16 NTU TIME: 1000 DTW: 25.48

COMMENTS:

TIME	PURGE RATE (GPM or ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
0910	75	5.95	1580.3	32.8	0.99	12.5	19.77	24.83	INITIAL
0915		5.98	1570.1	27.7	0.84	5.22	19.94	24.90	
0920		6.03	1553.2	4.8	0.83	2.60	20.73	25.03	
0925		6.05	1549.5	-1.1	0.71	2.11	20.94	25.09	
0930		6.06	1550.8	-9.8	0.77	1.93	21.04	25.19	
0935		6.06	1545.8	-12.6	0.70	3.68	21.17	25.23	
0940		6.07	1550.9	-15.7	0.73	2.83	21.26	25.26	0.6

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- **0.1** COND.: +/- **3 %** ORP: +/- **10** D.O.: +/- **10 %** TURB: +/- **10 %** or </= **5** TEMP.: +/- **3 %**

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
2	250 mL	PLASTIC	B	☐ Y ☑ N					☐ Y ☐ N
2	250 mL	PLASTIC	A	☐ Y ☑ N					☐ Y ☐ N
1	125 mL	PLASTIC	A	☐ Y ☑ N					☐ Y ☐ N
				☐ Y ☐ N					☐ Y ☐ N
				☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD:	DATE SHIPPED:	AIRBILL NUMBER:
COC NUMBER:	SIGNATURE:	DATE SIGNED:

REVISED 06/2011

TRC

WATER SAMPLE LOG

PROJECT NAME:	Williams Hwy 52 - LF CCR	PREPARED		CHECKED	
PROJECT NUMBER:	416559.0006.0000.3.2	BY: BJM	DATE: 3-23-23	BY: JMB	DATE: 3/27/23

SAMPLE ID: MW-LF-27 | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 1100	DATE: 3-23-23	SAMPLE	TIME: 1150	DATE: 3-23-23
PURGE METHOD:	☑ PUMP PERISTALTIC PUMP ☐ BAILER		PH: 6.25 SU	CONDUCTIVITY: 298.30 umhos/cm	
			ORP: 31.5 mV	DO: 0.39 mg/L	
DEPTH TO WATER:	7.42 T/ PVC		TURBIDITY: 10.25 NTU		
DEPTH TO BOTTOM:	22.75 T/ PVC		☑ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY		
WELL VOLUME:	2.5 ☐ LITERS ☑ GALLONS		TEMPERATURE: 23.38 °C	OTHER:	
VOLUME REMOVED:	0.7 ☐ LITERS ☑ GALLONS		COLOR: Clear w/ fines	ODOR: none	
COLOR:	Clear w/ fines ODOR: none		FILTRATE (0.45 um) ☐ YES ☑ NO		
TURBIDITY			FILTRATE COLOR:	FILTRATE ODOR:	
☐ NONE ☑ SLIGHT ☐ MODERATE ☐ VERY			QC SAMPLE: ☐ MS/MSD ☐ DU-		
DISPOSAL METHOD:	☐ GROUND ☐ DRUM ☑ OTHER		POST TURBIDITY: 10.34 NTU	TIME: 1235	DTW: 7.86
			COMMENTS:		

TIME	PURGE RATE (GPM or ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1105	60	6.53	339.77	78.7	1.87	21.8	25.20	7.62	INITIAL
1110		6.41	337.21	66.8	0.91	19.3	24.77	7.63	
1115		6.35	336.79	47.8	0.70	16.9	23.91	7.65	
1120		6.32	326.70	40.9	0.51	12.6	24.05	7.68	
1125		6.30	317.12	37.7	0.48	13.1	23.83	7.70	
1130		6.29	315.16	35.4	0.44	12.2	23.79	7.73	
1135		6.28	300.41	33.7	0.41	12.9	27.78	7.76	
1140		6.26	301.21	31.5	0.39	10.1	23.47	7.77	
1145		6.25	299.85	31.8	0.38	9.99	23.39	7.78	
1150		6.25	298.30	31.5	0.39	10.25	23.38	7.80	0.7

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- **0.1** COND.: +/- **3 %** ORP: +/- **10** D.O.: +/- **10 %** TURB: +/- **10 %** or </= **5** TEMP.: +/- **3 %**

BOTTLES FILLED | PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
2	250 mL	PLASTIC	B	☐ Y ☑ N					☐ Y ☐ N
2	250 mL	PLASTIC	A	☐ Y ☑ N					☐ Y ☐ N
1	125 mL	PLASTIC	A	☐ Y ☑ N					☐ Y ☐ N
				☐ Y ☐ N					☐ Y ☐ N
				☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD:		DATE SHIPPED:		AIRBILL NUMBER:	
COC NUMBER:		SIGNATURE:		DATE SIGNED:	3-23-23

~~REVISED 06/2011~~

TRC

WATER SAMPLE LOG

PROJECT NAME:	Williams Hwy 52 - LF CCR	PREPARED		CHECKED	
PROJECT NUMBER:	416559.0006.0000.3.2	BY: BJM	DATE: 3-22-23	BY: JMB	DATE: 3/27/23

SAMPLE ID: MW-LF-28 | WELL DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER

WELL MATERIAL: ☑ PVC ☐ SS ☐ IRON ☐ GALVANIZED STEEL ☐ OTHER

SAMPLE TYPE: ☑ GW ☐ WW ☐ SW ☐ DI ☐ LEACHATE ☐ OTHER

PURGING	TIME: 1458	DATE: 3-22-23	SAMPLE	TIME: 1546	DATE: 3.22.23
PURGE METHOD:	☑ PUMP PERISTALTIC PUMP ☐ BAILER		PH: 5.59 SU	CONDUCTIVITY: 69.89	umhos/cm
			ORP: 109.8 mV	DO: 4.58	mg/L
DEPTH TO WATER:	9.58 T/ PVC		TURBIDITY: 0.0 NTU		
DEPTH TO BOTTOM:	19.34 T/ PVC		☑ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY		
WELL VOLUME:	1.6 ☐ LITERS ☑ GALLONS		TEMPERATURE: 17.93 °C	OTHER:	
VOLUME REMOVED:	2.1 ☐ LITERS ☑ GALLONS		COLOR: Clear	ODOR: none	
COLOR:	Clear ODOR: none		FILTRATE (0.45 um) ☐ YES ☑ NO		
TURBIDITY			FILTRATE COLOR:	FILTRATE ODOR:	
☑ NONE ☐ SLIGHT ☐ MODERATE ☐ VERY			QC SAMPLE: ☑ MS/MSD ☐ DU-		
DISPOSAL METHOD:	☐ GROUND ☐ DRUM ☑ OTHER		POST TURBIDITY: 0.0 NTU	TIME: 1645	DTW: 9.81
			COMMENTS:		

TIME	PURGE RATE (GPM or ML/MIN)	PH (SU)	CONDUCTIVITY (umhos/cm)	ORP (mV)	D.O. (mg/L)	TURBIDITY (NTU)	TEMPERATURE (°C)	WATER LEVEL (FEET)	CUMULATIVE PURGE VOLUME (GAL OR L)
1500	170	5.83	124.73	91.0	3.63	0.57	18.25	9.67	INITIAL
1505		5.82	120.67	89.9	3.69	0.66	18.20	9.71	
1510		5.81	117.76	88.4	3.74	0.92	18.18	9.73	
1515		5.78	101.12	90.1	4.01	0.41	18.19	9.75	
1520		5.72	93.15	95.1	4.19	0.33	18.20	9.76	
1525		5.71	87.71	96.7	4.25	0.41	18.32	9.78	
1530		5.70	83.97	98.8	4.31	0.25	18.47	9.80	
1540		5.62	72.62	106.5	~~4.51~~	0.0	17.98	9.81	
1543		5.62	71.72	~~108.00~~ 108.1	4.49	0.0	17.95	|	
1546		5.59	69.89	109.8	4.58	0.0	17.93	|	2.1

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS:

pH: +/- **0.1** COND.: +/- **3 %** ORP: +/- **10** D.O.: +/- **10 %** TURB: +/- **10 %** or </= **5** TEMP.: +/- **3 %**

BOTTLES FILLED — PRESERVATIVE CODES A - NONE B - HNO3 C - H2SO4 D - NaOH E - HCL F - _____

NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED	NUMBER	SIZE	TYPE	PRESERVATIVE	FILTERED
3	250 mL	PLASTIC	B	☐ Y ☑ N					☐ Y ☐ N
2	250 mL	PLASTIC	A	☐ Y ☑ N					☐ Y ☐ N
1	125 mL	PLASTIC	A	☐ Y ☑ N					☐ Y ☐ N
1	2 L	PLASTIC	B	☐ Y ☑ N					☐ Y ☐ N
				☐ Y ☐ N					☐ Y ☐ N

SHIPPING METHOD:		DATE SHIPPED:		AIRBILL NUMBER:	
COC NUMBER:		SIGNATURE:		DATE SIGNED:	3-22-23

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TRC

WATER QUALITY METER CALIBRATION LOG

PROJECT NAME:	Williams Station Hwy 52	MODEL: AQUA TROLL 400	SAMPLER: BM / AM / RC
PROJECT NO.:	416559.0006.0000	SERIAL #: 883546	DATE: 3·22·23

PH CALIBRATION CHECK

pH 7 (LOT #): 2216893 (EXP. DATE): 11/23 PRE-CAL. READING / STANDARD	pH 4 / 10 (LOT #): — (EXP. DATE): — PRE-CAL. READING / STANDARD	CAL. RANGE	TIME
6.95 / 7.00	4.16 / 4.00	☐ WITHIN RANGE	0845
Post 7.00 / 7.00	4.00 / 4.00	☒ WITHIN RANGE	0845
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	

SPECIFIC CONDUCTIVITY CALIBRATION CHECK

CAL. READING (LOT #): — (EXP. DATE): — PRE-CAL. READING / STANDARD	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
4.57 / 4.49	16.45	☐ WITHIN RANGE	0845
Post 4.49 / 4.49	16.89	☒ WITHIN RANGE	0845
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

ORP CALIBRATION CHECK

CAL. READING (LOT #): 21390144 (EXP. DATE): 11/23 PRE-CAL. READING / STANDARD	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
219 / 228	16.80	☐ WITHIN RANGE	0845
Post 228 / 228	16.85	☒ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

D.O. CALIBRATION CHECK

CALIBRATION READING mg/L	CAL. RANGE	TIME
Temp: 17°C Baro: 770mmHg Actual: 9.96mg/L calc: 9.8 mg/L	☒ WITHIN RANGE	0845
	☐ WITHIN RANGE	
	☐ WITHIN RANGE	
	☐ WITHIN RANGE	

TURBIDITY CALIBRATION CHECK

CALIBRATION READING (NTU) (LOT #): — (EXP. DATE): — PRE-CAL. READING / STANDARD	(LOT #): — (EXP. DATE): — POST-CAL. READING / STANDARD	CAL. RANGE	TIME
0.76 / 0	0 / 0	☒ WITHIN RANGE	0845
1.51 / 1	0.97 / 1	☒ WITHIN RANGE	
8.52 / 10	10.13 / 10	☒ WITHIN RANGE	
/	/	☐ WITHIN RANGE	

COMMENTS

☑ AUTOCAL SOLUTION (LOT #): 22250153 (EXP. DATE): 11/23	☐ STANDARD SOLUTION (S) LIST LOT NUMBERS AND EXPIRATION DATES UNDER CALIBRATION CHECK
CALIBRATED PARAMETERS	CALIBRATION RANGES (1)
☑ pH	pH: +/- 0.2 S.U.
☑ COND	COND: +/- 1% OF CAL. STANDARD
☐ ORP	ORP: +/- 25 mV
☐ D.O.	D.O.: VARIES
☐ TURB	TURB: +/- 5% OF CAL. STANDARD
☐ _____	(1) CALIBRATION RANGES ARE SPECIFIC TO THE MODEL OF THE WATER QUALITY METER
☐ _____	

NOTES

PROBLEMS ENCOUNTERED	CORRECTIVE ACTIONS
none	none

SIGNED — DATE: 3·22·23

CHECKED BY: Jacob Bradley — DATE: 3/27/23

REVISED 06/2011

WATER QUALITY METER CALIBRATION LOG

PROJECT NAME:	Williams Station Hwy 52	MODEL: AQUA TROLL 400	SAMPLER: (BM) / AM / RC
PROJECT NO.:	416559.0006.0000	SERIAL #: 851425	DATE: 3.22.23

PH CALIBRATION CHECK

pH 7 (LOT #): 2216893 (EXP. DATE): 11/23 PRE-CAL. READING / STANDARD	pH 4 / 10 (LOT #): – (EXP. DATE): – PRE-CAL. READING / STANDARD	CAL. RANGE	TIME
6.90 / 7.00	4.12 / 4.00	☐ WITHIN RANGE	0845
Post 7.00 / 7.00	4.00 / 4.00	☒ WITHIN RANGE	0845
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	

SPECIFIC CONDUCTIVITY CALIBRATION CHECK

CAL. READING (LOT #): (EXP. DATE): PRE-CAL. READING / STANDARD	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
4.64 / 4.49	15.77	☐ WITHIN RANGE	0845
Post 4.48 / 4.49	16.42	☒ WITHIN RANGE	0845
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

ORP CALIBRATION CHECK

CAL. READING (LOT #): 21390144 (EXP. DATE): 11/23 PRE-CAL. READING / STANDARD	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
222 / 228	16.60	☐ WITHIN RANGE	0845
Post 228 / 228	16.78	☒ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

D.O. CALIBRATION CHECK

CALIBRATION READING mg/L	CAL. RANGE	TIME
Temp: 17°C Baro: 770mmHg Actual: 10.03 mg/L Calc. 9.8 mg/L	☒ WITHIN RANGE	0845
	☐ WITHIN RANGE	
	☐ WITHIN RANGE	
	☐ WITHIN RANGE	

TURBIDITY CALIBRATION CHECK

CALIBRATION READING (NTU) (LOT #): – (EXP. DATE): – PRE-CAL. READING / STANDARD	(LOT #): – (EXP. DATE): – POST-CAL. READING / STANDARD	CAL. RANGE	TIME
0.55 / 0	0 / 0	☒ WITHIN RANGE	0845
1.10 / 1	0.93 / 1	☒ WITHIN RANGE	
9.56 / 10	9.89 / 10	☒ WITHIN RANGE	
/	/	☐ WITHIN RANGE	

COMMENTS

☑ AUTOCAL SOLUTION (LOT #): 22250153 (EXP. DATE): 11/23	☐ STANDARD SOLUTION (S) LIST LOT NUMBERS AND EXPIRATION DATES UNDER CALIBRATION CHECK
CALIBRATED PARAMETERS	CALIBRATION RANGES (1)
☑ pH	pH: +/- 0.2 S.U.
☑ COND	COND: +/- 1% OF CAL. STANDARD
☐ ORP	ORP: +/- 25 mV
☐ D.O.	D.O.: VARIES
☐ TURB	TURB: +/- 5% OF CAL. STANDARD
☐ _____	(1) CALIBRATION RANGES ARE SPECIFIC TO THE MODEL OF THE WATER QUALITY METER
☐ _____	

NOTES

PROBLEMS ENCOUNTERED	CORRECTIVE ACTIONS
none	none

SIGNED 3-22-23 DATE

CHECKED BY Jacob Bradley 3/27/23 DATE

REVISED 06/2011

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WATER QUALITY METER CALIBRATION LOG

PROJECT NAME:	Williams Station Hwy 52	MODEL: AQUA TROLL 400	SAMPLER: BM / AM / RT
PROJECT NO.:	416559.0006.0000	SERIAL #: 909268	DATE: 03/22/23

PH CALIBRATION CHECK

pH 7 (LOT #): 2216893 (EXP. DATE): 11/23 PRE-CAL. READING / STANDARD	pH 4 / 10 (LOT #): — (EXP. DATE): — PRE-CAL. READING / STANDARD	CAL. RANGE	TIME
6.88 / 7.00	4.28 / 4.00	☐ WITHIN RANGE	
7.02 / 7.00	9.85 / 10.00	☒ WITHIN RANGE	0850
/	4.00 / 4.00	☒ WITHIN RANGE	0857
/	10.04 / 10.00	☒ WITHIN RANGE	0853

SPECIFIC CONDUCTIVITY CALIBRATION CHECK

CAL. READING (LOT #): — (EXP. DATE): — PRE-CAL. READING / STANDARD	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
4591.0 / 4490	16.16	☐ WITHIN RANGE	
4498.1 / 4490	16.07	☒ WITHIN RANGE	0900
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

ORP CALIBRATION CHECK

CAL. READING (LOT #): 21390144 (EXP. DATE): 11/23 PRE-CAL. READING / STANDARD	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
214.8 / 228	17.21	☐ WITHIN RANGE	
228 / 228	17.52	☒ WITHIN RANGE	0911
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

D.O. CALIBRATION CHECK

CALIBRATION READING mg/L	CAL. RANGE	TIME
Temp: 16.13°C	☐ WITHIN RANGE	
Baro: 771.33 mmHg	☐ WITHIN RANGE	
Calc: 10.00 mg/L	☒ WITHIN RANGE	0912
Act: 9.87 mg/L	☐ WITHIN RANGE	

TURBIDITY CALIBRATION CHECK

CALIBRATION READING (NTU) (LOT #): — (EXP. DATE): — PRE-CAL. READING / STANDARD	(LOT #): — (EXP. DATE): — POST-CAL. READING / STANDARD	CAL. RANGE	TIME
0.00 / 0.00	0.00 / 0.00	☒ WITHIN RANGE	0858
1.25 / 1.00	0.98 / 1.00	☒ WITHIN RANGE	0859
8.83 / 10.00	10.00 / 10.00	☒ WITHIN RANGE	0901
/	/	☐ WITHIN RANGE	

COMMENTS

☑ AUTOCAL SOLUTION (LOT #): 2250153 (EXP. DATE): 11/23

☐ STANDARD SOLUTION (S)

LIST LOT NUMBERS AND EXPIRATION DATES UNDER CALIBRATION CHECK

CALIBRATED PARAMETERS		CALIBRATION RANGES (1)	
☑	pH	pH:	+/- 0.2 S.U.
☑	COND	COND:	+/- 1% OF CAL. STANDARD
☐	ORP	ORP:	+/- 25 mV
☐	D.O.	D.O.:	VARIES
☐	TURB	TURB:	+/- 5% OF CAL. STANDARD
☐	_____	(1) CALIBRATION RANGES ARE SPECIFIC TO THE MODEL OF THE WATER QUALITY METER	
☐	_____		

NOTES

PROBLEMS ENCOUNTERED	CORRECTIVE ACTIONS
none	none

SIGNED [signature] DATE 3/22/23

CHECKED BY [signature] DATE 3/27/23

REVISED 06/2011

TRC

WATER QUALITY METER CALIBRATION LOG

PROJECT NAME:	Williams Station Hwy 52	MODEL: AQUA TROLL 400	SAMPLER: BM / AM / RC
PROJECT NO.:	416559.0006.0000	SERIAL #: 909268	DATE: 09/23/23

PH CALIBRATION CHECK

pH 7 (LOT #): 2216893 (EXP. DATE): 11/2023 PRE-CAL. READING / STANDARD	pH 4 / 10 (LOT #): 21320202 (EXP. DATE): 12/2023 PRE-CAL. READING / STANDARD	CAL. RANGE	TIME
7.05 / 7.00	4.34 / 4.00	☐ WITHIN RANGE	
/	9.80 / 10.00	☐ WITHIN RANGE	
7.00 / 7.00	4.00 / 4.00	☒ WITHIN RANGE	0835/0842
/	10.04 / 10.00	☒ WITHIN RANGE	0839

SPECIFIC CONDUCTIVITY CALIBRATION CHECK

CAL. READING (LOT #): 2250153 (EXP. DATE): 11/2023 PRE-CAL. READING / STANDARD	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
4525.3 / 4490	18.53	☐ WITHIN RANGE	
4492.1 / 4490	18.50	☒ WITHIN RANGE	0844
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

ORP CALIBRATION CHECK

CAL. READING (LOT #): 21390144 (EXP. DATE): 11/2023 PRE-CAL. READING / STANDARD	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
224.7 / 228	18.71	☐ WITHIN RANGE	
228.0 / 228	18.79	☒ WITHIN RANGE	0854
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

D.O. CALIBRATION CHECK

CALIBRATION READING mg/L	CAL. RANGE	TIME
Temp: 18.48°C	☐ WITHIN RANGE	
Baro: 768.80 mmHg	☐ WITHIN RANGE	
Calc: 9.50 mg/L	☐ WITHIN RANGE	
Act: 9.51 mg/L	☒ WITHIN RANGE	0853

TURBIDITY CALIBRATION CHECK

CALIBRATION READING (NTU) (LOT #): (EXP. DATE): PRE-CAL. READING / STANDARD	(LOT #): (EXP. DATE): POST-CAL. READING / STANDARD	CAL. RANGE	TIME
0.00 / 0.00	0.00 / 0.00	☒ WITHIN RANGE	0854
0.85 / 1.00	0.96 / 1.00	☒ WITHIN RANGE	0855
10.60 / 10.00	9.97 / 10.00	☒ WITHIN RANGE	0856
/	/	☐ WITHIN RANGE	

COMMENTS

☑ AUTOCAL SOLUTION (LOT #): (EXP. DATE):

☐ STANDARD SOLUTION (S)

LIST LOT NUMBERS AND EXPIRATION DATES UNDER CALIBRATION CHECK

CALIBRATED PARAMETERS		CALIBRATION RANGES (1)	
☑	pH	pH:	+/- 0.2 S.U.
☑	COND	COND:	+/- 1% OF CAL. STANDARD
☐	ORP	ORP:	+/- 25 mV
☐	D.O.	D.O.:	VARIES
☐	TURB	TURB:	+/- 5% OF CAL. STANDARD
☐	_____	(1) CALIBRATION RANGES ARE SPECIFIC TO THE MODEL OF THE WATER QUALITY METER	
☐	_____		

NOTES

PROBLEMS ENCOUNTERED	CORRECTIVE ACTIONS
none	none

SIGNED _____ DATE 09/23/23

CHECKED BY Jack Bradley DATE 9/27/23

REVISED 06/2011

TRC

WATER QUALITY METER CALIBRATION LOG

PROJECT NAME:	Williams Station Hwy 52	MODEL: AQUA TROLL 400	SAMPLER: BM / AM / RC
PROJECT NO.:	416559.0006.0000	SERIAL #: 883546	DATE: 3-27-23

PH CALIBRATION CHECK

pH 7 (LOT #): 2216893 (EXP. DATE): 11/23 PRE-CAL. READING / STANDARD	A/C (pH 4) 10 (LOT #): 22250153 (EXP. DATE): 11/23 PRE-CAL. READING / STANDARD	CAL. RANGE	TIME
6.81 / 7.00	4.19 / 4.00	☐ WITHIN RANGE	0834
Post 7.08 / 7.00	4.00 / 4.00	☒ WITHIN RANGE	0834
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	

SPECIFIC CONDUCTIVITY CALIBRATION CHECK

CAL. READING (LOT #): A/C (EXP. DATE): PRE-CAL. READING / STANDARD	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
4.47 / 4.49	18.42	☐ WITHIN RANGE	0834
Post 4.49 / 4.49	18.50	☒ WITHIN RANGE	0834
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

ORP CALIBRATION CHECK

CAL. READING (LOT #): 21390144 (EXP. DATE): 11/23 PRE-CAL. READING / STANDARD	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
225 / 228	18.43	☐ WITHIN RANGE	0840
Post 228 / 228	18.39	☒ WITHIN RANGE	0840
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

D.O. CALIBRATION CHECK

CALIBRATION READING mg/L	CAL. RANGE	TIME
Baro: 770 mmHg Temp: 18.5°C Calc: 9.5 mg/L Actual: 9.6 mg/L	☒ WITHIN RANGE	0857
	☐ WITHIN RANGE	
	☐ WITHIN RANGE	
	☐ WITHIN RANGE	

TURBIDITY CALIBRATION CHECK

CALIBRATION READING (NTU) (LOT #): — (EXP. DATE): — PRE-CAL. READING / STANDARD	(LOT #): — (EXP. DATE): — POST-CAL. READING / STANDARD	CAL. RANGE	TIME
0.60 / 0	0.0 / 0	☒ WITHIN RANGE	0855
1.43 / 1	1.08 / 1	☐ WITHIN RANGE	
13.81 / 10	9.03 / 10	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	

COMMENTS

☑ AUTOCAL SOLUTION (LOT #): 22250153 (EXP. DATE): 11/23	☐ STANDARD SOLUTION (S) LIST LOT NUMBERS AND EXPIRATION DATES UNDER CALIBRATION CHECK
CALIBRATED PARAMETERS	CALIBRATION RANGES [1]
☑ pH	pH: +/- 0.2 S.U.
☑ COND	COND: +/- 1% OF CAL. STANDARD
☐ ORP	ORP: +/- 25 mV
☐ D.O.	D.O.: VARIES
☐ TURB	TURB: +/- 5% OF CAL. STANDARD
☐ _____	[1] CALIBRATION RANGES ARE SPECIFIC TO THE MODEL OF THE WATER QUALITY METER
☐ _____	

NOTES

S/N 15114111

PROBLEMS ENCOUNTERED	CORRECTIVE ACTIONS
none	none

SIGNED _____ DATE 3.23.23

CHECKED BY Jacob Bradley DATE 3-27-23

REVISED 06/2011

TRC

WATER QUALITY METER CALIBRATION LOG

PROJECT NAME:	Williams Station Hwy 52	MODEL: AQUA TROLL 400	SAMPLER: (BM) / AM / RC
PROJECT NO.:	416559.0006.0000	SERIAL #: 851425	DATE: 3.23.23

PH CALIBRATION CHECK

pH 7 (LOT #): 2216893 (EXP. DATE): 11/23 PRE-CAL. READING / STANDARD	A/C (pH) 4 / 10 (LOT #): 22250153 (EXP. DATE): 11/23 PRE-CAL. READING / STANDARD	CAL. RANGE	TIME
6.87 / 7.00	4.16 / 4.00	☐ WITHIN RANGE	0834
Post 7.00 / 7.00	4.01 / 4.00	☐ WITHIN RANGE	0834
/	/	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	

SPECIFIC CONDUCTIVITY CALIBRATION CHECK

CAL. READING (LOT #): A/C (EXP. DATE): PRE-CAL. READING / STANDARD	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
4.49 / 4.49	18.56	☐ WITHIN RANGE	0834
Post 4.49 / 4.49	18.61	☐ WITHIN RANGE	0834
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

ORP CALIBRATION CHECK

CAL. READING (LOT #): 21390144 (EXP. DATE): 11/23 PRE-CAL. READING / STANDARD	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
225 / 228	18.47	☐ WITHIN RANGE	0840
Post 228 / 228	18.51	☐ WITHIN RANGE	0840
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

D.O. CALIBRATION CHECK

CALIBRATION READING mg/L	CAL. RANGE	TIME
Baro: 770 mmHg Temp: 18.5 Calc: 9.5 Actual: 9.4	☐ WITHIN RANGE	0837
	☐ WITHIN RANGE	
	☐ WITHIN RANGE	
	☐ WITHIN RANGE	

TURBIDITY CALIBRATION CHECK

CALIBRATION READING (NTU) (LOT #): — (EXP. DATE): — PRE-CAL. READING / STANDARD	(LOT #): — (EXP. DATE): — POST-CAL. READING / STANDARD	CAL. RANGE	TIME
0.27 / 0	0.0 / 0	☐ WITHIN RANGE	0855
1.0 / 1	0.96 / 1	☐ WITHIN RANGE	
9.70 / 10	9.81 / 10	☐ WITHIN RANGE	
/	/	☐ WITHIN RANGE	

COMMENTS

☑ AUTOCAL SOLUTION (LOT #): 22250153 (EXP. DATE): 11/23	☐ STANDARD SOLUTION (S) LIST LOT NUMBERS AND EXPIRATION DATES UNDER CALIBRATION CHECK
CALIBRATED PARAMETERS	CALIBRATION RANGES [1]
☑ pH	pH: +/- 0.2 S.U.
☑ COND	COND: +/- 1% OF CAL. STANDARD
☐ ORP	ORP: +/- 25 mV
☐ D.O.	D.O.: VARIES
☐ TURB	TURB: +/- 5% OF CAL. STANDARD
☐ _____	[1] CALIBRATION RANGES ARE SPECIFIC TO THE MODEL OF THE WATER QUALITY METER
☐ _____	

NOTES

S/N 18373919

PROBLEMS ENCOUNTERED	CORRECTIVE ACTIONS
none	none

SIGNED — 3.23.23 DATE

CHECKED BY — 3-27-23 DATE

REVISED 06/2011

GEL Laboratories LLC
a member of The GEL Group INC

PO Box 30712 Charleston, SC 29417
2040 Savage Road Charleston, SC 29407
P 843.556.8171
F 843.766.1178

gel.com

April 06, 2023

Kelly Hicks
Dominion Energy Services, Inc.
120 Tredegar Street
Richmond, Virginia 23219

Re: CCR Groundwater Monitoring - Level 1 Package
Work Order: 615829

Dear Kelly Hicks:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on March 23, 2023. This revised data report has been prepared and reviewed in accordance with GEL's standard operating procedures. The client requested a revised report to include the correct Chain of Custody.

Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without approval by the laboratory. Copies of GEL's accreditations and certifications can be found on our website at www.gel.com.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 1648.

Sincerely,

Meredith Boddiford

Meredith Boddiford
Project Manager

Purchase Order: 50149867
Enclosures

Table of Contents

Case Narrative

The client requested a revised report to include the correct Chain of Custody.

Receipt Narrative
for
Dominion Energy (50149867)
SDG: 615829

April 06, 2023

Laboratory Identification:

GEL Laboratories LLC
2040 Savage Road
Charleston, South Carolina 29407
(843) 556-8171

Summary:

Sample receipt: The samples arrived at GEL Laboratories LLC, Charleston, South Carolina on March 23, 2023 for analysis. The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. There are no additional comments concerning sample receipt.

Sample Identification: The laboratory received the following samples:

Laboratory ID	Client ID
615829001	MW-LF-10-2023Q1
615829002	MW-LF-11-2023Q1
615829003	MW-LF-20-2023Q1
615829004	MW-LF-21-2023Q1
615829005	MW-LF-22D-2023Q1
615829006	MW-LF-23D-2023Q1
615829007	DU-W52-CCR-23101
615829008	FBLK-W52-CCR-23101
615829009	MW-LF-24-2023Q1
615829010	MW-LF-25-2023Q1
615829011	MW-LF-26-2023Q1
615829012	MW-LF-27-2023Q1
615829013	MW-LF-28-2023Q1
615829014	FBLK-W52-CCR-23102

Case Narrative:

Sample analyses were conducted using methodology as outlined in GEL's Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are contained in the analytical case narratives in the enclosed data package.

The enclosed data package contains the following sections: Case Narrative, Chain of Custody, Cooler Receipt Checklist, Data Package Qualifier Definitions and data from the following fractions: General Chemistry and Metals.

Meredith Boddiford

Meredith Boddiford
Project Manager

Chain of Custody and Supporting Documentation

Page: 1 of 2
Project # 416559.0006.0000.3.2
GEL Quote #:
COC Number (1): 2023032201
PO Number: PO 50149867

GEL Laboratories LLC
gel.com
Chemistry | Radiochemistry | Radiobioassay | Specialty Analytics

Chain of Custody and Analytical Request

MB 3/10/23 ~~615558~~ 615829

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

C2 - C3

GEL Work Order Number: 228355

GEL Project Manager: Meredith Boddiford

Client Name: Dominion Energy — Phone # 803-258-1528

Project/Site Name: Williams Station Hwy 52 Landfill CCR 2023Q1 — Fax #

Address: Goose Creek, South Carolina

Collected By: B. Medlin / A. Misiunas — Send Results To: AReed@envstd.com

SDG: 615829 Page 6 of 7

Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Should this sample be considered: Radioactive (If yes, please supply isotopic info.)	Should this sample be considered: (7) Known or possible Hazards	Total number of containers	TDS SM2540C	Cl, Fl, SO4 EPA 300.0	Total Metals - B, Ca NI EPA 200.8	<-- Preservative Type (6)	Comments Note: extra sample is required for sample specific QC
MW-LF-10-2023Q1	3-23-23	0945	N	N	GW	N		3	1	1	1		
MW-LF-11-2023Q1	3-22-23	1630	N	N	GW	N		3	1	1	1		
MW-LF-20-2023Q1	3-22-23	1520	N	N	GW	N		3	1	1	1		see attached work
MW-LF-21-2023Q1	3-23-23	1308	N	N	GW	N		3	1	1	1		order for details
MW-LF-22D-2023Q1	3-23-23	1155	N	N	GW	N		3	1	1	1		
MW-LF-23D-2023Q1	3-23-23	0942	N	N	GW	N		3	1	1	1		
DU-W52-CCR-23101	3-22-23	/	FD	N	GW	N		3	1	1	1		
FBLK-W52-CCR-23101	3-22-23	1650	FB	N	AQ	N		3	1	1	1		

Sample Analysis Requested (5) (Fill in the number of containers for each test)

Chain of Custody Signatures

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1	03/23/23	1500	1	03/23/23	1500
2			2		
3			3		

TAT Requested: Normal: X Rush: ____ Specify: ____

Fax Results: [ ] Yes [X] No

Select Deliverable: [ ] C of A [ ] QC Summary [ ] level 1 [ ] Level 2 [ ] Level 3 [X] Level 4

Additional Remarks:

For Lab Receiving Use Only: *Custody Seal Intact?* [ ] *Yes* [ ] *No* ***Cooler Temp:*** ____ °C

> ***For sample shipping and delivery details, see Sample Receipt & Review form (SRR.)***

Sample Collection Time Zone: [X] Eastern [ ] Pacific [ ] Central [ ] Mountain [ ] Other:

1.) Chain of Custody Number = Client Determined

2.) QC Codes: **N** = Normal Sample, **TB** = Trip Blank, **FD** = Field Duplicate, **EB** = Equipment Blank, **MS** = Matrix Spike Sample, **MSD** = Matrix Spike Duplicate Sample, **G** = Grab, **C** = Composite

3.) Field Filtered: For liquid matrices, indicate with a - **Y** - for yes the sample was field filtered or - **N** - for sample was not field filtered.

4.) Matrix Codes: **DW**=Drinking Water, **GW**=Groundwater, **SW**=Surface Water, **WW**=Waste Water, **W**=Water, **ML**=Misc Liquid, **SO**=Soil, **SD**=Sediment, **SL**=Sludge, **SS**=Solid Waste, **O**=Oil, **F**=Filter, **P**=Wipe, **U**=Urine, **F**=Fecal, **N**=Nasal

5.) Sample Analysis Requested: Analytical method requested (i.e. **8260B**, **6010B/7470A**) and number of containers provided for each (i.e. *8260B* - **3**, *6010B/7470A* - **1**).

6.) Preservative Type: **HA** = Hydrochloric Acid, **NI** = Nitric Acid, **SH** = Sodium Hydroxide, **SA** = Sulfuric Acid, **AA** = Ascorbic Acid, **HX** = Hexane, **ST** = Sodium Thiosulfate, If no preservative is added = leave field blank

7.) **KNOWN OR POSSIBLE HAZARDS**

RCRA Metals
As = Arsenic **Hg**= Mercury
Ba = Barium **Se**= Selenium
Cd = Cadmium **Ag**= Silver
Cr = Chromium **MR**= Misc. RCRA metals
Pb = Lead

Characteristic Hazards
FL = Flammable/Ignitable
CO = Corrosive
RE = Reactive

TSCA Regulated
PCB = Polychlorinated biphenyls

Listed Waste
LW= Listed Waste
(F,K,P and U-listed wastes.)
Waste code(s):

Other
OT= Other / Unknown
(i.e.: High/low pH, asbestos, beryllium, irritants, other misc. health hazards, etc.)
Description:

Please provide any additional details below regarding handling and/or disposal concerns. *(i.e.: Origin of sample(s), type of site collected from, odd matrices, etc.)*

Page: 2 of 2
Project # 416559.0006.0000.3.2
GEL Quote #:
COC Number (1): 2023032202
PO Number: PO 50149867

GEL Laboratories LLC
gel.com
Chemistry | Radiochemistry | Radiobioassay | Specialty Analytics

Chain of Custody and Analytical Request

GEL Work Order Number: 228355

GEL Project Manager: Meredith Boddiford

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

C2-C3

Client Name: Dominion Energy — Phone # 803-258-1528

Project/Site Name: Williams Station Hwy 52 Landfill CCR 2023Q1 — Fax #

Address: Goose Creek, South Carolina

Collected By: B. Medlin / A. Misiunas — Send Results To: AReed@envstd.com

SDG: 615896 Page 9 of 76

Sample ID (* For composites - indicate start and stop date/time)	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Should this sample be considered: Radioactive (If yes, please supply isotopic info.)	Should this sample be considered: (7) Known or possible Hazards	Total number of containers	TDS SM2540C	Cl, FL, SO4 EPA 300.0	Total Metals - B, Ca NI EPA 200.8	<-- Preservative Type (6)	Comments
MW-LF-24-2023Q1	3-23-23	1100	N	N	GW	N		3	1	1	1		
MW-LF-25-2023Q1	3-23-23	1215	N	N	GW	N		3	1	1	1		
MW-LF-26-2023Q1	3-23-23	0940	N	N	GW	N		3	1	1	1		see attached work
MW-LF-27-2023Q1	3-23-23	1150	N	N	GW	N		3	1	1	1		order for details
MW-LF-28-2023Q1 /MS/MSD	3-22-23	1546	N	N	GW	N		6	2	2	2		
FBLK-W52-CCR-23102	3-23-23	0955	FB	N	AQ	N		3	1	1	1		

Chain of Custody Signatures

	Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1		03/23/23	1500		3/23/23	1500
2						
3						

TAT Requested: Normal: X Rush: Specify:

Fax Results: [ ] Yes [X] No

Select Deliverable: [ ] C of A [ ] QC Summary [ ] level 1 [ ] Level 2 [ ] Level 3 [X] Level 4

Additional Remarks:

For Lab Receiving Use Only: *Custody Seal Intact?* [ ] Yes [ ] No ***Cooler Temp:*** °C

> ***For sample shipping and delivery details, see Sample Receipt & Review form (SRR.)***

Sample Collection Time Zone: [X] Eastern [ ] Pacific [ ] Central [ ] Mountain [ ] Other:

1.) Chain of Custody Number = Client Determined

2.) QC Codes: **N** = Normal Sample, **TB** = Trip Blank, **FD** = Field Duplicate, **EB** = Equipment Blank, **MS** = Matrix Spike Sample, **MSD** = Matrix Spike Duplicate Sample, **G** = Grab, **C** = Composite

3.) Field Filtered: For liquid matrices, indicate with a **- Y -** for yes the sample was field filtered or **- N -** for sample was not field filtered.

4.) Matrix Codes: **DW**=Drinking Water, **GW**=Groundwater, **SW**=Surface Water, **WW**=Waste Water, **W**=Water, **ML**=Misc Liquid, **SO**=Soil, **SD**=Sediment, **SL**=Sludge, **SS**=Solid Waste, **O**=Oil, **F**=Filter, **P**=Wipe, **U**=Urine, **F**=Fecal, **N**=Nasal

5.) Sample Analysis Requested: Analytical method requested (i.e. **8260B, 6010B/7470A**) and number of containers provided for each (i.e. *8260B* - **3**, *6010B/7470A* - **1**).

6.) Preservative Type: **HA** = Hydrochloric Acid, **NI** = Nitric Acid, **SH** = Sodium Hydroxide, **SA** = Sulfuric Acid, **AA** = Ascorbic Acid, **HX** = Hexane, **ST** = Sodium Thiosulfate, If no preservative is added = leave field blank

7.) **KNOWN OR POSSIBLE HAZARDS**

RCRA Metals
As = Arsenic **Hg**= Mercury
Ba = Barium **Se**= Selenium
Cd = Cadmium **Ag**= Silver
Cr = Chromium **MR**= Misc. RCRA metals
Pb = Lead

Characteristic Hazards
FL = Flammable/Ignitable
CO = Corrosive
RE = Reactive

TSCA Regulated
PCB = Polychlorinated biphenyls

Listed Waste
LW= Listed Waste
(F,K,P and U-listed wastes.)
Waste code(s):

Other
OT= Other / Unknown
(i.e.: High/low pH, asbestos, beryllium, irritants, other misc. health hazards, etc.)
Description:

Please provide any additional details below regarding handling and/or disposal concerns. *(i.e.: Origin of sample(s), type of site collected from, odd matrices, etc.)*

3/23/23 SS

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: ~~DOMNR~~ DMNR	SDG/AR/COC/Work Order: ~~615558~~ 615829
Received By:	Date Received: 3/23/23 MR 4/6/23
Enter one tracking number per line below.	IR temperature gun # IR1-23 Daily Calibration performed? (Y) / N
Enter courier if applicable and no tracking available.	Uncorrected temperature readings are to the 0.1 degree with final recorded tepmeratures rounded to the 0.5 degree. Provide individual container details when a cooler requiring 0 </=6oC is identified as out of specification.
Cooler 1	Uncorrected Temp: 1.0 IR Correction Factor: + / - 0 Final Recorded Temp: 1.0 Within 0.0-6.0C? (Y) / N
Cooler 2	Uncorrected Temp: 4.5 IR Correction Factor: + / - 0 Final Recorded Temp: 4.5 Within 0.0-6.0C? (Y) / N
Cooler 3	Uncorrected Temp: 2.3 IR Correction Factor: + / - 0 Final Recorded Temp: 2.5 Within 0.0-6.0C? (Y) / N
Cooler 4	Uncorrected Temp: 0.3 IR Correction Factor: + / - 0 Final Recorded Temp: 0.5 Within 0.0-6.0C? (Y) / N
Cooler 6	Uncorrected Temp: 1.2 IR Correction Factor: + / - 0 Final Recorded Temp: 1.0 Within 0.0-6.0C? (Y) / N
	Uncorrected Temp: IR Correction Factor: + / - Final Recorded Temp: Within 0.0-6.0C? Y / N

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

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	X			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2	Chain of custody documents included with shipment?	X			Circle Applicable: Client contacted and provided COC COC created upon receipt
3	Sample containers intact and sealed?	X			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
4	Samples requiring chemical preservation at proper pH?	X			Sample ID's and Containers Affected: If Preservation added, Lot#:
5	Do any samples require Volatile Analysis?				If Yes, are Encores or Soil Kits present for solids? Yes___ No___ NA___(If yes, take to VOA Freezer) Do liquid VOA vials contain acid preservation? Yes___ No___ NA___(If unknown, select No) Are liquid VOA vials free of headspace? Yes___ No___ NA___ Sample ID's and containers affected:
6	Samples received within holding time?	X			ID's and tests affected:
7	Sample ID's on COC match ID's on bottles?	X			ID's and containers affected:
8	Date & time on COC match date & time on bottles?	X			Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
9	Number of containers received match number indicated on COC?	X			Circle Applicable: No container count on COC Other (describe)
10	Are sample containers identifiable as GEL provided by use of GEL labels?	X			
11	COC form is properly signed in relinquished/received sections?	X			Circle Applicable: Not relinquished Other (describe)

Comments (Use Continuation Form if needed):

PM (or PMA) review: Initials MG Date 3/24/23 Page 1 of 1

GL-CHL-SR-001A

GL-CHL-SR-001A

Laboratory Certifications

List of current GEL Certifications as of 06 April 2023

State	Certification
Alabama	42200
Alaska	17-018
Alaska Drinking Water	SC00012
Arkansas	88-0651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH-0169
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330-15-00283, P330-15-00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho	SC00012
Illinois NELAP	200029
Indiana	C-SC-01
Kansas NELAP	E-10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana Drinking Water	LA024
Louisiana NELAP	03046 (AI33904)
Maine	2019020
Maryland	270
Massachusetts	M-SC012
Massachusetts PFAS Approv	Letter
Michigan	9976
Mississippi	SC00012
Nebraska	NE-OS-26-13
Nevada	SC000122023-4
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R-158
Oklahoma	2022-160
Pennsylvania NELAP	68-00485
Puerto Rico	SC00012
S. Carolina Radiochem	10120002
Sanitation Districts of L	9255651
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235-22-20
Utah NELAP	SC000122022-37
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

Metals Analysis

Case Narrative

Metals
Technical Case Narrative
Dominion Energy
SDG #: 615829

Product: Determination of Metals by ICP-MS
Analytical Method: EPA 200.8 SC_NPDES
Analytical Procedure: GL-MA-E-014 REV# 35
Analytical Batch: 2404522

Preparation Method: EPA 200.2
Preparation Procedure: GL-MA-E-016 REV# 18
Preparation Batch: 2404521

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

GEL Sample ID#	Client Sample Identification
615829001	MW-LF-10-2023Q1
615829002	MW-LF-11-2023Q1
615829003	MW-LF-20-2023Q1
615829004	MW-LF-21-2023Q1
615829005	MW-LF-22D-2023Q1
615829006	MW-LF-23D-2023Q1
615829007	DU-W52-CCR-23101
615829008	FBLK-W52-CCR-23101
615829009	MW-LF-24-2023Q1
615829010	MW-LF-25-2023Q1
615829011	MW-LF-26-2023Q1
615829012	MW-LF-27-2023Q1
615829013	MW-LF-28-2023Q1
615829014	FBLK-W52-CCR-23102
1205357707	Method Blank (MB)**ICP-MS**
1205357708	Laboratory Control Sample (LCS)
1205357711	615829012(MW-LF-27-2023Q1L) Serial Dilution (SD)
1205357714	615829013(MW-LF-28-2023Q1L) Serial Dilution (SD)
1205357709	615829012(MW-LF-27-2023Q1D) Sample Duplicate (DUP)
1205357712	615829013(MW-LF-28-2023Q1D) Sample Duplicate (DUP)
1205357710	615829012(MW-LF-27-2023Q1S) Matrix Spike (MS)
1205357713	615829013(MW-LF-28-2023Q1S) Matrix Spike (MS)

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

Data Summary:

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

Calibration Information

ICSA/ICSAB Statement
For the ICP-MS analysis, the ICSA solution contains analyte concentrations which are verified trace impurities indigenous to the purchased standard.

Technical Information

Sample Dilutions
Dilutions may be required for many reasons, including to minimize matrix interferences or to bring over range target analyte concentrations into the linear calibration range. Samples 615829001 (MW-LF-10-2023Q1), 615829003 (MW-LF-20-2023Q1), 615829004 (MW-LF-21-2023Q1), 615829005 (MW-LF-22D-2023Q1), 615829006 (MW-LF-23D-2023Q1), 615829007 (DU-W52-CCR-23101), 615829009 (MW-LF-24-2023Q1), 615829010 (MW-LF-25-2023Q1) and 615829011 (MW-LF-26-2023Q1) were diluted to ensure that the analyte concentrations were within the linear calibration range of the instrument.

Analyte	615829								
	001	**003**	**004**	**005**	**006**	**007**	**009**	**010**	**011**
Boron	1X	5X	5X	5X	5X	5X	1X	1X	1X
Calcium	10X	5X	5X	5X	5X	5X	10X	10X	10X

Miscellaneous Information

Additional Comments
All method-driven specifications are followed for these analyses except where client-specific SOW requirements are required to be met.

Certification Statement

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

GEL LABORATORIES LLC

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

Qualifier Definition Report
for

DMNN001 Dominion Energy (50149867)

Client SDG: 615829 GEL Work Order: 615829

The Qualifiers in this report are defined as follows:

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

Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this data report:

Signature:  **Name: Edmund Frampton**

Date: 30 MAR 2023 **Title: Group Leader**

Sample Data Summary

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 615829 **CONTRACT:** DMNN00101 **METHOD TYPE:** EPA

SAMPLE ID: 615829001 **BASIS:** As Received **DATE COLLECTED** 23-MAR-23

CLIENT ID: MW-LF-10-2023Q1 **LEVEL:** Low **DATE RECEIVED:** 23-MAR-23

MATRIX: GW **%SOLIDS:** 0

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-42-8	Boron	64.0	ug/L		4.00	15.0	15.0	1	MS	PRB	03/28/23 22:29	230328-5	2404522
7440-70-2	Calcium	57400	ug/L		300	1000	1000	10	MS	PRB	03/29/23 11:13	230329-1	2404522

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2404522	2404521	EPA 200.2	50	mL	50	mL	03/28/23	JD2

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 615829 **CONTRACT:** DMNN00101 **METHOD TYPE:** EPA

SAMPLE ID: 615829002 **BASIS:** As Received **DATE COLLECTED** 22-MAR-23

CLIENT ID: MW-LF-11-2023Q1 **LEVEL:** Low **DATE RECEIVED:** 23-MAR-23

MATRIX: GW **%SOLIDS:** 0

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-42-8	Boron	25.9	ug/L		4.00	15.0	15.0	1	MS	PRB	03/28/23 22:32	230328-5	2404522
7440-70-2	Calcium	14600	ug/L		30.0	100	100	1	MS	PRB	03/29/23 11:15	230329-1	2404522

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2404522	2404521	EPA 200.2	50	mL	50	mL	03/28/23	JD2

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 615829 **CONTRACT:** DMNN00101 **METHOD TYPE:** EPA

SAMPLE ID: 615829003 **BASIS:** As Received **DATE COLLECTED** 22-MAR-23

CLIENT ID: MW-LF-20-2023Q1 **LEVEL:** Low **DATE RECEIVED:** 23-MAR-23

MATRIX: GW **%SOLIDS:** 0

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-42-8	Boron	200	ug/L		20.0	75.0	75.0	5	MS	PRB	03/29/23 15:41	230329-4	2404522
7440-70-2	Calcium	140000	ug/L		150	500	500	5	MS	PRB	03/29/23 11:17	230329-1	2404522

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2404522	2404521	EPA 200.2	50	mL	50	mL	03/28/23	JD2

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 615829 **CONTRACT:** DMNN00101 **METHOD TYPE:** EPA

SAMPLE ID: 615829004 **BASIS:** As Received **DATE COLLECTED** 23-MAR-23

CLIENT ID: MW-LF-21-2023Q1 **LEVEL:** Low **DATE RECEIVED:** 23-MAR-23

MATRIX: GW **%SOLIDS:** 0

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-42-8	Boron	198	ug/L		20.0	75.0	75.0	5	MS	PRB	03/29/23 15:43	230329-4	2404522
7440-70-2	Calcium	120000	ug/L		150	500	500	5	MS	PRB	03/29/23 11:23	230329-1	2404522

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2404522	2404521	EPA 200.2	50	mL	50	mL	03/28/23	JD2

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 615829 **CONTRACT:** DMNN00101 **METHOD TYPE:** EPA

SAMPLE ID: 615829005 **BASIS:** As Received **DATE COLLECTED** 23-MAR-23

CLIENT ID: MW-LF-22D-2023Q1 **LEVEL:** Low **DATE RECEIVED:** 23-MAR-23

MATRIX: GW **%SOLIDS:** 0

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-42-8	Boron	324	ug/L		20.0	75.0	75.0	5	MS	PRB	03/29/23 15:45	230329-4	2404522
7440-70-2	Calcium	80100	ug/L		150	500	500	5	MS	PRB	03/29/23 11:25	230329-1	2404522

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2404522	2404521	EPA 200.2	50	mL	50	mL	03/28/23	JD2

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 615829 **CONTRACT:** DMNN00101 **METHOD TYPE:** EPA

SAMPLE ID: 615829006 **BASIS:** As Received **DATE COLLECTED** 23-MAR-23

CLIENT ID: MW-LF-23D-2023Q1 **LEVEL:** Low **DATE RECEIVED:** 23-MAR-23

MATRIX: GW **%SOLIDS:** 0

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-42-8	Boron	291	ug/L		20.0	75.0	75.0	5	MS	PRB	03/29/23 15:47	230329-4	2404522
7440-70-2	Calcium	66000	ug/L		150	500	500	5	MS	PRB	03/29/23 11:27	230329-1	2404522

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2404522	2404521	EPA 200.2	50	mL	50	mL	03/28/23	JD2

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 615829 **CONTRACT:** DMNN00101 **METHOD TYPE:** EPA

SAMPLE ID: 615829007 **BASIS:** As Received **DATE COLLECTED** 22-MAR-23

CLIENT ID: DU-W52-CCR-23101 **LEVEL:** Low **DATE RECEIVED:** 23-MAR-23

MATRIX: GW **%SOLIDS:** 0

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-42-8	Boron	215	ug/L		20.0	75.0	75.0	5	MS	PRB	03/29/23 15:48	230329-4	2404522
7440-70-2	Calcium	142000	ug/L		150	500	500	5	MS	PRB	03/29/23 11:29	230329-1	2404522

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2404522	2404521	EPA 200.2	50	mL	50	mL	03/28/23	JD2

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 615829 **CONTRACT:** DMNN00101 **METHOD TYPE:** EPA

SAMPLE ID: 615829008 **BASIS:** As Received **DATE COLLECTED** 22-MAR-23

CLIENT ID: FBLK-W52-CCR-23101 **LEVEL:** Low **DATE RECEIVED:** 23-MAR-23

MATRIX: AQ **%SOLIDS:** 0

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-42-8	Boron	7.46	ug/L	J	4.00	15.0	15.0	1	MS	PRB	03/28/23 22:52	230328-5	2404522
7440-70-2	Calcium	30.0	ug/L	U	30.0	100	100	1	MS	PRB	03/29/23 11:30	230329-1	2404522

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2404522	2404521	EPA 200.2	50	mL	50	mL	03/28/23	JD2

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 615829 **CONTRACT:** DMNN00101 **METHOD TYPE:** EPA

SAMPLE ID: 615829009 **BASIS:** As Received **DATE COLLECTED** 23-MAR-23

CLIENT ID: MW-LF-24-2023Q1 **LEVEL:** Low **DATE RECEIVED:** 23-MAR-23

MATRIX: GW **%SOLIDS:** 0

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-42-8	Boron	79.6	ug/L		4.00	15.0	15.0	1	MS	PRB	03/28/23 23:03	230328-5	2404522
7440-70-2	Calcium	103000	ug/L		300	1000	1000	10	MS	PRB	03/29/23 11:34	230329-1	2404522

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2404522	2404521	EPA 200.2	50	mL	50	mL	03/28/23	JD2

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 615829 **CONTRACT:** DMNN00101 **METHOD TYPE:** EPA

SAMPLE ID: 615829010 **BASIS:** As Received **DATE COLLECTED** 23-MAR-23

CLIENT ID: MW-LF-25-2023Q1 **LEVEL:** Low **DATE RECEIVED:** 23-MAR-23

MATRIX: GW **%SOLIDS:** 0

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-42-8	Boron	44.4	ug/L		4.00	15.0	15.0	1	MS	PRB	03/28/23 23:06	230328-5	2404522
7440-70-2	Calcium	203000	ug/L		300	1000	1000	10	MS	PRB	03/29/23 11:42	230329-1	2404522

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2404522	2404521	EPA 200.2	50	mL	50	mL	03/28/23	JD2

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 615829 **CONTRACT:** DMNN00101 **METHOD TYPE:** EPA

SAMPLE ID: 615829011 **BASIS:** As Received **DATE COLLECTED** 23-MAR-23

CLIENT ID: MW-LF-26-2023Q1 **LEVEL:** Low **DATE RECEIVED:** 23-MAR-23

MATRIX: GW **%SOLIDS:** 0

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-42-8	Boron	163	ug/L		4.00	15.0	15.0	1	MS	PRB	03/28/23 23:09	230328-5	2404522
7440-70-2	Calcium	152000	ug/L		300	1000	1000	10	MS	PRB	03/29/23 11:46	230329-1	2404522

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2404522	2404521	EPA 200.2	50	mL	50	mL	03/28/23	JD2

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 615829 **CONTRACT:** DMNN00101 **METHOD TYPE:** EPA

SAMPLE ID: 615829012 **BASIS:** As Received **DATE COLLECTED** 23-MAR-23

CLIENT ID: MW-LF-27-2023Q1 **LEVEL:** Low **DATE RECEIVED:** 23-MAR-23

MATRIX: GW **%SOLIDS:** 0

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-42-8	Boron	31.1	ug/L		4.00	15.0	15.0	1	MS	PRB	03/28/23 23:13	230328-5	2404522
7440-70-2	Calcium	30200	ug/L		30.0	100	100	1	MS	PRB	03/29/23 11:48	230329-1	2404522

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2404522	2404521	EPA 200.2	50	mL	50	mL	03/28/23	JD2

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 615829 **CONTRACT:** DMNN00101 **METHOD TYPE:** EPA

SAMPLE ID: 615829013 **BASIS:** As Received **DATE COLLECTED** 22-MAR-23

CLIENT ID: MW-LF-28-2023Q1 **LEVEL:** Low **DATE RECEIVED:** 23-MAR-23

MATRIX: GW **%SOLIDS:** 0

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-42-8	Boron	12.6	ug/L	J	4.00	15.0	15.0	1	MS	PRB	03/28/23 23:36	230328-5	2404522
7440-70-2	Calcium	7410	ug/L		30.0	100	100	1	MS	PRB	03/29/23 12:01	230329-1	2404522

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2404522	2404521	EPA 200.2	50	mL	50	mL	03/28/23	JD2

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 615829 **CONTRACT:** DMNN00101 **METHOD TYPE:** EPA

SAMPLE ID: 615829014 **BASIS:** As Received **DATE COLLECTED** 22-MAR-23

CLIENT ID: FBLK-W52-CCR-23102 **LEVEL:** Low **DATE RECEIVED:** 23-MAR-23

MATRIX: AQ **%SOLIDS:** 0

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-42-8	Boron	4.00	ug/L	U	4.00	15.0	15.0	1	MS	PRB	03/28/23 23:53	230328-5	2404522
7440-70-2	Calcium	30.0	ug/L	U	30.0	100	100	1	MS	PRB	03/29/23 12:10	230329-1	2404522

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2404522	2404521	EPA 200.2	50	mL	50	mL	03/28/23	JD2

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

Quality Control Summary

METALS
-2a-
Initial and Continuing Calibration Verification

SDG No: 615829

Contract: DMNN00101 **Lab Code:** GEL

Instrument ID: ICPMS15

Sample ID	*Analyte*	*Result*	*Units*	*True Value*	*Units*	*% Recovery*	*Acceptance Window (%R)*	*M**	*Analysis Date/Time*	*Run Number*
ICV01										
	Boron	103	ug/L	100	ug/L	103.4	90.0 - 110.0	MS	28-MAR-23 21:49	230328-5
	Calcium	4840	ug/L	5000	ug/L	96.7	90.0 - 110.0	MS	29-MAR-23 10:45	230329-1
	Boron	102	ug/L	100	ug/L	102.2	90.0 - 110.0	MS	29-MAR-23 15:28	230329-4
CCV01										
	Boron	101	ug/L	100	ug/L	100.9	90.0 - 110.0	MS	28-MAR-23 22:05	230328-5
	Calcium	5060	ug/L	5000	ug/L	101.3	90.0 - 110.0	MS	29-MAR-23 10:55	230329-1
	Boron	96.9	ug/L	100	ug/L	96.9	90.0 - 110.0	MS	29-MAR-23 15:37	230329-4
CCV02										
	Boron	105	ug/L	100	ug/L	104.5	90.0 - 110.0	MS	28-MAR-23 22:16	230328-5
	Calcium	4780	ug/L	5000	ug/L	95.6	90.0 - 110.0	MS	29-MAR-23 11:01	230329-1
	Boron	103	ug/L	100	ug/L	103	90.0 - 110.0	MS	29-MAR-23 15:56	230329-4
CCV03										
	Boron	100	ug/L	100	ug/L	100	90.0 - 110.0	MS	28-MAR-23 22:56	230328-5
	Calcium	4830	ug/L	5000	ug/L	96.7	90.0 - 110.0	MS	29-MAR-23 11:19	230329-1
CCV04										
	Boron	103	ug/L	100	ug/L	103	90.0 - 110.0	MS	28-MAR-23 23:29	230328-5
	Calcium	5030	ug/L	5000	ug/L	100.5	90.0 - 110.0	MS	29-MAR-23 11:36	230329-1
CCV05										
	Boron	106	ug/L	100	ug/L	106.3	90.0 - 110.0	MS	29-MAR-23 00:06	230328-5
	Calcium	5310	ug/L	5000	ug/L	106.3	90.0 - 110.0	MS	29-MAR-23 11:57	230329-1
CCV06										
	Calcium	4890	ug/L	5000	ug/L	97.8	90.0 - 110.0	MS	29-MAR-23 12:18	230329-1

***Analytical Methods:**

MS EPA 200.8 SC_NPDES

EPA

METALS
-2b-
CRDL Standard for ICP & ICPMS

SDG No: 615829

Contract: DMNN00101 **Lab Code:** GEL

Instrument ID: ICPMS15

Sample ID	*Analyte*	*Result*	*Units*	*True Value*	*Units*	*% Recovery*	*Advisory Limits (%R)*	*M**	*Analysis Date/Time*	*Run Number*
CRDL01										
	Boron	16.7	ug/L	15	ug/L	111.5	70.0 - 130.0	MS	28-MAR-23 21:55	230328-5
	Calcium	223	ug/L	200	ug/L	111.4	70.0 - 130.0	MS	29-MAR-23 10:49	230329-1
	Boron	18.6	ug/L	15	ug/L	123.8	70.0 - 130.0	MS	29-MAR-23 15:32	230329-4
CRDL02										
	Boron	17	ug/L	15	ug/L	113.6	70.0 - 130.0	MS	28-MAR-23 23:56	230328-5
	Calcium	235	ug/L	200	ug/L	117.6	70.0 - 130.0	MS	29-MAR-23 12:12	230329-1
	Boron	17.1	ug/L	15	ug/L	114.1	70.0 - 130.0	MS	29-MAR-23 15:50	230329-4

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

Metals
-3a-
Initial and Continuing Calibration Blank Summary

SDG No.: 615829

Contract: DMNN00101

Lab Code: GEL

Sample ID	Analyte	Result ug/L	Acceptance	Conc Qual	MDL	RDL	Matrix	M*	Analysis Date/Time	Run
ICB01										
	Boron	4.0	+/-7.5	U	4.0	15.0	LIQ	MS	28-MAR-23 21:52	230328-5
	Calcium	30.0	+/-50	U	30.0	100	LIQ	MS	29-MAR-23 10:47	230329-1
	Boron	4.0	+/-7.5	U	4.0	15.0	LIQ	MS	29-MAR-23 15:30	230329-4
CCB01										
	Boron	4.0	+/-7.5	U	4.0	15.0	LIQ	MS	28-MAR-23 22:09	230328-5
	Calcium	30.0	+/-50	U	30.0	100	LIQ	MS	29-MAR-23 10:57	230329-1
	Boron	4.0	+/-7.5	U	4.0	15.0	LIQ	MS	29-MAR-23 15:39	230329-4
CCB02										
	Boron	4.0	+/-7.5	U	4.0	15.0	LIQ	MS	28-MAR-23 22:19	230328-5
	Calcium	30.0	+/-50	U	30.0	100	LIQ	MS	29-MAR-23 11:02	230329-1
	Boron	4.0	+/-7.5	U	4.0	15.0	LIQ	MS	29-MAR-23 15:58	230329-4
CCB03										
	Boron	4.0	+/-7.5	U	4.0	15.0	LIQ	MS	28-MAR-23 22:59	230328-5
	Calcium	30.0	+/-50	U	30.0	100	LIQ	MS	29-MAR-23 11:21	230329-1
CCB04										
	Boron	4.0	+/-7.5	U	4.0	15.0	LIQ	MS	28-MAR-23 23:33	230328-5
	Calcium	30.0	+/-50	U	30.0	100	LIQ	MS	29-MAR-23 11:38	230329-1
CCB05										
	Boron	4.0	+/-7.5	U	4.0	15.0	LIQ	MS	29-MAR-23 00:10	230328-5
	Calcium	30.0	+/-50	U	30.0	100	LIQ	MS	29-MAR-23 11:59	230329-1
CCB06										
	Calcium	30.0	+/-50	U	30.0	100	LIQ	MS	29-MAR-23 12:20	230329-1

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

EPA

METALS
-3b-
PREPARATION BLANK SUMMARY

SDG NO. 615829
Contract: DMNN00101
Matrix: GW

Sample ID	Analyte	Result	Units	Acceptance Window	Conc Qual	M*	MDL	RDL
1205357707								
	Calcium	30.0	ug/L	+/-50	U	MS	30.0	100
	Boron	4.00	ug/L	+/-7.5	U	MS	4.00	15.0

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-4-
Interference Check Sample

SDG No: 615829

Contract: DMNN00101 **Lab Code:** GEL

Instrument: ICPMS15

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	Analysis Date/Time	Run Number
ICSA01									
	Calcium	93200	ug/L	100000	ug/L	93.2	80.0 - 120.0	29-MAR-23 10:51	230329-1
ICSAB01									
	Calcium	93600	ug/L	100000	ug/L	93.7	80.0 - 120.0	29-MAR-23 10:53	230329-1
ICSA02									
	Calcium	90700	ug/L	100000	ug/L	90.7	80.0 - 120.0	29-MAR-23 12:14	230329-1
ICSAB02									
	Calcium	93300	ug/L	100000	ug/L	93.3	80.0 - 120.0	29-MAR-23 12:16	230329-1

METALS
-4-
Interference Check Sample

SDG No: 615829

Contract: DMNN00101 **Lab Code:** GEL

Instrument: ICPMS15

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	Analysis Date/Time	Run Number
ICSA01									
	Boron	3.78	ug/L					29-MAR-23 15:34	230329-4
ICSAB01									
	Boron	22.0	ug/L	22.06	ug/L	99.8	80.0 - 120.0	29-MAR-23 15:35	230329-4
ICSA02									
	Boron	3.21	ug/L					29-MAR-23 15:52	230329-4
ICSAB02									
	Boron	22.4	ug/L	22.06	ug/L	101	80.0 - 120.0	29-MAR-23 15:54	230329-4

METALS
-4-
Interference Check Sample

SDG No: 615829

Contract: DMNN00101 **Lab Code:** GEL

Instrument: ICPMS15

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	Analysis Date/Time	Run Number
ICSA01									
	Boron	4.21	ug/L					28-MAR-23 21:59	230328-5
ICSAB01									
	Boron	23.8	ug/L	22.06	ug/L	108	80.0 - 120.0	28-MAR-23 22:02	230328-5
ICSA02									
	Boron	4.52	ug/L					29-MAR-23 00:00	230328-5
ICSAB02									
	Boron	23.8	ug/L	22.06	ug/L	108	80.0 - 120.0	29-MAR-23 00:03	230328-5

METALS
-5a-

Matrix Spike Summary

SDG NO. 615829 **Client ID:** MW-LF-27-2023Q1S

Contract: DMNN00101 **Level:** Low

Matrix: GROUND WATER **% Solids:**

Sample ID: 615829012 **Spike ID:** 1205357710

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M*
Boron	ug/L	75-125	130		31.1		100	98.4		MS
Calcium	ug/L		34000		30200		2000	192	N/A	MS

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-5a-

Matrix Spike Summary

SDG NO. 615829 **Client ID:** MW-LF-28-2023Q1S

Contract: DMNN00101 **Level:** Low

Matrix: GROUND WATER **% Solids:**

Sample ID: 615829013 **Spike ID:** 1205357713

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M*
Boron	ug/L	75-125	115		12.6	B	100	102		MS
Calcium	ug/L	75-125	9330		7410		2000	95.7		MS

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

Metals
-6-
Duplicate Sample Summary

SDG No.: 615829 **Lab Code:** GEL

Contract: DMNN00101 **Client ID:** MW-LF-27-2023Q1D

Matrix: GROUND WATER **Level:** Low

Sample ID: 615829012 **Duplicate ID:** 1205357709 **Percent Solids for Dup:** N/A

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M*
Boron	ug/L	+/-30	31.1		28.7		7.95		MS
Calcium	ug/L	+/-20%	30200		29600		1.79		MS

***Analytical Methods:**
MS EPA 200.8 SC_NPDES

Metals
-6-
Duplicate Sample Summary

SDG No.: 615829 **Lab Code:** GEL

Contract: DMNN00101 **Client ID:** MW-LF-28-2023Q1D

Matrix: GROUND WATER **Level:** Low

Sample ID: 615829013 **Duplicate ID:** 1205357712 **Percent Solids for Dup:** N/A

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M*
Boron	ug/L	+/-30	12.6	B	10.8	B	15.7		MS
Calcium	ug/L	+/-20%	7410		7020		5.44		MS

***Analytical Methods:**
MS EPA 200.8 SC_NPDES

METALS
-7-
Laboratory Control Sample Summary

SDG NO. 615829

Contract: DMNN00101

Aqueous LCS Source: Enviromental Express **Solid LCS Source:**

Sample ID	Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limit	M*
1205357708								
	Boron	ug/L	100	97.6		97.6	85-115	MS
	Calcium	ug/L	2000	2100		105	85-115	MS

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-9-
Serial Dilution Sample Summary

SDG NO. 615829 **Client ID:** MW-LF-27-2023Q1L

Contract: DMNN00101

Matrix: LIQUID **Level:** Low

Sample ID: 615829012 **Serial Dilution ID:** 1205357711

Analyte	Initial Value ug/L	C	Serial Value ug/L	C	% Difference	Qual	Acceptance Limit	M*
Boron	31.1		47.3	B	52.078			MS
Calcium	30200		30300		.262		10	MS

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-9-
Serial Dilution Sample Summary

SDG NO. 615829 **Client ID:** MW-LF-28-2023Q1L

Contract: DMNN00101

Matrix: LIQUID **Level:** Low

Sample ID: 615829013 **Serial Dilution ID:** 1205357714

Analyte	Initial Value ug/L	C	Serial Value ug/L	C	% Difference	Qual	Acceptance Limit	M*
Boron	12.6	B	33.3	B	164.839			MS
Calcium	7410		6790		8.408		10	MS

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-13-
SAMPLE PREPARATION SUMMARY

SDG No: 615829 **Method Type:** MS

Contract: DMNN00101 **Lab Code:** GEL

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size	Final Sample Volume	Percent Solids
Batch Number	2404521						
1205357707	MB for batch 2404521	MB	G	28-MAR-23	50mL	50mL	
1205357708	LCS for batch 2404521	LCS	G	28-MAR-23	50mL	50mL	
1205357710	MW-LF-27-2023Q1S	MS	G	28-MAR-23	50mL	50mL	
1205357713	MW-LF-28-2023Q1S	MS	G	28-MAR-23	50mL	50mL	
1205357709	MW-LF-27-2023Q1D	DUP	G	28-MAR-23	50mL	50mL	
1205357712	MW-LF-28-2023Q1D	DUP	G	28-MAR-23	50mL	50mL	
615829001	MW-LF-10-2023Q1	SAMPLE	G	28-MAR-23	50mL	50mL	
615829002	MW-LF-11-2023Q1	SAMPLE	G	28-MAR-23	50mL	50mL	
615829003	MW-LF-20-2023Q1	SAMPLE	G	28-MAR-23	50mL	50mL	
615829004	MW-LF-21-2023Q1	SAMPLE	G	28-MAR-23	50mL	50mL	
615829005	MW-LF-22D-2023Q1	SAMPLE	G	28-MAR-23	50mL	50mL	
615829006	MW-LF-23D-2023Q1	SAMPLE	G	28-MAR-23	50mL	50mL	
615829007	DU-W52-CCR-23101	SAMPLE	G	28-MAR-23	50mL	50mL	
615829008	FBLK-W52-CCR-23101	SAMPLE	G	28-MAR-23	50mL	50mL	
615829009	MW-LF-24-2023Q1	SAMPLE	G	28-MAR-23	50mL	50mL	
615829010	MW-LF-25-2023Q1	SAMPLE	G	28-MAR-23	50mL	50mL	
615829011	MW-LF-26-2023Q1	SAMPLE	G	28-MAR-23	50mL	50mL	
615829012	MW-LF-27-2023Q1	SAMPLE	G	28-MAR-23	50mL	50mL	
615829013	MW-LF-28-2023Q1	SAMPLE	G	28-MAR-23	50mL	50mL	

EPA

METALS
-13-
SAMPLE PREPARATION SUMMARY

SDG No: 615829 **Method Type:** MS

Contract: DMNN00101 **Lab Code:** GEL

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size	Final Sample Volume	Percent Solids
615829014	FBLK-W52-CCR-23102	SAMPLE	G	28-MAR-23	50mL	50mL	

EPA

General Chem Analysis

Case Narrative

General Chemistry
Technical Case Narrative
Dominion Energy
SDG #: 615829

Product: **Ion Chromatography**
Analytical Method: EPA 300.0
Analytical Procedure: GL-GC-E-086 REV# 30
Analytical Batch: 2404775

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

GEL Sample ID#	Client Sample Identification
615829001	MW-LF-10-2023Q1
615829002	MW-LF-11-2023Q1
615829003	MW-LF-20-2023Q1
615829004	MW-LF-21-2023Q1
615829005	MW-LF-22D-2023Q1
615829006	MW-LF-23D-2023Q1
615829007	DU-W52-CCR-23101
615829008	FBLK-W52-CCR-23101
615829009	MW-LF-24-2023Q1
615829010	MW-LF-25-2023Q1
615829011	MW-LF-26-2023Q1
615829012	MW-LF-27-2023Q1
615829013	MW-LF-28-2023Q1
615829014	FBLK-W52-CCR-23102
1205358263	Method Blank (MB)
1205358264	Laboratory Control Sample (LCS)
1205358265	615829013(MW-LF-28-2023Q1) Sample Duplicate (DUP)
1205358266	615829013(MW-LF-28-2023Q1) Post Spike (PS)
1205358267	615829001(MW-LF-10-2023Q1) Sample Duplicate (DUP)
1205358268	615829001(MW-LF-10-2023Q1) Post Spike (PS)

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

Data Summary:

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

Technical Information

Sample Dilutions
The following samples 1205358267 (MW-LF-10-2023Q1DUP), 1205358268 (MW-LF-10-2023Q1PS), 615829001 (MW-LF-10-2023Q1), 615829003 (MW-LF-20-2023Q1), 615829004 (MW-LF-21-2023Q1), 615829005 (MW-LF-22D-2023Q1), 615829006 (MW-LF-23D-2023Q1), 615829007 (DU-W52-CCR-23101), 615829009 (MW-LF-24-2023Q1), 615829010 (MW-LF-25-2023Q1), 615829011 (MW-LF-26-2023Q1) and 615829012 (MW-LF-27-2023Q1) were diluted because target analyte concentrations exceeded the calibration range. Dilutions may be required for many reasons, including to minimize matrix interferences or to bring over range target analyte concentrations into the linear calibration range.

Analyte	615829									
	001	**003**	**004**	**005**	**006**	**007**	**009**	**010**	**011**	**012**
Chloride	5X	5X	5X	5X	5X	5X	5X	2X	25X	5X
Sulfate	1X	1X	1X	5X	5X	1X	1X	50X	25X	1X

Miscellaneous Information

Additional Comments

All method-driven specifications are followed for these analyses except where client-specific SOW requirements are required to be met.

Product: **Solids, Total Dissolved**
Analytical Method: SM 2540C
Analytical Procedure: GL-GC-E-001 REV# 20
Analytical Batch: 2404852

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

GEL Sample ID#	Client Sample Identification
615829001	MW-LF-10-2023Q1
615829002	MW-LF-11-2023Q1
615829003	MW-LF-20-2023Q1
615829004	MW-LF-21-2023Q1
615829005	MW-LF-22D-2023Q1
615829006	MW-LF-23D-2023Q1
615829007	DU-W52-CCR-23101
615829008	FBLK-W52-CCR-23101
615829009	MW-LF-24-2023Q1
615829010	MW-LF-25-2023Q1
615829011	MW-LF-26-2023Q1
615829012	MW-LF-27-2023Q1
615829013	MW-LF-28-2023Q1
615829014	FBLK-W52-CCR-23102
1205358387	Method Blank (MB)
1205358388	Laboratory Control Sample (LCS)
1205358390	615829013(MW-LF-28-2023Q1) Sample Duplicate (DUP)
1205358401	615829001(MW-LF-10-2023Q1) Sample Duplicate (DUP)

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

Data Summary:

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

Miscellaneous Information

Additional Comments
Sample filtration took > 10 minutes; therefore as prescribed in the method, a reduced aliquot was used. 615829003 (MW-LF-20-2023Q1), 615829004 (MW-LF-21-2023Q1), 615829007 (DU-W52-CCR-23101), 615829010 (MW-LF-25-2023Q1) and 615829011 (MW-LF-26-2023Q1). All method-driven specifications are followed for these analyses except where client-specific SOW requirements are required to be met.

Certification Statement

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

GEL LABORATORIES LLC

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

Qualifier Definition Report
for

DMNN001 Dominion Energy (50149867)

Client SDG: 615829 GEL Work Order: 615829

The Qualifiers in this report are defined as follows:

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

Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this data report:

Signature: Jenny Jones **Name: Jennifer Jones**

Date: 04 APR 2023 **Title: Analyst II**

Sample Data Summary

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

Certificate of Analysis

Report Date: April 4, 2023

Company : Dominion Energy Services, Inc.
Address : 120 Tredegar Street

Richmond, Virginia 23219
Contact: Kelly Hicks
Project: CCR Groundwater Monitoring - Level 1 Package

Client Sample ID:	MW-LF-10-2023Q1	Project:	DMNN00101
Sample ID:	615829001	Client ID:	DMNN001
Matrix:	GW		
Collect Date:	23-MAR-23 09:45		
Receive Date:	23-MAR-23		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Fluoride		0.413	0.0330	0.100	mg/L		1	JLD1	03/28/23	1111	2404775	1
Sulfate		4.92	0.133	0.400	mg/L		1					
Chloride		21.2	0.335	1.00	mg/L		5	JLD1	03/28/23	2308	2404775	2
Solids Analysis												
SM2540C TDS "As Received"												
Total Dissolved Solids		302	2.38	10.0	mg/L			CH6	03/28/23	1244	2404852	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	SM 2540C	

Notes:

Column headers are defined as follows:

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

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

Certificate of Analysis

Report Date: April 4, 2023

Company : Dominion Energy Services, Inc.
Address : 120 Tredegar Street

Richmond, Virginia 23219
Contact: Kelly Hicks
Project: CCR Groundwater Monitoring - Level 1 Package

Client Sample ID:	MW-LF-11-2023Q1	Project:	DMNN00101
Sample ID:	615829002	Client ID:	DMNN001
Matrix:	GW		
Collect Date:	22-MAR-23 16:30		
Receive Date:	23-MAR-23		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Chloride		5.23	0.0670	0.200	mg/L		1	JLD1	03/28/23	1241	2404775	1
Fluoride		0.278	0.0330	0.100	mg/L		1					
Sulfate		1.31	0.133	0.400	mg/L		1					
Solids Analysis												
SM2540C TDS "As Received"												
Total Dissolved Solids		62.0	2.38	10.0	mg/L			CH6	03/28/23	1244	2404852	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	SM 2540C	

Notes:

Column headers are defined as follows:

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

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

Certificate of Analysis

Report Date: April 4, 2023

Company : Dominion Energy Services, Inc.
Address : 120 Tredegar Street

Richmond, Virginia 23219
Contact: Kelly Hicks
Project: CCR Groundwater Monitoring - Level 1 Package

Client Sample ID:	MW-LF-20-2023Q1	Project:	DMNN00101
Sample ID:	615829003	Client ID:	DMNN001
Matrix:	GW		
Collect Date:	22-MAR-23 15:20		
Receive Date:	23-MAR-23		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Fluoride		0.240	0.0330	0.100	mg/L		1	JLD1	03/28/23	1311	2404775	1
Sulfate		6.69	0.133	0.400	mg/L		1					
Chloride		12.6	0.335	1.00	mg/L		5	JLD1	03/29/23	0038	2404775	2
Solids Analysis												
SM2540C TDS "As Received"												
Total Dissolved Solids		630	4.76	20.0	mg/L			CH6	03/28/23	1244	2404852	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	SM 2540C	

Notes:

Column headers are defined as follows:

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

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

Certificate of Analysis

Report Date: April 4, 2023

Company : Dominion Energy Services, Inc.
Address : 120 Tredegar Street

Richmond, Virginia 23219
Contact: Kelly Hicks
Project: CCR Groundwater Monitoring - Level 1 Package

Client Sample ID:	MW-LF-21-2023Q1	Project:	DMNN00101
Sample ID:	615829004	Client ID:	DMNN001
Matrix:	GW		
Collect Date:	23-MAR-23 13:08		
Receive Date:	23-MAR-23		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Chloride		11.7	0.335	1.00	mg/L		5	JLD1	03/29/23	0108	2404775	1
Fluoride		0.260	0.0330	0.100	mg/L		1	JLD1	03/28/23	1340	2404775	2
Sulfate		7.38	0.133	0.400	mg/L		1					
Solids Analysis												
SM2540C TDS "As Received"												
Total Dissolved Solids		598	4.76	20.0	mg/L			CH6	03/28/23	1244	2404852	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	SM 2540C	

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

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

Certificate of Analysis

Report Date: April 4, 2023

Company : Dominion Energy Services, Inc.
Address : 120 Tredegar Street

Richmond, Virginia 23219
Contact: Kelly Hicks
Project: CCR Groundwater Monitoring - Level 1 Package

Client Sample ID:	MW-LF-22D-2023Q1	Project:	DMNN00101
Sample ID:	615829005	Client ID:	DMNN001
Matrix:	GW		
Collect Date:	23-MAR-23 11:55		
Receive Date:	23-MAR-23		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Chloride		10.5	0.335	1.00	mg/L		5	JLD1	03/29/23	0138	2404775	1
Sulfate		32.5	0.665	2.00	mg/L		5					
Fluoride		0.209	0.0330	0.100	mg/L		1	JLD1	03/28/23	1410	2404775	2
Solids Analysis												
SM2540C TDS "As Received"												
Total Dissolved Solids		576	2.38	10.0	mg/L			CH6	03/28/23	1244	2404852	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	SM 2540C	

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

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Certificate of Analysis

Report Date: April 4, 2023

Company : Dominion Energy Services, Inc.
Address : 120 Tredegar Street

Richmond, Virginia 23219
Contact: Kelly Hicks
Project: CCR Groundwater Monitoring - Level 1 Package

Client Sample ID:	MW-LF-23D-2023Q1	Project:	DMNN00101
Sample ID:	615829006	Client ID:	DMNN001
Matrix:	GW		
Collect Date:	23-MAR-23 09:42		
Receive Date:	23-MAR-23		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Chloride		15.8	0.335	1.00	mg/L		5	JLD1	03/29/23	0208	2404775	1
Sulfate		22.4	0.665	2.00	mg/L		5					
Fluoride		0.303	0.0330	0.100	mg/L		1	JLD1	03/28/23	1440	2404775	2
Solids Analysis												
SM2540C TDS "As Received"												
Total Dissolved Solids		494	2.38	10.0	mg/L			CH6	03/28/23	1244	2404852	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	SM 2540C	

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

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

Certificate of Analysis

Report Date: April 4, 2023

Company : Dominion Energy Services, Inc.
Address : 120 Tredegar Street

Richmond, Virginia 23219
Contact: Kelly Hicks
Project: CCR Groundwater Monitoring - Level 1 Package

Client Sample ID:	DU-W52-CCR-23101	Project:	DMNN00101
Sample ID:	615829007	Client ID:	DMNN001
Matrix:	GW		
Collect Date:	22-MAR-23 12:00		
Receive Date:	23-MAR-23		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Fluoride		0.160	0.0330	0.100	mg/L		1	JLD1	03/28/23	1640	2404775	1
Sulfate		6.84	0.133	0.400	mg/L		1					
Chloride		12.7	0.335	1.00	mg/L		5	JLD1	03/29/23	0237	2404775	2
Solids Analysis												
SM2540C TDS "As Received"												
Total Dissolved Solids		620	4.76	20.0	mg/L			CH6	03/28/23	1244	2404852	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	SM 2540C	

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

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Certificate of Analysis

Report Date: April 4, 2023

Company : Dominion Energy Services, Inc.
Address : 120 Tredegar Street

Richmond, Virginia 23219
Contact: Kelly Hicks
Project: CCR Groundwater Monitoring - Level 1 Package

Client Sample ID:	FBLK-W52-CCR-23101	Project:	DMNN00101
Sample ID:	615829008	Client ID:	DMNN001
Matrix:	AQ		
Collect Date:	22-MAR-23 16:50		
Receive Date:	23-MAR-23		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Chloride	U	ND	0.0670	0.200	mg/L		1	JLD1	03/28/23	1710	2404775	1
Fluoride	U	ND	0.0330	0.100	mg/L		1					
Sulfate	U	ND	0.133	0.400	mg/L		1					
Solids Analysis												
SM2540C TDS "As Received"												
Total Dissolved Solids	U	ND	2.38	10.0	mg/L			CH6	03/28/23	1244	2404852	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	SM 2540C	

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

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Certificate of Analysis

Report Date: April 4, 2023

Company : Dominion Energy Services, Inc.
Address : 120 Tredegar Street

Richmond, Virginia 23219
Contact: Kelly Hicks
Project: CCR Groundwater Monitoring - Level 1 Package

Client Sample ID:	MW-LF-24-2023Q1	Project:	DMNN00101
Sample ID:	615829009	Client ID:	DMNN001
Matrix:	GW		
Collect Date:	23-MAR-23 11:00		
Receive Date:	23-MAR-23		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Chloride		20.6	0.335	1.00	mg/L		5	JLD1	03/29/23	0307	2404775	1
Fluoride		0.409	0.0330	0.100	mg/L		1	JLD1	03/28/23	1740	2404775	2
Sulfate		18.3	0.133	0.400	mg/L		1					
Solids Analysis												
SM2540C TDS "As Received"												
Total Dissolved Solids		428	2.38	10.0	mg/L			CH6	03/28/23	1244	2404852	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	SM 2540C	

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

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Certificate of Analysis

Report Date: April 4, 2023

Company : Dominion Energy Services, Inc.
Address : 120 Tredegar Street

Richmond, Virginia 23219
Contact: Kelly Hicks
Project: CCR Groundwater Monitoring - Level 1 Package

Client Sample ID:	MW-LF-25-2023Q1	Project:	DMNN00101
Sample ID:	615829010	Client ID:	DMNN001
Matrix:	GW		
Collect Date:	23-MAR-23 12:15		
Receive Date:	23-MAR-23		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Sulfate		505	6.65	20.0	mg/L		50	JLD1	03/29/23	0537	2404775	1
Chloride		9.73	0.134	0.400	mg/L		2	JLD1	03/29/23	0337	2404775	2
Fluoride		0.628	0.0330	0.100	mg/L		1	JLD1	03/28/23	1809	2404775	3
Solids Analysis												
SM2540C TDS "As Received"												
Total Dissolved Solids		1050	4.76	20.0	mg/L			CH6	03/28/23	1244	2404852	4

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 300.0	
4	SM 2540C	

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

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Certificate of Analysis

Report Date: April 4, 2023

Company : Dominion Energy Services, Inc.
Address : 120 Tredegar Street

Richmond, Virginia 23219
Contact: Kelly Hicks
Project: CCR Groundwater Monitoring - Level 1 Package

Client Sample ID:	MW-LF-26-2023Q1	Project:	DMNN00101
Sample ID:	615829011	Client ID:	DMNN001
Matrix:	GW		
Collect Date:	23-MAR-23 09:40		
Receive Date:	23-MAR-23		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Chloride		141	1.68	5.00	mg/L		25	JLD1	03/29/23	0607	2404775	1
Sulfate		58.5	3.33	10.0	mg/L		25					
Fluoride		0.315	0.0330	0.100	mg/L		1	JLD1	03/28/23	1839	2404775	2
Solids Analysis												
SM2540C TDS "As Received"												
Total Dissolved Solids		890	4.76	20.0	mg/L			CH6	03/28/23	1244	2404852	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	SM 2540C	

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

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Certificate of Analysis

Report Date: April 4, 2023

Company : Dominion Energy Services, Inc.
Address : 120 Tredegar Street

Richmond, Virginia 23219
Contact: Kelly Hicks
Project: CCR Groundwater Monitoring - Level 1 Package

Client Sample ID:	MW-LF-27-2023Q1	Project:	DMNN00101
Sample ID:	615829012	Client ID:	DMNN001
Matrix:	GW		
Collect Date:	23-MAR-23 11:50		
Receive Date:	23-MAR-23		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Fluoride		0.107	0.0330	0.100	mg/L		1	JLD1	03/28/23	1909	2404775	1
Sulfate		10.2	0.133	0.400	mg/L		1					
Chloride		19.8	0.335	1.00	mg/L		5	JLD1	03/29/23	0637	2404775	2
Solids Analysis												
SM2540C TDS "As Received"												
Total Dissolved Solids		148	2.38	10.0	mg/L			CH6	03/28/23	1244	2404852	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	SM 2540C	

Notes:

Column headers are defined as follows:

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

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

Certificate of Analysis

Report Date: April 4, 2023

Company : Dominion Energy Services, Inc.
Address : 120 Tredegar Street

Richmond, Virginia 23219
Contact: Kelly Hicks
Project: CCR Groundwater Monitoring - Level 1 Package

Client Sample ID:	MW-LF-28-2023Q1	Project:	DMNN00101
Sample ID:	615829013	Client ID:	DMNN001
Matrix:	GW		
Collect Date:	22-MAR-23 15:46		
Receive Date:	23-MAR-23		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Chloride		5.88	0.0670	0.200	mg/L		1	JLD1	03/28/23	1939	2404775	1
Fluoride	J	0.0820	0.0330	0.100	mg/L		1					
Sulfate		0.760	0.133	0.400	mg/L		1					
Solids Analysis												
SM2540C TDS "As Received"												
Total Dissolved Solids		19.0	2.38	10.0	mg/L			CH6	03/28/23	1244	2404852	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	SM 2540C	

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

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Certificate of Analysis

Report Date: April 4, 2023

Company : Dominion Energy Services, Inc.
Address : 120 Tredegar Street

Richmond, Virginia 23219
Contact: Kelly Hicks
Project: CCR Groundwater Monitoring - Level 1 Package

Client Sample ID:	FBLK-W52-CCR-23102	Project:	DMNN00101
Sample ID:	615829014	Client ID:	DMNN001
Matrix:	AQ		
Collect Date:	22-MAR-23 09:55		
Receive Date:	23-MAR-23		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Chloride	U	ND	0.0670	0.200	mg/L		1	JLD1	03/28/23	2109	2404775	1
Fluoride	U	ND	0.0330	0.100	mg/L		1					
Sulfate	U	ND	0.133	0.400	mg/L		1					
Solids Analysis												
SM2540C TDS "As Received"												
Total Dissolved Solids	U	ND	2.38	10.0	mg/L			CH6	03/28/23	1244	2404852	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	SM 2540C	

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

Quality Control Summary

QC Summary

Report Date: April 4, 2023

Dominion Energy Services, Inc.
120 Tredegar Street
Richmond, Virginia

Contact: **Kelly Hicks**

Workorder: **615829**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Ion Chromatography										
Batch 2404775										
QC1205358265 615829013 DUP										
Chloride		5.88		5.86	mg/L	0.409		(0%-20%)	JLD1	03/28/23 20:09
Fluoride	J	0.0820	J	0.0667	mg/L	20.6 ^		(+/-0.100)		
Sulfate		0.760		0.747	mg/L	1.71 ^		(+/-0.400)		
QC1205358267 615829001 DUP										
Chloride		21.2		21.2	mg/L	0.174		(0%-20%)		03/28/23 23:38
Fluoride		0.413		0.394	mg/L	4.91 ^		(+/-0.100)		03/28/23 11:41
Sulfate		4.92		4.90	mg/L	0.45		(0%-20%)		
QC1205358264 LCS										
Chloride	5.00			4.89	mg/L		97.8	(90%-110%)		03/28/23 10:41
Fluoride	2.50			2.47	mg/L		98.8	(90%-110%)		
Sulfate	10.0			9.97	mg/L		99.7	(90%-110%)		
QC1205358263 MB										
Chloride			U	ND	mg/L					03/28/23 10:12
Fluoride			U	ND	mg/L					
Sulfate			U	ND	mg/L					
QC1205358266 615829013 PS										
Chloride	5.00	5.88		11.3	mg/L		109	(90%-110%)		03/28/23 20:39

QC Summary

Workorder: **615829**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Ion Chromatography											
Batch 2404775											
Fluoride	2.50	J	0.0820		2.59	mg/L		100	(90%-110%)	JLD1	03/28/23 20:39
Sulfate	10.0		0.760		10.9	mg/L		101	(90%-110%)		
QC1205358268 615829001 PS											
Chloride	5.00		4.25		9.31	mg/L		101	(90%-110%)		03/29/23 00:08
Fluoride	2.50		0.413		2.91	mg/L		100	(90%-110%)		03/28/23 12:11
Sulfate	10.0		4.92		15.3	mg/L		103	(90%-110%)		
Solids Analysis											
Batch 2404852											
QC1205358390 615829013 DUP											
Total Dissolved Solids			19.0		13.0	mg/L	37.5 ^		(+/-10.0)	CH6	03/28/23 12:44
QC1205358401 615829001 DUP											
Total Dissolved Solids			302		314	mg/L	3.9		(0%-5%)		03/28/23 12:44
QC1205358388 LCS											
Total Dissolved Solids	300				301	mg/L		100	(95%-105%)		03/28/23 12:44
QC1205358387 MB											
Total Dissolved Solids				U	ND	mg/L					03/28/23 12:44

Notes:

The Qualifiers in this report are defined as follows:

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

QC Summary

Workorder: **615829**

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

h	Preparation or preservation holding time was exceeded
R	Sample results are rejected
Z	Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
d	5-day BOD--The 2:1 depletion requirement was not met for this sample
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
N/A	RPD or %Recovery limits do not apply.
ND	Analyte concentration is not detected above the detection limit
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
E	General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
N1	See case narrative
R	Per section 9.3.4.1 of Method 1664 Revision B, due to matrix spike recovery issues, this result may not be reported or used for regulatory compliance purposes.
B	The target analyte was detected in the associated blank.
e	5-day BOD--Test replicates show more than 30% difference between high and low values. The data is qualified per the method and can be used for reporting purposes
J	See case narrative for an explanation

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

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

This quality assurance (QA) review is based upon an examination of the data generated from the analyses of the samples collected as part of:

Williams Power Station Groundwater Sampling
Samples Collected between: 3/20/2023 and 3/23/2023

This review was performed with guidance from the associated US EPA data validation guidelines and in accordance with the Quality Assurance Program Plan. These validation guidance documents specifically address analyses performed in accordance with the Contract Laboratory Program (CLP) analytical methods and are not completely applicable to the type of analyses and analytical protocols performed for the US EPA, SW-846, and Standard Methods utilized by the laboratory for these samples. Environmental Standards, Inc. (Environmental Standards) used professional judgment to determine the usability of the analytical results and compliance relative to the US EPA, SW-846, and Standard Methods utilized by the laboratory. This QA review was performed on the data associated with Job Number:

615829

The findings offered in this report are based on a review of holding times and preservation, method blank results, field blank results, filter blank results, equipment blank results, tubing blank results, matrix spike/matrix spike duplicate recoveries and precision, laboratory control sample/laboratory control sample duplicate recoveries and precision, laboratory and field duplicate precision, total and dissolved results comparisons, and/or positive results between the method detection limit and quantitation limit.

The following results were qualified based on the data verification effort:

Sample	Location	Sample Type	Method	Anayte	T/D	Result	Qual	Reason Code(s)	MDL	QL	Uncertainty	Unit
MW-LF-11-2023Q1	GW-11	N	EPA 200.8	Boron	T		U	BF	25.9	25.9		ug/L
FBLK-W52-CCR-23101_20230322	Field Blank	FB	EPA 200.8	Boron	T	7.46	J	RL	4.00	15.0		ug/L
MW-LF-28-2023Q1	MW-LF-28	N	EPA 200.8	Boron	T		U	BF	12.6	15.0		ug/L
MW-LF-28-2023Q1	MW-LF-28	N	EPA 300.0	Fluoride	N	0.0820	J	RL	0.0330	0.100		mg/L

Data Qualifiers	
U	The analyte was not detected above the level of the sample reporting limit.
J	Quantitation is approximate due to limitations identified during data validation.
J+	The result is an estimated quantity; the result may be biased high.
J-	The result is an estimated quantity; the result may be biased low.
UJ	The analyte was not detected; the reporting limit is approximate and may be inaccurate or imprecise.
R	Unreliable positive result; analyte may or may not be present in sample.
Reason Codes and Explanations	
BE	Equipment blank contamination.
BF	Field blank contamination.
BL	Laboratory blank contamination.
BN	Negative laboratory blank contamination.
FD	Field duplicate imprecision.
FG	Total versus Dissolved Imprecision.
H	Holding time exceeded.
L	LCS and LCSD recoveries outside of acceptance limits
LD	Laboratory duplicate imprecision.
LP	LCS/LCSD imprecision.
M	MS and MSD recoveries outside of acceptance limits
MP	MS/MSD imprecision.

Q	Chemical Preservation issue.
RL	Reported Results between the MDL and QL.
S	Radium-226+228 flagged due to reporting protocol for combined results
T	Temperature preservation issue.
X	Percent solids < 50%.
Y	Chemical yield outside of acceptance limits
ZZ	Other

Facility: Williams Generating Station
SDG: 615829

Lab Sample ID	615829001
Sys Sample Code	MW-LF-10-2023Q1
Sample Name	MW-LF-10-2023Q1
Sample Date	3/23/2023 9:45:00 AM
Location	W52-GW-10 / GW-10
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
EPA 200.8	Boron	7440-42-8	T	ug/L	64.0				4.00	4.00	15.0	Y	Yes	1	NA
	Calcium	7440-70-2	T	ug/L	57400				300	300	1000	Y	Yes	10	NA
EPA 300.0	Chloride	16887-00-6	N	mg/L	21.2				0.335	0.335	1.00	Y	Yes	5	NA
	Fluoride	16984-48-8	N	mg/L	0.413				0.0330	0.0330	0.100	Y	Yes	1	NA
	Sulfate	14808-79-8	N	mg/L	4.92				0.133	0.133	0.400	Y	Yes	1	NA
SM 2540C	Total Dissolved Solids	TDS	N	mg/L	302				2.38	2.38	10.0	Y	Yes	1	NA

Facility: Williams Generating Station
SDG: 615829

Lab Sample ID	615829002
Sys Sample Code	MW-LF-11-2023Q1
Sample Name	MW-LF-11-2023Q1
Sample Date	3/22/2023 4:30:00 PM
Location	W52-GW-11 / GW-11
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
EPA 200.8	Boron	7440-42-8	T	ug/L		U	BF		25.9	25.9	25.9	N	Yes	1	NA
	Calcium	7440-70-2	T	ug/L	14600				30.0	30.0	100	Y	Yes	1	NA
EPA 300.0	Chloride	16887-00-6	N	mg/L	5.23				0.0670	0.0670	0.200	Y	Yes	1	NA
	Fluoride	16984-48-8	N	mg/L	0.278				0.0330	0.0330	0.100	Y	Yes	1	NA
	Sulfate	14808-79-8	N	mg/L	1.31				0.133	0.133	0.400	Y	Yes	1	NA
SM 2540C	Total Dissolved Solids	TDS	N	mg/L	62.0				2.38	2.38	10.0	Y	Yes	1	NA

Lab Sample ID	615829003
Sys Sample Code	MW-LF-20-2023Q1
Sample Name	MW-LF-20-2023Q1
Sample Date	3/22/2023 3:20:00 PM
Location	W52-MW-LF-20 / MW-LF-20
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
EPA 200.8	Boron	7440-42-8	T	ug/L	200				20.0	20.0	75.0	Y	Yes	5	NA
	Calcium	7440-70-2	T	ug/L	140000				150	150	500	Y	Yes	5	NA
EPA 300.0	Chloride	16887-00-6	N	mg/L	12.6				0.335	0.335	1.00	Y	Yes	5	NA
	Fluoride	16984-48-8	N	mg/L	0.240				0.0330	0.0330	0.100	Y	Yes	1	NA
	Sulfate	14808-79-8	N	mg/L	6.69				0.133	0.133	0.400	Y	Yes	1	NA
SM 2540C	Total Dissolved Solids	TDS	N	mg/L	630				4.76	4.76	20.0	Y	Yes	1	NA

Lab Sample ID	615829004
Sys Sample Code	MW-LF-21-2023Q1
Sample Name	MW-LF-21-2023Q1
Sample Date	3/23/2023 1:08:00 PM
Location	W52-MW-LF-21 / MW-LF-21
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
EPA 200.8	Boron	7440-42-8	T	ug/L	198				20.0	20.0	75.0	Y	Yes	5	NA
	Calcium	7440-70-2	T	ug/L	120000				150	150	500	Y	Yes	5	NA
EPA 300.0	Chloride	16887-00-6	N	mg/L	11.7				0.335	0.335	1.00	Y	Yes	5	NA
	Fluoride	16984-48-8	N	mg/L	0.260				0.0330	0.0330	0.100	Y	Yes	1	NA
	Sulfate	14808-79-8	N	mg/L	7.38				0.133	0.133	0.400	Y	Yes	1	NA
SM 2540C	Total Dissolved Solids	TDS	N	mg/L	598				4.76	4.76	20.0	Y	Yes	1	NA

Lab Sample ID	615829005
Sys Sample Code	MW-LF-22D-2023Q1
Sample Name	MW-LF-22D-2023Q1
Sample Date	3/23/2023 11:55:00 AM
Location	W52-MW-LF-22D / MW-LF-22D
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
EPA 200.8	Boron	7440-42-8	T	ug/L	324				20.0	20.0	75.0	Y	Yes	5	NA
	Calcium	7440-70-2	T	ug/L	80100				150	150	500	Y	Yes	5	NA
EPA 300.0	Chloride	16887-00-6	N	mg/L	10.5				0.335	0.335	1.00	Y	Yes	5	NA
	Fluoride	16984-48-8	N	mg/L	0.209				0.0330	0.0330	0.100	Y	Yes	1	NA
	Sulfate	14808-79-8	N	mg/L	32.5				0.665	0.665	2.00	Y	Yes	5	NA
SM 2540C	Total Dissolved Solids	TDS	N	mg/L	576				2.38	2.38	10.0	Y	Yes	1	NA

Lab Sample ID	615829006
Sys Sample Code	MW-LF-23D-2023Q1
Sample Name	MW-LF-23D-2023Q1
Sample Date	3/23/2023 9:42:00 AM
Location	W52-MW-LF-23D / MW-LF-23D
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
EPA 200.8	Boron	7440-42-8	T	ug/L	291				20.0	20.0	75.0	Y	Yes	5	NA
	Calcium	7440-70-2	T	ug/L	66000				150	150	500	Y	Yes	5	NA
EPA 300.0	Chloride	16887-00-6	N	mg/L	15.8				0.335	0.335	1.00	Y	Yes	5	NA
	Fluoride	16984-48-8	N	mg/L	0.303				0.0330	0.0330	0.100	Y	Yes	1	NA
	Sulfate	14808-79-8	N	mg/L	22.4				0.665	0.665	2.00	Y	Yes	5	NA
SM 2540C	Total Dissolved Solids	TDS	N	mg/L	494				2.38	2.38	10.0	Y	Yes	1	NA

Lab Sample ID	615829007
Sys Sample Code	DU-W52-CCR-23101_20230322
Sample Name	DU-W52-CCR-23101
Sample Date	3/22/2023 12:00:00 PM
Location	W52-MW-LF-20 / MW-LF-20
Sample Type	FD
Matrix	GW
Parent Sample	MW-LF-20-2023Q1

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
EPA 200.8	Boron	7440-42-8	T	ug/L	215				20.0	20.0	75.0	Y	Yes	5	NA
	Calcium	7440-70-2	T	ug/L	142000				150	150	500	Y	Yes	5	NA
EPA 300.0	Chloride	16887-00-6	N	mg/L	12.7				0.335	0.335	1.00	Y	Yes	5	NA
	Fluoride	16984-48-8	N	mg/L	0.160				0.0330	0.0330	0.100	Y	Yes	1	NA
	Sulfate	14808-79-8	N	mg/L	6.84				0.133	0.133	0.400	Y	Yes	1	NA
SM 2540C	Total Dissolved Solids	TDS	N	mg/L	620				4.76	4.76	20.0	Y	Yes	1	NA

Lab Sample ID	615829008
Sys Sample Code	FBLK-W52-CCR-23101_20230322
Sample Name	FBLK-W52-CCR-23101
Sample Date	3/22/2023 4:50:00 PM
Location	WMS-FB / Field Blank
Sample Type	FB
Matrix	AQ
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
EPA 200.8	Boron	7440-42-8	T	ug/L	7.46	J	RL		4.00	4.00	15.0	Y	Yes	1	NA
	Calcium	7440-70-2	T	ug/L		U			30.0	30.0	100	N	Yes	1	NA
EPA 300.0	Chloride	16887-00-6	N	mg/L		U			0.0670	0.0670	0.200	N	Yes	1	NA
	Fluoride	16984-48-8	N	mg/L		U			0.0330	0.0330	0.100	N	Yes	1	NA
	Sulfate	14808-79-8	N	mg/L		U			0.133	0.133	0.400	N	Yes	1	NA
SM 2540C	Total Dissolved Solids	TDS	N	mg/L		U			2.38	2.38	10.0	N	Yes	1	NA

Lab Sample ID	615829009
Sys Sample Code	MW-LF-24-2023Q1
Sample Name	MW-LF-24-2023Q1
Sample Date	3/23/2023 11:00:00 AM
Location	W52-MW-LF-24 / MW-LF-24
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
EPA 200.8	Boron	7440-42-8	T	ug/L	79.6				4.00	4.00	15.0	Y	Yes	1	NA
	Calcium	7440-70-2	T	ug/L	103000				300	300	1000	Y	Yes	10	NA
EPA 300.0	Chloride	16887-00-6	N	mg/L	20.6				0.335	0.335	1.00	Y	Yes	5	NA
	Fluoride	16984-48-8	N	mg/L	0.409				0.0330	0.0330	0.100	Y	Yes	1	NA
	Sulfate	14808-79-8	N	mg/L	18.3				0.133	0.133	0.400	Y	Yes	1	NA
SM 2540C	Total Dissolved Solids	TDS	N	mg/L	428				2.38	2.38	10.0	Y	Yes	1	NA

Lab Sample ID	615829010
Sys Sample Code	MW-LF-25-2023Q1
Sample Name	MW-LF-25-2023Q1
Sample Date	3/23/2023 12:15:00 PM
Location	W52-MW-LF-25 / MW-LF-25
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
EPA 200.8	Boron	7440-42-8	T	ug/L	44.4				4.00	4.00	15.0	Y	Yes	1	NA
	Calcium	7440-70-2	T	ug/L	203000				300	300	1000	Y	Yes	10	NA
EPA 300.0	Chloride	16887-00-6	N	mg/L	9.73				0.134	0.134	0.400	Y	Yes	2	NA
	Fluoride	16984-48-8	N	mg/L	0.628				0.0330	0.0330	0.100	Y	Yes	1	NA
	Sulfate	14808-79-8	N	mg/L	505				6.65	6.65	20.0	Y	Yes	50	NA
SM 2540C	Total Dissolved Solids	TDS	N	mg/L	1050				4.76	4.76	20.0	Y	Yes	1	NA

Lab Sample ID	615829011
Sys Sample Code	MW-LF-26-2023Q1
Sample Name	MW-LF-26-2023Q1
Sample Date	3/23/2023 9:40:00 AM
Location	W52-MW-LF-26 / MW-LF-26
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
EPA 200.8	Boron	7440-42-8	T	ug/L	163				4.00	4.00	15.0	Y	Yes	1	NA
	Calcium	7440-70-2	T	ug/L	152000				300	300	1000	Y	Yes	10	NA
EPA 300.0	Chloride	16887-00-6	N	mg/L	141				1.68	1.68	5.00	Y	Yes	25	NA
	Fluoride	16984-48-8	N	mg/L	0.315				0.0330	0.0330	0.100	Y	Yes	1	NA
	Sulfate	14808-79-8	N	mg/L	58.5				3.33	3.33	10.0	Y	Yes	25	NA
SM 2540C	Total Dissolved Solids	TDS	N	mg/L	890				4.76	4.76	20.0	Y	Yes	1	NA

Lab Sample ID	615829012
Sys Sample Code	MW-LF-27-2023Q1
Sample Name	MW-LF-27-2023Q1
Sample Date	3/23/2023 11:50:00 AM
Location	W52-MW-LF-27 / MW-LF-27
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
EPA 200.8	Boron	7440-42-8	T	ug/L	31.1				4.00	4.00	15.0	Y	Yes	1	NA
	Calcium	7440-70-2	T	ug/L	30200				30.0	30.0	100	Y	Yes	1	NA
EPA 300.0	Chloride	16887-00-6	N	mg/L	19.8				0.335	0.335	1.00	Y	Yes	5	NA
	Fluoride	16984-48-8	N	mg/L	0.107				0.0330	0.0330	0.100	Y	Yes	1	NA
	Sulfate	14808-79-8	N	mg/L	10.2				0.133	0.133	0.400	Y	Yes	1	NA
SM 2540C	Total Dissolved Solids	TDS	N	mg/L	148				2.38	2.38	10.0	Y	Yes	1	NA

Facility: Williams Generating Station
SDG: 615829

Lab Sample ID	615829013
Sys Sample Code	MW-LF-28-2023Q1
Sample Name	MW-LF-28-2023Q1
Sample Date	3/22/2023 3:46:00 PM
Location	W52-MW-LF-28 / MW-LF-28
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
EPA 200.8	Boron	7440-42-8	T	ug/L		U	BF		12.6	12.6	15.0	N	Yes	1	NA
	Calcium	7440-70-2	T	ug/L	7410				30.0	30.0	100	Y	Yes	1	NA
EPA 300.0	Chloride	16887-00-6	N	mg/L	5.88				0.0670	0.0670	0.200	Y	Yes	1	NA
	Fluoride	16984-48-8	N	mg/L	0.0820	J	RL		0.0330	0.0330	0.100	Y	Yes	1	NA
	Sulfate	14808-79-8	N	mg/L	0.760				0.133	0.133	0.400	Y	Yes	1	NA
SM 2540C	Total Dissolved Solids	TDS	N	mg/L	19.0				2.38	2.38	10.0	Y	Yes	1	NA

Facility: Williams Generating Station
SDG: 615829

Lab Sample ID	615829014
Sys Sample Code	FBLK-W52-CCR-23102
Sample Name	FBLK-W52-CCR-23102
Sample Date	3/23/2023 9:55:00 AM
Location	WMS-FB / Field Blank
Sample Type	FB
Matrix	AQ
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
EPA 200.8	Boron	7440-42-8	T	ug/L		U			4.00	4.00	15.0	N	Yes	1	NA
	Calcium	7440-70-2	T	ug/L		U			30.0	30.0	100	N	Yes	1	NA
EPA 300.0	Chloride	16887-00-6	N	mg/L		U			0.0670	0.0670	0.200	N	Yes	1	NA
	Fluoride	16984-48-8	N	mg/L		U			0.0330	0.0330	0.100	N	Yes	1	NA
	Sulfate	14808-79-8	N	mg/L		U			0.133	0.133	0.400	N	Yes	1	NA
SM 2540C	Total Dissolved Solids	TDS	N	mg/L		U			2.38	2.38	10.0	N	Yes	1	NA

GEL Laboratories LLC
a member of The GEL Group INC

PO Box 30712 Charleston, SC 29417
2040 Savage Road Charleston, SC 29407
P 843.556.8171
F 843.766.1178

gel.com

April 06, 2023

Kelly Hicks
Dominion Energy Services, Inc.
120 Tredegar Street
Richmond, Virginia 23219

Re: CCR Groundwater Monitoring - Level 1 Package
Work Order: 615829

Dear Kelly Hicks:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on March 23, 2023. This revised data report has been prepared and reviewed in accordance with GEL's standard operating procedures. The client requested a revised report to include the correct Chain of Custody.

Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without approval by the laboratory. Copies of GEL's accreditations and certifications can be found on our website at www.gel.com.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 1648.

Sincerely,

Meredith Boddiford

Meredith Boddiford
Project Manager

Purchase Order: 50149867
Enclosures

Table of Contents

Case Narrative

The client requested a revised report to include the correct Chain of Custody.

Receipt Narrative
for
Dominion Energy (50149867)
SDG: 615829

April 06, 2023

Laboratory Identification:

GEL Laboratories LLC
2040 Savage Road
Charleston, South Carolina 29407
(843) 556-8171

Summary:

Sample receipt: The samples arrived at GEL Laboratories LLC, Charleston, South Carolina on March 23, 2023 for analysis. The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. There are no additional comments concerning sample receipt.

Sample Identification: The laboratory received the following samples:

Laboratory ID	Client ID
615829001	MW-LF-10-2023Q1
615829002	MW-LF-11-2023Q1
615829003	MW-LF-20-2023Q1
615829004	MW-LF-21-2023Q1
615829005	MW-LF-22D-2023Q1
615829006	MW-LF-23D-2023Q1
615829007	DU-W52-CCR-23101
615829008	FBLK-W52-CCR-23101
615829009	MW-LF-24-2023Q1
615829010	MW-LF-25-2023Q1
615829011	MW-LF-26-2023Q1
615829012	MW-LF-27-2023Q1
615829013	MW-LF-28-2023Q1
615829014	FBLK-W52-CCR-23102

Case Narrative:

Sample analyses were conducted using methodology as outlined in GEL's Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are contained in the analytical case narratives in the enclosed data package.

The enclosed data package contains the following sections: Case Narrative, Chain of Custody, Cooler Receipt Checklist, Data Package Qualifier Definitions and data from the following fractions: General Chemistry and Metals.

Meredith Boddiford

Meredith Boddiford
Project Manager

Chain of Custody and Supporting Documentation

Page: 1 of 2
Project # 416559.0006.0000.3.2
CDL Quote #:
COC Number [1]: 2023032201
PO Number: PO 50149867

MB 4/10/23 ~~615558~~ 615829

GEL Laboratories LLC
gel.com
Chemistry | Radiochemistry | Radiobioassay | Specialty Analytics

Chain of Custody and Analytical Request

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

C2 - C3

GEL Work Order Number: 228355 | **GEL Project Manager: Meredith Boddiford**

Client Name: Dominion Energy | Phone # 803-258-1528
Project/Site Name: Williams Station Hwy 52 Landfill CCR 2023Q1 | Fax #
Address: Goose Creek, South Carolina
Collected By: B. Medlin / A. Misiunas | Send Results To: AReed@envstd.com

SDG: 615829 Page 6 of 7

Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code [2]	Field Filtered [3]	Sample Matrix [4]	Should this sample be considered: Radioactive (If yes, please supply isotopic info.)	Should this sample be considered: (7) Known or possible Hazards	Total number of containers	TDS SM2540C	Cl, Fl, SO4 EPA 300.0	Total Metals - B, Ca NI EPA 200.8	<-- Preservative Type (6)	Comments
MW-LF-10-2023Q1	3-23-23	0945	N	N	GW	N		3	1	1	1		
MW-LF-11-2023Q1	3-22-23	1630	N	N	GW	N		3	1	1	1		
MW-LF-20-2023Q1	3-22-23	1520	N	N	GW	N		3	1	1	1		see attached work
MW-LF-21-2023Q1	3-23-23	1308	N	N	GW	N		3	1	1	1		order for details
MW-LF-22D-2023Q1	3-23-23	1155	N	N	GW	N		3	1	1	1		
MW-LF-23D-2023Q1	3-23-23	0942	N	N	GW	N		3	1	1	1		
DU-W52-CCR-23101	3-22-23	/	FD	N	GW	N		3	1	1	1		
FBLK-W52-CCR-23101	3-22-23	1650	FB	N	AQ	N		3	1	1	1		

Sample Analysis Requested [5] (Fill in the number of containers for each test)

Chain of Custody Signatures

	Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1	[signature]	03/23/23	1500	[signature]	3/23/23	1500
2						
3						

TAT Requested: Normal: X Rush: ____ Specify: ____

Fax Results: [ ] Yes [X] No

Select Deliverable: [ ] C of A [ ] QC Summary [ ] level 1 [ ] Level 2 [ ] Level 3 [X] Level 4

Additional Remarks:

For Lab Receiving Use Only: *Custody Seal Intact?* [ ] *Yes* [ ] *No* ***Cooler Temp:*** ____ °C

> ***For sample shipping and delivery details, see Sample Receipt & Review form (SRR.)***

Sample Collection Time Zone: [X] Eastern [ ] Pacific [ ] Central [ ] Mountain [ ] Other:

1.) Chain of Custody Number = Client Determined

2.) QC Codes: **N** = Normal Sample, **TB** = Trip Blank, **FD** = Field Duplicate, **EB** = Equipment Blank, **MS** = Matrix Spike Sample, **MSD** = Matrix Spike Duplicate Sample, **G** = Grab, **C** = Composite

3.) Field Filtered: For liquid matrices, indicate with a - **Y** - for yes the sample was field filtered or - **N** - for sample was not field filtered.

4.) Matrix Codes: **DW**=Drinking Water, **GW**=Groundwater, **SW**=Surface Water, **WW**=Waste Water, **W**=Water, **ML**=Misc Liquid, **SO**=Soil, **SD**=Sediment, **SL**=Sludge, **SS**=Solid Waste, **O**=Oil, **F**=Filter, **P**=Wipe, **U**=Urine, **F**=Fecal, **N**=Nasal

5.) Sample Analysis Requested: Analytical method requested (i.e. **8260B**, **6010B/7470A**) and number of containers provided for each (i.e. *8260B* - **3**, *6010B/7470A* - **1**).

6.) Preservative Type: **HA** = Hydrochloric Acid, **NI** = Nitric Acid, **SH** = Sodium Hydroxide, **SA** = Sulfuric Acid, **AA** = Ascorbic Acid, **HX** = Hexane, **ST** = Sodium Thiosulfate, If no preservative is added = leave field blank

7.) **KNOWN OR POSSIBLE HAZARDS**

RCRA Metals
As = Arsenic **Hg**= Mercury
Ba = Barium **Se**= Selenium
Cd = Cadmium **Ag**= Silver
Cr = Chromium **MR**= Misc. RCRA metals
Pb = Lead

Characteristic Hazards
FL = Flammable/Ignitable
CO = Corrosive
RE = Reactive

TSCA Regulated
PCB = Polychlorinated biphenyls

Listed Waste
LW= Listed Waste
(F,K,P and U-listed wastes.)
Waste code(s):

Other
OT= Other / Unknown
(i.e.: High/low pH, asbestos, beryllium, irritants, other misc. health hazards, etc.)
Description:

Please provide any additional details below regarding handling and/or disposal concerns. *(i.e.: Origin of sample(s), type of site collected from, odd matrices, etc.)*

Page: 2 of 2
Project # 416559.0006.0000.3.2
GEL Quote #:
COC Number (1): 2023032202
PO Number: PO 50149867

GEL Laboratories LLC
gel.com
Chemistry | Radiochemistry | Radiobioassay | Specialty Analytics

Chain of Custody and Analytical Request

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

C2-C3

GEL Work Order Number: 228355

GEL Project Manager: Meredith Boddiford

Client Name: Dominion Energy — Phone # 803-258-1528

Project/Site Name: Williams Station Hwy 52 Landfill CCR 2023Q1 — Fax #

Address: Goose Creek, South Carolina

Collected By: B. Medlin / A. Misiunas — Send Results To: AReed@envstd.com

SDG: 615896 Rev 0

Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Should this sample be considered: Radioactive (If yes, please supply isotopic info.)	Should this sample be considered: (7) Known or possible Hazards	Total number of containers	TDS SM2540C	Cl, FL, SO4 EPA 300.0	Total Metals - B, Ca NI EPA 200.8	<-- Preservative Type (6)	Comments
MW-LF-24-2023Q1	3-23-23	1100	N	N	GW	N		3	1	1	1		
MW-LF-25-2023Q1	3-23-23	1215	N	N	GW	N		3	1	1	1		
MW-LF-26-2023Q1	3-23-23	0940	N	N	GW	N		3	1	1	1		see attached work
MW-LF-27-2023Q1	3-23-23	1150	N	N	GW	N		3	1	1	1		order for details
MW-LF-28-2023Q1 /MS/MSD	3-22-23	1546	N	N	GW	N		6	2	2	2		
FBLK-W52-CCR-23102	3-23-23	0955	FB	N	AQ	N		3	1	1	1		

Chain of Custody Signatures

	Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1		03/23/23	1500		3/23/23	1500
2						
3						

TAT Requested: Normal: X Rush: Specify:

Fax Results: [ ] Yes [X] No

Select Deliverable: [ ] C of A [ ] QC Summary [ ] level 1 [ ] Level 2 [ ] Level 3 [X] Level 4

Additional Remarks:

For Lab Receiving Use Only: *Custody Seal Intact?* [ ] Yes [ ] No ***Cooler Temp:*** °C

> ***For sample shipping and delivery details, see Sample Receipt & Review form (SRR.)***

Sample Collection Time Zone: [X] Eastern [ ] Pacific [ ] Central [ ] Mountain [ ] Other:

1.) Chain of Custody Number = Client Determined

2.) QC Codes: **N** = Normal Sample, **TB** = Trip Blank, **FD** = Field Duplicate, **EB** = Equipment Blank, **MS** = Matrix Spike Sample, **MSD** = Matrix Spike Duplicate Sample, **G** = Grab, **C** = Composite

3.) Field Filtered: For liquid matrices, indicate with a **- Y -** for yes the sample was field filtered or **- N -** for sample was not field filtered.

4.) Matrix Codes: **DW**=Drinking Water, **GW**=Groundwater, **SW**=Surface Water, **WW**=Waste Water, **W**=Water, **ML**=Misc Liquid, **SO**=Soil, **SD**=Sediment, **SL**=Sludge, **SS**=Solid Waste, **O**=Oil, **F**=Filter, **P**=Wipe, **U**=Urine, **F**=Fecal, **N**=Nasal

5.) Sample Analysis Requested: Analytical method requested (i.e. **8260B, 6010B/7470A**) and number of containers provided for each (i.e. *8260B* - **3**, *6010B/7470A* - **1**).

6.) Preservative Type: **HA** = Hydrochloric Acid, **NI** = Nitric Acid, **SH** = Sodium Hydroxide, **SA** = Sulfuric Acid, **AA** = Ascorbic Acid, **HX** = Hexane, **ST** = Sodium Thiosulfate, If no preservative is added = leave field blank

7.) **KNOWN OR POSSIBLE HAZARDS**

RCRA Metals
As = Arsenic **Hg**= Mercury
Ba = Barium **Se**= Selenium
Cd = Cadmium **Ag**= Silver
Cr = Chromium **MR**= Misc. RCRA metals
Pb = Lead

Characteristic Hazards
FL = Flammable/Ignitable
CO = Corrosive
RE = Reactive

TSCA Regulated
PCB = Polychlorinated biphenyls

Listed Waste
LW= Listed Waste
(F,K,P and U-listed wastes.)
Waste code(s):

Other
OT= Other / Unknown
(i.e.: High/low pH, asbestos, beryllium, irritants, other misc. health hazards, etc.)
Description:

Please provide any additional details below regarding handling and/or disposal concerns. *(i.e.: Origin of sample(s), type of site collected from, odd matrices, etc.)*

3/23/23 SS

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: ~~DOMM~~ DMNN	SDG/AR/COC/Work Order: ~~615558~~ 615829
Received By:	Date Received: 3/23/23 MR 4/6/23
Enter one tracking number per line below. Enter courier if applicable and no tracking available.	IR temperature gun # IR1-23 Daily Calibration performed? (Y) / N
	Uncorrected temperature readings are to the 0.1 degree with final recorded tepmeratures rounded to the 0.5 degree. Provide individual container details when a cooler requiring 0 </=6oC is identified as out of specification.
Cooler 1	Uncorrected Temp: 1.0 IR Correction Factor: + / - 0 Final Recorded Temp: 1.0 Within 0.0-6.0C? (Y) / N
Cooler 2	Uncorrected Temp: 4.5 IR Correction Factor: + / - 0 Final Recorded Temp: 4.5 Within 0.0-6.0C? (Y) / N
Cooler 3	Uncorrected Temp: 2.3 IR Correction Factor: + / - 0 Final Recorded Temp: 2.5 Within 0.0-6.0C? (Y) / N
Cooler 4	Uncorrected Temp: 0.3 IR Correction Factor: + / - 0 Final Recorded Temp: 0.5 Within 0.0-6.0C? (Y) / N
Cooler 6	Uncorrected Temp: 1.2 IR Correction Factor: + / - 0 Final Recorded Temp: 1.0 Within 0.0-6.0C? (Y) / N
	Uncorrected Temp: IR Correction Factor: + / - Final Recorded Temp: Within 0.0-6.0C? Y / N

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

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	X			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2	Chain of custody documents included with shipment?	X			Circle Applicable: Client contacted and provided COC COC created upon receipt
3	Sample containers intact and sealed?	X			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
4	Samples requiring chemical preservation at proper pH?	X			Sample ID's and Containers Affected: If Preservation added, Lot#:
5	Do any samples require Volatile Analysis?				If Yes, are Encores or Soil Kits present for solids? Yes___ No___ NA___(If yes, take to VOA Freezer) Do liquid VOA vials contain acid preservation? Yes___ No___ NA___(If unknown, select No) Are liquid VOA vials free of headspace? Yes___ No___ NA___ Sample ID's and containers affected:
6	Samples received within holding time?	X			ID's and tests affected:
7	Sample ID's on COC match ID's on bottles?	X			ID's and containers affected:
8	Date & time on COC match date & time on bottles?	X			Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
9	Number of containers received match number indicated on COC?	X			Circle Applicable: No container count on COC Other (describe)
10	Are sample containers identifiable as GEL provided by use of GEL labels?	X			
11	COC form is properly signed in relinquished/received sections?	X			Circle Applicable: Not relinquished Other (describe)

Comments (Use Continuation Form if needed):

PM (or PMA) review: Initials MG Date 3/24/23 Page 1 of 1

GL-CHL-SR-001A

GL-CHL-SR-001A

Laboratory Certifications

List of current GEL Certifications as of 06 April 2023

State	Certification
Alabama	42200
Alaska	17-018
Alaska Drinking Water	SC00012
Arkansas	88-0651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH-0169
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330-15-00283, P330-15-00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho	SC00012
Illinois NELAP	200029
Indiana	C-SC-01
Kansas NELAP	E-10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana Drinking Water	LA024
Louisiana NELAP	03046 (AI33904)
Maine	2019020
Maryland	270
Massachusetts	M-SC012
Massachusetts PFAS Approv	Letter
Michigan	9976
Mississippi	SC00012
Nebraska	NE-OS-26-13
Nevada	SC000122023-4
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R-158
Oklahoma	2022-160
Pennsylvania NELAP	68-00485
Puerto Rico	SC00012
S. Carolina Radiochem	10120002
Sanitation Districts of L	9255651
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235-22-20
Utah NELAP	SC000122022-37
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

Metals Analysis

Case Narrative

Metals
Technical Case Narrative
Dominion Energy
SDG #: 615829

Product: Determination of Metals by ICP-MS
Analytical Method: EPA 200.8 SC_NPDES
Analytical Procedure: GL-MA-E-014 REV# 35
Analytical Batch: 2404522

Preparation Method: EPA 200.2
Preparation Procedure: GL-MA-E-016 REV# 18
Preparation Batch: 2404521

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

GEL Sample ID#	Client Sample Identification
615829001	MW-LF-10-2023Q1
615829002	MW-LF-11-2023Q1
615829003	MW-LF-20-2023Q1
615829004	MW-LF-21-2023Q1
615829005	MW-LF-22D-2023Q1
615829006	MW-LF-23D-2023Q1
615829007	DU-W52-CCR-23101
615829008	FBLK-W52-CCR-23101
615829009	MW-LF-24-2023Q1
615829010	MW-LF-25-2023Q1
615829011	MW-LF-26-2023Q1
615829012	MW-LF-27-2023Q1
615829013	MW-LF-28-2023Q1
615829014	FBLK-W52-CCR-23102
1205357707	Method Blank (MB)**ICP-MS**
1205357708	Laboratory Control Sample (LCS)
1205357711	615829012(MW-LF-27-2023Q1L) Serial Dilution (SD)
1205357714	615829013(MW-LF-28-2023Q1L) Serial Dilution (SD)
1205357709	615829012(MW-LF-27-2023Q1D) Sample Duplicate (DUP)
1205357712	615829013(MW-LF-28-2023Q1D) Sample Duplicate (DUP)
1205357710	615829012(MW-LF-27-2023Q1S) Matrix Spike (MS)
1205357713	615829013(MW-LF-28-2023Q1S) Matrix Spike (MS)

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

Data Summary:

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

Calibration Information

ICSA/ICSAB Statement
For the ICP-MS analysis, the ICSA solution contains analyte concentrations which are verified trace impurities indigenous to the purchased standard.

Technical Information

Sample Dilutions
Dilutions may be required for many reasons, including to minimize matrix interferences or to bring over range target analyte concentrations into the linear calibration range. Samples 615829001 (MW-LF-10-2023Q1), 615829003 (MW-LF-20-2023Q1), 615829004 (MW-LF-21-2023Q1), 615829005 (MW-LF-22D-2023Q1), 615829006 (MW-LF-23D-2023Q1), 615829007 (DU-W52-CCR-23101), 615829009 (MW-LF-24-2023Q1), 615829010 (MW-LF-25-2023Q1) and 615829011 (MW-LF-26-2023Q1) were diluted to ensure that the analyte concentrations were within the linear calibration range of the instrument.

Analyte	615829								
	001	**003**	**004**	**005**	**006**	**007**	**009**	**010**	**011**
Boron	1X	5X	5X	5X	5X	5X	1X	1X	1X
Calcium	10X	5X	5X	5X	5X	5X	10X	10X	10X

Miscellaneous Information

Additional Comments
All method-driven specifications are followed for these analyses except where client-specific SOW requirements are required to be met.

Certification Statement

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

GEL LABORATORIES LLC

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

Qualifier Definition Report
for

DMNN001 Dominion Energy (50149867)

Client SDG: 615829 GEL Work Order: 615829

The Qualifiers in this report are defined as follows:

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

Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this data report:

Signature:  **Name: Edmund Frampton**

Date: 30 MAR 2023 **Title: Group Leader**

Sample Data Summary

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 615829 **CONTRACT:** DMNN00101 **METHOD TYPE:** EPA

SAMPLE ID: 615829001 **BASIS:** As Received **DATE COLLECTED** 23-MAR-23

CLIENT ID: MW-LF-10-2023Q1 **LEVEL:** Low **DATE RECEIVED:** 23-MAR-23

MATRIX: GW **%SOLIDS:** 0

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-42-8	Boron	64.0	ug/L		4.00	15.0	15.0	1	MS	PRB	03/28/23 22:29	230328-5	2404522
7440-70-2	Calcium	57400	ug/L		300	1000	1000	10	MS	PRB	03/29/23 11:13	230329-1	2404522

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2404522	2404521	EPA 200.2	50	mL	50	mL	03/28/23	JD2

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 615829 **CONTRACT:** DMNN00101 **METHOD TYPE:** EPA

SAMPLE ID: 615829002 **BASIS:** As Received **DATE COLLECTED** 22-MAR-23

CLIENT ID: MW-LF-11-2023Q1 **LEVEL:** Low **DATE RECEIVED:** 23-MAR-23

MATRIX: GW **%SOLIDS:** 0

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-42-8	Boron	25.9	ug/L		4.00	15.0	15.0	1	MS	PRB	03/28/23 22:32	230328-5	2404522
7440-70-2	Calcium	14600	ug/L		30.0	100	100	1	MS	PRB	03/29/23 11:15	230329-1	2404522

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2404522	2404521	EPA 200.2	50	mL	50	mL	03/28/23	JD2

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 615829 **CONTRACT:** DMNN00101 **METHOD TYPE:** EPA

SAMPLE ID: 615829003 **BASIS:** As Received **DATE COLLECTED** 22-MAR-23

CLIENT ID: MW-LF-20-2023Q1 **LEVEL:** Low **DATE RECEIVED:** 23-MAR-23

MATRIX: GW **%SOLIDS:** 0

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-42-8	Boron	200	ug/L		20.0	75.0	75.0	5	MS	PRB	03/29/23 15:41	230329-4	2404522
7440-70-2	Calcium	140000	ug/L		150	500	500	5	MS	PRB	03/29/23 11:17	230329-1	2404522

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2404522	2404521	EPA 200.2	50	mL	50	mL	03/28/23	JD2

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 615829 **CONTRACT:** DMNN00101 **METHOD TYPE:** EPA

SAMPLE ID: 615829004 **BASIS:** As Received **DATE COLLECTED** 23-MAR-23

CLIENT ID: MW-LF-21-2023Q1 **LEVEL:** Low **DATE RECEIVED:** 23-MAR-23

MATRIX: GW **%SOLIDS:** 0

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-42-8	Boron	198	ug/L		20.0	75.0	75.0	5	MS	PRB	03/29/23 15:43	230329-4	2404522
7440-70-2	Calcium	120000	ug/L		150	500	500	5	MS	PRB	03/29/23 11:23	230329-1	2404522

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2404522	2404521	EPA 200.2	50	mL	50	mL	03/28/23	JD2

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 615829 **CONTRACT:** DMNN00101 **METHOD TYPE:** EPA

SAMPLE ID: 615829005 **BASIS:** As Received **DATE COLLECTED** 23-MAR-23

CLIENT ID: MW-LF-22D-2023Q1 **LEVEL:** Low **DATE RECEIVED:** 23-MAR-23

MATRIX: GW **%SOLIDS:** 0

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-42-8	Boron	324	ug/L		20.0	75.0	75.0	5	MS	PRB	03/29/23 15:45	230329-4	2404522
7440-70-2	Calcium	80100	ug/L		150	500	500	5	MS	PRB	03/29/23 11:25	230329-1	2404522

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2404522	2404521	EPA 200.2	50	mL	50	mL	03/28/23	JD2

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 615829 **CONTRACT:** DMNN00101 **METHOD TYPE:** EPA

SAMPLE ID: 615829006 **BASIS:** As Received **DATE COLLECTED** 23-MAR-23

CLIENT ID: MW-LF-23D-2023Q1 **LEVEL:** Low **DATE RECEIVED:** 23-MAR-23

MATRIX: GW **%SOLIDS:** 0

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-42-8	Boron	291	ug/L		20.0	75.0	75.0	5	MS	PRB	03/29/23 15:47	230329-4	2404522
7440-70-2	Calcium	66000	ug/L		150	500	500	5	MS	PRB	03/29/23 11:27	230329-1	2404522

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2404522	2404521	EPA 200.2	50	mL	50	mL	03/28/23	JD2

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 615829 **CONTRACT:** DMNN00101 **METHOD TYPE:** EPA

SAMPLE ID: 615829007 **BASIS:** As Received **DATE COLLECTED** 22-MAR-23

CLIENT ID: DU-W52-CCR-23101 **LEVEL:** Low **DATE RECEIVED:** 23-MAR-23

MATRIX: GW **%SOLIDS:** 0

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-42-8	Boron	215	ug/L		20.0	75.0	75.0	5	MS	PRB	03/29/23 15:48	230329-4	2404522
7440-70-2	Calcium	142000	ug/L		150	500	500	5	MS	PRB	03/29/23 11:29	230329-1	2404522

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2404522	2404521	EPA 200.2	50	mL	50	mL	03/28/23	JD2

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 615829 **CONTRACT:** DMNN00101 **METHOD TYPE:** EPA

SAMPLE ID: 615829008 **BASIS:** As Received **DATE COLLECTED** 22-MAR-23

CLIENT ID: FBLK-W52-CCR-23101 **LEVEL:** Low **DATE RECEIVED:** 23-MAR-23

MATRIX: AQ **%SOLIDS:** 0

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-42-8	Boron	7.46	ug/L	J	4.00	15.0	15.0	1	MS	PRB	03/28/23 22:52	230328-5	2404522
7440-70-2	Calcium	30.0	ug/L	U	30.0	100	100	1	MS	PRB	03/29/23 11:30	230329-1	2404522

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2404522	2404521	EPA 200.2	50	mL	50	mL	03/28/23	JD2

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 615829 **CONTRACT:** DMNN00101 **METHOD TYPE:** EPA

SAMPLE ID: 615829009 **BASIS:** As Received **DATE COLLECTED** 23-MAR-23

CLIENT ID: MW-LF-24-2023Q1 **LEVEL:** Low **DATE RECEIVED:** 23-MAR-23

MATRIX: GW **%SOLIDS:** 0

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-42-8	Boron	79.6	ug/L		4.00	15.0	15.0	1	MS	PRB	03/28/23 23:03	230328-5	2404522
7440-70-2	Calcium	103000	ug/L		300	1000	1000	10	MS	PRB	03/29/23 11:34	230329-1	2404522

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2404522	2404521	EPA 200.2	50	mL	50	mL	03/28/23	JD2

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 615829 **CONTRACT:** DMNN00101 **METHOD TYPE:** EPA

SAMPLE ID: 615829010 **BASIS:** As Received **DATE COLLECTED** 23-MAR-23

CLIENT ID: MW-LF-25-2023Q1 **LEVEL:** Low **DATE RECEIVED:** 23-MAR-23

MATRIX: GW **%SOLIDS:** 0

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-42-8	Boron	44.4	ug/L		4.00	15.0	15.0	1	MS	PRB	03/28/23 23:06	230328-5	2404522
7440-70-2	Calcium	203000	ug/L		300	1000	1000	10	MS	PRB	03/29/23 11:42	230329-1	2404522

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2404522	2404521	EPA 200.2	50	mL	50	mL	03/28/23	JD2

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 615829 **CONTRACT:** DMNN00101 **METHOD TYPE:** EPA

SAMPLE ID: 615829011 **BASIS:** As Received **DATE COLLECTED** 23-MAR-23

CLIENT ID: MW-LF-26-2023Q1 **LEVEL:** Low **DATE RECEIVED:** 23-MAR-23

MATRIX: GW **%SOLIDS:** 0

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-42-8	Boron	163	ug/L		4.00	15.0	15.0	1	MS	PRB	03/28/23 23:09	230328-5	2404522
7440-70-2	Calcium	152000	ug/L		300	1000	1000	10	MS	PRB	03/29/23 11:46	230329-1	2404522

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2404522	2404521	EPA 200.2	50	mL	50	mL	03/28/23	JD2

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 615829 **CONTRACT:** DMNN00101 **METHOD TYPE:** EPA

SAMPLE ID: 615829012 **BASIS:** As Received **DATE COLLECTED** 23-MAR-23

CLIENT ID: MW-LF-27-2023Q1 **LEVEL:** Low **DATE RECEIVED:** 23-MAR-23

MATRIX: GW **%SOLIDS:** 0

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-42-8	Boron	31.1	ug/L		4.00	15.0	15.0	1	MS	PRB	03/28/23 23:13	230328-5	2404522
7440-70-2	Calcium	30200	ug/L		30.0	100	100	1	MS	PRB	03/29/23 11:48	230329-1	2404522

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2404522	2404521	EPA 200.2	50	mL	50	mL	03/28/23	JD2

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 615829 **CONTRACT:** DMNN00101 **METHOD TYPE:** EPA

SAMPLE ID: 615829013 **BASIS:** As Received **DATE COLLECTED** 22-MAR-23

CLIENT ID: MW-LF-28-2023Q1 **LEVEL:** Low **DATE RECEIVED:** 23-MAR-23

MATRIX: GW **%SOLIDS:** 0

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-42-8	Boron	12.6	ug/L	J	4.00	15.0	15.0	1	MS	PRB	03/28/23 23:36	230328-5	2404522
7440-70-2	Calcium	7410	ug/L		30.0	100	100	1	MS	PRB	03/29/23 12:01	230329-1	2404522

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2404522	2404521	EPA 200.2	50	mL	50	mL	03/28/23	JD2

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 615829 **CONTRACT:** DMNN00101 **METHOD TYPE:** EPA

SAMPLE ID: 615829014 **BASIS:** As Received **DATE COLLECTED** ~~22-MAR-23~~ 3/23/23

AMR 4/14/23

CLIENT ID: FBLK-W52-CCR-23102 **LEVEL:** Low **DATE RECEIVED:** 23-MAR-23

MATRIX: AQ **%SOLIDS:** 0

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-42-8	Boron	4.00	ug/L	U	4.00	15.0	15.0	1	MS	PRB	03/28/23 23:53	230328-5	2404522
7440-70-2	Calcium	30.0	ug/L	U	30.0	100	100	1	MS	PRB	03/29/23 12:10	230329-1	2404522

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2404522	2404521	EPA 200.2	50	mL	50	mL	03/28/23	JD2

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

Quality Control Summary

METALS
-2a-
Initial and Continuing Calibration Verification

SDG No: 615829

Contract: DMNN00101 **Lab Code:** GEL

Instrument ID: ICPMS15

Sample ID	*Analyte*	*Result*	*Units*	*True Value*	*Units*	*% Recovery*	*Acceptance Window (%R)*	*M**	*Analysis Date/Time*	*Run Number*
ICV01										
	Boron	103	ug/L	100	ug/L	103.4	90.0 - 110.0	MS	28-MAR-23 21:49	230328-5
	Calcium	4840	ug/L	5000	ug/L	96.7	90.0 - 110.0	MS	29-MAR-23 10:45	230329-1
	Boron	102	ug/L	100	ug/L	102.2	90.0 - 110.0	MS	29-MAR-23 15:28	230329-4
CCV01										
	Boron	101	ug/L	100	ug/L	100.9	90.0 - 110.0	MS	28-MAR-23 22:05	230328-5
	Calcium	5060	ug/L	5000	ug/L	101.3	90.0 - 110.0	MS	29-MAR-23 10:55	230329-1
	Boron	96.9	ug/L	100	ug/L	96.9	90.0 - 110.0	MS	29-MAR-23 15:37	230329-4
CCV02										
	Boron	105	ug/L	100	ug/L	104.5	90.0 - 110.0	MS	28-MAR-23 22:16	230328-5
	Calcium	4780	ug/L	5000	ug/L	95.6	90.0 - 110.0	MS	29-MAR-23 11:01	230329-1
	Boron	103	ug/L	100	ug/L	103	90.0 - 110.0	MS	29-MAR-23 15:56	230329-4
CCV03										
	Boron	100	ug/L	100	ug/L	100	90.0 - 110.0	MS	28-MAR-23 22:56	230328-5
	Calcium	4830	ug/L	5000	ug/L	96.7	90.0 - 110.0	MS	29-MAR-23 11:19	230329-1
CCV04										
	Boron	103	ug/L	100	ug/L	103	90.0 - 110.0	MS	28-MAR-23 23:29	230328-5
	Calcium	5030	ug/L	5000	ug/L	100.5	90.0 - 110.0	MS	29-MAR-23 11:36	230329-1
CCV05										
	Boron	106	ug/L	100	ug/L	106.3	90.0 - 110.0	MS	29-MAR-23 00:06	230328-5
	Calcium	5310	ug/L	5000	ug/L	106.3	90.0 - 110.0	MS	29-MAR-23 11:57	230329-1
CCV06										
	Calcium	4890	ug/L	5000	ug/L	97.8	90.0 - 110.0	MS	29-MAR-23 12:18	230329-1

***Analytical Methods:**

MS EPA 200.8 SC_NPDES

EPA

METALS
-2b-
CRDL Standard for ICP & ICPMS

SDG No: 615829

Contract: DMNN00101 **Lab Code:** GEL

Instrument ID: ICPMS15

Sample ID	*Analyte*	*Result*	*Units*	*True Value*	*Units*	*% Recovery*	*Advisory Limits (%R)*	*M**	*Analysis Date/Time*	*Run Number*
CRDL01										
	Boron	16.7	ug/L	15	ug/L	111.5	70.0 - 130.0	MS	28-MAR-23 21:55	230328-5
	Calcium	223	ug/L	200	ug/L	111.4	70.0 - 130.0	MS	29-MAR-23 10:49	230329-1
	Boron	18.6	ug/L	15	ug/L	123.8	70.0 - 130.0	MS	29-MAR-23 15:32	230329-4
CRDL02										
	Boron	17	ug/L	15	ug/L	113.6	70.0 - 130.0	MS	28-MAR-23 23:56	230328-5
	Calcium	235	ug/L	200	ug/L	117.6	70.0 - 130.0	MS	29-MAR-23 12:12	230329-1
	Boron	17.1	ug/L	15	ug/L	114.1	70.0 - 130.0	MS	29-MAR-23 15:50	230329-4

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

Metals
-3a-
Initial and Continuing Calibration Blank Summary

SDG No.: 615829

Contract: DMNN00101

Lab Code: GEL

Sample ID	Analyte	Result ug/L	Acceptance	Conc Qual	MDL	RDL	Matrix	M*	Analysis Date/Time	Run
ICB01										
	Boron	4.0	+/-7.5	U	4.0	15.0	LIQ	MS	28-MAR-23 21:52	230328-5
	Calcium	30.0	+/-50	U	30.0	100	LIQ	MS	29-MAR-23 10:47	230329-1
	Boron	4.0	+/-7.5	U	4.0	15.0	LIQ	MS	29-MAR-23 15:30	230329-4
CCB01										
	Boron	4.0	+/-7.5	U	4.0	15.0	LIQ	MS	28-MAR-23 22:09	230328-5
	Calcium	30.0	+/-50	U	30.0	100	LIQ	MS	29-MAR-23 10:57	230329-1
	Boron	4.0	+/-7.5	U	4.0	15.0	LIQ	MS	29-MAR-23 15:39	230329-4
CCB02										
	Boron	4.0	+/-7.5	U	4.0	15.0	LIQ	MS	28-MAR-23 22:19	230328-5
	Calcium	30.0	+/-50	U	30.0	100	LIQ	MS	29-MAR-23 11:02	230329-1
	Boron	4.0	+/-7.5	U	4.0	15.0	LIQ	MS	29-MAR-23 15:58	230329-4
CCB03										
	Boron	4.0	+/-7.5	U	4.0	15.0	LIQ	MS	28-MAR-23 22:59	230328-5
	Calcium	30.0	+/-50	U	30.0	100	LIQ	MS	29-MAR-23 11:21	230329-1
CCB04										
	Boron	4.0	+/-7.5	U	4.0	15.0	LIQ	MS	28-MAR-23 23:33	230328-5
	Calcium	30.0	+/-50	U	30.0	100	LIQ	MS	29-MAR-23 11:38	230329-1
CCB05										
	Boron	4.0	+/-7.5	U	4.0	15.0	LIQ	MS	29-MAR-23 00:10	230328-5
	Calcium	30.0	+/-50	U	30.0	100	LIQ	MS	29-MAR-23 11:59	230329-1
CCB06										
	Calcium	30.0	+/-50	U	30.0	100	LIQ	MS	29-MAR-23 12:20	230329-1

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

EPA

METALS
-3b-
PREPARATION BLANK SUMMARY

SDG NO. 615829
Contract: DMNN00101
Matrix: GW

Sample ID	Analyte	Result	Units	Acceptance Window	Conc Qual	M*	MDL	RDL
1205357707								
	Calcium	30.0	ug/L	+/-50	U	MS	30.0	100
	Boron	4.00	ug/L	+/-7.5	U	MS	4.00	15.0

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-4-
Interference Check Sample

SDG No: 615829

Contract: DMNN00101 **Lab Code:** GEL

Instrument: ICPMS15

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	Analysis Date/Time	Run Number
ICSA01									
	Calcium	93200	ug/L	100000	ug/L	93.2	80.0 - 120.0	29-MAR-23 10:51	230329-1
ICSAB01									
	Calcium	93600	ug/L	100000	ug/L	93.7	80.0 - 120.0	29-MAR-23 10:53	230329-1
ICSA02									
	Calcium	90700	ug/L	100000	ug/L	90.7	80.0 - 120.0	29-MAR-23 12:14	230329-1
ICSAB02									
	Calcium	93300	ug/L	100000	ug/L	93.3	80.0 - 120.0	29-MAR-23 12:16	230329-1

METALS
-4-
Interference Check Sample

SDG No: 615829

Contract: DMNN00101 **Lab Code:** GEL

Instrument: ICPMS15

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	Analysis Date/Time	Run Number
ICSA01									
	Boron	3.78	ug/L					29-MAR-23 15:34	230329-4
ICSAB01									
	Boron	22.0	ug/L	22.06	ug/L	99.8	80.0 - 120.0	29-MAR-23 15:35	230329-4
ICSA02									
	Boron	3.21	ug/L					29-MAR-23 15:52	230329-4
ICSAB02									
	Boron	22.4	ug/L	22.06	ug/L	101	80.0 - 120.0	29-MAR-23 15:54	230329-4

METALS
-4-
Interference Check Sample

SDG No: 615829

Contract: DMNN00101 **Lab Code:** GEL

Instrument: ICPMS15

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	Analysis Date/Time	Run Number
ICSA01									
	Boron	4.21	ug/L					28-MAR-23 21:59	230328-5
ICSAB01									
	Boron	23.8	ug/L	22.06	ug/L	108	80.0 - 120.0	28-MAR-23 22:02	230328-5
ICSA02									
	Boron	4.52	ug/L					29-MAR-23 00:00	230328-5
ICSAB02									
	Boron	23.8	ug/L	22.06	ug/L	108	80.0 - 120.0	29-MAR-23 00:03	230328-5

METALS
-5a-

Matrix Spike Summary

SDG NO. 615829 **Client ID:** MW-LF-27-2023Q1S

Contract: DMNN00101 **Level:** Low

Matrix: GROUND WATER **% Solids:**

Sample ID: 615829012 **Spike ID:** 1205357710

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M*
Boron	ug/L	75-125	130		31.1		100	98.4		MS
Calcium	ug/L		34000		30200		2000	192 >4x	N/A	MS

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-5a-

Matrix Spike Summary

SDG NO. 615829 **Client ID:** MW-LF-28-2023Q1S

Contract: DMNN00101 **Level:** Low

Matrix: GROUND WATER **% Solids:**

Sample ID: 615829013 **Spike ID:** 1205357713

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M*
Boron	ug/L	75-125	115		12.6	B	100	102		MS
Calcium	ug/L	75-125	9330		7410		2000	95.7		MS

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

Metals
-6-
Duplicate Sample Summary

SDG No.: 615829 **Lab Code:** GEL

Contract: DMNN00101 **Client ID:** MW-LF-27-2023Q1D

Matrix: GROUND WATER **Level:** Low

Sample ID: 615829012 **Duplicate ID:** 1205357709 **Percent Solids for Dup:** N/A

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M*
Boron	ug/L	+/-30	31.1		28.7		7.95		MS
Calcium	ug/L	+/-20%	30200		29600		1.79		MS

***Analytical Methods:**
MS EPA 200.8 SC_NPDES

Metals
-6-
Duplicate Sample Summary

SDG No.: 615829 **Lab Code:** GEL

Contract: DMNN00101 **Client ID:** MW-LF-28-2023Q1D

Matrix: GROUND WATER **Level:** Low

Sample ID: 615829013 **Duplicate ID:** 1205357712 **Percent Solids for Dup:** N/A

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M*
Boron	ug/L	+/-30	12.6	B	10.8	B	15.7		MS
Calcium	ug/L	+/-20%	7410		7020		5.44		MS

***Analytical Methods:**
MS EPA 200.8 SC_NPDES

EPA

METALS
-7-
Laboratory Control Sample Summary

SDG NO. 615829

Contract: DMNN00101

Aqueous LCS Source: Enviromental Express **Solid LCS Source:**

Sample ID	Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limit	M*
1205357708								
	Boron	ug/L	100	97.6		97.6	85-115	MS
	Calcium	ug/L	2000	2100		105	85-115	MS

80 - 120%

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-9-
Serial Dilution Sample Summary

SDG NO. 615829 **Client ID:** MW-LF-27-2023Q1L

Contract: DMNN00101

Matrix: LIQUID **Level:** Low

Sample ID: 615829012 **Serial Dilution ID:** 1205357711

Analyte	Initial Value ug/L	C	Serial Value ug/L	C	% Difference	Qual	Acceptance Limit	M*
Boron	31.1		47.3	B	52.078			MS
Calcium	30200		30300		.262		10	MS

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-9-
Serial Dilution Sample Summary

SDG NO. 615829 **Client ID:** MW-LF-28-2023Q1L

Contract: DMNN00101

Matrix: LIQUID **Level:** Low

Sample ID: 615829013 **Serial Dilution ID:** 1205357714

Analyte	Initial Value ug/L	C	Serial Value ug/L	C	% Difference	Qual	Acceptance Limit	M*
Boron	12.6	B	33.3	B	164.839			MS
Calcium	7410		6790		8.408		10	MS

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-13-
SAMPLE PREPARATION SUMMARY

SDG No: 615829 **Method Type:** MS

Contract: DMNN00101 **Lab Code:** GEL

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size	Final Sample Volume	Percent Solids
Batch Number	2404521						
1205357707	MB for batch 2404521	MB	G	28-MAR-23	50mL	50mL	
1205357708	LCS for batch 2404521	LCS	G	28-MAR-23	50mL	50mL	
1205357710	MW-LF-27-2023Q1S	MS	G	28-MAR-23	50mL	50mL	
1205357713	MW-LF-28-2023Q1S	MS	G	28-MAR-23	50mL	50mL	
1205357709	MW-LF-27-2023Q1D	DUP	G	28-MAR-23	50mL	50mL	
1205357712	MW-LF-28-2023Q1D	DUP	G	28-MAR-23	50mL	50mL	
615829001	MW-LF-10-2023Q1	SAMPLE	G	28-MAR-23	50mL	50mL	
615829002	MW-LF-11-2023Q1	SAMPLE	G	28-MAR-23	50mL	50mL	
615829003	MW-LF-20-2023Q1	SAMPLE	G	28-MAR-23	50mL	50mL	
615829004	MW-LF-21-2023Q1	SAMPLE	G	28-MAR-23	50mL	50mL	
615829005	MW-LF-22D-2023Q1	SAMPLE	G	28-MAR-23	50mL	50mL	
615829006	MW-LF-23D-2023Q1	SAMPLE	G	28-MAR-23	50mL	50mL	
615829007	DU-W52-CCR-23101	SAMPLE	G	28-MAR-23	50mL	50mL	
615829008	FBLK-W52-CCR-23101	SAMPLE	G	28-MAR-23	50mL	50mL	
615829009	MW-LF-24-2023Q1	SAMPLE	G	28-MAR-23	50mL	50mL	
615829010	MW-LF-25-2023Q1	SAMPLE	G	28-MAR-23	50mL	50mL	
615829011	MW-LF-26-2023Q1	SAMPLE	G	28-MAR-23	50mL	50mL	
615829012	MW-LF-27-2023Q1	SAMPLE	G	28-MAR-23	50mL	50mL	
615829013	MW-LF-28-2023Q1	SAMPLE	G	28-MAR-23	50mL	50mL	

EPA

METALS
-13-
SAMPLE PREPARATION SUMMARY

SDG No: 615829 **Method Type:** MS

Contract: DMNN00101 **Lab Code:** GEL

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size	Final Sample Volume	Percent Solids
615829014	FBLK-W52-CCR-23102	SAMPLE	G	28-MAR-23	50mL	50mL	

EPA

General Chem Analysis

Case Narrative

General Chemistry
Technical Case Narrative
Dominion Energy
SDG #: 615829

Product: **Ion Chromatography**
Analytical Method: EPA 300.0
Analytical Procedure: GL-GC-E-086 REV# 30
Analytical Batch: 2404775

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

GEL Sample ID#	Client Sample Identification
615829001	MW-LF-10-2023Q1
615829002	MW-LF-11-2023Q1
615829003	MW-LF-20-2023Q1
615829004	MW-LF-21-2023Q1
615829005	MW-LF-22D-2023Q1
615829006	MW-LF-23D-2023Q1
615829007	DU-W52-CCR-23101
615829008	FBLK-W52-CCR-23101
615829009	MW-LF-24-2023Q1
615829010	MW-LF-25-2023Q1
615829011	MW-LF-26-2023Q1
615829012	MW-LF-27-2023Q1
615829013	MW-LF-28-2023Q1
615829014	FBLK-W52-CCR-23102
1205358263	Method Blank (MB)
1205358264	Laboratory Control Sample (LCS)
1205358265	615829013(MW-LF-28-2023Q1) Sample Duplicate (DUP)
1205358266	615829013(MW-LF-28-2023Q1) Post Spike (PS)
1205358267	615829001(MW-LF-10-2023Q1) Sample Duplicate (DUP)
1205358268	615829001(MW-LF-10-2023Q1) Post Spike (PS)

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

Data Summary:

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

Technical Information

Sample Dilutions
The following samples 1205358267 (MW-LF-10-2023Q1DUP), 1205358268 (MW-LF-10-2023Q1PS), 615829001 (MW-LF-10-2023Q1), 615829003 (MW-LF-20-2023Q1), 615829004 (MW-LF-21-2023Q1), 615829005 (MW-LF-22D-2023Q1), 615829006 (MW-LF-23D-2023Q1), 615829007 (DU-W52-CCR-23101), 615829009 (MW-LF-24-2023Q1), 615829010 (MW-LF-25-2023Q1), 615829011 (MW-LF-26-2023Q1) and 615829012 (MW-LF-27-2023Q1) were diluted because target analyte concentrations exceeded the calibration range. Dilutions may be required for many reasons, including to minimize matrix interferences or to bring over range target analyte concentrations into the linear calibration range.

Analyte	615829									
	001	**003**	**004**	**005**	**006**	**007**	**009**	**010**	**011**	**012**
Chloride	5X	5X	5X	5X	5X	5X	5X	2X	25X	5X
Sulfate	1X	1X	1X	5X	5X	1X	1X	50X	25X	1X

Miscellaneous Information

Additional Comments

All method-driven specifications are followed for these analyses except where client-specific SOW requirements are required to be met.

Product: **Solids, Total Dissolved**
Analytical Method: SM 2540C
Analytical Procedure: GL-GC-E-001 REV# 20
Analytical Batch: 2404852

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

GEL Sample ID#	Client Sample Identification
615829001	MW-LF-10-2023Q1
615829002	MW-LF-11-2023Q1
615829003	MW-LF-20-2023Q1
615829004	MW-LF-21-2023Q1
615829005	MW-LF-22D-2023Q1
615829006	MW-LF-23D-2023Q1
615829007	DU-W52-CCR-23101
615829008	FBLK-W52-CCR-23101
615829009	MW-LF-24-2023Q1
615829010	MW-LF-25-2023Q1
615829011	MW-LF-26-2023Q1
615829012	MW-LF-27-2023Q1
615829013	MW-LF-28-2023Q1
615829014	FBLK-W52-CCR-23102
1205358387	Method Blank (MB)
1205358388	Laboratory Control Sample (LCS)
1205358390	615829013(MW-LF-28-2023Q1) Sample Duplicate (DUP)
1205358401	615829001(MW-LF-10-2023Q1) Sample Duplicate (DUP)

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

Data Summary:

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

Miscellaneous Information

Additional Comments
Sample filtration took > 10 minutes; therefore as prescribed in the method, a reduced aliquot was used. 615829003 (MW-LF-20-2023Q1), 615829004 (MW-LF-21-2023Q1), 615829007 (DU-W52-CCR-23101), 615829010 (MW-LF-25-2023Q1) and 615829011 (MW-LF-26-2023Q1). All method-driven specifications are followed for these analyses except where client-specific SOW requirements are required to be met.

Certification Statement

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

GEL LABORATORIES LLC

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Qualifier Definition Report
for

DMNN001 Dominion Energy (50149867)

Client SDG: 615829 GEL Work Order: 615829

The Qualifiers in this report are defined as follows:

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

Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this data report:

Signature: Jenny Jones **Name: Jennifer Jones**

Date: 04 APR 2023 **Title: Analyst II**

Sample Data Summary

GEL LABORATORIES LLC
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Certificate of Analysis

Report Date: April 4, 2023

Company : Dominion Energy Services, Inc.
Address : 120 Tredegar Street

Richmond, Virginia 23219
Contact: Kelly Hicks
Project: CCR Groundwater Monitoring - Level 1 Package

Client Sample ID:	MW-LF-10-2023Q1	Project:	DMNN00101
Sample ID:	615829001	Client ID:	DMNN001
Matrix:	GW		
Collect Date:	23-MAR-23 09:45		
Receive Date:	23-MAR-23		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Fluoride		0.413	0.0330	0.100	mg/L		1	JLD1	03/28/23	1111	2404775	1
Sulfate		4.92	0.133	0.400	mg/L		1					
Chloride		21.2	0.335	1.00	mg/L		5	JLD1	03/28/23	2308	2404775	2
Solids Analysis												
SM2540C TDS "As Received"												
Total Dissolved Solids		302	2.38	10.0	mg/L			CH6	03/28/23	1244	2404852	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	SM 2540C	

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

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Certificate of Analysis

Report Date: April 4, 2023

Company : Dominion Energy Services, Inc.
Address : 120 Tredegar Street

Richmond, Virginia 23219
Contact: Kelly Hicks
Project: CCR Groundwater Monitoring - Level 1 Package

Client Sample ID:	MW-LF-11-2023Q1	Project:	DMNN00101
Sample ID:	615829002	Client ID:	DMNN001
Matrix:	GW		
Collect Date:	22-MAR-23 16:30		
Receive Date:	23-MAR-23		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Chloride		5.23	0.0670	0.200	mg/L		1	JLD1	03/28/23	1241	2404775	1
Fluoride		0.278	0.0330	0.100	mg/L		1					
Sulfate		1.31	0.133	0.400	mg/L		1					
Solids Analysis												
SM2540C TDS "As Received"												
Total Dissolved Solids		62.0	2.38	10.0	mg/L			CH6	03/28/23	1244	2404852	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	SM 2540C	

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
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Certificate of Analysis

Report Date: April 4, 2023

Company : Dominion Energy Services, Inc.
Address : 120 Tredegar Street

Richmond, Virginia 23219
Contact: Kelly Hicks
Project: CCR Groundwater Monitoring - Level 1 Package

Client Sample ID: MW-LF-20-2023Q1
Sample ID: 615829003
Matrix: GW
Collect Date: 22-MAR-23 15:20
Receive Date: 23-MAR-23
Collector: Client

Project: DMNN00101
Client ID: DMNN001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Fluoride		0.240	0.0330	0.100	mg/L		1	JLD1	03/28/23	1311	2404775	1
Sulfate		6.69	0.133	0.400	mg/L		1					
Chloride		12.6	0.335	1.00	mg/L		5	JLD1	03/29/23	0038	2404775	2
Solids Analysis												
SM2540C TDS "As Received"												
Total Dissolved Solids		630	4.76	20.0	mg/L			CH6	03/28/23	1244	2404852	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	SM 2540C	

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
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Certificate of Analysis

Report Date: April 4, 2023

Company : Dominion Energy Services, Inc.
Address : 120 Tredegar Street

Richmond, Virginia 23219
Contact: Kelly Hicks
Project: CCR Groundwater Monitoring - Level 1 Package

Client Sample ID:	MW-LF-21-2023Q1	Project:	DMNN00101
Sample ID:	615829004	Client ID:	DMNN001
Matrix:	GW		
Collect Date:	23-MAR-23 13:08		
Receive Date:	23-MAR-23		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Chloride		11.7	0.335	1.00	mg/L		5	JLD1	03/29/23	0108	2404775	1
Fluoride		0.260	0.0330	0.100	mg/L		1	JLD1	03/28/23	1340	2404775	2
Sulfate		7.38	0.133	0.400	mg/L		1					
Solids Analysis												
SM2540C TDS "As Received"												
Total Dissolved Solids		598	4.76	20.0	mg/L			CH6	03/28/23	1244	2404852	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	SM 2540C	

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
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Certificate of Analysis

Report Date: April 4, 2023

Company : Dominion Energy Services, Inc.
Address : 120 Tredegar Street

Richmond, Virginia 23219
Contact: Kelly Hicks
Project: CCR Groundwater Monitoring - Level 1 Package

Client Sample ID:	MW-LF-22D-2023Q1	Project:	DMNN00101
Sample ID:	615829005	Client ID:	DMNN001
Matrix:	GW		
Collect Date:	23-MAR-23 11:55		
Receive Date:	23-MAR-23		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Chloride		10.5	0.335	1.00	mg/L		5	JLD1	03/29/23	0138	2404775	1
Sulfate		32.5	0.665	2.00	mg/L		5					
Fluoride		0.209	0.0330	0.100	mg/L		1	JLD1	03/28/23	1410	2404775	2
Solids Analysis												
SM2540C TDS "As Received"												
Total Dissolved Solids		576	2.38	10.0	mg/L			CH6	03/28/23	1244	2404852	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	SM 2540C	

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

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

Certificate of Analysis

Report Date: April 4, 2023

Company : Dominion Energy Services, Inc.
Address : 120 Tredegar Street

Richmond, Virginia 23219
Contact: Kelly Hicks
Project: CCR Groundwater Monitoring - Level 1 Package

Client Sample ID:	MW-LF-23D-2023Q1	Project:	DMNN00101
Sample ID:	615829006	Client ID:	DMNN001
Matrix:	GW		
Collect Date:	23-MAR-23 09:42		
Receive Date:	23-MAR-23		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Chloride		15.8	0.335	1.00	mg/L		5	JLD1	03/29/23	0208	2404775	1
Sulfate		22.4	0.665	2.00	mg/L		5					
Fluoride		0.303	0.0330	0.100	mg/L		1	JLD1	03/28/23	1440	2404775	2
Solids Analysis												
SM2540C TDS "As Received"												
Total Dissolved Solids		494	2.38	10.0	mg/L			CH6	03/28/23	1244	2404852	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	SM 2540C	

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

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Certificate of Analysis

Report Date: April 4, 2023

Company : Dominion Energy Services, Inc.
Address : 120 Tredegar Street

Richmond, Virginia 23219
Contact: Kelly Hicks
Project: CCR Groundwater Monitoring - Level 1 Package

Client Sample ID:	DU-W52-CCR-23101 •	Project:	DMNN00101
Sample ID:	615829007	Client ID:	DMNN001
Matrix:	GW •		
Collect Date:	22-MAR-23 12:00 •		
Receive Date:	23-MAR-23		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Fluoride		0.160	0.0330	0.100	mg/L		1	JLD1	03/28/23	1640	2404775	1
Sulfate		6.84	0.133	0.400	mg/L		1					
Chloride		12.7	0.335	1.00	mg/L		5	JLD1	03/29/23	0237	2404775	2
Solids Analysis												
SM2540C TDS "As Received"												
Total Dissolved Solids		620	4.76	20.0	mg/L			CH6	03/28/23	1244	2404852	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	SM 2540C	

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
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Certificate of Analysis

Report Date: April 4, 2023

Company : Dominion Energy Services, Inc.
Address : 120 Tredegar Street

Richmond, Virginia 23219
Contact: Kelly Hicks
Project: CCR Groundwater Monitoring - Level 1 Package

Client Sample ID:	FBLK-W52-CCR-23101	Project:	DMNN00101
Sample ID:	615829008	Client ID:	DMNN001
Matrix:	AQ		
Collect Date:	22-MAR-23 16:50		
Receive Date:	23-MAR-23		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Chloride	U	ND	0.0670	0.200	mg/L		1	JLD1	03/28/23	1710	2404775	1
Fluoride	U	ND	0.0330	0.100	mg/L		1					
Sulfate	U	ND	0.133	0.400	mg/L		1					
Solids Analysis												
SM2540C TDS "As Received"												
Total Dissolved Solids	U	ND	2.38	10.0	mg/L			CH6	03/28/23	1244	2404852	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	SM 2540C	

Notes:

Column headers are defined as follows:

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

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

Certificate of Analysis

Report Date: April 4, 2023

Company : Dominion Energy Services, Inc.
Address : 120 Tredegar Street

Richmond, Virginia 23219
Contact: Kelly Hicks
Project: CCR Groundwater Monitoring - Level 1 Package

Client Sample ID:	MW-LF-24-2023Q1	Project:	DMNN00101
Sample ID:	615829009	Client ID:	DMNN001
Matrix:	GW		
Collect Date:	23-MAR-23 11:00		
Receive Date:	23-MAR-23		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Chloride		20.6	0.335	1.00	mg/L		5	JLD1	03/29/23	0307	2404775	1
Fluoride		0.409	0.0330	0.100	mg/L		1	JLD1	03/28/23	1740	2404775	2
Sulfate		18.3	0.133	0.400	mg/L		1					
Solids Analysis												
SM2540C TDS "As Received"												
Total Dissolved Solids		428	2.38	10.0	mg/L			CH6	03/28/23	1244	2404852	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	SM 2540C	

Notes:

Column headers are defined as follows:

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

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

Certificate of Analysis

Report Date: April 4, 2023

Company : Dominion Energy Services, Inc.
Address : 120 Tredegar Street

Richmond, Virginia 23219
Contact: Kelly Hicks
Project: CCR Groundwater Monitoring - Level 1 Package

Client Sample ID:	MW-LF-25-2023Q1	Project:	DMNN00101
Sample ID:	615829010	Client ID:	DMNN001
Matrix:	GW		
Collect Date:	23-MAR-23 12:15		
Receive Date:	23-MAR-23		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Sulfate		505	6.65	20.0	mg/L		50	JLD1	03/29/23	0537	2404775	1
Chloride		9.73	0.134	0.400	mg/L		2	JLD1	03/29/23	0337	2404775	2
Fluoride		0.628	0.0330	0.100	mg/L		1	JLD1	03/28/23	1809	2404775	3
Solids Analysis												
SM2540C TDS "As Received"												
Total Dissolved Solids		1050	4.76	20.0	mg/L			CH6	03/28/23	1244	2404852	4

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	EPA 300.0	
4	SM 2540C	

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
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Certificate of Analysis

Report Date: April 4, 2023

Company : Dominion Energy Services, Inc.
Address : 120 Tredegar Street

Richmond, Virginia 23219
Contact: Kelly Hicks
Project: CCR Groundwater Monitoring - Level 1 Package

Client Sample ID:	MW-LF-26-2023Q1	Project:	DMNN00101
Sample ID:	615829011	Client ID:	DMNN001
Matrix:	GW		
Collect Date:	23-MAR-23 09:40		
Receive Date:	23-MAR-23		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Chloride		141	1.68	5.00	mg/L		25	JLD1	03/29/23	0607	2404775	1
Sulfate		58.5	3.33	10.0	mg/L		25					
Fluoride		0.315	0.0330	0.100	mg/L		1	JLD1	03/28/23	1839	2404775	2
Solids Analysis												
SM2540C TDS "As Received"												
Total Dissolved Solids		890	4.76	20.0	mg/L			CH6	03/28/23	1244	2404852	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	SM 2540C	

Notes:

Column headers are defined as follows:

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

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

Certificate of Analysis

Report Date: April 4, 2023

Company : Dominion Energy Services, Inc.
Address : 120 Tredegar Street

Richmond, Virginia 23219
Contact: Kelly Hicks
Project: CCR Groundwater Monitoring - Level 1 Package

Client Sample ID:	MW-LF-27-2023Q1	Project:	DMNN00101
Sample ID:	615829012	Client ID:	DMNN001
Matrix:	GW		
Collect Date:	23-MAR-23 11:50		
Receive Date:	23-MAR-23		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Fluoride		0.107	0.0330	0.100	mg/L		1	JLD1	03/28/23	1909	2404775	1
Sulfate		10.2	0.133	0.400	mg/L		1					
Chloride		19.8	0.335	1.00	mg/L		5	JLD1	03/29/23	0637	2404775	2
Solids Analysis												
SM2540C TDS "As Received"												
Total Dissolved Solids		148	2.38	10.0	mg/L			CH6	03/28/23	1244	2404852	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	SM 2540C	

Notes:

Column headers are defined as follows:

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

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

Certificate of Analysis

Report Date: April 4, 2023

Company : Dominion Energy Services, Inc.
Address : 120 Tredegar Street

Richmond, Virginia 23219
Contact: Kelly Hicks
Project: CCR Groundwater Monitoring - Level 1 Package

Client Sample ID:	MW-LF-28-2023Q1	Project:	DMNN00101
Sample ID:	615829013	Client ID:	DMNN001
Matrix:	GW		
Collect Date:	22-MAR-23 15:46		
Receive Date:	23-MAR-23		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Chloride		5.88	0.0670	0.200	mg/L		1	JLD1	03/28/23	1939	2404775	1
Fluoride	J	0.0820	0.0330	0.100	mg/L		1					
Sulfate		0.760	0.133	0.400	mg/L		1					
Solids Analysis												
SM2540C TDS "As Received"												
Total Dissolved Solids		19.0	2.38	10.0	mg/L			CH6	03/28/23	1244	2404852	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	SM 2540C	

Notes:

Column headers are defined as follows:

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

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

Certificate of Analysis

Report Date: April 4, 2023

Company : Dominion Energy Services, Inc.
Address : 120 Tredegar Street

Richmond, Virginia 23219
Contact: Kelly Hicks
Project: CCR Groundwater Monitoring - Level 1 Package

Client Sample ID:	FBLK-W52-CCR-23102	Project:	DMNN00101
Sample ID:	615829014	Client ID:	DMNN001
Matrix:	AQ		
Collect Date:	~~22-MAR-23~~ 3/23/23 09:55 AB 4/13/23		
Receive Date:	23-MAR-23		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Chloride	U	ND	0.0670	0.200	mg/L		1	JLD1	03/28/23	2109	2404775	1
Fluoride	U	ND	0.0330	0.100	mg/L		1					
Sulfate	U	ND	0.133	0.400	mg/L		1					
Solids Analysis												
SM2540C TDS "As Received"												
Total Dissolved Solids	U	ND	2.38	10.0	mg/L			CH6	03/28/23	1244	2404852	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	SM 2540C	

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

Quality Control Summary

QC Summary

Report Date: April 4, 2023

Dominion Energy Services, Inc.
120 Tredegar Street
Richmond, Virginia

Contact: **Kelly Hicks**

Workorder: **615829**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Ion Chromatography										
Batch 2404775										
QC1205358265 615829013 DUP										
Chloride		5.88		5.86	mg/L	0.409		(0%-20%)	JLD1	03/28/23 20:09
Fluoride	J	0.0820	J	0.0667	mg/L	20.6 ^ diff < RL		(+/-0.100)		
Sulfate		0.760		0.747	mg/L	1.71 ^		(+/-0.400)		
QC1205358267 615829001 DUP										
Chloride		21.2		21.2	mg/L	0.174		(0%-20%)		03/28/23 23:38
Fluoride		0.413		0.394	mg/L	4.91 ^		(+/-0.100)		03/28/23 11:41
Sulfate		4.92		4.90	mg/L	0.45		(0%-20%)		
QC1205358264 LCS										
Chloride	5.00			4.89	mg/L		97.8	(90%-110%)		03/28/23 10:41
Fluoride	2.50			2.47	mg/L		98.8	(90%-110%)		
Sulfate	10.0			9.97	mg/L		99.7	(90%-110%)		
QC1205358263 MB										
Chloride			U	ND	mg/L					03/28/23 10:12
Fluoride			U	ND	mg/L					
Sulfate			U	ND	mg/L					
QC1205358266 615829013 PS										
Chloride	5.00	5.88		11.3	mg/L		109	(90%-110%)		03/28/23 20:39

QC Summary

Workorder: **615829**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Ion Chromatography											
Batch 2404775											
Fluoride	2.50	J	0.0820		2.59	mg/L		100	(90%-110%)	JLD1	03/28/23 20:39
Sulfate	10.0		0.760		10.9	mg/L		101	(90%-110%)		
QC1205358268 615829001 PS											
Chloride	5.00		4.25		9.31	mg/L		101	(90%-110%)		03/29/23 00:08
Fluoride	2.50		0.413		2.91	mg/L		100	(90%-110%)		03/28/23 12:11
Sulfate	10.0		4.92		15.3	mg/L		103	(90%-110%)		
Solids Analysis											
Batch 2404852											
QC1205358390 615829013 DUP											
Total Dissolved Solids			19.0		13.0	mg/L	37.5 ^ diff < RL		(+/-10.0)	CH6	03/28/23 12:44
QC1205358401 615829001 DUP											
Total Dissolved Solids			302		314	mg/L	3.9		(0%-5%)		03/28/23 12:44
QC1205358388 LCS											
Total Dissolved Solids	300				301	mg/L		100	(95%-105%)		03/28/23 12:44
QC1205358387 MB											
Total Dissolved Solids				U	ND	mg/L					03/28/23 12:44

Notes:

The Qualifiers in this report are defined as follows:

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

QC Summary

Workorder: **615829**

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

h	Preparation or preservation holding time was exceeded
R	Sample results are rejected
Z	Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
d	5-day BOD--The 2:1 depletion requirement was not met for this sample
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
N/A	RPD or %Recovery limits do not apply.
ND	Analyte concentration is not detected above the detection limit
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
E	General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
N1	See case narrative
R	Per section 9.3.4.1 of Method 1664 Revision B, due to matrix spike recovery issues, this result may not be reported or used for regulatory compliance purposes.
B	The target analyte was detected in the associated blank.
e	5-day BOD--Test replicates show more than 30% difference between high and low values. The data is qualified per the method and can be used for reporting purposes
J	See case narrative for an explanation

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

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

Appendix D
Second Semiannual Detection Monitoring Program Event Field Data Sheets, Laboratory Reports, and Data Validation Forms

Dominion Groundwater Level Measurement Log
For Williams Generating Station (W52)

Program: CCR	**Project Number:** 416559.6.0
Date: 2023-10-03	**Sampler Name(s):** Jason Yonts
Notes:	

Well ID	Time	Depth to GW (btoc, ft)	Depth to Bottom (btoc, ft)	Notes
W52-MW-LF-26	15:03	23.18	33.43	
W52-GW-14	15:04	7.66		
W52-GW-14R	15:08	10.71		
W52-GW-15	15:11	8.52		
W52-PZ-04	15:14	10.11		
W52-PZ-02	15:19	7.24		
W52-PZ-01	15:21	7.09		
W52-PZ-03	15:23	8.99		
W52-MW-LF-31	15:26	8.55		
W52-MW-LF-30	15:28	7.23		
W52-MW-LF-29	15:30	5.06		
W52-GW-13	15:36	5.89		
W52-GW-18	15:38	11.82		
W52-GW-16	15:41	10.97		
W52-GW-17	15:44	10.03		
W52-GW-12	15:50	13.01		
W52-MW-LF-28	15:52	9.79	19.33	
W52-MW-LF-11	15:55	11.44	21.8	
W52-GW-10	15:57	8.15	20.69	
W52-MW-LF-27	15:59	9.01	22.75	
W52-MW-LF-24	16:06	13.75	25.42	
W52-MW-LF-25	16:07	12.44	24.21	
W52-MW-LF-23	16:09	12.25		
W52-MW-LF-23D	16:09	12.31	33.7	
W52-MW-LF-22	16:11	12.01		
W52-MW-LF-22D	16:12	11.97	33.48	
W52-MW-LF-21	16:14	13.09	28.24	
W52-MW-LF-20	16:15	19.95	32.85	

Field Team Leader Signature: JW	**Signature Date:** 2023-10-10

WATER SAMPLE LOG: MW-LF-10-2023Q4
WILLIAMS HWY 52 GENERATING STATION

PREPARED BY	CHECKED BY
BY: Jason Yonts DATE: 2023-10-04	BY: David Szynal DATE: 2023-10-10

WELL ID: W52-GW-10		
TASK CODE: W52-GW-2023-10	WELL TYPE: Monitoring Well	WELL DIAMETER (IN.): 2
INITIAL DEPTH TO WATER (FT): 8.18	TOTAL DEPTH TO WATER (FT): 20.69	TOTAL WATER COLUMN (FT): 12.51
TOP OF SCREEN (FT): 8.2	BOTTOM OF SCREEN (FT): 18.2	METHOD OF PURGING: Low Flow
PUMP TYPE: Peristaltic	PUMP START TIME: 10:21	PUMP INTAKE DEPTH/SAMPLE DEPTH (FT): 15

PURGING	
METHOD: Low Flow	MEASURE POINT: Top of Casing
PUMP TYPE: Peristaltic	PUMP INTAKE/SAMPLE DEPTH (FT) : 15
PURGE AND STABILIZATION NOTES:	

PURGE MEASURES

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (US/CM)	ORP (MV)	DO (MG/L)	TURDIDITY (NTU)	TEMPERATURE (C)	WATER LEVEL	COMMENTS
10:26	50	7.08	651.36	-104	1.84	3.31	25.13	8.56	
10:31	50	7.17	638.92	-48.2	0.16	1.47	25.06	9.05	
10:36	50	7.17	638.71	-40.3	0.12	1.53	25.05	9.33	
10:41	50	7.17	638.12	-33.4	0.12	1.56	25.13	9.55	
10:46	50	7.16	637.31	-27.3	0.07	0.42	25.19	9.85	
10:51	50	7.15	637.66	-25.9	0.07	0.61	25.19	10.01	
10:56	50	7.15	636.86	-24.1	0.07	0.82	25.18	10.10	
11:01	50	7.14	634.14	-22.8	0.07	0.56	25.23	10.29	
11:06	50	7.12	631.07	-22.4	0.07	0.73	25.29	10.41	

SAMPLE	
TIME: 11:06	METHOD OF SAMPLING: Low Flow
TOTAL VOL. PURGED (ML): 2250	TIME POST SAMPLE: 11:20
WATER LEVEL POST-SAMPLE: 10.45	FLOW RATE POST-SAMPLE (ML/MIN): 50
TURBIDITY POST-SAMPLE (NTU): 0.53	COLOR POST SAMPLE: Clear
ODOR POST-SAMPLE: None	STABILITY REACHED: Y
SAMPLE COMMENTS:	

SAMPLE QA					
TYPE	**ID**	**TIME**	**TYPE**	**ID**	**TIME**
FIELD BLANK			FIELD DUPLICATE		
EQUIPMENT BLANK			FILTER BLANK		
EQUIPMENT BLANK			FILTER BLANK LOT:		
TUBING BLANK LOT:			MS/MSD	NO	

BOTTLES				
BOTTLE LOT NUMBER	**BOTTLE COUNT**	**SIZE (ML)**	**TYPE**	**PRESERVATIVE**
	1	250	HDPE	HNO3
	1	250	HDPE	UNPRESERVED
	1	125	HDPE	UNPRESERVED

WATER SAMPLE LOG: MW-LF-11-2023Q4
WILLIAMS HWY 52 GENERATING STATION

PREPARED BY	CHECKED BY
BY: Jason Yonts DATE: 2023-10-04	BY: David Szynal DATE: 2023-10-10

WELL ID: W52-MW-LF-11		
TASK CODE: W52-GW-2023-10	WELL TYPE: Monitoring Well	WELL DIAMETER (IN.): 2
INITIAL DEPTH TO WATER (FT): 11.46	TOTAL DEPTH TO WATER (FT): 21.8	TOTAL WATER COLUMN (FT): 10.34
TOP OF SCREEN (FT): 8.6	BOTTOM OF SCREEN (FT): 18.6	METHOD OF PURGING: Low Flow
PUMP TYPE: Peristaltic	PUMP START TIME: 11:30	PUMP INTAKE DEPTH/SAMPLE DEPTH (FT): 15

PURGING	
METHOD: Low Flow	MEASURE POINT: Top of Casing
PUMP TYPE: Peristaltic	PUMP INTAKE/SAMPLE DEPTH (FT) : 15
PURGE AND STABILIZATION NOTES:	

PURGE MEASURES

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (US/CM)	ORP (MV)	DO (MG/L)	TURDIDITY (NTU)	TEMPERATURE (C)	WATER LEVEL	COMMENTS
11:36	50	7.21	311.97	-29.5	6.18	1.64	27.02	11.53	
11:41	50	7.09	365.79	-6.3	0.35	1.86	27.29	11.56	
11:46	50	6.98	344.12	11.9	0.14	0.86	27.11	11.57	
11:51	50	6.76	287.02	34.8	0.11	0.56	27.24	11.57	
11:56	50	6.52	220.41	53.4	0.18	1.56	27.46	11.59	
12:01	50	6.37	184.85	70.1	0.21	0.63	27.6	11.62	
12:06	50	6.38	187.58	70.6	0.23	0.76	27.47	11.63	
12:11	50	6.36	182.08	73.6	0.22	0.97	27.47	11.63	
12:16	50	6.36	184.62	74.1	0.21	0.88	27.84	11.64	
12:21	50	6.36	184.68	73.5	0.23	0.75	27.47	11.64	
12:26	50	6.35	184.81	72.1	0.21	0.84	27.38	11.64	

SAMPLE	
TIME: 12:26	METHOD OF SAMPLING: Low Flow
TOTAL VOL. PURGED (ML): 2800	TIME POST SAMPLE: 12:39
WATER LEVEL POST-SAMPLE: 11.64	FLOW RATE POST-SAMPLE (ML/MIN): 50
TURBIDITY POST-SAMPLE (NTU): 0.73	COLOR POST SAMPLE: Clear
ODOR POST-SAMPLE: None	STABILITY REACHED: Y
SAMPLE COMMENTS:	

SAMPLE QA					
TYPE	**ID**	**TIME**	**TYPE**	**ID**	**TIME**
FIELD BLANK			FIELD DUPLICATE		
EQUIPMENT BLANK			FILTER BLANK		
EQUIPMENT BLANK			FILTER BLANK LOT:		
TUBING BLANK LOT:			MS/MSD	NO	

BOTTLES				
BOTTLE LOT NUMBER	**BOTTLE COUNT**	**SIZE (ML)**	**TYPE**	**PRESERVATIVE**
	1	250	HDPE	HNO3
	1	250	HDPE	UNPRESERVED
	1	125	HDPE	UNPRESERVED

WATER SAMPLE LOG: MW-LF-20-2023Q4
WILLIAMS HWY 52 GENERATING STATION

PREPARED BY	CHECKED BY
BY: Sam Thorsland DATE: 2023-10-04	BY: David Szynal DATE: 2023-10-10

WELL ID: W52-MW-LF-20		
TASK CODE: W52-GW-2023-10	WELL TYPE: Monitoring Well	WELL DIAMETER (IN.): 2
INITIAL DEPTH TO WATER (FT): 19.97	TOTAL DEPTH TO WATER (FT): 32.85	TOTAL WATER COLUMN (FT): 12.88
TOP OF SCREEN (FT): 12.85	BOTTOM OF SCREEN (FT): 32.85	METHOD OF PURGING: Low Flow
PUMP TYPE: Peristaltic	PUMP START TIME: 09:21	PUMP INTAKE DEPTH/SAMPLE DEPTH (FT): 27

PURGING	
METHOD: Low Flow	MEASURE POINT: Top of Casing
PUMP TYPE: Peristaltic	PUMP INTAKE/SAMPLE DEPTH (FT) : 27
PURGE AND STABILIZATION NOTES:	

PURGE MEASURES

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (US/CM)	ORP (MV)	DO (MG/L)	TURDIDITY (NTU)	TEMPERATURE (C)	WATER LEVEL	COMMENTS
09:25	40	6.02	1079.4	92.4	0.75	2.88	27.5	20.32	
09:40	40	6.14	1105.4	67.6	0.33	2.08	25.56	21.38	
09:45	40	6.16	1100.8	63.3	0.45	1.47	25.6	21.74	
09:50	40	6.18	1075.4	62.7	0.79	1.15	25.78	22.04	
09:55	40	6.18	1069.4	63	1.12	1.32	25.8	22.33	
10:00	40	6.18	1068.2	62.9	1.05	1.09	25.89	22.61	
10:03	40	6.17	1070.3	62.8	1.04	0.95	25.83	22.82	

SAMPLE	
TIME: 10:03	METHOD OF SAMPLING: Low Flow
TOTAL VOL. PURGED (ML): 1680	TIME POST SAMPLE: 10:22
WATER LEVEL POST-SAMPLE: 23.11	FLOW RATE POST-SAMPLE (ML/MIN): 40
TURBIDITY POST-SAMPLE (NTU): 1	COLOR POST SAMPLE: Clear
ODOR POST-SAMPLE: None	STABILITY REACHED: Y
SAMPLE COMMENTS:	

SAMPLE QA					
TYPE	**ID**	**TIME**	**TYPE**	**ID**	**TIME**
FIELD BLANK			FIELD DUPLICATE		
EQUIPMENT BLANK			FILTER BLANK		
EQUIPMENT BLANK			FILTER BLANK LOT:		
TUBING BLANK LOT:			MS/MSD	NO	

BOTTLES				
BOTTLE LOT NUMBER	**BOTTLE COUNT**	**SIZE (ML)**	**TYPE**	**PRESERVATIVE**
0130801H	1	250	HDPE	HNO3
	1	250	HDPE	UNPRESERVED
	1	125	HDPE	UNPRESERVED

WATER SAMPLE LOG: MW-LF-21-2023Q4
WILLIAMS HWY 52 GENERATING STATION

PREPARED BY	CHECKED BY
BY: Sam Thorsland DATE: 2023-10-04	BY: David Szynal DATE: 2023-10-10

WELL ID: W52-MW-LF-21		
TASK CODE: W52-GW-2023-10	WELL TYPE: Monitoring Well	WELL DIAMETER (IN.): 2
INITIAL DEPTH TO WATER (FT): 13.13	TOTAL DEPTH TO WATER (FT): 28.24	TOTAL WATER COLUMN (FT): 15.11
TOP OF SCREEN (FT): 18.24	BOTTOM OF SCREEN (FT): 28.24	METHOD OF PURGING: Low Flow
PUMP TYPE: Peristaltic	PUMP START TIME: 10:32	PUMP INTAKE DEPTH/SAMPLE DEPTH (FT): 23

PURGING	
METHOD: Low Flow	MEASURE POINT: Top of Casing
PUMP TYPE: Peristaltic	PUMP INTAKE/SAMPLE DEPTH (FT) : 23
PURGE AND STABILIZATION NOTES:	

PURGE MEASURES

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (US/CM)	ORP (MV)	DO (MG/L)	TURDIDITY (NTU)	TEMPERATURE (C)	WATER LEVEL	COMMENTS
10:40	40	6.27	1072.7	50.1	1.67	5.03	26.93	13.42	
10:55	40	6.16	1123.8	7.3	0.3	0.86	25.33	14.37	
11:00	40	6.17	1099.3	-1.2	0.28	0.63	25.27	14.68	
11:05	40	6.18	1094.5	-7.3	0.26	0.85	25.27	14.95	
11:10	40	6.19	1089.5	-10.9	0.26	0.96	25.23	15.21	

SAMPLE	
TIME: 11:10	METHOD OF SAMPLING: Low Flow
TOTAL VOL. PURGED (ML): 1520	TIME POST SAMPLE: 11:40
WATER LEVEL POST-SAMPLE: 17.17	FLOW RATE POST-SAMPLE (ML/MIN): 40
TURBIDITY POST-SAMPLE (NTU): 0.77	COLOR POST SAMPLE: Clear
ODOR POST-SAMPLE: None	STABILITY REACHED: Y
SAMPLE COMMENTS:	

SAMPLE QA					
TYPE	**ID**	**TIME**	**TYPE**	**ID**	**TIME**
FIELD BLANK	FBLK-W52-CCR-23401	10:50	FIELD DUPLICATE	DU-W52-CCR-23401	11:10
EQUIPMENT BLANK			FILTER BLANK		
EQUIPMENT BLANK			FILTER BLANK LOT:		
TUBING BLANK LOT:			MS/MSD	NO	

BOTTLES				
BOTTLE LOT NUMBER	**BOTTLE COUNT**	**SIZE (ML)**	**TYPE**	**PRESERVATIVE**
0130801H	2	250	HDPE	HNO3
	2	250	HDPE	UNPRESERVED
	2	125	HDPE	UNPRESERVED

WATER SAMPLE LOG: MW-LF-22D-2023Q4
WILLIAMS HWY 52 GENERATING STATION

PREPARED BY	CHECKED BY
BY: Sam Thorsland DATE: 2023-10-04	BY: David Szynal DATE: 2023-10-10

WELL ID: W52-MW-LF-22D		
TASK CODE: W52-GW-2023-10	WELL TYPE: Monitoring Well	WELL DIAMETER (IN.): 2
INITIAL DEPTH TO WATER (FT): 11.96	TOTAL DEPTH TO WATER (FT): 33.48	TOTAL WATER COLUMN (FT): 21.52
TOP OF SCREEN (FT): 23.48	BOTTOM OF SCREEN (FT): 33.48	METHOD OF PURGING: Low Flow
PUMP TYPE: Peristaltic	PUMP START TIME: 11:54	PUMP INTAKE DEPTH/SAMPLE DEPTH (FT): 29

PURGING	
METHOD: Low Flow	MEASURE POINT: Top of Casing
PUMP TYPE: Peristaltic	PUMP INTAKE/SAMPLE DEPTH (FT) : 29
PURGE AND STABILIZATION NOTES:	

PURGE MEASURES

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (US/CM)	ORP (MV)	DO (MG/L)	TURDIDITY (NTU)	TEMPERATURE (C)	WATER LEVEL	COMMENTS
12:00	40	6.7	1009.5	32.8	2.02	3.55	27.59	12.3	
12:15	40	6.56	1023.3	25.6	0.26	0.59	25.92	13.54	
12:20	40	6.56	1021.1	24.6	0.25	0.63	26.06	13.86	
12:25	40	6.56	1020.1	23.9	0.23	0.84	25.79	14.2	
12:30	40	6.56	1020.4	22.8	0.22	0.96	25.72	14.57	

SAMPLE	
TIME: 12:30	METHOD OF SAMPLING: Low Flow
TOTAL VOL. PURGED (ML): 1440	TIME POST SAMPLE: 12:59
WATER LEVEL POST-SAMPLE: 16.6	FLOW RATE POST-SAMPLE (ML/MIN): 40
TURBIDITY POST-SAMPLE (NTU): 1.2	COLOR POST SAMPLE: Clear
ODOR POST-SAMPLE: None	STABILITY REACHED: Y
SAMPLE COMMENTS:	

SAMPLE QA					
TYPE	**ID**	**TIME**	**TYPE**	**ID**	**TIME**
FIELD BLANK			FIELD DUPLICATE		
EQUIPMENT BLANK			FILTER BLANK		
EQUIPMENT BLANK			FILTER BLANK LOT:		
TUBING BLANK LOT:			MS/MSD	NO	

BOTTLES				
BOTTLE LOT NUMBER	**BOTTLE COUNT**	**SIZE (ML)**	**TYPE**	**PRESERVATIVE**
0130801H	1	250	HDPE	HNO3
	1	250	HDPE	UNPRESERVED
	1	125	HDPE	UNPRESERVED

WATER SAMPLE LOG: MW-LF-23D-2023Q4
WILLIAMS HWY 52 GENERATING STATION

PREPARED BY	CHECKED BY
BY: Sam Thorsland DATE: 2023-10-04	BY: David Szynal DATE: 2023-10-10

WELL ID: W52-MW-LF-23D		
TASK CODE: W52-GW-2023-10	WELL TYPE: Monitoring Well	WELL DIAMETER (IN.): 2
INITIAL DEPTH TO WATER (FT): 12.35	TOTAL DEPTH TO WATER (FT): 33.7	TOTAL WATER COLUMN (FT): 21.35
TOP OF SCREEN (FT): 23.4	BOTTOM OF SCREEN (FT): 33.4	METHOD OF PURGING: Low Flow
PUMP TYPE: Peristaltic	PUMP START TIME: 13:11	PUMP INTAKE DEPTH/SAMPLE DEPTH (FT): 28

PURGING	
METHOD: Low Flow	MEASURE POINT: Top of Casing
PUMP TYPE: Peristaltic	PUMP INTAKE/SAMPLE DEPTH (FT) : 28
PURGE AND STABILIZATION NOTES:	

PURGE MEASURES

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (US/CM)	ORP (MV)	DO (MG/L)	TURDIDITY (NTU)	TEMPERATURE (C)	WATER LEVEL	COMMENTS
13:20	40	6.98	881.68	38.4	2.39	4.26	29.04	12.57	
13:35	40	6.75	896.94	24.6	0.75	0.49	27.77	14.08	
13:40	40	6.74	893.78	22.3	0.73	0.63	27.92	14.41	
13:45	40	6.75	890.51	19.5	0.7	0.85	28.04	14.79	
13:50	40	6.74	896.32	16.8	0.7	0.27	28.08	15.19	

SAMPLE	
TIME: 13:50	METHOD OF SAMPLING: Low Flow
TOTAL VOL. PURGED (ML): 1560	TIME POST SAMPLE: 14:11
WATER LEVEL POST-SAMPLE: 16.37	FLOW RATE POST-SAMPLE (ML/MIN): 40
TURBIDITY POST-SAMPLE (NTU): 0.54	COLOR POST SAMPLE: Clear
ODOR POST-SAMPLE: None	STABILITY REACHED: Y
SAMPLE COMMENTS:	

SAMPLE QA					
TYPE	**ID**	**TIME**	**TYPE**	**ID**	**TIME**
FIELD BLANK			FIELD DUPLICATE		
EQUIPMENT BLANK			FILTER BLANK		
EQUIPMENT BLANK			FILTER BLANK LOT:		
TUBING BLANK LOT:			MS/MSD	NO	

BOTTLES				
BOTTLE LOT NUMBER	**BOTTLE COUNT**	**SIZE (ML)**	**TYPE**	**PRESERVATIVE**
0130801H	1	250	HDPE	HNO3
	1	250	HDPE	UNPRESERVED
	1	125	HDPE	UNPRESERVED

WATER SAMPLE LOG: MW-LF-24-2023Q4
WILLIAMS HWY 52 GENERATING STATION

PREPARED BY	CHECKED BY
BY: Sam Thorsland DATE: 2023-10-04	BY: David Szynal DATE: 2023-10-10

WELL ID: W52-MW-LF-24		
TASK CODE: W52-GW-2023-10	WELL TYPE: Monitoring Well	WELL DIAMETER (IN.): 2
INITIAL DEPTH TO WATER (FT): 13.77	TOTAL DEPTH TO WATER (FT): 25.42	TOTAL WATER COLUMN (FT): 11.65
TOP OF SCREEN (FT): 15.42	BOTTOM OF SCREEN (FT): 25.42	METHOD OF PURGING: Low Flow
PUMP TYPE: Peristaltic	PUMP START TIME: 15:11	PUMP INTAKE DEPTH/SAMPLE DEPTH (FT): 20

PURGING	
METHOD: Low Flow	MEASURE POINT: Top of Casing
PUMP TYPE: Peristaltic	PUMP INTAKE/SAMPLE DEPTH (FT) : 20
PURGE AND STABILIZATION NOTES:	

PURGE MEASURES

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (US/CM)	ORP (MV)	DO (MG/L)	TURDIDITY (NTU)	TEMPERATURE (C)	WATER LEVEL	COMMENTS
15:15	50	6.22	815.85	7	0.38	1.36	31.87	14.4	
15:30	50	6.18	856.45	-37.7	0.21	2.08	30.82	14.67	
15:35	50	6.2	867.99	-43	0.22	0.58	29.43	14.72	
15:40	50	6.2	874.06	-46	0.21	0.59	29.28	14.75	
15:45	50	6.23	870.56	-48.9	0.2	0.36	29.15	14.78	

SAMPLE	
TIME: 15:45	METHOD OF SAMPLING: Low Flow
TOTAL VOL. PURGED (ML): 1700	TIME POST SAMPLE: 16:00
WATER LEVEL POST-SAMPLE: 14.85	FLOW RATE POST-SAMPLE (ML/MIN): 50
TURBIDITY POST-SAMPLE (NTU): 0.42	COLOR POST SAMPLE: Clear
ODOR POST-SAMPLE: None	STABILITY REACHED: Y
SAMPLE COMMENTS:	

SAMPLE QA					
TYPE	**ID**	**TIME**	**TYPE**	**ID**	**TIME**
FIELD BLANK			FIELD DUPLICATE		
EQUIPMENT BLANK			FILTER BLANK		
EQUIPMENT BLANK			FILTER BLANK LOT:		
TUBING BLANK LOT:			MS/MSD	NO	

BOTTLES				
BOTTLE LOT NUMBER	**BOTTLE COUNT**	**SIZE (ML)**	**TYPE**	**PRESERVATIVE**
0130801H	1	250	HDPE	HNO3
	1	250	HDPE	UNPRESERVED
	1	125	HDPE	UNPRESERVED

WATER SAMPLE LOG: MW-LF-25-2023Q4
WILLIAMS HWY 52 GENERATING STATION

PREPARED BY	CHECKED BY
BY: Sam Thorsland DATE: 2023-10-04	BY: David Szynal DATE: 2023-10-10

WELL ID: W52-MW-LF-25		
TASK CODE: W52-GW-2023-10	WELL TYPE: Monitoring Well	WELL DIAMETER (IN.): 2
INITIAL DEPTH TO WATER (FT): 12.47	TOTAL DEPTH TO WATER (FT): 24.21	TOTAL WATER COLUMN (FT): 11.74
TOP OF SCREEN (FT): 14.21	BOTTOM OF SCREEN (FT): 24.21	METHOD OF PURGING: Low Flow
PUMP TYPE: Peristaltic	PUMP START TIME: 14:16	PUMP INTAKE DEPTH/SAMPLE DEPTH (FT): 19

PURGING	
METHOD: Low Flow	MEASURE POINT: Top of Casing
PUMP TYPE: Peristaltic	PUMP INTAKE/SAMPLE DEPTH (FT) : 19
PURGE AND STABILIZATION NOTES:	

PURGE MEASURES

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (US/CM)	ORP (MV)	DO (MG/L)	TURDIDITY (NTU)	TEMPERATURE (C)	WATER LEVEL	COMMENTS
14:20	40	6.69	1265	26.2	1.66	0.45	30.65	12.78	
14:35	40	6.49	1259.9	28.7	1.16	0.36	29.77	13.61	
14:40	40	6.47	1260.8	30.6	1.29	0.28	29.58	13.99	
14:45	40	6.46	1255.4	32.6	1.34	0.32	29.56	14.21	
14:50	40	6.45	1252.1	34.1	1.42	0.53	29.53	11.26	

SAMPLE	
TIME: 14:50	METHOD OF SAMPLING: Low Flow
TOTAL VOL. PURGED (ML): 1360	TIME POST SAMPLE: 15:06
WATER LEVEL POST-SAMPLE: 11.73	FLOW RATE POST-SAMPLE (ML/MIN): 40
TURBIDITY POST-SAMPLE (NTU): 0.37	COLOR POST SAMPLE: Clear
ODOR POST-SAMPLE: None	STABILITY REACHED: Y
SAMPLE COMMENTS:	

SAMPLE QA					
TYPE	**ID**	**TIME**	**TYPE**	**ID**	**TIME**
FIELD BLANK			FIELD DUPLICATE		
EQUIPMENT BLANK			FILTER BLANK		
EQUIPMENT BLANK			FILTER BLANK LOT:		
TUBING BLANK LOT:			MS/MSD	NO	

BOTTLES				
BOTTLE LOT NUMBER	**BOTTLE COUNT**	**SIZE (ML)**	**TYPE**	**PRESERVATIVE**
0130801H	1	250	HDPE	HNO3
	1	250	HDPE	UNPRESERVED
	1	125	HDPE	UNPRESERVED

WATER SAMPLE LOG: MW-LF-26-2023Q4
WILLIAMS HWY 52 GENERATING STATION

PREPARED BY	CHECKED BY
BY: Jason Yonts DATE: 2023-10-04	BY: David Szynal DATE: 2023-10-10

WELL ID: W52-MW-LF-26		
TASK CODE: W52-GW-2023-10	WELL TYPE: Monitoring Well	WELL DIAMETER (IN.): 2
INITIAL DEPTH TO WATER (FT): 23.17	TOTAL DEPTH TO WATER (FT): 33.43	TOTAL WATER COLUMN (FT): 10.26
TOP OF SCREEN (FT): 20	BOTTOM OF SCREEN (FT): 30	METHOD OF PURGING: Low Flow
PUMP TYPE: Peristaltic	PUMP START TIME: 14:11	PUMP INTAKE DEPTH/SAMPLE DEPTH (FT): 29

PURGING	
METHOD: Low Flow	MEASURE POINT: Top of Casing
PUMP TYPE: Peristaltic	PUMP INTAKE/SAMPLE DEPTH (FT) : 29
PURGE AND STABILIZATION NOTES:	

PURGE MEASURES

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (US/CM)	ORP (MV)	DO (MG/L)	TURDIDITY (NTU)	TEMPERATURE (C)	WATER LEVEL	COMMENTS
14:16	50	6.27	1642.7	-69.8	0.71	20	29.45	23.48	
14:21	50	6.25	1579.2	-58.4	0.21	3.19	28.97	23.58	
14:26	50	6.25	1562.7	-59.4	0.16	3.94	28.96	23.63	
14:31	50	6.26	1560.3	-61.1	0.13	2.51	28.59	23.72	
14:36	50	6.25	1561.2	-64.5	0.11	2.99	28.28	23.78	
14:41	50	6.25	1565.3	-66.5	0.11	2.55	28.31	23.84	

SAMPLE	
TIME: 14:41	METHOD OF SAMPLING: Low Flow
TOTAL VOL. PURGED (ML): 1500	TIME POST SAMPLE: 14:56
WATER LEVEL POST-SAMPLE: 23.98	FLOW RATE POST-SAMPLE (ML/MIN): 50
TURBIDITY POST-SAMPLE (NTU): 1.86	COLOR POST SAMPLE: Clear
ODOR POST-SAMPLE: None	STABILITY REACHED: Y
SAMPLE COMMENTS:	

SAMPLE QA					
TYPE	**ID**	**TIME**	**TYPE**	**ID**	**TIME**
FIELD BLANK			FIELD DUPLICATE		
EQUIPMENT BLANK			FILTER BLANK		
EQUIPMENT BLANK			FILTER BLANK LOT:		
TUBING BLANK LOT:			MS/MSD	NO	

BOTTLES				
BOTTLE LOT NUMBER	**BOTTLE COUNT**	**SIZE (ML)**	**TYPE**	**PRESERVATIVE**
	1	250	HDPE	HNO3
	1	250	HDPE	UNPRESERVED
	1	125	HDPE	UNPRESERVED

WATER SAMPLE LOG: MW-LF-27-2023Q4
WILLIAMS HWY 52 GENERATING STATION

PREPARED BY	CHECKED BY
BY: Jason Yonts DATE: 2023-10-04	BY: David Szynal DATE: 2023-10-10

WELL ID: W52-MW-LF-27		
TASK CODE: W52-GW-2023-10	WELL TYPE: Monitoring Well	WELL DIAMETER (IN.): 2
INITIAL DEPTH TO WATER (FT): 9.11	TOTAL DEPTH TO WATER (FT): 22.75	TOTAL WATER COLUMN (FT): 13.64
TOP OF SCREEN (FT): 5	BOTTOM OF SCREEN (FT): 20	METHOD OF PURGING: Low Flow
PUMP TYPE: Peristaltic	PUMP START TIME: 08:51	PUMP INTAKE DEPTH/SAMPLE DEPTH (FT): 18

PURGING	
METHOD: Low Flow	MEASURE POINT: Top of Casing
PUMP TYPE: Peristaltic	PUMP INTAKE/SAMPLE DEPTH (FT) : 18
PURGE AND STABILIZATION NOTES:	

PURGE MEASURES

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (US/CM)	ORP (MV)	DO (MG/L)	TURDIDITY (NTU)	TEMPERATURE (C)	WATER LEVEL	COMMENTS
09:01	100	6.93	600.49	-120.3	0.26	4.09	21.81	9.27	
09:21	75	7.18	520.51	-105.3	0.03	4.51	24.13	9.48	
09:26	75	7.19	515.36	-129.2	0.05	5.14	23.71	9.48	
09:31	75	7.19	512.61	-128.1	0.05	4.83	23.65	9.48	
09:36	75	7.17	479.69	-119.2	0.05	4.71	23.56	9.48	
09:41	75	7.08	410.04	-101.3	0.05	3.93	23.61	9.49	
09:46	75	6.96	345.71	-84.5	0.05	3.56	23.6	9.49	
09:51	75	6.85	312.17	-72.8	0.05	2.94	23.65	9.49	
09:56	75	6.81	304.37	-70.4	0.05	2.99	23.69	9.5	
10:01	75	6.81	303.62	-69.8	0.05	3.67	23.71	9.5	

SAMPLE	
TIME: 10:01	METHOD OF SAMPLING: Low Flow
TOTAL VOL. PURGED (ML): 5250	TIME POST SAMPLE: 10:12
WATER LEVEL POST-SAMPLE: 9.52	FLOW RATE POST-SAMPLE (ML/MIN): 75
TURBIDITY POST-SAMPLE (NTU): 3.51	COLOR POST SAMPLE: Clear
ODOR POST-SAMPLE: None	STABILITY REACHED: Y
SAMPLE COMMENTS:	

SAMPLE QA					
TYPE	**ID**	**TIME**	**TYPE**	**ID**	**TIME**
FIELD BLANK			FIELD DUPLICATE		
EQUIPMENT BLANK			FILTER BLANK		
EQUIPMENT BLANK			FILTER BLANK LOT:		
TUBING BLANK LOT:			MS/MSD	NO	

BOTTLES				
BOTTLE LOT NUMBER	**BOTTLE COUNT**	**SIZE (ML)**	**TYPE**	**PRESERVATIVE**
	1	250	HDPE	HNO3
	1	250	HDPE	UNPRESERVED
	1	125	HDPE	UNPRESERVED

WATER SAMPLE LOG: MW-LF-28-2023Q4
WILLIAMS HWY 52 GENERATING STATION

PREPARED BY	CHECKED BY
BY: Jason Yonts DATE: 2023-10-04	BY: David Szynal DATE: 2023-10-10

WELL ID: W52-MW-LF-28		
TASK CODE: W52-GW-2023-10	WELL TYPE: Monitoring Well	WELL DIAMETER (IN.): 2
INITIAL DEPTH TO WATER (FT): 9.85	TOTAL DEPTH TO WATER (FT): 19.33	TOTAL WATER COLUMN (FT): 9.48
TOP OF SCREEN (FT): 7	BOTTOM OF SCREEN (FT): 17	METHOD OF PURGING: Low Flow
PUMP TYPE: Peristaltic	PUMP START TIME: 13:12	PUMP INTAKE DEPTH/SAMPLE DEPTH (FT): 14.5

PURGING	
METHOD: Low Flow	MEASURE POINT: Top of Casing
PUMP TYPE: Peristaltic	PUMP INTAKE/SAMPLE DEPTH (FT) : 14.5
PURGE AND STABILIZATION NOTES:	

PURGE MEASURES

TIME	PURGE RATE (ML/MIN)	PH (SU)	CONDUCTIVITY (US/CM)	ORP (MV)	DO (MG/L)	TURDIDITY (NTU)	TEMPERATURE (C)	WATER LEVEL	COMMENTS
13:16	100	5.7	72.68	151.6	3.64	0.39	27.29	9.92	
13:21	100	5.69	68.85	163.4	3.47	0.39	27.61	9.94	
13:26	100	5.59	67.04	162.9	3.51	0.87	27.98	9.96	
13:31	100	5.57	60.94	160.3	3.71	0.56	27.81	9.96	
13:36	100	5.57	60.38	158.1	3.82	0.46	27.79	9.97	
13:41	100	5.57	60.42	157.8	3.83	0.67	27.8	9.97	
13:46	100	5.57	59.86	157.4	3.86	0.75	27.69	9.97	

SAMPLE	
TIME: 13:46	METHOD OF SAMPLING: Low Flow
TOTAL VOL. PURGED (ML): 3400	TIME POST SAMPLE: 14:00
WATER LEVEL POST-SAMPLE: 9.97	FLOW RATE POST-SAMPLE (ML/MIN): 100
TURBIDITY POST-SAMPLE (NTU): 0.56	COLOR POST SAMPLE: Clear
ODOR POST-SAMPLE: None	STABILITY REACHED: Y
SAMPLE COMMENTS:	

SAMPLE QA					
TYPE	**ID**	**TIME**	**TYPE**	**ID**	**TIME**
FIELD BLANK			FIELD DUPLICATE		
EQUIPMENT BLANK			FILTER BLANK		
EQUIPMENT BLANK			FILTER BLANK LOT:		
TUBING BLANK LOT:			MS/MSD	YES	

BOTTLES				
BOTTLE LOT NUMBER	**BOTTLE COUNT**	**SIZE (ML)**	**TYPE**	**PRESERVATIVE**
	2	250	HDPE	HNO3
	2	250	HDPE	UNPRESERVED
	2	125	HDPE	UNPRESERVED

TRC

WATER QUALITY METER CALIBRATION LOG

PROJECT NAME:	Williams Station	MODEL:	Aqua troll 400	SAMPLER:	JY / ST
PROJECT NO.:	416559.0006.0000	SERIAL #:	909268	DATE:	10/4/23

PH CALIBRATION CHECK

pH 7 (LOT #): 2229039 (EXP. DATE): 4/24 PRE-CAL. READING / STANDARD	pH 4 / 10 (LOT #): 2211o130 (EXP. DATE): 4/24 PRE-CAL. READING / STANDARD	CAL. RANGE	TIME
6.44 / 7.00	9.39 / 10.00	☐ WITHIN RANGE	0837
/	4.96 / 4.00	☐ WITHIN RANGE	0843
7.01 / 7.00	10.01 / 10.00	☒ WITHIN RANGE	0840
/	3.98 / 4.00	☒ WITHIN RANGE	0847

ORP CALIBRATION CHECK

CAL. READING (LOT #): 24002258 (EXP. DATE): 6/24 PRE-CAL. READING / STANDARD	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
227.01 228	24.84	☐ WITHIN RANGE	0850
229.1 / 228	24.97	☒ WITHIN RANGE	0851
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

TURBIDITY CALIBRATION CHECK

CALIBRATION READING (NTU) (LOT #): N/A (EXP. DATE): PRE-CAL. READING / STANDARD	(LOT #): N/A (EXP. DATE): POST-CAL. READING / STANDARD	CAL. RANGE	TIME
0.06 / 0.00	0.03 / 0.00	☒ WITHIN RANGE	0853
1.32 / 1.00	1.11 / 1.00	☒ WITHIN RANGE	0854
8.4 / 10.00	10.1 / 10.00	☒ WITHIN RANGE	0854
/	/	☐ WITHIN RANGE	

SPECIFIC CONDUCTIVITY CALIBRATION CHECK

CAL. READING (LOT #): 24000044 (EXP. DATE): 5/24 PRE-CAL. READING / STANDARD	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
4462.6 / 4490	25.17	☐ WITHIN RANGE	0846
4498.2 / 4490	24.77	☒ WITHIN RANGE	0847
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

D.O. CALIBRATION CHECK

CALIBRATION READING (mg/L)	CAL. RANGE	TIME
BaRO: 765.09 Temp: 23.61 Act: 8.54 Calc: 8.60	☒ WITHIN RANGE	0835
	☐ WITHIN RANGE	
	☐ WITHIN RANGE	
	☐ WITHIN RANGE	

COMMENTS

☒ AUTOCAL SOLUTION (LOT #): 24000044 (EXP. DATE): 5/24

☐ STANDARD SOLUTION (S)

LIST LOT NUMBERS AND EXPIRATION DATES UNDER CALIBRATION CHECK

CALIBRATED PARAMETERS		CALIBRATION RANGES [1]	
☒	pH	pH:	+/- 0.2 S.U.
☒	COND	COND:	+/- 1% OF CAL. STANDARD
☐	ORP	ORP:	+/- 25 mV
☐	D.O.	D.O.:	VARIES
☐	TURB	TURB:	+/- 5% OF CAL. STANDARD
☐	_____	[1] CALIBRATION RANGES ARE SPECIFIC TO THE MODEL OF THE WATER QUALITY METER	
☐	_____		

NOTES

PROBLEMS ENCOUNTERED	CORRECTIVE ACTIONS
None	None

Russell Thweatt 10/4/23
SIGNED DATE

CHECKED BY 10/9/23
DATE

TRC

WATER QUALITY METER CALIBRATION LOG

PROJECT NAME:	Williams Station	MODEL:	AquaTroll 400	SAMPLER:	(JY) / ST
PROJECT NO.:	416559.0006.0000	SERIAL #:	851425	DATE:	10/4/23

PH CALIBRATION CHECK (Autocal)

pH 7 (LOT #): 22290139 (EXP. DATE): 4/24 PRE-CAL. READING / STANDARD	pH 4 / 10 (LOT #): 22110130 (EXP. DATE): 4/24 PRE-CAL. READING / STANDARD	CAL. RANGE	TIME
6.99 / 7.00	/	☒ WITHIN RANGE	0833
10.11 / 10.00	/	☒ WITHIN RANGE	0834
3.97 / 4.00	/	☒ WITHIN RANGE	0836
/	/	☐ WITHIN RANGE	

ORP CALIBRATION CHECK

CAL. READING (LOT #): 240022538 (EXP. DATE): 6/24 PRE-CAL. READING / STANDARD	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
229.4 / 228.0	21.15	☐ WITHIN RANGE	0840
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

TURBIDITY CALIBRATION CHECK

CALIBRATION READING (NTU) (LOT #): N/A (EXP. DATE): PRE-CAL. READING / STANDARD	(LOT #): N/A (EXP. DATE): POST-CAL. READING / STANDARD	CAL. RANGE	TIME
0.00 / 0.00	/	☒ WITHIN RANGE	0841
1.03 / 1.00	/	☒ WITHIN RANGE	0842
10.10 / 10.00	/	☒ WITHIN RANGE	0842
/	/	☐ WITHIN RANGE	

NOTES

SPECIFIC CONDUCTIVITY CALIBRATION CHECK

CAL. READING (LOT #): Autocal (EXP. DATE): PRE-CAL. READING / STANDARD	TEMPERATURE (°CELSIUS)	CAL. RANGE	TIME
4486.1 / 4490	20.31	☒ WITHIN RANGE	0837
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	
/		☐ WITHIN RANGE	

D.O. CALIBRATION CHECK

CALIBRATION READING (mg/L)	CAL. RANGE	TIME
Baro: 765.60 mmHg Temp: 20.85°C Actual: 9.13 mg/L Calc: 9.1 mg/L	☒ WITHIN RANGE	0831
	☐ WITHIN RANGE	
	☐ WITHIN RANGE	
	☐ WITHIN RANGE	

COMMENTS

☒ AUTOCAL SOLUTION (LOT #): 24xxxx744 (EXP. DATE): 5/24

☐ STANDARD SOLUTION (S)

LIST LOT NUMBERS AND EXPIRATION DATES UNDER CALIBRATION CHECK

CALIBRATED PARAMETERS		CALIBRATION RANGES (1)	
☒	pH	pH:	+/- 0.2 S.U.
☒	COND	COND:	+/- 1% OF CAL. STANDARD
☐	ORP	ORP:	+/- 25 mV
☐	D.O.	D.O.:	VARIES
☐	TURB	TURB:	+/- 5% OF CAL. STANDARD
☐	_____	(1) CALIBRATION RANGES ARE SPECIFIC TO THE MODEL OF THE WATER QUALITY METER	
☐	_____		

PROBLEMS ENCOUNTERED	CORRECTIVE ACTIONS
None	None

SIGNED _____ DATE 10/4/23

CHECKED BY _____ DATE 10/5/23

REVISED 06/2011

GEL Laboratories LLC
a member of The GEL Group INC

October 18, 2023

Kelly Hicks
Dominion Energy Services, Inc.
120 Tredegar Street
Richmond, Virginia 23219

Re: CCR Groundwater Monitoring - Level 3 Package
Work Order: 639967

Dear Kelly Hicks:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on October 05, 2023. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without approval by the laboratory. Copies of GEL's accreditations and certifications can be found on our website at www.gel.com.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 1648.

Sincerely,

M Boddiford

Meredith Boddiford
Project Manager

Purchase Order: 50149867
Chain of Custody: 2023100401
Enclosures

Table of Contents

Case Narrative

Receipt Narrative
for
Dominion Energy (50149867)
SDG: 639967

October 18, 2023

Laboratory Identification:

GEL Laboratories LLC
2040 Savage Road
Charleston, South Carolina 29407
(843) 556-8171

Summary:

Sample receipt: The samples arrived at GEL Laboratories LLC, Charleston, South Carolina on October 05, 2023 for analysis. The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. There are no additional comments concerning sample receipt.

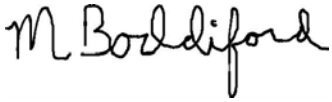
Sample Identification: The laboratory received the following samples:

Laboratory ID	Client ID
639967001	MW-LF-10-2023Q4
639967002	MW-LF-11-2023Q4
639967003	MW-LF-20-2023Q4
639967004	MW-LF-21-2023Q4
639967005	MW-LF-22D-2023Q4
639967006	MW-LF-23D-2023Q4
639967007	MW-LF-24-2023Q4
639967008	MW-LF-25-2023Q4
639967009	FBLK-W52-CCR-23401
639967010	DU-W52-CCR-23401
639967011	MW-LF-26-2023Q4
639967012	MW-LF-27-2023Q4
639967013	MW-LF-28-2023Q4

Case Narrative:

Sample analyses were conducted using methodology as outlined in GEL's Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are contained in the analytical case narratives in the enclosed data package.

The enclosed data package contains the following sections: Case Narrative, Chain of Custody, Cooler Receipt Checklist, Data Package Qualifier Definitions and data from the following fractions: General Chemistry and Metals.



Meredith Boddiford
Project Manager

Chain of Custody and Supporting Documentation

Page: 1 of 2
Project # 416559.0006.0000.3.2
GEL Quote #:
COC Number (1): 2023100401
PO Number: PO 50149867

GEL Laboratories LLC

gel.com

Chemistry | Radiochemistry | Radiobioassay | Specialty Analytics

Chain of Custody and Analytical Request

639967

GEL Work Order Number: 232267

GEL Project Manager: Meredith Boddiford

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Dominion Energy — Phone # 803-258-1528

Project/Site Name: Williams Station Hwy 52 Landfill CCR 2023Q4 — Fax #

Address: Goose Creek, South Carolina

Collected By: J. Yonts / S. Thorsland — Send Results To: AReed@envstd.com

Sample Analysis Requested (5) (Fill in the number of containers for each test)

Sample ID (* For composites - indicate start and stop date/time)	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Should this sample be considered: Radioactive (If yes, please supply isotopic info.)	Should this sample be considered: (7) Known or possible Hazards	Total number of containers	TDS SM2540C	Cl, FL, SO4 EPA 300.0	Total Metals - B, Ca NI EPA 200.8							<-- Preservative Type (6)
MW-LF-10-2023Q4	10/4/23	1106	N	N	GW	N		3	X	X	X							
MW-LF-11-2023Q4	10/4/23	1226	N	N	GW	N		3	X	X	X							
MW-LF-20-2023Q4	10/4/23	1003	N	N	GW	N		3	X	X	X							see attached work
MW-LF-21-2023Q4	10/4/23	1110	N	N	GW	N		3	X	X	X							order for details
MW-LF-22D-2023Q4	10/4/23	1230	N	N	GW	N		3	X	X	X							
MW-LF-23D-2023Q4	10/4/23	1350	N	N	GW	N		3	X	X	X							
MW-LF-24-2023Q4	10/4/23	1545	N	N	GW	N		3	X	X	X							
MW-LF-25-2023Q4	10/4/23	1450	N	N	GW	N		3	X	X	X							
FBLK-W52-CCR-23401	10/4/23	1050	FB	N	AQ	N		3	X	X	X							
DU-W52-CCR-23401	10/4/23	—	FD	N	GW	N		3	X	X	X							

Comments
Note: extra sample is required for sample specific QC

Chain of Custody Signatures

	Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1	Samuel Thornhill	10/5/23	0820	Alyssia Jatau	10/5/23	820
2						
3						

TAT Requested: Normal: X Rush: ____ Specify: ____

Fax Results: [ ] Yes [X] No

Select Deliverable: [ ] C of A [ ] QC Summary [ ] level 1 [ ] Level 2 [ ] Level 3 [X] Level 4

Additional Remarks:

For Lab Receiving Use Only: *Custody Seal Intact?* [ ] *Yes* [ ] *No* ***Cooler Temp:*** 3 °C

> ***For sample shipping and delivery details, see Sample Receipt & Review form (SRR.)***

Sample Collection Time Zone: [X] Eastern [ ] Pacific [ ] Central [ ] Mountain [ ] Other:

1.) Chain of Custody Number = Client Determined

2.) QC Codes: **N** = Normal Sample, **TB** = Trip Blank, **FD** = Field Duplicate, **EB** = Equipment Blank, **MS** = Matrix Spike Sample, **MSD** = Matrix Spike Duplicate Sample, **G** = Grab, **C** = Composite

3.) Field Filtered: For liquid matrices, indicate with a - **Y** - for yes the sample was field filtered or - **N** - for sample was not field filtered.

4.) Matrix Codes: **DW**=Drinking Water, **GW**=Groundwater, **SW**=Surface Water, **WW**=Waste Water, **W**=Water, **ML**=Misc Liquid, **SO**=Soil, **SD**=Sediment, **SL**=Sludge, **SS**=Solid Waste, **O**=Oil, **F**=Filter, **P**=Wipe, **U**=Urine, **F**=Fecal, **N**=Nasal

5.) Sample Analysis Requested: Analytical method requested (i.e. **8260B**, **6010B/7470A**) and number of containers provided for each (i.e. *8260B* - **3**, *6010B/7470A* - **1**).

6.) Preservative Type: **HA** = Hydrochloric Acid, **NI** = Nitric Acid, **SH** = Sodium Hydroxide, **SA** = Sulfuric Acid, **AA** = Ascorbic Acid, **HX** = Hexane, **ST** = Sodium Thiosulfate, If no preservative is added = leave field blank

7.) **KNOWN OR POSSIBLE HAZARDS**

RCRA Metals
As = Arsenic **Hg**= Mercury
Ba = Barium **Se**= Selenium
Cd = Cadmium **Ag**= Silver
Cr = Chromium **MR**= Misc. RCRA metals
Pb = Lead

Characteristic Hazards
FL = Flammable/Ignitable
CO = Corrosive
RE = Reactive

TSCA Regulated
PCB = Polychlorinated biphenyls

Listed Waste
LW= Listed Waste
(F,K,P and U-listed wastes.)
Waste code(s):

Other
OT= Other / Unknown
(i.e.: High/low pH, asbestos, beryllium, irritants, other misc. health hazards, etc.)
Description:

Please provide any additional details below regarding handling and/or disposal concerns. *(i.e.: Origin of sample(s), type of site collected from, odd matrices, etc.)*

SDG: 639967

Page: 2 of 2
Project # 416559.0006.0000.3.2
GEL Quote #:
COC Number (1): 2023100402
PO Number: PO 50149867

GEL Laboratories LLC
gel.com
Chemistry | Radiochemistry | Radiobioassay | Specialty Analytics

Chain of Custody and Analytical Request

GEL Work Order Number: 232267

GEL Project Manager: Meredith Boddiford

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Dominion Energy — Phone # 803-258-1528
Project/Site Name: Williams Station Hwy 52 Landfill CCR 2023Q4 — Fax #
Address: Goose Creek, South Carolina
Collected By: J. Yonts / S. Thorsland — Send Results To: AReed@envstd.com

Sample Analysis Requested (5) (Fill in the number of containers for each test)

Sample ID (* For composites - indicate start and stop date/time)	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Should this sample be considered: Radioactive (If yes, please supply isotopic info.)	Should this sample be considered: (7) Known or possible Hazards	Total number of containers	TDS SM2540C	Cl, FL, SO4 EPA 300.0	Total Metals - B, Ca NI EPA 200.8	<-- Preservative Type (6)	Comments
MW-LF-26-2023Q4	10/4/23	1441	N	N	GW	N		3	X	X	X		
MW-LF-27-2023Q4	10/4/23	1001	N	N	GW	N		3	X	X	X		
MW-LF-28-2023Q4 * MS/MSD	10/4/23	1346	N	N	GW	N		6	X	X	X		see attached work
~~FBLK-W52-CCR-23402~~			FB	N	AQ	N							order for details

Chain of Custody Signatures

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1 Sam Thorland	10/5/23	0820	1 Shyasia Jetter	10/5/23	820
2			2		
3			3		

TAT Requested: Normal: X Rush: ____ Specify: ____

Fax Results: [ ] Yes [X] No

Select Deliverable: [ ] C of A [ ] QC Summary [ ] level 1 [ ] Level 2 [ ] Level 3 [X] Level 4

Additional Remarks:

For Lab Receiving Use Only: *Custody Seal Intact?* [ ] Yes [ ] No *Cooler Temp:* 3 °C

> *For sample shipping and delivery details, see Sample Receipt & Review form (SRR.)*

Sample Collection Time Zone: [X] Eastern [ ] Pacific [ ] Central [ ] Mountain [ ] Other:

1.) Chain of Custody Number = Client Determined

2.) QC Codes: **N** = Normal Sample, **TB** = Trip Blank, **FD** = Field Duplicate, **EB** = Equipment Blank, **MS** = Matrix Spike Sample, **MSD** = Matrix Spike Duplicate Sample, **G** = Grab, **C** = Composite

3.) Field Filtered: For liquid matrices, indicate with a **- Y -** for yes the sample was field filtered or **- N -** for sample was not field filtered.

4.) Matrix Codes: **DW**=Drinking Water, **GW**=Groundwater, **SW**=Surface Water, **WW**=Waste Water, **W**=Water, **ML**=Misc Liquid, **SO**=Soil, **SD**=Sediment, **SL**=Sludge, **SS**=Solid Waste, **O**=Oil, **F**=Filter, **P**=Wipe, **U**=Urine, **F**=Fecal, **N**=Nasal

5.) Sample Analysis Requested: Analytical method requested (i.e. **8260B**, **6010B/7470A**) and number of containers provided for each (i.e. *8260B* - **3**, *6010B/7470A* - **1**).

6.) Preservative Type: **HA** = Hydrochloric Acid, **NI** = Nitric Acid, **SH** = Sodium Hydroxide, **SA** = Sulfuric Acid, **AA** = Ascorbic Acid, **HX** = Hexane, **ST** = Sodium Thiosulfate, If no preservative is added = leave field blank

7.) **KNOWN OR POSSIBLE HAZARDS**

RCRA Metals
As = Arsenic, **Ba** = Barium, **Cd** = Cadmium, **Cr** = Chromium, **Pb** = Lead, **Hg**= Mercury, **Se**= Selenium, **Ag**= Silver, **MR**= Misc. RCRA metals

Characteristic Hazards
FL = Flammable/Ignitable
CO = Corrosive
RE = Reactive

TSCA Regulated
PCB = Polychlorinated biphenyls

Listed Waste
LW= Listed Waste
(F,K,P and U-listed wastes.)
Waste code(s):

Other
OT= Other / Unknown
(i.e.: High/low pH, asbestos, beryllium, irritants, other misc. health hazards, etc.)
Description:

Please provide any additional details below regarding handling and/or disposal concerns. *(i.e.: Origin of sample(s), type of site collected from, odd matrices, etc.)*

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

MB

Client: DMNN	SDG/AR/COC/Work Order: 639967
Received By: QG	Date Received: 10/4/23
Carrier and Tracking Number	Circle Applicable: FedEx Express FedEx Ground UPS Field Services Courier Other
	n/a

Suspected Hazard Information	Yes	No	
			*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
A)Shipped as a DOT Hazardous?		✓	Hazard Class Shipped: UN#: If UN2910, Is the Radioactive Shipment Survey Compliant? Yes___ No___
B) Did the client designate the samples are to be received as radioactive?		✓	COC notation or radioactive stickers on containers equal client designation.
C) Did the RSO classify the samples as radioactive?		✓	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): 60 CPM / mR/Hr Classified as: Rad 1 Rad 2 Rad 3
D) Did the client designate samples are hazardous?		✓	COC notation or hazard labels on containers equal client designation.
E) Did the RSO identify possible hazards?		✓	If D or E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:

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

Comments (Use Continuation Form if needed):

PM (or PMA) review: Initials MG Date 10/10/23 Page 1 of 1

GL-CHL-SR-001 Rev 7

Laboratory Certifications

List of current GEL Certifications as of 18 October 2023

State	Certification
Alabama	42200
Alaska	17-018
Alaska Drinking Water	SC00012
Arkansas	88-00651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH-0169
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330-15-00283, P330-15-00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho	SC00012
Illinois NELAP	200029
Indiana	C-SC-01
Kansas NELAP	E-10332
Kentucky SDWA	KY90129
Kentucky Wastewater	KY90129
Louisiana Drinking Water	LA024
Louisiana NELAP	03046 (AI33904)
Maine	2023019
Maryland	270
Massachusetts	M-SC012
Massachusetts PFAS Approv	Letter
Michigan	9976
Mississippi	SC00012
Nebraska	NE-OS-26-13
Nevada	SC000122024-04
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R-158
Oklahoma	2022-160
Pennsylvania NELAP	68-00485
Puerto Rico	SC00012
S. Carolina Radiochem	10120002
Sanitation Districts of L	9255651
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235-23-21
Utah NELAP	SC000122022-37
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

Metals Analysis

Case Narrative

Metals
Technical Case Narrative
Dominion Energy
SDG #: 639967

Product: Determination of Metals by ICP-MS
Analytical Method: EPA 200.8 SC_NPDES
Analytical Procedure: GL-MA-E-014 REV# 36
Analytical Batch: 2504260

Preparation Method: EPA 200.2
Preparation Procedure: GL-MA-E-016 REV# 18
Preparation Batch: 2504259

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

GEL Sample ID#	Client Sample Identification
639967001	MW-LF-10-2023Q4
639967002	MW-LF-11-2023Q4
639967003	MW-LF-20-2023Q4
639967004	MW-LF-21-2023Q4
639967005	MW-LF-22D-2023Q4
639967006	MW-LF-23D-2023Q4
639967007	MW-LF-24-2023Q4
639967008	MW-LF-25-2023Q4
639967009	FBLK-W52-CCR-23401
639967010	DU-W52-CCR-23401
639967011	MW-LF-26-2023Q4
639967012	MW-LF-27-2023Q4
639967013	MW-LF-28-2023Q4
1205538513	Method Blank (MB)**ICP-MS**
1205538514	Laboratory Control Sample (LCS)
1205538517	639967012(MW-LF-27-2023Q4L) Serial Dilution (SD)
1205538520	639967013(MW-LF-28-2023Q4L) Serial Dilution (SD)
1205538515	639967012(MW-LF-27-2023Q4D) Sample Duplicate (DUP)
1205538518	639967013(MW-LF-28-2023Q4D) Sample Duplicate (DUP)
1205538516	639967012(MW-LF-27-2023Q4S) Matrix Spike (MS)
1205538519	639967013(MW-LF-28-2023Q4S) Matrix Spike (MS)

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

Data Summary:

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

Calibration Information

ICSA/ICSAB Statement

For the ICP-MS analysis, the ICSA solution contains analyte concentrations which are verified trace impurities indigenous to the purchased standard.

Quality Control (QC) Information

Serial Dilution % Difference Statement

The serial dilution is used to assess matrix suppression or enhancement. Raw element concentrations 25x the IDL/MDL for CVAA, 50X the IDL/MDL for ICP and 100X the IDL/MDL for ICP-MS analyses are applicable for serial dilution assessment. Not all the applicable analytes were within the established acceptance criteria. Matrix suppression may be suspected. The data has been qualified.

Sample	Analyte	Value
1205538520 (MW-LF-28-2023Q4SDILT)	Calcium	16.3 *(0%-10%)

Technical Information

Sample Dilutions

Dilutions may be required for many reasons, including to minimize matrix interferences or to bring over range target analyte concentrations into the linear calibration range. Samples 639967001 (MW-LF-10-2023Q4), 639967003 (MW-LF-20-2023Q4), 639967004 (MW-LF-21-2023Q4), 639967005 (MW-LF-22D-2023Q4), 639967006 (MW-LF-23D-2023Q4), 639967007 (MW-LF-24-2023Q4), 639967008 (MW-LF-25-2023Q4), 639967010 (DU-W52-CCR-23401) and 639967011 (MW-LF-26-2023Q4) were diluted to ensure that the analyte concentrations were within the linear calibration range of the instrument.

Analyte	639967								
	001	003	004	005	006	007	008	010	011
Boron	1X	5X	5X	5X	5X	1X	1X	5X	1X
Calcium	5X	5X	5X	5X	5X	5X	5X	5X	5X

Miscellaneous Information

Additional Comments

All method-driven specifications are followed for these analyses except where client-specific SOW requirements are required to be met.

Certification Statement

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

GEL LABORATORIES LLC

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

Qualifier Definition Report
for

DMNN001 Dominion Energy (50149867)

Client SDG: 639967 GEL Work Order: 639967

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria
B Either presence of analyte detected in the associated blank, or MDL/IDL < sample value < PQL
E %difference of sample and SD is >10%. Sample concentration must meet flagging criteria
J Value is estimated
N/A RPD or %Recovery limits do not apply.
U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this data report:

Signature:  **Name: Edmund Frampton**

Date: 12 OCT 2023 **Title: Group Leader**

Sample Data Summary

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 639967 **CONTRACT:** DMNN00102 **METHOD TYPE:** EPA

SAMPLE ID: 639967001 **LEVEL:** Low **DATE COLLECTED:** 04-OCT-23

CLIENT ID: MW-LF-10-2023Q4 **%SOLIDS:** 0 **DATE RECEIVED:** 05-OCT-23

MATRIX: GW **BASIS:** As Received

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-42-8	Boron	84.8	ug/L		4.00	15.0	15.0	1	MS	PRB	10/11/23 11:32	231011-1	2504260
7440-70-2	Calcium	74100	ug/L	E	150	500	500	5	MS	PRB	10/11/23 13:07	231011-1	2504260

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2504260	2504259	EPA 200.2	50	mL	50	mL	10/06/23	SD

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 639967 **CONTRACT:** DMNN00102 **METHOD TYPE:** EPA

SAMPLE ID: 639967002 **LEVEL:** Low **DATE COLLECTED:** 04-OCT-23

CLIENT ID: MW-LF-11-2023Q4 **%SOLIDS:** 0 **DATE RECEIVED:** 05-OCT-23

MATRIX: GW **BASIS:** As Received

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-42-8	Boron	34.1	ug/L		4.00	15.0	15.0	1	MS	PRB	10/11/23 13:09	231011-1	2504260
7440-70-2	Calcium	20800	ug/L	E	30.0	100	100	1	MS	PRB	10/11/23 13:09	231011-1	2504260

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2504260	2504259	EPA 200.2	50	mL	50	mL	10/06/23	SD

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 639967 **CONTRACT:** DMNN00102 **METHOD TYPE:** EPA

SAMPLE ID: 639967003 **LEVEL:** Low **DATE COLLECTED:** 04-OCT-23

CLIENT ID: MW-LF-20-2023Q4 **%SOLIDS:** 0 **DATE RECEIVED:** 05-OCT-23

MATRIX: GW **BASIS:** As Received

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-42-8	Boron	234	ug/L		20.0	75.0	75.0	5	MS	PRB	10/11/23 11:36	231011-1	2504260
7440-70-2	Calcium	157000	ug/L	E	150	500	500	5	MS	PRB	10/11/23 11:36	231011-1	2504260

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2504260	2504259	EPA 200.2	50	mL	50	mL	10/06/23	SD

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 639967 **CONTRACT:** DMNN00102 **METHOD TYPE:** EPA

SAMPLE ID: 639967004 **LEVEL:** Low **DATE COLLECTED:** 04-OCT-23

CLIENT ID: MW-LF-21-2023Q4 **%SOLIDS:** 0 **DATE RECEIVED:** 05-OCT-23

MATRIX: GW **BASIS:** As Received

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-42-8	Boron	215	ug/L		20.0	75.0	75.0	5	MS	PRB	10/11/23 11:38	231011-1	2504260
7440-70-2	Calcium	136000	ug/L	E	150	500	500	5	MS	PRB	10/11/23 11:38	231011-1	2504260

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2504260	2504259	EPA 200.2	50	mL	50	mL	10/06/23	SD

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 639967 **CONTRACT:** DMNN00102 **METHOD TYPE:** EPA

SAMPLE ID: 639967005 **LEVEL:** Low **DATE COLLECTED:** 04-OCT-23

CLIENT ID: MW-LF-22D-2023Q4 **%SOLIDS:** 0 **DATE RECEIVED:** 05-OCT-23

MATRIX: GW **BASIS:** As Received

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-42-8	Boron	366	ug/L		20.0	75.0	75.0	5	MS	PRB	10/11/23 11:40	231011-1	2504260
7440-70-2	Calcium	100000	ug/L	E	150	500	500	5	MS	PRB	10/11/23 11:40	231011-1	2504260

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2504260	2504259	EPA 200.2	50	mL	50	mL	10/06/23	SD

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 639967 **CONTRACT:** DMNN00102 **METHOD TYPE:** EPA

SAMPLE ID: 639967006 **LEVEL:** Low **DATE COLLECTED:** 04-OCT-23

CLIENT ID: MW-LF-23D-2023Q4 **%SOLIDS:** 0 **DATE RECEIVED:** 05-OCT-23

MATRIX: GW **BASIS:** As Received

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-42-8	Boron	299	ug/L		20.0	75.0	75.0	5	MS	PRB	10/11/23 11:42	231011-1	2504260
7440-70-2	Calcium	75500	ug/L	E	150	500	500	5	MS	PRB	10/11/23 11:42	231011-1	2504260

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2504260	2504259	EPA 200.2	50	mL	50	mL	10/06/23	SD

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 639967 **CONTRACT:** DMNN00102 **METHOD TYPE:** EPA

SAMPLE ID: 639967007 **LEVEL:** Low **DATE COLLECTED:** 04-OCT-23

CLIENT ID: MW-LF-24-2023Q4 **%SOLIDS:** 0 **DATE RECEIVED:** 05-OCT-23

MATRIX: GW **BASIS:** As Received

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-42-8	Boron	94.2	ug/L		4.00	15.0	15.0	1	MS	PRB	10/11/23 11:48	231011-1	2504260
7440-70-2	Calcium	125000	ug/L	E	150	500	500	5	MS	PRB	10/11/23 11:50	231011-1	2504260

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2504260	2504259	EPA 200.2	50	mL	50	mL	10/06/23	SD

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 639967 **CONTRACT:** DMNN00102 **METHOD TYPE:** EPA

SAMPLE ID: 639967008 **LEVEL:** Low **DATE COLLECTED:** 04-OCT-23

CLIENT ID: MW-LF-25-2023Q4 **%SOLIDS:** 0 **DATE RECEIVED:** 05-OCT-23

MATRIX: GW **BASIS:** As Received

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-42-8	Boron	36.8	ug/L		4.00	15.0	15.0	1	MS	PRB	10/11/23 11:52	231011-1	2504260
7440-70-2	Calcium	214000	ug/L	E	150	500	500	5	MS	PRB	10/11/23 11:55	231011-1	2504260

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2504260	2504259	EPA 200.2	50	mL	50	mL	10/06/23	SD

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 639967 **CONTRACT:** DMNN00102 **METHOD TYPE:** EPA

SAMPLE ID: 639967009 **LEVEL:** Low **DATE COLLECTED:** 04-OCT-23

CLIENT ID: FBLK-W52-CCR-23401 **%SOLIDS:** 0 **DATE RECEIVED:** 05-OCT-23

MATRIX: GW **BASIS:** As Received

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-42-8	Boron	4.00	ug/L	U	4.00	15.0	15.0	1	MS	PRB	10/11/23 11:57	231011-1	2504260
7440-70-2	Calcium	30.0	ug/L	UE	30.0	100	100	1	MS	PRB	10/11/23 11:57	231011-1	2504260

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2504260	2504259	EPA 200.2	50	mL	50	mL	10/06/23	SD

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 639967 **CONTRACT:** DMNN00102 **METHOD TYPE:** EPA

SAMPLE ID: 639967010 **LEVEL:** Low **DATE COLLECTED:** 04-OCT-23

CLIENT ID: DU-W52-CCR-23401 **%SOLIDS:** 0 **DATE RECEIVED:** 05-OCT-23

MATRIX: GW **BASIS:** As Received

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-42-8	Boron	211	ug/L		20.0	75.0	75.0	5	MS	PRB	10/11/23 11:59	231011-1	2504260
7440-70-2	Calcium	140000	ug/L	E	150	500	500	5	MS	PRB	10/11/23 11:59	231011-1	2504260

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2504260	2504259	EPA 200.2	50	mL	50	mL	10/06/23	SD

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 639967 **CONTRACT:** DMNN00102 **METHOD TYPE:** EPA

SAMPLE ID: 639967011 **LEVEL:** Low **DATE COLLECTED:** 04-OCT-23

CLIENT ID: MW-LF-26-2023Q4 **%SOLIDS:** 0 **DATE RECEIVED:** 05-OCT-23

MATRIX: GW **BASIS:** As Received

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-42-8	Boron	156	ug/L		4.00	15.0	15.0	1	MS	PRB	10/11/23 12:01	231011-1	2504260
7440-70-2	Calcium	176000	ug/L	E	150	500	500	5	MS	PRB	10/11/23 12:03	231011-1	2504260

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2504260	2504259	EPA 200.2	50	mL	50	mL	10/06/23	SD

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 639967 **CONTRACT:** DMNN00102 **METHOD TYPE:** EPA

SAMPLE ID: 639967012 **LEVEL:** Low **DATE COLLECTED:** 04-OCT-23

CLIENT ID: MW-LF-27-2023Q4 **%SOLIDS:** 0 **DATE RECEIVED:** 05-OCT-23

MATRIX: GW **BASIS:** As Received

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-42-8	Boron	38.7	ug/L		4.00	15.0	15.0	1	MS	PRB	10/11/23 12:09	231011-1	2504260
7440-70-2	Calcium	40600	ug/L	E	30.0	100	100	1	MS	PRB	10/11/23 12:09	231011-1	2504260

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2504260	2504259	EPA 200.2	50	mL	50	mL	10/06/23	SD

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 639967 **CONTRACT:** DMNN00102 **METHOD TYPE:** EPA

SAMPLE ID: 639967013 **LEVEL:** Low **DATE COLLECTED:** 04-OCT-23

CLIENT ID: MW-LF-28-2023Q4 **%SOLIDS:** 0 **DATE RECEIVED:** 05-OCT-23

MATRIX: GW **BASIS:** As Received

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-42-8	Boron	13.8	ug/L	J	4.00	15.0	15.0	1	MS	PRB	10/11/23 12:23	231011-1	2504260
7440-70-2	Calcium	5370	ug/L	E	30.0	100	100	1	MS	PRB	10/11/23 12:23	231011-1	2504260

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2504260	2504259	EPA 200.2	50	mL	50	mL	10/06/23	SD

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

Quality Control Summary

METALS
-2a-
Initial and Continuing Calibration Verification

SDG No: 639967

Contract: DMNN00102 **Lab Code:** GEL

Instrument ID: ICPMS15

Sample ID	*Analyte*	*Result*	*Units*	*True Value*	*Units*	*% Recovery*	*Acceptance Window (%R)*	*M**	*Analysis Date/Time*	*Run Number*
ICV01										
	Boron	94.7	ug/L	100	ug/L	94.7	90.0 - 110.0	MS	11-OCT-23 10:42	231011-1
	Calcium	5050	ug/L	5000	ug/L	100.9	90.0 - 110.0	MS	11-OCT-23 10:42	231011-1
CCV01										
	Boron	93.4	ug/L	100	ug/L	93.4	90.0 - 110.0	MS	11-OCT-23 10:52	231011-1
	Calcium	5130	ug/L	5000	ug/L	102.6	90.0 - 110.0	MS	11-OCT-23 10:52	231011-1
CCV02										
	Boron	94.6	ug/L	100	ug/L	94.6	90.0 - 110.0	MS	11-OCT-23 10:58	231011-1
	Calcium	5100	ug/L	5000	ug/L	102	90.0 - 110.0	MS	11-OCT-23 10:58	231011-1
CCV03										
	Boron	93	ug/L	100	ug/L	93	90.0 - 110.0	MS	11-OCT-23 11:23	231011-1
	Calcium	5110	ug/L	5000	ug/L	102.2	90.0 - 110.0	MS	11-OCT-23 11:23	231011-1
CCV04										
	Boron	93.4	ug/L	100	ug/L	93.4	90.0 - 110.0	MS	11-OCT-23 11:44	231011-1
	Calcium	5100	ug/L	5000	ug/L	102.1	90.0 - 110.0	MS	11-OCT-23 11:44	231011-1
CCV05										
	Boron	93.5	ug/L	100	ug/L	93.5	90.0 - 110.0	MS	11-OCT-23 12:05	231011-1
	Calcium	5210	ug/L	5000	ug/L	104.3	90.0 - 110.0	MS	11-OCT-23 12:05	231011-1
CCV06										
	Boron	92.7	ug/L	100	ug/L	92.7	90.0 - 110.0	MS	11-OCT-23 12:19	231011-1
	Calcium	5120	ug/L	5000	ug/L	102.3	90.0 - 110.0	MS	11-OCT-23 12:19	231011-1
CCV07										
	Boron	93.9	ug/L	100	ug/L	93.9	90.0 - 110.0	MS	11-OCT-23 12:40	231011-1
	Calcium	5230	ug/L	5000	ug/L	104.5	90.0 - 110.0	MS	11-OCT-23 12:40	231011-1
CCV08										
	Boron	92.6	ug/L	100	ug/L	92.6	90.0 - 110.0	MS	11-OCT-23 13:17	231011-1
	Calcium	5140	ug/L	5000	ug/L	102.9	90.0 - 110.0	MS	11-OCT-23 13:17	231011-1

***Analytical Methods:**

MS EPA 200.8 SC_NPDES

EPA

METALS
-2b-
CRDL Standard for ICP & ICPMS

SDG No: 639967

Contract: DMNN00102 **Lab Code:** GEL

Instrument ID: ICPMS15

Sample ID	*Analyte*	*Result*	*Units*	*True Value*	*Units*	*% Recovery*	*Advisory Limits (%R)*	*M**	*Analysis Date/Time*	*Run Number*
CRDL01										
	Boron	14.2	ug/L	15	ug/L	94.8	70.0 - 130.0	MS	11-OCT-23 10:46	231011-1
	Calcium	226	ug/L	200	ug/L	113	70.0 - 130.0	MS	11-OCT-23 10:46	231011-1
CRDL02										
	Boron	13.1	ug/L	15	ug/L	87.4	70.0 - 130.0	MS	11-OCT-23 11:17	231011-1
	Calcium	239	ug/L	200	ug/L	119.3	70.0 - 130.0	MS	11-OCT-23 11:17	231011-1
CRDL03										
	Boron	15.2	ug/L	15	ug/L	101	70.0 - 130.0	MS	11-OCT-23 12:34	231011-1
	Calcium	253	ug/L	200	ug/L	126.7	70.0 - 130.0	MS	11-OCT-23 12:34	231011-1
CRDL04										
	Boron	14.4	ug/L	15	ug/L	95.9	70.0 - 130.0	MS	11-OCT-23 13:11	231011-1
	Calcium	257	ug/L	200	ug/L	128.6	70.0 - 130.0	MS	11-OCT-23 13:11	231011-1

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

Metals
-3a-
Initial and Continuing Calibration Blank Summary

SDG No.: 639967

Contract: DMNN00102

Lab Code: GEL

Sample ID	Analyte	Result ug/L	Acceptance	Conc Qual	MDL	RDL	Matrix	M*	Analysis Date/Time	Run
ICB01										
	Boron	4.0	+/-7.5	U	4.0	15.0	LIQ	MS	11-OCT-23 10:44	231011-1
	Calcium	30.0	+/-50	U	30.0	100	LIQ	MS	11-OCT-23 10:44	231011-1
CCB01										
	Boron	4.0	+/-7.5	U	4.0	15.0	LIQ	MS	11-OCT-23 10:54	231011-1
	Calcium	30.0	+/-50	U	30.0	100	LIQ	MS	11-OCT-23 10:54	231011-1
CCB02										
	Boron	4.0	+/-7.5	U	4.0	15.0	LIQ	MS	11-OCT-23 11:00	231011-1
	Calcium	30.0	+/-50	U	30.0	100	LIQ	MS	11-OCT-23 11:00	231011-1
CCB03										
	Boron	4.0	+/-7.5	U	4.0	15.0	LIQ	MS	11-OCT-23 11:25	231011-1
	Calcium	30.0	+/-50	U	30.0	100	LIQ	MS	11-OCT-23 11:25	231011-1
CCB04										
	Boron	4.0	+/-7.5	U	4.0	15.0	LIQ	MS	11-OCT-23 11:46	231011-1
	Calcium	30.0	+/-50	U	30.0	100	LIQ	MS	11-OCT-23 11:46	231011-1
CCB05										
	Boron	4.0	+/-7.5	U	4.0	15.0	LIQ	MS	11-OCT-23 12:07	231011-1
	Calcium	30.0	+/-50	U	30.0	100	LIQ	MS	11-OCT-23 12:07	231011-1
CCB06										
	Boron	4.0	+/-7.5	U	4.0	15.0	LIQ	MS	11-OCT-23 12:21	231011-1
	Calcium	30.0	+/-50	U	30.0	100	LIQ	MS	11-OCT-23 12:21	231011-1
CCB07										
	Boron	4.0	+/-7.5	U	4.0	15.0	LIQ	MS	11-OCT-23 12:42	231011-1
	Calcium	31.7	+/-50	B	30.0	100	LIQ	MS	11-OCT-23 12:42	231011-1
CCB08										
	Boron	4.0	+/-7.5	U	4.0	15.0	LIQ	MS	11-OCT-23 13:19	231011-1
	Calcium	30.0	+/-50	U	30.0	100	LIQ	MS	11-OCT-23 13:19	231011-1

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-3b-
PREPARATION BLANK SUMMARY

SDG NO. 639967
Contract: DMNN00102
Matrix: GW

Sample ID	Analyte	Result	Units	Acceptance Window	Conc Qual	M*	MDL	RDL
1205538513								
	Calcium	30.0	ug/L	+/-50	U	MS	30.0	100
	Boron	4.00	ug/L	+/-7.5	U	MS	4.00	15.0

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-4-
Interference Check Sample

SDG No: 639967

Contract: DMNN00102 **Lab Code:** GEL

Instrument: ICPMS15

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	Analysis Date/Time	Run Number
ICSA01									
	Boron	1.59	ug/L					11-OCT-23 10:48	231011-1
	Calcium	94500	ug/L	100000	ug/L	94.5	80.0 - 120.0	11-OCT-23 10:48	231011-1
ICSAB01									
	Boron	20.4	ug/L	20	ug/L	102	80.0 - 120.0	11-OCT-23 10:50	231011-1
	Calcium	94900	ug/L	100000	ug/L	94.9	80.0 - 120.0	11-OCT-23 10:50	231011-1
ICSA02									
	Boron	1.86	ug/L					11-OCT-23 11:19	231011-1
	Calcium	95300	ug/L	100000	ug/L	95.3	80.0 - 120.0	11-OCT-23 11:19	231011-1
ICSAB02									
	Boron	20.8	ug/L	20	ug/L	104	80.0 - 120.0	11-OCT-23 11:21	231011-1
	Calcium	95600	ug/L	100000	ug/L	95.6	80.0 - 120.0	11-OCT-23 11:21	231011-1
ICSA03									
	Boron	1.84	ug/L					11-OCT-23 12:36	231011-1
	Calcium	97000	ug/L	100000	ug/L	97	80.0 - 120.0	11-OCT-23 12:36	231011-1
ICSAB03									
	Boron	21.4	ug/L	20	ug/L	107	80.0 - 120.0	11-OCT-23 12:38	231011-1
	Calcium	97100	ug/L	100000	ug/L	97.1	80.0 - 120.0	11-OCT-23 12:38	231011-1
ICSA04									
	Boron	2.29	ug/L					11-OCT-23 13:13	231011-1
	Calcium	97300	ug/L	100000	ug/L	97.3	80.0 - 120.0	11-OCT-23 13:13	231011-1
ICSAB04									
	Boron	20.1	ug/L	20	ug/L	100	80.0 - 120.0	11-OCT-23 13:15	231011-1
	Calcium	98000	ug/L	100000	ug/L	98	80.0 - 120.0	11-OCT-23 13:15	231011-1

EPA

METALS
-5a-

Matrix Spike Summary

SDG NO. 639967 **Client ID:** MW-LF-27-2023Q4S

Contract: DMNN00102 **Level:** Low

Matrix: GROUND WATER **% Solids:**

Sample ID: 639967012 **Spike ID:** 1205538516

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M*
Boron	ug/L	75-125	134		38.7		100	95.1		MS
Calcium	ug/L		41900		40600		2000	64.8	N/A	MS

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-5a-

Matrix Spike Summary

SDG NO. 639967 **Client ID:** MW-LF-28-2023Q4S

Contract: DMNN00102 **Level:** Low

Matrix: GROUND WATER **% Solids:**

Sample ID: 639967013 **Spike ID:** 1205538519

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M*
Boron	ug/L	75-125	110		13.8	B	100	96.7		MS
Calcium	ug/L	75-125	7420		5370		2000	103		MS

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

Metals
-6-
Duplicate Sample Summary

SDG No.: 639967 **Lab Code:** GEL

Contract: DMNN00102 **Client ID:** MW-LF-27-2023Q4D

Matrix: GROUND WATER **Level:** Low

Sample ID: 639967012 **Duplicate ID:** 1205538515 **Percent Solids for Dup:** N/A

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M*
Boron	ug/L	+/-30	38.7		38.5		.557		MS
Calcium	ug/L	+/-20%	40600		41200		1.43		MS

***Analytical Methods:**
MS EPA 200.8 SC_NPDES

Metals
-6-
Duplicate Sample Summary

SDG No.: 639967 **Lab Code:** GEL

Contract: DMNN00102 **Client ID:** MW-LF-28-2023Q4D

Matrix: GROUND WATER **Level:** Low

Sample ID: 639967013 **Duplicate ID:** 1205538518 **Percent Solids for Dup:** N/A

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M*
Boron	ug/L	+/-30	13.8	B	14.7	B	6.37		MS
Calcium	ug/L	+/-20%	5370		5430		1.17		MS

***Analytical Methods:**
MS EPA 200.8 SC_NPDES

METALS
-7-
Laboratory Control Sample Summary

SDG NO. 639967

Contract: DMNN00102

Aqueous LCS Source: Enviromental Express **Solid LCS Source:**

Sample ID	Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limit	M*
1205538514								
	Boron	ug/L	100	97.6		97.6	85-115	MS
	Calcium	ug/L	2000	2150		107	85-115	MS

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-9-
Serial Dilution Sample Summary

SDG NO. 639967 **Client ID:** MW-LF-27-2023Q4L

Contract: DMNN00102

Matrix: LIQUID **Level:** Low

Sample ID: 639967012 **Serial Dilution ID:** 1205538517

Analyte	Initial Value ug/L	C	Serial Value ug/L	C	% Difference	Qual	Acceptance Limit	M*
Boron	38.7		36.4	B	5.993			MS
Calcium	40600		42200		3.969		10	MS

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-9-
Serial Dilution Sample Summary

SDG NO. 639967 **Client ID:** MW-LF-28-2023Q4L

Contract: DMNN00102

Matrix: LIQUID **Level:** Low

Sample ID: 639967013 **Serial Dilution ID:** 1205538520

Analyte	Initial Value ug/L	C	Serial Value ug/L	C	% Difference	Qual	Acceptance Limit	M*
Boron	13.8	B	20	U	8.688			MS
Calcium	5370		6250		16.34	E	10	MS

***Analytical Methods:**

MS **EPA 200.8 SC_NPDES**

METALS
-13-
SAMPLE PREPARATION SUMMARY

SDG No: 639967 **Method Type:** MS

Contract: DMNN00102 **Lab Code:** GEL

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size	Final Sample Volume	Percent Solids
Batch Number	2504259						
1205538513	MB for batch 2504259	MB	G	06-OCT-23	50mL	50mL	
1205538514	LCS for batch 2504259	LCS	G	06-OCT-23	50mL	50mL	
1205538516	MW-LF-27-2023Q4S	MS	G	06-OCT-23	50mL	50mL	
1205538519	MW-LF-28-2023Q4S	MS	G	06-OCT-23	50mL	50mL	
1205538515	MW-LF-27-2023Q4D	DUP	G	06-OCT-23	50mL	50mL	
1205538518	MW-LF-28-2023Q4D	DUP	G	06-OCT-23	50mL	50mL	
639967001	MW-LF-10-2023Q4	SAMPLE	G	06-OCT-23	50mL	50mL	
639967002	MW-LF-11-2023Q4	SAMPLE	G	06-OCT-23	50mL	50mL	
639967003	MW-LF-20-2023Q4	SAMPLE	G	06-OCT-23	50mL	50mL	
639967004	MW-LF-21-2023Q4	SAMPLE	G	06-OCT-23	50mL	50mL	
639967005	MW-LF-22D-2023Q4	SAMPLE	G	06-OCT-23	50mL	50mL	
639967006	MW-LF-23D-2023Q4	SAMPLE	G	06-OCT-23	50mL	50mL	
639967007	MW-LF-24-2023Q4	SAMPLE	G	06-OCT-23	50mL	50mL	
639967008	MW-LF-25-2023Q4	SAMPLE	G	06-OCT-23	50mL	50mL	
639967009	FBLK-W52-CCR-23401	SAMPLE	G	06-OCT-23	50mL	50mL	
639967010	DU-W52-CCR-23401	SAMPLE	G	06-OCT-23	50mL	50mL	
639967011	MW-LF-26-2023Q4	SAMPLE	G	06-OCT-23	50mL	50mL	
639967012	MW-LF-27-2023Q4	SAMPLE	G	06-OCT-23	50mL	50mL	
639967013	MW-LF-28-2023Q4	SAMPLE	G	06-OCT-23	50mL	50mL	

EPA

General Chem Analysis

Case Narrative

General Chemistry
Technical Case Narrative
Dominion Energy
SDG #: 639967

Product: **Ion Chromatography**
Analytical Method: EPA 300.0
Analytical Procedure: GL-GC-E-086 REV# 33
Analytical Batch: 2504243

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

GEL Sample ID#	Client Sample Identification
639967001	MW-LF-10-2023Q4
639967002	MW-LF-11-2023Q4
639967003	MW-LF-20-2023Q4
639967004	MW-LF-21-2023Q4
639967005	MW-LF-22D-2023Q4
639967006	MW-LF-23D-2023Q4
639967007	MW-LF-24-2023Q4
639967008	MW-LF-25-2023Q4
639967009	FBLK-W52-CCR-23401
639967010	DU-W52-CCR-23401
639967011	MW-LF-26-2023Q4
639967012	MW-LF-27-2023Q4
639967013	MW-LF-28-2023Q4
1205538473	Method Blank (MB)
1205538474	Laboratory Control Sample (LCS)
1205538475	639967012(MW-LF-27-2023Q4) Post Spike (PS)
1205538476	639967013(MW-LF-28-2023Q4) Sample Duplicate (DUP)
1205538477	639967013(MW-LF-28-2023Q4) Post Spike (PS)
1205538483	639967012(MW-LF-27-2023Q4) Sample Duplicate (DUP)

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

Data Summary:

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

Quality Control (QC) Information

Matrix Spike (MS)/Post Spike (PS) Recovery Statement
The percent recoveries (%R) obtained from the spike analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. The matrix spike recovered outside of the established acceptance limits due to matrix interference and/or non-homogeneity.

Analyte	Sample	Value
Chloride	1205538475 (MW-LF-27-2023Q4PS)	114* (90%-110%)
	1205538477 (MW-LF-28-2023Q4PS)	111* (90%-110%)

Technical Information

Sample Dilutions

The following samples 639967001 (MW-LF-10-2023Q4), 639967003 (MW-LF-20-2023Q4), 639967004 (MW-LF-21-2023Q4), 639967005 (MW-LF-22D-2023Q4), 639967006 (MW-LF-23D-2023Q4), 639967007 (MW-LF-24-2023Q4), 639967008 (MW-LF-25-2023Q4), 639967010 (DU-W52-CCR-23401) and 639967011 (MW-LF-26-2023Q4) were diluted because target analyte concentrations exceeded the calibration range. Sample 639967011 (MW-LF-26-2023Q4) was diluted based on historical data. Dilutions may be required for many reasons, including to minimize matrix interferences or to bring over range target analyte concentrations into the linear calibration range.

Analyte	639967								
	001	**003**	**004**	**005**	**006**	**007**	**008**	**010**	**011**
Chloride	2X	2X	2X	2X	2X	2X	1X	2X	20X
Fluoride	1X	1X	1X	1X	1X	1X	1X	1X	2X
Sulfate	1X	1X	1X	2X	2X	1X	40X	1X	2X

Miscellaneous Information

Additional Comments

All method-driven specifications are followed for these analyses except where client-specific SOW requirements are required to be met.

Product: **Solids, Total Dissolved**
Analytical Method: SM 2540C
Analytical Procedure: GL-GC-E-001 REV# 21
Analytical Batch: 2504466

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

GEL Sample ID#	Client Sample Identification
639967001	MW-LF-10-2023Q4
639967002	MW-LF-11-2023Q4
639967003	MW-LF-20-2023Q4
639967004	MW-LF-21-2023Q4
639967005	MW-LF-22D-2023Q4
639967006	MW-LF-23D-2023Q4
639967007	MW-LF-24-2023Q4
639967008	MW-LF-25-2023Q4
639967009	FBLK-W52-CCR-23401
639967010	DU-W52-CCR-23401
639967011	MW-LF-26-2023Q4
639967012	MW-LF-27-2023Q4
639967013	MW-LF-28-2023Q4
1205538844	Method Blank (MB)
1205538845	Laboratory Control Sample (LCS)
1205538846	639967013(MW-LF-28-2023Q4) Sample Duplicate (DUP)
1205538847	639969003(NonSDG) Sample Duplicate (DUP)

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

Data Summary:

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

Quality Control (QC) Information

Duplicate Relative Percent Difference (RPD) Statement
The Relative Percent Difference (RPD) between the sample and duplicate falls outside of the established acceptance limits because of the heterogeneous matrix of the sample:

Analyte	Sample	Value
Total Dissolved Solids	1205538847 (Non SDG 639969003DUP)	18.9* (0%-5%)

Miscellaneous Information

Additional Comments
A TDS meter was used to check the samples for interference prior to analysis. 1205538847 (Non SDG 639969003DUP), 639967008 (MW-LF-25-2023Q4) and 639967011 (MW-LF-26-2023Q4). All method-driven

specifications are followed for these analyses except where client-specific SOW requirements are required to be met.

Certification Statement

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

GEL LABORATORIES LLC

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

Qualifier Definition Report
for

DMNN001 Dominion Energy (50149867)

Client SDG: 639967 GEL Work Order: 639967

The Qualifiers in this report are defined as follows:

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

Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this data report:

Signature: Kristen Mizzell **Name: Kristen Mizzell**

Date: 19 OCT 2023 **Title: Group Leader**

Sample Data Summary

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

Certificate of Analysis

Report Date: October 19, 2023

Company : Dominion Energy Services, Inc.
Address : 120 Tredegar Street

Richmond, Virginia 23219
Contact: Kelly Hicks
Project: CCR Groundwater Monitoring - Level 3 Package

Client Sample ID:	MW-LF-10-2023Q4	Project:	DMNN00102
Sample ID:	639967001	Client ID:	DMNN001
Matrix:	GW		
Collect Date:	04-OCT-23 11:06		
Receive Date:	05-OCT-23		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Fluoride		0.555	0.0330	0.100	mg/L		1	LXA2	10/06/23	0008	2504243	1
Sulfate		3.86	0.133	0.400	mg/L		1					
Chloride		15.0	0.134	0.400	mg/L		2	LXA2	10/06/23	2138	2504243	2
Solids Analysis												
SM2540C Dissolved Solids "As Received"												
Total Dissolved Solids		336	2.38	10.0	mg/L			CH6	10/06/23	1447	2504466	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	SM 2540C	

Notes:

Column headers are defined as follows:

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

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

Certificate of Analysis

Report Date: October 19, 2023

Company :	Dominion Energy Services, Inc.
Address :	120 Tredegar Street
	Richmond, Virginia 23219
Contact:	Kelly Hicks
Project:	CCR Groundwater Monitoring - Level 3 Package

Client Sample ID:	MW-LF-11-2023Q4	Project:	DMNN00102
Sample ID:	639967002	Client ID:	DMNN001
Matrix:	GW		
Collect Date:	04-OCT-23 12:26		
Receive Date:	05-OCT-23		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Chloride		7.04	0.0670	0.200	mg/L		1	LXA2	10/06/23	0039	2504243	1
Fluoride		0.415	0.0330	0.100	mg/L		1					
Sulfate		1.25	0.133	0.400	mg/L		1					
Solids Analysis												
SM2540C Dissolved Solids "As Received"												
Total Dissolved Solids		86.0	2.38	10.0	mg/L			CH6	10/06/23	1447	2504466	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	SM 2540C	

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: October 19, 2023

Company :	Dominion Energy Services, Inc.
Address :	120 Tredegar Street
	Richmond, Virginia 23219
Contact:	Kelly Hicks
Project:	CCR Groundwater Monitoring - Level 3 Package

Client Sample ID:	MW-LF-20-2023Q4	Project:	DMNN00102
Sample ID:	639967003	Client ID:	DMNN001
Matrix:	GW		
Collect Date:	04-OCT-23 10:03		
Receive Date:	05-OCT-23		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Fluoride		0.337	0.0330	0.100	mg/L		1	LXA2	10/06/23	0313	2504243	1
Sulfate		6.36	0.133	0.400	mg/L		1					
Chloride		11.8	0.134	0.400	mg/L		2	LXA2	10/06/23	2209	2504243	2
Solids Analysis												
SM2540C Dissolved Solids "As Received"												
Total Dissolved Solids		638	2.38	10.0	mg/L			CH6	10/06/23	1447	2504466	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	SM 2540C	

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: October 19, 2023

Company :	Dominion Energy Services, Inc.
Address :	120 Tredegar Street
	Richmond, Virginia 23219
Contact:	Kelly Hicks
Project:	CCR Groundwater Monitoring - Level 3 Package

Client Sample ID:	MW-LF-21-2023Q4	Project:	DMNN00102
Sample ID:	639967004	Client ID:	DMNN001
Matrix:	GW		
Collect Date:	04-OCT-23 11:10		
Receive Date:	05-OCT-23		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Chloride		11.1	0.134	0.400	mg/L		2	LXA2	10/06/23	2240	2504243	1
Fluoride		0.249	0.0330	0.100	mg/L		1	LXA2	10/06/23	0344	2504243	2
Sulfate		6.91	0.133	0.400	mg/L		1					
Solids Analysis												
SM2540C Dissolved Solids "As Received"												
Total Dissolved Solids		616	2.38	10.0	mg/L			CH6	10/06/23	1447	2504466	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	SM 2540C	

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: October 19, 2023

Company :	Dominion Energy Services, Inc.
Address :	120 Tredegar Street
	Richmond, Virginia 23219
Contact:	Kelly Hicks
Project:	CCR Groundwater Monitoring - Level 3 Package

Client Sample ID:	MW-LF-22D-2023Q4	Project:	DMNN00102
Sample ID:	639967005	Client ID:	DMNN001
Matrix:	GW		
Collect Date:	04-OCT-23 12:30		
Receive Date:	05-OCT-23		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Chloride		10.1	0.134	0.400	mg/L		2	LXA2	10/07/23	0043	2504243	1
Sulfate		31.4	0.266	0.800	mg/L		2					
Fluoride		0.383	0.0330	0.100	mg/L		1	LXA2	10/06/23	0415	2504243	2
Solids Analysis												
SM2540C Dissolved Solids "As Received"												
Total Dissolved Solids		586	2.38	10.0	mg/L			CH6	10/06/23	1447	2504466	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	SM 2540C	

Notes:

Column headers are defined as follows:

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

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

Certificate of Analysis

Report Date: October 19, 2023

Company :	Dominion Energy Services, Inc.
Address :	120 Tredegar Street
	Richmond, Virginia 23219
Contact:	Kelly Hicks
Project:	CCR Groundwater Monitoring - Level 3 Package

Client Sample ID:	MW-LF-23D-2023Q4	Project:	DMNN00102
Sample ID:	639967006	Client ID:	DMNN001
Matrix:	GW		
Collect Date:	04-OCT-23 13:50		
Receive Date:	05-OCT-23		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Chloride		16.6	0.134	0.400	mg/L		2	LXA2	10/07/23	0114	2504243	1
Sulfate		21.2	0.266	0.800	mg/L		2					
Fluoride		0.468	0.0330	0.100	mg/L		1	LXA2	10/06/23	0446	2504243	2
Solids Analysis												
SM2540C Dissolved Solids "As Received"												
Total Dissolved Solids		484	2.38	10.0	mg/L			CH6	10/06/23	1447	2504466	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	SM 2540C	

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: October 19, 2023

Company :	Dominion Energy Services, Inc.
Address :	120 Tredegar Street
	Richmond, Virginia 23219
Contact:	Kelly Hicks
Project:	CCR Groundwater Monitoring - Level 3 Package

Client Sample ID:	MW-LF-24-2023Q4	Project:	DMNN00102
Sample ID:	639967007	Client ID:	DMNN001
Matrix:	GW		
Collect Date:	04-OCT-23 15:45		
Receive Date:	05-OCT-23		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Chloride		17.9	0.134	0.400	mg/L		2	LXA2	10/07/23	0145	2504243	1
Fluoride		0.589	0.0330	0.100	mg/L		1	LXA2	10/06/23	0516	2504243	2
Sulfate		8.70	0.133	0.400	mg/L		1					
Solids Analysis												
SM2540C Dissolved Solids "As Received"												
Total Dissolved Solids		481	2.38	10.0	mg/L			CH6	10/06/23	1447	2504466	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	SM 2540C	

Notes:

Column headers are defined as follows:

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

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

Certificate of Analysis

Report Date: October 19, 2023

Company :	Dominion Energy Services, Inc.
Address :	120 Tredegar Street
	Richmond, Virginia 23219
Contact:	Kelly Hicks
Project:	CCR Groundwater Monitoring - Level 3 Package

Client Sample ID:	MW-LF-25-2023Q4	Project:	DMNN00102
Sample ID:	639967008	Client ID:	DMNN001
Matrix:	GW		
Collect Date:	04-OCT-23 14:50		
Receive Date:	05-OCT-23		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Sulfate		357	5.32	16.0	mg/L		40	LXA2	10/07/23	0216	2504243	1
Chloride		7.06	0.0670	0.200	mg/L		1	LXA2	10/06/23	0547	2504243	2
Fluoride		0.668	0.0330	0.100	mg/L		1					
Solids Analysis												
SM2540C Dissolved Solids "As Received"												
Total Dissolved Solids		842	4.76	20.0	mg/L			CH6	10/06/23	1447	2504466	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	SM 2540C	

Notes:

Column headers are defined as follows:

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

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

Certificate of Analysis

Report Date: October 19, 2023

Company : Dominion Energy Services, Inc.
Address : 120 Tredegar Street

Richmond, Virginia 23219
Contact: Kelly Hicks
Project: CCR Groundwater Monitoring - Level 3 Package

Client Sample ID:	FBLK-W52-CCR-23401	Project:	DMNN00102
Sample ID:	639967009	Client ID:	DMNN001
Matrix:	GW		
Collect Date:	04-OCT-23 10:50		
Receive Date:	05-OCT-23		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Chloride	J	0.166	0.0670	0.200	mg/L		1	LXA2	10/06/23	0618	2504243	1
Fluoride	U	ND	0.0330	0.100	mg/L		1					
Sulfate	U	ND	0.133	0.400	mg/L		1					
Solids Analysis												
SM2540C Dissolved Solids "As Received"												
Total Dissolved Solids	U	ND	2.38	10.0	mg/L			CH6	10/06/23	1447	2504466	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	SM 2540C	

Notes:

Column headers are defined as follows:

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

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

Certificate of Analysis

Report Date: October 19, 2023

Company :	Dominion Energy Services, Inc.
Address :	120 Tredegar Street
	Richmond, Virginia 23219
Contact:	Kelly Hicks
Project:	CCR Groundwater Monitoring - Level 3 Package

Client Sample ID:	DU-W52-CCR-23401	Project:	DMNN00102
Sample ID:	639967010	Client ID:	DMNN001
Matrix:	GW		
Collect Date:	04-OCT-23 12:00		
Receive Date:	05-OCT-23		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Fluoride		0.417	0.0330	0.100	mg/L		1	LXA2	10/06/23	0649	2504243	1
Sulfate		6.80	0.133	0.400	mg/L		1					
Chloride		11.2	0.134	0.400	mg/L		2	LXA2	10/07/23	0247	2504243	2
Solids Analysis												
SM2540C Dissolved Solids "As Received"												
Total Dissolved Solids		610	2.38	10.0	mg/L			CH6	10/06/23	1447	2504466	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	SM 2540C	

Notes:

Column headers are defined as follows:

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

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

Certificate of Analysis

Report Date: October 19, 2023

Company :	Dominion Energy Services, Inc.
Address :	120 Tredegar Street
	Richmond, Virginia 23219
Contact:	Kelly Hicks
Project:	CCR Groundwater Monitoring - Level 3 Package

Client Sample ID:	MW-LF-26-2023Q4	Project:	DMNN00102
Sample ID:	639967011	Client ID:	DMNN001
Matrix:	GW		
Collect Date:	04-OCT-23 14:41		
Receive Date:	05-OCT-23		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Fluoride		0.310	0.0660	0.200	mg/L		2	LXA2	10/06/23	0720	2504243	1
Sulfate		27.0	0.266	0.800	mg/L		2					
Chloride		137	1.34	4.00	mg/L		20	LXA2	10/07/23	0318	2504243	2
Solids Analysis												
SM2540C Dissolved Solids "As Received"												
Total Dissolved Solids		844	4.76	20.0	mg/L			CH6	10/06/23	1447	2504466	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	SM 2540C	

Notes:

Column headers are defined as follows:

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

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

Certificate of Analysis

Report Date: October 19, 2023

Company :	Dominion Energy Services, Inc.
Address :	120 Tredegar Street
	Richmond, Virginia 23219
Contact:	Kelly Hicks
Project:	CCR Groundwater Monitoring - Level 3 Package

Client Sample ID:	MW-LF-27-2023Q4	Project:	DMNN00102
Sample ID:	639967012	Client ID:	DMNN001
Matrix:	GW		
Collect Date:	04-OCT-23 10:01		
Receive Date:	05-OCT-23		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Chloride		9.25	0.0670	0.200	mg/L		1	LXA2	10/06/23	0751	2504243	1
Fluoride		0.319	0.0330	0.100	mg/L		1					
Sulfate		3.02	0.133	0.400	mg/L		1					
Solids Analysis												
SM2540C Dissolved Solids "As Received"												
Total Dissolved Solids		143	2.38	10.0	mg/L			CH6	10/06/23	1447	2504466	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	SM 2540C	

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
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Certificate of Analysis

Report Date: October 19, 2023

Company :	Dominion Energy Services, Inc.
Address :	120 Tredegar Street
	Richmond, Virginia 23219
Contact:	Kelly Hicks
Project:	CCR Groundwater Monitoring - Level 3 Package

Client Sample ID:	MW-LF-28-2023Q4	Project:	DMNN00102
Sample ID:	639967013	Client ID:	DMNN001
Matrix:	GW		
Collect Date:	04-OCT-23 13:46		
Receive Date:	05-OCT-23		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Chloride		5.87	0.0670	0.200	mg/L		1	LXA2	10/06/23	1127	2504243	1
Fluoride		0.104	0.0330	0.100	mg/L		1					
Sulfate		0.583	0.133	0.400	mg/L		1					
Solids Analysis												
SM2540C Dissolved Solids "As Received"												
Total Dissolved Solids	J	3.00	2.38	10.0	mg/L			CH6	10/06/23	1447	2504466	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	SM 2540C	

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

Quality Control Summary

QC Summary

Report Date: October 19, 2023

Dominion Energy Services, Inc.
120 Tredegar Street
Richmond, Virginia

Contact: **Kelly Hicks**

Workorder: **639967**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Ion Chromatography										
Batch 2504243										
QC1205538476 639967013 DUP										
Chloride		5.87		5.90	mg/L	0.486		(0%-20%)	LXA2	10/06/23 11:58
Fluoride		0.104		0.150	mg/L	36.4 ^		(+/-0.100)		
Sulfate		0.583		0.587	mg/L	0.753 ^		(+/-0.400)		
QC1205538483 639967012 DUP										
Chloride		9.25		9.26	mg/L	0.102		(0%-20%)		10/06/23 10:25
Fluoride		0.319		0.315	mg/L	1.14 ^		(+/-0.100)		
Sulfate		3.02		3.13	mg/L	3.65		(0%-20%)		
QC1205538474 LCS										
Chloride	5.00			4.56	mg/L		91.3	(90%-110%)		10/05/23 23:37
Fluoride	2.50			2.36	mg/L		94.3	(90%-110%)		
Sulfate	10.0			9.40	mg/L		94	(90%-110%)		
QC1205538473 MB										
Chloride			U	ND	mg/L					10/05/23 23:06
Fluoride			U	ND	mg/L					
Sulfate			U	ND	mg/L					
QC1205538475 639967012 PS										
Chloride	5.00	9.25		15.0	mg/L		114*	(90%-110%)		10/06/23 10:56

QC Summary

Workorder: **639967**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Ion Chromatography										
Batch 2504243										
Fluoride	2.50	0.319		2.70	mg/L		95.2	(90%-110%)	LXA2	10/06/23 10:56
Sulfate	10.0	3.02		12.9	mg/L		98.6	(90%-110%)		
QC1205538477 639967013 PS										
Chloride	5.00	5.87		11.4	mg/L		111*	(90%-110%)		10/06/23 12:29
Fluoride	2.50	0.104		2.53	mg/L		97.2	(90%-110%)		
Sulfate	10.0	0.583		10.3	mg/L		97.5	(90%-110%)		
Solids Analysis										
Batch 2504466										
QC1205538846 639967013 DUP										
Total Dissolved Solids	J	3.00	J	7.00	mg/L	80 ^		(+/-10.0)	CH6	10/06/23 14:47
QC1205538847 639969003 DUP										
Total Dissolved Solids		1390		1680	mg/L	18.9*		(0%-5%)		10/06/23 14:47
QC1205538845 LCS										
Total Dissolved Solids	300			303	mg/L		101	(95%-105%)		10/06/23 14:47
QC1205538844 MB										
Total Dissolved Solids			U	ND	mg/L					10/06/23 14:47

Notes:

The Qualifiers in this report are defined as follows:

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

QC Summary

Workorder: **639967**

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

h	Preparation or preservation holding time was exceeded
R	Sample results are rejected
Z	Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
d	5-day BOD--The 2:1 depletion requirement was not met for this sample
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
N/A	RPD or %Recovery limits do not apply.
ND	Analyte concentration is not detected above the detection limit
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
E	General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
N1	See case narrative
R	Per section 9.3.4.1 of Method 1664 Revision B, due to matrix spike recovery issues, this result may not be reported or used for regulatory compliance purposes.
B	The target analyte was detected in the associated blank.
e	5-day BOD--Test replicates show more than 30% difference between high and low values. The data is qualified per the method and can be used for reporting purposes
J	See case narrative for an explanation

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

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

ENVIRONMENTAL® STANDARDS
Montrose Environmental Group

This quality assurance (QA) review is based upon an examination of the data generated from the analyses of the samples collected as part of:

Williams Power Station Groundwater Sampling
Samples Collected between: 10/3/2023 and 10/4/2023

This review was performed with guidance from the associated US EPA data validation guidelines and in accordance with the Quality Assurance Program Plan. These validation guidance documents specifically address analyses performed in accordance with the Contract Laboratory Program (CLP) analytical methods and are not completely applicable to the type of analyses and analytical protocols performed for the US EPA, SW-846, and Standard Methods utilized by the laboratory for these samples. Environmental Standards, Inc. (Environmental Standards) used professional judgment to determine the usability of the analytical results and compliance relative to the US EPA, SW-846, and Standard Methods utilized by the laboratory. This QA review was performed on the data associated with Job Number:

639967

The findings offered in this report are based on a review of holding times and preservation, method blank results, field blank results, filter blank results, equipment blank results, tubing blank results, matrix spike/matrix spike duplicate recoveries and precision, laboratory control sample/laboratory control sample duplicate recoveries and precision, laboratory and field duplicate precision, total and dissolved results comparisons, and/or positive results between the method detection limit and quantitation limit.

The following results were qualified based on the data verification effort:

Sample	Location	Sample Type	Method	Analyte	T/D	Result	Qual	Reason Code(s)	MDL	QL	Uncertainty	Unit
MW-LF-21-2023Q4	MW-LF-21	N	EPA 300.0	Fluoride	N	0.249	J	FD	0.0330	0.100		mg/L
FBLK-W52-CCR-23401	Field Blank	FB	EPA 300.0	Chloride	N	0.166	J	RL	0.0670	0.200		mg/L
DU-W52-CCR-23401	MW-LF-21	FD	EPA 300.0	Fluoride	N	0.417	J	FD	0.0330	0.100		mg/L
MW-LF-28-2023Q4	MW-LF-28	N	EPA 200.8	Boron	T	13.8	J	RL	4.00	15.0		ug/L
MW-LF-28-2023Q4	MW-LF-28	N	SM 2540C	Total Dissolved Solids	N	3.00	J	RL	2.38	10.0		mg/L

Data Qualifiers	
U	The analyte was not detected above the level of the sample reporting limit.
J	Quantitation is approximate due to limitations identified during data validation.
J+	The result is an estimated quantity; the result may be biased high.
J-	The result is an estimated quantity; the result may be biased low.
UJ	The analyte was not detected; the reporting limit is approximate and may be inaccurate or imprecise.
R	Unreliable positive result; analyte may or may not be present in sample.
Reason Codes and Explanations	
BE	Equipment blank contamination.
BF	Field blank contamination.
BL	Laboratory blank contamination.
BN	Negative laboratory blank contamination.
FD	Field duplicate imprecision.
FG	Total versus Dissolved Imprecision.
H	Holding time exceeded.
L	LCS and LCSD recoveries outside of acceptance limits
LD	Laboratory duplicate imprecision.
LP	LCS/LCSD imprecision.
M	MS and MSD recoveries outside of acceptance limits
MP	MS/MSD imprecision.

Q	Chemical Preservation issue.
RL	Reported Results between the MDL and QL.
S	Radium-226+228 flagged due to reporting protocol for combined results
T	Temperature preservation issue.
X	Percent solids < 50%.
Y	Chemical yield outside of acceptance limits
ZZ	Other

Facility: Williams Generating Station
SDG: 639967

Lab Sample ID	639967001
Sys Sample Code	MW-LF-10-2023Q4
Sample Name	MW-LF-10-2023Q4
Sample Date	10/4/2023 11:06:00 AM
Location	W52-GW-10 / GW-10
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
EPA 200.8	Boron	7440-42-8	T	ug/L	84.8				4.00	4.00	15.0	Y	Yes	1	NA
	Calcium	7440-70-2	T	ug/L	74100				150	150	500	Y	Yes	5	NA
EPA 300.0	Fluoride	16984-48-8	N	mg/L	0.555				0.0330	0.0330	0.100	Y	Yes	1	NA
	Sulfate	14808-79-8	N	mg/L	3.86				0.133	0.133	0.400	Y	Yes	1	NA
EPA 300.0	Chloride	16887-00-6	N	mg/L	15.0				0.134	0.134	0.400	Y	Yes	2	NA
SM 2540C	Total Dissolved Solids	TDS	N	mg/L	336				2.38	2.38	10.0	Y	Yes	1	NA

Facility: Williams Generating Station
SDG: 639967

Lab Sample ID	639967002
Sys Sample Code	MW-LF-11-2023Q4
Sample Name	MW-LF-11-2023Q4
Sample Date	10/4/2023 12:26:00 PM
Location	W52-GW-11 / GW-11
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
EPA 200.8	Boron	7440-42-8	T	ug/L	34.1				4.00	4.00	15.0	Y	Yes	1	NA
	Calcium	7440-70-2	T	ug/L	20800				30.0	30.0	100	Y	Yes	1	NA
EPA 300.0	Chloride	16887-00-6	N	mg/L	7.04				0.0670	0.0670	0.200	Y	Yes	1	NA
	Fluoride	16984-48-8	N	mg/L	0.415				0.0330	0.0330	0.100	Y	Yes	1	NA
	Sulfate	14808-79-8	N	mg/L	1.25				0.133	0.133	0.400	Y	Yes	1	NA
SM 2540C	Total Dissolved Solids	TDS	N	mg/L	86.0				2.38	2.38	10.0	Y	Yes	1	NA

Lab Sample ID	639967003
Sys Sample Code	MW-LF-20-2023Q4
Sample Name	MW-LF-20-2023Q4
Sample Date	10/4/2023 10:03:00 AM
Location	W52-MW-LF-20 / MW-LF-20
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
EPA 200.8	Boron	7440-42-8	T	ug/L	234				20.0	20.0	75.0	Y	Yes	5	NA
	Calcium	7440-70-2	T	ug/L	157000				150	150	500	Y	Yes	5	NA
EPA 300.0	Chloride	16887-00-6	N	mg/L	11.8				0.134	0.134	0.400	Y	Yes	2	NA
EPA 300.0	Fluoride	16984-48-8	N	mg/L	0.337				0.0330	0.0330	0.100	Y	Yes	1	NA
	Sulfate	14808-79-8	N	mg/L	6.36				0.133	0.133	0.400	Y	Yes	1	NA
SM 2540C	Total Dissolved Solids	TDS	N	mg/L	638				2.38	2.38	10.0	Y	Yes	1	NA

Facility: Williams Generating Station
SDG: 639967

Lab Sample ID	639967004
Sys Sample Code	MW-LF-21-2023Q4
Sample Name	MW-LF-21-2023Q4
Sample Date	10/4/2023 11:10:00 AM
Location	W52-MW-LF-21 / MW-LF-21
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
EPA 200.8	Boron	7440-42-8	T	ug/L	215				20.0	20.0	75.0	Y	Yes	5	NA
	Calcium	7440-70-2	T	ug/L	136000				150	150	500	Y	Yes	5	NA
EPA 300.0	Chloride	16887-00-6	N	mg/L	11.1				0.134	0.134	0.400	Y	Yes	2	NA
EPA 300.0	Fluoride	16984-48-8	N	mg/L	0.249	J	FD		0.0330	0.0330	0.100	Y	Yes	1	NA
	Sulfate	14808-79-8	N	mg/L	6.91				0.133	0.133	0.400	Y	Yes	1	NA
SM 2540C	Total Dissolved Solids	TDS	N	mg/L	616				2.38	2.38	10.0	Y	Yes	1	NA

Lab Sample ID	639967005
Sys Sample Code	MW-LF-22D-2023Q4
Sample Name	MW-LF-22D-2023Q4
Sample Date	10/4/2023 12:30:00 PM
Location	W52-MW-LF-22D / MW-LF-22D
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
EPA 200.8	Boron	7440-42-8	T	ug/L	366				20.0	20.0	75.0	Y	Yes	5	NA
	Calcium	7440-70-2	T	ug/L	100000				150	150	500	Y	Yes	5	NA
EPA 300.0	Fluoride	16984-48-8	N	mg/L	0.383				0.0330	0.0330	0.100	Y	Yes	1	NA
EPA 300.0	Chloride	16887-00-6	N	mg/L	10.1				0.134	0.134	0.400	Y	Yes	2	NA
	Sulfate	14808-79-8	N	mg/L	31.4				0.266	0.266	0.800	Y	Yes	2	NA
SM 2540C	Total Dissolved Solids	TDS	N	mg/L	586				2.38	2.38	10.0	Y	Yes	1	NA

Lab Sample ID	639967006
Sys Sample Code	MW-LF-23D-2023Q4
Sample Name	MW-LF-23D-2023Q4
Sample Date	10/4/2023 1:50:00 PM
Location	W52-MW-LF-23D / MW-LF-23D
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
EPA 200.8	Boron	7440-42-8	T	ug/L	299				20.0	20.0	75.0	Y	Yes	5	NA
	Calcium	7440-70-2	T	ug/L	75500				150	150	500	Y	Yes	5	NA
EPA 300.0	Fluoride	16984-48-8	N	mg/L	0.468				0.0330	0.0330	0.100	Y	Yes	1	NA
EPA 300.0	Chloride	16887-00-6	N	mg/L	16.6				0.134	0.134	0.400	Y	Yes	2	NA
	Sulfate	14808-79-8	N	mg/L	21.2				0.266	0.266	0.800	Y	Yes	2	NA
SM 2540C	Total Dissolved Solids	TDS	N	mg/L	484				2.38	2.38	10.0	Y	Yes	1	NA

Lab Sample ID	639967007
Sys Sample Code	MW-LF-24-2023Q4
Sample Name	MW-LF-24-2023Q4
Sample Date	10/4/2023 3:45:00 PM
Location	W52-MW-LF-24 / MW-LF-24
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
EPA 200.8	Boron	7440-42-8	T	ug/L	94.2				4.00	4.00	15.0	Y	Yes	1	NA
	Calcium	7440-70-2	T	ug/L	125000				150	150	500	Y	Yes	5	NA
EPA 300.0	Fluoride	16984-48-8	N	mg/L	0.589				0.0330	0.0330	0.100	Y	Yes	1	NA
	Sulfate	14808-79-8	N	mg/L	8.70				0.133	0.133	0.400	Y	Yes	1	NA
EPA 300.0	Chloride	16887-00-6	N	mg/L	17.9				0.134	0.134	0.400	Y	Yes	2	NA
SM 2540C	Total Dissolved Solids	TDS	N	mg/L	481				2.38	2.38	10.0	Y	Yes	1	NA

Lab Sample ID	639967008
Sys Sample Code	MW-LF-25-2023Q4
Sample Name	MW-LF-25-2023Q4
Sample Date	10/4/2023 2:50:00 PM
Location	W52-MW-LF-25 / MW-LF-25
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
EPA 200.8	Boron	7440-42-8	T	ug/L	36.8				4.00	4.00	15.0	Y	Yes	1	NA
	Calcium	7440-70-2	T	ug/L	214000				150	150	500	Y	Yes	5	NA
EPA 300.0	Chloride	16887-00-6	N	mg/L	7.06				0.0670	0.0670	0.200	Y	Yes	1	NA
	Fluoride	16984-48-8	N	mg/L	0.668				0.0330	0.0330	0.100	Y	Yes	1	NA
EPA 300.0	Sulfate	14808-79-8	N	mg/L	357				5.32	5.32	16.0	Y	Yes	40	NA
SM 2540C	Total Dissolved Solids	TDS	N	mg/L	842				4.76	4.76	20.0	Y	Yes	1	NA

Lab Sample ID	639967009
Sys Sample Code	FBLK-W52-CCR-23401
Sample Name	FBLK-W52-CCR-23401
Sample Date	10/4/2023 10:50:00 AM
Location	WMS-FB / Field Blank
Sample Type	FB
Matrix	AQ
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
EPA 200.8	Boron	7440-42-8	T	ug/L		U			4.00	4.00	15.0	N	Yes	1	NA
	Calcium	7440-70-2	T	ug/L		U			30.0	30.0	100	N	Yes	1	NA
EPA 300.0	Chloride	16887-00-6	N	mg/L	0.166	J	RL		0.0670	0.0670	0.200	Y	Yes	1	NA
	Fluoride	16984-48-8	N	mg/L		U			0.0330	0.0330	0.100	N	Yes	1	NA
	Sulfate	14808-79-8	N	mg/L		U			0.133	0.133	0.400	N	Yes	1	NA
SM 2540C	Total Dissolved Solids	TDS	N	mg/L		U			2.38	2.38	10.0	N	Yes	1	NA

Lab Sample ID	639967010
Sys Sample Code	DU-W52-CCR-23401
Sample Name	DU-W52-CCR-23401
Sample Date	10/4/2023 12:00:00 PM
Location	W52-MW-LF-21 / MW-LF-21
Sample Type	FD
Matrix	GW
Parent Sample	MW-LF-21-2023Q4

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
EPA 200.8	Boron	7440-42-8	T	ug/L	211				20.0	20.0	75.0	Y	Yes	5	NA
	Calcium	7440-70-2	T	ug/L	140000				150	150	500	Y	Yes	5	NA
EPA 300.0	Fluoride	16984-48-8	N	mg/L	0.417	J	FD		0.0330	0.0330	0.100	Y	Yes	1	NA
	Sulfate	14808-79-8	N	mg/L	6.80				0.133	0.133	0.400	Y	Yes	1	NA
EPA 300.0	Chloride	16887-00-6	N	mg/L	11.2				0.134	0.134	0.400	Y	Yes	2	NA
SM 2540C	Total Dissolved Solids	TDS	N	mg/L	610				2.38	2.38	10.0	Y	Yes	1	NA

Facility: Williams Generating Station
SDG: 639967

Lab Sample ID	639967011
Sys Sample Code	MW-LF-26-2023Q4
Sample Name	MW-LF-26-2023Q4
Sample Date	10/4/2023 2:41:00 PM
Location	W52-MW-LF-26 / MW-LF-26
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
EPA 200.8	Boron	7440-42-8	T	ug/L	156				4.00	4.00	15.0	Y	Yes	1	NA
	Calcium	7440-70-2	T	ug/L	176000				150	150	500	Y	Yes	5	NA
EPA 300.0	Chloride	16887-00-6	N	mg/L	137				1.34	1.34	4.00	Y	Yes	20	NA
	Fluoride	16984-48-8	N	mg/L	0.310				0.0660	0.0660	0.200	Y	Yes	2	NA
	Sulfate	14808-79-8	N	mg/L	27.0				0.266	0.266	0.800	Y	Yes	2	NA
SM 2540C	Total Dissolved Solids	TDS	N	mg/L	844				4.76	4.76	20.0	Y	Yes	1	NA

Lab Sample ID	639967012
Sys Sample Code	MW-LF-27-2023Q4
Sample Name	MW-LF-27-2023Q4
Sample Date	10/4/2023 10:01:00 AM
Location	W52-MW-LF-27 / MW-LF-27
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
EPA 200.8	Boron	7440-42-8	T	ug/L	38.7				4.00	4.00	15.0	Y	Yes	1	NA
	Calcium	7440-70-2	T	ug/L	40600				30.0	30.0	100	Y	Yes	1	NA
EPA 300.0	Chloride	16887-00-6	N	mg/L	9.25				0.0670	0.0670	0.200	Y	Yes	1	NA
	Fluoride	16984-48-8	N	mg/L	0.319				0.0330	0.0330	0.100	Y	Yes	1	NA
	Sulfate	14808-79-8	N	mg/L	3.02				0.133	0.133	0.400	Y	Yes	1	NA
SM 2540C	Total Dissolved Solids	TDS	N	mg/L	143				2.38	2.38	10.0	Y	Yes	1	NA

Lab Sample ID	639967013
Sys Sample Code	MW-LF-28-2023Q4
Sample Name	MW-LF-28-2023Q4
Sample Date	10/4/2023 1:46:00 PM
Location	W52-MW-LF-28 / MW-LF-28
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
EPA 200.8	Boron	7440-42-8	T	ug/L	13.8	J	RL		4.00	4.00	15.0	Y	Yes	1	NA
	Calcium	7440-70-2	T	ug/L	5370				30.0	30.0	100	Y	Yes	1	NA
EPA 300.0	Chloride	16887-00-6	N	mg/L	5.87				0.0670	0.0670	0.200	Y	Yes	1	NA
	Fluoride	16984-48-8	N	mg/L	0.104				0.0330	0.0330	0.100	Y	Yes	1	NA
	Sulfate	14808-79-8	N	mg/L	0.583				0.133	0.133	0.400	Y	Yes	1	NA
SM 2540C	Total Dissolved Solids	TDS	N	mg/L	3.00	J	RL		2.38	2.38	10.0	Y	Yes	1	NA

Appendix E
First Semiannual Detection Monitoring Statistical Evaluation

DOMINION ENERGY SOUTH CAROLINA

WILLIAMS STATION HIGHWAY 52 CLASS III LANDFILL

SEMIANNUAL DETECTION MONITORING

BERKELY COUNTY, SOUTH CAROLINA

CCR GROUNDWATER DETECTION MONITORING STATISTICAL ANALYSIS REPORT

For the

March 2023 Sampling Event

June 16, 2023

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Statistical Analysis Report

Groundwater Sampling

TRC Environmental Corporation (TRC) is providing this Statistically Significant Increases (SSI) notification for the Williams Station Hwy 52 Landfill for the twelfth semiannual detection monitoring event. Samples were collected on March 20 – 23, 2023. The laboratory analytical data packages for the event were received on April 6, 2023, and the data validation report was received on April14, 2023.

Statistical Analysis

Statistically Significant Level (SSL) exceedances above background concentrations include the following:

- MW-LF-20: calcium, total dissolved solids (TDS)
- MW-LF-21: calcium, TDS
- MW-LF-22D: TDS
- MW-LF-23D: TDS
- MW-LF-24: calcium, TDS
- MW-LF-25: calcium, sulfate, TDS
- MW-LF-26: calcium, chloride, sulfate, TDS

An Alternative Source Demonstration (ASD) should be prepared for these potential SSIs.

In general accordance with the Statistical Analysis Plan[1] for Detection Monitoring, the evaluation of potential SSIs was conducted using prediction limits to compare data from the background set of monitoring wells to the most recent results from the downgradient monitoring wells. The statistical analysis plan includes regularly updating the prediction limits. This Statistical Analysis Report bases potential SSIs on updated prediction limits as described in this report. The procedure is summarized as follows:

- Background statistics were calculated using all analytical results for the four background or upgradient wells (MW-LF-10, MW-LF-11, MW-LF-27, MW-LF-28). In accordance with *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities*, Unified Guidance March 2009 (EPA 530/R-09-007), Chapter 5, background will be updated after every four detection monitoring events, assuming the analytical results of the four events remain consistent with the established background distribution.

[1] *Statistical Analysis Plan, SCE&G Williams Highway 52 Class III Landfill*, OBG 2017

- The data set used for establishing background for the March 2021 detection monitoring includes the results from the baseline events conducted prior to the October 2017 initiation of detection monitoring, plus the results from the semiannual detection monitoring events between October 2017 and October 2022.

  The new data to be appended to the background data sets were tested using the Wilcoxon-Mann-Whitney (WMW) two sample hypothesis test and found to be consistent with the previous data distributions except pH, which had a downward trend. Boron had insufficient detected concentrations for evaluation.

- The background data sets were observed graphically for potential outlier values probability plots (i.e., Q-Q graphs); see Appendix A). Graphically apparent outliers are tested using ProUCL. Outlier values for which there is a verification resample result are replaced by the resample result. Outlier values for which there is no verification resample result are removed from the background data set without replacement. **No outliers were identified for the background data sets.**

- ProUCL was used to calculate a background threshold value (BTV) for each of the Appendix III parameters. For data sets with greater than 50 percent detected values, the BTV was calculated based on the distribution of the data. For data sets with 50 percent or fewer detected values, nonparametric BTVs were used. Kaplan-Meier adjustments were used for data sets with fewer than 50 percent nondetect values.

- Upper prediction limits (UPLs) were the preferred BTVs for data sets that met the requirements for parametric statistical methods. The UPLs were calculated for 7 future sampling events (seven downgradient wells and one sampling event). UPLs will normally be updated following four sampling events, but the background well set is being revised for the next semiannual sample event (fall 2023). If a calculated UPL is less than the reporting limit, the comparison value is set at the practical quantitation limit (PQL).

- Upper statistical limits (USL) were the preferred BTVs for data sets that required use of nonparametric statistical methods to account for the lower level of confidence inherent in nonparametric statistical methods. If a calculated USL is less than the PQL, the comparison value is set at the PQL.

- For background data sets with no or very few data points exceeding the PQL limit for that constituent, the double quantification rule (DQR) was used to establish a potential SSI. Based on the DQR, a downgradient well would need to have a detected concentration above the PQL for two consecutive sampling events to consider the well/constituent to have a potential SSI.

- Direct comparisons are made between the statistically derived BTVs and the downgradient monitoring results to identify potential SSIs for the twelfth detection monitoring event.

The statistical calculations have been conducted using United States Environmental Protection Agency's (USEPA's) ProUCL (v.5.2) software. Table 1 presents the data representing background. Table 2 presents basic statistical information regarding the data sets and the calculated BTVs. Table 3 presents the data set for the twelfth detection monitoring event and highlights results that are potential SSIs. Appendix A includes ProUCL probability plots (Q-Q graphs) for visual identification of potential outliers; Appendix B includes ProUCL outputs for Wilcoxon-Mann-Whitney two sample hypothesis tests and a trend test for pH, for which the null hypothesis was rejected in the WMW test; Appendix C includes ProUCL outputs for Background Threshold Values.

Table 1
Background Data Set for March 2023 Semiannual Detection Monitoring Event

Table 1 Background Data Set for March 2023 Semiannual Detection Monitoring Event

EVENT	WELL	CONSTITUENT/RESULT (mg/L except as noted) [1]						
		BORON	CALCIUM	CHLORIDE	FLUORIDE	pH	SULFATE	TDS
BL-1	MW-LF-10	< 0.0557	58.6	15.8	0.541	7.1	3.31	270
BL-2	MW-LF-10	< 0.0557	48.8	15.6	0.634	7.0	3.4	234
BL-3	MW-LF-10	< 0.0557	21.6	6.37	0.119	6.8	7.57	149
BL-4	MW-LF-10	0.0577	30.5	10.9	0.33	6.9	4.12	174
BL-5	MW-LF-10	< 0.0442	14.6	17.1	0.534	6.9	9.54	204
BL-6	MW-LF-10	0.166	38.6	17.15	0.442	7.4	5.4	277
BL-7	MW-LF-10	< 0.0442	32.3	16.42	0.368	7.4	4.95	241
BL-8	MW-LF-10	< 0.0442	41.5	19.45	0.515	7.7	5.51	196
DM-1	MW-LF-10	0.15	29.49	19.7	0.545	7.8	6	167
DM-2	MW-LF-10	0.0863	56.92	19	0.42	7.1	5.92	263
DM-3	MW-LF-10	0.0381	54.3	27.9	0.46	7.4	8.23	187
DM-4	MW-LF-10	0.0676	63.4	26.7	0.46	7.1	7.19	334
DM-5	MW-LF-10	0.0568	81.2	28.6	0.43	6.7	9.64	373
DM-6	MW-LF-10	0.122	78.6	27.5	0.43	7.0	7.13	382
DM-7	MW-LF-10	< 0.5	71.2	25.6	0.46	6.8	7.27	389
DM-8	MW-LF-10	0.0622	79.4	22.7	0.429	6.84	5.3	350
DM-9	MW-LF-10	0.0601	74.5	26.9	0.458	6.82	7.66	366
DM-10	MW-LF-10	0.0589	65.6	22.9	0.453	6.83	4.84	289
DM-11	MW-LF-10	0.0708	68.7	17	0.453	6.68	4.62	365

Table 1 Background Data Set for March 2023 Semiannual Detection Monitoring Event

EVENT	WELL	CONSTITUENT/RESULT (mg/L except as noted) [1]						
		BORON	CALCIUM	CHLORIDE	FLUORIDE	pH	SULFATE	TDS
BL-4	MW-LF-11	< 0.0557	18.3	5.93	0.407	6.3	1.73	94
BL-5	MW-LF-11	< 0.0442	15.6	3.04	0.337	6.4	5.13	89
BL-6	MW-LF-11	0.0778	16.6	5.04	0.31	6.4	1.45	101
BL-7	MW-LF-11	< 0.0442	19.3	5.16	0.336	7.0	1.34	98
BL-8	MW-LF-11	< 0.0442	20.1	5.99	0.324	7.1	1.47	105
DM-1	MW-LF-11	0.0599	20.18	6.1	0.368	6.7	1.8	110
DM-2	MW-LF-11	< 0.0442	16.26	5.84	0.25	6.3	1.77	98
DM-3	MW-LF-11	< 0.0219	19.5	6.59	0.35	6.4	1.44	108
DM-4	MW-LF-11	< 0.2	14.7	5.58	0.28	6.2	1.85	71
DM-5	MW-LF-11	0.0542	23	5.96	0.36	6.6	2.06	108
DM-6	MW-LF-11	0.0437	13.3	4.3	0.2	6.0	3.54	93
DM-7	MW-LF-11	< 0.5	18.8	7.23	0.34	6.2	1.24	126
DM-8	MW-LF-11	0.018	13.3	5.64	0.234	5.89	2.08	126 J
DM-9	MW-LF-11	0.0289	15.1	6.49	0.284	6.03	3.01	98.6
DM-10	MW-LF-11	0.0263	20.4	7.59	0.374	6.16	1.49	95.7
DM-11	MW-LF-11	0.0319	19.3	6.48	0.272	5.8	1.56	84
BL-4	MW-LF-27	< 0.0557	53	4.85	0.318	7.2	5.69	189
BL-5	MW-LF-27	< 0.0442	81.6	10.1	0.288	6.9	12	294
BL-6	MW-LF-27	0.0508	87.1	12.78	0.273	6.8	11.33	314
BL-7	MW-LF-27	< 0.0442	94.6	12.94	0.244	6.6	13.97	330
BL-8	MW-LF-27	< 0.0442	94.6	16.51	0.265	6.9	35.14	332

Table 1 Background Data Set for March 2023 Semiannual Detection Monitoring Event

EVENT	WELL	CONSTITUENT/RESULT (mg/L except as noted) [1]						
		BORON	CALCIUM	CHLORIDE	FLUORIDE	pH	SULFATE	TDS
DM-1	MW-LF-27	< 0.0442	86.73	14.2	0.267	6.7	32	318
DM-2	MW-LF-27	< 0.0442	69.67	13.3	0.21	6.8	15.5	265
DM-3	MW-LF-27	0.0224	79.7	13.3	0.27	7.2	16.8	315
DM-4	MW-LF-27	0.0982	55.9	14.6	0.23	6.7	14.1	274
DM-5	MW-LF-27	0.0426	62.5	15.2	0.23	6.8	10.4	239
DM-6	MW-LF-27	0.0584	51.3	14.5	0.16	6.5	20.9	235
DM-7	MW-LF-27	< 0.5	82.3	10.1	0.26	6.8	8.5	306
DM-8	MW-LF-27	0.0252	23.6	9.23	0.172	6.15	8.03	147
DM-9	MW-LF-27	0.0305	20.5	10.1	0.214	6.43	5.3	104
DM-10	MW-LF-27	0.026	22.6	5.54	0.299	6.34	1.74	95.7
DM-11	MW-LF-27	0.0347	46.1	19.3	0.223	6.21	4.69	194
BL-4	MW-LF-28	< 0.0557	34.5	4.05	0.12	6.6	4.85	120
BL-5	MW-LF-28	< 0.0442	29.9	3.98	0.146	6.6	0.827	96
BL-6	MW-LF-28	< 0.0442	23.8	3.68	0.145	6.4	0.92	95
BL-7	MW-LF-28	< 0.0442	17.3	3.98	0.0851	6.4	1.36	68
BL-8	MW-LF-28	< 0.0442	18.4	3.86	0.0938	7	1.72	95
DM-1	MW-LF-28	< 0.0442	17.46	3.6	0.118	6.7	3.1	73
DM-2	MW-LF-28	< 0.0442	19.93	3.99	< 0.025	6.4	3.12	76
DM-3	MW-LF-28	< 0.0219	12	3.65	< 0.025	6	1.29	64
DM-4	MW-LF-28	< 0.2	10.6	4.05	< 0.1	6.1	2.96	67
DM-5	MW-LF-28	< 0.2	12	4.45	< 0.1	5.9	2.48	57

Table 1 Background Data Set for March 2023 Semiannual Detection Monitoring Event

EVENT	WELL	CONSTITUENT/RESULT (mg/L except as noted) [1]						
		BORON	CALCIUM	CHLORIDE	FLUORIDE	pH	SULFATE	TDS
DM-6	MW-LF-28	< 0.2	13.5	5.21	< 0.1	5.9	5.11	68
DM-7	MW-LF-28	< 0.5	12.3	5.24	< 0.1	5.9	1.74	76
DM-8	MW-LF-28	0.0104 J	11.9	5.76	0.0914 J	5.89	3.84	87.1 J
DM-9	MW-LF-28	0.0165	10.3	5.44	0.077 J	6.03	1.35	54.3
DM-10	MW-LF-28	0.00997 J	6.82	6.11	0.1	5.39	0.512	11.4 J
DM-11	MW-LF-28	0.0161	8.39	5.87	0.11	5.86	1.51	40

[1] pH expressed in standard units (s.u.)
< Result less than the value reported

Table 2
Data Set Details and Background Threshold Values

Table 2 Data Set Details and Background Threshold Values

CONSTITUENT	NUMBER of RESULTS	PERCENT DETECTED	DISTRIBUTION	TREND	BACKGROUND THRESHOLD VALUE	BASIS
Boron (µg/L)	67	49	Nonparametric	N/A	0.5	95% USL
Calcium (µg/L)	67	100	Nonparametric	N/A	94.6	95% USL
Chloride (mg/L)	67	100	Nonparametric	N/A	28.6	95% USL
Fluoride(mg/L)	67	91	Normal	N/A	0.654	95% KM UPL (k = 7)
pH (s.u.)	67	100	Normal	Decreasing	5.39 - 7.84	95% UPL (k = 7)
Sulfate (mg/L)	67	100	Lognormal	N/A	40.2	95% UPL (k = 7)
TDS (mg/L)	67	100	Nonparametric	N/A	389	95% USL

N/A Not Applicable - trend test conducted only for data sets where the null hypothesis for the WMW test was rejected

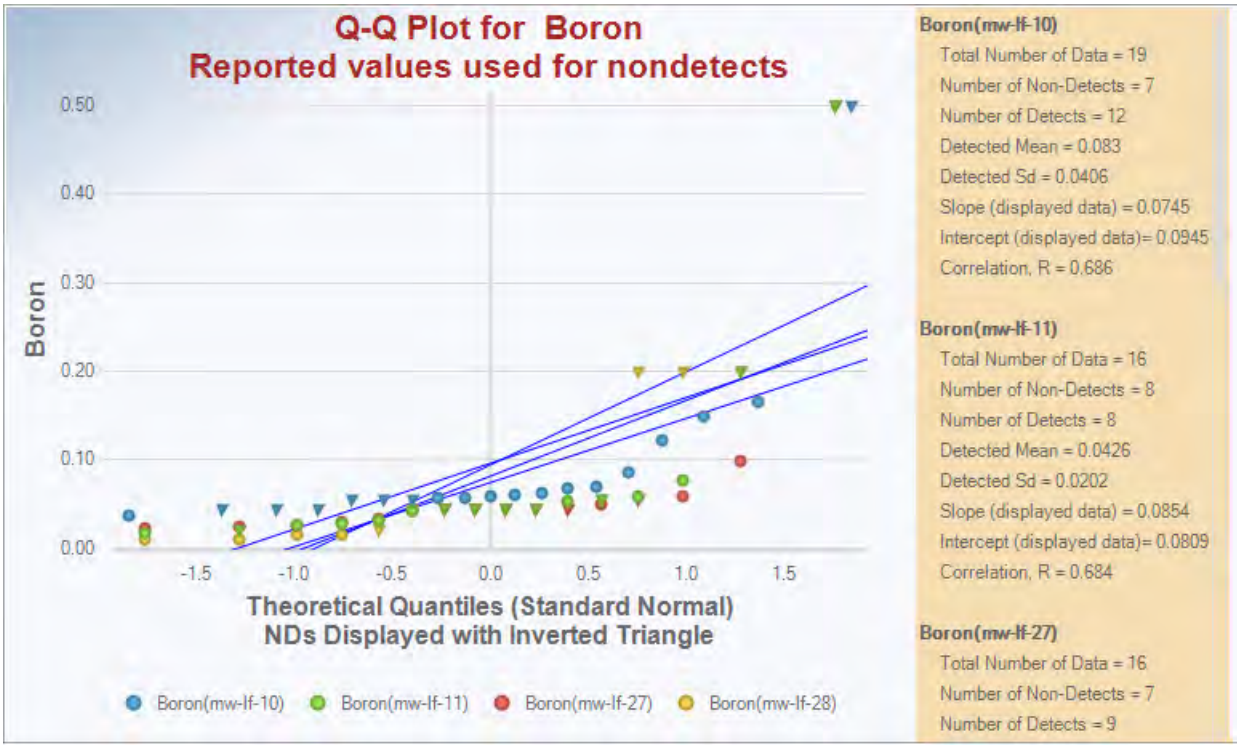
Table 3
March 2023 Downgradient Results and Potential SSIs

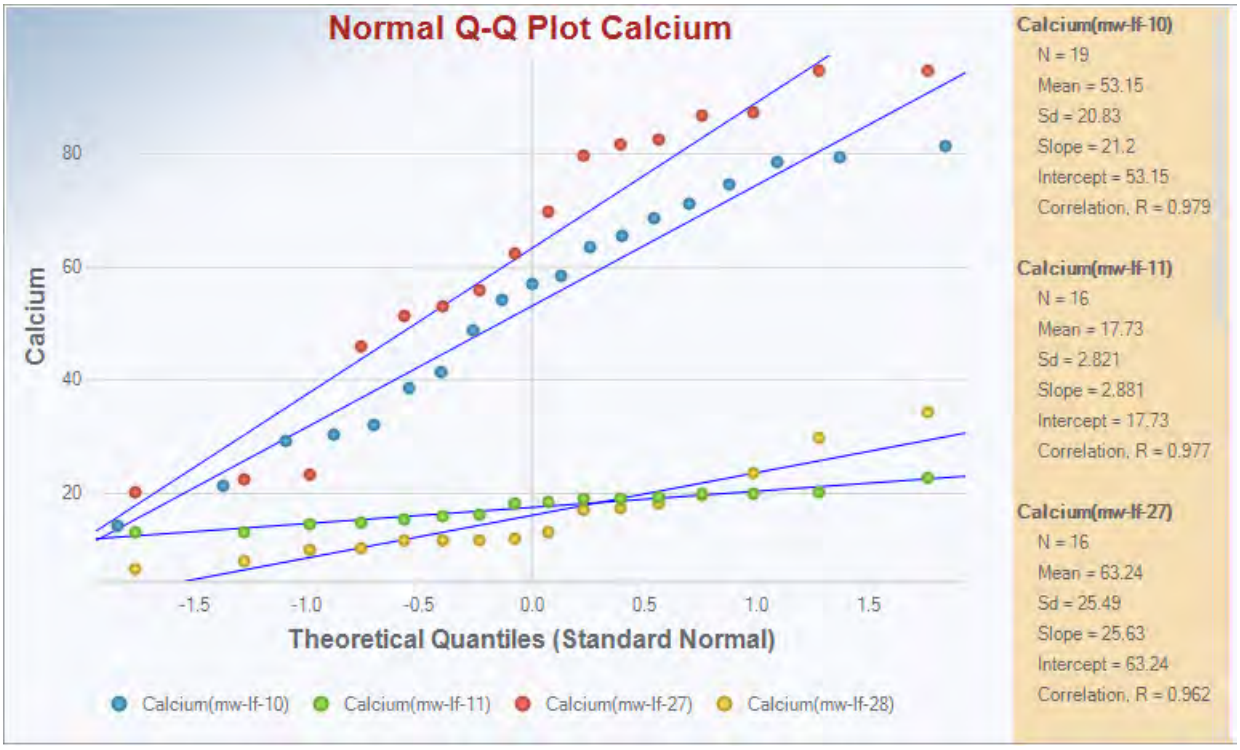
Table 3 March 2023 Downgradient Results and Potential SSLs Williams Hwy 52 Landfill

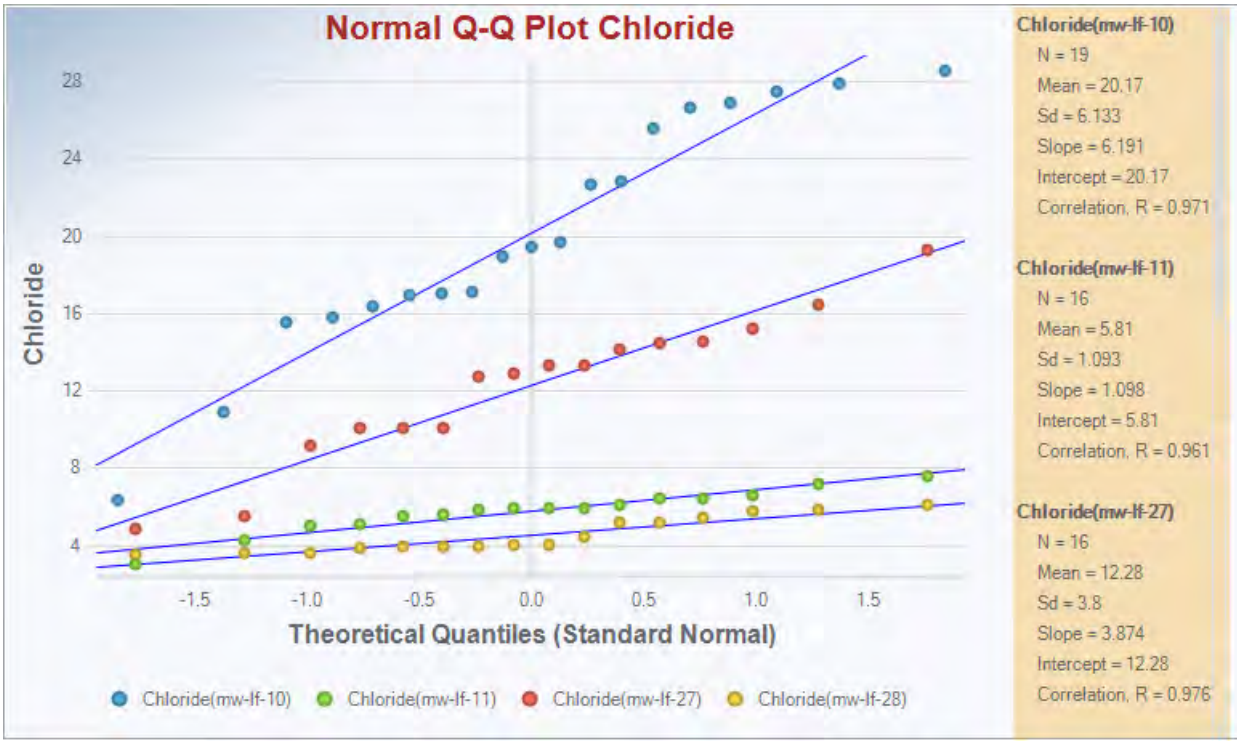
WELL	CONSTITUENT / BTV / RESULT (mg/L except as noted)[1]						
	BORON	CALCIUM	CHLORIDE	FLUORIDE	pH	SULFATE	TDS
	0.5	**94.6**	**28.6**	**0.651**	**5.4 – 7.8**	**40.2**	**389**
BACKGROUND WELLS							
MW-LF-10	0.064	57.4	21.2	0.413	6.7	4.92	302
MW-LF-11	<0.259	14.6	5.23	0.278	6.1	1.31	62.0
MW-LF-27	0.0344	30.2	19.8	0.107	6.3	10.2	148
MW-LF-28	<0.126	7.41	5.88	0.082 J	5.6	0.760	19.0
DOWNGRADIENT WELLS							
MW-LF-20	0.200	140	12.6	0.240	6.5	6.69	630
MW-LF-21	0.198	120	11.7	0.260	6.5	7.38	598
MW-LF-22D	0.324	80.1	10.5	0.209	6.8	32.5	576
MW-LF-23D	0.291	66.0	15.8	0.303	7.0	22.4	494
MW-LF-24	0.0796	103	20.6	0.409	6.3	18.3	428
MW-LF-25	0.0444	203	9.73	0.628	6.7	505	1,050
MW-LF-26	0.163	152	141	0.315	5.6	58.5	890

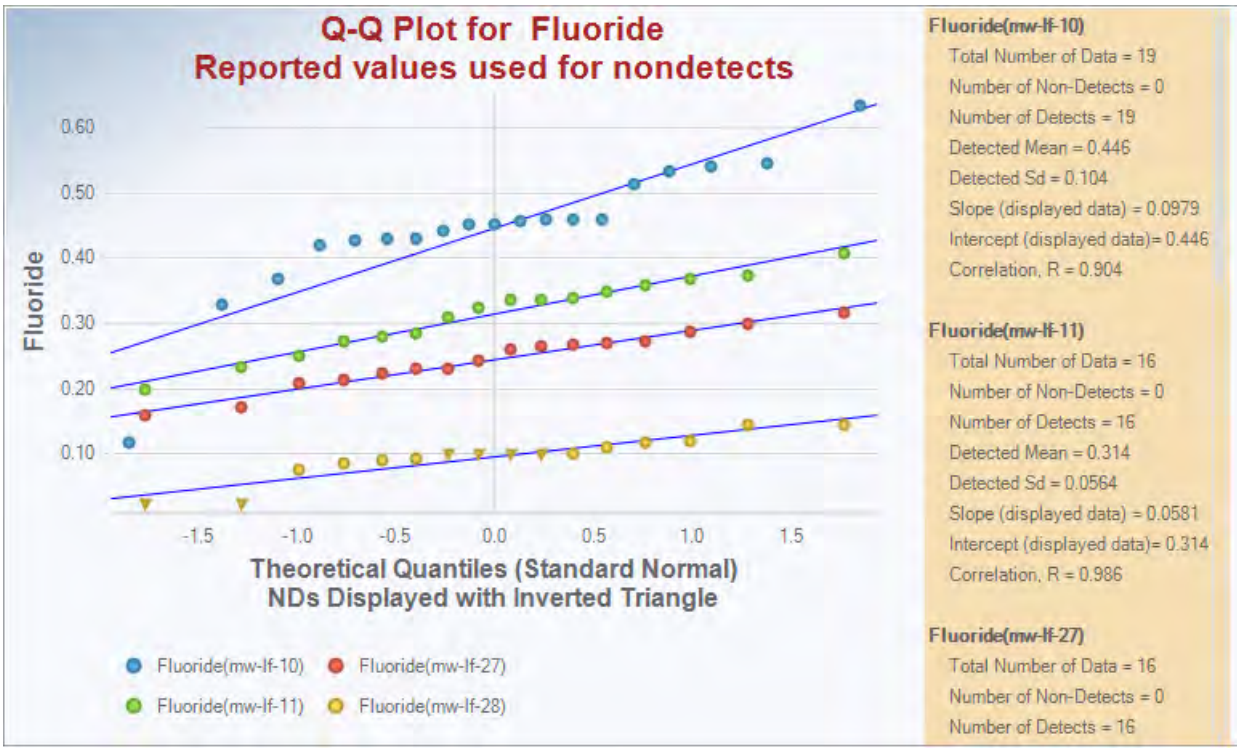
Shaded cells indicate a potential SSL
[1] pH expressed in standard units (s.u.)
J Estimated value between the method detection limit and the practical quantitation limit

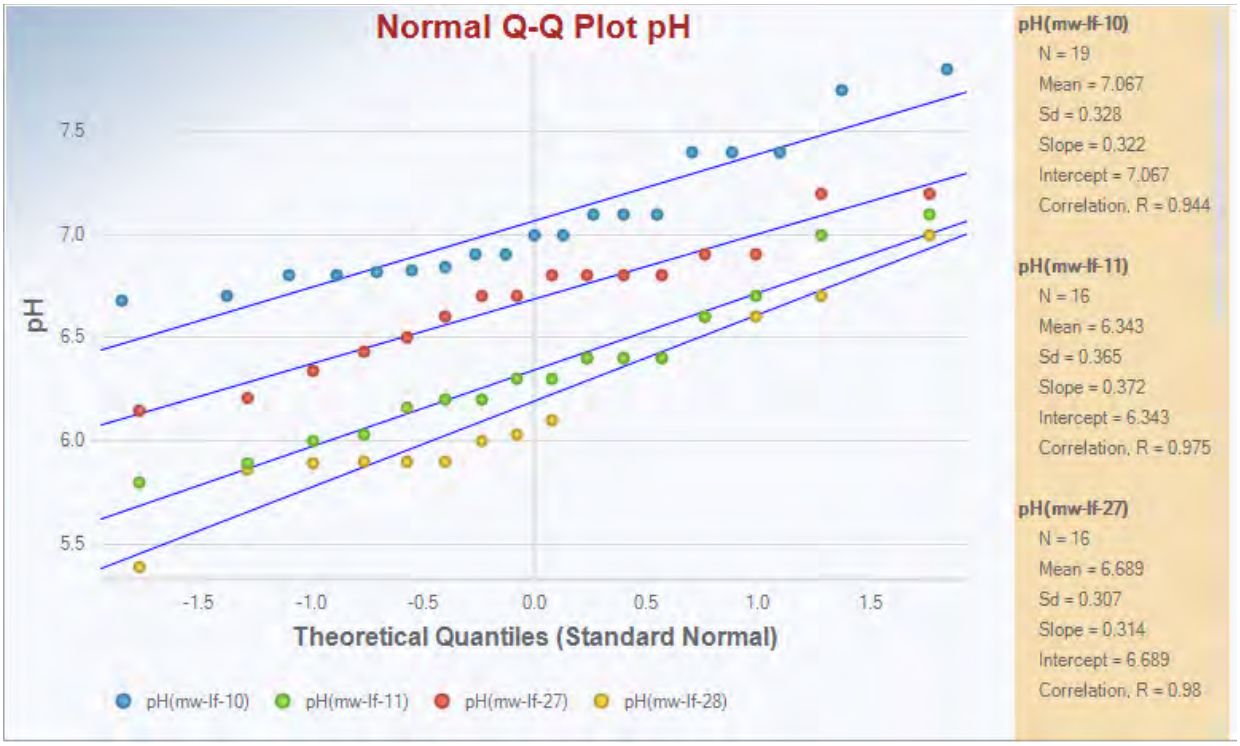
Appendix A
Probability (Q-Q) Plots

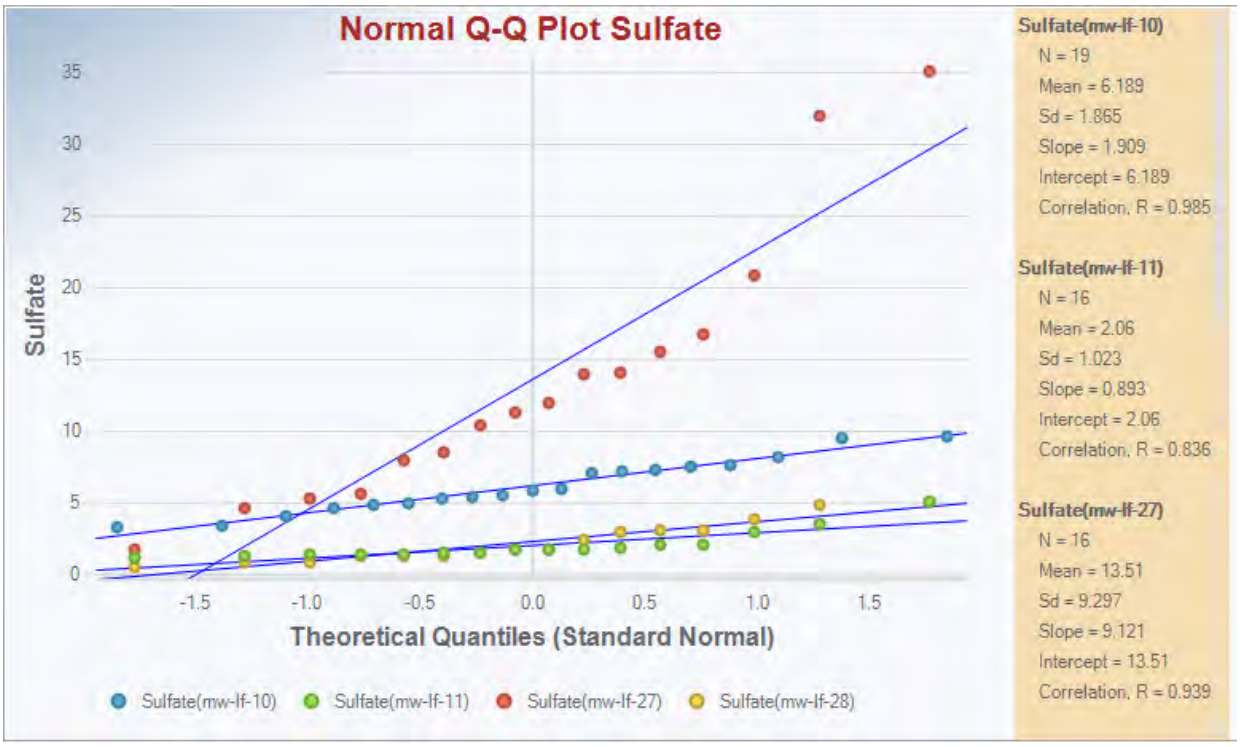

Q-Q Plot for Boron
Reported values used for nondetects
Boron
0.50
0.40
0.30
0.20
0.10
0.00
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
Theoretical Quantiles (Standard Normal)
NDs Displayed with Inverted Triangle
Boron(mw-lf-10)
Boron(mw-lf-11)
Boron(mw-lf-27)
Boron(mw-lf-28)
Boron(mw-lf-10)
Total Number of Data = 19
Number of Non-Detects = 7
Number of Detects = 12
Detected Mean = 0.083
Detected Sd = 0.0406
Slope (displayed data) = 0.0745
Intercept (displayed data)= 0.0945
Correlation, R = 0.686
Boron(mw-lf-11)
Total Number of Data = 16
Number of Non-Detects = 8
Number of Detects = 8
Detected Mean = 0.0426
Detected Sd = 0.0202
Slope (displayed data) = 0.0854
Intercept (displayed data)= 0.0809
Correlation, R = 0.684
Boron(mw-lf-27)
Total Number of Data = 16
Number of Non-Detects = 7
Number of Detects = 9

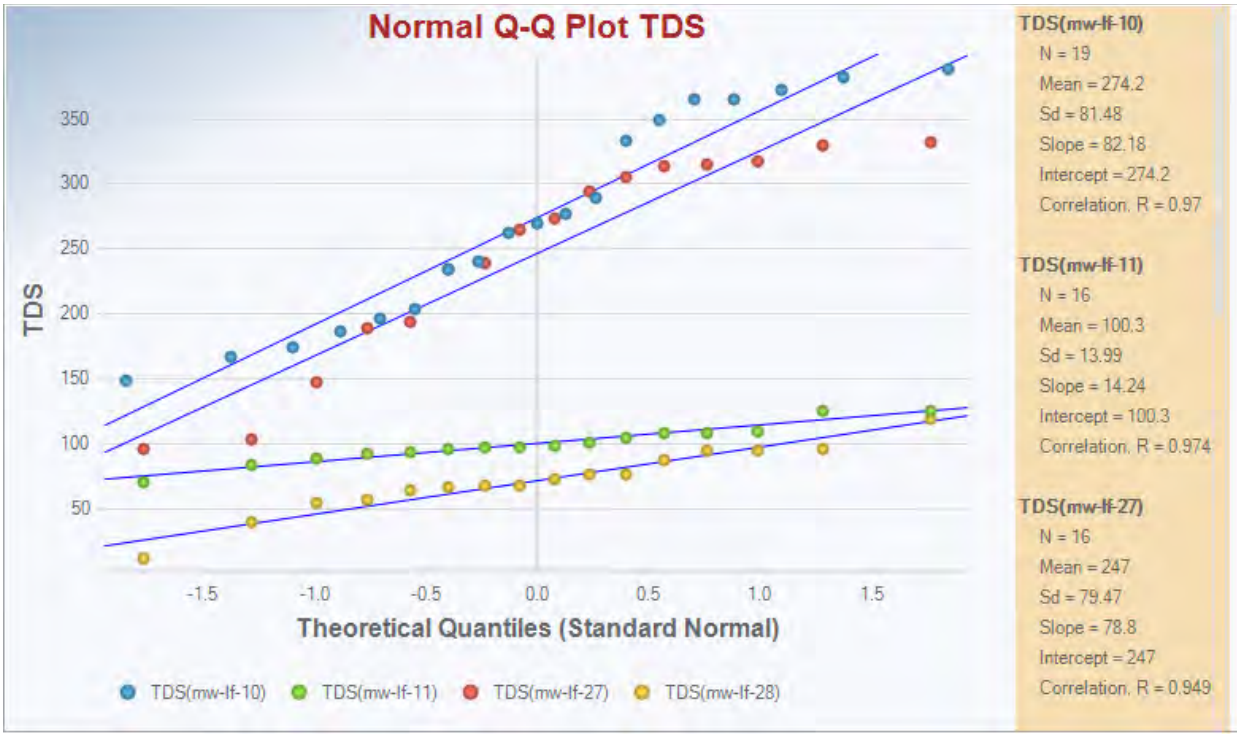

Normal Q-Q Plot Calcium
Calcium
80
60
40
20
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
Theoretical Quantiles (Standard Normal)
Calcium(mw-lf-10)
Calcium(mw-lf-11)
Calcium(mw-lf-27)
Calcium(mw-lf-28)
Calcium(mw-lf-10)
N = 19
Mean = 53.15
Sd = 20.83
Slope = 21.2
Intercept = 53.15
Correlation, R = 0.979
Calcium(mw-lf-11)
N = 16
Mean = 17.73
Sd = 2.821
Slope = 2.881
Intercept = 17.73
Correlation, R = 0.977
Calcium(mw-lf-27)
N = 16
Mean = 63.24
Sd = 25.49
Slope = 25.63
Intercept = 63.24
Correlation, R = 0.962


Normal Q-Q Plot Chloride
Chloride
28
24
20
16
12
8
4
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
Theoretical Quantiles (Standard Normal)
Chloride(mw-lf-10)
Chloride(mw-lf-11)
Chloride(mw-lf-27)
Chloride(mw-lf-28)
Chloride(mw-lf-10)
N = 19
Mean = 20.17
Sd = 6.133
Slope = 6.191
Intercept = 20.17
Correlation, R = 0.971
Chloride(mw-lf-11)
N = 16
Mean = 5.81
Sd = 1.093
Slope = 1.098
Intercept = 5.81
Correlation, R = 0.961
Chloride(mw-lf-27)
N = 16
Mean = 12.28
Sd = 3.8
Slope = 3.874
Intercept = 12.28
Correlation, R = 0.976


Q-Q Plot for Fluoride
Reported values used for nondetects
Fluoride
0.60
0.50
0.40
0.30
0.20
0.10
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
Theoretical Quantiles (Standard Normal)
NDs Displayed with Inverted Triangle
Fluoride(mw-lf-10)
Fluoride(mw-lf-27)
Fluoride(mw-lf-11)
Fluoride(mw-lf-28)
Fluoride(mw-lf-10)
Total Number of Data = 19
Number of Non-Detects = 0
Number of Detects = 19
Detected Mean = 0.446
Detected Sd = 0.104
Slope (displayed data) = 0.0979
Intercept (displayed data)= 0.446
Correlation, R = 0.904
Fluoride(mw-lf-11)
Total Number of Data = 16
Number of Non-Detects = 0
Number of Detects = 16
Detected Mean = 0.314
Detected Sd = 0.0564
Slope (displayed data) = 0.0581
Intercept (displayed data)= 0.314
Correlation, R = 0.986
Fluoride(mw-lf-27)
Total Number of Data = 16
Number of Non-Detects = 0
Number of Detects = 16


Normal Q-Q Plot pH
pH
7.5
7.0
6.5
6.0
5.5
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
Theoretical Quantiles (Standard Normal)
pH(mw-lf-10)
pH(mw-lf-11)
pH(mw-lf-27)
pH(mw-lf-28)
pH(mw-lf-10)
N = 19
Mean = 7.067
Sd = 0.328
Slope = 0.322
Intercept = 7.067
Correlation, R = 0.944
pH(mw-lf-11)
N = 16
Mean = 6.343
Sd = 0.365
Slope = 0.372
Intercept = 6.343
Correlation, R = 0.975
pH(mw-lf-27)
N = 16
Mean = 6.689
Sd = 0.307
Slope = 0.314
Intercept = 6.689
Correlation, R = 0.98


Normal Q-Q Plot Sulfate
Sulfate
35
30
25
20
15
10
5
0
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
Theoretical Quantiles (Standard Normal)
Sulfate(mw-lf-10)
Sulfate(mw-lf-11)
Sulfate(mw-lf-27)
Sulfate(mw-lf-28)
Sulfate(mw-lf-10)
N = 19
Mean = 6.189
Sd = 1.865
Slope = 1.909
Intercept = 6.189
Correlation, R = 0.985
Sulfate(mw-lf-11)
N = 16
Mean = 2.06
Sd = 1.023
Slope = 0.893
Intercept = 2.06
Correlation, R = 0.836
Sulfate(mw-lf-27)
N = 16
Mean = 13.51
Sd = 9.297
Slope = 9.121
Intercept = 13.51
Correlation, R = 0.939


Normal Q-Q Plot TDS
TDS
350
300
250
200
150
100
50
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
Theoretical Quantiles (Standard Normal)
TDS(mw-lf-10)
TDS(mw-lf-11)
TDS(mw-lf-27)
TDS(mw-lf-28)
TDS(mw-lf-10)
N = 19
Mean = 274.2
Sd = 81.48
Slope = 82.18
Intercept = 274.2
Correlation, R = 0.97
TDS(mw-lf-11)
N = 16
Mean = 100.3
Sd = 13.99
Slope = 14.24
Intercept = 100.3
Correlation, R = 0.974
TDS(mw-lf-27)
N = 16
Mean = 247
Sd = 79.47
Slope = 78.8
Intercept = 247
Correlation, R = 0.949

Appendix B
Two Sample Hypothesis Test Outputs

Wilcoxon-Mann-Whitney Sample 1 vs Sample 2 Comparison Test for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	ProUCL 5.2 5/31/2023 4:26:44 PM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Selected Null Hypothesis	Sample 1 Mean/Median = Sample 2 Mean/Median (2 Sided Alternative
Alternative Hypothesis	Sample 1 Mean/Median <> Sample 2 Mean/Median

Sample 1 Data: Boron (previous)

Sample 2 Data: Boron (new)

Raw Statistics

	Sample 1	Sample 2
Number of Valid Data	51	16
Number of Non-Detects	34	0
Number of Detect Data	17	16
Minimum Non-Detect	0.0219	N/A
Maximum Non-Detect	0.5	N/A
Percent Non-detects	66.67%	0.00%
Minimum Detect	0.0224	0.00997
Maximum Detect	0.166	0.0708
Mean of Detects	0.0737	0.0329
Median of Detects	0.0584	0.0276
SD of Detects	0.0396	0.0195

Wilcoxon-Mann-Whitney (WMW) Test

H0: Mean/Median of Sample 1 = Mean/Median of Sample 2

All observations are identical in at least one group

No analysis will be performed

Wilcoxon-Mann-Whitney Sample 1 vs Sample 2 Comparison Test for Uncensor Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	ProUCL 5.2 5/31/2023 4:30:21 PM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference	0.000
Selected Null Hypothesis	Sample 1 Mean/Median = Sample 2 Mean/Median (Two Sided Alternative)
Alternative Hypothesis	Sample 1 Mean/Median <> Sample 2 Mean/Median

Sample 1 Data: Calcium (previous)

Sample 2 Data: Calcium (new)

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	51	16
Number of Distinct Observations	49	16
Minimum	10.6	6.82
Maximum	94.6	79.4
Mean	40.35	31.66
Median	29.9	20.45
SD	26.97	25.84
SE of Mean	3.776	6.46

Wilcoxon-Mann-Whitney (WMW) Test

H0: Mean/Median of Sample 1 = Mean/Median of Sample 2

Sample 1 Rank Sum W-Stat	1829
WMW U-Stat	503
Standardized WMW U-Stat	1.397
Mean (U)	408
SD(U) - Adj ties	68
Lower Approximate U-Stat Critical Value (0.025)	-1.96
Upper Approximate U-Stat Critical Value (0.975)	1.96
P-Value (Adjusted for Ties)	0.162

Conclusion with Alpha = 0.05

Do Not Reject H0, Conclude Sample 1 = Sample 2

P-Value >= alpha (0.05)

Wilcoxon-Mann-Whitney Sample 1 vs Sample 2 Comparison Test for Uncensor Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	ProUCL 5.2 5/31/2023 4:31:11 PM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference	0.000
Selected Null Hypothesis	Sample 1 Mean/Median = Sample 2 Mean/Median (Two Sided Alternative)
Alternative Hypothesis	Sample 1 Mean/Median <> Sample 2 Mean/Median

Sample 1 Data: Chloride (previous)

Sample 2 Data: Chloride (new)

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	51	16
Number of Distinct Observations	47	16
Minimum	3.04	5.44
Maximum	28.6	26.9
Mean	11.03	11.44
Median	7.23	7.04
SD	7.462	7.557
SE of Mean	1.045	1.889

Wilcoxon-Mann-Whitney (WMW) Test

H0: Mean/Median of Sample 1 = Mean/Median of Sample 2

Sample 1 Rank Sum W-Stat	1678
WMW U-Stat	352
Standardized WMW U-Stat	-0.824
Mean (U)	408
SD(U) - Adj ties	68
Lower Approximate U-Stat Critical Value (0.025)	-1.96
Upper Approximate U-Stat Critical Value (0.975)	1.96
P-Value (Adjusted for Ties)	0.41

Conclusion with Alpha = 0.05

Do Not Reject H0, Conclude Sample 1 = Sample 2

P-Value >= alpha (0.05)

Wilcoxon-Mann-Whitney Sample 1 vs Sample 2 Comparison Test for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	ProUCL 5.2 5/31/2023 4:03:18 PM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Selected Null Hypothesis	Sample 1 Mean/Median = Sample 2 Mean/Median (2 Sided Alternative
Alternative Hypothesis	Sample 1 Mean/Median <> Sample 2 Mean/Median

Sample 1 Data: Fluoride (previous)

Sample 2 Data: Fluoride (new)

Raw Statistics

	Sample 1	Sample 2
Number of Valid Data	51	16
Number of Non-Detects	6	0
Number of Detect Data	45	16
Minimum Non-Detect	0.025	N/A
Maximum Non-Detect	0.1	N/A
Percent Non-detects	11.76%	0.00%
Minimum Detect	0.0851	0.077
Maximum Detect	0.634	0.458
Mean of Detects	0.317	0.265
Median of Detects	0.318	0.253
SD of Detects	0.134	0.136

Wilcoxon-Mann-Whitney (WMW) Test

H0: Mean/Median of Sample 1 = Mean/Median of Sample 2

Sample 1 Rank Sum W-Stat	1774
WMW U-Stat	448
Standardized WMW U-Stat	0.59
Mean (U)	408
SD(U) - Adj ties	67.99
Lower Approximate U-Stat Critical Value (0.025)	-1.96
Upper Approximate U-Stat Critical Value (0.975)	1.96
P-Value (Adjusted for Ties)	0.555

Conclusion with Alpha = 0.05

Do Not Reject H0, Conclude Sample 1 = Sample 2

P-Value >= alpha (0.05)

Wilcoxon-Mann-Whitney Sample 1 vs Sample 2 Comparison Test for Uncensor Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	ProUCL 5.2 5/31/2023 4:31:44 PM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference	0.000
Selected Null Hypothesis	Sample 1 Mean/Median = Sample 2 Mean/Median (Two Sided Alternative)
Alternative Hypothesis	Sample 1 Mean/Median <> Sample 2 Mean/Median

Sample 1 Data: pH (previous)

Sample 2 Data: pH (new)

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	51	16
Number of Distinct Observations	17	14
Minimum	5.9	5.39
Maximum	7.8	6.84
Mean	6.716	6.209
Median	6.7	6.155
SD	0.449	0.423
SE of Mean	0.0629	0.106

Wilcoxon-Mann-Whitney (WMW) Test

H0: Mean/Median of Sample 1 = Mean/Median of Sample 2

Sample 1 Rank Sum W-Stat	1969
WMW U-Stat	643
Standardized WMW U-Stat	3.461
Mean (U)	408
SD(U) - Adj ties	67.9
Lower Approximate U-Stat Critical Value (0.025)	-1.96
Upper Approximate U-Stat Critical Value (0.975)	1.96
P-Value (Adjusted for Ties)	5.3846E-4

Conclusion with Alpha = 0.05

Reject H0, Conclude Sample 1 <> Sample 2

P-Value < alpha (0.05)

Wilcoxon-Mann-Whitney Sample 1 vs Sample 2 Comparison Test for Uncensor Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	ProUCL 5.2 5/31/2023 4:32:49 PM
From File	WorkSheet.xls

Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference	0.000
Selected Null Hypothesis	Sample 1 Mean/Median = Sample 2 Mean/Median (Two Sided Alternative)
Alternative Hypothesis	Sample 1 Mean/Median <> Sample 2 Mean/Median

Sample 1 Data: Sulfate (previous)

Sample 2 Data: Sulfate (new)

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	51	16
Number of Distinct Observations	51	15
Minimum	0.827	0.512
Maximum	35.14	8.03
Mean	6.781	3.596
Median	4.95	3.425
SD	7.172	2.301
SE of Mean	1.004	0.575

Wilcoxon-Mann-Whitney (WMW) Test

H0: Mean/Median of Sample 1 = Mean/Median of Sample 2

Sample 1 Rank Sum W-Stat	1840
WMW U-Stat	513.5
Standardized WMW U-Stat	1.552
Mean (U)	408
SD(U) - Adj ties	68
Lower Approximate U-Stat Critical Value (0.025)	-1.96
Upper Approximate U-Stat Critical Value (0.975)	1.96
P-Value (Adjusted for Ties)	0.121

Conclusion with Alpha = 0.05

Do Not Reject H0, Conclude Sample 1 = Sample 2

P-Value >= alpha (0.05)

Wilcoxon-Mann-Whitney Sample 1 vs Sample 2 Comparison Test for Uncensor Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	ProUCL 5.2 5/31/2023 4:33:17 PM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference	0.000
Selected Null Hypothesis	Sample 1 Mean/Median = Sample 2 Mean/Median (Two Sided Alternative)
Alternative Hypothesis	Sample 1 Mean/Median <> Sample 2 Mean/Median

Sample 1 Data: TDS (previous)

Sample 2 Data: TDS (new)

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	51	16
Number of Distinct Observations	46	15
Minimum	57	11.4
Maximum	389	366
Mean	184.5	156.7
Median	167	101.3
SD	103.3	119.3
SE of Mean	14.46	29.82

Wilcoxon-Mann-Whitney (WMW) Test

H0: Mean/Median of Sample 1 = Mean/Median of Sample 2

Sample 1 Rank Sum W-Stat	1801
WMW U-Stat	474.5
Standardized WMW U-Stat	0.978
Mean (U)	408
SD(U) - Adj ties	68
Lower Approximate U-Stat Critical Value (0.025)	-1.96
Upper Approximate U-Stat Critical Value (0.975)	1.96
P-Value (Adjusted for Ties)	0.328

Conclusion with Alpha = 0.05

Do Not Reject H0, Conclude Sample 1 = Sample 2

P-Value >= alpha (0.05)

Theil-Sen Trend Test Analysis

User Selected Options

Date/Time of Computation	ProUCL 5.2 5/31/2023 4:45:16 PM
From File	WorkSheet_a.xls
Full Precision	OFF
Average Replicates	Replicates at sampling events will be averaged!
Confidence Coefficient	0.95
Level of Significance	0.05

pH

General Statistics

Number of Events	19
Number of Values Reported (n)	19
Number of Values After Averaging	19
Number of Replicates	0
Minimum	6.138
Maximum	7.175
Mean	6.651
Geometric Mean	6.643
Median	6.75
Standard Deviation	0.319
Coefficient of Variation	0.0479

Mann-Kendall Statistics

M-K Test Value (S)	-118
Tabulated p-value	0
Standard Deviation of S	28.52
Standardized Value of S	-4.103
Approximate p-value	2.0433E-5

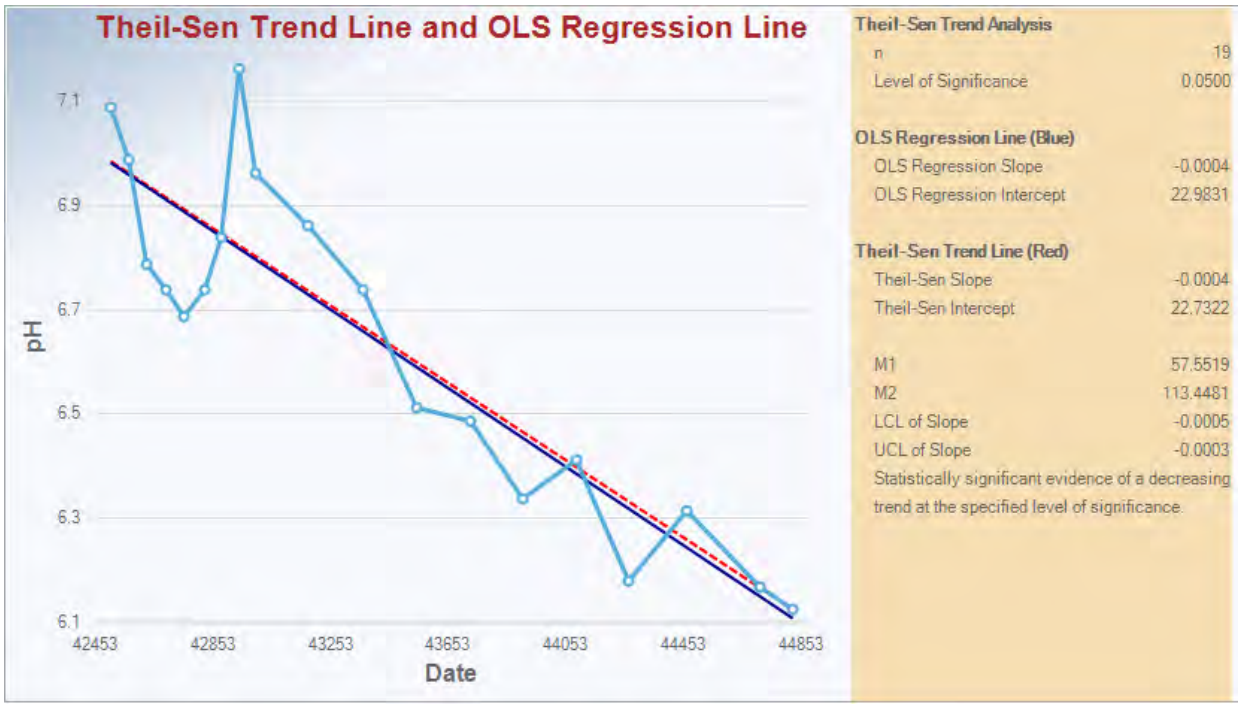
Approximate inference for Theil-Sen Trend Test

Number of Slopes	171
Theil-Sen Slope	-3.702E-4
Theil-Sen Intercept	22.73
M2'	109
One-sided 95% upper limit of Slope	-2.874E-4
95% LCL of Slope (0.025)	-4.742E-4
95% UCL of Slope (0.975)	-2.690E-4

Statistically significant evidence of a decreasing trend at the specified level of significance.

Theil-Sen Trend Test Estimates and Residuals

#	Events	Values	Estimates	Residuals
1	42502	7.1	6.998	0.102
2	42565	7	6.975	0.0251
3	42627	6.8	6.952	-0.152
4	42692	6.75	6.928	-0.178
5	42755	6.7	6.905	-0.205
6	42822	6.75	6.88	-0.13
7	42879	6.85	6.859	-0.00865
8	42942	7.175	6.835	0.34
9	42998	6.975	6.814	0.161
10	43172	6.875	6.75	0.125
11	43362	6.75	6.68	0.0703
12	43542	6.525	6.613	-0.088
13	43725	6.5	6.545	-0.0453
14	43902	6.35	6.48	-0.13
15	44089	6.425	6.411	0.0145
16	44266	6.193	6.345	-0.153
17	44461	6.328	6.273	0.0547
18	44712	6.18	6.18	1.0643E-4
19	44825	6.138	6.138	-5.611E-4



Appendix C
Background Threshold Values

Background Statistics for Data Sets with Non-Detects

User Selected Options

Date/Time of Computation	ProUCL 5.2 5/31/2023 4:39:36 PM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Coverage	95%
Different or Future K Observations	7
Number of Bootstrap Operations	2000

Boron

General Statistics

Total Number of Observations	67	Number of Missing Observations	0
Number of Distinct Observations	38		
Number of Detects	33	Number of Non-Detects	34
Number of Distinct Detects	33	Number of Distinct Non-Detects	5
Minimum Detect	0.00997	Minimum Non-Detect	0.0219
Maximum Detect	0.166	Maximum Non-Detect	0.5
Variance Detected	0.00139	Percent Non-Detects	50.75%
Mean Detected	0.0539	SD Detected	0.0373
Mean of Detected Logged Data	-3.144	SD of Detected Logged Data	0.7

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	1.994	d2max (for USL)	3.068

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.865	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.906	Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.17	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.177	Detected Data appear Normal at 1% Significance Level

Detected Data appear Approximate Normal at 1% Significance Level

Kaplan Meier (KM) Background Statistics Assuming Normal Distribution

KM Mean	0.0409	KM SD	0.0319
95% UTL95% Coverage	0.105	95% KM UPL (t)	0.0946
95% KM UPL for Next 7 Observations	0.122	95% KM UPL for Mean of Next 7 Observations	0.0621
90% KM Percentile (z)	0.0819	95% KM Percentile (z)	0.0935
99% KM Percentile (z)	0.115	95% KM USL	0.139

DL/2 Substitution Background Statistics Assuming Normal Distribution

Mean	0.0562	SD	0.0593
95% UTL95% Coverage	0.175	95% UPL (t)	0.156
95% UPL for Next 7 Observations	0.207	95% UPL for Mean of Next 7 Observations	0.0955
90% Percentile (z)	0.132	95% Percentile (z)	0.154
99% Percentile (z)	0.194	95% USL	0.238

DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.281	**Anderson-Darling GOF Test**	
5% A-D Critical Value	0.757	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.087	**Kolmogorov-Smirnov GOF**	
5% K-S Critical Value	0.155	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	2.394	k star (bias corrected MLE)	2.196
Theta hat (MLE)	0.0225	Theta star (bias corrected MLE)	0.0245
nu hat (MLE)	158	nu star (bias corrected)	144.9
MLE Mean (bias corrected)	0.0539		
MLE Sd (bias corrected)	0.0364	95% Percentile of Chisquare (2kstar)	10.12

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.00997	Mean	0.0396
Maximum	0.166	Median	0.0312
SD	0.0317	CV	0.8
k hat (MLE)	1.979	k star (bias corrected MLE)	1.9
Theta hat (MLE)	0.02	Theta star (bias corrected MLE)	0.0209
nu hat (MLE)	265.1	nu star (bias corrected)	254.6
MLE Mean (bias corrected)	0.0396	MLE Sd (bias corrected)	0.0288
95% Percentile of Chisquare (2kstar)	9.161	90% Percentile	0.078
95% Percentile	0.0956	99% Percentile	0.135

The following statistics are computed using Gamma ROS Statistics on Imputed Data

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	0.113	0.116	95% Approx. Gamma UPL	0.0958	0.0975
95% Gamma USL	0.185	0.202	95% UPL for Next 7 Observations	0.146	0.155

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.0409	SD (KM)	0.0319
Variance (KM)	0.00102	SE of Mean (KM)	0.00444
k hat (KM)	1.645	k star (KM)	1.581
nu hat (KM)	220.4	nu star (KM)	211.9
theta hat (KM)	0.0249	theta star (KM)	0.0259
80% gamma percentile (KM)	0.063	90% gamma percentile (KM)	0.0842
95% gamma percentile (KM)	0.105	99% gamma percentile (KM)	0.151

The following statistics are computed using gamma distribution and KM estimates

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	0.111	0.113	95% Approx. Gamma UPL	0.0949	0.096
95% KM Gamma Percentile	0.0931	0.0941	95% Gamma USL	0.179	0.191

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.974	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.942	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.113	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.139	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects

Mean in Original Scale	0.0402	Mean in Log Scale	-3.439
SD in Original Scale	0.0307	SD in Log Scale	0.663
95% UTL95% Coverage	0.12	95% BCA UTL95% Coverage	0.142
95% Bootstrap (%) UTL95% Coverage	0.142	95% UPL (t)	0.0979
95% UPL for Next 7 Observations	0.173	95% UPL for Mean of 7 Observations	0.0498
90% Percentile (z)	0.0751	95% Percentile (z)	0.0956
99% Percentile (z)	0.15	95% USL	0.246

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean of Logged Data	-3.439	95% KM UTL (Lognormal)95% Coverage	0.127
KM SD of Logged Data	0.689	95% KM UPL (Lognormal)	0.102
95% KM Percentile Lognormal (z)	0.0996	95% KM USL (Lognormal)	0.266

Background DL/2 Statistics Assuming Lognormal Distribution

Mean in Original Scale	0.0562	Mean in Log Scale	-3.248
SD in Original Scale	0.0593	SD in Log Scale	0.808
95% UTL95% Coverage	0.194	95% UPL (t)	0.151
95% UPL for Next 7 Observations	0.301	95% UPL for Mean of 7 Observations	0.0663
90% Percentile (z)	0.109	95% Percentile (z)	0.147
99% Percentile (z)	0.254	95% USL	0.463

DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.

Nonparametric Distribution Free Background Statistics

Data appear to follow a Discernible Distribution

Nonparametric Upper Limits for BTVs (no distinction made between detects and nondetects)

Order of Statistic, r	66	95% UTL with95% Coverage	0.5
Approx, f used to compute achieved CC	1.737	Approximate Actual Confidence Coefficient achieved by UTL	0.854
Approximate Sample Size needed to achieve specified CC	59	95% UPL	0.5
95% USL	**0.5**	95% KM Chebyshev UPL	0.181

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.
Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.
The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

Fluoride

General Statistics

Total Number of Observations	67	Number of Missing Observations	0
Number of Distinct Observations	56		
Number of Detects	61	Number of Non-Detects	6
Number of Distinct Detects	55	Number of Distinct Non-Detects	2
Minimum Detect	0.077	Minimum Non-Detect	0.025
Maximum Detect	0.634	Maximum Non-Detect	0.1
Variance Detected	0.0183	Percent Non-Detects	8.955%
Mean Detected	0.304	SD Detected	0.135
Mean of Detected Logged Data	-1.313	SD of Detected Logged Data	0.53

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	1.994	d2max (for USL)	3.068

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.963	**Normal GOF Test on Detected Observations Only**	
1% Shapiro Wilk P Value	0.147	Detected Data appear Normal at 1% Significance Level	

Lilliefors Test Statistic	0.0688	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.131	Detected Data appear Normal at 1% Significance Level	

Detected Data appear Normal at 1% Significance Level

Kaplan Meier (KM) Background Statistics Assuming Normal Distribution

KM Mean	0.281	KM SD	0.147
95% UTL95% Coverage	0.574	95% KM UPL (t)	0.528
95% KM UPL for Next 7 Observations	**0.654**	95% KM UPL for Mean of Next 7 Observations	0.379
90% KM Percentile (z)	0.47	95% KM Percentile (z)	0.523
99% KM Percentile (z)	0.623	95% KM USL	0.732

DL/2 Substitution Background Statistics Assuming Normal Distribution

Mean	0.28	SD	0.15
95% UTL95% Coverage	0.579	95% UPL (t)	0.532
95% UPL for Next 7 Observations	0.661	95% UPL for Mean of Next 7 Observations	0.379
90% Percentile (z)	0.472	95% Percentile (z)	0.527
99% Percentile (z)	0.629	95% USL	0.74

DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.775	**Anderson-Darling GOF Test**	
5% A-D Critical Value	0.754	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.0807	**Kolmogorov-Smirnov GOF**	
5% K-S Critical Value	0.114	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	4.316	k star (bias corrected MLE)	4.114
Theta hat (MLE)	0.0703	Theta star (bias corrected MLE)	0.0738
nu hat (MLE)	526.5	nu star (bias corrected)	502
MLE Mean (bias corrected)	0.304		
MLE Sd (bias corrected)	0.15	95% Percentile of Chisquare (2kstar)	15.83

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.0572	Mean	0.284
Maximum	0.634	Median	0.273
SD	0.143	CV	0.503
k hat (MLE)	3.35	k star (bias corrected MLE)	3.21
Theta hat (MLE)	0.0849	Theta star (bias corrected MLE)	0.0886
nu hat (MLE)	449	nu star (bias corrected)	430.2
MLE Mean (bias corrected)	0.284	MLE Sd (bias corrected)	0.159
95% Percentile of Chi square (2kstar)	13.22	90% Percentile	0.497
95% Percentile	0.586	99% Percentile	0.776

The following statistics are computed using Gamma ROS Statistics on Imputed Data

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	0.674	0.7	95% Approx. Gamma UPL	0.591	0.606
95% Gamma USL	1.019	1.103	95% UPL for Next 7 Observations	0.836	0.886

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.281	SD (KM)	0.147
Variance (KM)	0.0216	SE of Mean (KM)	0.0182
k hat (KM)	3.649	k star (KM)	3.496
nu hat (KM)	489	nu star (KM)	468.4
theta hat (KM)	0.077	theta star (KM)	0.0804
80% gamma percentile (KM)	0.394	90% gamma percentile (KM)	0.483
95% gamma percentile (KM)	0.565	99% gamma percentile (KM)	0.742

The following statistics are computed using gamma distribution and KM estimates

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	0.724	0.768	95% Approx. Gamma UPL	0.626	0.654
95% KM Gamma Percentile	0.616	0.642	95% Gamma USL	1.134	1.271

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Approximate Test Statistic	0.922	**Shapiro Wilk GOF Test**
10% Shapiro Wilk P Value	6.4686E-4	Data Not Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.113	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.104	Data Not Lognormal at 10% Significance Level

Data Not Lognormal at 10% Significance Level

Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects

Mean in Original Scale	0.285	Mean in Log Scale	-1.41
SD in Original Scale	0.143	SD in Log Scale	0.598
95% UTL95% Coverage	0.804	95% BCA UTL95% Coverage	0.545
95% Bootstrap (%) UTL95% Coverage	0.545	95% UPL (t)	0.666
95% UPL for Next 7 Observations	1.111	95% UPL for Mean of 7 Observations	0.363
90% Percentile (z)	0.525	95% Percentile (z)	0.652
99% Percentile (z)	0.98	95% USL	1.527

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean of Logged Data	-1.476	95% KM UTL (Lognormal)95% Coverage	1.012
KM SD of Logged Data	0.746	95% KM UPL (Lognormal)	0.801
95% KM Percentile Lognormal (z)	0.78	95% KM USL (Lognormal)	2.255

Background DL/2 Statistics Assuming Lognormal Distribution

Mean in Original Scale	0.28	Mean in Log Scale	-1.505
SD in Original Scale	0.15	SD in Log Scale	0.821
95% UTL95% Coverage	1.142	95% UPL (t)	0.883
95% UPL for Next 7 Observations	1.782	95% UPL for Mean of 7 Observations	0.383
90% Percentile (z)	0.636	95% Percentile (z)	0.858
99% Percentile (z)	1.501	95% USL	2.76

DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.

Nonparametric Distribution Free Background Statistics

Data appear to follow a Discernible Distribution

Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)

Order of Statistic, r	66	95% UTL with95% Coverage	0.634
Approx, f used to compute achieved CC	1.737	Approximate Actual Confidence Coefficient achieved by UTL	0.854
Approximate Sample Size needed to achieve specified CC	59	95% UPL	0.538
95% USL	0.634	95% KM Chebyshev UPL	0.927

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.
Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.
The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

Background Statistics for Uncensored Full Data Sets

User Selected Options

Date/Time of Computation	ProUCL 5.2 5/31/2023 4:40:04 PM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Coverage	95%
New or Future K Observations	7
Number of Bootstrap Operations	2000

Calcium

General Statistics

Total Number of Observations	67	Number of Distinct Observations	63
Minimum	6.82	First Quartile	16.95
Second Largest	94.6	Median	23.6
Maximum	94.6	Third Quartile	60.55
Mean	38.28	SD	26.77
Coefficient of Variation	0.699	Skewness	0.702
Mean of logged Data	3.391	SD of logged Data	0.731

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	1.994	d2max (for USL)	3.068

Normal GOF Test

Shapiro Wilk Test Statistic	0.843	**Normal GOF Test**	
1% Shapiro Wilk P Value	1.6665E-9	Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.228	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.125	Data Not Normal at 1% Significance Level	

Data Not Normal at 1% Significance Level

Background Statistics Assuming Normal Distribution

95% UTL with	95% Coverage	91.65	90% Percentile (z)		72.58
	95% UPL (t)	83.26	95% Percentile (z)		82.31
	95% UPL for Next 7 Observations	106.1	99% Percentile (z)		100.5
	95% UPL for Mean of 7 Observations	56.01	95% USL		120.4

Gamma GOF Test

A-D Test Statistic	2.295	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.763	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.179	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.11	Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	2.119	k star (bias corrected MLE)	2.034
Theta hat (MLE)	18.06	Theta star (bias corrected MLE)	18.82
nu hat (MLE)	283.9	nu star (bias corrected)	272.5
MLE Mean (bias corrected)	38.28	MLE Sd (bias corrected)	26.84

Background Statistics Assuming Gamma Distribution

95% Wilson Hilferty (WH) Approx. Gamma UPL	90.97	90% Percentile		74.15
95% Hawkins Wixley (HW) Approx. Gamma UPL	92.88	95% Percentile		90.31
95% WH UPL for Next 7 Observations	137.7	99% Percentile		126.1
95% HW UPL for Next 7 Observations	146.1			
95% WH Approx. Gamma UTL with 95% Coverage	106.6	95% HW Approx. Gamma UTL with	95% Coverage	110.3
95% WH USL	173.6	95% HW USL		189.1

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.915	**Shapiro Wilk Lognormal GOF Test**
10% Shapiro Wilk P Value	1.1039E-4	Data Not Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.142	**Lilliefors Lognormal GOF Test**
10% Lilliefors Critical Value	0.099	Data Not Lognormal at 10% Significance Level

Data Not Lognormal at 10% Significance Level

Background Statistics assuming Lognormal Distribution

95% UTL with	95% Coverage	127.5	90% Percentile (z)		75.73
	95% UPL (t)	101.4	95% Percentile (z)		98.76
	95% UPL for Next 7 Observations	189.3	99% Percentile (z)		162.5
	95% UPL for Mean of 7 Observations	48.18	95% USL		279.4

Nonparametric Distribution Free Background Statistics

Data do not follow a Discernible Distribution

Nonparametric Upper Limits for Background Threshold Values

Order of Statistic, order		67	95% UTL with	95% Coverage	94.6
Approx, f used to compute achieved CC		1.737	Approximate Actual Confidence Coefficient achieved by UTL		0.854
			Approximate Sample Size needed to achieve specified CC		59
95% Percentile Bootstrap UTL with	95% Coverage	92.35	95% BCA Bootstrap UTL with	95% Coverage	92.35
	95% UPL	86.95		90% Percentile	80.3
	90% Chebyshev UPL	119.2		95% Percentile	85.4
	95% Chebyshev UPL	155.8		99% Percentile	94.6
	95% USL	**94.6**			

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.
Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers
and consists of observations collected from clean unimpacted locations.
The use of USL tends to provide a balance between false positives and false negatives provided the data
represents a background data set and when many onsite observations need to be compared with the BTV.

Chloride

General Statistics

Total Number of Observations		67	Number of Distinct Observations		62
Minimum		3.04	First Quartile		5.34
Second Largest		27.9	Median		7.23
Maximum		28.6	Third Quartile		16.11
Mean		11.13	SD		7.429

Coefficient of Variation	0.667	Skewness	0.91
Mean of logged Data	2.195	SD of logged Data	0.659

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	1.994	d2max (for USL)	3.068

Normal GOF Test

Shapiro Wilk Test Statistic	0.844	**Normal GOF Test**	
1% Shapiro Wilk P Value	1.9426E-9	Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.222	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.125	Data Not Normal at 1% Significance Level	

Data Not Normal at 1% Significance Level

Background Statistics Assuming Normal Distribution

95% UTL with 95% Coverage	25.94	90% Percentile (z)	20.65
95% UPL (t)	23.62	95% Percentile (z)	23.35
95% UPL for Next 7 Observations	29.96	99% Percentile (z)	28.41
95% UPL for Mean of 7 Observations	16.05	95% USL	33.92

Gamma GOF Test

A-D Test Statistic	2.211	**Anderson-Darling Gamma GOF Test**	
5% A-D Critical Value	0.761	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.198	**Kolmogorov-Smirnov Gamma GOF Test**	
5% K-S Critical Value	0.11	Data Not Gamma Distributed at 5% Significance Level	

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	2.486	k star (bias corrected MLE)	2.385
Theta hat (MLE)	4.476	Theta star (bias corrected MLE)	4.667
nu hat (MLE)	333.2	nu star (bias corrected)	319.6
MLE Mean (bias corrected)	11.13	MLE Sd (bias corrected)	7.207

Background Statistics Assuming Gamma Distribution

95% Wilson Hilferty (WH) Approx. Gamma UPL	25.16	90% Percentile	20.78
95% Hawkins Wixley (HW) Approx. Gamma UPL	25.54	95% Percentile	25

95% WH UPL for Next 7 Observations	37.17	99% Percentile	34.25
95% HW UPL for Next 7 Observations	39		
95% WH Approx. Gamma UTL with 95% Coverage	29.2	95% HW Approx. Gamma UTL with 95% Coverage	29.99
95% WH USL	46.31	95% HW USL	49.71

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.908	**Shapiro Wilk Lognormal GOF Test**	
10% Shapiro Wilk P Value	3.4953E-5	Data Not Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.173	**Lilliefors Lognormal GOF Test**	
10% Lilliefors Critical Value	0.099	Data Not Lognormal at 10% Significance Level	

Data Not Lognormal at 10% Significance Level

Background Statistics assuming Lognormal Distribution

95% UTL with 95% Coverage	33.44	90% Percentile (z)	20.91
95% UPL (t)	27.2	95% Percentile (z)	26.56
95% UPL for Next 7 Observations	47.78	99% Percentile (z)	41.63
95% UPL for Mean of 7 Observations	13.9	95% USL	67.87

Nonparametric Distribution Free Background Statistics

Data do not follow a Discernible Distribution

Nonparametric Upper Limits for Background Threshold Values

Order of Statistic, order	67	95% UTL with 95% Coverage	28.6
Approx, f used to compute achieved CC	1.737	Approximate Actual Confidence Coefficient achieved by UTL	0.854
		Approximate Sample Size needed to achieve specified CC	59
95% Percentile Bootstrap UTL with 95% Coverage	27.9	95% BCA Bootstrap UTL with 95% Coverage	27.78
95% UPL	27.26	90% Percentile	22.78
90% Chebyshev UPL	33.58	95% Percentile	26.84
95% Chebyshev UPL	43.75	99% Percentile	28.14
95% USL	**28.6**		

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20. Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.

The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

pH

General Statistics

Total Number of Observations	67	Number of Distinct Observations	31
Minimum	5.39	First Quartile	6.205
Second Largest	7.7	Median	6.68
Maximum	7.8	Third Quartile	6.9
Mean	**6.595**	SD	0.491
Coefficient of Variation	0.0744	Skewness	0.0503
Mean of logged Data	1.884	SD of logged Data	0.0747

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	1.994	d2max (for USL)	3.068

Normal GOF Test

Shapiro Wilk Test Statistic	0.981	**Normal GOF Test**	
1% Shapiro Wilk P Value	0.669	Data appear Normal at 1% Significance Level	
Lilliefors Test Statistic	0.08	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.125	Data appear Normal at 1% Significance Level	

Data appear Normal at 1% Significance Level

Background Statistics Assuming Normal Distribution

95% UTL with 95% Coverage	7.573	90% Percentile (z)	7.224
95% UPL (t)	7.419	95% Percentile (z)	7.402
95% UPL for Next 7 Observations	**7.839**	99% Percentile (z)	7.736
95% UPL for Mean of 7 Observations	6.92	95% USL	8.1

Gamma GOF Test

A-D Test Statistic	0.44	**Anderson-Darling Gamma GOF Test**	
5% A-D Critical Value	0.749	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.0883	**Kolmogorov-Smirnov Gamma GOF Test**	
5% K-S Critical Value	0.109	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	182.7	k star (bias corrected MLE)	174.5
Theta hat (MLE)	0.0361	Theta star (bias corrected MLE)	0.0378
nu hat (MLE)	24477	nu star (bias corrected)	23382
MLE Mean (bias corrected)	6.595	MLE Sd (bias corrected)	0.499

Background Statistics Assuming Gamma Distribution

95% Wilson Hilferty (WH) Approx. Gamma UPL	7.443	90% Percentile	7.242
95% Hawkins Wixley (HW) Approx. Gamma UPL	7.446	95% Percentile	7.437
95% WH UPL for Next 7 Observations	7.908	99% Percentile	7.811
95% HW UPL for Next 7 Observations	7.918		
95% WH Approx. Gamma UTL with 95% Coverage	7.611	95% HW Approx. Gamma UTL with 95% Coverage	7.617
95% WH USL	8.207	95% HW USL	8.222

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.98	**Shapiro Wilk Lognormal GOF Test**
10% Shapiro Wilk P Value	0.631	Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.0907	**Lilliefors Lognormal GOF Test**
10% Lilliefors Critical Value	0.099	Data appear Lognormal at 10% Significance Level

Data appear Lognormal at 10% Significance Level

Background Statistics assuming Lognormal Distribution

95% UTL with 95% Coverage	7.633	90% Percentile (z)	7.238
95% UPL (t)	7.457	95% Percentile (z)	7.437
95% UPL for Next 7 Observations	7.948	99% Percentile (z)	7.825
95% UPL for Mean of 7 Observations	6.911	95% USL	8.271

Nonparametric Distribution Free Background Statistics

Data appear Normal at 1% Significance Level

Nonparametric Upper Limits for Background Threshold Values

Order of Statistic, order	67	95% UTL with 95% Coverage	7.8

Approx, f used to compute achieved CC	1.737	Approximate Actual Confidence Coefficient achieved by UTL	0.854
		Approximate Sample Size needed to achieve specified CC	59
95% Percentile Bootstrap UTL with 95% Coverage	7.68	95% BCA Bootstrap UTL with 95% Coverage	7.61
95% UPL	7.4	90% Percentile	7.14
90% Chebyshev UPL	8.078	95% Percentile	7.4
95% Chebyshev UPL	8.749	99% Percentile	7.734
95% USL	7.8		

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.
Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.
The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

Sulfate

General Statistics

Total Number of Observations	67	Number of Distinct Observations	65
Minimum	0.512	First Quartile	1.74
Second Largest	32	Median	4.62
Maximum	35.14	Third Quartile	7.42
Mean	6.02	SD	6.484
Coefficient of Variation	1.077	Skewness	2.683
Mean of logged Data	1.376	SD of logged Data	0.914

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	1.994	d2max (for USL)	3.068

Normal GOF Test

Shapiro Wilk Test Statistic	0.712	**Normal GOF Test**	
1% Shapiro Wilk P Value	0	Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.203	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.125	Data Not Normal at 1% Significance Level	

Data Not Normal at 1% Significance Level

Background Statistics Assuming Normal Distribution

95% UTL with 95% Coverage	18.95	90% Percentile (z)	14.33
95% UPL (t)	16.92	95% Percentile (z)	16.69
95% UPL for Next 7 Observations	22.46	99% Percentile (z)	21.1
95% UPL for Mean of 7 Observations	10.32	95% USL	25.91

Gamma GOF Test

A-D Test Statistic	1.142	**Anderson-Darling Gamma GOF Test**	
5% A-D Critical Value	0.773	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.112	**Kolmogorov-Smirnov Gamma GOF Test**	
5% K-S Critical Value	0.111	Data Not Gamma Distributed at 5% Significance Level	

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	1.334	k star (bias corrected MLE)	1.285
Theta hat (MLE)	4.511	Theta star (bias corrected MLE)	4.686
nu hat (MLE)	178.8	nu star (bias corrected)	172.1
MLE Mean (bias corrected)	6.02	MLE Sd (bias corrected)	5.311

Background Statistics Assuming Gamma Distribution

95% Wilson Hilferty (WH) Approx. Gamma UPL	16.34	90% Percentile	13.03
95% Hawkins Wixley (HW) Approx. Gamma UPL	16.6	95% Percentile	16.53
95% WH UPL for Next 7 Observations	26.6	99% Percentile	24.5
95% HW UPL for Next 7 Observations	28.4		
95% WH Approx. Gamma UTL with 95% Coverage	19.72	95% HW Approx. Gamma UTL with 95% Coverage	20.38
95% WH USL	34.78	95% HW USL	38.41

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.971	**Shapiro Wilk Lognormal GOF Test**	
10% Shapiro Wilk P Value	0.301	Data appear Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.111	**Lilliefors Lognormal GOF Test**	

10% Lilliefors Critical Value	0.099	Data Not Lognormal at 10% Significance Level

Data appear Approximate Lognormal at 10% Significance Level

Background Statistics assuming Lognormal Distribution

95% UTL with 95% Coverage	24.51	90% Percentile (z)	12.78
95% UPL (t)	18.41	95% Percentile (z)	17.81
95% UPL for Next 7 Observations	**40.21**	99% Percentile (z)	33.22
95% UPL for Mean of 7 Observations	7.255	95% USL	65.44

Nonparametric Distribution Free Background Statistics

Data appear Approximate Lognormal at 10% Significance Level

Nonparametric Upper Limits for Background Threshold Values

Order of Statistic, order	67	95% UTL with 95% Coverage	35.14
Approx, f used to compute achieved CC	1.737	Approximate Actual Confidence Coefficient achieved by UTL	0.854
		Approximate Sample Size needed to achieve specified CC	59
95% Percentile Bootstrap UTL with 95% Coverage	32	95% BCA Bootstrap UTL with 95% Coverage	28.67
95% UPL	19.26	90% Percentile	12.79
90% Chebyshev UPL	25.62	95% Percentile	16.41
95% Chebyshev UPL	34.49	99% Percentile	33.07
95% USL	35.14		

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.
Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.
The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

TDS

General Statistics

Total Number of Observations	67	Number of Distinct Observations	60
Minimum	11.4	First Quartile	94.5

Second Largest	382	Median	126
Maximum	389	Third Quartile	272
Mean	177.8	SD	107
Coefficient of Variation	0.602	Skewness	0.522
Mean of logged Data	4.975	SD of logged Data	0.69

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	1.994	d2max (for USL)	3.068

Normal GOF Test

Shapiro Wilk Test Statistic	0.882	**Normal GOF Test**
1% Shapiro Wilk P Value	6.1830E-7	Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.2	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.125	Data Not Normal at 1% Significance Level

Data Not Normal at 1% Significance Level

Background Statistics Assuming Normal Distribution

95% UTL with 95% Coverage	391.2	90% Percentile (z)	315
95% UPL (t)	357.7	95% Percentile (z)	353.9
95% UPL for Next 7 Observations	449.2	99% Percentile (z)	426.8
95% UPL for Mean of 7 Observations	248.8	95% USL	506.2

Gamma GOF Test

A-D Test Statistic	1.637	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.76	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.154	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.11	Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	2.588	k star (bias corrected MLE)	2.482
Theta hat (MLE)	68.72	Theta star (bias corrected MLE)	71.65
nu hat (MLE)	346.8	nu star (bias corrected)	332.6

MLE Mean (bias corrected)	177.8	MLE Sd (bias corrected)	112.9

Background Statistics Assuming Gamma Distribution

95% Wilson Hilferty (WH) Approx. Gamma UPL	397.4	90% Percentile	329
95% Hawkins Wixley (HW) Approx. Gamma UPL	408.1	95% Percentile	394.6
95% WH UPL for Next 7 Observations	582.8	99% Percentile	538.2
95% HW UPL for Next 7 Observations	620.5		
95% WH Approx. Gamma UTL with 95% Coverage	459.9	95% HW Approx. Gamma UTL with 95% Coverage	478.3
95% WH USL	723.4	95% HW USL	789.3

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.923	**Shapiro Wilk Lognormal GOF Test**	
10% Shapiro Wilk P Value	3.3649E-4	Data Not Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.117	**Lilliefors Lognormal GOF Test**	
10% Lilliefors Critical Value	0.099	Data Not Lognormal at 10% Significance Level	

Data Not Lognormal at 10% Significance Level

Background Statistics assuming Lognormal Distribution

95% UTL with 95% Coverage	573.5	90% Percentile (z)	350.7
95% UPL (t)	462	95% Percentile (z)	450.7
95% UPL for Next 7 Observations	833.4	99% Percentile (z)	721.4
95% UPL for Mean of 7 Observations	228.8	95% USL	1204

Nonparametric Distribution Free Background Statistics

Data do not follow a Discernible Distribution

Nonparametric Upper Limits for Background Threshold Values

Order of Statistic, order	67	95% UTL with 95% Coverage	389
Approx, f used to compute achieved CC	1.737	Approximate Actual Confidence Coefficient achieved by UTL	0.854
		Approximate Sample Size needed to achieve specified CC	59
95% Percentile Bootstrap UTL with 95% Coverage	382	95% BCA Bootstrap UTL with 95% Coverage	379.3
95% UPL	370.2	90% Percentile	332.8
90% Chebyshev UPL	501.3	95% Percentile	365.7
95% Chebyshev UPL	647.8	99% Percentile	384.4

95% USL	389

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.
Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.
The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

Appendix F
Second Semiannual Detection Monitoring Statistical Evaluation

DOMINION ENERGY SOUTH CAROLINA

WILLIAMS STATION HIGHWAY 52 CLASS III LANDFILL

SEMIANNUAL DETECTION MONITORING

BERKELEY COUNTY, SOUTH CAROLINA

CCR GROUNDWATER DETECTION MONITORING STATISTICAL ANALYSIS REPORT

For the

October 2023 Sampling Event

December 15, 2023

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Statistical Analysis Report

Groundwater Sampling

TRC Environmental Corporation (TRC) is providing this Statistically Significant Increases (SSI) notification for the Williams Station Highway 52 Class III Landfill for the 2nd Semiannual 2023 Detection Monitoring Program event. Samples were collected on October 4, 2023. The final laboratory analytical data package for the event was received on October 18, 2023, and the data validation report was received on November 6, 2023. The certified monitoring well network includes the following monitoring wells:

- Background monitoring wells – MW-LF-10, MW-LF-11, MW-LF-27, and MW-LF-28.
- Downgradient monitoring wells – MW-LF-20, MW-LF-21, MW-LF-22D, MW-LF-23D, MW-LF-24, MW-LF-25, and MW-LF-26.

Statistical Analysis

Statistically Significant Increases (SSI) exceedances above background concentrations include the following:

- MW-LF-20: calcium and total dissolved solids (TDS)
- MW-LF-21: calcium and TDS
- MW-LF-22D: calcium and TDS
- MW-LF-23D: TDS
- MW-LF-24: calcium and TDS
- MW-LF-25: calcium, fluoride, sulfate, and TDS
- MW-LF-26: calcium, chloride, and TDS

In general accordance with the Statistical Analysis Plan (OBG, 2017) for Detection Monitoring, the evaluation of potential SSIs was conducted using prediction limits to compare data from the background set of monitoring wells to the most recent results from the downgradient monitoring wells. The statistical calculations have been conducted using United States Environmental Protection Agency's (USEPA's) ProUCL (v.5.2) software. **Table 1** presents basic statistical information regarding the data sets and the calculated background threshold values (BTVs). **Table 2** presents the data set for the October 2023 Detection Monitoring Program event and highlights results that are potential SSIs. **Appendix A** presents the background data used for the October 2023 Detection Monitoring Program event.

Table 1
Background Threshold Values

Table 1 Background Threshold Values

CONSTITUENT	NUMBER of RESULTS	PERCENT DETECTED	DISTRIBUTION	BACKGROUND THRESHOLD VALUE	BASIS
Boron (µg/L)	67	49	Nonparametric	500	95% USL
Calcium (µg/L)	67	100	Nonparametric	94,600	95% USL
Chloride (mg/L)	67	100	Nonparametric	28.6	95% USL
Fluoride (mg/L)	67	91	Normal	0.654	95% KM UPL, k=27
pH (S.U.)	67	100	Normal	5.4 – 7.8	95% UPL, k=7
Sulfate (mg/L)	67	100	Lognormal	40.2	95% UPL, k=7
TDS (mg/L)	67	100	Nonparametric	389	95% USL

pH expressed in standard units (S.U.).
TDS = Total dissolved solids.
µg/L = micrograms per liter.
mg/L = milligrams per liter.
KM = Kaplan-Meier statistical method.
UPL = Upper prediction limit.
USL = Upper statistical limit.
k = Number of independent groups.

Table 2
October 2023
Downgradient Results and Potential SSIs

Table 2 October 2023 Downgradient Results and Potential SSIs

WELL	CONSTITUENT / BTV / RESULT						
	BORON (µg/L)	CALCIUM (µg/L)	CHLORIDE (mg/L)	FLUORIDE (mg/L)	pH (S.U.)	SULFATE (mg/L)	TDS (mg/L)
	500	94,600	28.6	0.654	5.4 – 7.8	40.2	389
BACKGROUND WELLS							
MW-LF-10	84.8	74,100	15.0	0.555	7.12	3.86	336
MW-LF-11	34.1	20,800	7.04	0.415	6.35	1.25	86.0
MW-LF-27	38.7	40,600	9.25	0.319	6.81	3.02	143
MW-LF-28	13.8 J	5,370	5.87	0.104	5.57	0.583	3.00 J
DOWNGRADIENT WELLS							
MW-LF-20	234	157,000	11.8	0.337	6.17	6.36	638
MW-LF-21	215	136,000	11.1	0.249 J	6.19	6.91	616
MW-LF-22D	366	100,000	10.1	0.383	6.56	31.4	586
MW-LF-23D	299	75,500	16.6	0.468	6.74	21.2	484
MW-LF-24	94.2	125,000	17.9	0.589	6.23	8.70	481
MW-LF-25	36.8	214,000	7.06	0.668	6.45	357	842
MW-LF-26	156	176,000	137	0.310	6.25	27.0	844

Shaded cells indicate a statistically significant increase (SSI).
BTV = Background threshold values.
pH expressed in standard units (S.U.).
TDS = Total dissolved solids.
µg/L = micrograms per liter.
mg/L = milligrams per liter.
J Estimated concentration.

Appendix A
Background Data Set for October 2023 Semiannual Detection Monitoring Event

Appendix A Background Data Set for October 2023 Semiannual Detection Monitoring Event

EVENT	WELL	CONSTITUENT/RESULT						
		BORON (µg/L)	CALCIUM (µg/L)	CHLORIDE (mg/L)	FLUORIDE (mg/L)	FIELD pH (S.U.)	SULFATE (mg/L)	TDS (mg/L)
BL-1	MW-LF-10	< 55.7	58,600	15.8	0.541	7.1	3.31	270
BL-2	MW-LF-10	< 55.7	48,800	15.6	0.634	7.0	3.4	234
BL-3	MW-LF-10	< 55.7	21,600	6.37	0.119	6.8	7.57	149
BL-4	MW-LF-10	57.7	30,500	10.9	0.33	6.9	4.12	174
BL-5	MW-LF-10	< 44.2	14,600	17.1	0.534	6.9	9.54	204
BL-6	MW-LF-10	166	38,600	17.15	0.442	7.4	5.4	277
BL-7	MW-LF-10	< 44.2	32,300	16.42	0.368	7.4	4.95	241
BL-8	MW-LF-10	< 44.2	41,500	19.45	0.515	7.7	5.51	196
DM-1	MW-LF-10	150	29,490	19.7	0.545	7.8	6	167
DM-2	MW-LF-10	86.3	56,920	19	0.42	7.1	5.92	263
DM-3	MW-LF-10	38.1	54,300	27.9	0.46	7.4	8.23	187
DM-4	MW-LF-10	67.6	63,400	26.7	0.46	7.1	7.19	334
DM-5	MW-LF-10	56.8	81,200	28.6	0.43	6.7	9.64	373
DM-6	MW-LF-10	122	78,600	27.5	0.43	7.0	7.13	382
DM-7	MW-LF-10	< 500	71,200	25.6	0.46	6.8	7.27	389
DM-8	MW-LF-10	62.2	79,400	22.7	0.429	6.84	5.3	350
DM-9	MW-LF-10	60.1	74,500	26.9	0.458	6.82	7.66	366
DM-10	MW-LF-10	58.9	65,600	22.9	0.453	6.83	4.84	289
DM-11	MW-LF-10	70.8	68,700	17	0.453	6.68	4.62	365
BL-1	AS-LF-02	20.2	3,300	7.39	0.0642 J	4.76	14.1	13.0

Appendix A Background Data Set for October 2023 Semiannual Detection Monitoring Event

EVENT	WELL	CONSTITUENT/RESULT						
		BORON (µg/L)	CALCIUM (µg/L)	CHLORIDE (mg/L)	FLUORIDE (mg/L)	FIELD pH (S.U.)	SULFATE (mg/L)	TDS (mg/L)
BL-4	MW-LF-11	< 55.7	18,300	5.93	0.407	6.3	1.73	94
BL-5	MW-LF-11	< 44.2	15,600	3.04	0.337	6.4	5.13	89
BL-6	MW-LF-11	77.8	16,600	5.04	0.31	6.4	1.45	101
BL-7	MW-LF-11	< 44.2	19,300	5.16	0.336	7.0	1.34	98
BL-8	MW-LF-11	< 44.2	20,100	5.99	0.324	7.1	1.47	105
DM-1	MW-LF-11	59.9	20,180	6.1	0.368	6.7	1.8	110
DM-2	MW-LF-11	< 44.2	16,260	5.84	0.25	6.3	1.77	98
DM-3	MW-LF-11	< 21.9	19,500	6.59	0.35	6.4	1.44	108
DM-4	MW-LF-11	< 200	14,700	5.58	0.28	6.2	1.85	71
DM-5	MW-LF-11	54.2	23,000	5.96	0.36	6.6	2.06	108
DM-6	MW-LF-11	43.7	13,300	4.3	0.2	6.0	3.54	93
DM-7	MW-LF-11	< 500	18,800	7.23	0.34	6.2	1.24	126
DM-8	MW-LF-11	180	13,300	5.64	0.234	5.89	2.08	126 J
DM-9	MW-LF-11	28.9	15,100	6.49	0.284	6.03	3.01	98.6
DM-10	MW-LF-11	26.3	20,400	7.59	0.374	6.16	1.49	95.7
BL-4	MW-LF-27	< 55.7	53,000	4.85	0.318	7.2	5.69	189
BL-5	MW-LF-27	< 44.2	81,600	10.1	0.288	6.9	12	294
BL-6	MW-LF-27	50.8	87,100	12.78	0.273	6.8	11.33	314
BL-7	MW-LF-27	< 44.2	94,600	12.94	0.244	6.6	13.97	330
BL-8	MW-LF-27	< 44.2	94,600	16.51	0.265	6.9	35.14	332

Appendix A Background Data Set for October 2023 Semiannual Detection Monitoring Event

EVENT	WELL	CONSTITUENT/RESULT						
		BORON (µg/L)	CALCIUM (µg/L)	CHLORIDE (mg/L)	FLUORIDE (mg/L)	FIELD pH (S.U.)	SULFATE (mg/L)	TDS (mg/L)
DM-1	MW-LF-27	< 44.2	86,730	14.2	0.267	6.7	32	318
DM-2	MW-LF-27	< 44.2	69,670	13.3	0.21	6.8	15.5	265
DM-3	MW-LF-27	22.4	79,700	13.3	0.27	7.2	16.8	315
DM-4	MW-LF-27	98.2	55,900	14.6	0.23	6.7	14.1	274
DM-5	MW-LF-27	42.6	62,500	15.2	0.23	6.8	10.4	239
DM-6	MW-LF-27	58.4	51,300	14.5	0.16	6.5	20.9	235
DM-7	MW-LF-27	< 500	82,300	10.1	0.26	6.8	8.5	306
DM-8	MW-LF-27	25.2	23,600	9.23	0.172	6.15	8.03	147
DM-9	MW-LF-27	30.5	20,500	10.1	0.214	6.43	5.3	104
DM-10	MW-LF-27	26.0	22,600	5.54	0.299	6.34	1.74	95.7
DM-11	MW-LF-27	34.7	46,100	19.3	0.223	6.21	4.69	194
BL-4	MW-LF-28	< 55.7	34,500	4.05	0.12	6.6	4.85	120
BL-5	MW-LF-28	< 44.2	29,900	3.98	0.146	6.6	0.827	96
BL-6	MW-LF-28	< 44.2	23,800	3.68	0.145	6.4	0.92	95
BL-7	MW-LF-28	< 44.2	17,300	3.98	0.0851	6.4	1.36	68
BL-8	MW-LF-28	< 44.2	18,400	3.86	0.0938	7	1.72	95
DM-1	MW-LF-28	< 44.2	17,460	3.6	0.118	6.7	3.1	73
DM-2	MW-LF-28	< 44.2	19,930	3.99	< 0.025	6.4	3.12	76
DM-3	MW-LF-28	< 21.9	12,000	3.65	< 0.025	6	1.29	64
DM-4	MW-LF-28	< 200	10,600	4.05	< 0.1	6.1	2.96	67

Appendix A Background Data Set for October 2023 Semiannual Detection Monitoring Event

EVENT	WELL	CONSTITUENT/RESULT						
		BORON (µg/L)	CALCIUM (µg/L)	CHLORIDE (mg/L)	FLUORIDE (mg/L)	FIELD pH (S.U.)	SULFATE (mg/L)	TDS (mg/L)
DM-5	MW-LF-28	< 200	12,000	4.45	< 0.1	5.9	2.48	57
DM-6	MW-LF-28	< 200	13,500	5.21	< 0.1	5.9	5.11	68
DM-7	MW-LF-28	< 500	12,300	5.24	< 0.1	5.9	1.74	76
DM-8	MW-LF-28	10.4 J	11,900	5.76	0.0914 J	5.89	3.84	87.1 J
DM-9	MW-LF-28	16.5	10,300	5.44	0.077 J	6.03	1.35	54.3
DM-10	MW-LF-28	9.97 J	6,820	6.11	0.1	5.39	0.512	11.4 J
DM-11	MW-LF-28	16.1	8,390	5.87	0.11	5.86	1.51	40

pH expressed in standard units (S.U.).

TDS = Total dissolved solids.

µg/L = micrograms per liter.

mg/L = milligrams per liter.

BL = Baseline sampling event.

DM = Detection monitoring event.

J Estimated concentration.

< Result less than the indicated detection limit.

References

OBG 2017. *Statistical Analysis Plan* – SCE&G Williams Station Highway 52 Class III Landfill, Moncks Corner, South Carolina. O'Brein & Gere Inc. (OBG), October 17, 2017.