

**2023 ANNUAL GROUNDWATER MONITORING AND  
CORRECTIVE ACTION REPORT**

**ALABAMA POWER COMPANY  
PLANT GORGAS  
CCR LANDFILL**

**January 31, 2024**

Prepared for

Alabama Power Company  
Birmingham, Alabama

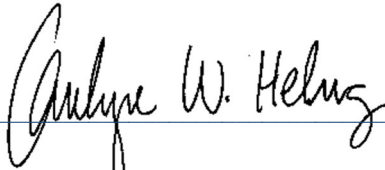
By

Southern Company Services  
Earth Science and Environmental Engineering



## CERTIFICATION STATEMENT

This 2023 Annual Groundwater Monitoring and Corrective Action Report, Alabama Power Company - Plant Gorgas CCR Landfill has been prepared in accordance with the United States Environmental Protection Agency's coal combustion residual rule (40 CFR Part 257, Subpart D), ADEM Admin. Code Ch. 335-13-15, and Part E of ADEM Administrative Order No. 18-096-GW, under the supervision of a licensed professional engineer in the State of Alabama. As such, I certify that the information contained herein is true and accurate to the best of my knowledge.



Annelise W. Helms, P.G.  
AL Registered Professional Geologist No. 1601

1/31/2024

Date



Gregory Whetstone, P.E.  
AL Registered Professional Engineer No. 27885



1/31/2024

Date

## **EXECUTIVE SUMMARY**

In accordance with the United States Environmental Protection Agency (EPA) coal combustion residual (CCR) rule (40 CFR Part 257, Subpart D), the State of Alabama Department of Environmental Management (ADEM) Admin. Code Ch. 335-13-15, and ADEM Administrative Order (AO) No. 18-096-GW, this 2023 Annual Groundwater Monitoring and Corrective Action Report has been prepared to document the first and second 2023 semi-annual assessment groundwater monitoring activities at the Alabama Power Company (APC) William Crawford Gorgas Electric Generating Plant (Plant Gorgas) CCR Landfill and to satisfy the requirements of 40 CFR § 257.90(e), ADEM Admin. Code r. 335-13-15-.06(1)(f), and Part E of AO No. 18-096-GW. Semi-annual assessment monitoring and associated reporting for the Plant Gorgas CCR Landfill is performed in accordance with the monitoring requirements 40 CFR § 257.90 through § 257.95 and ADEM Admin. Code r. 335-13-15-.06(1) through r. 335-13-15-.06(6).

The CCR unit began the monitoring period in assessment monitoring pursuant to 40 CFR § 257.98, ADEM Admin. Code r. 335-13-15-.06(9), and AO No. 18-096-GW. Statistically significant increases (SSI) of Appendix III constituents over background were identified in the results of the first detection monitoring event and assessment monitoring was initiated in January 2018. Statistically significant levels (SSL) of the Appendix IV constituent lithium were identified in one well above groundwater protection standards (GWPS) while in assessment monitoring. Following completion of statistical analysis of Appendix IV data from subsequent assessment events, SSLs have not been observed. Consequently, an Alternate Source Demonstration (ASD) was submitted to ADEM for lithium SSLs above the GWPS in January of 2019.

APC completed an Assessment of Corrective Measures (ACM) report submitted to ADEM in June 2019 to address the occurrence of constituents in groundwater at SSLs at the Plant Gorgas Ash Pond and Gypsum Pond. In February 2020, APC revised the ACM to include the CCR Landfill. However, it should be noted that SSLs at the CCR Landfill have not been observed since 2018.

A Groundwater Remedy Selection Report was prepared to meet the requirements of 40 CFR § 257.97, ADEM Admin. Code r. 335-13-15-.06(8), and Part C of AO No.18-096-GW and submitted to ADEM on December 17, 2021. Subsequently, within 90 days of remedy selection, a Corrective Action Groundwater Monitoring Program was developed and submitted to ADEM on March 15, 2022 for review.

The Corrective Action Groundwater Monitoring Program was prepared to meet 40 CFR § 257.98 and ADEM Admin. Code r. 335-13-15-.06(9) to detect potential downgradient changes in groundwater quality

and assess the efficacy of the selected groundwater corrective action remedies. The Monitoring Program has been developed to meet the requirements of 40 CFR § 257.98(a)(1) and ADEM Admin. Code r. 335-13-15-.06(9)(a)(1) and will supplement the ongoing CCR compliance groundwater monitoring currently being performed at the Site.

Statistical evaluations of the first 2023 semi-annual assessment monitoring data did not identify any SSLs of Appendix IV constituents above the GWPS. The following summarizes results and activities conducted during the 2023 first semi-annual monitoring period:

- Submitted the 2022 Annual Groundwater Monitoring and Corrective Action Report on January 31, 2023.
- Completed the first semi-annual assessment groundwater sampling event from February 20, 2023, and February 22, 2023.

The CCR Landfill concluded the first 2023 monitoring period in assessment monitoring. Statistical evaluations of the second 2023 semi-annual assessment monitoring data did not identify SSLs of Appendix IV constituents above the GWPS. The following activities were conducted during the second semi-annual monitoring period of 2023:

- Submitted the 2023 Semi-Annual Groundwater Monitoring and Corrective Action Report on July 31, 2023.
- Completed the second semi-annual assessment groundwater sampling event between August 15, 2023, and August 22, 2023.

The CCR Landfill concluded the second monitoring period in assessment monitoring. The following future actions will be taken or are recommended for the Site:

- Evaluation of collected MNA parameter data and ongoing compliance monitoring.
- Conduct the first semi-annual assessment monitoring event in 2024 and submit the semi-annual Groundwater Monitoring and Corrective Action Report summarizing the findings to ADEM by July 31, 2024.

**Executive Summary Table.  
Monitoring Period Summary  
Plant Gorgas - CCR Landfill**

Assessment Monitoring Initiated: January 15, 2018

Monitoring Period: January 1 - December 31, 2023

Beginning Status: Assessment

Ending Status: Assessment

**Statistical Analysis Results \***

**Appendix III SSIs**

<b>Parameter</b>	<b>Wells</b>
Boron	None.
Calcium	MW-7
Chloride	MW-5, MW-7, MW-8.
Fluoride	None.
pH	MW-5, MW-7, MW-8.
Sulfate	None.
TDS	None.

**Appendix IV SSLs**

No Significant Results.

\* See the attached report for further details regarding statistical exceedances and alternate source demonstrations.

**Assessment of Corrective Measures & Groundwater Remedy**

**Assessment of Corrective Measures**

Site Remains in Assessment Monitoring (§ 257.95(d) & Alabama Admin. Code r. 335-13-15-.06(6)(d))

**Groundwater Remedy**

Site Remains in Assessment Monitoring (§ 257.95(d) & Alabama Admin. Code r. 335-13-15-.06(6)(d))

**TABLE OF CONTENTS**

EXECUTIVE SUMMARY ..... i

1.0 Introduction..... 1

2.0 Monitoring Program Status..... 2

3.0 Site Location and Description..... 3

    3.1 Physical Setting..... 3

    3.2 Site Geology and Hydrogeology..... 3

        3.2.1 Pottsville Formation – Rock Chemistry..... 5

        3.2.2 Uppermost Aquifer ..... 6

        3.2.3 Flow Interpretation..... 7

    3.3 Groundwater Monitoring System..... 7

        3.3.1 Monitoring Wells ..... 8

            3.3.1.1 Upgradient Wells ..... 8

            3.3.1.2 Downgradient Wells ..... 9

            3.3.1.3 Piezometers ..... 9

            3.3.1.4 Monitoring Well Replacement and Abandonment..... 9

    3.4 Groundwater Monitoring History ..... 9

        3.4.1 Available Monitoring Data ..... 9

        3.4.2 Historical Groundwater Flow..... 10

        3.4.3 Monitoring Variance ..... 10

    3.5 Groundwater Sampling and Analysis ..... 10

        3.5.1 Groundwater Sample Collection..... 10

        3.5.2 Sample Preservation and Handling ..... 11

        3.5.3 Chain of Custody ..... 12

        3.5.4 Laboratory Analysis..... 12

        3.5.5 Monitoring Period Sampling Events..... 12

4.0 Groundwater Elevations and Flow..... 13

    4.1 Groundwater Flow Velocity Calculations..... 13

5.0 Evaluation of Groundwater Quality Data ..... 15

    5.1 Data Validation – Quality Assurance/Quality Control ..... 15

    5.2 Statistical Methodology and Tests ..... 16

5.2.1	Appendix III Evaluation.....	16
5.2.2	Appendix IV Evaluation .....	17
5.3	Statistical Exceedances .....	18
5.3.1	Appendix III Constituents .....	18
5.3.2	Appendix IV Constituents.....	18
6.0	Alternate Source Demonstration.....	19
7.0	Groundwater Delineation.....	20
8.0	Summary and Conclusions .....	21
9.0	References.....	22

## **FIGURES**

Figure 1	Site Location Map
Figure 2	Site Topographic Map
Figure 3	Site Geologic Map
Figure 4A	Geologic Cross-Section A-A'
Figure 4B	Geologic Cross-Section B-B'
Figure 5	Monitoring Well Location Map
Figure 6A	Potentiometric Surface Contour Map (February 20, 2023)
Figure 6B	Potentiometric Surface Contour Map (August 15, 2023)

## **TABLES**

Table 1	Compliance Monitoring Well Network Details
Table 2	Parameters and Reporting Limits
Table 3	Groundwater Elevations Summary
Table 4	Relative Percent Difference (RPD) Calculations
Table 5	Summary of Background Levels and Groundwater Protection Standards
Table 6	First Semi-Annual Monitoring Event Analytical Results Summary
Table 7	Second Semi-Annual Monitoring Event Analytical Results Summary

## **APPENDICES**

Appendix A	Historical Analytical Data Summary
Appendix B	Historical Groundwater Elevations Summary
Appendix C	Laboratory and Field Records
Appendix D	Horizontal Groundwater Flow Velocity Calculations
Appendix E	Statistical Analysis



## ABBREVIATIONS

ACM	Assessment of Corrective Measures
ADEM	Alabama Department of Environmental Management
AL	Alabama
APC	Alabama Power Company
APCEL	APC Environmental Laboratory
ASD	Alternate Source Demonstration
ASTM	Alabama Power Company Environmental Laboratory
BGS	below ground surface
CCR	Coal Combustion Residual
CEC	cation exchange capacity
CFR	Code of Federal Regulations
COC	chain of custody
COI	constituents of interest
CSM	conceptual site model
DO	dissolved oxygen
EPA	United States Environmental Protection Agency
ft	feet
GW	groundwater
GWPS	Groundwater Protection Standard(s)
LCL	Lower Confidence Limit(s)
m	meter
mg/L	milligram per liter
MNA	monitored natural attenuation
MSL	mean sea level
MW-	denotes “Monitoring Well”
NCDS	National Coal Data System
NELAP	National Environmental Laboratory Accreditation
NTU	nephelometric turbidity unit
ORP	oxidation reduction potential
pCi/L	picocuries per liter
PE	Professional Engineer
PG	Professional Geologist
PL	prediction limits
PQL	practical quantitation limit
PVC	polymerizing vinyl chloride
QA/QC	quality assurance/quality control
RL	reporting limit
RPD	relative percent difference
SEM	scanning electron microscopy
SM	Standard Method(s)
SSE	selective sequential extraction
SSI	statistically significant increase

SSL	statistically significant level
TAL	Test America, Inc.
TOC	top of casing
TDS	total dissolved solids
USGS	Unites States Geological Survey
UTLs	Upper Tolerance Limits
XRD	X-ray diffraction
XRF	X-ray fluorescence

## **1.0 INTRODUCTION**

In accordance with the United States Environmental Protection Agency (EPA) coal combustion residual (CCR) rule (40 CFR Part 257, Subpart D), the State of Alabama Department of Environmental Management (ADEM) Admin. Code Ch. 335-13-15, and ADEM Administrative Order (AO) No. 18-096-GW, this *2023 Annual Groundwater Monitoring and Corrective Action Report* has been prepared to document the first and second semi-annual assessment groundwater monitoring activities at the Plant Gorgas CCR Landfill and to satisfy the requirements of 40 CFR § 257.90(e), ADEM Admin. Code r. 335-13-15-.06(1)(f), and Part E of AO No. 18-096-GW. Semi-annual assessment monitoring and associated reporting for Plant Gorgas CCR Landfill is performed in accordance with the monitoring requirements 40 CFR § 257.90 through § 257.95 and ADEM Admin. Code r. 335-13-15-.06(1) through r. 335-13-15-.06(6).

Semi-Annual Groundwater Monitoring and Corrective Action Reports include an update on groundwater delineation activities completed since the submittal of the Facility Plan for Groundwater Investigation (November 13, 2018) and corrective action activities completed since the submittal of the Corrective Action Groundwater Monitoring Program (March 15, 2022).

## **2.0 MONITORING PROGRAM STATUS**

In accordance with 40 CFR § 257.94(e) and ADEM Admin. Code r. 335-13-15-.06(5)(e), APC implemented assessment monitoring in January 2018. SSIs of Appendix III constituents were identified at the Plant Gorgas CCR Landfill during the first and second 2023 semi-annual sampling events, but SSLs of Appendix IV constituents were not reported over the GWPS during either event.

Following completion of statistical analysis of Appendix IV data from the first assessment monitoring event conducted in May 2018, an SSL above the GWPS was reported for lithium in the sample from well MW-6. Lithium concentrations in well MW-6 have been below the GWPS since the first assessment event in May 2018. An ASD for the lithium SSL was submitted in January 2019 to ADEM as part of the 2018 Annual Groundwater Monitoring and Corrective Action Report and is pending ADEM review. The Plant Gorgas ACM prepared under 40 CFR § 257.96, ADEM Admin. Code r. 335-13-15-.06(7), and AO No. 18-096-GW was amended to include the CCR Landfill in February 2020. In accordance with 40 CFR § 257.95 and ADEM Admin. Code r. 335-13-15-.06(6), APC will continue semi-annual assessment monitoring, including all monitoring wells in the certified groundwater monitoring system.

### 3.0 SITE LOCATION AND DESCRIPTION

The Alabama Power Company (APC) William Crawford Gorgas Electric Generating Plant (Plant Gorgas) is located in southeastern Walker County, Alabama, approximately 15 miles south of Jasper, at 460 Gorgas Road, Parrish, AL 35580. Based on visual inspection of USGS topographic quadrangle maps and GIS plant boundary files provided by SCS, the plant occupies portions of Sections 7, 8, 9, 16, 17, 18, 19, 20, 21, 28 and 29, Township 16 South, Range 6 West and Section 12, 13 and 24, Township 16 South, Range 7 West (USGS, 1975; USGS, 1983).

Plant Gorgas CCR Landfill (CCR LF) is located east and northeast of the main power generation facility and is bordered to the north by Highway 269 and to the south by the Mulberry Fork of the Black Warrior River. **Figure 1, Site Location Map**, depicts the location of the Plant and landfill with respect to the surrounding area.

#### 3.1 PHYSICAL SETTING

Plant Gorgas is in the Black Warrior River basin, an area typified by moderate relief, with river and stream valleys having dendritic drainage patterns. Elevations at the Site range from approximately 260 feet above mean sea level (MSL) near the Mulberry Fork and Baker Creek to over 500 feet above MSL along a northwest trending ridge approximately 1,000 feet northwest of the plant and in upland areas on the western part of the property. Near the landfill, the land surface generally slopes from north to south and towards the Mulberry Fork of the Black Warrior River. **Figure 2, Site Topographic Map**, provides the topography of the Site.

Two natural surface water bodies drain Plant Gorgas property. Baker Creek flows from northwest to southeast through the central portion of the plant before draining into the Mulberry Fork of the Black Warrior River. The Mulberry Fork flows from east to west as it bends around the southern border of the plant property.

#### 3.2 SITE GEOLOGY AND HYDROGEOLOGY

Plant Gorgas lies in the Warrior Basin physiographic region (Sapp and Emplaincourt, 1975), a late Paleozoic basin formed as a result of flexure and sediment loading associated with Appalachian and Ouachita orogenies. The bedrock geology is dominated by clastic sedimentary rocks of the Lower Pottsville

Formation. Deeper stratigraphy is marked by carbonates, shales, chert, and sandstones of Mississippian to Cambrian in age (Raymond et al., 1988). Plant Gorgas is directly underlain by rocks belonging to the Pratt Coal Group (Ward II et al., 1989). In general, the Pratt Group consists of mudstone, shale, fine-grained sandstone, and interbedded coal. **Figure 3, Site Geologic Map**, illustrates the surface geology at the Site and neighboring areas.

Plant Gorgas is directly underlain by rocks belonging to the Pratt Coal Group (Ward II et al., 1989) of the Upper Pottsville Formation. In general, the Pratt Coal Group consists of mudstone, shale, fine-grained sandstone, and interbedded coal in fining-upward sequences. The Pratt Coal Group generally contains three named coal seams, each separated by 25 to 50 feet of intra-burden. In descending order, they are the Pratt, Nickel Plate, and American coal seams. Locally, Pratt Coal Group strata gently dip (0.5-1.0 degrees) to the south and south-southwest.

Strip mining was conducted over a large portion of the area down to the American seam. As a result, the overburden around the CCR Landfill is dominated by backfilled mine overburden (mine spoils) and is characterized by weathered shale and sandstone boulders with lenses of fine sediments and small amounts of coal fragments and coarse sediments. Geologic logs generated during various onsite investigations indicate that the depth to rock varies significantly, ranging from as little as 5 feet (un-mined areas) to as much as 155 feet below ground surface (BGS). Beneath the CCR Landfill, subsurface geology is likely characterized by thin remnants of mine backfill and un-mined portions of the Pratt Coal Group consisting predominantly of mudstone and sandstone. **Figure 4A, Geologic Cross-Section A-A'**, and **Figure 4B, Geologic Cross-Section B-B'**, illustrate the geologic layering beneath the Site.

Two water-bearing zones are present beneath the Site: (1) the mine overburden/top-of-rock interface, and (2) the underlying Pottsville aquifer. The mine overburden/top of rock interface is usually a thin zone of saturation overlying rock and is not laterally continuous across all portions of the Site. Depth to this zone generally ranges from 100 to 115 feet beneath the Site.

The Pottsville aquifer system is the primary aquifer in Walker County. Although on a regional scale there are other aquifer systems in the vicinity of Plant Gorgas, the Pottsville aquifer system is the most significant. The nearest exposure of the Valley and Ridge aquifer system occurs in central Jefferson County, approximately 25 miles east of Plant Gorgas. The nearest exposure of the Tuscaloosa aquifer system occurs in northwesternmost Walker County, approximately 30 miles northwest of Plant Gorgas. The Tuscaloosa aquifer system is not considered a primary source of groundwater in Walker County (Stricklin, 1989).

The Pottsville aquifer system is composed primarily of Pennsylvanian-aged sandstones, shales, conglomerates, and coal. Groundwater flow primarily occurs through coal seams or rock fabric discontinuities such as bedding planes and fractures. Groundwater in the Pottsville aquifer system is commonly regarded as confined due to large permeability contrasts within the aquifer (Stricklin, 1989). Recharge to the Pottsville aquifer system is largely through infiltration of precipitation and to a lesser extent, downward seepage of river water at hydraulically favored locations. Recharge is accommodated largely by fracture enhanced permeability. Major recharge zones to the Pottsville aquifer system are related to major geologic structures such as large fault zones or along systematic fold axes (Pashin, 2007). Although the Pottsville aquifer system is the primary aquifer in Walker County, groundwater use is relatively limited. According to O’Rear et al., 1972, groundwater use accounted for approximately 15% of total water use in Walker County in 1966. By 2005, groundwater use had declined to less than 1% of total water use in Walker County, or 1.14 million gallons per day (MGD) of groundwater out of a total water use of 969.5 MGD (USGS, 2005).

### **3.2.1 Pottsville Formation – Rock Chemistry**

Published data indicate that elevated arsenic concentrations occur in the Southern Appalachian coal strata where Site monitoring wells are screened. Numerous publications document elevated trace metals in Pottsville and Pottsville coal strata (Kolker et al., 1999, Diehl et al., 2004, Goldhaber et al., 2002). For instance, according to the USGS National Coal Data System (NRCDS), the average concentration of arsenic (72 ppm) in the Pottsville coal strata is three times that of the average of other coal basins (Bragg et al., 1997). Of the U.S. coal analyses for arsenic that are at least three standard deviations above the mean, approximately 90% are from the coal fields of Alabama (Diehl et al., 2004). The United States Geological Survey (USGS) maintains an inventory of coal quality that includes trace metal concentration data. It shows arsenic concentrations range from 1.08 milligrams per kilograms (mg/kg) to 611.0 mg/kg with a mean of 47 mg/kg for Walker County (USGS Coal Quality Database).

Similarly, 75 Pratt Coal Group samples from the Pratt, Nickel Plate, and American coal seams analyzed by the USGS and inventoried in the USGS National Coal Resources Data System (NCRDS) showed the following ranges of other trace metals:

- Boron – 6.3 to 83.6 ppm (average of 35 ppm).
- Cobalt – 1.6 to 19.8 ppm (average of 8 ppm).

- Molybdenum – 0.8 to 22.2 ppm (average of 5 ppm).
- Lithium – 1.4 to 128 ppm (average of 28 ppm).

Bulk geochemical analyses of Pottsville stratigraphy from the Site and of the Pratt and American coal seams from Plant Gorgas were conducted on recovered core. The data reflect arsenic concentrations between 4.9 mg/kg and 32.6 mg/kg in siltstone/mudstones and concentrations of 28.9 and 384.4 mg/kg in two coal seams analyzed. The average arsenic concentration was roughly 34 mg/kg in these samples tested, which is in good agreement with data observed in the USGS NCRDS.

Similarly, 17 Pratt Coal Group samples collected from the Site provided the following ranges of other trace metals:

- Arsenic – 0 to 384.1 ppm (average of 43.8 ppm).
- Boron – 20.8 to 114 ppm (average of 49 ppm).
- Cobalt – 2.79 to 31.2 ppm (average of 18.6 ppm).
- Molybdenum – 0 to 4.38 ppm (average of 1.06 ppm).

Trace metal enrichment and pyrite origins have been linked to post-depositional (post-coalification) deformation and trace metal laden hydrothermal fluids upwelling during Alleghanian tectonism. Diehl et al., (2004) and Goldhaber et al., (2002) describe “high-pyrite” coals as a source of elevated arsenic and other trace metals. In these publications, pyrite occurrence is observed within coal banding, woody cellular fill structures, mineral overgrowths, and structural fills such as veins and microfaults.

Furthermore, the process of strip mining and backfilling these materials can increase the availability of trace metals to groundwater. These mining processes and practices lead to the physical weakening and enhanced weathering of rock which, along with changed hydrodynamics, can lead to elevated and highly variable concentrations across a historic mine site.

### **3.2.2 Uppermost Aquifer**

The principal aquifer system from a local and regional perspective is the Pottsville aquifer. The Pottsville aquifer is also the uppermost aquifer beneath the Site. In the Pottsville, two types of secondary porosity were observed to yield groundwater: (1) fractured intervals and (2) bedding plane weaknesses associated with fissile, siderite-banded, iron-claystone sequences. Fractured intervals are sporadic across the Site and tend to occur with greater density in the upper 100 feet of rock. The upper portions of the Pottsville aquifer



system beneath the proposed disposal facilities indicate unconfined to confined, fractured, and extremely anisotropic conditions. The Pottsville aquifer system functions as a series of confined to semi-confined water producing zones (aquifers) because of the large permeability contrasts within the strata (Stricklin, 1989). Depth to groundwater varies significantly across the Site and is wholly dependent on encountering a fractured interval or zone of fissile iron-claystone.

Monitoring wells installed at the mine overburden/top of rock interface monitor the quality of water passing to the Pottsville Formation. This water quality itself can be highly variable and enriched in trace metals owing to the heterogeneity of mine backfill deposits and mineralogy (e.g., clay minerals and sulfides). Based on published data, groundwater quality produced from the Pottsville Formation can be characterized by high concentrations of sulfate, iron, and other trace metals (Jennings and Cook, 2010). Trace metals in Pottsville Formation groundwater are associated with sulfide minerals contained in organic-rich strata (e.g., mudstones and coal seams) and siliceous/carbonate healed fractures and joints. Trace element enrichment is likely the result of migrating hydrothermal fluids generated during the late Paleozoic Allegheny orogeny (Diehl et al., 2004). Arsenic, antimony, molybdenum, selenium, copper, thallium, and mercury are elevated in Warrior Basin coal strata (Goldhaber et al., 2002).

### **3.2.3 Flow Interpretation**

Groundwater flow at the Site is a subdued replica of the natural topography where gravity is the dominant force driving flow. Groundwater flows from higher topographic elevations north of the Site to lower topographic elevations to the south and generally towards the Mulberry Fork of the Black Warrior River. Mine spoil layering and complex Pottsville Formation lithofacies contribute to the vertical and horizontal heterogeneity present within the aquifer system and overlying saturated mine spoils. This heterogeneity focuses groundwater flow along more permeable pathways, such as parallel to coal seams and bedding plains, or along vertical or sub-vertical discontinuities in the rock fabric. Semi-annual sampling event groundwater elevations are discussed in Section 4.0.

## **3.3 GROUNDWATER MONITORING SYSTEM**

Pursuant to 40 CFR § 257.91 and ADEM Admin. Code r. 335-13-15-.06(2), Plant Gorgas has installed a groundwater monitoring well network to evaluate groundwater quality within the uppermost aquifer. The certified groundwater monitoring system for the Plant Gorgas CCR Landfill is designed to monitor groundwater flow passing the waste boundary of the CCR unit. Wells were sited to serve as upgradient or

downgradient monitoring locations based on groundwater flow direction as determined by the potentiometric surface elevation contour maps. All groundwater monitoring wells were designed and constructed using “Design and Installation of Groundwater Monitoring Wells in Aquifers,” ASTM Subcommittee D18.21, as a guideline.

### **3.3.1 Monitoring Wells**

Well locations at the Site are designated as upgradient, downgradient, and piezometer (water-level only). The following subsections provide a summary of well designations and, if applicable, changes or modifications to the well network or designations. As described in the Site Groundwater Monitoring Plan, modifications to the well network or designation must first be approved by ADEM.

On April 13, 2023, the ground surface and top of casing elevations for all onsite wells were resurveyed by a licensed Professional Land Surveyor. Based on our review of the reported elevations, the measured ground surface and top of casing elevations of monitoring well MW-6 were verified on October 25, 2023. The location and designation of site wells are presented in **Figure 5, Monitoring Well Location Map. Table 1, Compliance Monitoring Well Network Details**, summarizes the monitoring well construction details, surveyed elevations, and design purpose for the Plant Gorgas CCR Landfill.

#### **3.3.1.1 Upgradient Wells**

Data used to establish background water quality or selection of upgradient wells include (1) review of groundwater elevation data and potentiometric surface contour maps to determine groundwater flow direction and (2) a screening of Appendix III CCR indicator parameters for apparently elevated concentrations.

Monitoring well locations MW-1 through MW-4 serve as upgradient locations for the CCR Landfill. Upgradient wells are screened within the same hydrostratigraphic interval as downgradient locations and are representative of background groundwater quality at the Site. Groundwater generally flows from higher topographic elevations north of the Site to lower topographic elevations to the south. Upgradient wells are located north of the CCR Landfill as determined by water level monitoring and potentiometric surface maps constructed for the Site.

### **3.3.1.2 Downgradient Wells**

Monitoring well locations MW-5 through MW-8 serve as downgradient locations for the Gorgas CCR Landfill. Downgradient locations are located lateral to and south of the CCR Landfill as determined by water level monitoring and potentiometric surface maps.

### **3.3.1.3 Piezometers**

One piezometer, identified as MW-9R, is located immediately east of the CCR Landfill and is currently designated as a water level only piezometer. Additional assessment of this well is required before it can be considered for inclusion into the facility's groundwater monitoring network. The location of piezometer MW-9R relative to the CCR Landfill is depicted on **Figure 5** for reference.

### **3.3.1.4 Monitoring Well Replacement and Abandonment**

Monitoring well replacement or abandonment activities were not performed during the first or second 2023 semi-annual monitoring period.

## **3.4 GROUNDWATER MONITORING HISTORY**

In accordance with 40 CFR § 257.94(b) and ADEM Admin. Code r. 335-13-15-.06(5)(b), eight independent samples were collected from each upgradient and downgradient well and analyzed for the constituents listed in Appendix III and IV prior to October 17, 2017. Background groundwater monitoring was performed at the Gorgas CCR Landfill from April 2016 through October 2017. Groundwater sampling for the first detection monitoring event after the background period was performed in November 2017.

Based on results of the 2017 Annual Groundwater and Corrective Action Monitoring Report, APC initiated an assessment monitoring program on January 15, 2018. Pursuant to 40 CFR § 257.95(a) and ADEM Admin. Code r. 335-13-15-.06(6)(a), monitoring wells were sampled for all Appendix IV parameters in February 2018, within 90 days of initiating the assessment monitoring program. Semi-annual assessment sampling has continued since the conclusion of background sampling and initiation of assessment monitoring.

### **3.4.1 Available Monitoring Data**

Laboratory analytical data are available for the groundwater monitoring history outlined in **Section 3.4**. Tabulated results for Appendix III and Appendix IV constituents by monitoring well are included in **Appendix A, Historical Analytical Data Summary**.

### **3.4.2 Historical Groundwater Flow**

Historical groundwater elevations and potentiometric surface maps show that groundwater flow patterns are consistent across monitoring events and as described in **Section 3.2.3**. Tables summarizing groundwater elevations from all groundwater monitoring events are included in **Appendix B, Historical Groundwater Elevations Summary**.

### **3.4.3 Monitoring Variance**

The groundwater monitoring program at the Site is operating under a Variance granted by ADEM on April 15, 2019, to conform State monitoring requirements under the CCR rule to Federal requirements. The variance:

1. Retains boron as an Appendix III detection monitoring parameter and excludes it as an Appendix IV assessment monitoring parameter.
2. Authorizes the use of Federally-published groundwater protection standards (GWPS) of 0.006 milligrams per liter (mg/L) for cobalt; 0.015 mg/L for lead; 0.040 mg/L for lithium; and 0.100 mg/L for molybdenum in lieu of background where those levels are greater than background levels.

## **3.5 GROUNDWATER SAMPLING AND ANALYSIS**

Site compliance wells are sampled for groundwater on a semi-annual basis. The spacing between sampling events is sufficient to ensure sampling events yield independent groundwater samples and generally represent different climatic or meteorological seasons that create a degree of natural variability in groundwater quality.

During routine semi-annual monitoring events, all compliance wells are sampled and analyzed for Appendix III and Appendix IV constituents. The following subsections summarize the sequential steps and process for the sampling, handling and transport, and analysis of compliance-related groundwater samples at the Site.

### **3.5.1 Groundwater Sample Collection**

Prior to recording water levels and collecting samples, each well was opened and allowed to equilibrate to atmospheric pressure. Within a 24-hour period, depths to groundwater were measured to the nearest 0.01 foot with an electronic water level indicator with depth referenced from the top of the inner PVC well

casing. Groundwater elevations were calculated by subtracting the depth to groundwater from surveyed top-of-casing (TOC) elevations.

Groundwater samples were collected from monitoring wells using low-flow sampling procedures in accordance with 40 CFR § 257.93(a) and ADEM Admin. Code r. 335-13-15-.06(4)(a). All monitoring wells at Plant Gorgas are equipped with a dedicated pump. Monitoring wells were purged and sampled using low-flow sampling procedures. In this procedure, field water quality parameters (pH, turbidity, conductivity, and dissolved oxygen) are measured to determine stabilization. Groundwater samples are subsequently collected when the following stabilization criteria are met:

- 0.2 standard units for pH.
- 5% for specific conductance.
- 0.2 Mg/L or 10% for DO > 0.5 mg/l (whichever is greater).
- Turbidity measurements less than 10 NTU.
- Temperature and ORP – record only, no stabilization criteria.

During purging and sampling an in-situ Aqua Troll instrument was used to monitor and record field parameters. All downhole groundwater monitoring equipment was calibrated prior to sample collection per the manufacturer's specifications outlined in the Alabama Power Environmental Affairs (EA) Water and Field Group (WFG) Technical Standard Operating Procedure, dated December 14, 2021.

Once stabilization was achieved, samples were collected and submitted to the laboratory following standard chain-of-custody (COC) protocol. Field data recorded in support of groundwater sampling activities for the monitoring events are included in **Appendix C, Laboratory and Field Records**.

### **3.5.2 Sample Preservation and Handling**

Groundwater samples were collected in the designated size and type of laboratory-supplied containers required for specific parameters. Sample bottles were pre-preserved by the laboratory.

Where temperature control was required, samples were placed in an ice-packed cooler and cooled to less than 6 °C immediately after collection. Blue ice or other cooling packs were not used for cooling samples. An ice-packed cooler was on hand when samples were collected.

### 3.5.3 Chain of Custody

A COC record was used to track sample possession from the time of collection to the time of receipt at the laboratory. All samples were handled under strict COC procedures beginning in the field. COC records are included with the analytical laboratory reports included in **Appendix C**.

### 3.5.4 Laboratory Analysis

Laboratory analyses were performed by the APC Environmental Laboratory (APCEL) in Calera, Alabama or Pace Analytical Services, LLC (Pace) in Greensburg, Pennsylvania. Both APCEL and Pace are accredited by National Environmental Laboratory Accreditation Program (NELAP) and maintain a NELAP certification for all parameters analyzed. **Table 2, Parameters and Reporting Limits**, lists assessment monitoring constituents analyzed from Site groundwater samples. Groundwater data and COC records for both the first and second monitoring events are presented in **Appendix C**.

### 3.5.5 Monitoring Period Sampling Events

As required by 40 CFR § 257.90(e) and ADEM Admin. Code r. 335-13-15-.06(1)(f), the following describes monitoring-related activities performed during the first and second semi-annual 2023 monitoring periods that took place between February 20 and 22, 2023 and August 15 through August 22, 2023.

Groundwater samples were analyzed for the full list of Appendix III and Appendix IV parameters during the Assessment Monitoring events. All groundwater sampling activities were conducted by APC Field and Water Services. Pace Analytical Services performed the laboratory analyses of Radium-226 and Radium-228 (reported combined). APCEL performed the remaining Appendix III and Appendix IV analyses. Analytical data from the groundwater monitoring events are included as **Appendix C**, in accordance with the requirements of 40 CFR § 257.90(e)(3) and ADEM Admin. Code r. 335-13-15-.06(1)(f)3.

#### 4.0 GROUNDWATER ELEVATIONS AND FLOW

During the first semi-annual sampling event, groundwater elevations ranged from 320.13 to 419.16 feet NAVD88 (feet above reference 1988 North American Vertical Datum) in CCR Landfill monitoring wells. **Figure 6A, Potentiometric Surface Contour Map (February 20, 2023)** depicts groundwater elevations and inferred groundwater flow direction. Based on our review of the measured elevations, downgradient compliance well MW-6 and additional monitoring wells located in the area immediately surrounding the Gorgas CCR Landfill were resurveyed in October of 2023. The potentiometric surface map for the first semi-annual event conducted on February 20, 2023 (**Figure 6A**) was revised to include the most recent survey data. During the second semi-annual sampling event, groundwater elevations ranged from 307.45 to 417.63 feet NAVD88 (feet above reference 1988 North American Datum) in CCR monitoring wells. **Figure 6B, Potentiometric Surface Contour Map (August 15, 2023)** depicts groundwater elevations and inferred groundwater flow.

As shown on **Figures 6A** and **6B**, the general direction of lateral groundwater flow is to the southeast, consistent with historic observations. As indicated by groundwater elevations from paired wells MW-12 and MW-12V at the nearby Bottom Ash Landfill, an upward vertical gradient appears to exist between shallow and deeper flow zones. This indicates (1) both vertically confining conditions exist and (2) deeper, older groundwater is upward flowing. Recent available groundwater elevation data collected from the first and second 2023 semi-annual sampling events have been tabulated and included in **Table 3, Groundwater Elevations Summary**. All available groundwater elevation data recorded since 2015 have been tabulated and included in **Appendix B**.

#### 4.1 GROUNDWATER FLOW VELOCITY CALCULATIONS

Because the geology at the CCR Landfill is not homogeneous or isotropic with respect to groundwater flow, groundwater velocity calculations using derivations of Darcy's Law, or other methods, will not fully represent the spatial variability across the Site. Groundwater flow velocity calculations are provided as a general estimate of groundwater flow velocity at the Site based on available information and assumptions described below.

The hydrogeologic characteristics of mine spoils and fractured rock can produce preferential groundwater flow paths, so groundwater velocity is much more variable than in uniform porous media such as sand. These flow paths correspond to more permeable lenses in mine spoil and fractures, zones of fracture concentration, bedding planes, and other discontinuities in the rock. Therefore, groundwater flow velocity at the Site will be highly variable.

Slug testing provided horizontal hydraulic conductivities for the uppermost aquifer between  $5.11 \times 10^{-3}$  centimeters per second (cm/sec) and  $2.47 \times 10^{-4}$  cm/sec. The average hydraulic conductivity value used in the calculations is  $2.83 \times 10^{-3}$  cm/sec or 8.01 feet/day. An estimated effective porosity of 0.15 is used in the flow rate calculations. The hydraulic gradient was calculated between well pairs shown in **Appendix D, Horizontal Groundwater Flow Velocity Calculations**.

Horizontal flow velocity was calculated using the commonly used derivative of Darcy's Law:

$$V = \frac{K * i}{n_e}$$

Where:

$V$  = Groundwater flow velocity  $\left(\frac{feet}{day}\right)$

$K$  = Average permeability of the aquifer  $\left(\frac{feet}{day}\right)$

$i$  = Horizontal hydraulic gradient

$n_e$  = Effective porosity

Using this equation, horizontal groundwater flow velocity is calculated for the Site. **Appendix D** presents the horizontal flow velocities calculated using groundwater elevation data collected from the first and second 2023 semi-annual assessment monitoring events.



## 5.0 EVALUATION OF GROUNDWATER QUALITY DATA

During each sampling event, quality assurance/quality control samples (QA/QC) were collected at an interval of one sample per group of 10 well samples. These QA/QC samples include well duplicates, equipment blanks, and field blanks. Routine analyses of field QA/QC samples are a method for evaluating whether artificial bias could have been introduced into lab results by ways of sampling activities or equipment.

### 5.1 DATA VALIDATION – QUALITY ASSURANCE/QUALITY CONTROL

Analytical precision is measured through the calculation of the relative percent difference (RPD) of two data sets generated from a similar source. Here, a comparison of results between samples and field duplicate samples are used as measure of laboratory precision. Where field duplicates are collected, the RPD between the sample and duplicate sample is calculated as:

$$RPD = \frac{Conc1 - Conc2}{(Conc1 + Conc2)/2}$$

Where:

RPD = Relative Percent Difference (%)

Conc1 = Higher concentration of the sample or field duplicate

Conc2 = Lower concentration of the sample or field duplicate

Where the RPD is below 20%, the difference is considered acceptable, and no further action is needed. Where an RPD is greater than 20%, further evaluation is required to attempt to determine the cause of the difference and potentially result in qualified data. **Table 4, Relative Percent Difference (RPD) Calculations**, provides the RPDs for sample and sample duplicates during the first and second semi-annual monitoring events of 2023. All RPDs in this reporting period were reported as being below 20%.

## 5.2 STATISTICAL METHODOLOGY AND TESTS

The Sanitas groundwater statistical software is used to perform the statistical analyses. Sanitas is a decision support software package that incorporates the statistical tests required of Subtitle C and D facilities by EPA regulations. The analysis complies with the federal rule for the Disposal of Coal Combustion Residuals from Electric Utilities (CCR Rule, 2015) as well as with the USEPA Unified Guidance (2009).

### 5.2.1 Appendix III Evaluation

Intrawell prediction limits, combined with a 1-of-2 verification resample plan, are used to evaluate calcium, chloride, fluoride, sulfate, and total dissolved solids (TDS). Interwell prediction limits, combined with a 1-of-2 verification resample plan, are used for boron and pH to determine whether there has been an SSI over background groundwater quality. Intrawell prediction limits use screened historical data within a given well to establish limits for parameters at that well. The most recent sample from the same well is compared to its respective background to identify SSIs over background. Interwell prediction limits pool upgradient well data to establish a background limit for an individual constituent. The most recent sample from each downgradient well is compared to the background limit to identify SSIs.

Groundwater Stats Consulting demonstrated that these test methods were appropriate in the October 2017 Statistical Analysis Plan, which was updated in the September 2019 data screening evaluation. Time series plots were used to screen proposed background data for suspected outliers, or extreme values that would result in limits that are not conservative from a regulatory perspective. Suspected outliers at all wells for Appendix III parameters are formally tested using Tukey's box plot method and, when identified, flagged in the computer database.

The following adjustments were made:

- No statistical analyses are required on wells and analytes containing 100% non-detects (EPA Unified Guidance, 2009, Chapter 6).
- When data contain <15% non-detects in the background, simple substitution of one-half the reporting limit is used in the statistical analysis. The reporting limit used for non-detects is the practical quantitation limit (PQL) as reported by the laboratory.
- When data contain between 15-50% non-detects, the Kaplan-Meier non-detect adjustment is applied to the background data
- Non-parametric prediction limits are used on data containing greater than 50% non-detects.

### 5.2.2 Appendix IV Evaluation

When in assessment monitoring, Appendix IV constituents are sampled semi-annually, and concentrations are compared to GWPS. Following the Unified Guidance, spatial variation for Appendix III parameters is tested using the ANOVA; this test is not prescribed for Appendix IV constituents. Unlike the statistical evaluation of Appendix III constituents (where single-sample results are compared to the statistical limit), Appendix IV analysis uses the pooled results from each downgradient well to develop a well-specific Confidence Interval that is compared to the statistical limit. The statistical limit is either the Interwell Tolerance limit (i.e., background) calculated using the pool of all available upgradient well data (see Chapter 7 of the Unified Guidance), or an applicable groundwater protection standard such as the MCL. Appendix IV background data are screened for outliers and extreme trending patterns that would lead to artificially elevated statistical limits.

Parametric tolerance limits (UTL) were calculated using pooled upgradient well data for Appendix IV parameters with a target of 95% confidence and 95% coverage. The confidence and coverage levels for nonparametric tolerance limits are dependent on the number of background samples. The UTLs were then used as the GWPS.

As described in 40 CFR §§ 257.95(h)(1)-(3) and the ADEM variance the GWPS is:

- (1) The maximum contaminant level (MCL) established under 40 CFR §§ 141.62 and 141.66.
- (2) Where an MCL has not been established:
  - (i) Cobalt 0.006 mg/L.
  - (ii) Lead 0.015 mg/L.
  - (iii) Lithium 0.040 mg/L.
  - (iv) Molybdenum 0.100 mg/L.
- (3) Background levels for constituents where the background level is higher than the MCL or rule specified GWPS.

In assessment monitoring, when the Lower Confidence Limit (LCL), or the entire interval, exceeds the GWPS as discussed in the USEPA Unified Guidance (2009), the result is recorded as an SSL. GWPS for Appendix IV constituents are updated on a biennial schedule. This schedule was initiated in 2019 with updates generally occurring after the second semi-annual sampling event of each biennial year. Data from upgradient wells collected between updates may still be used to support ASDs, if merited.

### 5.3 STATISTICAL EXCEEDANCES

Analytical data from the first and second semi-annual monitoring events in 2023 were statistically analyzed in accordance with the Professional Engineer (PE)-certified Statistical Analysis Plan (October 2017) and revised in September 2019 data screening evaluation performed by Groundwater Stats Consulting. Appendix III statistical analysis was performed to determine if constituents had returned to background levels. Appendix IV assessment monitoring parameters were evaluated to determine if concentrations statistically exceeded the established groundwater protection standard.

#### 5.3.1 Appendix III Constituents

Based on review of the Appendix III statistical analysis presented in **Appendix E, Statistical Analysis**, Appendix III constituents have not returned to background levels.

#### 5.3.2 Appendix IV Constituents

**Table 5, Summary of Background Levels and Groundwater Protection Standards**, summarizes the background limit established at each monitoring well and the GWPS. A summary table of the statistical limits accompanies the prediction limits in **Appendix E**.

Statistical analysis of Appendix IV data presented in **Appendix E** did not identify any Appendix IV SSLs during the first or second semi-annual monitoring events for 2023. **Table 6, First Semi-Annual Monitoring Event Analytical Results Summary** provides a summary of all constituent concentrations for the 2023 first semi-annual monitoring event. **Table 7, Second Semi-Annual Monitoring Event Analytical Results Summary**, provides a summary of all constituent concentrations for the second semi-annual monitoring event of 2023.

## **6.0 ALTERNATE SOURCE DEMONSTRATION**

40 CFR § 257.95(g)(3)(ii) and ADEM Admin. Code r. 335-13-15-.06(6)(g)4.(ii) allow the owner or operator to demonstrate that a source other than the CCR unit has caused an SSL and that the SSL was the result of an alternate source, or that the SSL resulted from errors in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. An ASD was prepared for lithium and submitted to ADEM in January 2019.

As discussed in the ASD report, the apparent SSL is the result of the presence of mine spoils and natural groundwater chemistry variability not accounted for by Site statistics. Analytical data from the first semi-annual monitoring event in January 2018 were statistically analyzed in accordance with the Professional Engineer (PE)-certified Statistical Analysis Plan (October 2017) and updated in September 2019 data screening evaluation performed by Groundwater Stats Consulting. A lithium statistical limit of 0.419 mg/L was calculated using the pool of all available upgradient well data in the updated September 2019 data screening evaluation. Consequently, there are no historical exceedances of lithium associated with the CCR Landfill.

The ASD satisfies Federal rules and precludes the need to complete an ACM under 40 CFR § 257.96. However, ADEM has yet to approve the ASD for lithium, and consequently an ACM is required according to the State rules (ADEM Admin. Code r. 335-13-15-.06(6)(g)5.). APC amended the current Plant Gorgas ACM that was prepared under 40 CFR § 257.96, ADEM Admin. Code r. 335-13-15-.06(7), and AO No. 18-096-GW to include the CCR Landfill in February 2020.

## **7.0 GROUNDWATER DELINEATION**

As required by Part E of the Order (AO No. 18-096-GW) and correspondence from ADEM (March 2021), this report provides an update on groundwater delineation activities completed since the submittal of the Facility Plan for Groundwater Investigation (November 13, 2018). The primary purpose of this plan was to identify the horizontal and vertical extent of groundwater impacts defined by EPA Appendix IV groundwater protection standards.

As described in the Facility Plan for Groundwater Investigation for the Plant Gorgas CCR Landfill, source characterization and groundwater delineation efforts are not required pursuant to applicable rules because GWPS are not exceeded at the CCR Landfill. SSLs of the Appendix IV constituent lithium were identified in one well while in assessment monitoring. Consequently, an ASD was submitted to ADEM for lithium SSLs above the GWPS in January 2019. However, since that submittal, SSLs have not been observed at the Site. Pending ADEM review and approval of the ASD, APC will continue assessment monitoring at the CCR Landfill.

APC completed an ACM report submitted to ADEM in June 2019 to address the occurrence of constituents in groundwater at SSLs at the Plant Gorgas Ash Pond and Gypsum Pond. In February 2020, Alabama Power revised the ACM to include the CCR Landfill. As described above, there have not been any SSLs at the Site since 2018, and therefore, does not warrant the implementation of groundwater corrective action remedies.

## **8.0 SUMMARY AND CONCLUSIONS**

Based on the results of statistical analysis presented in this report, the CCR Landfill remains in assessment monitoring. The certified compliance monitoring well network is sampled on a semi-annual basis and groundwater samples are analyzed for all Appendix III and IV parameters. Statistical evaluations of the first and second 2023 semi-annual assessment monitoring data did not identify SSLs of Appendix IV constituents.

An ASD was prepared to address the lithium GWPS exceedances at compliance well MW-6 and submitted to ADEM in January 2019. In addition, since the submittal of this ASD, SSLs have not been observed at the Site. However, ADEM has not yet approved the ASD, so APC has amended the current Plant Gorgas ACM to include the CCR Landfill. The pending ASD review decision by ADEM has direct implications on future actions for the Site. If approved, the Site will remain in assessment monitoring and corrective actions will not necessitate further evaluation.

In accordance with 40 CFR § 257.95(d) and Alabama Admin. Code r. 335-13-15-.06(6)(d), APC will continue semi-annual assessment monitoring. The CCR Landfill concluded the monitoring period in assessment monitoring. The following future actions will be taken or are recommended for the Site:

- Evaluation of collected MNA parameter data and ongoing compliance monitoring.
- Conduct the first semi-annual assessment monitoring event in 2024 and submit the semi-annual Groundwater Monitoring and Corrective Action Report summarizing the findings to ADEM by July 31, 2024.

## 9.0 REFERENCES

- Alabama Department of Environmental Management (ADEM), 2018, Solid Waste Program, Division 13, ADEM Admin. Code r. 335-13-15.
- Alabama Power Company (APC) Environmental Affairs (EA) Water and Field Group (WFG), 2021, Technical Standard Operating Procedure.
- Anchor QEA, 2021, Semi-Annual Remedy Selection and Design Progress Report Plant Gorgas.
- ASTM Standard D5092, 2004(2010)e1, Standard Practice for Design and Installation of Groundwater Monitoring Wells, ASTM International, West Conshohocken, PA, DOI 10.1520/D5092-04R10E01, [www.astm.org](http://www.astm.org).
- Bragg, L.J., Oman, J.K., Tewalt, S.J., Oman, C.L., Rega, N.H., Washington, P.M., and Finkelman, R.B., 1997, U.S. Geological Survey Coal Quality (COALQUAL) database; version 2.0, U.S.
- Diehl, S.F., Goldhaber, M.B., and Hatch, J.R., 2004, Modes of occurrence of mercury and other trace-elements in coals from the warrior field, Black Warrior Basin, Northwestern Alabama, *International Journal of Coal Geology*, v. 59, p. 193-208.
- Geological Survey of Alabama (GSA), 2010b, Digital Geologic Map of Alabama, URL: <http://www.gsa.state.al.us>, accessed November, 2010.
- Goldhaber, M.B., Lee, R.C., Hatch, J.R., Pashin, J.C., and Treworgy, J., 2002, The role of large-scale fluid flow in subsurface arsenic enrichment, In: Welch, A., Stollenwerk, K (Eds.), *Arsenic in Ground Water: Occurrence and Geochemistry*, v. 5, p. 127-176.
- Jennings, S.P., and Cook, M.R., 2010, A Report to the Hanceville Water Works and Sewer Board, Open File Report 1001.
- Kolker, A., and Nordstrom, D.K. 1997, Occurrence and Micro-Distribution of Arsenic in Pyrite, U.S. Geological Survey.
- O'Rear, D.M., Wahl, K.D., and Jefferson, P.O., 1972, Water availability and geology of Walker County, Alabama: Geological Survey of Alabama Map 120, 21p.
- Palmer, C.A., Oman, C.L., Park, A.J., and Luppens, J.A., 2015, The U.S. Geological Survey coal quality (COALQUAL) database version 3.0: U.S. Geological Survey Data Series 975, 43 p.with appendixes, <http://dx.doi.org/10.3133/ds975>.
- Pashin, J.C., and Raymond, D.E., 2004, Glacial-eustatic control of coalbed methane reservoir distribution (Pottsville Formation; Lower Pennsylvanian) in the Black Warrior Basin of Alabama: Tuscaloosa, Alabama, University of Alabama College of Continuing Studies, 2004 International Coalbed Methane Symposium Proceedings, Paper 0413, 15 p.
- Pashin, J.C., 2007, Hydrodynamics of Coalbed Methane Reservoirs in the Black Warrior Basin: Key to Understanding Reservoir Performance and Environmental Issues, *Applied Geochemistry*, v. 22, I. 10, p. 2257-2272.
- Raymond, D.E., Osborne, W.E., Copeland, C.W. Jr, and Neathery, T.L., 1988, Alabama Stratigraphy: Alabama Geological Survey Circular, v. 140, p. 1-97.
- Sapp, C.D., and Emplaincourt, J., 1975, Physiographic regions of Alabama, Special Map 168, Geological Survey of Alabama.
- Southern Company Services, Inc., 2021, 2020 Annual Groundwater Monitoring and Corrective Action Report.



Stricklin, V.E., 1989, Geohydrology and Susceptibility of Major Aquifers to Surface Contamination in Alabama: Area 3, U.S. Geological Survey, Water-Resources Investigations Report 88-4120.

USEPA. 2009. Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance.

USEPA. 2011. Data Validation Standard Operating Procedures. Science and Ecosystem Support Division. Region IV. September.

USEPA. 2014. National Functional Guidelines for Inorganic Superfund Data Review. Office of Superfund Remediation and Technology Innovation (OSRTI). August.

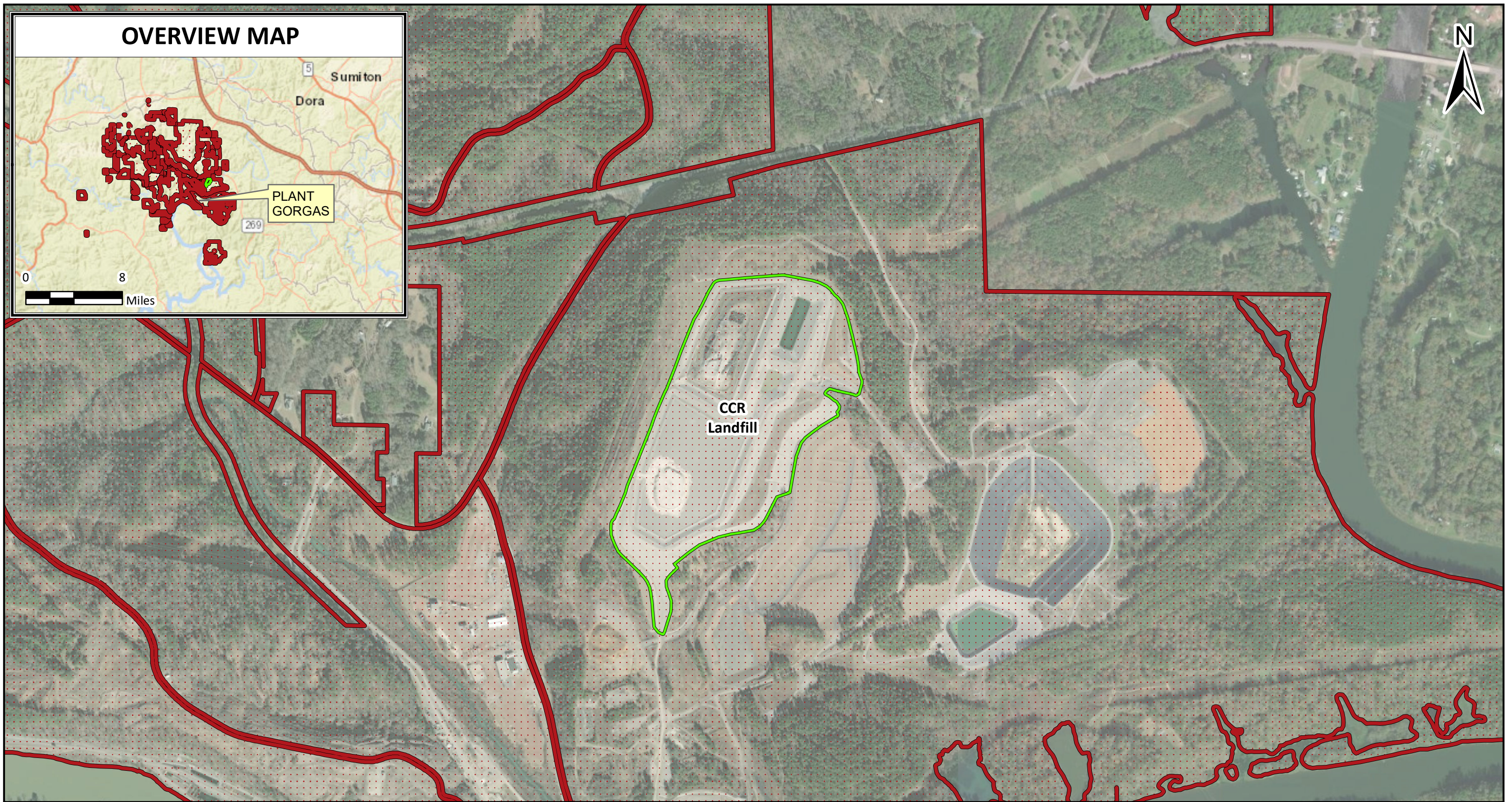
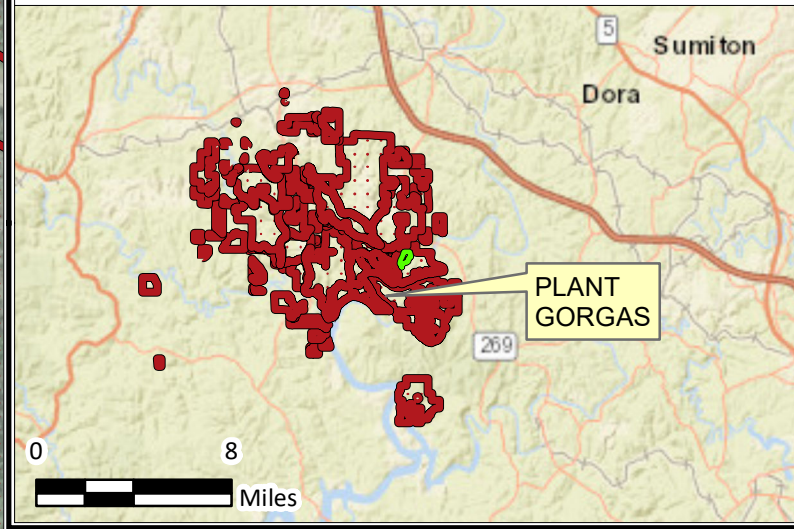
USEPA. 2015. Federal Register. Volume 80. No. 74. Friday April 17, 2015. Part II. Environmental Protection Agency. *40 CFR Parts 257 and 261. Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule.* [EPA-HQ-RCRA-2009-0640; FRL-9919-44-OSWER].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

United States Geological Survey (USGS), 1975 (Photo revised 1983), Goodsprings Quadrangle, 7.5 Minute Series Topographic Map.



Ward II, W.E., Barnett, R.L., Rheams, L.J., 1989, Coal Resources of Walker County, Alabama, Geological Survey of Alabama, Special Map 205.

# Figures

# OVERVIEW MAP



**LEGEND**

-  CCR Landfill Boundary (Approximate)
-  Property Boundary (Approximate)



Projection: NAD 1983 State Plane Alabama West FIPS 0102 Feet  
 Base Map:Maxar Vivid Standard, 1/07/2023 (west);  
 Maxar Vivid Standard, 11/14/2020 (east)

SCALE 1:9,000

DATE 10/18/2023

DRAWN BY KAR

CHECKED BY AWH

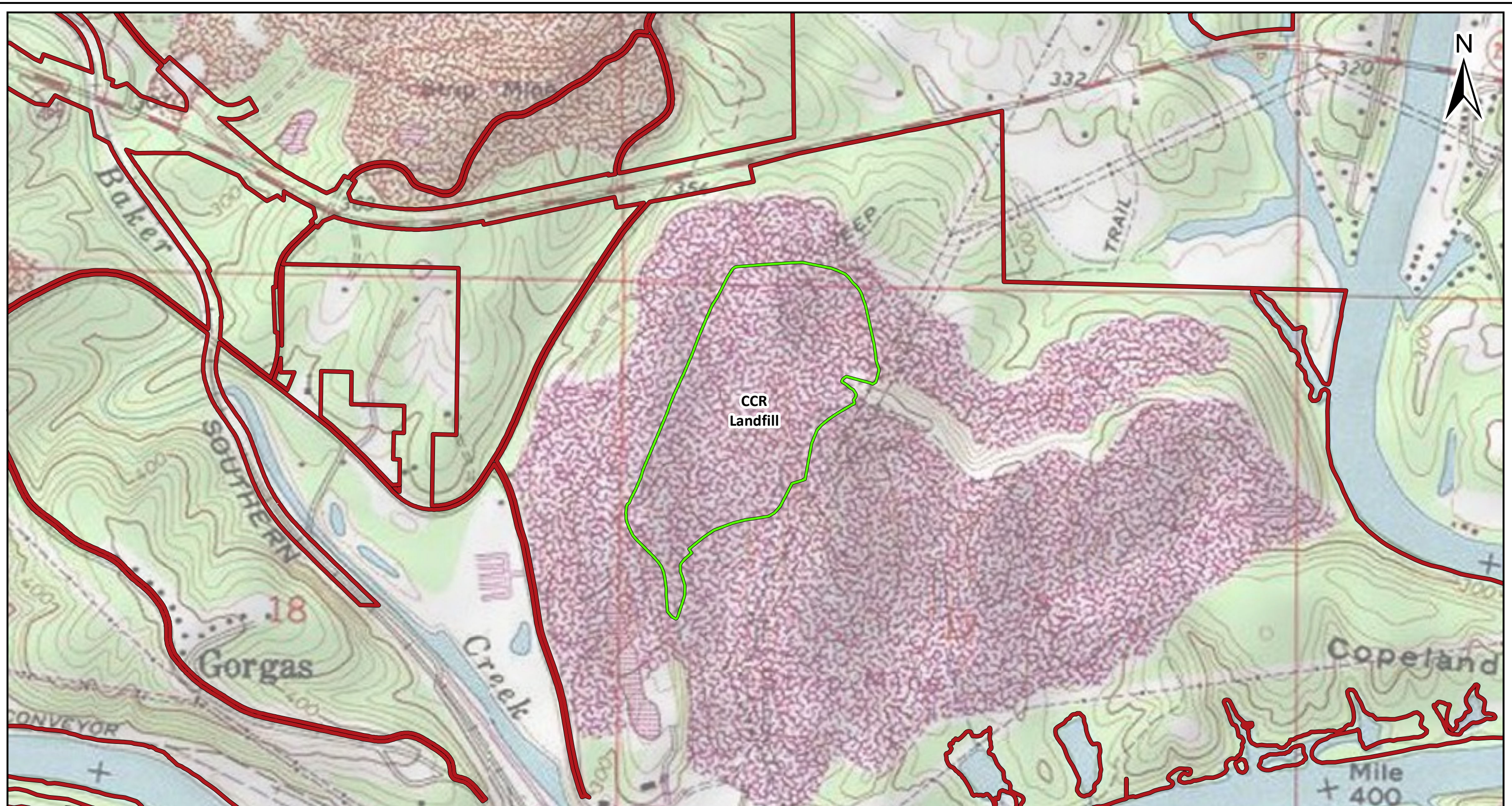
DRAWING TITLE:

**SITE LOCATION MAP  
 PLANT GORGAS CCR LANDFILL**

FIGURE NO.

**FIGURE 1**





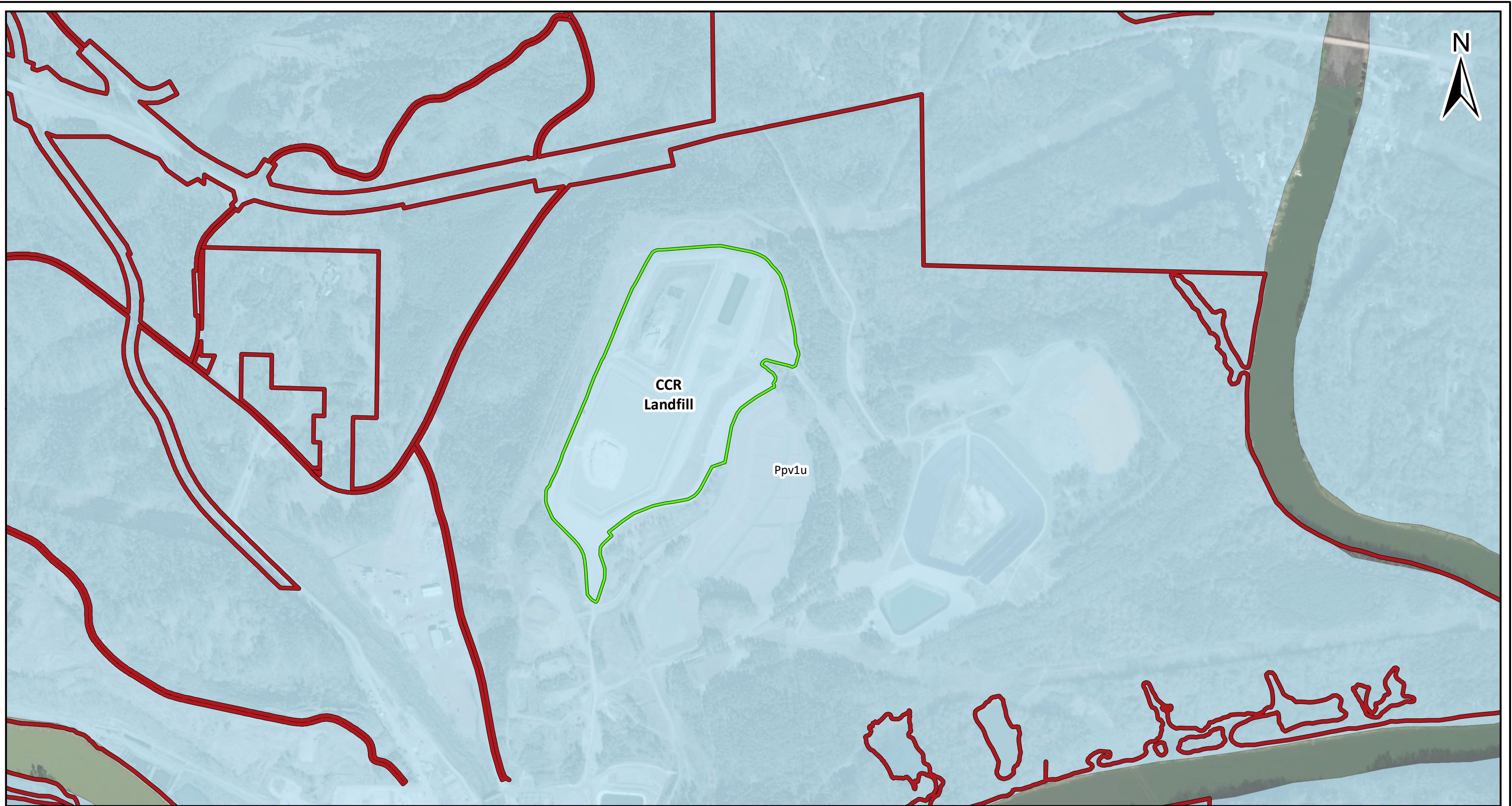
**LEGEND**



- CCR Landfill Boundary (Approximate)
- Property Boundary (Approximate)



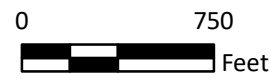
Projection: NAD 1983 State Plane Alabama West FIPS 0102 Feet  
 Base Map: Goodsprings, Alabama 1971 (Photorevised 1983) US  
 Geological Survey 7.5' Topographic Quadrangle.

SCALE	1:9,000	DRAWING TITLE: <b>SITE TOPOGRAPHIC MAP PLANT GORGAS CCR LANDFILL</b>	
DATE	10/18/2023		
DRAWN BY	KAR	FIGURE NO. <b>FIGURE 2</b>	
CHECKED BY	AWH		




 CCR Landfill Boundary (Approximate)  
 Property Boundary (Approximate)

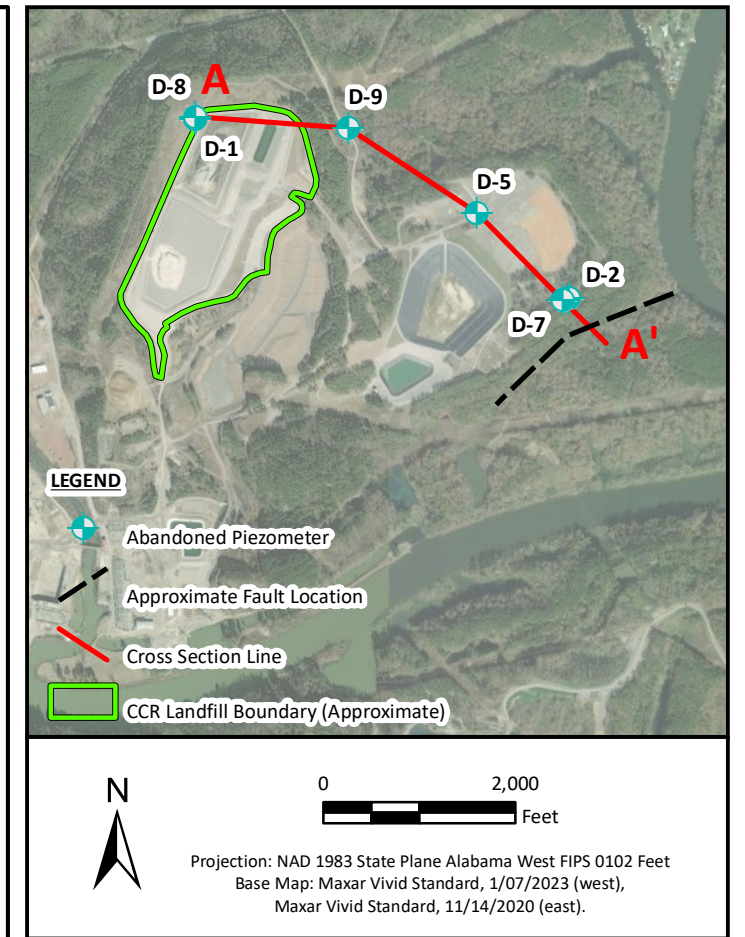
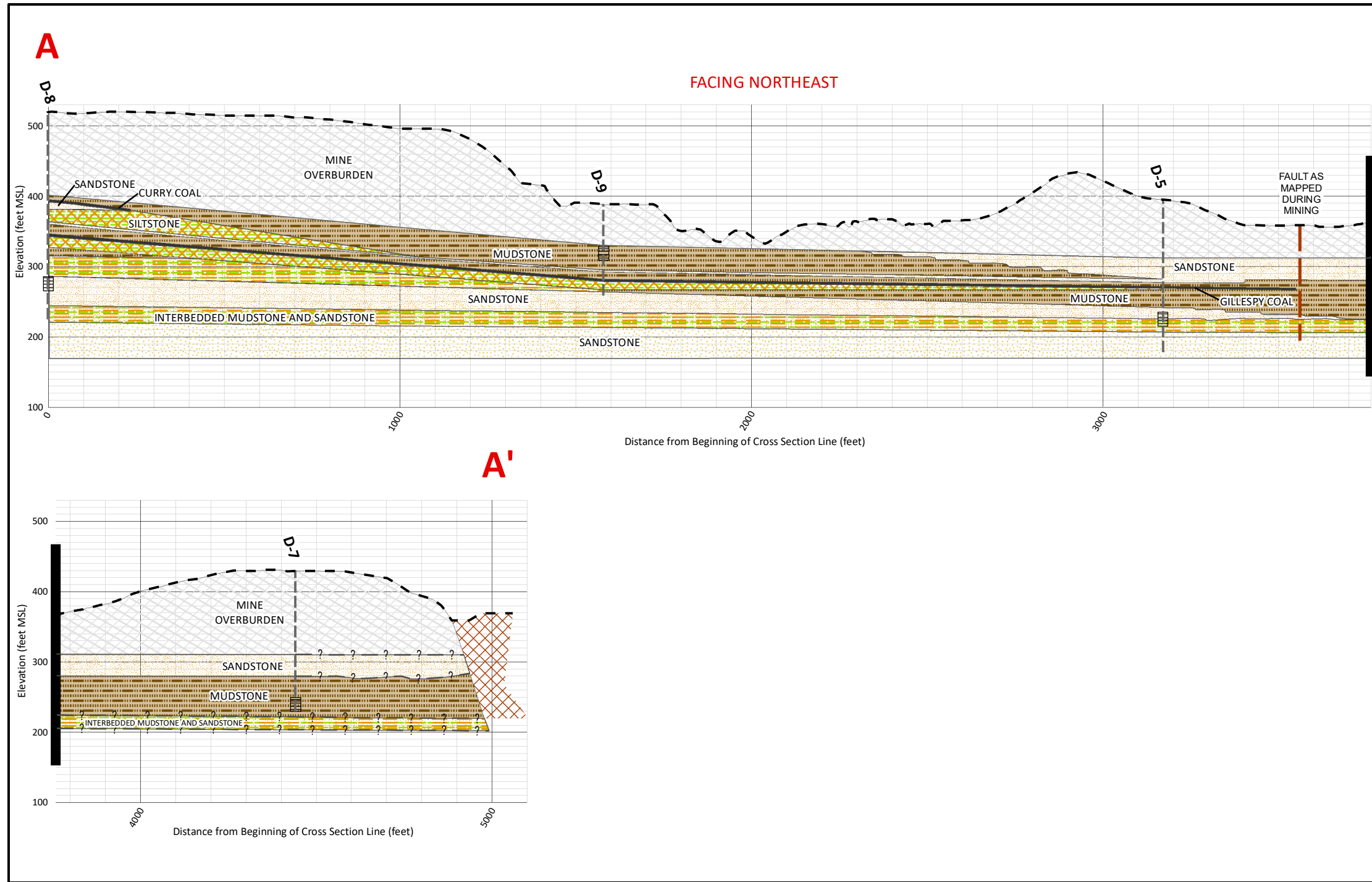
Geologic Units  
 Pottsville Formation (upper part), Appalachian Plateaus (Ppv1u)



Projection: NAD 1983 State Plane Alabama West FIPS 0102 Feet  
 Base Map: Maxar Vivid Standard, 1/07/2023 (west),  
 Maxar Vivid Standard, 11/14/2020 (east).

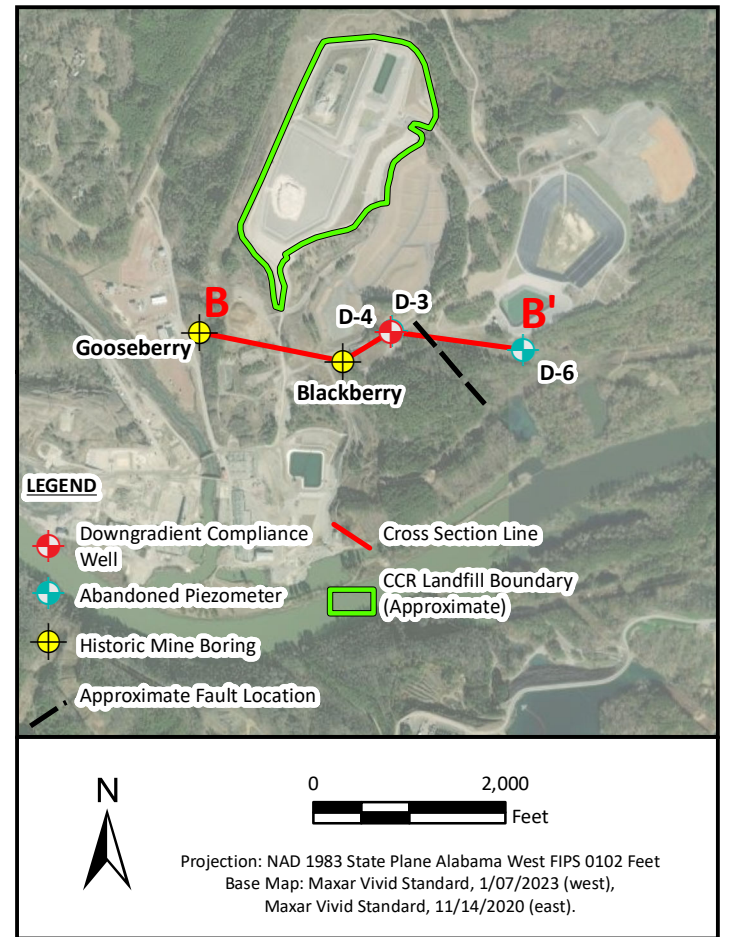
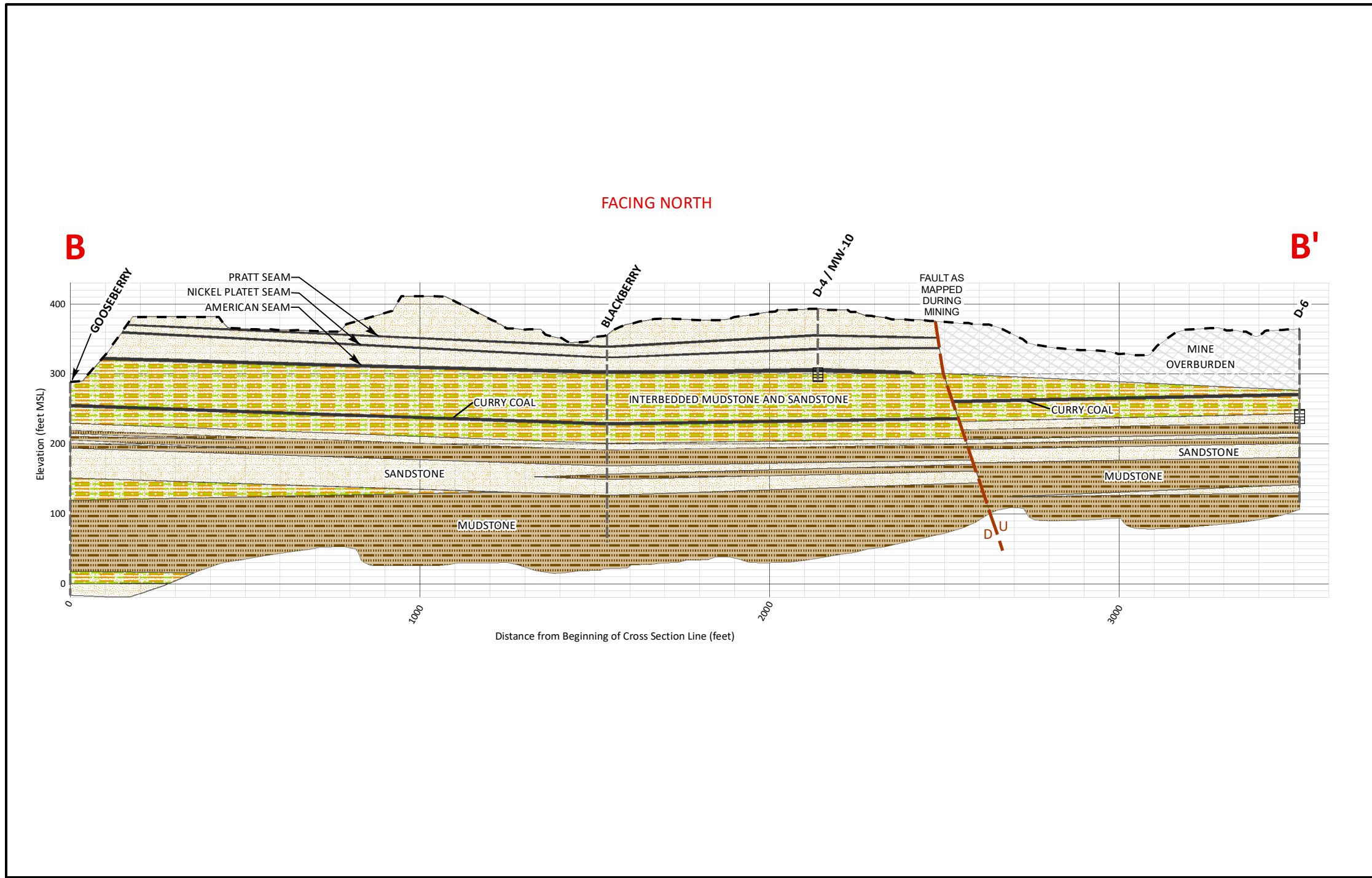
SCALE	1:9,000
DATE	11/09/2023
DRAWN BY	KAR
CHECKED BY	AWH

DRAWING TITLE:		<b>SITE GEOLOGIC MAP          PLANT GORGAS CCR LANDFILL</b>
FIGURE NO.		
<b>FIGURE 3</b>		



Notes: 1. Cross section digitized from 2016 Southern Company Services data.  
2. Feet MSL indicates feet above mean sea level.  
3. Vertical exaggeration: 2x.

<b>LEGEND</b> 	<b>Geologic Units</b> 		SCALE AS SHOWN	DRAWING TITLE <b>GEOLOGIC CROSS SECTION A - A'</b> <b>PLANT GORGAS CCR LANDFILL</b>	
			DATE 11/03/2023		
			DRAWN BY KAR	FIGURE NO FIGURE 4A	
			CHECKED BY AWH		



Notes: 1. Cross section digitized from 2016 Southern Company Services data.  
 2. Feet MSL indicates feet above mean sea level.  
 3. Vertical exaggeration: 2x.

<b>LEGEND</b> 	<b>Geologic Units</b> 		SCALE AS SHOWN	DRAWING TITLE <b>GEOLOGIC CROSS SECTION B - B'          PLANT GORGAS CCR LANDFILL</b>	
			DATE 11/15/2023		
			DRAWN BY KAR	FIGURE NO <b>FIGURE 4B</b>	
			CHECKED BY AWH		



- LEGEND**
- ◆ Downgradient Compliance Well
  - ◆ Upgradient Compliance Well
  - ◆ Piezometer
  - CCR Landfill Boundary (Approximate)



Projection: NAD 1983 State Plane Alabama West FIPS 0102 Feet  
 Base Map: Maxar Vivid Standard, 1/07/2023 (west),  
 Maxar Vivid Standard, 11/14/2020 (east).

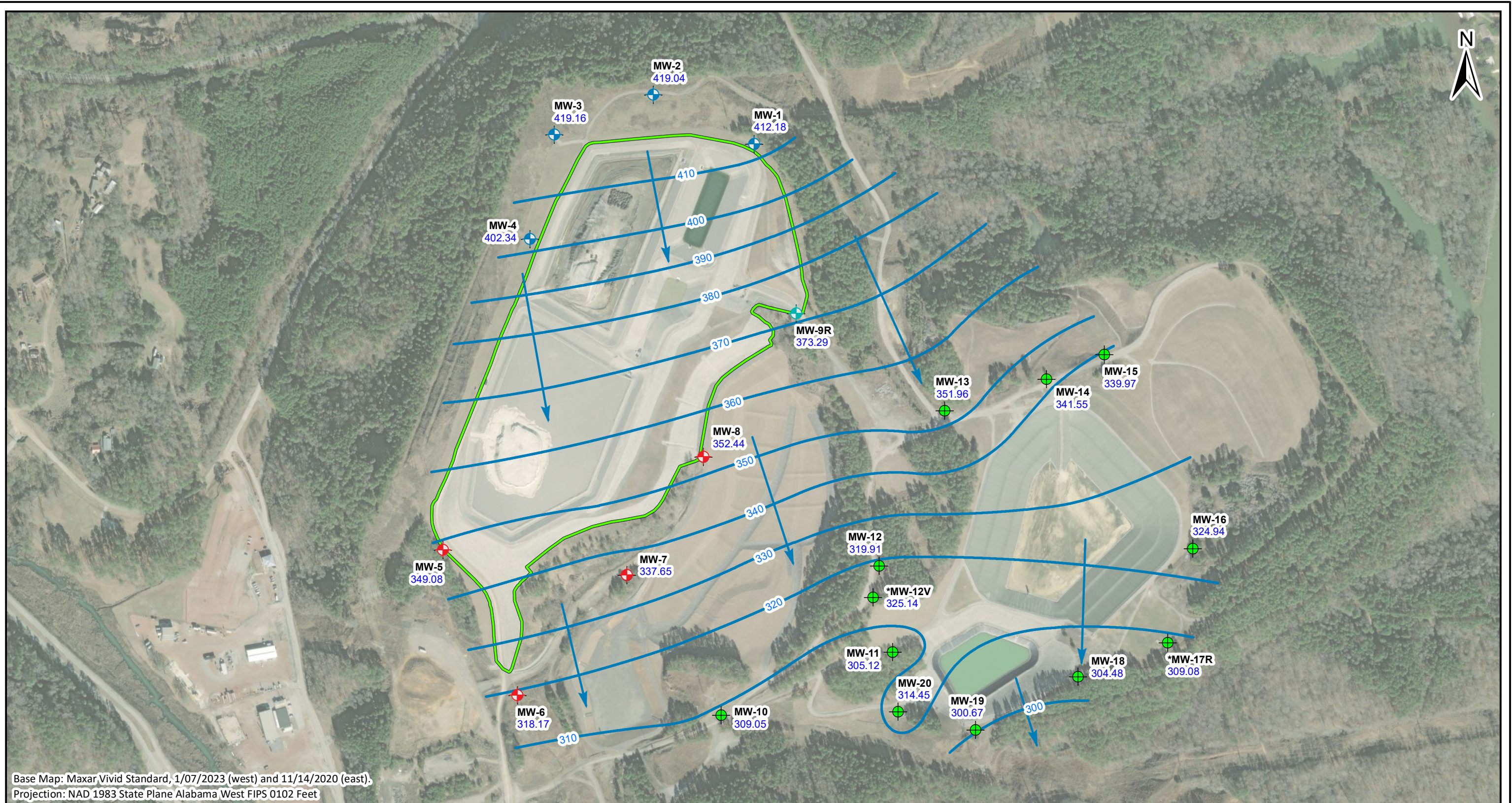
SCALE	1:6,000
DATE	11/09/2023
DRAWN BY	KAR
CHECKED BY	AWH

DRAWING TITLE:  
**MONITORING WELL LOCATION MAP  
 PLANT GORGAS CCR LANDFILL**

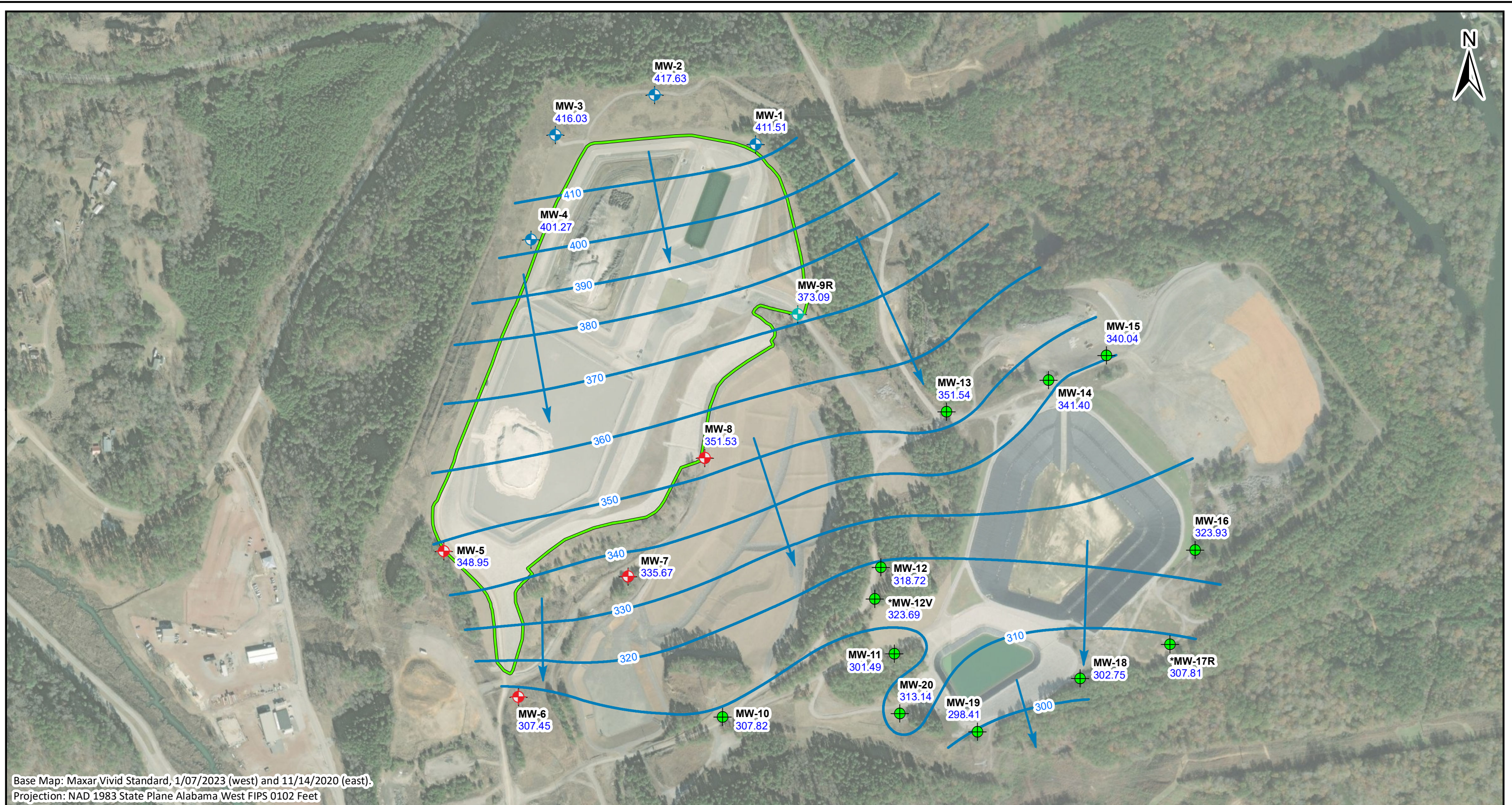
FIGURE NO.  
**FIGURE 5**







<b>LEGEND</b>		0 500 Feet	SCALE	1:6,000	DRAWING TITLE: <b>POTENTIOMETRIC SURFACE CONTOUR MAP</b> <b>FEBRUARY 20, 2023</b> <b>PLANT GORGAS CCR LANDFILL</b>
Downgradient Compliance Well Upgradient Compliance Well Piezometer Monitoring Well	Potentiometric Surface Contour (ft NAVD88) Approximate Groundwater Flow Direction CCR Landfill Boundary (Approximate)		DATE	10/18/2023	
<b>MW-1</b> Well ID <b>412.18</b> Groundwater Elevation	NOTES: 1. NAVD88 indicates North American Vertical Datum of 1988. 2. MW-10, screened across American Coal Seam, was factored into contouring. 3. *MW-12V and MW-17R are screened entirely in rock and were not factored into contouring. 4. Monitoring wells MW-6, MW-13, MW-14, MW-15, MW-16, MW-18, and MW-19 were re-surveyed following the first semi-annual event, so groundwater elevations in this figure differ from elevations in that report.	DRAWN BY	KAR	FIGURE 6A	
		CHECKED BY	AWH		



Base Map: Maxar Vivid Standard, 1/07/2023 (west) and 11/14/2020 (east).  
 Projection: NAD 1983 State Plane Alabama West FIPS 0102 Feet

**LEGEND**

- Downgradient Compliance Well
  - Upgradient Compliance Well
  - Piezometer
  - Monitoring Well
  - Potentiometric Surface Contour (ft NAVD88)
  - Approximate Groundwater Flow Direction
  - CCR Landfill Boundary (Approximate)
- MW-1** Well ID  
**411.51** Groundwater Elevation



**NOTES:**

1. NAVD88 indicates North American Vertical Datum of 1988.
2. MW-10, screened across American Coal Seam, was factored into contouring.
3. \*MW-12V and MW-17R are screened entirely in rock and were not factored into contouring.

SCALE	1:6,000
DATE	10/18/2023
DRAWN BY	KAR
CHECKED BY	AWH

DRAWING TITLE:  
**POTENTIOMETRIC SURFACE CONTOUR MAP**  
**AUGUST 15, 2023**  
**PLANT GORGAS CCR LANDFILL**

FIGURE NO.  
**FIGURE 6B**



# Tables



**Table 1. - Compliance Monitoring Well Network Details  
Plant Gorgas CCR Landfill**

Well ID	Hydraulic Location	Geologic Unit	Latitude	Longitude	Ground Surface Elevation (ft NAVD)	Top Of Casing Elevation (ft NAVD)	Well Depth (ft BTOC)	Top Of Screen Elevation (ft NAVD)	Bottom Of Screen Elevation (ft NAVD)	Screen Length (ft)	Date Of Installation
<b>WELL NETWORK</b>											
MW-1	Upgradient	Mine Spoil - Pottsville Fm Interface	33.65821266	-87.19085729	499.29	502.71	108.25	405.19	395.19	10	1/15/2014
MW-2	Upgradient	Mine Spoil - Pottsville Fm Interface	33.65892938	-87.19260795	499.32	502.47	94.47	418.72	408.72	10	10/23/2014
MW-3	Upgradient	Mine Spoil - Pottsville Fm Interface	33.65835409	-87.19433046	522.80	526.15	119.11	417.70	407.70	10	10/23/2014
MW-4	Upgradient	Mine Spoil - Pottsville Fm Interface	33.6568369	-87.19475975	516.82	518.30	128.84	400.52	390.52	10	2/19/2012
MW-5	Downgradient	Mine Spoil - Pottsville Fm Interface	33.6523226	-87.19628669	471.68	474.90	137.30	348.08	338.08	10	10/28/2014
MW-6	Downgradient	Mine Spoil - Pottsville Fm Interface	33.65020848	-87.19500159	410.11	413.35	128.97	294.51	284.51	10	10/29/2014
MW-7	Downgradient	Mine Spoil - Pottsville Fm Interface	33.65195545	-87.19309418	391.98	394.69	73.82	331.38	321.38	10	10/29/2014
MW-8	Downgradient	Mine Spoil - Pottsville Fm Interface	33.6536690	-87.1917540	413.87	415.83	72.39	354.97	344.97	10	1/16/2014
MW-9R	Piezometer	Mine Spoil - Pottsville Fm Interface	33.65574533	-87.1901370	500.23	503.27	135.24	378.73	368.73	10	7/27/2017

ft = feet; ft NAVD = elevation in feet, referenced to North American Vertical Datum; ft BTOC = depth, referenced in feet below top of casing

(1) A well construction log for piezometer MW-9R could not be located.



## Table 2. Parameters And Reporting Limits

Plant Gorgas CCR Landfill  
02/20/2023 - 08/22/2023

Appendix III Parameters			
Parameters	Analytical Methods	Reporting Limits	Units of Measure
Boron	EPA 200.7	0.1015	mg/L
Calcium	EPA 200.7	4.06-40.599998	mg/L
Chloride	SM4500Cl E	1	mg/L
Fluoride	SM4500F G 2017	0.125	mg/L
pH_Field	Field Sampling	NA	SU
Sulfate	SM4500SO4 E 2011	80-200	mg/L
TDS	NA	NA	mg/L
Appendix IV Parameters			
Parameters	Analytical Methods	Reporting Limits	Units of Measure
Antimony	EPA 200.8	0.001015	mg/L
Arsenic	EPA 200.8	0.000203	mg/L
Barium	EPA 200.8	0.001015	mg/L
Beryllium	EPA 200.8	0.001015	mg/L
Cadmium	EPA 200.8	0.000203	mg/L
Chromium	EPA 200.8	0.001015	mg/L
Cobalt	EPA 200.8	0.000203	mg/L
Lead	EPA 200.8	0.000203	mg/L
Lithium	EPA 200.7	0.02	mg/L
Mercury	EPA 245.1	0.0005	mg/L
Molybdenum	EPA 200.7	0.01015	mg/L
	EPA 200.8	0.000203	mg/L
Selenium	EPA 200.8	0.001015	mg/L
Thallium	EPA 200.8	0.000203	mg/L
Combined Radium 226 + 228	Total Radium Calculation	0.918-1.27	pCi/L

Notes:

1. Reporting Limit values can display range depending upon matrix interferences and dilution factors
2. pH is a field acquired parameter and does not have a laboratory method or reporting limit
3. Combined Radium 226 + 228 – product of radium-226 + radium-228; reporting limits presented are sum of radium 226, radium 228 reporting limits
4. EPA 200.7 – EPA methodology for the "Determination of Metals and Trace Elements in Water and Wastes by Inductively Coupled Plasma-Atomic Emission Spectrometry"
5. EPA 200.8 - EPA methodology for the "Determination of Metals and Trace Elements in Water and Wastes by Inductively Coupled Plasma-Mass Spectrometry (ICP-MS)"
6. SM 2320, 2540, 4500 – Standard Methods for Examination of Water and Wastewater.
7. Total Radium Calculation – Term used herein for EPA 9315 + EPA 9320
8. EPA 9315 – Used for Radium-226; SW-846: Alpha-Emitting Radium Isotopes, part of Test Methods for Evaluation Solid Waste, Physical/Chemical Methods
9. EPA 9320 – Used for Radium-228; SW-846: Alpha-Emitting Radium Isotopes, part of Test Methods for Evaluation Solid Waste, Physical/Chemical Methods



### Table 3. Groundwater Elevations Summary

Plant Gorgas CCR Landfill  
02/20/2023 - 08/15/2023

Measurement Date		02/20/2023		08/15/2023	
Well	TOC Elevation (ft. NAVD)	Depth To Water (ft. BTOC)	Groundwater Elevation (ft. NAVD)	Depth To Water (ft. BTOC)	Groundwater Elevation (ft. NAVD)
MW-1	502.71	90.53	412.18	91.20	411.51
MW-2	502.47	83.43	419.04	84.84	417.63
MW-3	526.15	106.99	419.16	110.12	416.03
MW-4	518.3	115.96	402.34	117.03	401.27
MW-5	474.9	125.82	349.08	125.95	348.95
MW-6	413.35	95.18	320.13*	105.90	307.45
MW-7	394.69	57.04	337.65	59.02	335.67
MW-8	415.83	63.39	352.44	64.30	351.53
MW-9R	503.27	129.98	373.29	130.18	373.09

\* Monitoring well MW-6 was resurveyed prior to the second 2023 semi-annual sampling event.

Notes:

ft. = feet; ft. NAVD = elevation in feet, referenced to North American Vertical Datum (1988); TOC = top of casing; BTOC = below top of casing; N/A = Not Acquired



## Table 4. Relative Percent Difference (RPD) Calculations

Plant Gorgas CCR Landfill  
02/20/2023 - 08/22/2023

MW-1				
Sample Date = 2/20/2023				
Analyte	Units	Original Result	Duplicate Result	RPD (%)
Calcium	mg/L	151	159	5.16%
Chloride	mg/L	2.05	2	2.47%
Fluoride	mg/L	0.221	0.186	17.20%
Sulfate	mg/L	1520	1430	6.10%
Arsenic	mg/L	0.00027	0.00027	1.84%
Barium	mg/L	0.0102	0.0105	2.90%
Cadmium	mg/L	0.00185	0.00181	2.19%
Cobalt	mg/L	0.0665	0.0678	1.94%
Lithium	mg/L	0.0241	0.0243	0.83%
Selenium	mg/L	0.00258	0.00262	1.54%
Sample Date = 8/22/2023				
Analyte	Units	Original Result	Duplicate Result	RPD (%)
Calcium	mg/L	183	159	14.04%
Chloride	mg/L	2.38	2.38	0.00%
Fluoride	mg/L	0.159	0.168	5.51%
Sulfate	mg/L	1560	1520	2.60%
Barium	mg/L	0.00976	0.00939	3.86%
Cadmium	mg/L	0.00205	0.00204	0.49%
Cobalt	mg/L	0.086	0.0852	0.94%
Lithium	mg/L	0.0225	0.0231	2.63%
Selenium	mg/L	0.00151	0.00151	0.00%

**Notes:**

1. The RPD calculations presented are for analyte pairs where original and duplicate results are valid, unqualified detections.
2. RPD calculation results less than or equal to 20% are considered acceptable.
3. Results greater than 20% are given data validation flags to indicate RPD criteria failure. Communication to sampling team and lab may be necessary to explore nature of RPD failure(s).



## Table 5. Summary of Background Levels and Groundwater Protection Standards

### Plant Gorgas CCR Landfill

Appendix IV Analytes			
Analyte	Units	Background	GWPS
Antimony	mg/L	0.00143	0.006
Arsenic	mg/L	0.0048	0.01
Barium	mg/L	0.0165	2
Beryllium	mg/L	0.0121	0.004
Cadmium	mg/L	0.00885	0.00885
Chromium	mg/L	0.0105	0.1
Cobalt	mg/L	0.529	0.529
Fluoride	mg/L	0.63	4
Lead	mg/L	0.00108	0.015
Lithium	mg/L	0.419	0.419
Mercury	mg/L	0.0005	0.002
Molybdenum	mg/L	0.01015	0.1
Selenium	mg/L	0.0209	0.05
Thallium	mg/L	0.000226	0.002
Combined Radium 226 + 228	pCi/L	1.49	5

Notes:

1. mg/L - Milligrams per liter
2. pCi/L - Picocuries per liter
3. Background concentrations/limits are used when determining the groundwater protection standard (GWPS) under 40 CFR §257.95(h) and ADEM Rule 335-13-15-.06(h).
4. GWPS are generally updated on a 2 year basis which began in the Fall of 2019 (Fall 2019, Fall 2021, etc).



## Table 6. First Semi-Annual Monitoring Event

### Analytical Results Summary Plant Gorgas CCR Landfill 02/20/2023 - 02/22/2023

Field Parameters								
Hydraulic Location	Well	Sample Date	Conductivity uS/cm	DO mg/L	ORP mv	pH_Field SU	Field Temperature C	Turbidity NTU
Upgradient	MW-1	02/20/2023	2297.01	0.95	361.14	5.07	19.59	0.73
Upgradient	MW-2	02/20/2023	1773	0.82	72.91	6.24	18.95	0.41
Upgradient	MW-3	02/20/2023	3276.9	6.19	231.95	6.01	20.34	1.21
Upgradient	MW-4	02/21/2023	3184.95	3.15	219	6.35	19.61	0.72
Downgradient	MW-5	02/21/2023	3355.12	0.79	-7.67	6.5	19.77	4.48
Downgradient	MW-6	02/22/2023	2795.15	0.45	195.75	4.98	21.32	6.33
Downgradient	MW-7	02/21/2023	2577.99	0.94	-6.78	6.72	19.16	0.53
Downgradient	MW-8	02/21/2023	2722.64	0.32	1.47	6.75	20.26	7.56

#### Notes:

- "J" indicates the result was detected above the MDL but below the PQL
- "<" indicates the result was not detected above the MDL and is considered a non-detect.
- U - Radium data is a combination of radium isotopes 226 and 228. When results are reported below the MDC (Minimum Detectable Concentration), data is displayed with an accompanying U. The MDC varies depending upon the sample amount and elapsed time of the measurement.
- DO - Dissolved Oxygen, ORP - Oxidation Reduction Potential, TDS - Total Dissolved Solids.
- mg/L - milligrams per liter, mv - millivolts, NTU - nephelometric turbidity unit, C - celsius, SU - standard unit, uS/cm - microseimens per centimeter, pCi/L - picocuries per liter.
- NC = value not detected with alkalinity calculation

## Table 6. First Semi-Annual Monitoring Event

### Analytical Results Summary Plant Gorgas CCR Landfill 02/20/2023 - 02/22/2023

EPA Appendix III Set								
Hydraulic Location	Well	Sample Date	Boron mg/L	Calcium mg/L	Chloride mg/L	Fluoride mg/L	pH_Field SU	Sulfate mg/L
Upgradient	MW-1	02/20/2023	<0.03	151	2.05	0.221	5.07	1520
Upgradient	MW-2	02/20/2023	<0.03	160	1.7	0.267	6.24	767
Upgradient	MW-3	02/20/2023	<0.03	210	1.94	0.379	6.01	2110
Upgradient	MW-4	02/21/2023	0.0408 J	232	1.58	0.415	6.35	1930
Downgradient	MW-5	02/21/2023	0.0315 J	367	5.25	0.319	6.5	2210
Downgradient	MW-6	02/22/2023	0.0356 J	250	4.37	0.173	4.98	1870
Downgradient	MW-7	02/21/2023	0.0645 J	286	6.12	0.216	6.72	1450
Downgradient	MW-8	02/21/2023	0.0609 J	327	4.86	0.212	6.75	1510

#### Notes:

- "J" indicates the result was detected above the MDL but below the PQL
- "<" indicates the result was not detected above the MDL and is considered a non-detect.
- U - Radium data is a combination of radium isotopes 226 and 228. When results are reported below the MDC (Minimum Detectable Concentration), data is displayed with an accompanying U. The MDC varies depending upon the sample amount and elapsed time of the measurement.
- DO - Dissolved Oxygen, ORP - Oxidation Reduction Potential, TDS - Total Dissolved Solids.
- mg/L - milligrams per liter, mv - millivolts, NTU - nephelometric turbidity unit, C - celsius, SU - standard unit, uS/cm - microseimens per centimeter, pCi/L - picocuries per liter.
- NC = value not detected with alkalinity calculation

## Table 6. First Semi-Annual Monitoring Event

**Analytical Results Summary  
Plant Gorgas CCR Landfill  
02/20/2023 - 02/22/2023**

EPA Appendix IV Set										
Hydraulic Location	Well	Sample Date	Antimony mg/L	Arsenic mg/L	Barium mg/L	Beryllium mg/L	Cadmium mg/L	Chromium mg/L	Cobalt mg/L	Fluoride mg/L
Upgradient	MW-1	02/20/2023	<0.000508	0.000275	0.0102	<0.000406	0.00185	0.000409 J	0.0665	0.221
Upgradient	MW-2	02/20/2023	<0.000508	0.000243	0.0122	<0.000406	<6.8e-005	0.00033 J	0.0187	0.267
Upgradient	MW-3	02/20/2023	<0.000508	0.000224	0.00822	<0.000406	0.00144	0.000384 J	0.00435	0.379
Upgradient	MW-4	02/21/2023	<0.000508	<8.1e-005	0.0116	<0.000406	<6.8e-005	0.000244 J	<6.8e-005	0.415
Downgradient	MW-5	02/21/2023	<0.000508	0.000306	0.0121	<0.000406	<6.8e-005	<0.000203	0.00091	0.319
Downgradient	MW-6	02/22/2023	<0.000508	0.00337	0.0136	0.00123	0.00192	0.000301 J	0.567	0.173
Downgradient	MW-7	02/21/2023	<0.000508	0.00153	0.0141	<0.000406	<6.8e-005	<0.000203	0.0043	0.216
Downgradient	MW-8	02/21/2023	<0.000508	0.00119	0.0148	<0.000406	<6.8e-005	<0.000203	0.00682	0.212

Notes:

1. "J" indicates the result was detected above the MDL but below the PQL
2. "<" indicates the result was not detected above the MDL and is considered a non-detect.
3. U - Radium data is a combination of radium isotopes 226 and 228. When results are reported below the MDC (Minimum Detectable Concentration), data is displayed with an accompanying U. The MDC varies depending upon the sample amount and elapsed time of the measurement.
4. DO - Dissolved Oxygen, ORP - Oxidation Reduction Potential, TDS - Total Dissolved Solids.
5. mg/L - milligrams per liter, mv - millivolts, NTU - nephelometric turbidity unit, C - celsius, SU - standard unit, uS/cm - microseimens per centimeter, pCi/L - picocuries per liter.
6. NC = value not detected with alkalinity calculation

## Table 6. First Semi-Annual Monitoring Event

**Analytical Results Summary  
Plant Gorgas CCR Landfill  
02/20/2023 - 02/22/2023**

EPA Appendix IV Set									
Hydraulic Location	Well	Sample Date	Lead mg/L	Lithium mg/L	Mercury mg/L	Molybdenum mg/L	Selenium mg/L	Thallium mg/L	Combined Radium 226 + 228 pCi/L
Upgradient	MW-1	02/20/2023	<6.8e-005	0.0241	<0.0003	<0.000102	0.00258	<6.8e-005	0.36 U
Upgradient	MW-2	02/20/2023	<6.8e-005	0.0412	<0.0003	<0.000102	<0.000508	<6.8e-005	0.837 U
Upgradient	MW-3	02/20/2023	<6.8e-005	0.0649	<0.0003	<0.000102	0.0123	<6.8e-005	0.234 U
Upgradient	MW-4	02/21/2023	<6.8e-005	0.0424	<0.0003	0.00015 J	0.00266	<6.8e-005	0.3 U
Downgradient	MW-5	02/21/2023	<6.8e-005	0.104	<0.0003	0.000945	0.00124	<6.8e-005	0.275 U
Downgradient	MW-6	02/22/2023	0.000457	0.0329	<0.0003	<0.000102	0.0019	0.000143 J	3.75
Downgradient	MW-7	02/21/2023	<6.8e-005	0.0932	<0.0003	0.00103	<0.000508	<6.8e-005	0.789 U
Downgradient	MW-8	02/21/2023	8.77e-005 J	0.12	<0.0003	0.000338	<0.000508	<6.8e-005	2.19

Notes:

1. "J" indicates the result was detected above the MDL but below the PQL
2. "<" indicates the result was not detected above the MDL and is considered a non-detect.
3. U - Radium data is a combination of radium isotopes 226 and 228. When results are reported below the MDC (Minimum Detectable Concentration), data is displayed with an accompanying U. The MDC varies depending upon the sample amount and elapsed time of the measurement.
4. DO - Dissolved Oxygen, ORP - Oxidation Reduction Potential, TDS - Total Dissolved Solids.
5. mg/L - milligrams per liter, mv - millivolts, NTU - nephelometric turbidity unit, C - celsius, SU - standard unit, uS/cm - microseimens per centimeter, pCi/L - picocuries per liter.
6. NC = value not detected with alkalinity calculation

**Analytical Results Summary**  
**Plant Gorgas CCR Landfill**  
**02/20/2023 - 02/22/2023**

General Chemistry and MNA Parameters										
Hydraulic Location	Well	Sample Date	Chloride mg/L	Nitrate Nitrite mg/L as N	Sulfate mg/L	Aluminum mg/L	Calcium mg/L	Iron Total mg/L	Potassium mg/L	Magnesium Total mg/L
Upgradient	MW-1	02/20/2023	2.05	0.891	1520	0.123	151	<0.00812	7.28	277
Upgradient	MW-2	02/20/2023	1.7	<0.2	767	<0.00609	160	0.755	5.8	174
Upgradient	MW-3	02/20/2023	1.94	2.46	2110	0.0365 J	210	0.0467	6.65	392
Upgradient	MW-4	02/21/2023	1.58	0.244 J	1930	<0.00609	232	<0.00812	7.81	362
Downgradient	MW-5	02/21/2023	5.25	<0.2	2210	<0.00609	367	3.88	6.2	334
Downgradient	MW-6	02/22/2023	4.37	<0.2	1870	0.377	250	6.16	6.48	302
Downgradient	MW-7	02/21/2023	6.12	<0.2	1450	<0.00609	286	2.07	6.61	262
Downgradient	MW-8	02/21/2023	4.86	<0.2	1510	<0.00609	327	2.45	7.95	293

**Notes:**

1. "J" indicates the result was detected above the MDL but below the PQL
2. "<" indicates the result was not detected above the MDL and is considered a non-detect.
3. U - Radium data is a combination of radium isotopes 226 and 228. When results are reported below the MDC (Minimum Detectable Concentration), data is displayed with an accompanying U. The MDC varies depending upon the sample amount and elapsed time of the measurement.
4. DO - Dissolved Oxygen, ORP - Oxidation Reduction Potential, TDS - Total Dissolved Solids.
5. mg/L - milligrams per liter, mv - millivolts, NTU - nephelometric turbidity unit, C - celsius, SU - standard unit, uS/cm - microseimens per centimeter, pCi/L - picocuries per liter.
6. NC = value not detected with alkalinity calculation

## Table 6. First Semi-Annual Monitoring Event

### Analytical Results Summary Plant Gorgas CCR Landfill 02/20/2023 - 02/22/2023

General Chemistry and MNA Parameters										
Hydraulic Location	Well	Sample Date	Manganese Total mg/L	Sodium mg/L	Silica mg/L	Silicon mg/L	Carbon, Total Organic mg/L	Alkalinity Total as CaCO <sub>3</sub> mg CaCO <sub>3</sub> /L	Carbonate Alkalinity as CaCO <sub>3</sub> mg CaCO <sub>3</sub> /L	Bicarbonate Alkalinity as CaCO <sub>3</sub> mg CaCO <sub>3</sub> /L
Upgradient	MW-1	02/20/2023	9.83	32.1	24.6	11.5	4.53	21.4	NC	21.4
Upgradient	MW-2	02/20/2023	4.4	15.6	11.1	5.2	8.44	283	NC	283
Upgradient	MW-3	02/20/2023	0.477	40.2 J	22	10.3	3.56	81.7	NC	81.7
Upgradient	MW-4	02/21/2023	0.000436 J	31	12.2	5.69	4.29	182	NC	182
Downgradient	MW-5	02/21/2023	0.394	47.7	16.3	7.63	1.17 J	260	NC	260
Downgradient	MW-6	02/22/2023	55.8	45.4	20.8	9.72	2.24	32.6	NC	32.6
Downgradient	MW-7	02/21/2023	2.1	38.1	10.4	4.88	1.91 J	296	NC	296
Downgradient	MW-8	02/21/2023	0.933	36.1	11.1	5.21	<1	349	NC	349

**Notes:**

1. "J" indicates the result was detected above the MDL but below the PQL
2. "<" indicates the result was not detected above the MDL and is considered a non-detect.
3. U - Radium data is a combination of radium isotopes 226 and 228. When results are reported below the MDC (Minimum Detectable Concentration), data is displayed with an accompanying U. The MDC varies depending upon the sample amount and elapsed time of the measurement.
4. DO - Dissolved Oxygen, ORP - Oxidation Reduction Potential, TDS - Total Dissolved Solids.
5. mg/L - milligrams per liter, mv - millivolts, NTU - nephelometric turbidity unit, C - celsius, SU - standard unit, uS/cm - microseimens per centimeter, pCi/L - picocuries per liter.
6. NC = value not detected with alkalinity calculation

## Table 6. First Semi-Annual Monitoring Event

Analytical Results Summary  
Plant Gorgas CCR Landfill  
02/20/2023 - 02/22/2023

General Chemistry and MNA Parameters			
Hydraulic Location	Well	Sample Date	Sulfide mg/L
Upgradient	MW-1	02/20/2023	0
Upgradient	MW-2	02/20/2023	0
Upgradient	MW-3	02/20/2023	0
Upgradient	MW-4	02/21/2023	0
Downgradient	MW-5	02/21/2023	0
Downgradient	MW-6	02/22/2023	0
Downgradient	MW-7	02/21/2023	0
Downgradient	MW-8	02/21/2023	0

Notes:

1. "J" indicates the result was detected above the MDL but below the PQL
2. "<" indicates the result was not detected above the MDL and is considered a non-detect.
3. U - Radium data is a combination of radium isotopes 226 and 228. When results are reported below the MDC (Minimum Detectable Concentration), data is displayed with an accompanying U. The MDC varies depending upon the sample amount and elapsed time of the measurement.
4. DO - Dissolved Oxygen, ORP - Oxidation Reduction Potential, TDS - Total Dissolved Solids.
5. mg/L - milligrams per liter, mv - millivolts, NTU - nephelometric turbidity unit, C - celsius, SU - standard unit, uS/cm - microseimens per centimeter, pCi/L - picocuries per liter.
6. NC = value not detected with alkalinity calculation

## Table 7. Second Semi-Annual Monitoring Event

Analytical Results Summary  
Plant Gorgas CCR Landfill  
08/15/2023 - 08/22/2023

Field Parameters								
Hydraulic Location	Well	Sample Date	Conductivity uS/cm	DO mg/L	ORP mv	pH_Field SU	Field Temperature C	Turbidity NTU
Upgradient	MW-1	08/22/2023	2206.04	0.34	338.64	4.92	22.09	1.06
Upgradient	MW-2	08/22/2023	1720.05	0.09	69.56	5.81	21.04	2.91
Upgradient	MW-3	08/22/2023	4080.83	1.44	216.99	5.04	30.15	5.66
Upgradient	MW-4	08/22/2023	2962.35	1.95	168.43	6.28	23.06	7.22
Downgradient	MW-5	08/16/2023	3518.09	0.46	-10.03	6.5	24.07	6.87
Downgradient	MW-6	08/16/2023	3036.34	0.1	-49.81	6.01	22.19	5.76
Downgradient	MW-7	08/15/2023	1591.01	0.14	3.69	7.47	20.57	7.68
Downgradient	MW-8	08/15/2023	1793.82	0.56	-0.67	7.58	26.03	9.69

Notes:

1. "J" indicates the result was detected above the MDL but below the PQL
2. "<" indicates the result was not detected above the MDL and is considered a non-detect.
3. U - Radium data is a combination of radium isotopes 226 and 228. When results are reported below the MDC (Minimum Detectable Concentration), data is displayed with an accompanying U. The MDC varies depending upon the sample amount and elapsed time of the measurement.
4. DO - Dissolved Oxygen, ORP - Oxidation Reduction Potential, TDS - Total Dissolved Solids.
5. mg/L - milligrams per liter, mv - millivolts, NTU - nephelometric turbidity unit, C - celsius, SU - standard unit, uS/cm - microseimens per centimeter, pCi/L - picocuries per liter.
6. NC = value not detected with alkalinity calculation



## Table 7. Second Semi-Annual Monitoring Event

### Analytical Results Summary Plant Gorgas CCR Landfill 08/15/2023 - 08/22/2023

EPA Appendix III Set								
Hydraulic Location	Well	Sample Date	Boron mg/L	Calcium mg/L	Chloride mg/L	Fluoride mg/L	pH_Field SU	Sulfate mg/L
Upgradient	MW-1	08/22/2023	<0.03	183	2.38	0.159	4.92	1560
Upgradient	MW-2	08/22/2023	<0.03	168	3.13	0.184	5.81	912
Upgradient	MW-3	08/22/2023	0.0373 J	359	1.31	0.283	5.04	3140
Upgradient	MW-4	08/22/2023	0.0448 J	287	1.86	0.358	6.28	2390
Downgradient	MW-5	08/16/2023	0.032 J	361	7.19	0.266	6.5	2310
Downgradient	MW-6	08/16/2023	0.0686 J	383	3.36	0.0931 J	6.01	2060
Downgradient	MW-7	08/15/2023	0.0663 J	339	6.51	0.154	7.47	1360
Downgradient	MW-8	08/15/2023	0.0654 J	328	4.92	0.174	7.58	1480

#### Notes:

- "J" indicates the result was detected above the MDL but below the PQL
- "<" indicates the result was not detected above the MDL and is considered a non-detect.
- U - Radium data is a combination of radium isotopes 226 and 228. When results are reported below the MDC (Minimum Detectable Concentration), data is displayed with an accompanying U. The MDC varies depending upon the sample amount and elapsed time of the measurement.
- DO - Dissolved Oxygen, ORP - Oxidation Reduction Potential, TDS - Total Dissolved Solids.
- mg/L - milligrams per liter, mv - millivolts, NTU - nephelometric turbidity unit, C - celsius, SU - standard unit, uS/cm - microseimens per centimeter, pCi/L - picocuries per liter.
- NC = value not detected with alkalinity calculation

## Table 7. Second Semi-Annual Monitoring Event

### Analytical Results Summary Plant Gorgas CCR Landfill 08/15/2023 - 08/22/2023

EPA Appendix IV Set										
Hydraulic Location	Well	Sample Date	Antimony mg/L	Arsenic mg/L	Barium mg/L	Beryllium mg/L	Cadmium mg/L	Chromium mg/L	Cobalt mg/L	Fluoride mg/L
Upgradient	MW-1	08/22/2023	<0.00071	0.000187 J	0.00976	<0.000406	0.00205	<0.000203	0.086	0.159
Upgradient	MW-2	08/22/2023	<0.00071	0.000371	0.0134	<0.000406	8.54e-005 J	<0.000203	0.0434	0.184
Upgradient	MW-3	08/22/2023	<0.00071	0.00361	0.0158	0.00277	0.00867	<0.000203	0.529	0.283
Upgradient	MW-4	08/22/2023	<0.00071	0.000145 J	0.013	<0.000406	8.51e-005 J	0.000571 J	0.000142 J	0.358
Downgradient	MW-5	08/16/2023	<0.00071	0.000224	0.0111	<0.000406	<6.8e-005	0.000324 J	0.000931	0.266
Downgradient	MW-6	08/16/2023	<0.00071	0.00498	0.0129	<0.000406	<6.8e-005	<0.000203	0.052	0.0931 J
Downgradient	MW-7	08/15/2023	<0.00071	0.00164	0.0132	<0.000406	<6.8e-005	0.00026 J	0.00391	0.154
Downgradient	MW-8	08/15/2023	<0.00071	0.00163	0.0129	<0.000406	<6.8e-005	0.000211 J	0.00596	0.174

Notes:

1. "J" indicates the result was detected above the MDL but below the PQL
2. "<" indicates the result was not detected above the MDL and is considered a non-detect.
3. U - Radium data is a combination of radium isotopes 226 and 228. When results are reported below the MDC (Minimum Detectable Concentration), data is displayed with an accompanying U. The MDC varies depending upon the sample amount and elapsed time of the measurement.
4. DO - Dissolved Oxygen, ORP - Oxidation Reduction Potential, TDS - Total Dissolved Solids.
5. mg/L - milligrams per liter, mv - millivolts, NTU - nephelometric turbidity unit, C - celsius, SU - standard unit, uS/cm - microseimens per centimeter, pCi/L - picocuries per liter.
6. NC = value not detected with alkalinity calculation

## Table 7. Second Semi-Annual Monitoring Event

### Analytical Results Summary Plant Gorgas CCR Landfill 08/15/2023 - 08/22/2023

EPA Appendix IV Set									
Hydraulic Location	Well	Sample Date	Lead mg/L	Lithium mg/L	Mercury mg/L	Molybdenum mg/L	Selenium mg/L	Thallium mg/L	Combined Radium 226 + 228 pCi/L
Upgradient	MW-1	08/22/2023	<6.8e-005	0.0225	<0.0003	<0.005075	0.00151	<6.8e-005	1.1 U
Upgradient	MW-2	08/22/2023	<6.8e-005	0.0404	<0.0003	<0.005075	<0.000508	<6.8e-005	0.763 U
Upgradient	MW-3	08/22/2023	0.000105 J	0.316	<0.0003	<0.005075	0.0147	<6.8e-005	1.19 U
Upgradient	MW-4	08/22/2023	0.000136 J	0.0416	<0.0003	<0.005075	0.00148	<6.8e-005	0.887 U
Downgradient	MW-5	08/16/2023	<6.8e-005	0.0864	<0.0003	<0.005075	0.00247	<6.8e-005	0.327 U
Downgradient	MW-6	08/16/2023	0.000191 J	0.198	<0.0003	<0.005075	<0.000508	9.39e-005 J	2.19
Downgradient	MW-7	08/15/2023	<6.8e-005	0.0977	<0.0003	<0.005075	<0.000508	<6.8e-005	0.452 U
Downgradient	MW-8	08/15/2023	0.000178 J	0.117	<0.0003	<0.005075	<0.000508	<6.8e-005	0.269 U

Notes:

1. "J" indicates the result was detected above the MDL but below the PQL
2. "<" indicates the result was not detected above the MDL and is considered a non-detect.
3. U - Radium data is a combination of radium isotopes 226 and 228. When results are reported below the MDC (Minimum Detectable Concentration), data is displayed with an accompanying U. The MDC varies depending upon the sample amount and elapsed time of the measurement.
4. DO - Dissolved Oxygen, ORP - Oxidation Reduction Potential, TDS - Total Dissolved Solids.
5. mg/L - milligrams per liter, mv - millivolts, NTU - nephelometric turbidity unit, C - celsius, SU - standard unit, uS/cm - microseimens per centimeter, pCi/L - picocuries per liter.
6. NC = value not detected with alkalinity calculation

## Table 7. Second Semi-Annual Monitoring Event

### Analytical Results Summary Plant Gorgas CCR Landfill 08/15/2023 - 08/22/2023

General Chemistry and MNA Parameters										
Hydraulic Location	Well	Sample Date	Calcium mg/L	Iron Total mg/L	Potassium mg/L	Magnesium Total mg/L	Manganese Total mg/L	Sodium mg/L	Silica mg/L	Silicon mg/L
Upgradient	MW-1	08/22/2023	183	<0.00812	7.63	346	11.7	33.2	24	11.2
Upgradient	MW-2	08/22/2023	168	3.22	6.25	191	8.13	18.2	12.2	5.7
Upgradient	MW-3	08/22/2023	359	6.78	9.74	551	11.7	61.8	54.8	25.6
Upgradient	MW-4	08/22/2023	287	0.233	9.02	465	0.00648	36	12.6	5.9
Downgradient	MW-5	08/16/2023	361	1.04	6.25	400	0.4	54.3	16	7.48
Downgradient	MW-6	08/16/2023	383	32.3	6.04	261	7.43	61.4	27.2	12.7
Downgradient	MW-7	08/15/2023	339	2.3	6.4	302	1.93	49.5	10.7	5.01
Downgradient	MW-8	08/15/2023	328	2.69	7.48	332	0.903	36.7	11.2	5.22

Notes:

1. "J" indicates the result was detected above the MDL but below the PQL
2. "<" indicates the result was not detected above the MDL and is considered a non-detect.
3. U - Radium data is a combination of radium isotopes 226 and 228. When results are reported below the MDC (Minimum Detectable Concentration), data is displayed with an accompanying U. The MDC varies depending upon the sample amount and elapsed time of the measurement.
4. DO - Dissolved Oxygen, ORP - Oxidation Reduction Potential, TDS - Total Dissolved Solids.
5. mg/L - milligrams per liter, mv - millivolts, NTU - nephelometric turbidity unit, C - celsius, SU - standard unit, uS/cm - microseimens per centimeter, pCi/L - picocuries per liter.
6. NC = value not detected with alkalinity calculation

## Table 7. Second Semi-Annual Monitoring Event

Analytical Results Summary  
Plant Gorgas CCR Landfill  
08/15/2023 - 08/22/2023

General Chemistry and MNA Parameters										
Hydraulic Location	Well	Sample Date	Carbon, Total Organic mg/L	Alkalinity Total as CaCO3 mg CaCO3/L	Carbonate Alkalinity as CaCO3 mg CaCO3/L	Bicarbonate Alkalinity as CaCO3 mg CaCO3/L	Chloride mg/L	Nitrate Nitrite mg/L as N	Sulfate mg/L	Aluminum mg/L
Upgradient	MW-1	08/22/2023	1.7 J	20.8	NC	20.8	2.38	1.25	1560	0.137
Upgradient	MW-2	08/22/2023	3.72	247	NC	247	3.13	<0.2	912	0.0309 J
Upgradient	MW-3	08/22/2023	1.49 J	9.75	NC	9.75	1.31	<0.2	3140	2.48
Upgradient	MW-4	08/22/2023	2.26	172	NC	172	1.86	<0.2	2390	0.125
Downgradient	MW-5	08/16/2023	1.55 J	289	NC	289	7.19	<0.2	2310	0.0469 J
Downgradient	MW-6	08/16/2023	1.1 J	172	NC	172	3.36	<0.2	2060	0.0217 J
Downgradient	MW-7	08/15/2023	1.36 J	304	NC	304	6.51	<0.2	1360	0.0445 J
Downgradient	MW-8	08/15/2023	1.39 J	360	NC	360	4.92	<0.2	1480	<0.009135

Notes:

- "J" indicates the result was detected above the MDL but below the PQL
- "<" indicates the result was not detected above the MDL and is considered a non-detect.
- U - Radium data is a combination of radium isotopes 226 and 228. When results are reported below the MDC (Minimum Detectable Concentration), data is displayed with an accompanying U. The MDC varies depending upon the sample amount and elapsed time of the measurement.
- DO - Dissolved Oxygen, ORP - Oxidation Reduction Potential, TDS - Total Dissolved Solids.
- mg/L - milligrams per liter, mv - millivolts, NTU - nephelometric turbidity unit, C - celsius, SU - standard unit, uS/cm - microseimens per centimeter, pCi/L - picocuries per liter.
- NC = value not detected with alkalinity calculation

## Table 7. Second Semi-Annual Monitoring Event

Analytical Results Summary  
Plant Gorgas CCR Landfill  
08/15/2023 - 08/22/2023

General Chemistry and MNA Parameters			
Hydraulic Location	Well	Sample Date	Sulfide mg/L
Upgradient	MW-1	08/22/2023	0
Upgradient	MW-2	08/22/2023	0
Upgradient	MW-3	08/22/2023	0
Upgradient	MW-4	08/22/2023	0
Downgradient	MW-5	08/16/2023	0
Downgradient	MW-6	08/16/2023	0
Downgradient	MW-7	08/15/2023	0
Downgradient	MW-8	08/15/2023	0

Notes:

1. "J" indicates the result was detected above the MDL but below the PQL
2. "<" indicates the result was not detected above the MDL and is considered a non-detect.
3. U - Radium data is a combination of radium isotopes 226 and 228. When results are reported below the MDC (Minimum Detectable Concentration), data is displayed with an accompanying U. The MDC varies depending upon the sample amount and elapsed time of the measurement.
4. DO - Dissolved Oxygen, ORP - Oxidation Reduction Potential, TDS - Total Dissolved Solids.
5. mg/L - milligrams per liter, mv - millivolts, NTU - nephelometric turbidity unit, C - celsius, SU - standard unit, uS/cm - microseimens per centimeter, pCi/L - picocuries per liter.
6. NC = value not detected with alkalinity calculation

# Appendix A



**HISTORICAL ANALYTICAL DATA**  
**CCR Landfill (08/15/2023 - 08/22/2023)**  
**APC Plant Gorgas**  
**Walker County Alabama**

Analyte	Well	MW-1																														
	Date	04/26/2016	06/20/2016	08/08/2016	08/24/2016	10/03/2016	10/26/2016	11/21/2016	01/17/2017	03/22/2017	04/18/2017	05/30/2017	08/23/2017	02/13/2018	05/22/2018	06/12/2018	10/17/2018	11/19/2018	05/14/2019	10/08/2019	10/16/2019	02/03/2020	04/06/2020	07/13/2020	08/03/2020	02/22/2021	07/12/2021	01/25/2022	07/05/2022	02/20/2023	08/22/23	
<b>Appendix III</b>																																
Boron	mg/L	0.0231 J	0.0227 J	0.0278 J	0.0247 J	0.0307 J	0.0241 J	0.0202 J	0.0201 J	0.0224 J	<-0.02	<-0.02	0.0253 J	--	0.0224 J	0.0214 J	0.0216 J	0.0237 J	<-0.0699	<-0.03	0.0385 J	<-0.03	<-0.03	<-0.03	<-0.03	0.0307 J	<-0.03	<-0.03	<-0.03	<-0.03	<-0.03	<-0.03
Calcium	mg/L	147	152	150	142	139	133	144	131	141	149	140	152	--	166	203	171	154	167	157	157	172	149	147	148	151	149	159	158	159	144	
Chloride	mg/L	1.94	2.09	2.18	2.22	2.34	2.34	2.5	2.68	2.4	2.4	2.6	2.7	--	2.3	2.3	--	1.7 J	2.28	2.31	2.42	2.07	2.01	2.1	2.05	2.16	2.19	2.09	2.07	2.05	2.38	
Fluoride	mg/L	0.146 J	0.148 J	0.137 J	0.133 J	0.103 J	0.05 J	0.047 J	0.09 J	0.12	0.12	0.13	0.16	0.14	0.16	0.16	--	0.15	0.119	0.0924 J	0.0756 J	0.0982 J	0.101	0.0678 J	<-0.06	0.082 J	0.125	0.101	0.11 J	0.221	0.159	
pH Field	SU	5.2	5.18	5.12	--	5.21	5.2	5.19	5.17	5.2	5.2	5.14	5.12	5.18	5.2	5.15	5.12	5.09	5.19	5.12	5.16	5	5.21	5.14	5.08	5.06	5.13	5.11	5.01	5.07	4.92	
Sulfate	mg/L	1490	1420	1460	1450	1460	1330	1420	1350	1500	1300	1400	1500	--	2100	1500	--	1300	1560	1540	1680	1510	1530	1450	1370	1400	1560	1430	1600	1520	1520	
TDS	mg/L	2080	2060	2070	2040	2110	2000	2070	1930	2060	2140	2240	2160	--	2380	2400	2220	2360	2340	2330	3650	2380	2240	2240	2200	2230	2210	2150	2100	2280	2160	
<b>Appendix IV</b>																																
Antimony	mg/L	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	--	<-0.0006	<-0.0006	<-0.0006	<-0.0008	<-0.0008	0.00137 J	<-0.0008	<-0.0008	<-0.0008	<-0.0008	<-0.0008	<-0.0008	<-0.000507	<-0.000508	<-0.000508	<-0.000508	<-0.000508	<-0.00071	
Arsenic	mg/L	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	--	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	0.000403	0.000363	0.000248	0.000282	0.00027	0.000207	
Barium	mg/L	0.00941 J	0.00951 J	0.00991 J	0.00949 J	0.0105	0.00931 J	0.00879 J	0.00929 J	0.00938 J	0.00964 J	0.00982 J	--	0.00937 J	0.0102	0.0104	0.00952 J	0.00915 J	0.00913 J	0.0109	0.0106	0.00995 J	0.00971 J	0.0101	0.0107	0.00984	0.0098	0.0093	0.0102	0.00917		
Beryllium	mg/L	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	--	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.000406	<-0.000406	<-0.000406	<-0.000406	<-0.000406	<-0.000406	
Cadmium	mg/L	0.00196	0.0021	0.00206	0.00182	0.00188	0.00175	0.00197	0.002	0.0019	0.00159	0.00214	--	0.0018	0.00201	0.00217	0.00228	0.00156	0.00238	0.00218	0.00225	0.00182	0.00184	0.0019	0.00237	0.00184	0.00185	0.00221	0.00211	0.00154	0.00182	
Chromium	mg/L	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	--	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	0.000382 J	0.000389 J	0.000354 J	0.000359 J	<-0.000203	<-0.000203	
Cobalt	mg/L	0.0343	0.0413	0.0513	0.0471	0.0525	0.0527	0.0569	0.0768	0.0535	0.0442	0.0465	--	0.062	0.0443	0.0512	0.0751	0.0825	0.0485	0.0778	0.08	0.0495	0.0417	0.0532	0.0722	0.0657	0.0556	0.0671	0.0631	0.0587	0.0827	
Combined Radium 226 + 228	pCi/L	0.622	0.159 U	0.511 U	0.566 U	0.537 U	0.636	0.807	0.308 U	0.344 U	0.934	0.149 U	--	0.774	<-0.091 U	1.18	--	0.862	0.509	1.47	0.204 U	0.521 U	0.309 U	0.219 U	<-0.127 U	0.677 U	0.476 U	1.01 U	1.49	0.36 U	1.1 U	
Lead	mg/L	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	--	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-6.8e-005	<-6.8e-005	<-6.8e-005	<-6.8e-005	<-6.8e-005	<-6.8e-005
Lithium	mg/L	0.0264 J	0.0246 J	0.0229 J	0.0236 J	0.0229 J	0.0227 J	0.0236 J	0.0228 J	0.0238 J	0.0242 J	0.0229 J	--	0.0233 J	0.0263 J	0.0251 J	0.025 J	0.0241	0.026 J	0.0268	0.0263	0.0292	0.0278	0.028	0.0259	0.0301	0.0266	0.0237	0.0237	0.0243	0.0225	
Mercury	mg/L	<-0.00025	<-0.00025	<-0.00025	<-0.00025	<-0.00025	<-0.00025	<-0.00025	<-0.00025	<-0.00025	<-0.00025	<-0.00025	--	<-0.00025	<-0.00025	<-0.00025	<-0.00025	<-0.00025	<-0.0003	<-0.0003	<-0.0003	<-0.0003	<-0.0003	<-0.0003	<-0.0003	<-0.0003	<-0.0003	<-0.0003	<-0.0003	<-0.0003	<-0.0003	
Molybdenum	mg/L	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	--	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-6.8e-005	<-6.8e-005	<-6.8e-005	<-0.000102	0.000862	<-0.005075	
Selenium	mg/L	0.00261 J	0.00242 J	0.00253 J	<-0.002	0.00211 J	<-0.002	<-0.002	<-0.002	0.0022 J	0.0027 J	0.00316 J	--	0.00211 J	0.00372 J	0.00409 J	<-0.002	<-0.002	0.00316 J	<-0.002	<-0.002	0.00272 J	0.00275 J	0.0025 J	0.00278 J	0.00241	0.00245	0.00216	0.00269	0.00228	0.00158	
Thallium	mg/L	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-0.0002	--	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-6.8e-005	<-6.8e-005	<-6.8e-005	<-6.8e-005	<-6.8e-005	<-6.8e-005	

Notes:

1. mg/L - Milligrams per Liter
2. pCi/L - picocuries per Liter
3. J - Result is an estimated value. The result is greater than or equal to the Method Detection Limit (MDL) and less than the Practical Quantitation Limit (PQL).





**HISTORICAL ANALYTICAL DATA**  
**CCR Landfill (08/15/2023 - 08/22/2023)**  
**APC Plant Gorgas**  
**Walker County Alabama**

Analyte	Well	MW-2																																
		Date	04/25/2016	05/05/2016	06/20/2016	08/08/2016	08/24/2016	10/03/2016	10/26/2016	11/21/2016	01/17/2017	03/22/2017	04/18/2017	05/31/2017	08/23/2017	02/13/2018	05/22/2018	06/12/2018	10/17/2018	11/19/2018	05/14/2019	10/08/2019	10/16/2019	02/03/2020	04/06/2020	07/13/2020	08/03/2020	02/22/2021	07/12/2021	01/25/2022	07/05/2022	02/20/2023	08/22/23	
<b>Appendix III</b>																																		
Boron	mg/L	0.0241 J	--	0.0284 J	0.034 J	0.0316 J	0.0367 J	0.0331 J	0.035 J	0.0259 J	0.0243 J	0.0206 J	0.0234 J	0.0267 J	--	0.0251 J	0.0275 J	0.0321 J	0.0324 J	<0.0609	0.0371 J	0.0419 J	<0.03	<0.03	<0.03	0.0317 J	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Calcium	mg/L	123	--	168	180	180	184	171	179	188	155	156	151	155	--	172	179	200	221	168	190	194	172	152	163	172	178	159	193	168	165	173		
Chloride	mg/L	1.9	--	3.43	3.31	3.23	3.21	3.35	3.34	3.58	3	2.6	4.4 J	4.4	--	3.2	3.7	--	3	2.98	4.26	4.04	2.48	2.43	4.05	4.03	1.72	2.36	2.28	2.62	1.7	3.13		
Fluoride	mg/L	0.149 J	--	0.148 J	0.134 J	0.129 J	0.086 J	0.027 J	0.027 J	0.066 J	0.13	0.16	0.13	0.16	0.22	0.17	0.16	--	0.18	0.17	0.164	0.114	0.182	0.207	0.132	0.122	0.209	0.196	0.239	0.2	0.267	0.184		
pH_Field	SU	5.94	--	5.96	5.88	--	5.91	5.84	5.82	5.87	6.01	6.02	5.85	5.89	6.21	6.04	5.95	5.9	6.03	6.07	5.96	5.98	5.95	6.21	5.84	5.95	6.1	6.16	6.22	6.15	6.24	5.81		
Sulfate	mg/L	745	--	964	1100	1130	1140	1060	1100	1160	900	870	1100	920	--	1200	860	--	1000	948	1230	1170	803	786	843	907	864	763	847	844	767	912		
TDS	mg/L	1260	--	1620	1740	1720	1800	1800	1740	1960	1510	1580	1730	1550	--	1500	1550	1740	1990	1480	1840	1830	1440	1440	1540	1650	1620	1390	1550	1250	1420	1520		
<b>Appendix IV</b>																																		
Antimony	mg/L	<0.0006	--	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	--	<0.0006	<0.0006	<0.0006	<0.0008	<0.0008	0.000989 J	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.000507	<0.000508	<0.000508	<0.000508	<0.000508	<0.000508	<0.00071		
Arsenic	mg/L	<0.001	--	<0.001	<0.001	<0.001	<0.001	<0.001	0.00111 J	<0.001	<0.001	<0.001	<0.001	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.000295	0.000364	0.000334	0.000278	0.000231	0.000257			
Barium	mg/L	0.0134	--	0.0165	0.0162	0.0139	0.0164	0.0138	0.0144	0.0135	0.0132	0.012	0.0126	--	0.0127	0.0131	0.0138	0.0137	0.0115	0.0109	0.0151	0.0146	0.0122	0.0125	0.0145	0.0147	0.0132	0.013	0.0134	0.013	0.0122	0.0133		
Beryllium	mg/L	<0.0006	--	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	--	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.000406	<0.000406	<0.000406	<0.000406	<0.000406	<0.000406			
Cadmium	mg/L	<0.0002	--	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.000311 J	<0.0002	<0.0002	0.000212 J	--	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	8.96e-005 J	8.27e-005 J	9.31e-005 J	<6.8e-005	8.1e-005 J	8.17e-005 J			
Chromium	mg/L	<0.002	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
Cobalt	mg/L	0.0487	--	0.0767	0.103	0.093	0.0964	0.0904	0.0857	0.0745	0.0328	0.0242	0.0441	--	0.0179	0.028	0.0366	0.0745	0.0225	0.0222	0.0674	0.073	0.0193	0.0116	0.0405	0.0589	0.0161	0.0155	0.0167	0.0192	0.0163	0.0439		
Combined Radium 226 + 228	pCi/L	--	<0.0718 U	0.295 U	0.231 U	0.65	0.845	0.994	0.537 U	<0.0159 U	0.279 U	0.32 U	0.178 U	--	0.804	0.0077 U	<0.315 U	--	0.654	0.579	0.493 U	0.046 U	<0.0245 U	0.212 U	0.0814 U	0.888 U	0.434 U	0.155 U	0.663 U	1.31	0.837 U	0.763 U		
Lead	mg/L	<0.001	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
Lithium	mg/L	0.0353 J	--	0.0583	0.0627	0.0651	0.0622	0.0293 J	0.0667	0.0636	0.0464 J	0.0446 J	0.0496 J	--	0.0615	0.0465 J	0.0472 J	0.0633	0.0584	0.0445	0.0677	0.0661	0.0534	0.0496	0.0615	0.0611	0.0625	0.0495	0.0502	0.0411	0.0418	0.0394		
Mercury	mg/L	<0.00025	--	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	--	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003		
Molybdenum	mg/L	<0.002	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
Selenium	mg/L	<0.002	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
Thallium	mg/L	<0.0002	--	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	--	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002		

Notes:

1. mg/L - Milligrams per Liter
2. pCi/L - picocuries per Liter
3. J - Result is an estimated value. The result is greater than or equal to the Method Detection Limit (MDL) and less than the Practical Quantitation Limit (PQL).



**HISTORICAL ANALYTICAL DATA**  
**CCR Landfill (08/15/2023 - 08/22/2023)**  
**APC Plant Gorgas**  
**Walker County Alabama**

Analyte	Well	MW-3																													
	Date	04/25/2016	06/22/2016	08/09/2016	08/24/2016	10/04/2016	10/26/2016	11/21/2016	01/18/2017	03/22/2017	04/18/2017	05/31/2017	08/23/2017	02/13/2018	05/24/2018	06/12/2018	11/19/2018	04/10/2019	05/14/2019	10/08/2019	10/16/2019	02/03/2020	04/06/2020	07/13/2020	08/03/2020	02/22/2021	07/12/2021	01/25/2022	07/05/2022	02/20/2023	08/22/23
<b>Appendix III</b>																															
Boron	mg/L	0.028 J	0.0433 J	0.0429 J	0.0431 J	0.04 J	0.0375 J	0.0406 J	0.0548 J	0.0344 J	<-0.02	0.0454 J	0.0425 J	--	0.0339 J	0.0371 J	0.0514 J	<-0.03	<-0.0609	0.0537 J	0.05 J	--	<-0.03	0.0366 J	0.0424 J	<-0.03	<-0.03	<-0.03	0.035 J	<-0.03	0.036 J
Calcium	mg/L	224	266	260	274	243	254	263	431	318	296	306	298	--	297	318	387	348	254	371	346	--	177	264	285	312	252	285	376	210	397
Chloride	mg/L	1.32	1.46	1.35	1.47	1.59	1.27	1.38	1.34	2	2.2	1.5 J	1.8 J	--	1.6 J	1.4 J	<1.4	2.25	2.28	1.36	1.4	--	1.72	1.34	1.17	2.22	2.13	2.12	1.59	1.94	1.31
Fluoride	mg/L	0.243 J	0.269 J	0.363	0.346	0.266 J	0.266 J	0.244 J	0.385	0.41	0.29	0.37	0.55	0.27	0.6	0.53	0.31	0.273	0.281	0.225	0.106	--	0.314	0.13	0.0766 J	0.246	0.287	0.325	0.386	0.379	0.283
pH Field	SU	5.56	5.57	5.67	5.63	5.69	5.56	5.42	5.11	4.52	5.84	4.56	4.77	5.67	5.19	4.79	3.77	5.54	5.71	4.98	4.51	--	5.91	5.16	5.06	5.59	5.86	5.9	5.34	6.01	5.04
Sulfate	mg/L	1890	2100	2050	2190	1950	1980	2060	2620	3200	2500	2800	2600	--	2700	2500	3000	2460	2460	2950	2820	--	1670	2130	2330	3040	2380	2550	3110	2110	3140
TDS	mg/L	2720	3250	3050	3080	2900	2940	3090	4020	4180	4440	3970	4050	--	3680	3820	4710	3680	3580	4720	4210	--	2630	3650	3760	4670	3510	3950	4220	3230	4820
<b>Appendix IV</b>																															
Antimony	mg/L	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	--	<-0.0006	<-0.0006	<-0.0006	<-0.0008	0.000978 J	<-0.0008	<-0.0008	<-0.0008	--	<-0.0008	<-0.0008	<-0.0008	<-0.000507	<-0.000508	<-0.000508	<-0.000508	<-0.000508	<-0.00071	
Arsenic	mg/L	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	0.00122 J	<-0.001	<-0.001	--	<-0.001	<-0.001	0.00103 J	0.0012 J	<-0.001	<-0.001	0.00048 J	0.00389 J	--	<-0.001	0.0032 J	0.00426 J	0.000789	0.000376	0.000275	0.00426	0.000224	0.00393
Barium	mg/L	0.00803 J	0.0101	0.00889 J	0.00962 J	0.00984 J	0.00878 J	0.00833 J	0.00966 J	0.00991 J	0.00976 J	0.00866 J	--	0.00821 J	0.00977 J	0.00997 J	0.0109	0.0101	0.00922 J	0.0154	0.0128	--	0.00931 J	0.0142	0.0166	0.00981	0.00857	0.00821	0.0151	0.00822	0.0151
Beryllium	mg/L	0.00122 J	0.00144 J	0.00331	0.00308	0.00129 J	0.0071	0.00689	0.0169	0.00686	<-0.0006	0.00547	--	<-0.0006	0.00164 J	0.00306	0.0185	<-0.0006	<-0.0006	0.0084	0.0103	--	<-0.0006	0.0021 J	0.00405	<-0.000406	<-0.000406	<-0.000406	0.00237	<-0.000406	0.00494
Cadmium	mg/L	0.0121	0.00163	0.00122	<-0.0002	0.000689 J	0.00136	0.00171	0.003	0.00473	0.00117	0.00296	--	0.00232	0.00459	0.00351	0.00309	0.00337	0.0013	0.00598	0.00448	--	0.000645 J	0.0089	0.00652	0.00536	0.000937	0.00178	0.00848	0.00144	0.00883
Chromium	mg/L	0.00373 J	0.00606 J	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	0.00945 J	0.0105	<-0.002	--	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	--	<-0.002	<-0.002	<-0.002	0.00035 J	0.000307 J	0.000509 J	0.000235 J	0.000297 J	<-0.000203
Cobalt	mg/L	0.232	0.332	0.311	0.271	0.148	0.236	0.241	0.347	0.271	0.00324 J	0.225	--	0.00661 J	0.158	0.291	0.386	0.0144	0.00536	1.07	0.848	--	<-0.002	0.47	0.64	0.0515	0.00567	0.00535	0.263	0.00375	0.516
Combined Radium 226 + 228	pCi/L	0.484 U	0.2 U	0.378 U	0.131 U	0.514 U	0.755	0.7	0.606	0.927	0.334 U	0.8	--	0.649	0.448 U	0.234 U	0.521	--	0.176 U	0.833 U	0.0279 U	0.0246 U	0.569 U	0.53	0.765 U	0.472 U	0.114 U	0.418 U	1.33	0.234 U	1.19 U
Lead	mg/L	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	--	<-0.001	<-0.001	<-0.001	0.00692	<-0.001	<-0.001	<-0.001	0.00108 J	--	<-0.001	<-0.001	0.002 J	8.8e-005 J	8.42e-005 J	<-6.8e-005	0.000185 J	<-6.8e-005	0.000105 J
Lithium	mg/L	0.0964	0.156	0.122	0.138	0.0966	0.134	0.167	0.237	0.203	0.0764	0.218	--	0.0964	0.145	0.194	0.323	0.0905	0.0828	0.419	0.337	--	0.0689	0.256	0.27	0.126	0.0808	0.077	0.217	0.065	0.318
Mercury	mg/L	<-0.00025	<-0.00025	<-0.00025	<-0.00025	<-0.00025	<-0.00025	<-0.00025	<-0.00025	<-0.00025	<-0.00025	<-0.00025	--	<-0.00025	<-0.00025	<-0.00025	<-0.00025	<-0.0003	<-0.0003	<-0.0003	<-0.0003	--	<-0.0003	<-0.0003	<-0.0003	<-0.0003	<-0.0003	<-0.0003	<-0.0003	<-0.0003	<-0.0003
Molybdenum	mg/L	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	--	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	--	<-0.002	<-0.002	<-0.002	<-6.8e-005	<-6.8e-005	<-6.8e-005	<-0.000102	<-0.000102	<-0.005075
Selenium	mg/L	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	0.0141	0.0158	0.00632 J	--	0.0209	0.00918 J	0.00836 J	0.00439 J	0.0113	0.0119	0.00256 J	0.00286 J	--	0.01	0.0134	0.0146	0.0181	0.0133	0.0154	0.0238	0.0125	0.015
Thallium	mg/L	0.000205 J	<-0.0002	<-0.0002	<-0.0002	<-0.0002	0.000209 J	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-0.0002	--	<-0.0002	<-0.0002	<-0.0002	0.000226 J	<-0.0002	<-0.0002	<-0.0002	<-0.0002	--	<-0.0002	<-0.0002	<-0.0002	<-6.8e-005	<-6.8e-005	<-6.8e-005	<-6.8e-005	<-6.8e-005	<-6.8e-005

Notes:

1. mg/L - Milligrams per Liter
2. pCi/L - picocuries per Liter
3. J - Result is an estimated value. The result is greater than or equal to the Method Detection Limit (MDL) and less than the Practical Quantitation Limit (PQL).



**HISTORICAL ANALYTICAL DATA**  
**CCR Landfill (08/15/2023 - 08/22/2023)**  
**APC Plant Gorgas**  
**Walker County Alabama**

Analyte	Well	MW-4																													
	Date	04/25/2016	06/20/2016	08/09/2016	08/24/2016	10/03/2016	10/26/2016	11/21/2016	01/18/2017	03/22/2017	04/18/2017	05/31/2017	08/23/2017	02/13/2018	05/23/2018	06/12/2018	11/19/2018	04/10/2019	05/14/2019	10/10/2019	10/16/2019	02/03/2020	04/06/2020	07/14/2020	02/22/2021	07/12/2021	01/25/2022	07/05/2022	02/21/2023	08/22/23	
<b>Appendix III</b>																															
Boron	mg/L	0.0414 J	0.0434 J	0.0453 J	0.0451 J	0.0511 J	0.0507 J	0.0458 J	0.0445 J	0.0432 J	0.0409 J	0.0392 J	0.042 J	--	0.0433 J	0.0478 J	0.0526 J	0.0438 J	<0.0609	0.0487 J	0.0505 J	--	0.0428 J	0.0441 J	0.0397 J	0.0411 J	0.0408 J	0.0417 J	0.0416 J	0.0447 J	
Calcium	mg/L	261	295	318	319	293	311	320	417	292	302	284	297	--	296	355	289	356	254	302	356	--	222	259	271	242	259	271	239	286	
Chloride	mg/L	1.53	1.85	1.95	2.07	2.02	2.07	2.39	1.9	1.5 J	1.6 J	2.1	2.3	--	2	1.7 J	<1.4	1.88	1.82	1.93	1.92	--	1.5	1.61	1.52	1.56	1.54	1.63	1.58	1.86	
Fluoride	mg/L	0.372	0.361	0.326	0.329	0.287 J	0.194 J	0.192 J	0.223 J	0.32	0.32	0.31	0.38	0.38	0.38	0.39	0.36	0.384	0.335	0.304	0.302	--	0.368	0.33	0.357	0.35	0.364	0.362	0.415	0.358	
pH_Field	SU	6.22	6.21	6.11	6.11	6.13	6.12	6.09	6.09	6.15	6.19	6.13	6.12	6.22	6.21	6.16	6.16	6.14	6.23	6.15	6.19	--	6.35	6.2	6.19	6.06	6.3	6.12	6.35	6.28	
Sulfate	mg/L	2260	2500	2750	2770	3060	2650	2720	2650	2700	2400	2700	2700	--	2400	2600	2400	2090	2240	2690	3050	--	1810	1970	2040	1930	1930	2380	1930	2390	
TDS	mg/L	3300	3870	4140	4190	4190	4400	4230	4120	3980	3880	4210	3990	--	3740	4080	3920	3280	3130	4000	4060	--	2820	3310	3190	3000	3180	3240	3160	3780	
<b>Appendix IV</b>																															
Antimony	mg/L	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	--	<0.0006	<0.0006	<0.0006	<0.0008	0.00097 J	<0.0008	<0.0008	<0.0008	--	<0.0008	<0.0008	<0.000507	<0.000508	<0.000508	<0.000508	<0.000508	<0.00071	
Arsenic	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.000125 J	0.000116 J	6.97e-005 J	9.56e-005 J	<8.1e-005	<0.000112	
Barium	mg/L	0.0114	0.0103	0.0119	0.0118	0.0119	0.0104	0.0106	0.0101	0.0103	0.0107	0.0104	--	0.0111	0.0107	0.0108	0.0107	0.0107	0.00949 J	0.0116	0.0125	--	0.0115	0.0122	0.0111	0.0108	0.00908	0.0115	0.0116	0.0111	
Beryllium	mg/L	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	--	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.000406	<0.000406	<0.000406	<0.000406	<0.000406	<0.000406	
Cadmium	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	--	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	8.96e-005 J	8.19e-005 J	<6.8e-005	6.94e-005 J	<6.8e-005	<6.8e-005	
Chromium	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.000203	0.000302 J	0.000216 J	<0.000203	<0.000203	<0.000203	
Cobalt	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	
Combined Radium 226 + 228	pCi/L	0.434 U	0.287 U	0.516 U	0.266 U	0.59 U	0.164 U	0.296 U	0.0267 U	0.132 U	-0.0439 U	0.3 U	--	0.69	0.186 U	0.153 U	0.794	--	0.352 U	1.02 U	0.356 U	0.254 U	0.459 U	0.169 U	0 U	0.301 U	0.884 U	1.1	0.3 U	0.887 U	
Lead	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	
Lithium	mg/L	0.0528	0.0554	0.0452 J	0.0488 J	0.0476 J	0.049 J	0.0477 J	0.045 J	0.0493 J	0.0494 J	0.0501	--	0.0446 J	0.0513	0.0511	0.0467	0.0504	0.0485	0.054	0.052	--	0.0519	0.0543	0.0558	0.0533	0.0454	0.0484	0.0431	0.0418	
Mercury	mg/L	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	--	<0.00025	<0.00025	<0.00025	<0.00025	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003		
Molybdenum	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.000131 J	0.000138 J	0.000114 J	<0.000102	0.00015 J	<0.000102	<0.000102	
Selenium	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	0.00403 J	<0.002	<0.002	0.00436 J	<0.002	0.00201 J	<0.002	<0.002	<0.002	<0.002	0.00284 J	<0.002	0.00222	0.00155	0.00224	0.000967 J	0.00248	0.00192
Thallium	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	--	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	

Notes:

1. mg/L - Milligrams per Liter
2. pCi/L - picocuries per Liter
3. J - Result is an estimated value. The result is greater than or equal to the Method Detection Limit (MDL) and less than the Practical Quantitation Limit (PQL).



**HISTORICAL ANALYTICAL DATA**  
**CCR Landfill (08/15/2023 - 08/22/2023)**  
**APC Plant Gorgas**  
**Walker County Alabama**

Analyte	Well	MW-5																					
	Date	04/25/2016	06/21/2016	10/12/2017	10/13/2017	10/14/2017	10/15/2017	10/16/2017	10/17/2017	11/16/2017	02/14/2018	05/23/2018	11/20/2018	05/14/2019	10/10/2019	04/07/2020	07/14/2020	02/23/2021	07/21/2021	01/31/2022	07/06/2022	02/21/2023	08/16/23
<b>Appendix III</b>																							
Boron	mg/L	0.0301 J	0.0304 J	0.0285 J	0.0287 J	0.0305 J	0.0319 J	0.0304 J	0.036 J	0.0377 J	--	0.0301 J	0.0357 J	<0.0699	0.0323 J	0.0399 J	0.033 J	0.0369 J	0.0319 J	0.0305 J	0.0315 J	0.0315 J	<0.03
Calcium	mg/L	399	295	394	389	391	332	380	377	368	--	405	414	441	386	432	395	394	384	398	379	367	413
Chloride	mg/L	5.44	6.32	7.9	8	7.4	7.2	8.1	7.9	8.1	--	7	7.4	6.24	7.88	4.83	6.84	6.19	6.73	6.87	7.51	5.25	7.19
Fluoride	mg/L	0.307	0.337	0.35	0.36	0.37	0.37	0.36	0.35	0.37	0.33	0.29	0.32	0.22	0.338	0.225	0.263	0.287	0.331	0.291	0.306	0.319	0.266
pH_Field	SU	--	--	--	--	--	--	--	--	--	6.39	--	--	6.34	6.43	6.43	6.48	6.47	6.4	6.52	6.51	6.5	6.5
Sulfate	mg/L	2390	2500	2300	2300	2300	2300	2300	2200	2200	--	2400	2500	2380	2460	2050	2080	2210	2240	2310	2320	2210	2310
TDS	mg/L	3660	3920	4000	3960	3910	3890	3980	3940	3930	--	3660	3780	3520	3830	3270	3710	3740	3570	3560	3390	3310	3640
<b>Appendix IV</b>																							
Antimony	mg/L	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	--	<0.0006	<0.0006	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.000507	<0.000508	<0.000508	<0.000508	<0.000508	<0.00071
Arsenic	mg/L	0.00138 J	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	--	<0.001	<0.001	<0.001	0.00153 J	<0.001	0.00163 J	<0.001	0.000309	0.000461	0.000193 J	0.000171 J	0.000306	0.000119 J
Barium	mg/L	0.016	0.0112	0.0122	0.0115	0.0099 J	0.0103	0.0101	0.00968 J	--	0.0114	0.0138	0.0105	0.0111	0.0105	0.0137	0.0124	0.0116	0.0116	0.0104	0.012	0.0107	0.0101
Beryllium	mg/L	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	--	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.000406	<0.000406	<0.000406	<0.000406	<0.000406	<0.000406
Cadmium	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	--	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005
Chromium	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.000203	<0.000203	<0.000203	<0.000203	<0.000203	<0.000203
Cobalt	mg/L	0.00287 J	0.00228 J	<0.002	<0.002	<0.002	0.00203 J	<0.002	<0.002	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.00102	0.00127	0.0011	0.000538	0.000976	0.00109
Combined Radium 226 + 228	pCi/L	0.611	0.304 U	0.627 U	0.391 U	1.2 U	0.806 U	0.564 U	0.178 U	--	0.955	0.543	0.687	0.663	0.811 U	0.48 U	0.521	0.71 U	0.79 U	0.0523 U	0.747 U	0.275 U	0.327 U
Lead	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<6.8e-005	<6.8e-005	<6.8e-005	8e-005 J	<6.8e-005	<6.8e-005
Lithium	mg/L	0.0977	0.0972	0.093	0.0935	0.0931	0.0968	0.0963	0.0949	--	0.0989	0.103	0.102	0.116	0.0981	0.133	0.11	0.133	0.113	0.0893	0.0907	0.104	0.0824
Mercury	mg/L	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	--	<0.00025	<0.00025	<0.00025	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Molybdenum	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.0014	0.00126	0.00127	0.00115	0.000945	<0.005075
Selenium	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	0.00254 J	<0.002	0.00288 J	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.00233	0.00178	0.00237	0.00239	0.00172	0.00267
Thallium	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.000375 J	<0.0002	--	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<6.8e-005	<6.8e-005	8.95e-005 J	<6.8e-005	<6.8e-005	<6.8e-005

Notes:

1. mg/L - Milligrams per Liter
2. pCi/L - picocuries per Liter
3. J - Result is an estimated value. The result is greater than or equal to the Method Detection Limit (MDL) and less than the Practical Quantitation Limit (PQL).



**HISTORICAL ANALYTICAL DATA**  
**CCR Landfill (08/15/2023 - 08/22/2023)**  
**APC Plant Gorgas**  
**Walker County Alabama**

Analyte	Well	MW-6																						
	Date	04/27/2016	06/21/2016	10/12/2017	10/13/2017	10/14/2017	10/15/2017	10/16/2017	10/17/2017	11/16/2017	02/14/2018	05/23/2018	11/20/2018	05/15/2019	10/10/2019	04/08/2020	07/14/2020	02/23/2021	07/20/2021	01/31/2022	07/06/2022	02/22/2023	08/16/23	
<b>Appendix III</b>																								
Boron	mg/L	0.075 J	0.0729 J	0.0806 J	0.0803 J	0.0828 J	0.0852 J	0.0858 J	0.0846 J	0.0772 J	--	0.0757 J	0.0915 J	0.0616 J	0.0919 J	0.0499 J	0.0838 J	0.0866 J	0.0608 J	0.0623 J	0.0638 J	0.0356 J	0.065 J	
Calcium	mg/L	411	318	421	396	400	378	402	373	367	--	425	449	345	461	242	406	428	351	385	403	250	362	
Chloride	mg/L	2.19	2.56	3.4	3	2.8	1.9 J	1.8 J	3.1	3.5	--	2.6	2.7	4.45	3.61	4.63	3.25	3.47	4.05	4.7	3.36	4.37	3.36	
Fluoride	mg/L	0.131 J	0.153 J	0.15	0.15	0.14	0.14	0.14	0.14	0.14	0.13	0.13	0.14	0.133	0.124	<-0.06	0.115	0.139	0.131	0.121	0.147	0.173	0.0931 J	
pH_Field	SU	--	--	--	--	--	--	--	--	--	6.17	--	--	5.72	6.16	4.98	6.12	6.13	5.99	6.1	6.14	4.98	6.01	
Sulfate	mg/L	2090	2000	2000	2000	1900	1900	1900	1900	1800	--	2000	2200	2110	2330	1900	1970	2010	1930	2070	2100	1870	2060	
TDS	mg/L	3290	3250	3220	3250	3260	3260	3360	3420	3280	--	3340	3330	3130	3260	2940	3270	3230	2980	3070	3110	2790	3140	
<b>Appendix IV</b>																								
Antimony	mg/L	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	--	<-0.0006	<-0.0006	<-0.0008	<-0.0008	<-0.0008	<-0.0008	<-0.0008	<-0.0008	<-0.000507	<-0.000508	<-0.000508	<-0.000508	<-0.00071	
Arsenic	mg/L	0.005	0.00473 J	0.0051	0.00487 J	0.00476 J	0.00475 J	0.00482 J	0.0048 J	--	0.00493 J	0.0058	0.00542	0.00383 J	0.00473 J	0.00232 J	0.0048 J	0.00494	0.00475	0.00375	0.00481	0.00337	0.00409	
Barium	mg/L	0.012	0.0133	0.0134	0.0124	0.0129	0.0136	0.0131	0.0126	--	0.0142	0.0145	0.0127	0.0121	0.0152	0.0128	0.0154	0.0143	0.0137	0.0125	0.0149	0.0136	0.0134	
Beryllium	mg/L	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	--	<-0.0006	<-0.0006	<-0.0006	0.000677 J	<-0.0006	0.000788 J	<-0.0006	<-0.000406	0.000453 J	0.000567 J	<-0.000406	0.00123	<-0.000406	
Cadmium	mg/L	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-0.0002	--	<-0.0003	<-0.0003	<-0.0003	0.000858 J	<-0.0003	0.00204	<-0.0003	<-6.8e-005	0.000626	0.00078	<-6.8e-005	0.00192	<-6.8e-005	
Chromium	mg/L	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	--	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.00203	<-0.000203	0.000436 J	0.000245 J	0.000301 J	<-0.000203	
Cobalt	mg/L	0.0287	0.0269	0.0279	0.0271	0.0296	0.0303	0.0274	0.0274	--	0.0305	0.0409	0.0327	0.265	0.0425	0.479	0.0916	0.0771	0.216	0.184	0.0674	0.487	0.0493	
Combined Radium 226 + 228	pCi/L	0.956	0.748	0.564 U	1.36 U	1.59 U	1.22 U	1.57 U	0.631 U	--	0.969	0.918	1.15	1.56	1.71	0.179 U	0.578	1.15 U	1.32	0.374 U	1.56	3.75	2.19	
Lead	mg/L	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	--	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-6.8e-005	<-6.8e-005	<-6.8e-005	0.000232	0.000115 J	<-6.8e-005
Lithium	mg/L	0.253	0.253	0.249	0.249	0.244	0.259	0.259	0.249	--	0.242	0.266	0.245	0.152	0.251	0.0489	0.223	0.253	0.18	0.139	0.196	0.0329	0.192	
Mercury	mg/L	<-0.00025	<-0.00025	<-0.00025	<-0.00025	<-0.00025	<-0.00025	<-0.00025	<-0.00025	--	<-0.00025	<-0.00025	<-0.00025	<-0.0003	<-0.0003	<-0.0003	<-0.0003	<-0.0003	<-0.0003	<-0.0003	<-0.0003	<-0.0003	<-0.0003	
Molybdenum	mg/L	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	--	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	0.000285	8.27e-005 J	0.000151 J	0.000288	<-0.000102	<-0.005075
Selenium	mg/L	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	--	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.000507	<-0.000508	<-0.000508	<-0.000508	0.00162	<-0.000508
Thallium	mg/L	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-0.0002	--	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-6.8e-005	<-6.8e-005	9.93e-005 J	8.43e-005 J	0.000138 J	<-6.8e-005

**Notes:**

1. mg/L - Milligrams per Liter
2. pCi/L - picocuries per Liter
3. J - Result is an estimated value. The result is greater than or equal to the Method Detection Limit (MDL) and less than the Practical Quantitation Limit (PQL).



**HISTORICAL ANALYTICAL DATA**  
**CCR Landfill (08/15/2023 - 08/22/2023)**  
**APC Plant Gorgas**  
**Walker County Alabama**

Analyte	Well	MW-7																					
	Date	04/27/2016	06/21/2016	10/12/2017	10/13/2017	10/14/2017	10/15/2017	10/16/2017	10/17/2017	11/16/2017	02/14/2018	05/23/2018	11/20/2018	05/15/2019	10/08/2019	04/08/2020	07/14/2020	02/23/2021	07/20/2021	01/31/2022	07/06/2022	02/21/2023	08/15/23
<b>Appendix III</b>																							
Boron	mg/L	0.253	0.0768 J	0.0685 J	0.0674 J	0.0756 J	0.0719 J	0.0726 J	0.0716 J	0.0644 J	--	0.0715 J	0.0772 J	0.0678 J	0.073 J	0.077 J	0.0865 J	0.0803 J	0.0721 J	0.0697 J	0.0705 J	0.0645 J	0.0658 J
Calcium	mg/L	198	327	317	302	283	294	284	294	299	--	321	306	302	294	280	261	292	254	270	295	299	324
Chloride	mg/L	1.71	2.04	31	32	33	34	34	34	35	--	28	20	15.9	16.8	10.6	9.68	7.85	6.35	6.4	6.25	6.12	6.51
Fluoride	mg/L	0.2 J	0.163 J	0.17	0.19	0.2	0.2	0.2	0.19	0.18	0.18	0.18	0.19	0.169	0.183	0.153	0.193	0.2	0.286	0.173	0.198	0.216	0.154
pH_Field	SU	--	--	--	--	--	--	--	--	--	6.67	--	--	6.61	6.52	6.64	6.52	6.7	6.58	6.48	6.46	6.72	7.47
Sulfate	mg/L	1050	1410	1400	1400	1300	1300	1300	1300	1300	--	1900	1100	1510	1570	1270	1330	1320	1170	1370	1330	1450	1360
TDS	mg/L	1640	2460	2460	2420	2320	1150	2320	2360	2460	--	2390	2090	2310	2340	2230	2210	2320	2110	2140	2110	2220	2270
<b>Appendix IV</b>																							
Antimony	mg/L	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	--	<0.0006	<0.0006	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.000507	<0.000508	<0.000508	<0.000508	<0.00071
Arsenic	mg/L	<0.001	0.00165 J	0.00188 J	0.00181 J	0.00127 J	0.00144 J	0.00139 J	0.00138 J	--	0.00131 J	0.00155 J	0.00133 J	0.00138 J	0.00145 J	0.00136 J	0.00147 J	0.00141	0.00164	0.00156	0.00158	0.00153	0.00157
Barium	mg/L	0.0107	0.0129	0.014	0.0147	0.0123	0.0132	0.0122	0.0121	--	0.0119	0.0135	0.0116	0.0114	0.0145	0.0127	0.0148	0.014	0.0142	0.0126	0.0142	0.0141	0.0133
Beryllium	mg/L	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	--	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.000406	<0.000406	<0.000406	<0.000406	<0.000406
Cadmium	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	--	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005
Chromium	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.000203	<0.000203	0.000321 J	0.000273 J	<0.000203
Cobalt	mg/L	<0.002	<0.002	0.00269 J	0.00341 J	0.00451 J	0.00371 J	0.00371 J	0.0035 J	--	<0.002	<0.002	0.00306 J	0.00234 J	0.00408 J	0.00394 J	0.00653	0.00294	0.00561	0.00546	0.00571	0.0043	0.0042
Combined Radium 226 + 228	pCi/L	0.374 U	0.151 U	0.182 U	0.517 U	0.43 U	0.45 U	0.55 U	0.474 U	--	0.736	0.0192 U	0.494	0.61	0.345 U	0.237 U	0.434	0.696 U	0.356 U	0.473 U	0.716 U	0.789 U	0.452 U
Lead	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005
Lithium	mg/L	0.163	0.171	0.134	0.127	0.112	0.129	0.122	0.122	--	0.131	0.129	0.12	0.127	0.131	0.117	0.103	0.131	0.096	0.0907	0.0806	0.0932	0.0892
Mercury	mg/L	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	--	<0.00025	<0.00025	<0.00025	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Molybdenum	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.00107	0.00086	0.000929	0.000979	0.000885
Selenium	mg/L	0.00445 J	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.000507	<0.000508	<0.000508	0.00072 J	<0.000508
Thallium	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	--	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005

**Notes:**

1. mg/L - Milligrams per Liter
2. pCi/L - picocuries per Liter
3. J - Result is an estimated value. The result is greater than or equal to the Method Detection Limit (MDL) and less than the Practical Quantitation Limit (PQL).



**HISTORICAL ANALYTICAL DATA**  
**CCR Landfill (08/15/2023 - 08/22/2023)**  
**APC Plant Gorgas**  
**Walker County Alabama**

Analyte	Well	MW-8																					
	Date	04/27/2016	06/21/2016	10/12/2017	10/13/2017	10/14/2017	10/15/2017	10/16/2017	10/17/2017	11/16/2017	02/14/2018	05/23/2018	11/20/2018	05/15/2019	10/09/2019	04/08/2020	07/15/2020	02/23/2021	07/20/2021	02/01/2022	07/06/2022	02/21/2023	08/15/23
<b>Appendix III</b>																							
Boron	mg/L	0.0662 J	0.0681 J	0.0687 J	0.0831 J	0.0702 J	0.0702 J	0.0707 J	0.0695 J	0.0675 J	--	0.0693 J	0.0771 J	0.0689 J	0.0723 J	0.0683 J	0.0723 J	0.0731 J	0.0656 J	0.0639 J	0.0643 J	0.0609 J	0.0632 J
Calcium	mg/L	282	291	300	298	299	307	299	294	308	--	344	327	305	329	281	280	306	281	291	299	317	320
Chloride	mg/L	2.34	2.29	150	130	140	130	140	140	130	--	75	45	52	39.2	24.9	23.8	17.9	14.3	8.56	6.5	4.86	4.92
Fluoride	mg/L	0.212 J	0.211 J	0.22	0.23	0.22	0.22	0.22	0.21	0.22	0.21	0.21	0.21	0.192	0.189	0.192	0.196	0.208	0.262	0.177	0.173	0.212	0.174
pH_Field	SU	--	--	--	--	--	--	--	--	--	6.55	--	--	6.6	6.67	6.7	6.71	6.73	6.64	6.77	6.72	6.75	7.58
Sulfate	mg/L	1550	1470	1400	1600	1400	1400	1400	1400	1400	--	2100	1400	1640	1550	1380	1410	1420	1500	1500	1460	1510	1480
TDS	mg/L	2480	2360	2530	2740	2630	2530	2740	2650	2650	--	2750	2520	2540	2590	2450	2460	2550	2420	2420	2320	2370	2410
<b>Appendix IV</b>																							
Antimony	mg/L	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	--	<0.0006	<0.0006	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.000507	<0.000508	<0.000508	<0.000508	<0.00071
Arsenic	mg/L	<0.001	0.00101 J	0.00197 J	0.00159 J	0.00126 J	0.00106 J	0.00106 J	0.00103 J	--	0.00185 J	0.00157 J	0.00173 J	0.00136 J	0.00142 J	0.00102 J	0.00212 J	0.00117	0.00111	0.00131	0.000356	0.000567	0.000396
Barium	mg/L	0.0108	0.0116	0.0141	0.0148	0.0134	0.0139	0.0129	0.0126	--	0.0126	0.0137	0.0123	0.0122	0.0137	0.0137	0.0143	0.014	0.0141	0.0142	0.0132	0.0148	0.0136
Beryllium	mg/L	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	--	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.000406	<0.000406	<0.000406	<0.000406	<0.000406
Cadmium	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	--	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005
Chromium	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.000203	<0.000203	0.000253 J	0.000368 J	<0.000203
Cobalt	mg/L	0.00436 J	0.00484 J	0.005 J	0.0052 J	0.00513 J	0.00518 J	0.00453 J	0.00463 J	--	0.00441 J	0.00466 J	0.00551	0.00643	0.00864	0.00762	0.00821	0.00796	0.00714	0.00684	0.00673	0.00585	0.00556
Combined Radium 226 + 228	pCi/L	<0.207 U	0.529	0.267 U	0.873 U	1.6 U	0.327 U	0.524 U	0.0455 U	--	0.633	0.377 U	0.28 U	0.697	0.416 U	1.38 U	0.398 U	0.685 U	0.42 U	0.643 U	0.415 U	2.19	0.269 U
Lead	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<6.8e-005	9.44e-005 J	8.59e-005 J	<6.8e-005	<6.8e-005
Lithium	mg/L	0.171	0.181	0.182	0.189	0.177	0.191	0.189	0.184	--	0.183	0.194	0.181	0.16	0.163	0.149	0.152	0.166	0.151	0.124	0.124	0.119	0.113
Mercury	mg/L	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	--	<0.00025	<0.00025	<0.00025	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Molybdenum	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.0129	0.000329	0.000309	0.000336	<0.000338
Selenium	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.000507	<0.000508	<0.000508	<0.000508	<0.000508
Thallium	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	--	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005

**Notes:**

1. mg/L - Milligrams per Liter
2. pCi/L - picocuries per Liter
3. J - Result is an estimated value. The result is greater than or equal to the Method Detection Limit (MDL) and less than the Practical Quantitation Limit (PQL).

# Appendix B





## Appendix B. Historical Groundwater Elevations Summary

### Plant Gorgas CCR Landfill

10/12/2015 - 02/20/2023

Well	Hydraulic Location	Geologic Unit	Groundwater Elevation (ft.AMSL)									
			10/12/15	04/25/16	06/20/16	08/08/16	08/24/16	10/03/16	10/26/16	11/21/16	01/17/17	03/20/17
MW-1	Upgradient	Mine Spoil - Pottsville Fm Interface	410.95	411.22	410.7	410.49	410.43	410.31	410.19	410.1	410.07	410.67
MW-2	Upgradient	Mine Spoil - Pottsville Fm Interface	417.16	417.36	416.76	416.6	416.42	416.21	416.08	415.98	416.62	417.24
MW-3	Upgradient	Mine Spoil - Pottsville Fm Interface	415.81	416.41	415.45	415	415.08	414.82	414.64	414.43	415.27	416.07
MW-4	Upgradient	Mine Spoil - Pottsville Fm Interface	401.88	402.31	401.79	400.61	400.57	400.09	399.83	399.53	400.51	402.02
MW-5	Downgradient	Mine Spoil - Pottsville Fm Interface	348.34	348.47	348.37	348.39	NM	348.39	NM	348.38	348.34	348.4
MW-6	Downgradient	Mine Spoil - Pottsville Fm Interface	308.19	312.84	308.08	305.87	NM	304.61	NM	304.24	304.6	306.45
MW-7	Downgradient	Mine Spoil - Pottsville Fm Interface	333.98	336.39	334.07	333.91	NM	333.86	NM	333.71	333.81	334.1
MW-8	Downgradient	Mine Spoil - Pottsville Fm Interface	353.1	351.49	351.75	351.95	NM	352.15	NM	352.16	352.56	352.92
MW-9	Piezometer	Mine Spoil - Pottsville Fm Interface	376.17	376.22	376.2	376.14	NM	376.07	NM	NM	376.13	376.08
MW-9R	Piezometer	Mine Spoil - Pottsville Fm Interface	---	---	---	---	---	---	---	---	---	---

Notes:

- (1) Groundwater elevations measured in vertical feet relative to the North American Vertical Datum (NAVD) 1988.
- (2) ft. AMSL - Feet Above Mean Sea Level
- (3) NM - Not Measured
- (4) Ground surface and top of casing elevations for all on-site compliance wells were resurveyed by a licensed Professional Land Surveyor on April 13, 2023. Select monitoring wells (MW-6) were resurveyed by a licensed Professional Land Surveyor on October 25, 2023.



**Appendix B. Historical Groundwater Elevations Summary**  
**Plant Gorgas CCR Landfill**  
**10/12/2015 - 02/20/2023**

Well	Hydraulic Location	Geologic Unit	Groundwater Elevation (ft.AMSL)									
			04/10/17	04/17/17	05/30/17	08/23/17	10/12/17	10/13/17	10/14/17	10/15/17	10/16/17	10/17/17
MW-1	Upgradient	Mine Spoil - Pottsville Fm Interface	410.89	410.94	410.8	411.06	410.7	410.72	410.68	410.73	410.68	410.65
MW-2	Upgradient	Mine Spoil - Pottsville Fm Interface	417.66	417.34	416.94	417.02	416.5	416.54	416.49	416.53	416.5	416.51
MW-3	Upgradient	Mine Spoil - Pottsville Fm Interface	418.23	417.21	415.63	415.73	415.1	415.14	415.15	415.17	415.13	415.12
MW-4	Upgradient	Mine Spoil - Pottsville Fm Interface	402.5	402.33	401.68	401.77	400.79	400.76	400.67	400.67	400.59	400.62
MW-5	Downgradient	Mine Spoil - Pottsville Fm Interface	348.53	NM	348.42	348.42	348.38	348.4	348.36	348.37	348.34	348.37
MW-6	Downgradient	Mine Spoil - Pottsville Fm Interface	307.79	NM	306.65	310.02	306.04	306.03	305.99	305.98	305.95	305.91
MW-7	Downgradient	Mine Spoil - Pottsville Fm Interface	336.18	NM	334.24	335.75	334.36	334.53	334.45	334.45	334.42	334.41
MW-8	Downgradient	Mine Spoil - Pottsville Fm Interface	353.12	NM	353.12	353.29	353.39	353.32	353.31	353.4	353.34	353.31
MW-9	Piezometer	Mine Spoil - Pottsville Fm Interface	376.2	NM	376.05	---	---	---	---	---	---	---
MW-9R	Piezometer	Mine Spoil - Pottsville Fm Interface	---	---	---	372.94	NM	NM	NM	NM	NM	NM

Notes:

- (1) Groundwater elevations measured in vertical feet relative to the North American Vertical Datum (NAVD) 1988.
- (2) ft. AMSL - Feet Above Mean Sea Level
- (3) NM - Not Measured
- (4) Ground surface and top of casing elevations for all on-site compliance wells were resurveyed by a licensed Professional Land Surveyor on April 13, 2023. Select monitoring wells (MW-6) were resurveyed by a licensed Professional Land Surveyor on October 25, 2023.



## Appendix B. Historical Groundwater Elevations Summary

### Plant Gorgas CCR Landfill

10/12/2015 - 02/20/2023

Well	Hydraulic Location	Geologic Unit	Groundwater Elevation (ft.AMSL)									
			10/23/17	11/15/17	02/12/18	02/13/18	04/09/18	05/21/18	06/11/18	10/17/18	10/29/18	11/19/18
MW-1	Upgradient	Mine Spoil - Pottsville Fm Interface	410.69	410.66	410.89	410.89	411.35	411.47	411.28	410.65	410.62	410.8
MW-2	Upgradient	Mine Spoil - Pottsville Fm Interface	416.62	416.74	419.29	419.29	417.32	417.33	417.03	416.39	416.3	417.67
MW-3	Upgradient	Mine Spoil - Pottsville Fm Interface	415.17	415.41	418.49	418.49	416.25	416.28	415.77	414.92	414.85	416.31
MW-4	Upgradient	Mine Spoil - Pottsville Fm Interface	400.54	400.6	402.67	402.67	402.22	402.24	402.01	400.3	400.18	402.08
MW-5	Downgradient	Mine Spoil - Pottsville Fm Interface	NM	348.43	348.61	NM	348.5	348.49	NM	NM	348.42	348.55
MW-6	Downgradient	Mine Spoil - Pottsville Fm Interface	NM	305.75	306.47	NM	311.9	314.14	304.84	306.89	323.91	316.49
MW-7	Downgradient	Mine Spoil - Pottsville Fm Interface	NM	334.14	336.82	NM	335.68	336.6	NM	NM	334.01	337.61
MW-8	Downgradient	Mine Spoil - Pottsville Fm Interface	NM	353.3	353.44	NM	353.5	353.55	NM	NM	353.08	353.37
MW-9	Piezometer	Mine Spoil - Pottsville Fm Interface	---	---	---	---	---	---	---	---	---	---
MW-9R	Piezometer	Mine Spoil - Pottsville Fm Interface	NM	372.96	NM	NM	NM	NM	NM	NM	NM	NM

Notes:

- (1) Groundwater elevations measured in vertical feet relative to the North American Vertical Datum (NAVD) 1988.
- (2) ft. AMSL - Feet Above Mean Sea Level
- (3) NM - Not Measured
- (4) Ground surface and top of casing elevations for all on-site compliance wells were resurveyed by a licensed Professional Land Surveyor on April 13, 2023. Select monitoring wells (MW-6) were resurveyed by a licensed Professional Land Surveyor on October 25, 2023.

**Appendix B. Historical Groundwater Elevations Summary**  
**Plant Gorgas CCR Landfill**  
**10/12/2015 - 02/20/2023**

Well	Hydraulic Location	Geologic Unit	Groundwater Elevation (ft.AMSL)									
			03/13/19	04/10/19	05/13/19	10/07/19	10/14/19	04/06/20	07/13/20	08/03/20	02/22/21	07/12/21
MW-1	Upgradient	Mine Spoil - Pottsville Fm Interface	412.11	411.95	411.77	410.79	410.72	412.16	411.22	412.19	411.59	411.54
MW-2	Upgradient	Mine Spoil - Pottsville Fm Interface	417.7	421.15	417.64	416.63	416.62	417.81	416.93	417.1	418.5	417.75
MW-3	Upgradient	Mine Spoil - Pottsville Fm Interface	418.31	416.4	415.17	415.14	417.64	417.41	415.34	419.94	421.54	415.49
MW-4	Upgradient	Mine Spoil - Pottsville Fm Interface	402.68	402.86	402.43	400.33	400.33	402.59	401.42	402.82	402.3	401.37
MW-5	Downgradient	Mine Spoil - Pottsville Fm Interface	348.74	NM	348.66	348.46	NM	348.74	348.59	NM	348.81	348.65
MW-6	Downgradient	Mine Spoil - Pottsville Fm Interface	NM	NM	NM	304.21	NM	319.32	309.56	311.83	314.66	NM
MW-7	Downgradient	Mine Spoil - Pottsville Fm Interface	339.54	NM	338.44	334.13	NM	338.34	335.86	NM	338.01	336.47
MW-8	Downgradient	Mine Spoil - Pottsville Fm Interface	353.47	NM	353.32	352.22	NM	353.52	353.04	NM	352.81	352.61
MW-9	Piezometer	Mine Spoil - Pottsville Fm Interface	---	---	---	---	---	---	---	---	---	---
MW-9R	Piezometer	Mine Spoil - Pottsville Fm Interface	NM	NM	373.11	372.99	NM	373.15	373.04	NM	373.15	373.13

Notes:

- (1) Groundwater elevations measured in vertical feet relative to the North American Vertical Datum (NAVD) 1988.
- (2) ft. AMSL - Feet Above Mean Sea Level
- (3) NM - Not Measured
- (4) Ground surface and top of casing elevations for all on-site compliance wells were resurveyed by a licensed Professional Land Surveyor on April 13, 2023. Select monitoring wells (MW-6) were resurveyed by a licensed Professional Land Surveyor on October 25, 2023.

**Appendix B. Historical Groundwater Elevations Summary**  
**Plant Gorgas CCR Landfill**  
**10/12/2015 - 02/20/2023**

Well	Hydraulic Location	Geologic Unit	Groundwater Elevation (ft.AMSL)			
			01/24/22	07/05/22	02/20/23	08/15/23
MW-1	Upgradient	Mine Spoil - Pottsville Fm Interface	411.49	411.39	412.18	411.51
MW-2	Upgradient	Mine Spoil - Pottsville Fm Interface	418.4	417.74	419.04	417.63
MW-3	Upgradient	Mine Spoil - Pottsville Fm Interface	418.99	416.02	419.16	416.03
MW-4	Upgradient	Mine Spoil - Pottsville Fm Interface	402.52	401.99	402.34	401.27
MW-5	Downgradient	Mine Spoil - Pottsville Fm Interface	348.76	348.61	349.08	348.95
MW-6	Downgradient	Mine Spoil - Pottsville Fm Interface	312.53	310.54	320.13	307.45
MW-7	Downgradient	Mine Spoil - Pottsville Fm Interface	337.16	334.16	337.65	335.67
MW-8	Downgradient	Mine Spoil - Pottsville Fm Interface	352.56	352.29	352.44	351.53
MW-9	Piezometer	Mine Spoil - Pottsville Fm Interface	---	---	---	---
MW-9R	Piezometer	Mine Spoil - Pottsville Fm Interface	373.13	373.08	373.29	373.09

Notes:

- (1) Groundwater elevations measured in vertical feet relative to the North American Vertical Datum (NAVD) 1988.
- (2) ft. AMSL - Feet Above Mean Sea Level
- (3) NM - Not Measured
- (4) Ground surface and top of casing elevations for all on-site compliance wells were resurveyed by a licensed Professional Land Surveyor on April 13, 2023. Select monitoring wells (MW-6) were resurveyed by a licensed Professional Land Surveyor on October 25, 2023.

# Appendix C

Alabama Power General Test Laboratory  
744 County Road 87, GSC#8  
Calera, AL 35040  
(205) 664-6032 or 6171  
FAX (205) 257-1654

## ***Field Case Narrative***



# **Plant Gorgas Pooled Upgradient Wells**

## **2023 Compliance Event 1**

All samples were collected using methods defined in Alabama Power's Water Field Group Low-Flow Groundwater Sampling Procedure and the associated site-specific Sampling and Analysis Plan (SAP).

Field quality control procedures were performed as follows:

- Blanks and Sample Duplicates were collected as described in the SAP.
- Calibration verifications for all required field parameters were performed daily, before and after sample collection.

Alabama Power General Test Laboratory  
744 County Road 87, GSC#8  
Calera, AL 35040  
(205) 664-6032 or 6171  
FAX (205) 257-1654

## ***Field Case Narrative***



## **Plant Gorgas Landfill**

### **2023 Compliance Event 1**

All samples were collected using methods defined in Alabama Power's Water Field Group Low-Flow Groundwater Sampling Procedure and the associated site-specific Sampling and Analysis Plan (SAP).

Rainy conditions were present when pumping and sampling wells MW-17R, MW-18, and MW-19..

Field quality control procedures were performed as follows:

- Blanks and Sample Duplicates were collected as described in the SAP.
- Calibration verifications for all required field parameters were performed daily, before and after sample collection.







Plant Gorgas CCB Landfills  
Field Parameter Summary

WELL ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
APCO-GS-CCB-MW-1	COND	Conductivity	2/20/23 11:27	2307.56	uS/cm
APCO-GS-CCB-MW-1	DO	DO	2/20/23 11:27	1.16	mg/L
APCO-GS-CCB-MW-1	DTW	Depth to Water Detail	2/20/23 11:27	92.88	ft
APCO-GS-CCB-MW-1	ORP	Oxidation Reduction Potention	2/20/23 11:27	317.83	mv
APCO-GS-CCB-MW-1	PH	pH	2/20/23 11:27	5.04	SU
APCO-GS-CCB-MW-1	TEMP	Temperature	2/20/23 11:27	19.45	C
APCO-GS-CCB-MW-1	TURB	Turbidity	2/20/23 11:27	0.66	NTU
APCO-GS-CCB-MW-1	COND	Conductivity	2/20/23 11:32	2301.7	uS/cm
APCO-GS-CCB-MW-1	DO	DO	2/20/23 11:32	1.19	mg/L
APCO-GS-CCB-MW-1	DTW	Depth to Water Detail	2/20/23 11:32	92.9	ft
APCO-GS-CCB-MW-1	ORP	Oxidation Reduction Potention	2/20/23 11:32	338.68	mv
APCO-GS-CCB-MW-1	PH	pH	2/20/23 11:32	5.05	SU
APCO-GS-CCB-MW-1	TEMP	Temperature	2/20/23 11:32	19.57	C
APCO-GS-CCB-MW-1	TURB	Turbidity	2/20/23 11:32	0.59	NTU
APCO-GS-CCB-MW-1	COND	Conductivity	2/20/23 11:37	2295.88	uS/cm
APCO-GS-CCB-MW-1	DO	DO	2/20/23 11:37	1.02	mg/L
APCO-GS-CCB-MW-1	DTW	Depth to Water Detail	2/20/23 11:37	92.92	ft
APCO-GS-CCB-MW-1	ORP	Oxidation Reduction Potention	2/20/23 11:37	348.93	mv
APCO-GS-CCB-MW-1	PH	pH	2/20/23 11:37	5.07	SU
APCO-GS-CCB-MW-1	TEMP	Temperature	2/20/23 11:37	19.63	C
APCO-GS-CCB-MW-1	TURB	Turbidity	2/20/23 11:37	0.69	NTU
APCO-GS-CCB-MW-1	COND	Conductivity	2/20/23 11:42	2343.61	uS/cm
APCO-GS-CCB-MW-1	DO	DO	2/20/23 11:42	0.97	mg/L
APCO-GS-CCB-MW-1	DTW	Depth to Water Detail	2/20/23 11:42	92.94	ft
APCO-GS-CCB-MW-1	ORP	Oxidation Reduction Potention	2/20/23 11:42	355.62	mv
APCO-GS-CCB-MW-1	PH	pH	2/20/23 11:42	5.08	SU
APCO-GS-CCB-MW-1	TEMP	Temperature	2/20/23 11:42	19.63	C
APCO-GS-CCB-MW-1	TURB	Turbidity	2/20/23 11:42	0.5	NTU
APCO-GS-CCB-MW-1	COND	Conductivity	2/20/23 11:47	2297.01	uS/cm
APCO-GS-CCB-MW-1	DO	DO	2/20/23 11:47	0.95	mg/L
APCO-GS-CCB-MW-1	DTW	Depth to Water Detail	2/20/23 11:47	92.94	ft
APCO-GS-CCB-MW-1	ORP	Oxidation Reduction Potention	2/20/23 11:47	361.14	mv
APCO-GS-CCB-MW-1	PH	pH	2/20/23 11:47	5.07	SU
APCO-GS-CCB-MW-1	SULFIDE	Sulfide	2/20/23 11:47	0	mg/L
APCO-GS-CCB-MW-1	TEMP	Temperature	2/20/23 11:47	19.59	C
APCO-GS-CCB-MW-1	TURB	Turbidity	2/20/23 11:47	0.73	NTU
APCO-GS-CCB-MW-2	COND	Conductivity	2/20/23 13:18	1774.73	uS/cm
APCO-GS-CCB-MW-2	DO	DO	2/20/23 13:18	0.85	mg/L
APCO-GS-CCB-MW-2	DTW	Depth to Water Detail	2/20/23 13:18	83.43	ft
APCO-GS-CCB-MW-2	ORP	Oxidation Reduction Potention	2/20/23 13:18	71.78	mv
APCO-GS-CCB-MW-2	PH	pH	2/20/23 13:18	6.22	SU
APCO-GS-CCB-MW-2	TEMP	Temperature	2/20/23 13:18	19	C
APCO-GS-CCB-MW-2	TURB	Turbidity	2/20/23 13:18	0.72	NTU
APCO-GS-CCB-MW-2	COND	Conductivity	2/20/23 13:23	1773.88	uS/cm
APCO-GS-CCB-MW-2	DO	DO	2/20/23 13:23	0.85	mg/L
APCO-GS-CCB-MW-2	DTW	Depth to Water Detail	2/20/23 13:23	83.43	ft
APCO-GS-CCB-MW-2	ORP	Oxidation Reduction Potention	2/20/23 13:23	71.83	mv
APCO-GS-CCB-MW-2	PH	pH	2/20/23 13:23	6.23	SU
APCO-GS-CCB-MW-2	TEMP	Temperature	2/20/23 13:23	19	C
APCO-GS-CCB-MW-2	TURB	Turbidity	2/20/23 13:23	0.94	NTU
APCO-GS-CCB-MW-2	COND	Conductivity	2/20/23 13:28	1772.4	uS/cm
APCO-GS-CCB-MW-2	DO	DO	2/20/23 13:28	0.83	mg/L
APCO-GS-CCB-MW-2	DTW	Depth to Water Detail	2/20/23 13:28	83.43	ft
APCO-GS-CCB-MW-2	ORP	Oxidation Reduction Potention	2/20/23 13:28	72.2	mv
APCO-GS-CCB-MW-2	PH	pH	2/20/23 13:28	6.24	SU
APCO-GS-CCB-MW-2	TEMP	Temperature	2/20/23 13:28	18.98	C
APCO-GS-CCB-MW-2	TURB	Turbidity	2/20/23 13:28	0.47	NTU
APCO-GS-CCB-MW-2	COND	Conductivity	2/20/23 13:33	1773	uS/cm
APCO-GS-CCB-MW-2	DO	DO	2/20/23 13:33	0.82	mg/L
APCO-GS-CCB-MW-2	DTW	Depth to Water Detail	2/20/23 13:33	83.43	ft
APCO-GS-CCB-MW-2	ORP	Oxidation Reduction Potention	2/20/23 13:33	72.91	mv
APCO-GS-CCB-MW-2	PH	pH	2/20/23 13:33	6.24	SU

Plant Gorgas CCB Landfills  
Field Parameter Summary

APCO-GS-CCB-MW-2	SULFIDE	Sulfide	2/20/23 13:33	0	mg/L
APCO-GS-CCB-MW-2	TEMP	Temperature	2/20/23 13:33	18.95	C
APCO-GS-CCB-MW-2	TURB	Turbidity	2/20/23 13:33	0.41	NTU
APCO-GS-CCB-MW-3	COND	Conductivity	2/20/23 14:18	3845.31	uS/cm
APCO-GS-CCB-MW-3	DO	DO	2/20/23 14:18	7.15	mg/L
APCO-GS-CCB-MW-3	DTW	Depth to Water Detail	2/20/23 14:18	107.22	ft
APCO-GS-CCB-MW-3	ORP	Oxidation Reduction Potention	2/20/23 14:18	307.8	mv
APCO-GS-CCB-MW-3	PH	pH	2/20/23 14:18	4.94	SU
APCO-GS-CCB-MW-3	TEMP	Temperature	2/20/23 14:18	20.98	C
APCO-GS-CCB-MW-3	TURB	Turbidity	2/20/23 14:18	3.67	NTU
APCO-GS-CCB-MW-3	COND	Conductivity	2/20/23 14:23	3460.97	uS/cm
APCO-GS-CCB-MW-3	DO	DO	2/20/23 14:23	6.52	mg/L
APCO-GS-CCB-MW-3	DTW	Depth to Water Detail	2/20/23 14:23	107.24	ft
APCO-GS-CCB-MW-3	ORP	Oxidation Reduction Potention	2/20/23 14:23	273.35	mv
APCO-GS-CCB-MW-3	PH	pH	2/20/23 14:23	5.74	SU
APCO-GS-CCB-MW-3	TEMP	Temperature	2/20/23 14:23	20.86	C
APCO-GS-CCB-MW-3	TURB	Turbidity	2/20/23 14:23	12.9	NTU
APCO-GS-CCB-MW-3	COND	Conductivity	2/20/23 14:28	3297.44	uS/cm
APCO-GS-CCB-MW-3	DO	DO	2/20/23 14:28	6.36	mg/L
APCO-GS-CCB-MW-3	DTW	Depth to Water Detail	2/20/23 14:28	107.26	ft
APCO-GS-CCB-MW-3	ORP	Oxidation Reduction Potention	2/20/23 14:28	243.1	mv
APCO-GS-CCB-MW-3	PH	pH	2/20/23 14:28	5.97	SU
APCO-GS-CCB-MW-3	TEMP	Temperature	2/20/23 14:28	20.74	C
APCO-GS-CCB-MW-3	TURB	Turbidity	2/20/23 14:28	11.5	NTU
APCO-GS-CCB-MW-3	COND	Conductivity	2/20/23 14:33	3289.62	uS/cm
APCO-GS-CCB-MW-3	DO	DO	2/20/23 14:33	6.25	mg/L
APCO-GS-CCB-MW-3	DTW	Depth to Water Detail	2/20/23 14:33	107.28	ft
APCO-GS-CCB-MW-3	ORP	Oxidation Reduction Potention	2/20/23 14:33	235.2	mv
APCO-GS-CCB-MW-3	PH	pH	2/20/23 14:33	5.99	SU
APCO-GS-CCB-MW-3	TEMP	Temperature	2/20/23 14:33	20.53	C
APCO-GS-CCB-MW-3	TURB	Turbidity	2/20/23 14:33	7.21	NTU
APCO-GS-CCB-MW-3	COND	Conductivity	2/20/23 14:38	3282.07	uS/cm
APCO-GS-CCB-MW-3	DO	DO	2/20/23 14:38	6.17	mg/L
APCO-GS-CCB-MW-3	DTW	Depth to Water Detail	2/20/23 14:38	107.3	ft
APCO-GS-CCB-MW-3	ORP	Oxidation Reduction Potention	2/20/23 14:38	233.18	mv
APCO-GS-CCB-MW-3	PH	pH	2/20/23 14:38	6	SU
APCO-GS-CCB-MW-3	TEMP	Temperature	2/20/23 14:38	20.41	C
APCO-GS-CCB-MW-3	TURB	Turbidity	2/20/23 14:38	3.72	NTU
APCO-GS-CCB-MW-3	COND	Conductivity	2/20/23 14:43	3280.04	uS/cm
APCO-GS-CCB-MW-3	DO	DO	2/20/23 14:43	6.2	mg/L
APCO-GS-CCB-MW-3	DTW	Depth to Water Detail	2/20/23 14:43	107.32	ft
APCO-GS-CCB-MW-3	ORP	Oxidation Reduction Potention	2/20/23 14:43	232.49	mv
APCO-GS-CCB-MW-3	PH	pH	2/20/23 14:43	6.01	SU
APCO-GS-CCB-MW-3	TEMP	Temperature	2/20/23 14:43	20.36	C
APCO-GS-CCB-MW-3	TURB	Turbidity	2/20/23 14:43	2.34	NTU
APCO-GS-CCB-MW-3	COND	Conductivity	2/20/23 14:48	3276.9	uS/cm
APCO-GS-CCB-MW-3	DO	DO	2/20/23 14:48	6.19	mg/L
APCO-GS-CCB-MW-3	DTW	Depth to Water Detail	2/20/23 14:48	107.33	ft
APCO-GS-CCB-MW-3	ORP	Oxidation Reduction Potention	2/20/23 14:48	231.95	mv
APCO-GS-CCB-MW-3	PH	pH	2/20/23 14:48	6.01	SU
APCO-GS-CCB-MW-3	SULFIDE	Sulfide	2/20/23 14:48	0	mg/L
APCO-GS-CCB-MW-3	TEMP	Temperature	2/20/23 14:48	20.34	C
APCO-GS-CCB-MW-3	TURB	Turbidity	2/20/23 14:48	1.21	NTU
APCO-GS-CCB-MW-4	COND	Conductivity	2/21/23 9:30	3246.86	uS/cm
APCO-GS-CCB-MW-4	DO	DO	2/21/23 9:30	2.8	mg/L
APCO-GS-CCB-MW-4	DTW	Depth to Water Detail	2/21/23 9:30	116.03	ft
APCO-GS-CCB-MW-4	ORP	Oxidation Reduction Potention	2/21/23 9:30	213.78	mv
APCO-GS-CCB-MW-4	PH	pH	2/21/23 9:30	6.33	SU
APCO-GS-CCB-MW-4	TEMP	Temperature	2/21/23 9:30	19.7	C
APCO-GS-CCB-MW-4	TURB	Turbidity	2/21/23 9:30	2.34	NTU
APCO-GS-CCB-MW-4	COND	Conductivity	2/21/23 9:35	3228.3	uS/cm
APCO-GS-CCB-MW-4	DO	DO	2/21/23 9:35	2.79	mg/L
APCO-GS-CCB-MW-4	DTW	Depth to Water Detail	2/21/23 9:35	116.03	ft

Plant Gorgas CCB Landfills  
Field Parameter Summary

APCO-GS-CCB-MW-4	ORP	Oxidation Reduction Potention	2/21/23 9:35	214.38	mv
APCO-GS-CCB-MW-4	PH	pH	2/21/23 9:35	6.33	SU
APCO-GS-CCB-MW-4	TEMP	Temperature	2/21/23 9:35	19.65	C
APCO-GS-CCB-MW-4	TURB	Turbidity	2/21/23 9:35	1.59	NTU
APCO-GS-CCB-MW-4	COND	Conductivity	2/21/23 9:40	3207.87	uS/cm
APCO-GS-CCB-MW-4	DO	DO	2/21/23 9:40	2.9	mg/L
APCO-GS-CCB-MW-4	DTW	Depth to Water Detail	2/21/23 9:40	116.03	ft
APCO-GS-CCB-MW-4	ORP	Oxidation Reduction Potention	2/21/23 9:40	215.67	mv
APCO-GS-CCB-MW-4	PH	pH	2/21/23 9:40	6.34	SU
APCO-GS-CCB-MW-4	TEMP	Temperature	2/21/23 9:40	19.6	C
APCO-GS-CCB-MW-4	TURB	Turbidity	2/21/23 9:40	1.25	NTU
APCO-GS-CCB-MW-4	COND	Conductivity	2/21/23 9:45	3197.25	uS/cm
APCO-GS-CCB-MW-4	DO	DO	2/21/23 9:45	3.04	mg/L
APCO-GS-CCB-MW-4	DTW	Depth to Water Detail	2/21/23 9:45	116.03	ft
APCO-GS-CCB-MW-4	ORP	Oxidation Reduction Potention	2/21/23 9:45	216.9	mv
APCO-GS-CCB-MW-4	PH	pH	2/21/23 9:45	6.34	SU
APCO-GS-CCB-MW-4	TEMP	Temperature	2/21/23 9:45	19.59	C
APCO-GS-CCB-MW-4	TURB	Turbidity	2/21/23 9:45	1.22	NTU
APCO-GS-CCB-MW-4	COND	Conductivity	2/21/23 9:50	3189.48	uS/cm
APCO-GS-CCB-MW-4	DO	DO	2/21/23 9:50	3.13	mg/L
APCO-GS-CCB-MW-4	DTW	Depth to Water Detail	2/21/23 9:50	116.03	ft
APCO-GS-CCB-MW-4	ORP	Oxidation Reduction Potention	2/21/23 9:50	217.91	mv
APCO-GS-CCB-MW-4	PH	pH	2/21/23 9:50	6.35	SU
APCO-GS-CCB-MW-4	TEMP	Temperature	2/21/23 9:50	19.6	C
APCO-GS-CCB-MW-4	TURB	Turbidity	2/21/23 9:50	1.2	NTU
APCO-GS-CCB-MW-4	COND	Conductivity	2/21/23 9:55	3184.95	uS/cm
APCO-GS-CCB-MW-4	DO	DO	2/21/23 9:55	3.15	mg/L
APCO-GS-CCB-MW-4	DTW	Depth to Water Detail	2/21/23 9:55	116.03	ft
APCO-GS-CCB-MW-4	ORP	Oxidation Reduction Potention	2/21/23 9:55	219	mv
APCO-GS-CCB-MW-4	PH	pH	2/21/23 9:55	6.35	SU
APCO-GS-CCB-MW-4	SULFIDE	Sulfide	2/21/23 9:55	0	mg/L
APCO-GS-CCB-MW-4	TEMP	Temperature	2/21/23 9:55	19.61	C
APCO-GS-CCB-MW-4	TURB	Turbidity	2/21/23 9:55	0.72	NTU
APCO-GS-CCB-MW-11	COND	Conductivity	2/21/23 14:57	2626.49	uS/cm
APCO-GS-CCB-MW-11	DO	DO	2/21/23 14:57	0.29	mg/L
APCO-GS-CCB-MW-11	DTW	Depth to Water Detail	2/21/23 14:57	106.08	ft
APCO-GS-CCB-MW-11	ORP	Oxidation Reduction Potention	2/21/23 14:57	-52.81	mv
APCO-GS-CCB-MW-11	PH	pH	2/21/23 14:57	6.82	SU
APCO-GS-CCB-MW-11	TEMP	Temperature	2/21/23 14:57	20.33	C
APCO-GS-CCB-MW-11	TURB	Turbidity	2/21/23 14:57	0.97	NTU
APCO-GS-CCB-MW-11	COND	Conductivity	2/21/23 15:02	2616.81	uS/cm
APCO-GS-CCB-MW-11	DO	DO	2/21/23 15:02	0.2	mg/L
APCO-GS-CCB-MW-11	DTW	Depth to Water Detail	2/21/23 15:02	108.7	ft
APCO-GS-CCB-MW-11	ORP	Oxidation Reduction Potention	2/21/23 15:02	-57.73	mv
APCO-GS-CCB-MW-11	PH	pH	2/21/23 15:02	6.8	SU
APCO-GS-CCB-MW-11	TEMP	Temperature	2/21/23 15:02	20.22	C
APCO-GS-CCB-MW-11	TURB	Turbidity	2/21/23 15:02	0.89	NTU
APCO-GS-CCB-MW-11	COND	Conductivity	2/21/23 15:07	2614.17	uS/cm
APCO-GS-CCB-MW-11	DO	DO	2/21/23 15:07	0.19	mg/L
APCO-GS-CCB-MW-11	DTW	Depth to Water Detail	2/21/23 15:07	110.54	ft
APCO-GS-CCB-MW-11	ORP	Oxidation Reduction Potention	2/21/23 15:07	-60.02	mv
APCO-GS-CCB-MW-11	PH	pH	2/21/23 15:07	6.79	SU
APCO-GS-CCB-MW-11	TEMP	Temperature	2/21/23 15:07	20.16	C
APCO-GS-CCB-MW-11	TURB	Turbidity	2/21/23 15:07	0.92	NTU
APCO-GS-CCB-MW-11	COND	Conductivity	2/21/23 15:12	2609.79	uS/cm
APCO-GS-CCB-MW-11	DO	DO	2/21/23 15:12	0.32	mg/L
APCO-GS-CCB-MW-11	DTW	Depth to Water Detail	2/21/23 15:12	110.46	ft
APCO-GS-CCB-MW-11	ORP	Oxidation Reduction Potention	2/21/23 15:12	-61.21	mv
APCO-GS-CCB-MW-11	PH	pH	2/21/23 15:12	6.79	SU
APCO-GS-CCB-MW-11	TEMP	Temperature	2/21/23 15:12	20.15	C
APCO-GS-CCB-MW-11	TURB	Turbidity	2/21/23 15:12	0.78	NTU
APCO-GS-CCB-MW-11	COND	Conductivity	2/21/23 15:17	2605.62	uS/cm
APCO-GS-CCB-MW-11	DO	DO	2/21/23 15:17	0.4	mg/L

Plant Gorgas CCB Landfills  
Field Parameter Summary

APCO-GS-CCB-MW-11	DTW	Depth to Water Detail	2/21/23 15:17	110.43	ft
APCO-GS-CCB-MW-11	ORP	Oxidation Reduction Potention	2/21/23 15:17	-61.73	mv
APCO-GS-CCB-MW-11	PH	pH	2/21/23 15:17	6.78	SU
APCO-GS-CCB-MW-11	TEMP	Temperature	2/21/23 15:17	20.19	C
APCO-GS-CCB-MW-11	TURB	Turbidity	2/21/23 15:17	0.84	NTU
APCO-GS-CCB-MW-11	COND	Conductivity	2/21/23 15:22	2597.79	uS/cm
APCO-GS-CCB-MW-11	DO	DO	2/21/23 15:22	0.42	mg/L
APCO-GS-CCB-MW-11	DTW	Depth to Water Detail	2/21/23 15:22	110.43	ft
APCO-GS-CCB-MW-11	ORP	Oxidation Reduction Potention	2/21/23 15:22	-62.9	mv
APCO-GS-CCB-MW-11	PH	pH	2/21/23 15:22	6.77	SU
APCO-GS-CCB-MW-11	SULFIDE	Sulfide	2/21/23 15:22	0	mg/L
APCO-GS-CCB-MW-11	TEMP	Temperature	2/21/23 15:22	20.11	C
APCO-GS-CCB-MW-11	TURB	Turbidity	2/21/23 15:22	0.8	NTU
APCO-GS-CCB-MW-12	COND	Conductivity	2/22/23 13:29	3451.82	uS/cm
APCO-GS-CCB-MW-12	DO	DO	2/22/23 13:29	1.25	mg/L
APCO-GS-CCB-MW-12	DTW	Depth to Water Detail	2/22/23 13:29	154.72	ft
APCO-GS-CCB-MW-12	ORP	Oxidation Reduction Potention	2/22/23 13:29	20.37	mv
APCO-GS-CCB-MW-12	PH	pH	2/22/23 13:29	5.66	SU
APCO-GS-CCB-MW-12	TEMP	Temperature	2/22/23 13:29	22.35	C
APCO-GS-CCB-MW-12	TURB	Turbidity	2/22/23 13:29	5.21	NTU
APCO-GS-CCB-MW-12	COND	Conductivity	2/22/23 13:34	3511.79	uS/cm
APCO-GS-CCB-MW-12	DO	DO	2/22/23 13:34	0.41	mg/L
APCO-GS-CCB-MW-12	DTW	Depth to Water Detail	2/22/23 13:34	154.72	ft
APCO-GS-CCB-MW-12	ORP	Oxidation Reduction Potention	2/22/23 13:34	10.43	mv
APCO-GS-CCB-MW-12	PH	pH	2/22/23 13:34	5.69	SU
APCO-GS-CCB-MW-12	TEMP	Temperature	2/22/23 13:34	22.29	C
APCO-GS-CCB-MW-12	TURB	Turbidity	2/22/23 13:34	4.38	NTU
APCO-GS-CCB-MW-12	COND	Conductivity	2/22/23 13:39	3553.77	uS/cm
APCO-GS-CCB-MW-12	DO	DO	2/22/23 13:39	0.3	mg/L
APCO-GS-CCB-MW-12	DTW	Depth to Water Detail	2/22/23 13:39	154.72	ft
APCO-GS-CCB-MW-12	ORP	Oxidation Reduction Potention	2/22/23 13:39	8.27	mv
APCO-GS-CCB-MW-12	PH	pH	2/22/23 13:39	5.7	SU
APCO-GS-CCB-MW-12	TEMP	Temperature	2/22/23 13:39	22.33	C
APCO-GS-CCB-MW-12	TURB	Turbidity	2/22/23 13:39	3.95	NTU
APCO-GS-CCB-MW-12	COND	Conductivity	2/22/23 13:44	3585.09	uS/cm
APCO-GS-CCB-MW-12	DO	DO	2/22/23 13:44	0.28	mg/L
APCO-GS-CCB-MW-12	DTW	Depth to Water Detail	2/22/23 13:44	154.72	ft
APCO-GS-CCB-MW-12	ORP	Oxidation Reduction Potention	2/22/23 13:44	7.95	mv
APCO-GS-CCB-MW-12	PH	pH	2/22/23 13:44	5.72	SU
APCO-GS-CCB-MW-12	SULFIDE	Sulfide	2/22/23 13:44	0	mg/L
APCO-GS-CCB-MW-12	TEMP	Temperature	2/22/23 13:44	21.83	C
APCO-GS-CCB-MW-12	TURB	Turbidity	2/22/23 13:44	3.81	NTU
APCO-GS-CCB-MW-12V	COND	Conductivity	2/22/23 12:12	2659.72	uS/cm
APCO-GS-CCB-MW-12V	DO	DO	2/22/23 12:12	0.75	mg/L
APCO-GS-CCB-MW-12V	DTW	Depth to Water Detail	2/22/23 12:12	157.4	ft
APCO-GS-CCB-MW-12V	ORP	Oxidation Reduction Potention	2/22/23 12:12	-100.06	mv
APCO-GS-CCB-MW-12V	PH	pH	2/22/23 12:12	6.95	SU
APCO-GS-CCB-MW-12V	TEMP	Temperature	2/22/23 12:12	22.89	C
APCO-GS-CCB-MW-12V	TURB	Turbidity	2/22/23 12:12	3.08	NTU
APCO-GS-CCB-MW-12V	COND	Conductivity	2/22/23 12:17	2670.85	uS/cm
APCO-GS-CCB-MW-12V	DO	DO	2/22/23 12:17	0.47	mg/L
APCO-GS-CCB-MW-12V	DTW	Depth to Water Detail	2/22/23 12:17	157.76	ft
APCO-GS-CCB-MW-12V	ORP	Oxidation Reduction Potention	2/22/23 12:17	-98.12	mv
APCO-GS-CCB-MW-12V	PH	pH	2/22/23 12:17	6.95	SU
APCO-GS-CCB-MW-12V	TEMP	Temperature	2/22/23 12:17	22.75	C
APCO-GS-CCB-MW-12V	TURB	Turbidity	2/22/23 12:17	2.21	NTU
APCO-GS-CCB-MW-12V	COND	Conductivity	2/22/23 12:22	2672.06	uS/cm
APCO-GS-CCB-MW-12V	DO	DO	2/22/23 12:22	0.41	mg/L
APCO-GS-CCB-MW-12V	DTW	Depth to Water Detail	2/22/23 12:22	158	ft
APCO-GS-CCB-MW-12V	ORP	Oxidation Reduction Potention	2/22/23 12:22	-96.03	mv
APCO-GS-CCB-MW-12V	PH	pH	2/22/23 12:22	6.95	SU
APCO-GS-CCB-MW-12V	TEMP	Temperature	2/22/23 12:22	22.59	C
APCO-GS-CCB-MW-12V	TURB	Turbidity	2/22/23 12:22	2.43	NTU

Plant Gorgas CCB Landfills  
Field Parameter Summary

APCO-GS-CCB-MW-12V	COND	Conductivity	2/22/23 12:27	2674.21	uS/cm
APCO-GS-CCB-MW-12V	DO	DO	2/22/23 12:27	0.41	mg/L
APCO-GS-CCB-MW-12V	DTW	Depth to Water Detail	2/22/23 12:27	158.11	ft
APCO-GS-CCB-MW-12V	ORP	Oxidation Reduction Potention	2/22/23 12:27	-94.08	mv
APCO-GS-CCB-MW-12V	PH	pH	2/22/23 12:27	6.95	SU
APCO-GS-CCB-MW-12V	TEMP	Temperature	2/22/23 12:27	22.71	C
APCO-GS-CCB-MW-12V	TURB	Turbidity	2/22/23 12:27	1.91	NTU
APCO-GS-CCB-MW-12V	COND	Conductivity	2/22/23 12:32	2671.7	uS/cm
APCO-GS-CCB-MW-12V	DO	DO	2/22/23 12:32	0.45	mg/L
APCO-GS-CCB-MW-12V	DTW	Depth to Water Detail	2/22/23 12:32	158.2	ft
APCO-GS-CCB-MW-12V	ORP	Oxidation Reduction Potention	2/22/23 12:32	-92.09	mv
APCO-GS-CCB-MW-12V	PH	pH	2/22/23 12:32	6.95	SU
APCO-GS-CCB-MW-12V	SULFIDE	Sulfide	2/22/23 12:32	0	mg/L
APCO-GS-CCB-MW-12V	TEMP	Temperature	2/22/23 12:32	22.78	C
APCO-GS-CCB-MW-12V	TURB	Turbidity	2/22/23 12:32	1.96	NTU
APCO-GS-CCB-MW-13	COND	Conductivity	2/20/23 10:44	2336.35	uS/cm
APCO-GS-CCB-MW-13	DO	DO	2/20/23 10:44	0.97	mg/L
APCO-GS-CCB-MW-13	DTW	Depth to Water Detail	2/20/23 10:44	94.13	ft
APCO-GS-CCB-MW-13	ORP	Oxidation Reduction Potention	2/20/23 10:44	84.75	mv
APCO-GS-CCB-MW-13	PH	pH	2/20/23 10:44	6.46	SU
APCO-GS-CCB-MW-13	TEMP	Temperature	2/20/23 10:44	19.01	C
APCO-GS-CCB-MW-13	TURB	Turbidity	2/20/23 10:44	1.98	NTU
APCO-GS-CCB-MW-13	COND	Conductivity	2/20/23 10:49	2238.28	uS/cm
APCO-GS-CCB-MW-13	DO	DO	2/20/23 10:49	0.49	mg/L
APCO-GS-CCB-MW-13	DTW	Depth to Water Detail	2/20/23 10:49	94.24	ft
APCO-GS-CCB-MW-13	ORP	Oxidation Reduction Potention	2/20/23 10:49	90.52	mv
APCO-GS-CCB-MW-13	PH	pH	2/20/23 10:49	6.56	SU
APCO-GS-CCB-MW-13	TEMP	Temperature	2/20/23 10:49	19.04	C
APCO-GS-CCB-MW-13	TURB	Turbidity	2/20/23 10:49	1.56	NTU
APCO-GS-CCB-MW-13	COND	Conductivity	2/20/23 10:54	2218.64	uS/cm
APCO-GS-CCB-MW-13	DO	DO	2/20/23 10:54	0.56	mg/L
APCO-GS-CCB-MW-13	DTW	Depth to Water Detail	2/20/23 10:54	94.28	ft
APCO-GS-CCB-MW-13	ORP	Oxidation Reduction Potention	2/20/23 10:54	92.25	mv
APCO-GS-CCB-MW-13	PH	pH	2/20/23 10:54	6.57	SU
APCO-GS-CCB-MW-13	TEMP	Temperature	2/20/23 10:54	19.05	C
APCO-GS-CCB-MW-13	TURB	Turbidity	2/20/23 10:54	1.63	NTU
APCO-GS-CCB-MW-13	COND	Conductivity	2/20/23 10:59	2211.86	uS/cm
APCO-GS-CCB-MW-13	DO	DO	2/20/23 10:59	0.57	mg/L
APCO-GS-CCB-MW-13	DTW	Depth to Water Detail	2/20/23 10:59	94.32	ft
APCO-GS-CCB-MW-13	ORP	Oxidation Reduction Potention	2/20/23 10:59	89.49	mv
APCO-GS-CCB-MW-13	PH	pH	2/20/23 10:59	6.58	SU
APCO-GS-CCB-MW-13	SULFIDE	Sulfide	2/20/23 10:59	0	mg/L
APCO-GS-CCB-MW-13	TEMP	Temperature	2/20/23 10:59	18.98	C
APCO-GS-CCB-MW-13	TURB	Turbidity	2/20/23 10:59	1.6	NTU
APCO-GS-CCB-MW-14	COND	Conductivity	2/20/23 11:44	2873.68	uS/cm
APCO-GS-CCB-MW-14	DO	DO	2/20/23 11:44	0.24	mg/L
APCO-GS-CCB-MW-14	DTW	Depth to Water Detail	2/20/23 11:44	89.16	ft
APCO-GS-CCB-MW-14	ORP	Oxidation Reduction Potention	2/20/23 11:44	25.26	mv
APCO-GS-CCB-MW-14	PH	pH	2/20/23 11:44	6.44	SU
APCO-GS-CCB-MW-14	TEMP	Temperature	2/20/23 11:44	19.07	C
APCO-GS-CCB-MW-14	TURB	Turbidity	2/20/23 11:44	3.88	NTU
APCO-GS-CCB-MW-14	COND	Conductivity	2/20/23 11:49	2873.44	uS/cm
APCO-GS-CCB-MW-14	DO	DO	2/20/23 11:49	0.18	mg/L
APCO-GS-CCB-MW-14	DTW	Depth to Water Detail	2/20/23 11:49	89.16	ft
APCO-GS-CCB-MW-14	ORP	Oxidation Reduction Potention	2/20/23 11:49	11.9	mv
APCO-GS-CCB-MW-14	PH	pH	2/20/23 11:49	6.44	SU
APCO-GS-CCB-MW-14	TEMP	Temperature	2/20/23 11:49	18.96	C
APCO-GS-CCB-MW-14	TURB	Turbidity	2/20/23 11:49	4.51	NTU
APCO-GS-CCB-MW-14	COND	Conductivity	2/20/23 11:54	2855.22	uS/cm
APCO-GS-CCB-MW-14	DO	DO	2/20/23 11:54	0.18	mg/L
APCO-GS-CCB-MW-14	DTW	Depth to Water Detail	2/20/23 11:54	89.16	ft
APCO-GS-CCB-MW-14	ORP	Oxidation Reduction Potention	2/20/23 11:54	7.65	mv
APCO-GS-CCB-MW-14	PH	pH	2/20/23 11:54	6.44	SU

Plant Gorgas CCB Landfills  
Field Parameter Summary

APCO-GS-CCB-MW-14	TEMP	Temperature	2/20/23 11:54	18.95	C
APCO-GS-CCB-MW-14	TURB	Turbidity	2/20/23 11:54	2.69	NTU
APCO-GS-CCB-MW-14	COND	Conductivity	2/20/23 11:59	2825.5	uS/cm
APCO-GS-CCB-MW-14	DO	DO	2/20/23 11:59	0.21	mg/L
APCO-GS-CCB-MW-14	DTW	Depth to Water Detail	2/20/23 11:59	89.16	ft
APCO-GS-CCB-MW-14	ORP	Oxidation Reduction Potention	2/20/23 11:59	6.39	mv
APCO-GS-CCB-MW-14	PH	pH	2/20/23 11:59	6.45	SU
APCO-GS-CCB-MW-14	SULFIDE	Sulfide	2/20/23 11:59	0	mg/L
APCO-GS-CCB-MW-14	TEMP	Temperature	2/20/23 11:59	19.03	C
APCO-GS-CCB-MW-14	TURB	Turbidity	2/20/23 11:59	2.26	NTU
APCO-GS-CCB-MW-15	COND	Conductivity	2/20/23 12:54	2401.92	uS/cm
APCO-GS-CCB-MW-15	DO	DO	2/20/23 12:54	0.26	mg/L
APCO-GS-CCB-MW-15	DTW	Depth to Water Detail	2/20/23 12:54	67.96	ft
APCO-GS-CCB-MW-15	ORP	Oxidation Reduction Potention	2/20/23 12:54	9.58	mv
APCO-GS-CCB-MW-15	PH	pH	2/20/23 12:54	6.01	SU
APCO-GS-CCB-MW-15	TEMP	Temperature	2/20/23 12:54	18.84	C
APCO-GS-CCB-MW-15	TURB	Turbidity	2/20/23 12:54	16.6	NTU
APCO-GS-CCB-MW-15	COND	Conductivity	2/20/23 12:59	2387.86	uS/cm
APCO-GS-CCB-MW-15	DO	DO	2/20/23 12:59	1.01	mg/L
APCO-GS-CCB-MW-15	DTW	Depth to Water Detail	2/20/23 12:59	67.96	ft
APCO-GS-CCB-MW-15	ORP	Oxidation Reduction Potention	2/20/23 12:59	19.62	mv
APCO-GS-CCB-MW-15	PH	pH	2/20/23 12:59	5.99	SU
APCO-GS-CCB-MW-15	TEMP	Temperature	2/20/23 12:59	18.94	C
APCO-GS-CCB-MW-15	TURB	Turbidity	2/20/23 12:59	11.2	NTU
APCO-GS-CCB-MW-15	COND	Conductivity	2/20/23 13:04	2388.07	uS/cm
APCO-GS-CCB-MW-15	DO	DO	2/20/23 13:04	0.46	mg/L
APCO-GS-CCB-MW-15	DTW	Depth to Water Detail	2/20/23 13:04	67.96	ft
APCO-GS-CCB-MW-15	ORP	Oxidation Reduction Potention	2/20/23 13:04	8.84	mv
APCO-GS-CCB-MW-15	PH	pH	2/20/23 13:04	6.04	SU
APCO-GS-CCB-MW-15	TEMP	Temperature	2/20/23 13:04	18.89	C
APCO-GS-CCB-MW-15	TURB	Turbidity	2/20/23 13:04	7.21	NTU
APCO-GS-CCB-MW-15	COND	Conductivity	2/20/23 13:09	2387.01	uS/cm
APCO-GS-CCB-MW-15	DO	DO	2/20/23 13:09	0.2	mg/L
APCO-GS-CCB-MW-15	DTW	Depth to Water Detail	2/20/23 13:09	67.96	ft
APCO-GS-CCB-MW-15	ORP	Oxidation Reduction Potention	2/20/23 13:09	3.52	mv
APCO-GS-CCB-MW-15	PH	pH	2/20/23 13:09	6.06	SU
APCO-GS-CCB-MW-15	TEMP	Temperature	2/20/23 13:09	18.86	C
APCO-GS-CCB-MW-15	TURB	Turbidity	2/20/23 13:09	6.32	NTU
APCO-GS-CCB-MW-15	COND	Conductivity	2/20/23 13:14	2389.42	uS/cm
APCO-GS-CCB-MW-15	DO	DO	2/20/23 13:14	0.15	mg/L
APCO-GS-CCB-MW-15	DTW	Depth to Water Detail	2/20/23 13:14	67.96	ft
APCO-GS-CCB-MW-15	ORP	Oxidation Reduction Potention	2/20/23 13:14	0.89	mv
APCO-GS-CCB-MW-15	PH	pH	2/20/23 13:14	6.08	SU
APCO-GS-CCB-MW-15	SULFIDE	Sulfide	2/20/23 13:14	0	mg/L
APCO-GS-CCB-MW-15	TEMP	Temperature	2/20/23 13:14	18.93	C
APCO-GS-CCB-MW-15	TURB	Turbidity	2/20/23 13:14	4.88	NTU
APCO-GS-CCB-MW-16	COND	Conductivity	2/20/23 14:03	2660.46	uS/cm
APCO-GS-CCB-MW-16	DO	DO	2/20/23 14:03	0.55	mg/L
APCO-GS-CCB-MW-16	DTW	Depth to Water Detail	2/20/23 14:03	90.02	ft
APCO-GS-CCB-MW-16	ORP	Oxidation Reduction Potention	2/20/23 14:03	-16.82	mv
APCO-GS-CCB-MW-16	PH	pH	2/20/23 14:03	6.47	SU
APCO-GS-CCB-MW-16	TEMP	Temperature	2/20/23 14:03	19.8	C
APCO-GS-CCB-MW-16	TURB	Turbidity	2/20/23 14:03	3.29	NTU
APCO-GS-CCB-MW-16	COND	Conductivity	2/20/23 14:08	2654.16	uS/cm
APCO-GS-CCB-MW-16	DO	DO	2/20/23 14:08	0.5	mg/L
APCO-GS-CCB-MW-16	DTW	Depth to Water Detail	2/20/23 14:08	90.02	ft
APCO-GS-CCB-MW-16	ORP	Oxidation Reduction Potention	2/20/23 14:08	-15.21	mv
APCO-GS-CCB-MW-16	PH	pH	2/20/23 14:08	6.48	SU
APCO-GS-CCB-MW-16	TEMP	Temperature	2/20/23 14:08	19.75	C
APCO-GS-CCB-MW-16	TURB	Turbidity	2/20/23 14:08	2.98	NTU
APCO-GS-CCB-MW-16	COND	Conductivity	2/20/23 14:13	2641.99	uS/cm
APCO-GS-CCB-MW-16	DO	DO	2/20/23 14:13	0.45	mg/L
APCO-GS-CCB-MW-16	DTW	Depth to Water Detail	2/20/23 14:13	90.02	ft



Plant Gorgas CCB Landfills  
Field Parameter Summary

APCO-GS-CCB-MW-16	ORP	Oxidation Reduction Potention	2/20/23 14:13	-15.96	mv
APCO-GS-CCB-MW-16	PH	pH	2/20/23 14:13	6.5	SU
APCO-GS-CCB-MW-16	TEMP	Temperature	2/20/23 14:13	19.74	C
APCO-GS-CCB-MW-16	TURB	Turbidity	2/20/23 14:13	3.12	NTU
APCO-GS-CCB-MW-16	COND	Conductivity	2/20/23 14:18	2630.76	uS/cm
APCO-GS-CCB-MW-16	DO	DO	2/20/23 14:18	0.49	mg/L
APCO-GS-CCB-MW-16	DTW	Depth to Water Detail	2/20/23 14:18	90.02	ft
APCO-GS-CCB-MW-16	ORP	Oxidation Reduction Potention	2/20/23 14:18	-15.21	mv
APCO-GS-CCB-MW-16	PH	pH	2/20/23 14:18	6.51	SU
APCO-GS-CCB-MW-16	TEMP	Temperature	2/20/23 14:18	19.74	C
APCO-GS-CCB-MW-16	TURB	Turbidity	2/20/23 14:18	2.49	NTU
APCO-GS-CCB-MW-16	COND	Conductivity	2/20/23 14:23	2620.89	uS/cm
APCO-GS-CCB-MW-16	DO	DO	2/20/23 14:23	0.56	mg/L
APCO-GS-CCB-MW-16	DTW	Depth to Water Detail	2/20/23 14:23	90.02	ft
APCO-GS-CCB-MW-16	ORP	Oxidation Reduction Potention	2/20/23 14:23	-14.46	mv
APCO-GS-CCB-MW-16	PH	pH	2/20/23 14:23	6.52	SU
APCO-GS-CCB-MW-16	TEMP	Temperature	2/20/23 14:23	19.7	C
APCO-GS-CCB-MW-16	TURB	Turbidity	2/20/23 14:23	2.28	NTU
APCO-GS-CCB-MW-16	COND	Conductivity	2/20/23 14:28	2615.24	uS/cm
APCO-GS-CCB-MW-16	DO	DO	2/20/23 14:28	0.49	mg/L
APCO-GS-CCB-MW-16	DTW	Depth to Water Detail	2/20/23 14:28	90.02	ft
APCO-GS-CCB-MW-16	ORP	Oxidation Reduction Potention	2/20/23 14:28	-14.17	mv
APCO-GS-CCB-MW-16	PH	pH	2/20/23 14:28	6.53	SU
APCO-GS-CCB-MW-16	TEMP	Temperature	2/20/23 14:28	19.64	C
APCO-GS-CCB-MW-16	TURB	Turbidity	2/20/23 14:28	3.36	NTU
APCO-GS-CCB-MW-16	COND	Conductivity	2/20/23 14:33	2608.55	uS/cm
APCO-GS-CCB-MW-16	DO	DO	2/20/23 14:33	0.55	mg/L
APCO-GS-CCB-MW-16	DTW	Depth to Water Detail	2/20/23 14:33	90.02	ft
APCO-GS-CCB-MW-16	ORP	Oxidation Reduction Potention	2/20/23 14:33	-13.4	mv
APCO-GS-CCB-MW-16	PH	pH	2/20/23 14:33	6.53	SU
APCO-GS-CCB-MW-16	TEMP	Temperature	2/20/23 14:33	19.65	C
APCO-GS-CCB-MW-16	TURB	Turbidity	2/20/23 14:33	4.33	NTU
APCO-GS-CCB-MW-16	COND	Conductivity	2/20/23 14:38	2599.95	uS/cm
APCO-GS-CCB-MW-16	DO	DO	2/20/23 14:38	0.53	mg/L
APCO-GS-CCB-MW-16	DTW	Depth to Water Detail	2/20/23 14:38	90.02	ft
APCO-GS-CCB-MW-16	ORP	Oxidation Reduction Potention	2/20/23 14:38	-13.14	mv
APCO-GS-CCB-MW-16	PH	pH	2/20/23 14:38	6.53	SU
APCO-GS-CCB-MW-16	TEMP	Temperature	2/20/23 14:38	19.66	C
APCO-GS-CCB-MW-16	TURB	Turbidity	2/20/23 14:38	1.28	NTU
APCO-GS-CCB-MW-16	COND	Conductivity	2/20/23 14:43	2593.82	uS/cm
APCO-GS-CCB-MW-16	DO	DO	2/20/23 14:43	0.47	mg/L
APCO-GS-CCB-MW-16	DTW	Depth to Water Detail	2/20/23 14:43	90.02	ft
APCO-GS-CCB-MW-16	ORP	Oxidation Reduction Potention	2/20/23 14:43	-13.21	mv
APCO-GS-CCB-MW-16	PH	pH	2/20/23 14:43	6.53	SU
APCO-GS-CCB-MW-16	SULFIDE	Sulfide	2/20/23 14:43	0	mg/L
APCO-GS-CCB-MW-16	TEMP	Temperature	2/20/23 14:43	19.63	C
APCO-GS-CCB-MW-16	TURB	Turbidity	2/20/23 14:43	1.66	NTU
APCO-GS-CCB-MW-17R	COND	Conductivity	2/21/23 10:20	3641.2	uS/cm
APCO-GS-CCB-MW-17R	DO	DO	2/21/23 10:20	0.46	mg/L
APCO-GS-CCB-MW-17R	DTW	Depth to Water Detail	2/21/23 10:20	126.16	ft
APCO-GS-CCB-MW-17R	ORP	Oxidation Reduction Potention	2/21/23 10:20	16.98	mv
APCO-GS-CCB-MW-17R	PH	pH	2/21/23 10:20	5.91	SU
APCO-GS-CCB-MW-17R	TEMP	Temperature	2/21/23 10:20	20.44	C
APCO-GS-CCB-MW-17R	TURB	Turbidity	2/21/23 10:20	2.96	NTU
APCO-GS-CCB-MW-17R	COND	Conductivity	2/21/23 10:25	3630.96	uS/cm
APCO-GS-CCB-MW-17R	DO	DO	2/21/23 10:25	0.28	mg/L
APCO-GS-CCB-MW-17R	DTW	Depth to Water Detail	2/21/23 10:25	126.2	ft
APCO-GS-CCB-MW-17R	ORP	Oxidation Reduction Potention	2/21/23 10:25	14.44	mv
APCO-GS-CCB-MW-17R	PH	pH	2/21/23 10:25	5.98	SU
APCO-GS-CCB-MW-17R	TEMP	Temperature	2/21/23 10:25	20.47	C
APCO-GS-CCB-MW-17R	TURB	Turbidity	2/21/23 10:25	2.1	NTU
APCO-GS-CCB-MW-17R	COND	Conductivity	2/21/23 10:30	3610.53	uS/cm
APCO-GS-CCB-MW-17R	DO	DO	2/21/23 10:30	0.24	mg/L

Plant Gorgas CCB Landfills  
Field Parameter Summary

APCO-GS-CCB-MW-17R	DTW	Depth to Water Detail	2/21/23 10:30	126.23	ft
APCO-GS-CCB-MW-17R	ORP	Oxidation Reduction Potention	2/21/23 10:30	9.58	mv
APCO-GS-CCB-MW-17R	PH	pH	2/21/23 10:30	6.04	SU
APCO-GS-CCB-MW-17R	TEMP	Temperature	2/21/23 10:30	20.45	C
APCO-GS-CCB-MW-17R	TURB	Turbidity	2/21/23 10:30	1.84	NTU
APCO-GS-CCB-MW-17R	COND	Conductivity	2/21/23 10:35	3602.75	uS/cm
APCO-GS-CCB-MW-17R	DO	DO	2/21/23 10:35	0.23	mg/L
APCO-GS-CCB-MW-17R	DTW	Depth to Water Detail	2/21/23 10:35	126.25	ft
APCO-GS-CCB-MW-17R	ORP	Oxidation Reduction Potention	2/21/23 10:35	8.15	mv
APCO-GS-CCB-MW-17R	PH	pH	2/21/23 10:35	6.07	SU
APCO-GS-CCB-MW-17R	SULFIDE	Sulfide	2/21/23 10:35	0	mg/L
APCO-GS-CCB-MW-17R	TEMP	Temperature	2/21/23 10:35	20.41	C
APCO-GS-CCB-MW-17R	TURB	Turbidity	2/21/23 10:35	1.8	NTU
APCO-GS-CCB-MW-18	COND	Conductivity	2/21/23 11:22	2624.62	uS/cm
APCO-GS-CCB-MW-18	DO	DO	2/21/23 11:22	4.24	mg/L
APCO-GS-CCB-MW-18	DTW	Depth to Water Detail	2/21/23 11:22	110.98	ft
APCO-GS-CCB-MW-18	ORP	Oxidation Reduction Potention	2/21/23 11:22	96.23	mv
APCO-GS-CCB-MW-18	PH	pH	2/21/23 11:22	6.63	SU
APCO-GS-CCB-MW-18	TEMP	Temperature	2/21/23 11:22	19.73	C
APCO-GS-CCB-MW-18	TURB	Turbidity	2/21/23 11:22	1.43	NTU
APCO-GS-CCB-MW-18	COND	Conductivity	2/21/23 11:27	2622.66	uS/cm
APCO-GS-CCB-MW-18	DO	DO	2/21/23 11:27	4.23	mg/L
APCO-GS-CCB-MW-18	DTW	Depth to Water Detail	2/21/23 11:27	110.98	ft
APCO-GS-CCB-MW-18	ORP	Oxidation Reduction Potention	2/21/23 11:27	107.58	mv
APCO-GS-CCB-MW-18	PH	pH	2/21/23 11:27	6.63	SU
APCO-GS-CCB-MW-18	TEMP	Temperature	2/21/23 11:27	19.73	C
APCO-GS-CCB-MW-18	TURB	Turbidity	2/21/23 11:27	1.11	NTU
APCO-GS-CCB-MW-18	COND	Conductivity	2/21/23 11:32	2625.28	uS/cm
APCO-GS-CCB-MW-18	DO	DO	2/21/23 11:32	4.22	mg/L
APCO-GS-CCB-MW-18	DTW	Depth to Water Detail	2/21/23 11:32	110.98	ft
APCO-GS-CCB-MW-18	ORP	Oxidation Reduction Potention	2/21/23 11:32	115.31	mv
APCO-GS-CCB-MW-18	PH	pH	2/21/23 11:32	6.63	SU
APCO-GS-CCB-MW-18	TEMP	Temperature	2/21/23 11:32	19.74	C
APCO-GS-CCB-MW-18	TURB	Turbidity	2/21/23 11:32	0.91	NTU
APCO-GS-CCB-MW-18	COND	Conductivity	2/21/23 11:37	2625.69	uS/cm
APCO-GS-CCB-MW-18	DO	DO	2/21/23 11:37	4.21	mg/L
APCO-GS-CCB-MW-18	DTW	Depth to Water Detail	2/21/23 11:37	110.98	ft
APCO-GS-CCB-MW-18	ORP	Oxidation Reduction Potention	2/21/23 11:37	121.11	mv
APCO-GS-CCB-MW-18	PH	pH	2/21/23 11:37	6.63	SU
APCO-GS-CCB-MW-18	SULFIDE	Sulfide	2/21/23 11:37	0	mg/L
APCO-GS-CCB-MW-18	TEMP	Temperature	2/21/23 11:37	19.76	C
APCO-GS-CCB-MW-18	TURB	Turbidity	2/21/23 11:37	0.87	NTU
APCO-GS-CCB-MW-19	COND	Conductivity	2/21/23 12:28	2948.29	uS/cm
APCO-GS-CCB-MW-19	DO	DO	2/21/23 12:28	0.18	mg/L
APCO-GS-CCB-MW-19	DTW	Depth to Water Detail	2/21/23 12:28	78.51	ft
APCO-GS-CCB-MW-19	ORP	Oxidation Reduction Potention	2/21/23 12:28	43.39	mv
APCO-GS-CCB-MW-19	PH	pH	2/21/23 12:28	6.31	SU
APCO-GS-CCB-MW-19	TEMP	Temperature	2/21/23 12:28	19.19	C
APCO-GS-CCB-MW-19	TURB	Turbidity	2/21/23 12:28	3.23	NTU
APCO-GS-CCB-MW-19	COND	Conductivity	2/21/23 12:33	2968.08	uS/cm
APCO-GS-CCB-MW-19	DO	DO	2/21/23 12:33	0.14	mg/L
APCO-GS-CCB-MW-19	DTW	Depth to Water Detail	2/21/23 12:33	78.51	ft
APCO-GS-CCB-MW-19	ORP	Oxidation Reduction Potention	2/21/23 12:33	40.27	mv
APCO-GS-CCB-MW-19	PH	pH	2/21/23 12:33	6.32	SU
APCO-GS-CCB-MW-19	TEMP	Temperature	2/21/23 12:33	19.14	C
APCO-GS-CCB-MW-19	TURB	Turbidity	2/21/23 12:33	2.42	NTU
APCO-GS-CCB-MW-19	COND	Conductivity	2/21/23 12:38	2970.58	uS/cm
APCO-GS-CCB-MW-19	DO	DO	2/21/23 12:38	0.12	mg/L
APCO-GS-CCB-MW-19	DTW	Depth to Water Detail	2/21/23 12:38	78.51	ft
APCO-GS-CCB-MW-19	ORP	Oxidation Reduction Potention	2/21/23 12:38	38.52	mv
APCO-GS-CCB-MW-19	PH	pH	2/21/23 12:38	6.32	SU
APCO-GS-CCB-MW-19	TEMP	Temperature	2/21/23 12:38	19.21	C
APCO-GS-CCB-MW-19	TURB	Turbidity	2/21/23 12:38	2.31	NTU

Plant Gorgas CCB Landfills  
Field Parameter Summary

APCO-GS-CCB-MW-19	COND	Conductivity	2/21/23 12:43	2971.83	uS/cm
APCO-GS-CCB-MW-19	DO	DO	2/21/23 12:43	0.12	mg/L
APCO-GS-CCB-MW-19	DTW	Depth to Water Detail	2/21/23 12:43	78.51	ft
APCO-GS-CCB-MW-19	ORP	Oxidation Reduction Potention	2/21/23 12:43	37.82	mv
APCO-GS-CCB-MW-19	PH	pH	2/21/23 12:43	6.32	SU
APCO-GS-CCB-MW-19	SULFIDE	Sulfide	2/21/23 12:43	0	mg/L
APCO-GS-CCB-MW-19	TEMP	Temperature	2/21/23 12:43	19.22	C
APCO-GS-CCB-MW-19	TURB	Turbidity	2/21/23 12:43	2.24	NTU
APCO-GS-CCB-MW-20	COND	Conductivity	2/21/23 13:41	2691.14	uS/cm
APCO-GS-CCB-MW-20	DO	DO	2/21/23 13:41	0.09	mg/L
APCO-GS-CCB-MW-20	DTW	Depth to Water Detail	2/21/23 13:41	20.01	ft
APCO-GS-CCB-MW-20	ORP	Oxidation Reduction Potention	2/21/23 13:41	-70.92	mv
APCO-GS-CCB-MW-20	PH	pH	2/21/23 13:41	6.81	SU
APCO-GS-CCB-MW-20	TEMP	Temperature	2/21/23 13:41	19.61	C
APCO-GS-CCB-MW-20	TURB	Turbidity	2/21/23 13:41	0.81	NTU
APCO-GS-CCB-MW-20	COND	Conductivity	2/21/23 13:46	2688.55	uS/cm
APCO-GS-CCB-MW-20	DO	DO	2/21/23 13:46	0.07	mg/L
APCO-GS-CCB-MW-20	DTW	Depth to Water Detail	2/21/23 13:46	20.12	ft
APCO-GS-CCB-MW-20	ORP	Oxidation Reduction Potention	2/21/23 13:46	-73.55	mv
APCO-GS-CCB-MW-20	PH	pH	2/21/23 13:46	6.81	SU
APCO-GS-CCB-MW-20	TEMP	Temperature	2/21/23 13:46	19.52	C
APCO-GS-CCB-MW-20	TURB	Turbidity	2/21/23 13:46	0.9	NTU
APCO-GS-CCB-MW-20	COND	Conductivity	2/21/23 13:51	2684.49	uS/cm
APCO-GS-CCB-MW-20	DO	DO	2/21/23 13:51	0.08	mg/L
APCO-GS-CCB-MW-20	DTW	Depth to Water Detail	2/21/23 13:51	20.24	ft
APCO-GS-CCB-MW-20	ORP	Oxidation Reduction Potention	2/21/23 13:51	-74.9	mv
APCO-GS-CCB-MW-20	PH	pH	2/21/23 13:51	6.81	SU
APCO-GS-CCB-MW-20	TEMP	Temperature	2/21/23 13:51	19.43	C
APCO-GS-CCB-MW-20	TURB	Turbidity	2/21/23 13:51	0.86	NTU
APCO-GS-CCB-MW-20	COND	Conductivity	2/21/23 13:56	2686.59	uS/cm
APCO-GS-CCB-MW-20	DO	DO	2/21/23 13:56	0.07	mg/L
APCO-GS-CCB-MW-20	DTW	Depth to Water Detail	2/21/23 13:56	20.36	ft
APCO-GS-CCB-MW-20	ORP	Oxidation Reduction Potention	2/21/23 13:56	-76.37	mv
APCO-GS-CCB-MW-20	PH	pH	2/21/23 13:56	6.81	SU
APCO-GS-CCB-MW-20	SULFIDE	Sulfide	2/21/23 13:56	0	mg/L
APCO-GS-CCB-MW-20	TEMP	Temperature	2/21/23 13:56	19.48	C
APCO-GS-CCB-MW-20	TURB	Turbidity	2/21/23 13:56	0.84	NTU
APCO-GS-CCB-MW-5	COND	Conductivity	2/21/23 11:53	3404.54	uS/cm
APCO-GS-CCB-MW-5	DO	DO	2/21/23 11:53	3.4	mg/L
APCO-GS-CCB-MW-5	DTW	Depth to Water Detail	2/21/23 11:53	125.98	ft
APCO-GS-CCB-MW-5	ORP	Oxidation Reduction Potention	2/21/23 11:53	-12.42	mv
APCO-GS-CCB-MW-5	PH	pH	2/21/23 11:53	6.63	SU
APCO-GS-CCB-MW-5	TEMP	Temperature	2/21/23 11:53	19.2	C
APCO-GS-CCB-MW-5	TURB	Turbidity	2/21/23 11:53	6.34	NTU
APCO-GS-CCB-MW-5	COND	Conductivity	2/21/23 11:58	3334.06	uS/cm
APCO-GS-CCB-MW-5	DO	DO	2/21/23 11:58	1.6	mg/L
APCO-GS-CCB-MW-5	DTW	Depth to Water Detail	2/21/23 11:58	126	ft
APCO-GS-CCB-MW-5	ORP	Oxidation Reduction Potention	2/21/23 11:58	-9.69	mv
APCO-GS-CCB-MW-5	PH	pH	2/21/23 11:58	6.52	SU
APCO-GS-CCB-MW-5	TEMP	Temperature	2/21/23 11:58	19.25	C
APCO-GS-CCB-MW-5	TURB	Turbidity	2/21/23 11:58	7.65	NTU
APCO-GS-CCB-MW-5	COND	Conductivity	2/21/23 12:03	3312.48	uS/cm
APCO-GS-CCB-MW-5	DO	DO	2/21/23 12:03	1.04	mg/L
APCO-GS-CCB-MW-5	DTW	Depth to Water Detail	2/21/23 12:03	126.02	ft
APCO-GS-CCB-MW-5	ORP	Oxidation Reduction Potention	2/21/23 12:03	-10.82	mv
APCO-GS-CCB-MW-5	PH	pH	2/21/23 12:03	6.49	SU
APCO-GS-CCB-MW-5	TEMP	Temperature	2/21/23 12:03	19.37	C
APCO-GS-CCB-MW-5	TURB	Turbidity	2/21/23 12:03	8.11	NTU
APCO-GS-CCB-MW-5	COND	Conductivity	2/21/23 12:08	3322.97	uS/cm
APCO-GS-CCB-MW-5	DO	DO	2/21/23 12:08	0.88	mg/L
APCO-GS-CCB-MW-5	DTW	Depth to Water Detail	2/21/23 12:08	126.04	ft
APCO-GS-CCB-MW-5	ORP	Oxidation Reduction Potention	2/21/23 12:08	-10.26	mv
APCO-GS-CCB-MW-5	PH	pH	2/21/23 12:08	6.49	SU

Plant Gorgas CCB Landfills  
Field Parameter Summary

APCO-GS-CCB-MW-5	TEMP	Temperature	2/21/23 12:08	19.54	C
APCO-GS-CCB-MW-5	TURB	Turbidity	2/21/23 12:08	6.05	NTU
APCO-GS-CCB-MW-5	COND	Conductivity	2/21/23 12:13	3339.93	uS/cm
APCO-GS-CCB-MW-5	DO	DO	2/21/23 12:13	0.81	mg/L
APCO-GS-CCB-MW-5	DTW	Depth to Water Detail	2/21/23 12:13	126.04	ft
APCO-GS-CCB-MW-5	ORP	Oxidation Reduction Potention	2/21/23 12:13	-8.77	mv
APCO-GS-CCB-MW-5	PH	pH	2/21/23 12:13	6.49	SU
APCO-GS-CCB-MW-5	TEMP	Temperature	2/21/23 12:13	19.77	C
APCO-GS-CCB-MW-5	TURB	Turbidity	2/21/23 12:13	5.69	NTU
APCO-GS-CCB-MW-5	COND	Conductivity	2/21/23 12:18	3355.12	uS/cm
APCO-GS-CCB-MW-5	DO	DO	2/21/23 12:18	0.79	mg/L
APCO-GS-CCB-MW-5	DTW	Depth to Water Detail	2/21/23 12:18	126.04	ft
APCO-GS-CCB-MW-5	ORP	Oxidation Reduction Potention	2/21/23 12:18	-7.67	mv
APCO-GS-CCB-MW-5	PH	pH	2/21/23 12:18	6.5	SU
APCO-GS-CCB-MW-5	SULFIDE	Sulfide	2/21/23 12:18	0	mg/L
APCO-GS-CCB-MW-5	TEMP	Temperature	2/21/23 12:18	19.77	C
APCO-GS-CCB-MW-5	TURB	Turbidity	2/21/23 12:18	4.48	NTU
APCO-GS-CCB-MW-6	COND	Conductivity	2/22/23 13:00	2846.88	uS/cm
APCO-GS-CCB-MW-6	DO	DO	2/22/23 13:00	0.39	mg/L
APCO-GS-CCB-MW-6	DTW	Depth to Water Detail	2/22/23 13:00	95.49	ft
APCO-GS-CCB-MW-6	ORP	Oxidation Reduction Potention	2/22/23 13:00	178.79	mv
APCO-GS-CCB-MW-6	PH	pH	2/22/23 13:00	4.96	SU
APCO-GS-CCB-MW-6	TEMP	Temperature	2/22/23 13:00	21.25	C
APCO-GS-CCB-MW-6	TURB	Turbidity	2/22/23 13:00	11.2	NTU
APCO-GS-CCB-MW-6	COND	Conductivity	2/22/23 13:05	2826.95	uS/cm
APCO-GS-CCB-MW-6	DO	DO	2/22/23 13:05	0.37	mg/L
APCO-GS-CCB-MW-6	DTW	Depth to Water Detail	2/22/23 13:05	95.49	ft
APCO-GS-CCB-MW-6	ORP	Oxidation Reduction Potention	2/22/23 13:05	189.2	mv
APCO-GS-CCB-MW-6	PH	pH	2/22/23 13:05	4.96	SU
APCO-GS-CCB-MW-6	TEMP	Temperature	2/22/23 13:05	21.34	C
APCO-GS-CCB-MW-6	TURB	Turbidity	2/22/23 13:05	9.17	NTU
APCO-GS-CCB-MW-6	COND	Conductivity	2/22/23 13:10	2800.25	uS/cm
APCO-GS-CCB-MW-6	DO	DO	2/22/23 13:10	0.46	mg/L
APCO-GS-CCB-MW-6	DTW	Depth to Water Detail	2/22/23 13:10	95.49	ft
APCO-GS-CCB-MW-6	ORP	Oxidation Reduction Potention	2/22/23 13:10	191.22	mv
APCO-GS-CCB-MW-6	PH	pH	2/22/23 13:10	4.98	SU
APCO-GS-CCB-MW-6	TEMP	Temperature	2/22/23 13:10	21.4	C
APCO-GS-CCB-MW-6	TURB	Turbidity	2/22/23 13:10	6.72	NTU
APCO-GS-CCB-MW-6	COND	Conductivity	2/22/23 13:15	2795.15	uS/cm
APCO-GS-CCB-MW-6	DO	DO	2/22/23 13:15	0.45	mg/L
APCO-GS-CCB-MW-6	DTW	Depth to Water Detail	2/22/23 13:15	95.49	ft
APCO-GS-CCB-MW-6	ORP	Oxidation Reduction Potention	2/22/23 13:15	195.75	mv
APCO-GS-CCB-MW-6	PH	pH	2/22/23 13:15	4.98	SU
APCO-GS-CCB-MW-6	SULFIDE	Sulfide	2/22/23 13:15	0	mg/L
APCO-GS-CCB-MW-6	TEMP	Temperature	2/22/23 13:15	21.32	C
APCO-GS-CCB-MW-6	TURB	Turbidity	2/22/23 13:15	6.33	NTU
APCO-GS-CCB-MW-7	COND	Conductivity	2/21/23 14:03	2672.87	uS/cm
APCO-GS-CCB-MW-7	DO	DO	2/21/23 14:03		mg/L
APCO-GS-CCB-MW-7	DTW	Depth to Water Detail	2/21/23 14:03	57.08	ft
APCO-GS-CCB-MW-7	ORP	Oxidation Reduction Potention	2/21/23 14:03	-9.2	mv
APCO-GS-CCB-MW-7	PH	pH	2/21/23 14:03	6.66	SU
APCO-GS-CCB-MW-7	TEMP	Temperature	2/21/23 14:03	19.19	C
APCO-GS-CCB-MW-7	TURB	Turbidity	2/21/23 14:03	1.55	NTU
APCO-GS-CCB-MW-7	COND	Conductivity	2/21/23 14:08	2646.76	uS/cm
APCO-GS-CCB-MW-7	DO	DO	2/21/23 14:08	0.96	mg/L
APCO-GS-CCB-MW-7	DTW	Depth to Water Detail	2/21/23 14:08	57.08	ft
APCO-GS-CCB-MW-7	ORP	Oxidation Reduction Potention	2/21/23 14:08	-8.58	mv
APCO-GS-CCB-MW-7	PH	pH	2/21/23 14:08	6.69	SU
APCO-GS-CCB-MW-7	TEMP	Temperature	2/21/23 14:08	19.16	C
APCO-GS-CCB-MW-7	TURB	Turbidity	2/21/23 14:08	0.79	NTU
APCO-GS-CCB-MW-7	COND	Conductivity	2/21/23 14:13	2616.13	uS/cm
APCO-GS-CCB-MW-7	DO	DO	2/21/23 14:13	0.9	mg/L
APCO-GS-CCB-MW-7	DTW	Depth to Water Detail	2/21/23 14:13	57.08	ft

Plant Gorgas CCB Landfills  
Field Parameter Summary

APCO-GS-CCB-MW-7	ORP	Oxidation Reduction Potention	2/21/23 14:13	-9.09	mv
APCO-GS-CCB-MW-7	PH	pH	2/21/23 14:13	6.71	SU
APCO-GS-CCB-MW-7	TEMP	Temperature	2/21/23 14:13	19.15	C
APCO-GS-CCB-MW-7	TURB	Turbidity	2/21/23 14:13	0.65	NTU
APCO-GS-CCB-MW-7	COND	Conductivity	2/21/23 14:18	2594.5	uS/cm
APCO-GS-CCB-MW-7	DO	DO	2/21/23 14:18	0.87	mg/L
APCO-GS-CCB-MW-7	DTW	Depth to Water Detail	2/21/23 14:18	57.08	ft
APCO-GS-CCB-MW-7	ORP	Oxidation Reduction Potention	2/21/23 14:18	-7.92	mv
APCO-GS-CCB-MW-7	PH	pH	2/21/23 14:18	6.72	SU
APCO-GS-CCB-MW-7	TEMP	Temperature	2/21/23 14:18	19.16	C
APCO-GS-CCB-MW-7	TURB	Turbidity	2/21/23 14:18	0.78	NTU
APCO-GS-CCB-MW-7	COND	Conductivity	2/21/23 14:23	2577.99	uS/cm
APCO-GS-CCB-MW-7	DO	DO	2/21/23 14:23	0.94	mg/L
APCO-GS-CCB-MW-7	DTW	Depth to Water Detail	2/21/23 14:23	57.08	ft
APCO-GS-CCB-MW-7	ORP	Oxidation Reduction Potention	2/21/23 14:23	-6.78	mv
APCO-GS-CCB-MW-7	PH	pH	2/21/23 14:23	6.72	SU
APCO-GS-CCB-MW-7	SULFIDE	Sulfide	2/21/23 14:23	0	mg/L
APCO-GS-CCB-MW-7	TEMP	Temperature	2/21/23 14:23	19.16	C
APCO-GS-CCB-MW-7	TURB	Turbidity	2/21/23 14:23	0.53	NTU
APCO-GS-CCB-MW-8	COND	Conductivity	2/21/23 14:55	2668.1	uS/cm
APCO-GS-CCB-MW-8	DO	DO	2/21/23 14:55	3.36	mg/L
APCO-GS-CCB-MW-8	DTW	Depth to Water Detail	2/21/23 14:55	64.74	ft
APCO-GS-CCB-MW-8	ORP	Oxidation Reduction Potention	2/21/23 14:55	17.12	mv
APCO-GS-CCB-MW-8	PH	pH	2/21/23 14:55	6.82	SU
APCO-GS-CCB-MW-8	TEMP	Temperature	2/21/23 14:55	20.58	C
APCO-GS-CCB-MW-8	TURB	Turbidity	2/21/23 14:55	4.28	NTU
APCO-GS-CCB-MW-8	COND	Conductivity	2/21/23 15:00	2702.28	uS/cm
APCO-GS-CCB-MW-8	DO	DO	2/21/23 15:00	1.06	mg/L
APCO-GS-CCB-MW-8	DTW	Depth to Water Detail	2/21/23 15:00	64.76	ft
APCO-GS-CCB-MW-8	ORP	Oxidation Reduction Potention	2/21/23 15:00	10.74	mv
APCO-GS-CCB-MW-8	PH	pH	2/21/23 15:00	6.77	SU
APCO-GS-CCB-MW-8	TEMP	Temperature	2/21/23 15:00	21.12	C
APCO-GS-CCB-MW-8	TURB	Turbidity	2/21/23 15:00	19.9	NTU
APCO-GS-CCB-MW-8	COND	Conductivity	2/21/23 15:05	2696.62	uS/cm
APCO-GS-CCB-MW-8	DO	DO	2/21/23 15:05	0.87	mg/L
APCO-GS-CCB-MW-8	DTW	Depth to Water Detail	2/21/23 15:05	64.8	ft
APCO-GS-CCB-MW-8	ORP	Oxidation Reduction Potention	2/21/23 15:05	7.55	mv
APCO-GS-CCB-MW-8	PH	pH	2/21/23 15:05	6.76	SU
APCO-GS-CCB-MW-8	TEMP	Temperature	2/21/23 15:05	20.93	C
APCO-GS-CCB-MW-8	TURB	Turbidity	2/21/23 15:05	23.5	NTU
APCO-GS-CCB-MW-8	COND	Conductivity	2/21/23 15:10	2696.47	uS/cm
APCO-GS-CCB-MW-8	DO	DO	2/21/23 15:10	0.69	mg/L
APCO-GS-CCB-MW-8	DTW	Depth to Water Detail	2/21/23 15:10	64.8	ft
APCO-GS-CCB-MW-8	ORP	Oxidation Reduction Potention	2/21/23 15:10	4.9	mv
APCO-GS-CCB-MW-8	PH	pH	2/21/23 15:10	6.76	SU
APCO-GS-CCB-MW-8	TEMP	Temperature	2/21/23 15:10	20.71	C
APCO-GS-CCB-MW-8	TURB	Turbidity	2/21/23 15:10	34.1	NTU
APCO-GS-CCB-MW-8	COND	Conductivity	2/21/23 15:15	2722.17	uS/cm
APCO-GS-CCB-MW-8	DO	DO	2/21/23 15:15	0.77	mg/L
APCO-GS-CCB-MW-8	DTW	Depth to Water Detail	2/21/23 15:15	64.8	ft
APCO-GS-CCB-MW-8	ORP	Oxidation Reduction Potention	2/21/23 15:15	6.47	mv
APCO-GS-CCB-MW-8	PH	pH	2/21/23 15:15	6.75	SU
APCO-GS-CCB-MW-8	TEMP	Temperature	2/21/23 15:15	20.55	C
APCO-GS-CCB-MW-8	TURB	Turbidity	2/21/23 15:15	28.7	NTU
APCO-GS-CCB-MW-8	COND	Conductivity	2/21/23 15:20	2722.02	uS/cm
APCO-GS-CCB-MW-8	DO	DO	2/21/23 15:20	0.54	mg/L
APCO-GS-CCB-MW-8	DTW	Depth to Water Detail	2/21/23 15:20	64.8	ft
APCO-GS-CCB-MW-8	ORP	Oxidation Reduction Potention	2/21/23 15:20	5.72	mv
APCO-GS-CCB-MW-8	PH	pH	2/21/23 15:20	6.75	SU
APCO-GS-CCB-MW-8	TEMP	Temperature	2/21/23 15:20	20.34	C
APCO-GS-CCB-MW-8	TURB	Turbidity	2/21/23 15:20	20.6	NTU
APCO-GS-CCB-MW-8	COND	Conductivity	2/21/23 15:25	2723.67	uS/cm
APCO-GS-CCB-MW-8	DO	DO	2/21/23 15:25	0.39	mg/L

Plant Gorgas CCB Landfills  
Field Parameter Summary

APCO-GS-CCB-MW-8	DTW	Depth to Water Detail	2/21/23 15:25	64.8	ft
APCO-GS-CCB-MW-8	ORP	Oxidation Reduction Potention	2/21/23 15:25	4.3	mv
APCO-GS-CCB-MW-8	PH	pH	2/21/23 15:25	6.75	SU
APCO-GS-CCB-MW-8	TEMP	Temperature	2/21/23 15:25	20.32	C
APCO-GS-CCB-MW-8	TURB	Turbidity	2/21/23 15:25	15.5	NTU
APCO-GS-CCB-MW-8	COND	Conductivity	2/21/23 15:30	2724.42	uS/cm
APCO-GS-CCB-MW-8	DO	DO	2/21/23 15:30	0.34	mg/L
APCO-GS-CCB-MW-8	DTW	Depth to Water Detail	2/21/23 15:30	64.8	ft
APCO-GS-CCB-MW-8	ORP	Oxidation Reduction Potention	2/21/23 15:30	3.53	mv
APCO-GS-CCB-MW-8	PH	pH	2/21/23 15:30	6.75	SU
APCO-GS-CCB-MW-8	TEMP	Temperature	2/21/23 15:30	20.24	C
APCO-GS-CCB-MW-8	TURB	Turbidity	2/21/23 15:30	11.4	NTU
APCO-GS-CCB-MW-8	COND	Conductivity	2/21/23 15:35	2722.64	uS/cm
APCO-GS-CCB-MW-8	DO	DO	2/21/23 15:35	0.32	mg/L
APCO-GS-CCB-MW-8	DTW	Depth to Water Detail	2/21/23 15:35	64.8	ft
APCO-GS-CCB-MW-8	ORP	Oxidation Reduction Potention	2/21/23 15:35	1.47	mv
APCO-GS-CCB-MW-8	PH	pH	2/21/23 15:35	6.75	SU
APCO-GS-CCB-MW-8	SULFIDE	Sulfide	2/21/23 15:35	0	mg/L
APCO-GS-CCB-MW-8	TEMP	Temperature	2/21/23 15:35	20.26	C
APCO-GS-CCB-MW-8	TURB	Turbidity	2/21/23 15:35	7.56	NTU
APCO-GS-CCB-MW-10	COND	Conductivity	2/22/23 14:07	1390.68	uS/cm
APCO-GS-CCB-MW-10	DO	DO	2/22/23 14:07	4.43	mg/L
APCO-GS-CCB-MW-10	DTW	Depth to Water Detail	2/22/23 14:07	87.36	ft
APCO-GS-CCB-MW-10	ORP	Oxidation Reduction Potention	2/22/23 14:07	30.85	mv
APCO-GS-CCB-MW-10	PH	pH	2/22/23 14:07	6.74	SU
APCO-GS-CCB-MW-10	TEMP	Temperature	2/22/23 14:07	21.43	C
APCO-GS-CCB-MW-10	TURB	Turbidity	2/22/23 14:07	3.58	NTU
APCO-GS-CCB-MW-10	COND	Conductivity	2/22/23 14:12	1342.43	uS/cm
APCO-GS-CCB-MW-10	DO	DO	2/22/23 14:12	1.24	mg/L
APCO-GS-CCB-MW-10	DTW	Depth to Water Detail	2/22/23 14:12	87.72	ft
APCO-GS-CCB-MW-10	ORP	Oxidation Reduction Potention	2/22/23 14:12	10.55	mv
APCO-GS-CCB-MW-10	PH	pH	2/22/23 14:12	6.65	SU
APCO-GS-CCB-MW-10	TEMP	Temperature	2/22/23 14:12	21.44	C
APCO-GS-CCB-MW-10	TURB	Turbidity	2/22/23 14:12	5.84	NTU
APCO-GS-CCB-MW-10	COND	Conductivity	2/22/23 14:17	1321.62	uS/cm
APCO-GS-CCB-MW-10	DO	DO	2/22/23 14:17	0.8	mg/L
APCO-GS-CCB-MW-10	DTW	Depth to Water Detail	2/22/23 14:17	87.96	ft
APCO-GS-CCB-MW-10	ORP	Oxidation Reduction Potention	2/22/23 14:17	4.71	mv
APCO-GS-CCB-MW-10	PH	pH	2/22/23 14:17	6.65	SU
APCO-GS-CCB-MW-10	TEMP	Temperature	2/22/23 14:17	21.03	C
APCO-GS-CCB-MW-10	TURB	Turbidity	2/22/23 14:17	4.84	NTU
APCO-GS-CCB-MW-10	COND	Conductivity	2/22/23 14:22	1322.16	uS/cm
APCO-GS-CCB-MW-10	DO	DO	2/22/23 14:22	0.68	mg/L
APCO-GS-CCB-MW-10	DTW	Depth to Water Detail	2/22/23 14:22	88.08	ft
APCO-GS-CCB-MW-10	ORP	Oxidation Reduction Potention	2/22/23 14:22	1.64	mv
APCO-GS-CCB-MW-10	PH	pH	2/22/23 14:22	6.66	SU
APCO-GS-CCB-MW-10	TEMP	Temperature	2/22/23 14:22	21.36	C
APCO-GS-CCB-MW-10	TURB	Turbidity	2/22/23 14:22	4	NTU
APCO-GS-CCB-MW-10	COND	Conductivity	2/22/23 14:27	1326.24	uS/cm
APCO-GS-CCB-MW-10	DO	DO	2/22/23 14:27	0.68	mg/L
APCO-GS-CCB-MW-10	DTW	Depth to Water Detail	2/22/23 14:27	88.12	ft
APCO-GS-CCB-MW-10	ORP	Oxidation Reduction Potention	2/22/23 14:27	1.09	mv
APCO-GS-CCB-MW-10	PH	pH	2/22/23 14:27	6.67	SU
APCO-GS-CCB-MW-10	SULFIDE	Sulfide	2/22/23 14:27	0	mg/L
APCO-GS-CCB-MW-10	TEMP	Temperature	2/22/23 14:27	21.46	C
APCO-GS-CCB-MW-10	TURB	Turbidity	2/22/23 14:27	3.07	NTU

Alabama Power  
General Test Laboratory  
744 County Road 87, GSC #8  
Calera, AL 35040  
205-664-6001

# *Analytical Report*



**Sample Group :** WMWGORLF\_1399

**Project/Site :** Gorgas Landfill  
Parrish, AL 35580

**For :** Southern Company Services  
3535 Colonnade Parkway  
Birmingham, AL 35243

**Attention :** Dustin Brooks & Greg Dyer

**Released By :** Brooke Caton  
tbwill@southernco.com  
(205) 664-6101

March 22, 2023

Dear Dustin Brooks,

Enclosed are the analytical results for sample(s) received by the laboratory on February 23, 2023. All results reported herein conform to the laboratory's most current Quality Assurance Manual. Results marked with an asterisk conform to the most current applicable TNI/NELAC requirements. Exceptions will be noted in the body of the report.

Laboratory certification ID: E571114  
Issued By: State of Florida, Department of Health  
Expiration: June 30, 2023

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Quality Control: **Brooke  
Caton**

Digitally signed by Brooke  
Caton  
Date: 2023.03.22  
15:42:28 -05'00'

Supervision: **T Durant  
Maske**

Digitally signed by T Durant Maske  
DN: cn=T Durant Maske, gn=T Durant Maske c=US  
United States +US, United States  
e=tdmaske@southernco.com  
Reason: I am the author of this document  
Location:  
Date: 2023-03-24 07:35-05:00



### REPORT OF LABORATORY ANALYSIS

This Certificate states the physical and/or chemical characteristics of the sample as submitted.  
This document shall not be reproduced, except in full, without written consent from  
Alabama Power's General Test Laboratory.





Total Metals ICP

Gorgas Landfill

WMWGORLF\_1399

1. This report consists of all MWs and corresponding Lab IDs listed on the Chain of Custody.
2. Refer to comments on Chain of Custody for information regarding sample receipt.
3. All standards and solutions meet NELAP traceability requirements and were used within their recommended shelf life.

<u>Sample ID</u>	<u>Batch ID</u>	<u>Project ID</u>
BD04069	748240	WMWGORLF_1399
BD04070	748240	WMWGORLF_1399
BD04071	748240	WMWGORLF_1399
BD04072	748240	WMWGORLF_1399
BD04073	748240	WMWGORLF_1399
BD04074	748240	WMWGORLF_1399
BD04075	748240	WMWGORLF_1399
BD04076	748240	WMWGORLF_1399
BD04077	748240	WMWGORLF_1399
BD04078	748240	WMWGORLF_1399
BD04079	748241	WMWGORLF_1399
BD04080	748241	WMWGORLF_1399
BD04081	748241	WMWGORLF_1399
BD04082	748241	WMWGORLF_1399
BD04083	748241	WMWGORLF_1399
BD04084	748241	WMWGORLF_1399
BD04085	748241	WMWGORLF_1399
BD04086	748241	WMWGORLF_1399
BD04087	748241	WMWGORLF_1399
BD04088	748241	WMWGORLF_1399
BD04089	748242	WMWGORLF_1399

4. All of the above samples were analyzed by EPA 200.7 and prepared by EPA 1638.
5. All samples were prepared and analyzed within the established hold times.
6. All in house quality control procedures were followed, as described below.

General Quality Control Procedures:

- Prior to sample analysis, an initial calibration verification (ICV) was analyzed, and all criteria were met.
- Following the ICV, an initial calibration blank (ICB) was analyzed, and all criteria were met.
- All continued calibration verification (CCV) were within the acceptance criteria for the requested analytes.

- All continued calibration blanks (CCB) were analyzed, and all criteria were met.
- A preparation method blank and laboratory control sample were digested and analyzed with the samples in each digestion batch.
- All laboratory control sample criteria were met.
- The method blank associated with each digestion batch passed all acceptance criteria for all requested analytes.
- All calibration curve requirements were within acceptance criteria.
- All sample internal standard criteria were met.
- The spectral interference check associated with EPA 200.7 was analyzed and all acceptance criteria were met.
- It is noted that the QC summary page typically provides the QC results from the original batch analytical sequence. If dilutions were subsequently performed to bring sample concentrations within the calibration range, any additional QC data from the dilution analyses may need to be obtained from the laboratory. Any qualifications applied to original analyses or dilution re-analyses are based upon QC data available at the time of review.

#### Matrix Specific Quality Control Procedures:

Similarity of matrix and therefore relevance of matrix specific QC results should not be automatically inferred for any sample other than the sample selected for QC.

- A matrix spike and matrix spike duplicate were digested and analyzed with each ICP batch. All acceptance criteria for accuracy were met except for the following:
    - BD04078 Calcium MS/MSD spike levels were less than 30% of the sample concentrations.
    - BD04088 & BD04089 Calcium, Iron, Magnesium and Sodium MS/MSD spike levels were less than 30% of the sample concentrations.
  - A matrix spike and matrix spike duplicate were digested and analyzed with each ICP batch. All acceptance criteria for precision were met.
7. The following sample was diluted due to the analyzed sample concentration being greater than the high standard of the calibration curve:

<u>Sample ID</u>	<u>Analyte</u>	<u>Dilution Factor</u>
BD04069	Calcium, Magnesium, Sodium	101.5
BD04070	Calcium, Magnesium	10.15
BD04071	Calcium, Magnesium	10.15
BD04072	Calcium, Iron, Magnesium, Sodium	10.15
BD04074	Calcium, Iron, Magnesium, Sodium	10.15
BD04075	Calcium, Magnesium	10.15
BD04076	Calcium, Magnesium	10.15
BD04077	Calcium, Iron, Magnesium	10.15
BD04078	Calcium, Magnesium	10.15

## Case Narrative

BD04079	Calcium, Magnesium	10.15
BD04081	Calcium, Iron, Magnesium	101.5
BD04082	Calcium, Magnesium	10.15
BD04083	Calcium, Magnesium	101.5
BD04084	Calcium, Magnesium	101.5
BD04085	Calcium, Iron, Magnesium, Sodium	10.15
BD04087	Calcium, Magnesium, Sodium	10.15
BD04088	Calcium, Iron, Magnesium, Sodium	10.15
BD04089	Calcium, Iron, Magnesium, Sodium	101.5

8. The raw data results are shown with dilution factors included.

Dissolved Metals ICP

Gorgas Landfill

WMWGORLF\_1399

1. This report consists of all MWs and corresponding Lab IDs listed on the Chain of Custody.
2. Refer to comments on Chain of Custody for information regarding sample receipt.
3. All standards and solutions meet NELAP traceability requirements and were used within their recommended shelf life.

<u>Sample ID</u>	<u>Batch ID</u>	<u>Project ID</u>
BD04069	748173	WMWGORLF_1399
BD04070	748173	WMWGORLF_1399
BD04071	748173	WMWGORLF_1399
BD04072	748173	WMWGORLF_1399
BD04074	748173	WMWGORLF_1399
BD04075	748173	WMWGORLF_1399
BD04076	748173	WMWGORLF_1399
BD04077	748173	WMWGORLF_1399
BD04078	748173	WMWGORLF_1399
BD04079	748173	WMWGORLF_1399
BD04081	748174	WMWGORLF_1399
BD04082	748174	WMWGORLF_1399
BD04083	748174	WMWGORLF_1399
BD04084	748174	WMWGORLF_1399
BD04085	748174	WMWGORLF_1399
BD04087	748174	WMWGORLF_1399
BD04088	748174	WMWGORLF_1399
BD04089	748174	WMWGORLF_1399

4. All of the above samples were analyzed and prepared by EPA 200.7 for dissolved analysis.
5. All samples were prepared and analyzed within the established hold times.
6. All in house quality control procedures were followed, as described below.

General Quality Control Procedures:

- Prior to sample analysis, an initial calibration verification (ICV) was analyzed, and all criteria were met.
- Following the ICV, an initial calibration blank (ICB) was analyzed, and all criteria were met.
- All continued calibration verification (CCV) were within the acceptance criteria for the requested analytes.
- All continued calibration blanks (CCB) were analyzed, and all criteria were met.
- Due to no filtered method blank (MB) or laboratory control sample (LCS) submitted with the sample set, an unfiltered MB and LCS were analyzed with the samples in each batch.

- All laboratory control sample criteria were met.
- The method blank associated with each batch passed all acceptance criteria for all requested analytes.
- All calibration curve requirements were within acceptance criteria.
- All sample internal standard criteria were met.
- The spectral interference check associated with EPA 200.7 was analyzed and all acceptance criteria were met.
- It is noted that the QC summary page typically provides the QC results from the original batch analytical sequence. If dilutions were subsequently performed to bring sample concentrations within the calibration range, any additional QC data from the dilution analyses may need to be obtained from the laboratory. Any qualifications applied to original analyses or dilution re-analyses are based upon QC data available at the time of review.

Matrix Specific Quality Control Procedures:

Similarity of matrix and therefore relevance of matrix specific QC results should not be automatically inferred for any sample other than the sample selected for QC.

- A matrix spike and matrix spike duplicate were analyzed with each ICP batch. All acceptance criteria for accuracy were met except for the following:
    - BD04079 Calcium and Magnesium MS/MSD spike levels were less than 30% of the sample concentrations.
    - BD04089 Calcium, Iron, Magnesium and Sodium MS/MSD spike levels were less than 30% of the sample concentrations.
  - A matrix spike and matrix spike duplicate were analyzed with each ICP batch. All acceptance criteria for precision were met.
7. The following samples were diluted due to the analyzed sample concentration being greater than the high standard of the calibration curve:

<u>Sample ID</u>	<u>Analyte</u>	<u>Dilution Factor</u>
BD04069	Calcium, Magnesium, Sodium	101.5
BD04070	Calcium, Magnesium	10.15
BD04071	Calcium, Magnesium	10.15
BD04072	Calcium, Magnesium, Sodium	10.15
BD04074	Calcium, Magnesium, Sodium	10.15
BD04075	Calcium, Magnesium	10.15
BD04076	Calcium, Magnesium	10.15
BD04077	Calcium, Iron, Magnesium	10.15
BD04078	Calcium, Magnesium	10.15
BD04079	Calcium, Magnesium	10.15
BD04081	Calcium, Iron, Magnesium	101.5
BD04082	Calcium, Magnesium	10.15
BD04083	Calcium, Magnesium	101.5
BD04084	Calcium, Magnesium	101.5

## Case Narrative

BD04085	Calcium, Iron, Magnesium, Sodium	10.15
BD04087	Calcium, Magnesium, Sodium	10.15
BD04088	Calcium, Magnesium, Sodium	10.15
BD04089	Calcium, Iron, Magnesium, Sodium	101.5

8. The raw data results are shown with dilution factors included.

Total Metals ICPMS

Gorgas Landfill

WMWGORLF\_1399

1. This report consists of all MWs and corresponding Lab IDs listed on the Chain of Custody.
2. Refer to comments on Chain of Custody for information regarding sample receipt.
3. All standards and solutions meet NELAP traceability requirements and were used within their recommended shelf life.

<u>Sample ID</u>	<u>Batch ID</u>	<u>Project ID</u>
BD04069	748909	WMWGORLF_1399
BD04070	748909	WMWGORLF_1399
BD04071	748909	WMWGORLF_1399
BD04072	748909	WMWGORLF_1399
BD04073	748909	WMWGORLF_1399
BD04074	748909, 750305	WMWGORLF_1399
BD04075	748909	WMWGORLF_1399
BD04076	748909	WMWGORLF_1399
BD04077	748909	WMWGORLF_1399
BD04078	748909	WMWGORLF_1399
BD04079	748910	WMWGORLF_1399
BD04080	748910	WMWGORLF_1399
BD04081	748910	WMWGORLF_1399
BD04082	748910	WMWGORLF_1399
BD04083	748910	WMWGORLF_1399
BD04084	748910	WMWGORLF_1399
BD04085	748910	WMWGORLF_1399
BD04086	748910	WMWGORLF_1399
BD04087	748910	WMWGORLF_1399
BD04088	748910	WMWGORLF_1399
BD04089	748911	WMWGORLF_1399

4. All of the above samples were analyzed by EPA 200.8 and prepared by EPA 1638.
5. All samples were prepared and analyzed within the established hold times.
6. All in house quality control procedures were followed, as described below.

General Quality Control Procedures:

- All tune and calibration met criteria for all requested analytes.
- Prior to sample analysis, an initial calibration verification (ICV) was analyzed, and all criteria were met.

- Following the ICV, an initial calibration blank (ICB) was analyzed and was below the limit of quantitation for all requested analytes.
- All continued calibration verification (CCV) were within the acceptance criteria for the requested analytes.
- All continued calibration blanks (CCB) were below the limit of quantitation for the requested analytes.
- A preparation method blank and laboratory control sample were digested and analyzed with the samples in each digestion batch.
- All laboratory control sample criteria were met.
- The method blank associated with each digestion batch passed all acceptance criteria for all requested analytes.
- The interference check samples associated with EPA 200.8 were analyzed and passed for all requested analytes.
- All sample internal standard criteria were met.
- It is noted that the QC summary page typically provides the QC results from the original batch analytical sequence. If dilutions were subsequently performed to bring sample concentrations within the calibration range, any additional QC data from the dilution analyses may need to be obtained from the laboratory. Any qualifications applied to original analyses or dilution re-analyses are based upon QC data available at the time of review.

Matrix Specific Quality Control Procedures:

Similarity of matrix and therefore relevance of matrix specific QC results should not be automatically inferred for any sample other than the sample selected for QC.

- A matrix spike and matrix spike duplicate were digested and analyzed with each ICPMS batch. All acceptance criteria for accuracy were met, except for the following:
    - BD04078 & BD04089 Manganese MS/MSD spike levels were less than 30% of the sample concentrations.
  - A matrix spike and matrix spike duplicate were digested and analyzed with each ICPMS batch. All acceptance criteria for precision were met.
7. The following samples were diluted due to the analyzed sample concentration being greater than the high standard of the calibration curve:

<u>Sample ID</u>	<u>Analyte</u>	<u>Dilution Factor</u>
BD04070	Manganese	5.075
BD04072	Manganese	92.365
BD04075	Manganese	5.075
BD04076	Manganese	5.075
BD04077	Manganese	10.15
BD04078	Manganese	5.075
BD04079	Manganese	5.075
BD04081	Manganese	92.365
BD04083	Manganese	5.075



## Case Narrative

BD04084	Manganese	5.075
BD04087	Manganese	5.075
BD04089	Manganese	92.365

8. The raw data results are shown with dilution factors included.

Dissolved Metals ICPMS

Gorgas Landfill

WMWGORLF\_1399

1. This report consists of all MWs and corresponding Lab IDs listed on the Chain of Custody.
2. Refer to comments on Chain of Custody for information regarding sample receipt.
3. All standards and solutions meet NELAP traceability requirements and were used within their recommended shelf life.

<u>Sample ID</u>	<u>Batch ID</u>	<u>Project ID</u>
BD04069	748983	WMWGORLF_1399
BD04070	748983	WMWGORLF_1399
BD04071	748983	WMWGORLF_1399
BD04072	748983	WMWGORLF_1399
BD04074	748983, 750302	WMWGORLF_1399
BD04075	748983	WMWGORLF_1399
BD04076	748983	WMWGORLF_1399
BD04077	748983	WMWGORLF_1399
BD04078	748983	WMWGORLF_1399
BD04079	748983	WMWGORLF_1399
BD04081	748984	WMWGORLF_1399
BD04082	748984	WMWGORLF_1399
BD04083	748984	WMWGORLF_1399
BD04084	748984	WMWGORLF_1399
BD04085	748984	WMWGORLF_1399
BD04087	748984	WMWGORLF_1399
BD04088	748984	WMWGORLF_1399
BD04089	748984	WMWGORLF_1399

4. All of the above samples were analyzed and prepared by EPA 200.8 for dissolved analysis.
5. All samples were prepared and analyzed within the established hold times.
6. All in house quality control procedures were followed, as described below.

General Quality Control Procedures:

- All tune and calibration met criteria for all requested analytes.
- Prior to sample analysis, an initial calibration verification (ICV) was analyzed, and all criteria were met.
- Following the ICV, an initial calibration blank (ICB) was analyzed and was below the limit of quantitation for all requested analytes.
- All continued calibration verification (CCV) were within the acceptance criteria for the requested analytes.

- All continued calibration blanks (CCB) were below the limit of quantitation for the requested analytes.
- Due to no filtered method blank (MB) or laboratory control sample (LCS) submitted with the sample set, an unfiltered MB and LCS were analyzed with the samples in each batch.
- All laboratory control sample criteria were met.
- The method blank associated with each preparation batch passed all acceptance criteria for all requested analytes.
- The interference check samples associated with EPA 200.8 were analyzed and passed for all requested analytes.
- All sample internal standard criteria were met.
- It is noted that the QC summary page typically provides the QC results from the original batch analytical sequence. If dilutions were subsequently performed to bring sample concentrations within the calibration range, any additional QC data from the dilution analyses may need to be obtained from the laboratory. Any qualifications applied to original analyses or dilution re-analyses are based upon QC data available at the time of review.

Matrix Specific Quality Control Procedures:

Similarity of matrix and therefore relevance of matrix specific QC results should not be automatically inferred for any sample other than the sample selected for QC.

- A matrix spike and matrix spike duplicate were analyzed with each ICPMS batch. All acceptance criteria for accuracy were met except for the following:
    - BD04079 & BD04089 Manganese MS/MSD spike levels were less than 30% of the sample concentrations.
  - A matrix spike and matrix spike duplicate were analyzed with each ICPMS batch. All acceptance criteria for precision were met.
7. The following samples were diluted due to the analyzed sample concentration being greater than the high standard of the calibration curve:

<u>Sample ID</u>	<u>Analyte</u>	<u>Dilution Factor</u>
BD04070	Manganese	5.075
BD04072	Manganese	92.365
BD04075	Manganese	5.075
BD04076	Manganese	5.075
BD04077	Manganese	10.15
BD04078	Manganese	5.075
BD04079	Manganese	5.075
BD04081	Manganese	92.365
BD04083	Manganese	5.075
BD04084	Manganese	5.075
BD04087	Manganese	5.075
BD04089	Manganese	92.365

8. The raw data results are shown with dilution factors included.

Mercury

Gorgas Landfill

WMWGORLF\_1399

1. This report consists of all MWs and corresponding Lab IDs listed on the Chain of Custody.
2. Refer to comments on Chain of Custody for information regarding sample receipt.
3. All standards and solutions meet NELAP traceability requirements and were used within their recommended shelf life.

<u>Sample ID</u>	<u>Batch ID</u>	<u>Project ID</u>
BD04069	748528	WMWGORLF_1399
BD04070	748529	WMWGORLF_1399
BD04071	748529	WMWGORLF_1399
BD04072	748529	WMWGORLF_1399
BD04073	748529	WMWGORLF_1399
BD04074	748529	WMWGORLF_1399
BD04075	748529	WMWGORLF_1399
BD04076	748529	WMWGORLF_1399
BD04077	748529	WMWGORLF_1399
BD04078	748529	WMWGORLF_1399
BD04079	748529	WMWGORLF_1399
BD04080	748530	WMWGORLF_1399
BD04081	748530	WMWGORLF_1399
BD04082	748530	WMWGORLF_1399
BD04083	748530	WMWGORLF_1399
BD04084	748530	WMWGORLF_1399
BD04085	748530	WMWGORLF_1399
BD04086	748530	WMWGORLF_1399
BD04087	748530	WMWGORLF_1399
BD04088	748530	WMWGORLF_1399
BD04089	748530	WMWGORLF_1399

4. All of the above samples were analyzed and prepared by EPA 245.1.
5. All samples were prepared and analyzed within the established hold times.
6. All in house quality control procedures were followed, as described below.

#### General Quality Control Procedures:

- Prior to sample analysis, an initial calibration verification (ICV) was analyzed, and all criteria were met.
- Following the ICV, an initial calibration blank (ICB) was analyzed and was below the method detection limit for the requested analyte.

Revision 5

- All continued calibration verification (CCV) were within the acceptance criteria for the requested analyte.
- All continued calibration blanks (CCB) were below the limit of quantitation for the requested analyte.
- A preparation method blank and laboratory control sample were digested and analyzed with the samples in each digestion batch.
- All laboratory control sample criteria were met.
- The method blank associated with each digestion batch was below the limit of quantitation for the requested analyte.
- All calibration met criteria for the requested analyte.
- All response signals were satisfactory.

### Matrix Specific Quality Control Procedures:

Similarity of matrix and therefore relevance of matrix specific QC results should not be automatically inferred for any sample other than the sample selected for QC.

- A matrix spike and matrix spike duplicate were digested and analyzed with each batch. All acceptance criteria for accuracy were met.
  - A matrix spike and matrix spike duplicate were digested and analyzed with each batch. All acceptance criteria for precision were met.
7. All samples were analyzed without a dilution factor.

Total Dissolved Solids

Gorgas Landfill

WMWGORLF\_1399

1. This report consists of all MWs and corresponding Lab IDs listed on the Chain of Custody.
2. Refer to comments on Chain of Custody for information regarding sample receipt.
3. All standards and solutions meet NELAP traceability requirements and were used within their recommended shelf life.

<u>Sample ID</u>	<u>Batch ID</u>	<u>Project ID</u>
BD04069	748199	WMWGORLF_1399
BD04070	748199	WMWGORLF_1399
BD04071	748199	WMWGORLF_1399
BD04072	748199	WMWGORLF_1399
BD04073	748199	WMWGORLF_1399
BD04074	748199	WMWGORLF_1399
BD04075	748199	WMWGORLF_1399
BD04076	748199	WMWGORLF_1399
BD04077	748199	WMWGORLF_1399
BD04078	748199	WMWGORLF_1399
BD04079	748200	WMWGORLF_1399
BD04080	748200	WMWGORLF_1399
BD04081	748200	WMWGORLF_1399
BD04082	748200	WMWGORLF_1399
BD04083	748200	WMWGORLF_1399
BD04084	748200	WMWGORLF_1399
BD04085	748200	WMWGORLF_1399
BD04086	748200	WMWGORLF_1399
BD04087	748200	WMWGORLF_1399
BD04088	748200	WMWGORLF_1399
BD04089	748340	WMWGORLF_1399

4. All of the above samples were prepared and analyzed by Standard Method 2540C.
5. All samples were prepared and analyzed within the established hold times.
6. All in house quality control procedures were followed, as described below.

General Quality Control Procedures:

- A Method Blank was analyzed with each batch. All criteria were met.
- All final weights of samples, standards, and blanks agreed within 0.5mg of the previous weight.
- A sample duplicate was analyzed with each batch, and RPD was ≤ 10%.

## Case Narrative

- A laboratory control sample was analyzed with each batch. All criteria were met.
- Samples were between 2.5mg and 200mg residue.
- All samples with residue <2.5mg had the maximum volume of 150mL filtered. Affected samples are as follows:
  - BD04073
  - BD04080
  - BD08086



Alkalinity

Gorgas Landfill

WMWGORLF\_1399

1. This report consists of all MWs and corresponding Lab IDs listed on the Chain of Custody.
2. Refer to comments on Chain of Custody for information regarding sample receipt.
3. All standards and solutions meet NELAP traceability requirements and were used within their recommended shelf life.

<u>Sample ID</u>	<u>Batch ID</u>	<u>Project ID</u>
BD04069	749151, 749152, 749153	WMWGORLF_1399
BD04070	749151, 749152, 749153	WMWGORLF_1399
BD04071	749151, 749152, 749153	WMWGORLF_1399
BD04072	749216, 749217, 749218	WMWGORLF_1399
BD04074	749216, 749217, 749218	WMWGORLF_1399
BD04075	749151, 749152, 749153	WMWGORLF_1399
BD04076	749151, 749152, 749153	WMWGORLF_1399
BD04077	749151, 749152, 749153	WMWGORLF_1399
BD04078	749151, 749152, 749153	WMWGORLF_1399
BD04079	749151, 749152, 749153	WMWGORLF_1399
BD04081	749151, 749152, 749153	WMWGORLF_1399
BD04082	749151, 749152, 749153	WMWGORLF_1399
BD04083	749216, 749217, 749218	WMWGORLF_1399
BD04084	749216, 749217, 749218	WMWGORLF_1399
BD04085	749216, 749217, 749218	WMWGORLF_1399
BD04087	749216, 749217, 749218	WMWGORLF_1399
BD04088	749216, 749217, 749218	WMWGORLF_1399
BD04089	749216, 749217, 749218	WMWGORLF_1399

4. All of the above samples were prepared and analyzed by Standard Method 2320B.
5. All samples were prepared and analyzed within the established hold times.
6. All in house quality control procedures were followed, as described below.

General Quality Control Procedures:

- An initial pH check was analyzed with each batch. The acceptance criteria were met.
- A final pH check was analyzed with each batch. The acceptance criteria were met.
- An alkalinity laboratory control sample was analyzed with each batch. Range criteria of within 10% of true value was met.
- An alkalinity sample duplicate was analyzed with each batch. Precision criteria less than 10 RPD was met.

7. The following samples had pH>10 and/or TDS>500mg/L. Therefore, the calculations for carbonate and bicarbonate are estimates:

- BD04069
- BD04070
- BD04071
- BD04072
- BD04074
- BD04075
- BD04076
- BD04077
- BD04078
- BD04079
- BD04081
- BD04082
- BD04083
- BD04084
- BD04085
- BD04087
- BD04088
- BD04089

Anions

Gorgas Landfill

WMWGORLF\_1399

1. This report consists of all MWs and corresponding Lab IDs listed on the Chain of Custody.
2. Refer to comments on Chain of Custody for information regarding sample receipt.
3. All standards and solutions meet NELAP traceability requirements and were used within their recommended shelf life.

<u>Sample ID</u>	<u>Batch ID</u>	<u>Project ID</u>
BD04069	748522, 748557, 748697	WMWGORLF_1399
BD04070	748522, 748557, 748697	WMWGORLF_1399
BD04071	748522, 748557, 748697	WMWGORLF_1399
BD04072	748522, 748557, 748697	WMWGORLF_1399
BD04073	748522, 748557, 748697	WMWGORLF_1399
BD04074	748522, 748557, 748697	WMWGORLF_1399
BD04075	748522, 748557, 748697	WMWGORLF_1399
BD04076	748522, 748557, 748697	WMWGORLF_1399
BD04077	748522, 748557, 748697	WMWGORLF_1399
BD04078	748522, 748557, 748697	WMWGORLF_1399
BD04079	748523, 748558, 748698	WMWGORLF_1399
BD04080	748523, 748558, 748698	WMWGORLF_1399
BD04081	748523, 748558, 748698	WMWGORLF_1399
BD04082	748523, 748558, 748698	WMWGORLF_1399
BD04083	748523, 748558, 748698	WMWGORLF_1399
BD04084	748523, 748558, 748698	WMWGORLF_1399
BD04085	748523, 748558, 748698	WMWGORLF_1399
BD04086	748523, 748558, 748698	WMWGORLF_1399
BD04087	748523, 748558, 748698	WMWGORLF_1399
BD04088	748523, 748558, 748698	WMWGORLF_1399
BD04089	748524, 748559, 748699	WMWGORLF_1399

4. All of the above samples were analyzed and prepared by SM4500 Cl E, SM4500 F G, and SM4500 SO4 E.
5. All samples were prepared and analyzed within the established hold times.
6. All in house quality control procedures were followed, as described below.

General Quality Control Procedures:

- All calibration met criteria for the requested analyte.
- Prior to sample analysis, an initial calibration verification (ICV) was analyzed, and all criteria were met.

- Prior to sample analysis, an initial calibration blank (ICB) was analyzed and was below half the limit of quantitation for the requested analyte.
- All continued calibration verification (CCV) were within the acceptance criteria for the requested analyte.
- All continued calibration blanks (CCB) were below the limit of quantitation for the requested analyte.
- It is noted that the QC summary page typically provides the QC results from the original batch analytical sequence. If dilutions were subsequently performed to bring sample concentrations within the calibration range, any additional QC data from the dilution analyses may need to be obtained from the laboratory. Any qualifications applied to original analyses or dilution re-analyses are based upon QC data available at the time of review.

Matrix Specific Quality Control Procedures:

Similarity of matrix and therefore relevance of matrix specific QC results should not be automatically inferred for any sample other than the sample selected for QC.

- A matrix spike and matrix spike duplicate were analyzed with each batch. All acceptance criteria for accuracy were met.
- A matrix spike and matrix spike duplicate were analyzed with each batch. All acceptance criteria for precision were met.

7. The following samples were diluted due to the analyzed sample concentration being greater than the high standard of the calibration curve:

<u>Sample ID</u>	<u>Analyte</u>	<u>Dilution Factor</u>
BD04069	Sulfate	80
BD04070	Sulfate	50
BD04071	Sulfate	50
BD04072	Sulfate	80
BD04074	Sulfate	32
BD04075	Sulfate	50
BD04076	Sulfate	50
BD04077	Sulfate	50
BD04078	Sulfate	80
BD04079	Sulfate	50
BD04081	Sulfate	80
BD04082	Sulfate	50
BD04083	Sulfate	64
BD04084	Sulfate	64
BD04085	Chloride, Sulfate	5, 50
BD04087	Chloride, Sulfate	4, 50
BD04088	Chloride, Sulfate	8, 80
BD04089	Sulfate	100

8. The raw data results are shown with dilution factors included.



Nitrate-Nitrite

Gorgas Landfill

WMWGORLF\_1399

1. This report consists of all MWs and corresponding Lab IDs listed on the Chain of Custody.
2. Refer to comments on Chain of Custody for information regarding sample receipt.
3. All standards and solutions meet NELAP traceability requirements and were used within their recommended shelf life.

<u>Sample ID</u>	<u>Batch ID</u>	<u>Project ID</u>
BD04069	748513	WMWGORLF_1399
BD04070	748513	WMWGORLF_1399
BD04071	748513	WMWGORLF_1399
BD04072	748513	WMWGORLF_1399
BD04073	748513	WMWGORLF_1399
BD04074	748513	WMWGORLF_1399
BD04075	748513	WMWGORLF_1399
BD04076	748513	WMWGORLF_1399
BD04077	748513	WMWGORLF_1399
BD04078	748513	WMWGORLF_1399
BD04079	748514	WMWGORLF_1399
BD04080	748514	WMWGORLF_1399
BD04081	748514	WMWGORLF_1399
BD04082	748514	WMWGORLF_1399
BD04083	748514	WMWGORLF_1399
BD04084	748514	WMWGORLF_1399
BD04085	748514	WMWGORLF_1399
BD04086	748514	WMWGORLF_1399
BD04087	748514	WMWGORLF_1399
BD04088	748514	WMWGORLF_1399
BD04089	748515	WMWGORLF_1399

4. All of the above samples were prepared and analyzed for NO<sub>x</sub> by EPA 353.2.
5. All samples were prepared and analyzed within the established hold times.
6. All in house quality control procedures were followed, as described below.

General Quality Control Procedures:

- Water baseline report was run and met criteria.
- All calibration met criteria for the requested analytes.
- Prior to sample analysis, an initial calibration verification (ICV) was analyzed and met all criteria.

Revision 5

- All continued calibration verification (CCV) were within the acceptance criteria.
- Prior to sample analysis, an initial calibration blank (ICB) was analyzed and were below limit of detection.
- All continued calibration blanks (CCB) were below the limit of detection.

### EPA 353.2 Specific QC:

- Prior to sample analysis, Cadmium coil reduction efficiency check met criteria.
  - Matrix Specific QC:
    - A sample duplicate was run and criteria for precision was met, except for the following:
      - BD04089 Precision is outside of the specification limit.
    - A matrix spike was run and criteria for accuracy was met, except for the following:
      - BD04078 & BD04089 matrix spike recovery is outside of the specification limit.
7. All samples were analyzed without a dilution factor.
  8. The raw data results are shown with dilution factors included.

Total Organic Carbon

Gorgas Landfill

WMWGORLF\_1399

1. This report consists of all MWs and corresponding Lab IDs listed on the Chain of Custody.
2. Refer to comments on Chain of Custody for information regarding sample receipt.
3. All standards and solutions meet NELAP traceability requirements and were used within their recommended shelf life.

<u>Sample ID</u>	<u>Batch ID</u>	<u>Project ID</u>
BD04069	748202	WMWGORLF_1399
BD04070	748202	WMWGORLF_1399
BD04071	748202	WMWGORLF_1399
BD04072	748202	WMWGORLF_1399
BD04073	748202	WMWGORLF_1399
BD04074	748202	WMWGORLF_1399
BD04075	748202	WMWGORLF_1399
BD04076	748202	WMWGORLF_1399
BD04077	748202	WMWGORLF_1399
BD04078	748202	WMWGORLF_1399
BD04079	748203	WMWGORLF_1399
BD04080	748203	WMWGORLF_1399
BD04081	748203	WMWGORLF_1399
BD04082	748203	WMWGORLF_1399
BD04083	748203	WMWGORLF_1399
BD04084	748203	WMWGORLF_1399
BD04085	748203	WMWGORLF_1399
BD04086	748203	WMWGORLF_1399
BD04087	748203	WMWGORLF_1399
BD04088	748203	WMWGORLF_1399
BD04089	748204	WMWGORLF_1399

4. All of the above samples were prepared and analyzed by Standard Method 5310B.
5. All samples were prepared and analyzed within the established hold times.
6. All in house quality control procedures were followed, as described below.

General Quality Control Procedures:

- All calibration criteria were met.
- Prior to sample analysis, an initial calibration verification (ICV) was analyzed and met all criteria.
- Prior to sample analysis, an initial calibration blank (ICB) was analyzed and was <1/2RL.



- All continued calibration verifications (CCVs) were within the acceptance range.
- All continued calibration blanks (CCBs) were  $<1/2RL$ .

### Matrix Specific Quality Control Procedures:

- A matrix spike and matrix spike duplicate were analyzed with each batch. All acceptance criteria for accuracy were met, except for the following:
    - BD04078 matrix spike and/or matrix spike duplicate recovery are outside of the specification limit.
  - A matrix spike and matrix spike duplicate were analyzed with each batch. All acceptance criteria for precision were met.
7. All samples were analyzed without a dilution factor.
  8. The raw data results are shown with dilution factors included.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-5

**Location Code:** WMWGORLF  
**Collected:** 2/21/23 12:22  
**Customer ID:**  
**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04069

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>					
* Boron, Total	2/24/23 13:19	2/27/23 15:03		1.015	0.0315	mg/L	0.030000	0.1015	J	
* Calcium, Total	2/24/23 13:19	2/28/23 13:52		101.5	367	mg/L	7.0035	40.6		
* Iron, Total	2/24/23 13:19	2/27/23 15:03		1.015	3.88	mg/L	0.008120	0.0406		
* Lithium, Total	2/24/23 13:19	2/27/23 15:03		1.015	0.104	mg/L	0.007105	0.01999956		
* Magnesium, Total	2/24/23 13:19	3/2/23 12:48		101.5	334	mg/L	2.1315	40.6		
* Silica, Total (calc.)	2/24/23 13:19	2/27/23 15:03		1	16.3	mg/L				
* Silicon, Total	2/24/23 13:19	2/27/23 15:03		1.015	7.63	mg/L	0.02030	0.25375		
* Sodium, Total	2/24/23 13:19	2/28/23 13:52		101.5	47.7	mg/L	3.045	40.6		
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>					
* Boron, Dissolved	2/23/23 13:36	2/27/23 11:19		1.015	0.0306	mg/L	0.030000	0.1015	J	
* Calcium, Dissolved	2/23/23 13:36	2/27/23 13:07		101.5	355	mg/L	7.0035	40.6		
* Iron, Dissolved	2/23/23 13:36	2/27/23 11:19		1.015	2.46	mg/L	0.008120	0.0406		
* Lithium, Dissolved	2/23/23 13:36	2/27/23 11:19		1.015	0.0939	mg/L	0.007105	0.01999956		
* Magnesium, Dissolved	2/23/23 13:36	2/27/23 13:07		101.5	359	mg/L	2.1315	40.6		
* Silica, Dissolved (calc.)	2/23/23 13:36	2/27/23 11:19		1	16.0	mg/L				
* Silicon, Dissolved	2/23/23 13:36	2/27/23 11:19		1.015	7.49	mg/L	0.02030	0.25375		
* Sodium, Dissolved	2/23/23 13:36	2/27/23 13:07		101.5	48.8	mg/L	3.045	40.6		
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>			<b>Preparation Method: EPA 1638</b>					
* Antimony, Total	2/24/23 13:19	2/27/23 16:45		1.015	Not Detected	mg/L	0.000508	0.001015	U	
* Aluminum, Total	2/24/23 13:19	2/27/23 16:45		1.015	Not Detected	mg/L	0.006090	0.05075	U	
* Arsenic, Total	2/24/23 13:19	2/27/23 16:45		1.015	0.000306	mg/L	0.000081	0.000203		
* Barium, Total	2/24/23 13:19	2/27/23 16:45		1.015	0.0121	mg/L	0.000508	0.001015		
* Beryllium, Total	2/24/23 13:19	2/27/23 16:45		1.015	Not Detected	mg/L	0.000406	0.001015	U	
* Cadmium, Total	2/24/23 13:19	2/27/23 16:45		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Chromium, Total	2/24/23 13:19	2/27/23 16:45		1.015	Not Detected	mg/L	0.000203	0.001015	U	
* Cobalt, Total	2/24/23 13:19	2/27/23 16:45		1.015	0.000910	mg/L	0.000068	0.000203		
* Lead, Total	2/24/23 13:19	2/27/23 16:45		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Manganese, Total	2/24/23 13:19	2/27/23 16:45		1.015	0.394	mg/L	0.000152	0.001015		
* Molybdenum, Total	2/24/23 13:19	2/27/23 16:45		1.015	0.000945	mg/L	0.000102	0.000203		
* Potassium, Total	2/24/23 13:19	2/27/23 16:45		1.015	6.20	mg/L	0.169505	0.5075		

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-5

**Location Code:** WMWGORLF  
**Collected:** 2/21/23 12:22  
**Customer ID:**  
**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04069

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/24/23 13:19	2/27/23 16:45		1.015	0.00124	mg/L	0.000508	0.001015	
* Thallium, Total	2/24/23 13:19	2/27/23 16:45		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	2/23/23 13:36	2/23/23 15:05		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/23/23 13:36	2/23/23 15:05		1.015	Not Detected	mg/L	0.006090	0.05075	U
* Arsenic, Dissolved	2/23/23 13:36	2/23/23 15:05		1.015	0.000198	mg/L	0.000081	0.000203	J
* Barium, Dissolved	2/23/23 13:36	2/23/23 15:05		1.015	0.0107	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	2/23/23 13:36	2/28/23 09:45		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	2/23/23 13:36	2/23/23 15:05		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	2/23/23 13:36	2/23/23 15:05		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	2/23/23 13:36	2/23/23 15:05		1.015	0.000976	mg/L	0.000068	0.000203	
* Lead, Dissolved	2/23/23 13:36	2/23/23 15:05		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	2/23/23 13:36	2/23/23 15:05		1.015	0.322	mg/L	0.000152	0.001015	
* Molybdenum, Dissolved	2/23/23 13:36	2/23/23 15:05		1.015	0.000937	mg/L	0.000102	0.000203	
* Potassium, Dissolved	2/23/23 13:36	2/23/23 15:05		1.015	5.74	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/23/23 13:36	2/23/23 15:05		1.015	0.00172	mg/L	0.000508	0.001015	
* Thallium, Dissolved	2/23/23 13:36	2/23/23 15:05		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: ELH</b>							
* Mercury, Total by CVAA	2/27/23 19:37	2/28/23 01:36		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: SC</b>							
* Nitrogen, Nitrate/Nitrite	2/24/23 10:55	2/24/23 10:55		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
* Alkalinity to pH 4.5	3/3/23 14:10	3/3/23 15:40		1	260	mg CaCO3/L			
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	2/23/23 13:45	2/24/23 13:45		1	3310	mg/L		178.6	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
* Bicarbonate Alkalinity, (calc.)	3/3/23 14:10	3/3/23 15:40		1	260	mg CaCO3/L		1	A
* Carbonate Alkalinity, (calc.)	3/3/23 14:10	3/3/23 15:40		1	Not Detected	mg CaCO3/L		0.5	A
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: SC</b>							
* Total Organic Carbon	2/23/23 18:05	2/23/23 18:05		1	1.17	mg/L	1.00	2	J

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-5

**Location Code:** WMWGORLF

**Collected:** 2/21/23 12:22

**Customer ID:**

**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04069

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	2/24/23 14:05	2/24/23 14:05		1	5.25	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	2/27/23 12:31	2/27/23 12:31		1	0.319	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	3/1/23 13:52	3/1/23 13:52		80	2210	mg/L	48.0	160	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: TJD</b>							
Conductivity	2/21/23 12:18	2/21/23 12:18			3355.12	uS/cm			FA
pH	2/21/23 12:18	2/21/23 12:18			6.50	SU			FA
Temperature	2/21/23 12:18	2/21/23 12:18			19.77	C			FA
Turbidity	2/21/23 12:18	2/21/23 12:18			4.48	NTU			FA
Sulfide	2/21/23 12:18	2/21/23 12:18			0	mg/L			FA

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 2/21/23 12:22

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-5

**Laboratory ID Number:** BD04069

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BD04079	Aluminum, Dissolved	mg/L	-0.000276	0.0198	0.100	0.0898	0.0939	0.0965	0.0850 to 0.115	89.8	70.0 to 130	4.46	20.0
BD04078	Aluminum, Total	mg/L	0.000405	0.0198	0.100	0.101	0.102	0.104	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BD04079	Antimony, Dissolved	mg/L	0.000346	0.00100	0.100	0.0869	0.0903	0.0904	0.0850 to 0.115	86.9	70.0 to 130	3.84	20.0
BD04078	Antimony, Total	mg/L	0.000397	0.00100	0.100	0.110	0.110	0.0988	0.0850 to 0.115	110	70.0 to 130	0.00	20.0
BD04079	Arsenic, Dissolved	mg/L	-0.0000191	0.000200	0.100	0.100	0.106	0.0960	0.0850 to 0.115	98.2	70.0 to 130	5.83	20.0
BD04078	Arsenic, Total	mg/L	0.0000097	0.000200	0.100	0.103	0.104	0.0999	0.0850 to 0.115	101	70.0 to 130	0.966	20.0
BD04079	Barium, Dissolved	mg/L	-0.0000092	0.00100	0.100	0.105	0.108	0.0954	0.0850 to 0.115	94.3	70.0 to 130	2.82	20.0
BD04078	Barium, Total	mg/L	-0.0000132	0.00100	0.100	0.120	0.123	0.107	0.0850 to 0.115	107	70.0 to 130	2.47	20.0
BD04079	Beryllium, Dissolved	mg/L	0.0000161	0.000880	0.100	0.104	0.102	0.108	0.0850 to 0.115	104	70.0 to 130	1.94	20.0
BD04078	Beryllium, Total	mg/L	0.0000113	0.000880	0.100	0.0915	0.0912	0.0997	0.0850 to 0.115	91.5	70.0 to 130	0.328	20.0
BD04079	Boron, Dissolved	mg/L	-0.00311	0.0650	1.00	1.09	1.08	1.01	0.850 to 1.15	105	70.0 to 130	0.922	20.0
BD04078	Boron, Total	mg/L	-0.00347	0.0650	1.00	1.08	1.07	1.00	0.850 to 1.15	104	70.0 to 130	0.930	20.0
BD04079	Cadmium, Dissolved	mg/L	0.0000000	0.000147	0.100	0.0905	0.0950	0.0975	0.0850 to 0.115	90.5	70.0 to 130	4.85	20.0
BD04078	Cadmium, Total	mg/L	0.0000042	0.000147	0.100	0.0993	0.0984	0.104	0.0850 to 0.115	99.3	70.0 to 130	0.910	20.0
BD04079	Calcium, Dissolved	mg/L	-0.0143	0.152	5.00	316	324	5.07	4.25 to 5.75	-360	70.0 to 130	2.50	20.0
BD04078	Calcium, Total	mg/L	-0.0229	0.152	5.00	296	308	4.80	4.25 to 5.75	-20.0	70.0 to 130	3.97	20.0
BD04078	Chloride	mg/L	0.0274	1.00	10.0	13.1	13.0	10.1	9.00 to 11.0	102	80.0 to 120	0.766	20.0
BD04079	Chromium, Dissolved	mg/L	-0.0000558	0.000440	0.100	0.0917	0.0975	0.0989	0.0850 to 0.115	91.7	70.0 to 130	6.13	20.0
BD04078	Chromium, Total	mg/L	0.0000667	0.000440	0.100	0.102	0.103	0.106	0.0850 to 0.115	102	70.0 to 130	0.976	20.0
BD04079	Cobalt, Dissolved	mg/L	-0.0000015	0.000147	0.100	0.0979	0.102	0.0995	0.0850 to 0.115	89.1	70.0 to 130	4.10	20.0
BD04078	Cobalt, Total	mg/L	0.0000023	0.000147	0.100	0.116	0.114	0.112	0.0850 to 0.115	106	70.0 to 130	1.74	20.0
BD04078	Fluoride	mg/L	0.0384	0.125	2.50	2.72	2.79	2.59	2.25 to 2.75	102	80.0 to 120	2.54	20.0
BD04079	Iron, Dissolved	mg/L	-0.000232	0.0176	0.2	2.65	2.63	0.202	0.170 to 0.230	95.0	70.0 to 130	0.758	20.0
BD04078	Iron, Total	mg/L	0.000927	0.0176	0.2	2.70	2.68	0.200	0.170 to 0.230	90.0	70.0 to 130	0.743	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 2/21/23 12:22

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-5

**Laboratory ID Number:** BD04069

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BD04079	Lead, Dissolved	mg/L	0.000017	0.000147	0.100	0.0928	0.101	0.100	0.0850 to 0.115	92.8	70.0 to 130	8.46	20.0
BD04078	Lead, Total	mg/L	0.000011	0.000147	0.100	0.107	0.108	0.112	0.0850 to 0.115	107	70.0 to 130	0.930	20.0
BD04079	Lithium, Dissolved	mg/L	0.000766	0.0154	0.200	0.228	0.225	0.194	0.170 to 0.230	106	70.0 to 130	1.32	20.0
BD04078	Lithium, Total	mg/L	-0.000337	0.0154	0.200	0.233	0.227	0.198	0.170 to 0.230	108	70.0 to 130	2.61	20.0
BD04079	Magnesium, Dissolved	mg/L	-0.0245	0.0462	5.00	279	285	5.09	4.25 to 5.75	-240	70.0 to 130	2.13	20.0
BD04078	Magnesium, Total	mg/L	-0.00494	0.0462	5.00	253	252	5.01	4.25 to 5.75	100	70.0 to 130	0.396	20.0
BD04079	Manganese, Dissolved	mg/L	0.0000252	0.00033	0.100	2.64	2.71	0.0997	0.0850 to 0.115	20.0	70.0 to 130	2.62	20.0
BD04078	Manganese, Total	mg/L	-0.0000306	0.00033	0.100	2.74	2.72	0.107	0.0850 to 0.115	10.0	70.0 to 130	0.733	20.0
BD04069	Mercury, Total by CVAA	mg/L	1.000E-05	0.000500	0.004	0.00319	0.00370	0.00393	0.00340 to 0.00460	79.8	70.0 to 130	14.8	20.0
BD04079	Molybdenum, Dissolved	mg/L	0.0000079	0.0002	0.100	0.0959	0.0992	0.0972	0.0850 to 0.115	95.4	70.0 to 130	3.38	20.0
BD04078	Molybdenum, Total	mg/L	0.000028	0.0002	0.100	0.104	0.104	0.103	0.0850 to 0.115	104	70.0 to 130	0.00	20.0
BD04079	Potassium, Dissolved	mg/L	-0.00373	0.367	10.0	15.8	17.1	9.85	8.50 to 11.5	87.2	70.0 to 130	7.90	20.0
BD04078	Potassium, Total	mg/L	0.0259	0.367	10.0	17.7	18.2	10.3	8.50 to 11.5	96.7	70.0 to 130	2.79	20.0
BD04079	Selenium, Dissolved	mg/L	-0.0000434	0.00100	0.100	0.110	0.115	0.101	0.0850 to 0.115	110	70.0 to 130	4.44	20.0
BD04078	Selenium, Total	mg/L	0.0000768	0.00100	0.100	0.103	0.103	0.103	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BD04079	Silicon, Dissolved	mg/L	-0.000019	0.0440	1.00	6.89	6.88	1.01	0.850 to 1.15	101	70.0 to 130	0.145	20.0
BD04078	Silicon, Total	mg/L	0.000121	0.0440	1.00	6.85	6.81	0.995	0.850 to 1.15	93.0	70.0 to 130	0.586	20.0
BD04079	Sodium, Dissolved	mg/L	-0.00164	0.0880	5.00	31.9	31.6	4.91	4.25 to 5.75	108	70.0 to 130	0.945	20.0
BD04078	Sodium, Total	mg/L	-0.000766	0.0880	5.00	31.7	31.2	4.88	4.25 to 5.75	112	70.0 to 130	1.59	20.0
BD04078	Sulfate	mg/L	0.0571	2.0	1600	2960	3050	19.3	18.0 to 22.0	101	80.0 to 120	3.00	20.0
BD04079	Thallium, Dissolved	mg/L	-0.0000047	0.000147	0.100	0.0942	0.101	0.101	0.0850 to 0.115	94.2	70.0 to 130	6.97	20.0
BD04078	Thallium, Total	mg/L	0.0000046	0.000147	0.100	0.111	0.107	0.110	0.0850 to 0.115	111	70.0 to 130	3.67	20.0
BD04078	Total Organic Carbon	mg/L	0.0924	1.00	10.0	11.5	13.9	25.5		104	80.0 to 120	18.9	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

## Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 2/21/23 12:22

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-5

**Laboratory ID Number:** BD04069

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BD04082	Alkalinity to pH 4.5	mg CaCO3/L					144	49.9	45.0 to 55.0			0.00	10.0
BD04078	Nitrogen, Nitrate/Nitrite	mg/L as N	0.00	0.200	2.00	2.23	0.022	1.83	1.80 to 2.20	112	90.0 to 110	0.00	15.0
BD04078	Solids, Dissolved	mg/L	1.00	25.0			2260	50.0	40.0 to 60.0			3.05	10.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-7

**Location Code:** WMWGORLF  
**Collected:** 2/21/23 14:25  
**Customer ID:**  
**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04070

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Total	2/24/23 13:19	2/27/23 15:07		1.015	0.0645	mg/L	0.030000	0.1015	J
* Calcium, Total	2/24/23 13:19	2/28/23 13:56		10.15	286	mg/L	0.70035	4.06	
* Iron, Total	2/24/23 13:19	2/27/23 15:07		1.015	2.07	mg/L	0.008120	0.0406	
* Lithium, Total	2/24/23 13:19	2/27/23 15:07		1.015	0.0932	mg/L	0.007105	0.01999956	
* Magnesium, Total	2/24/23 13:19	3/2/23 12:51		10.15	262	mg/L	0.21315	4.06	
* Silica, Total (calc.)	2/24/23 13:19	2/27/23 15:07		1	10.4	mg/L			
* Silicon, Total	2/24/23 13:19	2/27/23 15:07		1.015	4.88	mg/L	0.02030	0.25375	
* Sodium, Total	2/24/23 13:19	2/27/23 15:07		1.015	38.1	mg/L	0.03045	0.406	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	2/23/23 13:36	2/27/23 11:22		1.015	0.0664	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	2/23/23 13:36	2/27/23 13:10		10.15	299	mg/L	0.70035	4.06	
* Iron, Dissolved	2/23/23 13:36	2/27/23 11:22		1.015	2.15	mg/L	0.008120	0.0406	
* Lithium, Dissolved	2/23/23 13:36	2/27/23 11:22		1.015	0.0892	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	2/23/23 13:36	2/27/23 13:10		10.15	281	mg/L	0.21315	4.06	
* Silica, Dissolved (calc.)	2/23/23 13:36	2/27/23 11:22		1	10.7	mg/L			
* Silicon, Dissolved	2/23/23 13:36	2/27/23 11:22		1.015	5.01	mg/L	0.02030	0.25375	
* Sodium, Dissolved	2/23/23 13:36	2/27/23 11:22		1.015	37.6	mg/L	0.03045	0.406	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>			<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	2/24/23 13:19	2/27/23 16:48		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	2/24/23 13:19	2/27/23 16:48		1.015	Not Detected	mg/L	0.006090	0.05075	U
* Arsenic, Total	2/24/23 13:19	2/27/23 16:48		1.015	0.00153	mg/L	0.000081	0.000203	
* Barium, Total	2/24/23 13:19	2/27/23 16:48		1.015	0.0141	mg/L	0.000508	0.001015	
* Beryllium, Total	2/24/23 13:19	2/27/23 16:48		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	2/24/23 13:19	2/27/23 16:48		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	2/24/23 13:19	2/27/23 16:48		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Total	2/24/23 13:19	2/27/23 16:48		1.015	0.00430	mg/L	0.000068	0.000203	
* Lead, Total	2/24/23 13:19	2/27/23 16:48		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	2/24/23 13:19	2/27/23 18:52		5.075	2.10	mg/L	0.000761	0.005075	
* Molybdenum, Total	2/24/23 13:19	2/27/23 16:48		1.015	0.00103	mg/L	0.000102	0.000203	
* Potassium, Total	2/24/23 13:19	2/27/23 16:48		1.015	6.61	mg/L	0.169505	0.5075	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.



# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-7

**Location Code:** WMWGORLF  
**Collected:** 2/21/23 14:25  
**Customer ID:**  
**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04070

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/24/23 13:19	2/27/23 16:48		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	2/24/23 13:19	2/27/23 16:48		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	2/23/23 13:36	2/23/23 15:09		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/23/23 13:36	2/23/23 15:09		1.015	Not Detected	mg/L	0.006090	0.05075	U
* Arsenic, Dissolved	2/23/23 13:36	2/23/23 15:09		1.015	0.00162	mg/L	0.000081	0.000203	
* Barium, Dissolved	2/23/23 13:36	2/23/23 15:09		1.015	0.0131	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	2/23/23 13:36	2/28/23 09:48		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	2/23/23 13:36	2/23/23 15:09		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	2/23/23 13:36	2/23/23 15:09		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	2/23/23 13:36	2/23/23 15:09		1.015	0.00381	mg/L	0.000068	0.000203	
* Lead, Dissolved	2/23/23 13:36	2/23/23 15:09		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	2/23/23 13:36	2/28/23 11:27		5.075	2.10	mg/L	0.000761	0.005075	
* Molybdenum, Dissolved	2/23/23 13:36	2/23/23 15:09		1.015	0.000885	mg/L	0.000102	0.000203	
* Potassium, Dissolved	2/23/23 13:36	2/23/23 15:09		1.015	6.20	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/23/23 13:36	2/23/23 15:09		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	2/23/23 13:36	2/23/23 15:09		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: ELH</b>							
* Mercury, Total by CVAA	2/27/23 19:37	2/28/23 02:04		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: SC</b>							
* Nitrogen, Nitrate/Nitrite	2/24/23 10:56	2/24/23 10:56		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
* Alkalinity to pH 4.5	3/3/23 14:10	3/3/23 15:40		1	296	mg CaCO3/L		0.10	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	2/23/23 13:45	2/24/23 13:45		1	2220	mg/L		125	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
* Bicarbonate Alkalinity, (calc.)	3/3/23 14:10	3/3/23 15:40		1	296	mg CaCO3/L		1	A
* Carbonate Alkalinity, (calc.)	3/3/23 14:10	3/3/23 15:40		1	Not Detected	mg CaCO3/L		0.5	A
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: SC</b>							
* Total Organic Carbon	2/23/23 18:23	2/23/23 18:23		1	1.91	mg/L	1.00	2	J

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-7

**Location Code:** WMWGORLF  
**Collected:** 2/21/23 14:25  
**Customer ID:**  
**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04070

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	2/24/23 14:06	2/24/23 14:06		1	6.12	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	2/27/23 12:32	2/27/23 12:32		1	0.216	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	3/1/23 13:53	3/1/23 13:53		50	1450	mg/L	30.0	100	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: TJD</b>							
Conductivity	2/21/23 14:23	2/21/23 14:23			2577.99	uS/cm			FA
pH	2/21/23 14:23	2/21/23 14:23			6.72	SU			FA
Temperature	2/21/23 14:23	2/21/23 14:23			19.16	C			FA
Turbidity	2/21/23 14:23	2/21/23 14:23			0.53	NTU			FA
Sulfide	2/21/23 14:23	2/21/23 14:23			0	mg/L			FA

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 2/21/23 14:25

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-7

**Laboratory ID Number:** BD04070

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BD04079	Aluminum, Dissolved	mg/L	-0.000276	0.0198	0.100	0.0898	0.0939	0.0965	0.0850 to 0.115	89.8	70.0 to 130	4.46	20.0
BD04078	Aluminum, Total	mg/L	0.000405	0.0198	0.100	0.101	0.102	0.104	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BD04079	Antimony, Dissolved	mg/L	0.000346	0.00100	0.100	0.0869	0.0903	0.0904	0.0850 to 0.115	86.9	70.0 to 130	3.84	20.0
BD04078	Antimony, Total	mg/L	0.000397	0.00100	0.100	0.110	0.110	0.0988	0.0850 to 0.115	110	70.0 to 130	0.00	20.0
BD04079	Arsenic, Dissolved	mg/L	-0.0000191	0.000200	0.100	0.100	0.106	0.0960	0.0850 to 0.115	98.2	70.0 to 130	5.83	20.0
BD04078	Arsenic, Total	mg/L	0.0000097	0.000200	0.100	0.103	0.104	0.0999	0.0850 to 0.115	101	70.0 to 130	0.966	20.0
BD04079	Barium, Dissolved	mg/L	-0.0000092	0.00100	0.100	0.105	0.108	0.0954	0.0850 to 0.115	94.3	70.0 to 130	2.82	20.0
BD04078	Barium, Total	mg/L	-0.0000132	0.00100	0.100	0.120	0.123	0.107	0.0850 to 0.115	107	70.0 to 130	2.47	20.0
BD04079	Beryllium, Dissolved	mg/L	0.0000161	0.000880	0.100	0.104	0.102	0.108	0.0850 to 0.115	104	70.0 to 130	1.94	20.0
BD04078	Beryllium, Total	mg/L	0.0000113	0.000880	0.100	0.0915	0.0912	0.0997	0.0850 to 0.115	91.5	70.0 to 130	0.328	20.0
BD04079	Boron, Dissolved	mg/L	-0.00311	0.0650	1.00	1.09	1.08	1.01	0.850 to 1.15	105	70.0 to 130	0.922	20.0
BD04078	Boron, Total	mg/L	-0.00347	0.0650	1.00	1.08	1.07	1.00	0.850 to 1.15	104	70.0 to 130	0.930	20.0
BD04079	Cadmium, Dissolved	mg/L	0.0000000	0.000147	0.100	0.0905	0.0950	0.0975	0.0850 to 0.115	90.5	70.0 to 130	4.85	20.0
BD04078	Cadmium, Total	mg/L	0.0000042	0.000147	0.100	0.0993	0.0984	0.104	0.0850 to 0.115	99.3	70.0 to 130	0.910	20.0
BD04079	Calcium, Dissolved	mg/L	-0.0143	0.152	5.00	316	324	5.07	4.25 to 5.75	-360	70.0 to 130	2.50	20.0
BD04078	Calcium, Total	mg/L	-0.0229	0.152	5.00	296	308	4.80	4.25 to 5.75	-20.0	70.0 to 130	3.97	20.0
BD04078	Chloride	mg/L	0.0274	1.00	10.0	13.1	13.0	10.1	9.00 to 11.0	102	80.0 to 120	0.766	20.0
BD04079	Chromium, Dissolved	mg/L	-0.0000558	0.000440	0.100	0.0917	0.0975	0.0989	0.0850 to 0.115	91.7	70.0 to 130	6.13	20.0
BD04078	Chromium, Total	mg/L	0.0000667	0.000440	0.100	0.102	0.103	0.106	0.0850 to 0.115	102	70.0 to 130	0.976	20.0
BD04079	Cobalt, Dissolved	mg/L	-0.0000015	0.000147	0.100	0.0979	0.102	0.0995	0.0850 to 0.115	89.1	70.0 to 130	4.10	20.0
BD04078	Cobalt, Total	mg/L	0.0000023	0.000147	0.100	0.116	0.114	0.112	0.0850 to 0.115	106	70.0 to 130	1.74	20.0
BD04078	Fluoride	mg/L	0.0384	0.125	2.50	2.72	2.79	2.59	2.25 to 2.75	102	80.0 to 120	2.54	20.0
BD04079	Iron, Dissolved	mg/L	-0.000232	0.0176	0.2	2.65	2.63	0.202	0.170 to 0.230	95.0	70.0 to 130	0.758	20.0
BD04078	Iron, Total	mg/L	0.000927	0.0176	0.2	2.70	2.68	0.200	0.170 to 0.230	90.0	70.0 to 130	0.743	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 2/21/23 14:25

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-7

**Laboratory ID Number:** BD04070

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BD04079	Lead, Dissolved	mg/L	0.000017	0.000147	0.100	0.0928	0.101	0.100	0.0850 to 0.115	92.8	70.0 to 130	8.46	20.0
BD04078	Lead, Total	mg/L	0.000011	0.000147	0.100	0.107	0.108	0.112	0.0850 to 0.115	107	70.0 to 130	0.930	20.0
BD04079	Lithium, Dissolved	mg/L	0.000766	0.0154	0.200	0.228	0.225	0.194	0.170 to 0.230	106	70.0 to 130	1.32	20.0
BD04078	Lithium, Total	mg/L	-0.000337	0.0154	0.200	0.233	0.227	0.198	0.170 to 0.230	108	70.0 to 130	2.61	20.0
BD04079	Magnesium, Dissolved	mg/L	-0.0245	0.0462	5.00	279	285	5.09	4.25 to 5.75	-240	70.0 to 130	2.13	20.0
BD04078	Magnesium, Total	mg/L	-0.00494	0.0462	5.00	253	252	5.01	4.25 to 5.75	100	70.0 to 130	0.396	20.0
BD04079	Manganese, Dissolved	mg/L	0.0000252	0.00033	0.100	2.64	2.71	0.0997	0.0850 to 0.115	20.0	70.0 to 130	2.62	20.0
BD04078	Manganese, Total	mg/L	-0.0000306	0.00033	0.100	2.74	2.72	0.107	0.0850 to 0.115	10.0	70.0 to 130	0.733	20.0
BD04079	Mercury, Total by CVAA	mg/L	-1.000E-05	0.000500	0.004	0.00376	0.00369	0.00348	0.00340 to 0.00460	94.0	70.0 to 130	1.88	20.0
BD04079	Molybdenum, Dissolved	mg/L	0.0000079	0.0002	0.100	0.0959	0.0992	0.0972	0.0850 to 0.115	95.4	70.0 to 130	3.38	20.0
BD04078	Molybdenum, Total	mg/L	0.000028	0.0002	0.100	0.104	0.104	0.103	0.0850 to 0.115	104	70.0 to 130	0.00	20.0
BD04079	Potassium, Dissolved	mg/L	-0.00373	0.367	10.0	15.8	17.1	9.85	8.50 to 11.5	87.2	70.0 to 130	7.90	20.0
BD04078	Potassium, Total	mg/L	0.0259	0.367	10.0	17.7	18.2	10.3	8.50 to 11.5	96.7	70.0 to 130	2.79	20.0
BD04079	Selenium, Dissolved	mg/L	-0.0000434	0.00100	0.100	0.110	0.115	0.101	0.0850 to 0.115	110	70.0 to 130	4.44	20.0
BD04078	Selenium, Total	mg/L	0.0000768	0.00100	0.100	0.103	0.103	0.103	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BD04079	Silicon, Dissolved	mg/L	-0.000019	0.0440	1.00	6.89	6.88	1.01	0.850 to 1.15	101	70.0 to 130	0.145	20.0
BD04078	Silicon, Total	mg/L	0.000121	0.0440	1.00	6.85	6.81	0.995	0.850 to 1.15	93.0	70.0 to 130	0.586	20.0
BD04079	Sodium, Dissolved	mg/L	-0.00164	0.0880	5.00	31.9	31.6	4.91	4.25 to 5.75	108	70.0 to 130	0.945	20.0
BD04078	Sodium, Total	mg/L	-0.000766	0.0880	5.00	31.7	31.2	4.88	4.25 to 5.75	112	70.0 to 130	1.59	20.0
BD04078	Sulfate	mg/L	0.0571	2.0	1600	2960	3050	19.3	18.0 to 22.0	101	80.0 to 120	3.00	20.0
BD04079	Thallium, Dissolved	mg/L	-0.0000047	0.000147	0.100	0.0942	0.101	0.101	0.0850 to 0.115	94.2	70.0 to 130	6.97	20.0
BD04078	Thallium, Total	mg/L	0.0000046	0.000147	0.100	0.111	0.107	0.110	0.0850 to 0.115	111	70.0 to 130	3.67	20.0
BD04078	Total Organic Carbon	mg/L	0.0924	1.00	10.0	11.5	13.9	25.5		104	80.0 to 120	18.9	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

## Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 2/21/23 14:25

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-7

**Laboratory ID Number:** BD04070

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BD04082	Alkalinity to pH 4.5	mg CaCO3/L					144	49.9	45.0 to 55.0			0.00	10.0
BD04078	Nitrogen, Nitrate/Nitrite	mg/L as N	0.00	0.200	2.00	2.23	0.022	1.83	1.80 to 2.20	112	90.0 to 110	0.00	15.0
BD04078	Solids, Dissolved	mg/L	1.00	25.0			2260	50.0	40.0 to 60.0			3.05	10.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-8

**Location Code:** WMWGORLF  
**Collected:** 2/21/23 15:40  
**Customer ID:**  
**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04071

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Total	2/24/23 13:19	2/27/23 15:10		1.015	0.0609	mg/L	0.030000	0.1015	J
* Calcium, Total	2/24/23 13:19	2/28/23 13:59		10.15	327	mg/L	0.70035	4.06	
* Iron, Total	2/24/23 13:19	2/27/23 15:10		1.015	2.45	mg/L	0.008120	0.0406	
* Lithium, Total	2/24/23 13:19	2/27/23 15:10		1.015	0.120	mg/L	0.007105	0.01999956	
* Magnesium, Total	2/24/23 13:19	3/2/23 12:54		10.15	293	mg/L	0.21315	4.06	
* Silica, Total (calc.)	2/24/23 13:19	2/27/23 15:10		1	11.1	mg/L			
* Silicon, Total	2/24/23 13:19	2/27/23 15:10		1.015	5.21	mg/L	0.02030	0.25375	
* Sodium, Total	2/24/23 13:19	2/27/23 15:10		1.015	36.1	mg/L	0.03045	0.406	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	2/23/23 13:36	2/27/23 11:25		1.015	0.0617	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	2/23/23 13:36	2/27/23 13:13		10.15	317	mg/L	0.70035	4.06	
* Iron, Dissolved	2/23/23 13:36	2/27/23 11:25		1.015	1.37	mg/L	0.008120	0.0406	
* Lithium, Dissolved	2/23/23 13:36	2/27/23 11:25		1.015	0.119	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	2/23/23 13:36	2/27/23 13:13		10.15	321	mg/L	0.21315	4.06	
* Silica, Dissolved (calc.)	2/23/23 13:36	2/27/23 11:25		1	11.2	mg/L			
* Silicon, Dissolved	2/23/23 13:36	2/27/23 11:25		1.015	5.25	mg/L	0.02030	0.25375	
* Sodium, Dissolved	2/23/23 13:36	2/27/23 11:25		1.015	36.7	mg/L	0.03045	0.406	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>			<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	2/24/23 13:19	2/27/23 16:52		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	2/24/23 13:19	2/27/23 16:52		1.015	Not Detected	mg/L	0.006090	0.05075	U
* Arsenic, Total	2/24/23 13:19	2/27/23 16:52		1.015	0.00119	mg/L	0.000081	0.000203	
* Barium, Total	2/24/23 13:19	2/27/23 16:52		1.015	0.0148	mg/L	0.000508	0.001015	
* Beryllium, Total	2/24/23 13:19	2/27/23 16:52		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	2/24/23 13:19	2/27/23 16:52		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	2/24/23 13:19	2/27/23 16:52		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Total	2/24/23 13:19	2/27/23 16:52		1.015	0.00682	mg/L	0.000068	0.000203	
* Lead, Total	2/24/23 13:19	2/27/23 16:52		1.015	0.0000877	mg/L	0.000068	0.000203	J
* Manganese, Total	2/24/23 13:19	2/27/23 16:52		1.015	0.933	mg/L	0.000152	0.001015	
* Molybdenum, Total	2/24/23 13:19	2/27/23 16:52		1.015	0.000338	mg/L	0.000102	0.000203	
* Potassium, Total	2/24/23 13:19	2/27/23 16:52		1.015	7.95	mg/L	0.169505	0.5075	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-8

**Location Code:** WMWGORLF  
**Collected:** 2/21/23 15:40  
**Customer ID:**  
**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04071

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/24/23 13:19	2/27/23 16:52		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	2/24/23 13:19	2/27/23 16:52		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	2/23/23 13:36	2/23/23 15:13		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/23/23 13:36	2/23/23 15:13		1.015	Not Detected	mg/L	0.006090	0.05075	U
* Arsenic, Dissolved	2/23/23 13:36	2/23/23 15:13		1.015	0.000567	mg/L	0.000081	0.000203	
* Barium, Dissolved	2/23/23 13:36	2/23/23 15:13		1.015	0.0126	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	2/23/23 13:36	2/28/23 09:52		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	2/23/23 13:36	2/23/23 15:13		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	2/23/23 13:36	2/23/23 15:13		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	2/23/23 13:36	2/23/23 15:13		1.015	0.00585	mg/L	0.000068	0.000203	
* Lead, Dissolved	2/23/23 13:36	2/23/23 15:13		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	2/23/23 13:36	2/23/23 15:13		1.015	0.844	mg/L	0.000152	0.001015	
* Molybdenum, Dissolved	2/23/23 13:36	2/23/23 15:13		1.015	0.000582	mg/L	0.000102	0.000203	
* Potassium, Dissolved	2/23/23 13:36	2/23/23 15:13		1.015	7.39	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/23/23 13:36	2/23/23 15:13		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	2/23/23 13:36	2/23/23 15:13		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: ELH</b>							
* Mercury, Total by CVAA	2/27/23 19:37	2/28/23 02:08		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: SC</b>							
* Nitrogen, Nitrate/Nitrite	2/24/23 10:58	2/24/23 10:58		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
* Alkalinity to pH 4.5	3/3/23 14:10	3/3/23 15:40		1	349	mg CaCO3/L			
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	2/23/23 13:45	2/24/23 13:45		1	2370	mg/L		125	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
* Bicarbonate Alkalinity, (calc.)	3/3/23 14:10	3/3/23 15:40		1	349	mg CaCO3/L		1	A
* Carbonate Alkalinity, (calc.)	3/3/23 14:10	3/3/23 15:40		1	Not Detected	mg CaCO3/L		0.5	A
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: SC</b>							
* Total Organic Carbon	2/23/23 18:41	2/23/23 18:41		1	Not Detected	mg/L	1.00	2	U

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-8

**Location Code:** WMWGORLF

**Collected:** 2/21/23 15:40

**Customer ID:**

**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04071

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	2/24/23 14:07	2/24/23 14:07		1	4.86	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	2/27/23 12:33	2/27/23 12:33		1	0.212	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	3/1/23 13:54	3/1/23 13:54		50	1510	mg/L	30.0	100	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: TJD</b>							
Conductivity	2/21/23 15:35	2/21/23 15:35			2722.64	uS/cm			FA
pH	2/21/23 15:35	2/21/23 15:35			6.75	SU			FA
Temperature	2/21/23 15:35	2/21/23 15:35			20.26	C			FA
Turbidity	2/21/23 15:35	2/21/23 15:35			7.56	NTU			FA
Sulfide	2/21/23 15:35	2/21/23 15:35			0	mg/L			FA

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.



# Batch QC Summary

**Customer Account:** WMWGORLF  
**Sample Date:** 2/21/23 15:40  
**Customer ID:**  
**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-8

**Laboratory ID Number:** BD04071

Sample	Analysis	Units	MB	MB				Standard		Rec			Prec
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit	Prec	
BD04079	Aluminum, Dissolved	mg/L	-0.000276	0.0198	0.100	0.0898	0.0939	0.0965	0.0850 to 0.115	89.8	70.0 to 130	4.46	20.0
BD04078	Aluminum, Total	mg/L	0.000405	0.0198	0.100	0.101	0.102	0.104	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BD04079	Antimony, Dissolved	mg/L	0.000346	0.00100	0.100	0.0869	0.0903	0.0904	0.0850 to 0.115	86.9	70.0 to 130	3.84	20.0
BD04078	Antimony, Total	mg/L	0.000397	0.00100	0.100	0.110	0.110	0.0988	0.0850 to 0.115	110	70.0 to 130	0.00	20.0
BD04079	Arsenic, Dissolved	mg/L	-0.0000191	0.000200	0.100	0.100	0.106	0.0960	0.0850 to 0.115	98.2	70.0 to 130	5.83	20.0
BD04078	Arsenic, Total	mg/L	0.0000097	0.000200	0.100	0.103	0.104	0.0999	0.0850 to 0.115	101	70.0 to 130	0.966	20.0
BD04079	Barium, Dissolved	mg/L	-0.0000092	0.00100	0.100	0.105	0.108	0.0954	0.0850 to 0.115	94.3	70.0 to 130	2.82	20.0
BD04078	Barium, Total	mg/L	-0.0000132	0.00100	0.100	0.120	0.123	0.107	0.0850 to 0.115	107	70.0 to 130	2.47	20.0
BD04079	Beryllium, Dissolved	mg/L	0.0000161	0.000880	0.100	0.104	0.102	0.108	0.0850 to 0.115	104	70.0 to 130	1.94	20.0
BD04078	Beryllium, Total	mg/L	0.0000113	0.000880	0.100	0.0915	0.0912	0.0997	0.0850 to 0.115	91.5	70.0 to 130	0.328	20.0
BD04079	Boron, Dissolved	mg/L	-0.00311	0.0650	1.00	1.09	1.08	1.01	0.850 to 1.15	105	70.0 to 130	0.922	20.0
BD04078	Boron, Total	mg/L	-0.00347	0.0650	1.00	1.08	1.07	1.00	0.850 to 1.15	104	70.0 to 130	0.930	20.0
BD04079	Cadmium, Dissolved	mg/L	0.0000000	0.000147	0.100	0.0905	0.0950	0.0975	0.0850 to 0.115	90.5	70.0 to 130	4.85	20.0
BD04078	Cadmium, Total	mg/L	0.0000042	0.000147	0.100	0.0993	0.0984	0.104	0.0850 to 0.115	99.3	70.0 to 130	0.910	20.0
BD04079	Calcium, Dissolved	mg/L	-0.0143	0.152	5.00	316	324	5.07	4.25 to 5.75	-360	70.0 to 130	2.50	20.0
BD04078	Calcium, Total	mg/L	-0.0229	0.152	5.00	296	308	4.80	4.25 to 5.75	-20.0	70.0 to 130	3.97	20.0
BD04078	Chloride	mg/L	0.0274	1.00	10.0	13.1	13.0	10.1	9.00 to 11.0	102	80.0 to 120	0.766	20.0
BD04079	Chromium, Dissolved	mg/L	-0.0000558	0.000440	0.100	0.0917	0.0975	0.0989	0.0850 to 0.115	91.7	70.0 to 130	6.13	20.0
BD04078	Chromium, Total	mg/L	0.0000667	0.000440	0.100	0.102	0.103	0.106	0.0850 to 0.115	102	70.0 to 130	0.976	20.0
BD04079	Cobalt, Dissolved	mg/L	-0.0000015	0.000147	0.100	0.0979	0.102	0.0995	0.0850 to 0.115	89.1	70.0 to 130	4.10	20.0
BD04078	Cobalt, Total	mg/L	0.0000023	0.000147	0.100	0.116	0.114	0.112	0.0850 to 0.115	106	70.0 to 130	1.74	20.0
BD04078	Fluoride	mg/L	0.0384	0.125	2.50	2.72	2.79	2.59	2.25 to 2.75	102	80.0 to 120	2.54	20.0
BD04079	Iron, Dissolved	mg/L	-0.000232	0.0176	0.2	2.65	2.63	0.202	0.170 to 0.230	95.0	70.0 to 130	0.758	20.0
BD04078	Iron, Total	mg/L	0.000927	0.0176	0.2	2.70	2.68	0.200	0.170 to 0.230	90.0	70.0 to 130	0.743	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 2/21/23 15:40

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-8

**Laboratory ID Number:** BD04071

Sample	Analysis	Units	MB	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
				Limit					Standard	Limit	Rec	Limit		
BD04079	Lead, Dissolved	mg/L	0.000017	0.000147	0.100	0.0928	0.101	0.100	0.100	0.0850 to 0.115	92.8	70.0 to 130	8.46	20.0
BD04078	Lead, Total	mg/L	0.000011	0.000147	0.100	0.107	0.108	0.112	0.112	0.0850 to 0.115	107	70.0 to 130	0.930	20.0
BD04079	Lithium, Dissolved	mg/L	0.000766	0.0154	0.200	0.228	0.225	0.194	0.194	0.170 to 0.230	106	70.0 to 130	1.32	20.0
BD04078	Lithium, Total	mg/L	-0.000337	0.0154	0.200	0.233	0.227	0.198	0.198	0.170 to 0.230	108	70.0 to 130	2.61	20.0
BD04079	Magnesium, Dissolved	mg/L	-0.0245	0.0462	5.00	279	285	5.09	5.09	4.25 to 5.75	-240	70.0 to 130	2.13	20.0
BD04078	Magnesium, Total	mg/L	-0.00494	0.0462	5.00	253	252	5.01	5.01	4.25 to 5.75	100	70.0 to 130	0.396	20.0
BD04079	Manganese, Dissolved	mg/L	0.0000252	0.00033	0.100	2.64	2.71	0.0997	0.0997	0.0850 to 0.115	20.0	70.0 to 130	2.62	20.0
BD04078	Manganese, Total	mg/L	-0.0000306	0.00033	0.100	2.74	2.72	0.107	0.107	0.0850 to 0.115	10.0	70.0 to 130	0.733	20.0
BD04079	Mercury, Total by CVAA	mg/L	-1.000E-05	0.000500	0.004	0.00376	0.00369	0.00348	0.00348	0.00340 to 0.00460	94.0	70.0 to 130	1.88	20.0
BD04079	Molybdenum, Dissolved	mg/L	0.0000079	0.0002	0.100	0.0959	0.0992	0.0972	0.0972	0.0850 to 0.115	95.4	70.0 to 130	3.38	20.0
BD04078	Molybdenum, Total	mg/L	0.000028	0.0002	0.100	0.104	0.104	0.103	0.103	0.0850 to 0.115	104	70.0 to 130	0.00	20.0
BD04079	Potassium, Dissolved	mg/L	-0.00373	0.367	10.0	15.8	17.1	9.85	9.85	8.50 to 11.5	87.2	70.0 to 130	7.90	20.0
BD04078	Potassium, Total	mg/L	0.0259	0.367	10.0	17.7	18.2	10.3	10.3	8.50 to 11.5	96.7	70.0 to 130	2.79	20.0
BD04079	Selenium, Dissolved	mg/L	-0.0000434	0.00100	0.100	0.110	0.115	0.101	0.101	0.0850 to 0.115	110	70.0 to 130	4.44	20.0
BD04078	Selenium, Total	mg/L	0.0000768	0.00100	0.100	0.103	0.103	0.103	0.103	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BD04079	Silicon, Dissolved	mg/L	-0.000019	0.0440	1.00	6.89	6.88	1.01	1.01	0.850 to 1.15	101	70.0 to 130	0.145	20.0
BD04078	Silicon, Total	mg/L	0.000121	0.0440	1.00	6.85	6.81	0.995	0.995	0.850 to 1.15	93.0	70.0 to 130	0.586	20.0
BD04079	Sodium, Dissolved	mg/L	-0.00164	0.0880	5.00	31.9	31.6	4.91	4.91	4.25 to 5.75	108	70.0 to 130	0.945	20.0
BD04078	Sodium, Total	mg/L	-0.000766	0.0880	5.00	31.7	31.2	4.88	4.88	4.25 to 5.75	112	70.0 to 130	1.59	20.0
BD04078	Sulfate	mg/L	0.0571	2.0	1600	2960	3050	19.3	19.3	18.0 to 22.0	101	80.0 to 120	3.00	20.0
BD04079	Thallium, Dissolved	mg/L	-0.0000047	0.000147	0.100	0.0942	0.101	0.101	0.101	0.0850 to 0.115	94.2	70.0 to 130	6.97	20.0
BD04078	Thallium, Total	mg/L	0.0000046	0.000147	0.100	0.111	0.107	0.110	0.110	0.0850 to 0.115	111	70.0 to 130	3.67	20.0
BD04078	Total Organic Carbon	mg/L	0.0924	1.00	10.0	11.5	13.9	25.5	25.5		104	80.0 to 120	18.9	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

## Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 2/21/23 15:40

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-8

**Laboratory ID Number:** BD04071

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BD04082	Alkalinity to pH 4.5	mg CaCO3/L					144	49.9	45.0 to 55.0			0.00	10.0
BD04078	Nitrogen, Nitrate/Nitrite	mg/L as N	0.00	0.200	2.00	2.23	0.022	1.83	1.80 to 2.20	112	90.0 to 110	0.00	15.0
BD04078	Solids, Dissolved	mg/L	1.00	25.0			2260	50.0	40.0 to 60.0			3.05	10.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-6

**Location Code:** WMWGORLF  
**Collected:** 2/22/23 13:20  
**Customer ID:**  
**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04072

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Total	2/24/23 13:19	2/27/23 15:13		1.015	0.0356	mg/L	0.030000	0.1015	J
* Calcium, Total	2/24/23 13:19	2/28/23 14:02		10.15	250	mg/L	0.70035	4.06	
* Iron, Total	2/24/23 13:19	2/28/23 14:02		10.15	6.16	mg/L	0.08120	0.406	
* Lithium, Total	2/24/23 13:19	2/27/23 15:13		1.015	0.0329	mg/L	0.007105	0.01999956	
* Magnesium, Total	2/24/23 13:19	3/2/23 12:58		10.15	302	mg/L	0.21315	4.06	
* Silica, Total (calc.)	2/24/23 13:19	2/27/23 15:13		1	20.8	mg/L			
* Silicon, Total	2/24/23 13:19	2/27/23 15:13		1.015	9.72	mg/L	0.02030	0.25375	
* Sodium, Total	2/24/23 13:19	2/28/23 14:02		10.15	45.4	mg/L	0.3045	4.06	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	2/23/23 13:36	2/27/23 11:28		1.015	0.0381	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	2/23/23 13:36	2/27/23 13:16		10.15	266	mg/L	0.70035	4.06	
* Iron, Dissolved	2/23/23 13:36	2/27/23 11:28		1.015	3.60	mg/L	0.008120	0.0406	
* Lithium, Dissolved	2/23/23 13:36	2/27/23 11:28		1.015	0.0325	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	2/23/23 13:36	2/27/23 13:16		10.15	354	mg/L	0.21315	4.06	
* Silica, Dissolved (calc.)	2/23/23 13:36	2/27/23 11:28		1	20.9	mg/L			
* Silicon, Dissolved	2/23/23 13:36	2/27/23 11:28		1.015	9.76	mg/L	0.02030	0.25375	
* Sodium, Dissolved	2/23/23 13:36	2/27/23 13:16		10.15	49.4	mg/L	0.3045	4.06	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>			<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	2/24/23 13:19	2/27/23 16:55		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	2/24/23 13:19	2/27/23 16:55		1.015	0.377	mg/L	0.006090	0.05075	
* Arsenic, Total	2/24/23 13:19	2/27/23 16:55		1.015	0.00337	mg/L	0.000081	0.000203	
* Barium, Total	2/24/23 13:19	2/27/23 16:55		1.015	0.0136	mg/L	0.000508	0.001015	
* Beryllium, Total	2/24/23 13:19	2/27/23 16:55		1.015	0.00123	mg/L	0.000406	0.001015	
* Cadmium, Total	2/24/23 13:19	2/27/23 16:55		1.015	0.00192	mg/L	0.000068	0.000203	
* Chromium, Total	2/24/23 13:19	2/27/23 16:55		1.015	0.000301	mg/L	0.000203	0.001015	J
* Cobalt, Total	2/24/23 13:19	2/27/23 16:55		1.015	0.567	mg/L	0.000068	0.000203	
* Lead, Total	2/24/23 13:19	2/27/23 16:55		1.015	0.000457	mg/L	0.000068	0.000203	
* Manganese, Total	2/24/23 13:19	2/27/23 18:55		92.365	55.8	mg/L	0.013855	0.092365	
* Molybdenum, Total	2/24/23 13:19	2/27/23 16:55		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Potassium, Total	2/24/23 13:19	2/27/23 16:55		1.015	6.48	mg/L	0.169505	0.5075	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-6

**Location Code:** WMWGORLF  
**Collected:** 2/22/23 13:20  
**Customer ID:**  
**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04072

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/24/23 13:19	2/27/23 16:55		1.015	0.00190	mg/L	0.000508	0.001015	
* Thallium, Total	2/24/23 13:19	2/27/23 16:55		1.015	0.000143	mg/L	0.000068	0.000203	J
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	2/23/23 13:36	2/23/23 15:16		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/23/23 13:36	2/23/23 15:16		1.015	0.311	mg/L	0.006090	0.05075	
* Arsenic, Dissolved	2/23/23 13:36	2/23/23 15:16		1.015	0.00190	mg/L	0.000081	0.000203	
* Barium, Dissolved	2/23/23 13:36	2/23/23 15:16		1.015	0.0118	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	2/23/23 13:36	2/28/23 09:55		1.015	0.00128	mg/L	0.000406	0.001015	
* Cadmium, Dissolved	2/23/23 13:36	2/23/23 15:16		1.015	0.00194	mg/L	0.000068	0.000203	
* Chromium, Dissolved	2/23/23 13:36	2/23/23 15:16		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	2/23/23 13:36	2/23/23 15:16		1.015	0.487	mg/L	0.000068	0.000203	
* Lead, Dissolved	2/23/23 13:36	2/23/23 15:16		1.015	0.000115	mg/L	0.000068	0.000203	J
* Manganese, Dissolved	2/23/23 13:36	2/28/23 11:31		92.365	51.6	mg/L	0.013855	0.092365	
* Molybdenum, Dissolved	2/23/23 13:36	2/23/23 15:16		1.015	0.000164	mg/L	0.000102	0.000203	J
* Potassium, Dissolved	2/23/23 13:36	2/23/23 15:16		1.015	5.86	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/23/23 13:36	2/23/23 15:16		1.015	0.00162	mg/L	0.000508	0.001015	
* Thallium, Dissolved	2/23/23 13:36	2/23/23 15:16		1.015	0.000138	mg/L	0.000068	0.000203	J
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: ELH</b>							
* Mercury, Total by CVAA	2/27/23 19:37	2/28/23 02:11		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: SC</b>							
* Nitrogen, Nitrate/Nitrite	2/24/23 11:00	2/24/23 11:00		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
* Alkalinity to pH 4.5	3/6/23 13:15	3/6/23 14:40		1	32.6	mg CaCO3/L			
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	2/23/23 13:45	2/24/23 13:45		1	2790	mg/L		147.1	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
* Bicarbonate Alkalinity, (calc.)	3/6/23 13:15	3/6/23 14:40		1	32.6	mg CaCO3/L		1	A
* Carbonate Alkalinity, (calc.)	3/6/23 13:15	3/6/23 14:40		1	Not Detected	mg CaCO3/L		0.5	A
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: SC</b>							
* Total Organic Carbon	2/23/23 19:00	2/23/23 19:00		1	2.24	mg/L	1.00	2	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-6

**Location Code:** WMWGORLF  
**Collected:** 2/22/23 13:20  
**Customer ID:**  
**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04072

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	2/24/23 14:09	2/24/23 14:09		1	4.37	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	2/27/23 12:34	2/27/23 12:34		1	0.173	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	3/1/23 13:55	3/1/23 13:55		80	1870	mg/L	48.0	160	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: TJD</b>							
Conductivity	2/22/23 13:15	2/22/23 13:15			2795.15	uS/cm			FA
pH	2/22/23 13:15	2/22/23 13:15			4.98	SU			FA
Temperature	2/22/23 13:15	2/22/23 13:15			21.32	C			FA
Turbidity	2/22/23 13:15	2/22/23 13:15			6.33	NTU			FA
Sulfide	2/22/23 13:15	2/22/23 13:15			0	mg/L			FA

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 2/22/23 13:20

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-6

**Laboratory ID Number:** BD04072

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BD04079	Aluminum, Dissolved	mg/L	-0.000276	0.0198	0.100	0.0898	0.0939	0.0965	0.0850 to 0.115	89.8	70.0 to 130	4.46	20.0
BD04078	Aluminum, Total	mg/L	0.000405	0.0198	0.100	0.101	0.102	0.104	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BD04079	Antimony, Dissolved	mg/L	0.000346	0.00100	0.100	0.0869	0.0903	0.0904	0.0850 to 0.115	86.9	70.0 to 130	3.84	20.0
BD04078	Antimony, Total	mg/L	0.000397	0.00100	0.100	0.110	0.110	0.0988	0.0850 to 0.115	110	70.0 to 130	0.00	20.0
BD04079	Arsenic, Dissolved	mg/L	-0.0000191	0.000200	0.100	0.100	0.106	0.0960	0.0850 to 0.115	98.2	70.0 to 130	5.83	20.0
BD04078	Arsenic, Total	mg/L	0.0000097	0.000200	0.100	0.103	0.104	0.0999	0.0850 to 0.115	101	70.0 to 130	0.966	20.0
BD04079	Barium, Dissolved	mg/L	-0.0000092	0.00100	0.100	0.105	0.108	0.0954	0.0850 to 0.115	94.3	70.0 to 130	2.82	20.0
BD04078	Barium, Total	mg/L	-0.0000132	0.00100	0.100	0.120	0.123	0.107	0.0850 to 0.115	107	70.0 to 130	2.47	20.0
BD04079	Beryllium, Dissolved	mg/L	0.0000161	0.000880	0.100	0.104	0.102	0.108	0.0850 to 0.115	104	70.0 to 130	1.94	20.0
BD04078	Beryllium, Total	mg/L	0.0000113	0.000880	0.100	0.0915	0.0912	0.0997	0.0850 to 0.115	91.5	70.0 to 130	0.328	20.0
BD04079	Boron, Dissolved	mg/L	-0.00311	0.0650	1.00	1.09	1.08	1.01	0.850 to 1.15	105	70.0 to 130	0.922	20.0
BD04078	Boron, Total	mg/L	-0.00347	0.0650	1.00	1.08	1.07	1.00	0.850 to 1.15	104	70.0 to 130	0.930	20.0
BD04079	Cadmium, Dissolved	mg/L	0.0000000	0.000147	0.100	0.0905	0.0950	0.0975	0.0850 to 0.115	90.5	70.0 to 130	4.85	20.0
BD04078	Cadmium, Total	mg/L	0.0000042	0.000147	0.100	0.0993	0.0984	0.104	0.0850 to 0.115	99.3	70.0 to 130	0.910	20.0
BD04079	Calcium, Dissolved	mg/L	-0.0143	0.152	5.00	316	324	5.07	4.25 to 5.75	-360	70.0 to 130	2.50	20.0
BD04078	Calcium, Total	mg/L	-0.0229	0.152	5.00	296	308	4.80	4.25 to 5.75	-20.0	70.0 to 130	3.97	20.0
BD04078	Chloride	mg/L	0.0274	1.00	10.0	13.1	13.0	10.1	9.00 to 11.0	102	80.0 to 120	0.766	20.0
BD04079	Chromium, Dissolved	mg/L	-0.0000558	0.000440	0.100	0.0917	0.0975	0.0989	0.0850 to 0.115	91.7	70.0 to 130	6.13	20.0
BD04078	Chromium, Total	mg/L	0.0000667	0.000440	0.100	0.102	0.103	0.106	0.0850 to 0.115	102	70.0 to 130	0.976	20.0
BD04079	Cobalt, Dissolved	mg/L	-0.0000015	0.000147	0.100	0.0979	0.102	0.0995	0.0850 to 0.115	89.1	70.0 to 130	4.10	20.0
BD04078	Cobalt, Total	mg/L	0.0000023	0.000147	0.100	0.116	0.114	0.112	0.0850 to 0.115	106	70.0 to 130	1.74	20.0
BD04078	Fluoride	mg/L	0.0384	0.125	2.50	2.72	2.79	2.59	2.25 to 2.75	102	80.0 to 120	2.54	20.0
BD04079	Iron, Dissolved	mg/L	-0.000232	0.0176	0.2	2.65	2.63	0.202	0.170 to 0.230	95.0	70.0 to 130	0.758	20.0
BD04078	Iron, Total	mg/L	0.000927	0.0176	0.2	2.70	2.68	0.200	0.170 to 0.230	90.0	70.0 to 130	0.743	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF  
**Sample Date:** 2/22/23 13:20  
**Customer ID:**  
**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-6

**Laboratory ID Number:** BD04072

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BD04079	Lead, Dissolved	mg/L	0.000017	0.000147	0.100	0.0928	0.101	0.100	0.0850 to 0.115	92.8	70.0 to 130	8.46	20.0
BD04078	Lead, Total	mg/L	0.000011	0.000147	0.100	0.107	0.108	0.112	0.0850 to 0.115	107	70.0 to 130	0.930	20.0
BD04079	Lithium, Dissolved	mg/L	0.000766	0.0154	0.200	0.228	0.225	0.194	0.170 to 0.230	106	70.0 to 130	1.32	20.0
BD04078	Lithium, Total	mg/L	-0.000337	0.0154	0.200	0.233	0.227	0.198	0.170 to 0.230	108	70.0 to 130	2.61	20.0
BD04079	Magnesium, Dissolved	mg/L	-0.0245	0.0462	5.00	279	285	5.09	4.25 to 5.75	-240	70.0 to 130	2.13	20.0
BD04078	Magnesium, Total	mg/L	-0.00494	0.0462	5.00	253	252	5.01	4.25 to 5.75	100	70.0 to 130	0.396	20.0
BD04079	Manganese, Dissolved	mg/L	0.0000252	0.00033	0.100	2.64	2.71	0.0997	0.0850 to 0.115	20.0	70.0 to 130	2.62	20.0
BD04078	Manganese, Total	mg/L	-0.0000306	0.00033	0.100	2.74	2.72	0.107	0.0850 to 0.115	10.0	70.0 to 130	0.733	20.0
BD04079	Mercury, Total by CVAA	mg/L	-1.000E-05	0.000500	0.004	0.00376	0.00369	0.00348	0.00340 to 0.00460	94.0	70.0 to 130	1.88	20.0
BD04079	Molybdenum, Dissolved	mg/L	0.0000079	0.0002	0.100	0.0959	0.0992	0.0972	0.0850 to 0.115	95.4	70.0 to 130	3.38	20.0
BD04078	Molybdenum, Total	mg/L	0.000028	0.0002	0.100	0.104	0.104	0.103	0.0850 to 0.115	104	70.0 to 130	0.00	20.0
BD04079	Potassium, Dissolved	mg/L	-0.00373	0.367	10.0	15.8	17.1	9.85	8.50 to 11.5	87.2	70.0 to 130	7.90	20.0
BD04078	Potassium, Total	mg/L	0.0259	0.367	10.0	17.7	18.2	10.3	8.50 to 11.5	96.7	70.0 to 130	2.79	20.0
BD04079	Selenium, Dissolved	mg/L	-0.0000434	0.00100	0.100	0.110	0.115	0.101	0.0850 to 0.115	110	70.0 to 130	4.44	20.0
BD04078	Selenium, Total	mg/L	0.0000768	0.00100	0.100	0.103	0.103	0.103	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BD04079	Silicon, Dissolved	mg/L	-0.000019	0.0440	1.00	6.89	6.88	1.01	0.850 to 1.15	101	70.0 to 130	0.145	20.0
BD04078	Silicon, Total	mg/L	0.000121	0.0440	1.00	6.85	6.81	0.995	0.850 to 1.15	93.0	70.0 to 130	0.586	20.0
BD04079	Sodium, Dissolved	mg/L	-0.00164	0.0880	5.00	31.9	31.6	4.91	4.25 to 5.75	108	70.0 to 130	0.945	20.0
BD04078	Sodium, Total	mg/L	-0.000766	0.0880	5.00	31.7	31.2	4.88	4.25 to 5.75	112	70.0 to 130	1.59	20.0
BD04078	Sulfate	mg/L	0.0571	2.0	1600	2960	3050	19.3	18.0 to 22.0	101	80.0 to 120	3.00	20.0
BD04079	Thallium, Dissolved	mg/L	-0.0000047	0.000147	0.100	0.0942	0.101	0.101	0.0850 to 0.115	94.2	70.0 to 130	6.97	20.0
BD04078	Thallium, Total	mg/L	0.0000046	0.000147	0.100	0.111	0.107	0.110	0.0850 to 0.115	111	70.0 to 130	3.67	20.0
BD04078	Total Organic Carbon	mg/L	0.0924	1.00	10.0	11.5	13.9	25.5		104	80.0 to 120	18.9	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.



## Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 2/22/23 13:20

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-6

**Laboratory ID Number:** BD04072

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BD04089	Alkalinity to pH 4.5	mg CaCO3/L					214	50.4	45.0 to 55.0			0.00	10.0
BD04078	Nitrogen, Nitrate/Nitrite	mg/L as N	0.00	0.200	2.00	2.23	0.022	1.83	1.80 to 2.20	112	90.0 to 110	0.00	15.0
BD04078	Solids, Dissolved	mg/L	1.00	25.0			2260	50.0	40.0 to 60.0			3.05	10.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill Field Blank-2

**Location Code:** WMWGORLFFB  
**Collected:** 2/22/23 14:10  
**Customer ID:**  
**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04073

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>					
* Boron, Total	2/24/23 13:19	2/27/23 15:16		1.015	Not Detected	mg/L	0.030000	0.1015	U	
* Calcium, Total	2/24/23 13:19	2/27/23 15:16		1.015	Not Detected	mg/L	0.070035	0.406	U	
* Iron, Total	2/24/23 13:19	2/27/23 15:16		1.015	Not Detected	mg/L	0.008120	0.0406	U	
* Lithium, Total	2/24/23 13:19	2/27/23 15:16		1.015	Not Detected	mg/L	0.007105	0.01999956	U	
* Magnesium, Total	2/24/23 13:19	2/27/23 15:16		1.015	Not Detected	mg/L	0.021315	0.406	U	
* Silica, Total (calc.)	2/24/23 13:19	2/27/23 15:16		1	Not Detected	mg/L				
* Silicon, Total	2/24/23 13:19	2/27/23 15:16		1.015	Not Detected	mg/L	0.02030	0.25375	U	
* Sodium, Total	2/24/23 13:19	2/27/23 15:16		1.015	Not Detected	mg/L	0.03045	0.406	U	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>			<b>Preparation Method: EPA 1638</b>					
* Antimony, Total	2/24/23 13:19	2/27/23 16:59		1.015	Not Detected	mg/L	0.000508	0.001015	U	
* Aluminum, Total	2/24/23 13:19	2/27/23 16:59		1.015	Not Detected	mg/L	0.006090	0.05075	U	
* Arsenic, Total	2/24/23 13:19	2/27/23 16:59		1.015	Not Detected	mg/L	0.000081	0.000203	U	
* Barium, Total	2/24/23 13:19	2/27/23 16:59		1.015	Not Detected	mg/L	0.000508	0.001015	U	
* Beryllium, Total	2/24/23 13:19	2/27/23 16:59		1.015	Not Detected	mg/L	0.000406	0.001015	U	
* Cadmium, Total	2/24/23 13:19	2/27/23 16:59		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Chromium, Total	2/24/23 13:19	2/27/23 16:59		1.015	Not Detected	mg/L	0.000203	0.001015	U	
* Cobalt, Total	2/24/23 13:19	2/27/23 16:59		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Lead, Total	2/24/23 13:19	2/27/23 16:59		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Manganese, Total	2/24/23 13:19	2/27/23 16:59		1.015	0.00196	mg/L	0.000152	0.001015		
* Molybdenum, Total	2/24/23 13:19	2/27/23 16:59		1.015	Not Detected	mg/L	0.000102	0.000203	U	
* Potassium, Total	2/24/23 13:19	2/27/23 16:59		1.015	Not Detected	mg/L	0.169505	0.5075	U	
* Selenium, Total	2/24/23 13:19	2/27/23 16:59		1.015	Not Detected	mg/L	0.000508	0.001015	U	
* Thallium, Total	2/24/23 13:19	2/27/23 16:59		1.015	Not Detected	mg/L	0.000068	0.000203	U	
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: ELH</b>								
* Mercury, Total by CVAA	2/27/23 19:37	2/28/23 02:15		1	Not Detected	mg/L	0.0003	0.0005	U	
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: SC</b>								
* Nitrogen, Nitrate/Nitrite	2/24/23 11:02	2/24/23 11:02		1	Not Detected	mg/L as N	0.20	0.3	U	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>								
* Solids, Dissolved	2/23/23 13:45	2/24/23 13:45		1	Not Detected	mg/L		25	U	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:**

# Certificate Of Analysis

**Description:** Gorgas Landfill Field Blank-2

**Location Code:** WMWGORLFFB

**Collected:** 2/22/23 14:10

**Customer ID:**

**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04073

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: SC</b>							
* Total Organic Carbon	2/23/23 19:16	2/23/23 19:16		1	Not Detected	mg/L	1.00	2	U
<b>Analytical Method: SM4500CI E</b>		<b>Analyst: JCC</b>							
* Chloride	2/24/23 14:10	2/24/23 14:10		1	Not Detected	mg/L	0.50	1	U
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	2/27/23 12:35	2/27/23 12:35		1	Not Detected	mg/L	0.06	0.125	U
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	3/1/23 13:57	3/1/23 13:57		1	Not Detected	mg/L	0.6	2	U

---

MDL's and RL's are adjusted for sample dilution, as applicable

---

**Comments:**

# Batch QC Summary

**Customer Account:** WMWGORLFFB

**Sample Date:** 2/22/23 14:10

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill Field Blank-2

**Laboratory ID Number:** BD04073

Sample	Analysis	Units	MB					Standard		Rec		Prec	Limit
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BD04078	Aluminum, Total	mg/L	0.000405	0.0198	0.100	0.101	0.102	0.104	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BD04078	Antimony, Total	mg/L	0.000397	0.00100	0.100	0.110	0.110	0.0988	0.0850 to 0.115	110	70.0 to 130	0.00	20.0
BD04078	Arsenic, Total	mg/L	0.0000097	0.000200	0.100	0.103	0.104	0.0999	0.0850 to 0.115	101	70.0 to 130	0.966	20.0
BD04078	Barium, Total	mg/L	-0.0000132	0.00100	0.100	0.120	0.123	0.107	0.0850 to 0.115	107	70.0 to 130	2.47	20.0
BD04078	Beryllium, Total	mg/L	0.0000113	0.000880	0.100	0.0915	0.0912	0.0997	0.0850 to 0.115	91.5	70.0 to 130	0.328	20.0
BD04078	Boron, Total	mg/L	-0.00347	0.0650	1.00	1.08	1.07	1.00	0.850 to 1.15	104	70.0 to 130	0.930	20.0
BD04078	Cadmium, Total	mg/L	0.0000042	0.000147	0.100	0.0993	0.0984	0.104	0.0850 to 0.115	99.3	70.0 to 130	0.910	20.0
BD04078	Calcium, Total	mg/L	-0.0229	0.152	5.00	296	308	4.80	4.25 to 5.75	-20.0	70.0 to 130	3.97	20.0
BD04078	Chloride	mg/L	0.0274	1.00	10.0	13.1	13.0	10.1	9.00 to 11.0	102	80.0 to 120	0.766	20.0
BD04078	Chromium, Total	mg/L	0.0000667	0.000440	0.100	0.102	0.103	0.106	0.0850 to 0.115	102	70.0 to 130	0.976	20.0
BD04078	Cobalt, Total	mg/L	0.0000023	0.000147	0.100	0.116	0.114	0.112	0.0850 to 0.115	106	70.0 to 130	1.74	20.0
BD04078	Fluoride	mg/L	0.0384	0.125	2.50	2.72	2.79	2.59	2.25 to 2.75	102	80.0 to 120	2.54	20.0
BD04078	Iron, Total	mg/L	0.000927	0.0176	0.2	2.70	2.68	0.200	0.170 to 0.230	90.0	70.0 to 130	0.743	20.0
BD04078	Lead, Total	mg/L	0.000011	0.000147	0.100	0.107	0.108	0.112	0.0850 to 0.115	107	70.0 to 130	0.930	20.0
BD04078	Lithium, Total	mg/L	-0.000337	0.0154	0.200	0.233	0.227	0.198	0.170 to 0.230	108	70.0 to 130	2.61	20.0
BD04078	Magnesium, Total	mg/L	-0.00494	0.0462	5.00	253	252	5.01	4.25 to 5.75	100	70.0 to 130	0.396	20.0
BD04078	Manganese, Total	mg/L	-0.0000306	0.00033	0.100	2.74	2.72	0.107	0.0850 to 0.115	10.0	70.0 to 130	0.733	20.0
BD04079	Mercury, Total by CVAA	mg/L	-1.000E-05	0.000500	0.004	0.00376	0.00369	0.00348	0.00340 to 0.00460	94.0	70.0 to 130	1.88	20.0
BD04078	Molybdenum, Total	mg/L	0.000028	0.0002	0.100	0.104	0.104	0.103	0.0850 to 0.115	104	70.0 to 130	0.00	20.0
BD04078	Potassium, Total	mg/L	0.0259	0.367	10.0	17.7	18.2	10.3	8.50 to 11.5	96.7	70.0 to 130	2.79	20.0
BD04078	Selenium, Total	mg/L	0.0000768	0.00100	0.100	0.103	0.103	0.103	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BD04078	Silicon, Total	mg/L	0.000121	0.0440	1.00	6.85	6.81	0.995	0.850 to 1.15	93.0	70.0 to 130	0.586	20.0
BD04078	Sodium, Total	mg/L	-0.000766	0.0880	5.00	31.7	31.2	4.88	4.25 to 5.75	112	70.0 to 130	1.59	20.0
BD04078	Sulfate	mg/L	0.0571	2.0	1600	2960	3050	19.3	18.0 to 22.0	101	80.0 to 120	3.00	20.0

**Comments:**

# Batch QC Summary

**Customer Account:** WMWGORLFFB

**Sample Date:** 2/22/23 14:10

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill Field Blank-2

**Laboratory ID Number:** BD04073

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit	Prec	Limit
BD04078	Thallium, Total	mg/L	0.0000046	0.000147	0.100	0.111	0.107	0.110	0.0850 to 0.115	111	70.0 to 130	3.67	20.0
BD04078	Total Organic Carbon	mg/L	0.0924	1.00	10.0	11.5	13.9	25.5		104	80.0 to 120	18.9	20.0

---

**Comments:**

## Batch QC Summary

**Customer Account:** WMWGORLFFB

**Sample Date:** 2/22/23 14:10

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill Field Blank-2

**Laboratory ID Number:** BD04073

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BD04078	Nitrogen, Nitrate/Nitrite	mg/L as N	0.00	0.200	2.00	2.23	0.022	1.83	1.80 to 2.20	112	90.0 to 110	0.00	15.0
BD04078	Solids, Dissolved	mg/L	1.00	25.0			2260	50.0	40.0 to 60.0			3.05	10.0

---

**Comments:**

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-10

**Location Code:** WMWGORLF  
**Collected:** 2/22/23 14:30  
**Customer ID:**  
**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04074

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Total	2/24/23 13:19	2/27/23 15:19		1.015	0.122	mg/L	0.030000	0.1015	
* Calcium, Total	2/24/23 13:19	2/28/23 14:05		10.15	152	mg/L	0.70035	4.06	
* Iron, Total	2/24/23 13:19	2/28/23 14:05		10.15	5.86	mg/L	0.08120	0.406	
* Lithium, Total	2/24/23 13:19	2/27/23 15:19		1.015	0.149	mg/L	0.007105	0.01999956	
* Magnesium, Total	2/24/23 13:19	3/2/23 13:01		10.15	69.1	mg/L	0.21315	4.06	
* Silica, Total (calc.)	2/24/23 13:19	2/27/23 15:19		1	11.5	mg/L			
* Silicon, Total	2/24/23 13:19	2/27/23 15:19		1.015	5.38	mg/L	0.02030	0.25375	
* Sodium, Total	2/24/23 13:19	2/28/23 14:05		10.15	93.1	mg/L	0.3045	4.06	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	2/23/23 13:36	2/27/23 11:32		1.015	0.140	mg/L	0.030000	0.1015	
* Calcium, Dissolved	2/23/23 13:36	2/27/23 13:19		10.15	163	mg/L	0.70035	4.06	
* Iron, Dissolved	2/23/23 13:36	2/27/23 11:32		1.015	1.94	mg/L	0.008120	0.0406	
* Lithium, Dissolved	2/23/23 13:36	2/27/23 11:32		1.015	0.148	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	2/23/23 13:36	2/27/23 13:19		10.15	82.2	mg/L	0.21315	4.06	
* Silica, Dissolved (calc.)	2/23/23 13:36	2/27/23 11:32		1	12.3	mg/L			
* Silicon, Dissolved	2/23/23 13:36	2/27/23 11:32		1.015	5.76	mg/L	0.02030	0.25375	
* Sodium, Dissolved	2/23/23 13:36	2/27/23 13:19		10.15	85.4	mg/L	0.3045	4.06	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>			<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	2/24/23 13:19	2/27/23 17:02		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	2/24/23 13:19	2/27/23 17:02		1.015	0.310	mg/L	0.006090	0.05075	
* Arsenic, Total	2/24/23 13:19	2/27/23 17:02		1.015	0.000692	mg/L	0.000081	0.000203	
* Barium, Total	2/24/23 13:19	2/27/23 17:02		1.015	0.0222	mg/L	0.000508	0.001015	
* Beryllium, Total	2/24/23 13:19	2/27/23 17:02		1.015	0.000498	mg/L	0.000406	0.001015	J
* Cadmium, Total	2/24/23 13:19	2/27/23 17:02		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	2/24/23 13:19	2/27/23 17:02		1.015	0.000277	mg/L	0.000203	0.001015	J
* Cobalt, Total	2/24/23 13:19	2/27/23 17:02		1.015	0.00105	mg/L	0.000068	0.000203	
* Lead, Total	2/24/23 13:19	2/27/23 17:02		1.015	0.000155	mg/L	0.000068	0.000203	J
* Manganese, Total	3/16/23 12:06	3/16/23 12:43		1.015	0.673	mg/L	0.000152	0.001015	C
* Molybdenum, Total	2/24/23 13:19	2/27/23 17:02		1.015	0.000111	mg/L	0.000102	0.000203	J
* Potassium, Total	2/24/23 13:19	2/27/23 17:02		1.015	4.64	mg/L	0.169505	0.5075	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-10

**Location Code:** WMWGORLF  
**Collected:** 2/22/23 14:30  
**Customer ID:**  
**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04074

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/24/23 13:19	2/27/23 17:02		1.015	0.000611	mg/L	0.000508	0.001015	J
* Thallium, Total	2/24/23 13:19	2/27/23 17:02		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	2/23/23 13:36	2/23/23 15:20		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/23/23 13:36	2/23/23 15:20		1.015	Not Detected	mg/L	0.006090	0.05075	U
* Arsenic, Dissolved	2/23/23 13:36	2/23/23 15:20		1.015	0.0000835	mg/L	0.000081	0.000203	J
* Barium, Dissolved	2/23/23 13:36	2/23/23 15:20		1.015	0.0191	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	2/23/23 13:36	2/28/23 09:59		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	2/23/23 13:36	2/23/23 15:20		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	2/23/23 13:36	2/23/23 15:20		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	2/23/23 13:36	2/23/23 15:20		1.015	0.00105	mg/L	0.000068	0.000203	
* Lead, Dissolved	2/23/23 13:36	2/23/23 15:20		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	3/16/23 08:55	3/16/23 11:35		1.015	1.06	mg/L	0.000152	0.001015	C
* Molybdenum, Dissolved	2/23/23 13:36	2/23/23 15:20		1.015	0.000225	mg/L	0.000102	0.000203	
* Potassium, Dissolved	2/23/23 13:36	2/23/23 15:20		1.015	4.27	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/23/23 13:36	2/23/23 15:20		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	2/23/23 13:36	2/23/23 15:20		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: ELH</b>							
* Mercury, Total by CVAA	2/27/23 19:37	2/28/23 02:19		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: SC</b>							
* Nitrogen, Nitrate/Nitrite	2/24/23 11:04	2/24/23 11:04		1	0.269	mg/L as N	0.20	0.3	J
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
* Alkalinity to pH 4.5	3/6/23 13:15	3/6/23 14:40		1	188	mg CaCO3/L			
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	2/23/23 13:45	2/24/23 13:45		1	991	mg/L		75.8	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
* Bicarbonate Alkalinity, (calc.)	3/6/23 13:15	3/6/23 14:40		1	188	mg CaCO3/L		1	A
* Carbonate Alkalinity, (calc.)	3/6/23 13:15	3/6/23 14:40		1	Not Detected	mg CaCO3/L		0.5	A
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: SC</b>							
* Total Organic Carbon	2/23/23 19:29	2/23/23 19:29		1	Not Detected	mg/L	1.00	2	U

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.



# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-10

**Location Code:** WMWGORLF

**Collected:** 2/22/23 14:30

**Customer ID:**

**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04074

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	2/24/23 14:11	2/24/23 14:11		1	2.77	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	2/27/23 12:37	2/27/23 12:37		1	0.132	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	3/1/23 13:58	3/1/23 13:58		32	581	mg/L	19.2	64	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: TJD</b>							
Conductivity	2/22/23 14:27	2/22/23 14:27			1326.24	uS/cm			FA
pH	2/22/23 14:27	2/22/23 14:27			6.67	SU			FA
Temperature	2/22/23 14:27	2/22/23 14:27			21.46	C			FA
Turbidity	2/22/23 14:27	2/22/23 14:27			3.07	NTU			FA
Sulfide	2/22/23 14:27	2/22/23 14:27			0	mg/L			FA

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 2/22/23 14:30

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-10

**Laboratory ID Number:** BD04074

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BD04079	Aluminum, Dissolved	mg/L	-0.000276	0.0198	0.100	0.0898	0.0939	0.0965	0.0850 to 0.115	89.8	70.0 to 130	4.46	20.0
BD04078	Aluminum, Total	mg/L	0.000405	0.0198	0.100	0.101	0.102	0.104	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BD04079	Antimony, Dissolved	mg/L	0.000346	0.00100	0.100	0.0869	0.0903	0.0904	0.0850 to 0.115	86.9	70.0 to 130	3.84	20.0
BD04078	Antimony, Total	mg/L	0.000397	0.00100	0.100	0.110	0.110	0.0988	0.0850 to 0.115	110	70.0 to 130	0.00	20.0
BD04079	Arsenic, Dissolved	mg/L	-0.0000191	0.000200	0.100	0.100	0.106	0.0960	0.0850 to 0.115	98.2	70.0 to 130	5.83	20.0
BD04078	Arsenic, Total	mg/L	0.0000097	0.000200	0.100	0.103	0.104	0.0999	0.0850 to 0.115	101	70.0 to 130	0.966	20.0
BD04079	Barium, Dissolved	mg/L	-0.0000092	0.00100	0.100	0.105	0.108	0.0954	0.0850 to 0.115	94.3	70.0 to 130	2.82	20.0
BD04078	Barium, Total	mg/L	-0.0000132	0.00100	0.100	0.120	0.123	0.107	0.0850 to 0.115	107	70.0 to 130	2.47	20.0
BD04079	Beryllium, Dissolved	mg/L	0.0000161	0.000880	0.100	0.104	0.102	0.108	0.0850 to 0.115	104	70.0 to 130	1.94	20.0
BD04078	Beryllium, Total	mg/L	0.0000113	0.000880	0.100	0.0915	0.0912	0.0997	0.0850 to 0.115	91.5	70.0 to 130	0.328	20.0
BD04079	Boron, Dissolved	mg/L	-0.00311	0.0650	1.00	1.09	1.08	1.01	0.850 to 1.15	105	70.0 to 130	0.922	20.0
BD04078	Boron, Total	mg/L	-0.00347	0.0650	1.00	1.08	1.07	1.00	0.850 to 1.15	104	70.0 to 130	0.930	20.0
BD04079	Cadmium, Dissolved	mg/L	0.0000000	0.000147	0.100	0.0905	0.0950	0.0975	0.0850 to 0.115	90.5	70.0 to 130	4.85	20.0
BD04078	Cadmium, Total	mg/L	0.0000042	0.000147	0.100	0.0993	0.0984	0.104	0.0850 to 0.115	99.3	70.0 to 130	0.910	20.0
BD04079	Calcium, Dissolved	mg/L	-0.0143	0.152	5.00	316	324	5.07	4.25 to 5.75	-360	70.0 to 130	2.50	20.0
BD04078	Calcium, Total	mg/L	-0.0229	0.152	5.00	296	308	4.80	4.25 to 5.75	-20.0	70.0 to 130	3.97	20.0
BD04078	Chloride	mg/L	0.0274	1.00	10.0	13.1	13.0	10.1	9.00 to 11.0	102	80.0 to 120	0.766	20.0
BD04079	Chromium, Dissolved	mg/L	-0.0000558	0.000440	0.100	0.0917	0.0975	0.0989	0.0850 to 0.115	91.7	70.0 to 130	6.13	20.0
BD04078	Chromium, Total	mg/L	0.0000667	0.000440	0.100	0.102	0.103	0.106	0.0850 to 0.115	102	70.0 to 130	0.976	20.0
BD04079	Cobalt, Dissolved	mg/L	-0.0000015	0.000147	0.100	0.0979	0.102	0.0995	0.0850 to 0.115	89.1	70.0 to 130	4.10	20.0
BD04078	Cobalt, Total	mg/L	0.0000023	0.000147	0.100	0.116	0.114	0.112	0.0850 to 0.115	106	70.0 to 130	1.74	20.0
BD04078	Fluoride	mg/L	0.0384	0.125	2.50	2.72	2.79	2.59	2.25 to 2.75	102	80.0 to 120	2.54	20.0
BD04079	Iron, Dissolved	mg/L	-0.000232	0.0176	0.2	2.65	2.63	0.202	0.170 to 0.230	95.0	70.0 to 130	0.758	20.0
BD04078	Iron, Total	mg/L	0.000927	0.0176	0.2	2.70	2.68	0.200	0.170 to 0.230	90.0	70.0 to 130	0.743	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF  
**Sample Date:** 2/22/23 14:30  
**Customer ID:**  
**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-10

**Laboratory ID Number:** BD04074

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BD04079	Lead, Dissolved	mg/L	0.000017	0.000147	0.100	0.0928	0.101	0.100	0.0850 to 0.115	92.8	70.0 to 130	8.46	20.0
BD04078	Lead, Total	mg/L	0.000011	0.000147	0.100	0.107	0.108	0.112	0.0850 to 0.115	107	70.0 to 130	0.930	20.0
BD04079	Lithium, Dissolved	mg/L	0.000766	0.0154	0.200	0.228	0.225	0.194	0.170 to 0.230	106	70.0 to 130	1.32	20.0
BD04078	Lithium, Total	mg/L	-0.000337	0.0154	0.200	0.233	0.227	0.198	0.170 to 0.230	108	70.0 to 130	2.61	20.0
BD04079	Magnesium, Dissolved	mg/L	-0.0245	0.0462	5.00	279	285	5.09	4.25 to 5.75	-240	70.0 to 130	2.13	20.0
BD04078	Magnesium, Total	mg/L	-0.00494	0.0462	5.00	253	252	5.01	4.25 to 5.75	100	70.0 to 130	0.396	20.0
BD04074	Manganese, Dissolved	mg/L	0.0000325	0.00033	0.100	1.13	1.13	0.101	0.0850 to 0.115	70.0	70.0 to 130	0.00	20.0
BD04074	Manganese, Total	mg/L	-0.0000089	0.00033	0.100	0.769	0.769	0.102	0.0850 to 0.115	96.0	70.0 to 130	0.00	20.0
BD04079	Mercury, Total by CVAA	mg/L	-1.000E-05	0.000500	0.004	0.00376	0.00369	0.00348	0.00340 to 0.00460	94.0	70.0 to 130	1.88	20.0
BD04079	Molybdenum, Dissolved	mg/L	0.0000079	0.0002	0.100	0.0959	0.0992	0.0972	0.0850 to 0.115	95.4	70.0 to 130	3.38	20.0
BD04078	Molybdenum, Total	mg/L	0.000028	0.0002	0.100	0.104	0.104	0.103	0.0850 to 0.115	104	70.0 to 130	0.00	20.0
BD04079	Potassium, Dissolved	mg/L	-0.00373	0.367	10.0	15.8	17.1	9.85	8.50 to 11.5	87.2	70.0 to 130	7.90	20.0
BD04078	Potassium, Total	mg/L	0.0259	0.367	10.0	17.7	18.2	10.3	8.50 to 11.5	96.7	70.0 to 130	2.79	20.0
BD04079	Selenium, Dissolved	mg/L	-0.0000434	0.00100	0.100	0.110	0.115	0.101	0.0850 to 0.115	110	70.0 to 130	4.44	20.0
BD04078	Selenium, Total	mg/L	0.0000768	0.00100	0.100	0.103	0.103	0.103	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BD04079	Silicon, Dissolved	mg/L	-0.000019	0.0440	1.00	6.89	6.88	1.01	0.850 to 1.15	101	70.0 to 130	0.145	20.0
BD04078	Silicon, Total	mg/L	0.000121	0.0440	1.00	6.85	6.81	0.995	0.850 to 1.15	93.0	70.0 to 130	0.586	20.0
BD04079	Sodium, Dissolved	mg/L	-0.00164	0.0880	5.00	31.9	31.6	4.91	4.25 to 5.75	108	70.0 to 130	0.945	20.0
BD04078	Sodium, Total	mg/L	-0.000766	0.0880	5.00	31.7	31.2	4.88	4.25 to 5.75	112	70.0 to 130	1.59	20.0
BD04078	Sulfate	mg/L	0.0571	2.0	1600	2960	3050	19.3	18.0 to 22.0	101	80.0 to 120	3.00	20.0
BD04079	Thallium, Dissolved	mg/L	-0.0000047	0.000147	0.100	0.0942	0.101	0.101	0.0850 to 0.115	94.2	70.0 to 130	6.97	20.0
BD04078	Thallium, Total	mg/L	0.0000046	0.000147	0.100	0.111	0.107	0.110	0.0850 to 0.115	111	70.0 to 130	3.67	20.0
BD04078	Total Organic Carbon	mg/L	0.0924	1.00	10.0	11.5	13.9	25.5		104	80.0 to 120	18.9	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

## Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 2/22/23 14:30

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-10

**Laboratory ID Number:** BD04074

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BD04089	Alkalinity to pH 4.5	mg CaCO3/L					214	50.4	45.0 to 55.0			0.00	10.0
BD04078	Nitrogen, Nitrate/Nitrite	mg/L as N	0.00	0.200	2.00	2.23	0.022	1.83	1.80 to 2.20	112	90.0 to 110	0.00	15.0
BD04078	Solids, Dissolved	mg/L	1.00	25.0			2260	50.0	40.0 to 60.0			3.05	10.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-13

**Location Code:** WMWGORLF  
**Collected:** 2/20/23 11:02  
**Customer ID:**  
**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04075

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>					
* Boron, Total	2/24/23 13:19	2/27/23 15:23		1.015	0.0511	mg/L	0.030000	0.1015	J	
* Calcium, Total	2/24/23 13:19	2/28/23 14:08		10.15	191	mg/L	0.70035	4.06		
* Iron, Total	2/24/23 13:19	2/27/23 15:23		1.015	0.0377	mg/L	0.008120	0.0406	J	
* Lithium, Total	2/24/23 13:19	2/27/23 15:23		1.015	0.0158	mg/L	0.007105	0.01999956	J	
* Magnesium, Total	2/24/23 13:19	3/2/23 13:04		10.15	225	mg/L	0.21315	4.06		
* Silica, Total (calc.)	2/24/23 13:19	2/27/23 15:23		1	8.62	mg/L				
* Silicon, Total	2/24/23 13:19	2/27/23 15:23		1.015	4.03	mg/L	0.02030	0.25375		
* Sodium, Total	2/24/23 13:19	2/27/23 15:23		1.015	30.0	mg/L	0.03045	0.406		
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>					
* Boron, Dissolved	2/23/23 13:36	2/27/23 11:35		1.015	0.0513	mg/L	0.030000	0.1015	J	
* Calcium, Dissolved	2/23/23 13:36	2/27/23 13:22		10.15	213	mg/L	0.70035	4.06		
* Iron, Dissolved	2/23/23 13:36	2/27/23 11:35		1.015	0.0345	mg/L	0.008120	0.0406	J	
* Lithium, Dissolved	2/23/23 13:36	2/27/23 11:35		1.015	0.0152	mg/L	0.007105	0.01999956	J	
* Magnesium, Dissolved	2/23/23 13:36	2/27/23 13:22		10.15	259	mg/L	0.21315	4.06		
* Silica, Dissolved (calc.)	2/23/23 13:36	2/27/23 11:35		1	8.67	mg/L				
* Silicon, Dissolved	2/23/23 13:36	2/27/23 11:35		1.015	4.05	mg/L	0.02030	0.25375		
* Sodium, Dissolved	2/23/23 13:36	2/27/23 11:35		1.015	29.9	mg/L	0.03045	0.406		
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>			<b>Preparation Method: EPA 1638</b>					
* Antimony, Total	2/24/23 13:19	2/27/23 17:06		1.015	Not Detected	mg/L	0.000508	0.001015	U	
* Aluminum, Total	2/24/23 13:19	2/27/23 17:06		1.015	Not Detected	mg/L	0.006090	0.05075	U	
* Arsenic, Total	2/24/23 13:19	2/27/23 17:06		1.015	0.000164	mg/L	0.000081	0.000203	J	
* Barium, Total	2/24/23 13:19	2/27/23 17:06		1.015	0.0100	mg/L	0.000508	0.001015		
* Beryllium, Total	2/24/23 13:19	2/27/23 17:06		1.015	Not Detected	mg/L	0.000406	0.001015	U	
* Cadmium, Total	2/24/23 13:19	2/27/23 17:06		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Chromium, Total	2/24/23 13:19	2/27/23 17:06		1.015	0.000210	mg/L	0.000203	0.001015	J	
* Cobalt, Total	2/24/23 13:19	2/27/23 17:06		1.015	0.00540	mg/L	0.000068	0.000203		
* Lead, Total	2/24/23 13:19	2/27/23 17:06		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Manganese, Total	2/24/23 13:19	2/27/23 18:59		5.075	2.30	mg/L	0.000761	0.005075		
* Molybdenum, Total	2/24/23 13:19	2/27/23 17:06		1.015	0.000340	mg/L	0.000102	0.000203		
* Potassium, Total	2/24/23 13:19	2/27/23 17:06		1.015	7.61	mg/L	0.169505	0.5075		

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-13

**Location Code:** WMWGORLF  
**Collected:** 2/20/23 11:02  
**Customer ID:**  
**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04075

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/24/23 13:19	2/27/23 17:06		1.015	0.00148	mg/L	0.000508	0.001015	
* Thallium, Total	2/24/23 13:19	2/27/23 17:06		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	2/23/23 13:36	2/23/23 15:24		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/23/23 13:36	2/23/23 15:24		1.015	Not Detected	mg/L	0.006090	0.05075	U
* Arsenic, Dissolved	2/23/23 13:36	2/23/23 15:24		1.015	Not Detected	mg/L	0.000081	0.000203	U
* Barium, Dissolved	2/23/23 13:36	2/23/23 15:24		1.015	0.00905	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	2/23/23 13:36	2/28/23 10:02		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	2/23/23 13:36	2/23/23 15:24		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	2/23/23 13:36	2/23/23 15:24		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	2/23/23 13:36	2/23/23 15:24		1.015	0.00475	mg/L	0.000068	0.000203	
* Lead, Dissolved	2/23/23 13:36	2/23/23 15:24		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	2/23/23 13:36	2/28/23 11:34		5.075	2.35	mg/L	0.000761	0.005075	
* Molybdenum, Dissolved	2/23/23 13:36	2/23/23 15:24		1.015	0.00100	mg/L	0.000102	0.000203	
* Potassium, Dissolved	2/23/23 13:36	2/23/23 15:24		1.015	6.80	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/23/23 13:36	2/23/23 15:24		1.015	0.00176	mg/L	0.000508	0.001015	
* Thallium, Dissolved	2/23/23 13:36	2/23/23 15:24		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: ELH</b>							
* Mercury, Total by CVAA	2/27/23 19:37	2/28/23 02:23		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: SC</b>							
* Nitrogen, Nitrate/Nitrite	2/24/23 11:06	2/24/23 11:06		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
* Alkalinity to pH 4.5	3/3/23 14:10	3/3/23 15:40		1	233	mg CaCO3/L			
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	2/23/23 13:45	2/24/23 13:45		1	1920	mg/L		125	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
* Bicarbonate Alkalinity, (calc.)	3/3/23 14:10	3/3/23 15:40		1	233	mg CaCO3/L		1	A
* Carbonate Alkalinity, (calc.)	3/3/23 14:10	3/3/23 15:40		1	Not Detected	mg CaCO3/L		0.5	A
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: SC</b>							
* Total Organic Carbon	2/23/23 19:48	2/23/23 19:48		1	1.37	mg/L	1.00	2	J

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-13

**Location Code:** WMWGORLF  
**Collected:** 2/20/23 11:02  
**Customer ID:**  
**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04075

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	2/24/23 14:12	2/24/23 14:12		1	1.63	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	2/27/23 12:38	2/27/23 12:38		1	0.243	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	3/1/23 13:59	3/1/23 13:59		50	1150	mg/L	30.0	100	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: DKG</b>							
Conductivity	2/20/23 10:59	2/20/23 10:59			2211.86	uS/cm			FA
pH	2/20/23 10:59	2/20/23 10:59			6.58	SU			FA
Temperature	2/20/23 10:59	2/20/23 10:59			18.98	C			FA
Turbidity	2/20/23 10:59	2/20/23 10:59			1.6	NTU			FA
Sulfide	2/20/23 10:59	2/20/23 10:59			0	mg/L			FA

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF  
**Sample Date:** 2/20/23 11:02  
**Customer ID:**  
**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-13

**Laboratory ID Number:** BD04075

Sample	Analysis	Units	MB	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
				Limit					Standard	Limit	Rec	Limit		
BD04079	Aluminum, Dissolved	mg/L	-0.000276	0.0198	0.100	0.0898	0.0939	0.0965	0.0850 to 0.115	89.8	70.0 to 130	4.46	20.0	
BD04078	Aluminum, Total	mg/L	0.000405	0.0198	0.100	0.101	0.102	0.104	0.0850 to 0.115	101	70.0 to 130	0.985	20.0	
BD04079	Antimony, Dissolved	mg/L	0.000346	0.00100	0.100	0.0869	0.0903	0.0904	0.0850 to 0.115	86.9	70.0 to 130	3.84	20.0	
BD04078	Antimony, Total	mg/L	0.000397	0.00100	0.100	0.110	0.110	0.0988	0.0850 to 0.115	110	70.0 to 130	0.00	20.0	
BD04079	Arsenic, Dissolved	mg/L	-0.0000191	0.000200	0.100	0.100	0.106	0.0960	0.0850 to 0.115	98.2	70.0 to 130	5.83	20.0	
BD04078	Arsenic, Total	mg/L	0.0000097	0.000200	0.100	0.103	0.104	0.0999	0.0850 to 0.115	101	70.0 to 130	0.966	20.0	
BD04079	Barium, Dissolved	mg/L	-0.0000092	0.00100	0.100	0.105	0.108	0.0954	0.0850 to 0.115	94.3	70.0 to 130	2.82	20.0	
BD04078	Barium, Total	mg/L	-0.0000132	0.00100	0.100	0.120	0.123	0.107	0.0850 to 0.115	107	70.0 to 130	2.47	20.0	
BD04079	Beryllium, Dissolved	mg/L	0.0000161	0.000880	0.100	0.104	0.102	0.108	0.0850 to 0.115	104	70.0 to 130	1.94	20.0	
BD04078	Beryllium, Total	mg/L	0.0000113	0.000880	0.100	0.0915	0.0912	0.0997	0.0850 to 0.115	91.5	70.0 to 130	0.328	20.0	
BD04079	Boron, Dissolved	mg/L	-0.00311	0.0650	1.00	1.09	1.08	1.01	0.850 to 1.15	105	70.0 to 130	0.922	20.0	
BD04078	Boron, Total	mg/L	-0.00347	0.0650	1.00	1.08	1.07	1.00	0.850 to 1.15	104	70.0 to 130	0.930	20.0	
BD04079	Cadmium, Dissolved	mg/L	0.0000000	0.000147	0.100	0.0905	0.0950	0.0975	0.0850 to 0.115	90.5	70.0 to 130	4.85	20.0	
BD04078	Cadmium, Total	mg/L	0.0000042	0.000147	0.100	0.0993	0.0984	0.104	0.0850 to 0.115	99.3	70.0 to 130	0.910	20.0	
BD04079	Calcium, Dissolved	mg/L	-0.0143	0.152	5.00	316	324	5.07	4.25 to 5.75	-360	70.0 to 130	2.50	20.0	
BD04078	Calcium, Total	mg/L	-0.0229	0.152	5.00	296	308	4.80	4.25 to 5.75	-20.0	70.0 to 130	3.97	20.0	
BD04078	Chloride	mg/L	0.0274	1.00	10.0	13.1	13.0	10.1	9.00 to 11.0	102	80.0 to 120	0.766	20.0	
BD04079	Chromium, Dissolved	mg/L	-0.0000558	0.000440	0.100	0.0917	0.0975	0.0989	0.0850 to 0.115	91.7	70.0 to 130	6.13	20.0	
BD04078	Chromium, Total	mg/L	0.0000667	0.000440	0.100	0.102	0.103	0.106	0.0850 to 0.115	102	70.0 to 130	0.976	20.0	
BD04079	Cobalt, Dissolved	mg/L	-0.0000015	0.000147	0.100	0.0979	0.102	0.0995	0.0850 to 0.115	89.1	70.0 to 130	4.10	20.0	
BD04078	Cobalt, Total	mg/L	0.0000023	0.000147	0.100	0.116	0.114	0.112	0.0850 to 0.115	106	70.0 to 130	1.74	20.0	
BD04078	Fluoride	mg/L	0.0384	0.125	2.50	2.72	2.79	2.59	2.25 to 2.75	102	80.0 to 120	2.54	20.0	
BD04079	Iron, Dissolved	mg/L	-0.000232	0.0176	0.2	2.65	2.63	0.202	0.170 to 0.230	95.0	70.0 to 130	0.758	20.0	
BD04078	Iron, Total	mg/L	0.000927	0.0176	0.2	2.70	2.68	0.200	0.170 to 0.230	90.0	70.0 to 130	0.743	20.0	

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.



# Batch QC Summary

**Customer Account:** WMWGORLF  
**Sample Date:** 2/20/23 11:02  
**Customer ID:**  
**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-13

**Laboratory ID Number:** BD04075

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BD04079	Lead, Dissolved	mg/L	0.000017	0.000147	0.100	0.0928	0.101	0.100	0.0850 to 0.115	92.8	70.0 to 130	8.46	20.0
BD04078	Lead, Total	mg/L	0.000011	0.000147	0.100	0.107	0.108	0.112	0.0850 to 0.115	107	70.0 to 130	0.930	20.0
BD04079	Lithium, Dissolved	mg/L	0.000766	0.0154	0.200	0.228	0.225	0.194	0.170 to 0.230	106	70.0 to 130	1.32	20.0
BD04078	Lithium, Total	mg/L	-0.000337	0.0154	0.200	0.233	0.227	0.198	0.170 to 0.230	108	70.0 to 130	2.61	20.0
BD04079	Magnesium, Dissolved	mg/L	-0.0245	0.0462	5.00	279	285	5.09	4.25 to 5.75	-240	70.0 to 130	2.13	20.0
BD04078	Magnesium, Total	mg/L	-0.00494	0.0462	5.00	253	252	5.01	4.25 to 5.75	100	70.0 to 130	0.396	20.0
BD04079	Manganese, Dissolved	mg/L	0.0000252	0.00033	0.100	2.64	2.71	0.0997	0.0850 to 0.115	20.0	70.0 to 130	2.62	20.0
BD04078	Manganese, Total	mg/L	-0.0000306	0.00033	0.100	2.74	2.72	0.107	0.0850 to 0.115	10.0	70.0 to 130	0.733	20.0
BD04079	Mercury, Total by CVAA	mg/L	-1.000E-05	0.000500	0.004	0.00376	0.00369	0.00348	0.00340 to 0.00460	94.0	70.0 to 130	1.88	20.0
BD04079	Molybdenum, Dissolved	mg/L	0.0000079	0.0002	0.100	0.0959	0.0992	0.0972	0.0850 to 0.115	95.4	70.0 to 130	3.38	20.0
BD04078	Molybdenum, Total	mg/L	0.000028	0.0002	0.100	0.104	0.104	0.103	0.0850 to 0.115	104	70.0 to 130	0.00	20.0
BD04079	Potassium, Dissolved	mg/L	-0.00373	0.367	10.0	15.8	17.1	9.85	8.50 to 11.5	87.2	70.0 to 130	7.90	20.0
BD04078	Potassium, Total	mg/L	0.0259	0.367	10.0	17.7	18.2	10.3	8.50 to 11.5	96.7	70.0 to 130	2.79	20.0
BD04079	Selenium, Dissolved	mg/L	-0.0000434	0.00100	0.100	0.110	0.115	0.101	0.0850 to 0.115	110	70.0 to 130	4.44	20.0
BD04078	Selenium, Total	mg/L	0.0000768	0.00100	0.100	0.103	0.103	0.103	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BD04079	Silicon, Dissolved	mg/L	-0.000019	0.0440	1.00	6.89	6.88	1.01	0.850 to 1.15	101	70.0 to 130	0.145	20.0
BD04078	Silicon, Total	mg/L	0.000121	0.0440	1.00	6.85	6.81	0.995	0.850 to 1.15	93.0	70.0 to 130	0.586	20.0
BD04079	Sodium, Dissolved	mg/L	-0.00164	0.0880	5.00	31.9	31.6	4.91	4.25 to 5.75	108	70.0 to 130	0.945	20.0
BD04078	Sodium, Total	mg/L	-0.000766	0.0880	5.00	31.7	31.2	4.88	4.25 to 5.75	112	70.0 to 130	1.59	20.0
BD04078	Sulfate	mg/L	0.0571	2.0	1600	2960	3050	19.3	18.0 to 22.0	101	80.0 to 120	3.00	20.0
BD04079	Thallium, Dissolved	mg/L	-0.0000047	0.000147	0.100	0.0942	0.101	0.101	0.0850 to 0.115	94.2	70.0 to 130	6.97	20.0
BD04078	Thallium, Total	mg/L	0.0000046	0.000147	0.100	0.111	0.107	0.110	0.0850 to 0.115	111	70.0 to 130	3.67	20.0
BD04078	Total Organic Carbon	mg/L	0.0924	1.00	10.0	11.5	13.9	25.5		104	80.0 to 120	18.9	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

## Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 2/20/23 11:02

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-13

**Laboratory ID Number:** BD04075

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BD04082	Alkalinity to pH 4.5	mg CaCO3/L					144	49.9	45.0 to 55.0			0.00	10.0
BD04078	Nitrogen, Nitrate/Nitrite	mg/L as N	0.00	0.200	2.00	2.23	0.022	1.83	1.80 to 2.20	112	90.0 to 110	0.00	15.0
BD04078	Solids, Dissolved	mg/L	1.00	25.0			2260	50.0	40.0 to 60.0			3.05	10.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-14

**Location Code:** WMWGORLF  
**Collected:** 2/20/23 12:02  
**Customer ID:**  
**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04076

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Total	2/24/23 13:19	2/27/23 15:26		1.015	0.0423	mg/L	0.030000	0.1015	J
* Calcium, Total	2/24/23 13:19	2/28/23 14:11		10.15	281	mg/L	0.70035	4.06	
* Iron, Total	2/24/23 13:19	2/27/23 15:26		1.015	1.41	mg/L	0.008120	0.0406	
* Lithium, Total	2/24/23 13:19	2/27/23 15:26		1.015	0.0308	mg/L	0.007105	0.01999956	
* Magnesium, Total	2/24/23 13:19	3/2/23 13:07		10.15	333	mg/L	0.21315	4.06	
* Silica, Total (calc.)	2/24/23 13:19	2/27/23 15:26		1	11.4	mg/L			
* Silicon, Total	2/24/23 13:19	2/27/23 15:26		1.015	5.34	mg/L	0.02030	0.25375	
* Sodium, Total	2/24/23 13:19	2/27/23 15:26		1.015	24.0	mg/L	0.03045	0.406	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	2/23/23 13:36	2/27/23 11:38		1.015	0.0428	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	2/23/23 13:36	2/27/23 13:26		10.15	285	mg/L	0.70035	4.06	
* Iron, Dissolved	2/23/23 13:36	2/27/23 11:38		1.015	1.20	mg/L	0.008120	0.0406	
* Lithium, Dissolved	2/23/23 13:36	2/27/23 11:38		1.015	0.0307	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	2/23/23 13:36	2/27/23 13:26		10.15	334	mg/L	0.21315	4.06	
* Silica, Dissolved (calc.)	2/23/23 13:36	2/27/23 11:38		1	11.6	mg/L			
* Silicon, Dissolved	2/23/23 13:36	2/27/23 11:38		1.015	5.42	mg/L	0.02030	0.25375	
* Sodium, Dissolved	2/23/23 13:36	2/27/23 11:38		1.015	24.2	mg/L	0.03045	0.406	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>			<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	2/24/23 13:19	2/27/23 17:09		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	2/24/23 13:19	2/27/23 17:09		1.015	0.00621	mg/L	0.006090	0.05075	J
* Arsenic, Total	2/24/23 13:19	2/27/23 17:09		1.015	0.000883	mg/L	0.000081	0.000203	
* Barium, Total	2/24/23 13:19	2/27/23 17:09		1.015	0.0113	mg/L	0.000508	0.001015	
* Beryllium, Total	2/24/23 13:19	2/27/23 17:09		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	2/24/23 13:19	2/27/23 17:09		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	2/24/23 13:19	2/27/23 17:09		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Total	2/24/23 13:19	2/27/23 17:09		1.015	0.00829	mg/L	0.000068	0.000203	
* Lead, Total	2/24/23 13:19	2/27/23 17:09		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	2/24/23 13:19	2/27/23 19:03		5.075	1.95	mg/L	0.000761	0.005075	
* Molybdenum, Total	2/24/23 13:19	2/27/23 17:09		1.015	0.00444	mg/L	0.000102	0.000203	
* Potassium, Total	2/24/23 13:19	2/27/23 17:09		1.015	8.02	mg/L	0.169505	0.5075	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-14

**Location Code:** WMWGORLF  
**Collected:** 2/20/23 12:02  
**Customer ID:**  
**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04076

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/24/23 13:19	2/27/23 17:09		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	2/24/23 13:19	2/27/23 17:09		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	2/23/23 13:36	2/23/23 15:28		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/23/23 13:36	2/23/23 15:28		1.015	Not Detected	mg/L	0.006090	0.05075	U
* Arsenic, Dissolved	2/23/23 13:36	2/23/23 15:28		1.015	0.000639	mg/L	0.000081	0.000203	
* Barium, Dissolved	2/23/23 13:36	2/23/23 15:28		1.015	0.0106	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	2/23/23 13:36	2/28/23 10:06		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	2/23/23 13:36	2/23/23 15:28		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	2/23/23 13:36	2/23/23 15:28		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	2/23/23 13:36	2/23/23 15:28		1.015	0.00732	mg/L	0.000068	0.000203	
* Lead, Dissolved	2/23/23 13:36	2/23/23 15:28		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	2/23/23 13:36	2/28/23 11:38		5.075	1.89	mg/L	0.000761	0.005075	
* Molybdenum, Dissolved	2/23/23 13:36	2/23/23 15:28		1.015	0.00430	mg/L	0.000102	0.000203	
* Potassium, Dissolved	2/23/23 13:36	2/23/23 15:28		1.015	7.36	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/23/23 13:36	2/23/23 15:28		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	2/23/23 13:36	2/23/23 15:28		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: ELH</b>							
* Mercury, Total by CVAA	2/27/23 19:37	2/28/23 02:27		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: SC</b>							
* Nitrogen, Nitrate/Nitrite	2/24/23 11:08	2/24/23 11:08		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
* Alkalinity to pH 4.5	3/3/23 14:10	3/3/23 15:40		1	242	mg CaCO3/L			
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	2/23/23 13:45	2/24/23 13:45		1	2590	mg/L		178.6	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
* Bicarbonate Alkalinity, (calc.)	3/3/23 14:10	3/3/23 15:40		1	242	mg CaCO3/L		1	A
* Carbonate Alkalinity, (calc.)	3/3/23 14:10	3/3/23 15:40		1	Not Detected	mg CaCO3/L		0.5	A
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: SC</b>							
* Total Organic Carbon	2/23/23 20:07	2/23/23 20:07		1	Not Detected	mg/L	1.00	2	U

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-14

**Location Code:** WMWGORLF

**Collected:** 2/20/23 12:02

**Customer ID:**

**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04076

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	2/24/23 14:13	2/24/23 14:13		1	2.04	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	2/27/23 12:39	2/27/23 12:39		1	0.226	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	3/1/23 14:00	3/1/23 14:00		50	1680	mg/L	30.0	100	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: DKG</b>							
Conductivity	2/20/23 11:59	2/20/23 11:59			2825.50	uS/cm			FA
pH	2/20/23 11:59	2/20/23 11:59			6.45	SU			FA
Temperature	2/20/23 11:59	2/20/23 11:59			19.03	C			FA
Turbidity	2/20/23 11:59	2/20/23 11:59			2.26	NTU			FA
Sulfide	2/20/23 11:59	2/20/23 11:59			0	mg/L			FA

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF  
**Sample Date:** 2/20/23 12:02  
**Customer ID:**  
**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-14

**Laboratory ID Number:** BD04076

Sample	Analysis	Units	MB	MB				Standard		Rec			Prec Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit	Prec	
BD04079	Aluminum, Dissolved	mg/L	-0.000276	0.0198	0.100	0.0898	0.0939	0.0965	0.0850 to 0.115	89.8	70.0 to 130	4.46	20.0
BD04078	Aluminum, Total	mg/L	0.000405	0.0198	0.100	0.101	0.102	0.104	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BD04079	Antimony, Dissolved	mg/L	0.000346	0.00100	0.100	0.0869	0.0903	0.0904	0.0850 to 0.115	86.9	70.0 to 130	3.84	20.0
BD04078	Antimony, Total	mg/L	0.000397	0.00100	0.100	0.110	0.110	0.0988	0.0850 to 0.115	110	70.0 to 130	0.00	20.0
BD04079	Arsenic, Dissolved	mg/L	-0.0000191	0.000200	0.100	0.100	0.106	0.0960	0.0850 to 0.115	98.2	70.0 to 130	5.83	20.0
BD04078	Arsenic, Total	mg/L	0.0000097	0.000200	0.100	0.103	0.104	0.0999	0.0850 to 0.115	101	70.0 to 130	0.966	20.0
BD04079	Barium, Dissolved	mg/L	-0.0000092	0.00100	0.100	0.105	0.108	0.0954	0.0850 to 0.115	94.3	70.0 to 130	2.82	20.0
BD04078	Barium, Total	mg/L	-0.0000132	0.00100	0.100	0.120	0.123	0.107	0.0850 to 0.115	107	70.0 to 130	2.47	20.0
BD04079	Beryllium, Dissolved	mg/L	0.0000161	0.000880	0.100	0.104	0.102	0.108	0.0850 to 0.115	104	70.0 to 130	1.94	20.0
BD04078	Beryllium, Total	mg/L	0.0000113	0.000880	0.100	0.0915	0.0912	0.0997	0.0850 to 0.115	91.5	70.0 to 130	0.328	20.0
BD04079	Boron, Dissolved	mg/L	-0.00311	0.0650	1.00	1.09	1.08	1.01	0.850 to 1.15	105	70.0 to 130	0.922	20.0
BD04078	Boron, Total	mg/L	-0.00347	0.0650	1.00	1.08	1.07	1.00	0.850 to 1.15	104	70.0 to 130	0.930	20.0
BD04079	Cadmium, Dissolved	mg/L	0.0000000	0.000147	0.100	0.0905	0.0950	0.0975	0.0850 to 0.115	90.5	70.0 to 130	4.85	20.0
BD04078	Cadmium, Total	mg/L	0.0000042	0.000147	0.100	0.0993	0.0984	0.104	0.0850 to 0.115	99.3	70.0 to 130	0.910	20.0
BD04079	Calcium, Dissolved	mg/L	-0.0143	0.152	5.00	316	324	5.07	4.25 to 5.75	-360	70.0 to 130	2.50	20.0
BD04078	Calcium, Total	mg/L	-0.0229	0.152	5.00	296	308	4.80	4.25 to 5.75	-20.0	70.0 to 130	3.97	20.0
BD04078	Chloride	mg/L	0.0274	1.00	10.0	13.1	13.0	10.1	9.00 to 11.0	102	80.0 to 120	0.766	20.0
BD04079	Chromium, Dissolved	mg/L	-0.0000558	0.000440	0.100	0.0917	0.0975	0.0989	0.0850 to 0.115	91.7	70.0 to 130	6.13	20.0
BD04078	Chromium, Total	mg/L	0.0000667	0.000440	0.100	0.102	0.103	0.106	0.0850 to 0.115	102	70.0 to 130	0.976	20.0
BD04079	Cobalt, Dissolved	mg/L	-0.0000015	0.000147	0.100	0.0979	0.102	0.0995	0.0850 to 0.115	89.1	70.0 to 130	4.10	20.0
BD04078	Cobalt, Total	mg/L	0.0000023	0.000147	0.100	0.116	0.114	0.112	0.0850 to 0.115	106	70.0 to 130	1.74	20.0
BD04078	Fluoride	mg/L	0.0384	0.125	2.50	2.72	2.79	2.59	2.25 to 2.75	102	80.0 to 120	2.54	20.0
BD04079	Iron, Dissolved	mg/L	-0.000232	0.0176	0.2	2.65	2.63	0.202	0.170 to 0.230	95.0	70.0 to 130	0.758	20.0
BD04078	Iron, Total	mg/L	0.000927	0.0176	0.2	2.70	2.68	0.200	0.170 to 0.230	90.0	70.0 to 130	0.743	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 2/20/23 12:02

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-14

**Laboratory ID Number:** BD04076

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BD04079	Lead, Dissolved	mg/L	0.000017	0.000147	0.100	0.0928	0.101	0.100	0.0850 to 0.115	92.8	70.0 to 130	8.46	20.0
BD04078	Lead, Total	mg/L	0.000011	0.000147	0.100	0.107	0.108	0.112	0.0850 to 0.115	107	70.0 to 130	0.930	20.0
BD04079	Lithium, Dissolved	mg/L	0.000766	0.0154	0.200	0.228	0.225	0.194	0.170 to 0.230	106	70.0 to 130	1.32	20.0
BD04078	Lithium, Total	mg/L	-0.000337	0.0154	0.200	0.233	0.227	0.198	0.170 to 0.230	108	70.0 to 130	2.61	20.0
BD04079	Magnesium, Dissolved	mg/L	-0.0245	0.0462	5.00	279	285	5.09	4.25 to 5.75	-240	70.0 to 130	2.13	20.0
BD04078	Magnesium, Total	mg/L	-0.00494	0.0462	5.00	253	252	5.01	4.25 to 5.75	100	70.0 to 130	0.396	20.0
BD04079	Manganese, Dissolved	mg/L	0.0000252	0.00033	0.100	2.64	2.71	0.0997	0.0850 to 0.115	20.0	70.0 to 130	2.62	20.0
BD04078	Manganese, Total	mg/L	-0.0000306	0.00033	0.100	2.74	2.72	0.107	0.0850 to 0.115	10.0	70.0 to 130	0.733	20.0
BD04079	Mercury, Total by CVAA	mg/L	-1.000E-05	0.000500	0.004	0.00376	0.00369	0.00348	0.00340 to 0.00460	94.0	70.0 to 130	1.88	20.0
BD04079	Molybdenum, Dissolved	mg/L	0.0000079	0.0002	0.100	0.0959	0.0992	0.0972	0.0850 to 0.115	95.4	70.0 to 130	3.38	20.0
BD04078	Molybdenum, Total	mg/L	0.000028	0.0002	0.100	0.104	0.104	0.103	0.0850 to 0.115	104	70.0 to 130	0.00	20.0
BD04079	Potassium, Dissolved	mg/L	-0.00373	0.367	10.0	15.8	17.1	9.85	8.50 to 11.5	87.2	70.0 to 130	7.90	20.0
BD04078	Potassium, Total	mg/L	0.0259	0.367	10.0	17.7	18.2	10.3	8.50 to 11.5	96.7	70.0 to 130	2.79	20.0
BD04079	Selenium, Dissolved	mg/L	-0.0000434	0.00100	0.100	0.110	0.115	0.101	0.0850 to 0.115	110	70.0 to 130	4.44	20.0
BD04078	Selenium, Total	mg/L	0.0000768	0.00100	0.100	0.103	0.103	0.103	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BD04079	Silicon, Dissolved	mg/L	-0.000019	0.0440	1.00	6.89	6.88	1.01	0.850 to 1.15	101	70.0 to 130	0.145	20.0
BD04078	Silicon, Total	mg/L	0.000121	0.0440	1.00	6.85	6.81	0.995	0.850 to 1.15	93.0	70.0 to 130	0.586	20.0
BD04079	Sodium, Dissolved	mg/L	-0.00164	0.0880	5.00	31.9	31.6	4.91	4.25 to 5.75	108	70.0 to 130	0.945	20.0
BD04078	Sodium, Total	mg/L	-0.000766	0.0880	5.00	31.7	31.2	4.88	4.25 to 5.75	112	70.0 to 130	1.59	20.0
BD04078	Sulfate	mg/L	0.0571	2.0	1600	2960	3050	19.3	18.0 to 22.0	101	80.0 to 120	3.00	20.0
BD04079	Thallium, Dissolved	mg/L	-0.0000047	0.000147	0.100	0.0942	0.101	0.101	0.0850 to 0.115	94.2	70.0 to 130	6.97	20.0
BD04078	Thallium, Total	mg/L	0.0000046	0.000147	0.100	0.111	0.107	0.110	0.0850 to 0.115	111	70.0 to 130	3.67	20.0
BD04078	Total Organic Carbon	mg/L	0.0924	1.00	10.0	11.5	13.9	25.5		104	80.0 to 120	18.9	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

## Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 2/20/23 12:02

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-14

**Laboratory ID Number:** BD04076

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BD04082	Alkalinity to pH 4.5	mg CaCO3/L					144	49.9	45.0 to 55.0			0.00	10.0
BD04078	Nitrogen, Nitrate/Nitrite	mg/L as N	0.00	0.200	2.00	2.23	0.022	1.83	1.80 to 2.20	112	90.0 to 110	0.00	15.0
BD04078	Solids, Dissolved	mg/L	1.00	25.0			2260	50.0	40.0 to 60.0			3.05	10.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.



# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-15

**Location Code:** WMWGORLF  
**Collected:** 2/20/23 13:17  
**Customer ID:**  
**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04077

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Total	2/24/23 13:19	2/27/23 15:29		1.015	0.0396	mg/L	0.030000	0.1015	J
* Calcium, Total	2/24/23 13:19	2/28/23 14:14		10.15	232	mg/L	0.70035	4.06	
* Iron, Total	2/24/23 13:19	2/28/23 14:14		10.15	13.8	mg/L	0.08120	0.406	
* Lithium, Total	2/24/23 13:19	2/27/23 15:29		1.015	0.0510	mg/L	0.007105	0.01999956	
* Magnesium, Total	2/24/23 13:19	3/2/23 13:10		10.15	236	mg/L	0.21315	4.06	
* Silica, Total (calc.)	2/24/23 13:19	2/27/23 15:29		1	18.6	mg/L			
* Silicon, Total	2/24/23 13:19	2/27/23 15:29		1.015	8.70	mg/L	0.02030	0.25375	
* Sodium, Total	2/24/23 13:19	2/27/23 15:29		1.015	22.8	mg/L	0.03045	0.406	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	2/23/23 13:36	2/27/23 11:41		1.015	0.0403	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	2/23/23 13:36	2/27/23 13:29		10.15	239	mg/L	0.70035	4.06	
* Iron, Dissolved	2/23/23 13:36	2/27/23 13:29		10.15	13.6	mg/L	0.08120	0.406	
* Lithium, Dissolved	2/23/23 13:36	2/27/23 11:41		1.015	0.0491	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	2/23/23 13:36	2/27/23 13:29		10.15	257	mg/L	0.21315	4.06	
* Silica, Dissolved (calc.)	2/23/23 13:36	2/27/23 11:41		1	18.6	mg/L			
* Silicon, Dissolved	2/23/23 13:36	2/27/23 11:41		1.015	8.70	mg/L	0.02030	0.25375	
* Sodium, Dissolved	2/23/23 13:36	2/27/23 11:41		1.015	22.6	mg/L	0.03045	0.406	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>			<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	2/24/23 13:19	2/27/23 17:13		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	2/24/23 13:19	2/27/23 17:13		1.015	Not Detected	mg/L	0.006090	0.05075	U
* Arsenic, Total	2/24/23 13:19	2/27/23 17:13		1.015	0.000217	mg/L	0.000081	0.000203	
* Barium, Total	2/24/23 13:19	2/27/23 17:13		1.015	0.0109	mg/L	0.000508	0.001015	
* Beryllium, Total	2/24/23 13:19	2/27/23 17:13		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	2/24/23 13:19	2/27/23 17:13		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	2/24/23 13:19	2/27/23 17:13		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Total	2/24/23 13:19	2/27/23 17:13		1.015	0.0533	mg/L	0.000068	0.000203	
* Lead, Total	2/24/23 13:19	2/27/23 17:13		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	2/24/23 13:19	2/27/23 19:06		10.15	9.37	mg/L	0.001522	0.01015	
* Molybdenum, Total	2/24/23 13:19	2/27/23 17:13		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Potassium, Total	2/24/23 13:19	2/27/23 17:13		1.015	5.32	mg/L	0.169505	0.5075	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-15

**Location Code:** WMWGORLF  
**Collected:** 2/20/23 13:17  
**Customer ID:**  
**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04077

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/24/23 13:19	2/27/23 17:13		1.015	0.000915	mg/L	0.000508	0.001015	J
* Thallium, Total	2/24/23 13:19	2/27/23 17:13		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	2/23/23 13:36	2/23/23 15:32		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/23/23 13:36	2/23/23 15:32		1.015	Not Detected	mg/L	0.006090	0.05075	U
* Arsenic, Dissolved	2/23/23 13:36	2/23/23 15:32		1.015	0.000147	mg/L	0.000081	0.000203	J
* Barium, Dissolved	2/23/23 13:36	2/23/23 15:32		1.015	0.00952	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	2/23/23 13:36	2/28/23 10:10		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	2/23/23 13:36	2/23/23 15:32		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	2/23/23 13:36	2/23/23 15:32		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	2/23/23 13:36	2/23/23 15:32		1.015	0.0459	mg/L	0.000068	0.000203	
* Lead, Dissolved	2/23/23 13:36	2/23/23 15:32		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	2/23/23 13:36	2/28/23 11:41		10.15	9.18	mg/L	0.001522	0.01015	
* Molybdenum, Dissolved	2/23/23 13:36	2/23/23 15:32		1.015	0.00141	mg/L	0.000102	0.000203	
* Potassium, Dissolved	2/23/23 13:36	2/23/23 15:32		1.015	4.79	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/23/23 13:36	2/23/23 15:32		1.015	0.000994	mg/L	0.000508	0.001015	J
* Thallium, Dissolved	2/23/23 13:36	2/23/23 15:32		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: ELH</b>							
* Mercury, Total by CVAA	2/27/23 19:37	2/28/23 02:31		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: SC</b>							
* Nitrogen, Nitrate/Nitrite	2/24/23 11:09	2/24/23 11:09		1	0.211	mg/L as N	0.20	0.3	J
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
* Alkalinity to pH 4.5	3/3/23 14:10	3/3/23 15:40		1	157	mg CaCO3/L			
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	2/23/23 13:45	2/24/23 13:45		1	2160	mg/L		125	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
* Bicarbonate Alkalinity, (calc.)	3/3/23 14:10	3/3/23 15:40		1	157	mg CaCO3/L		1	A
* Carbonate Alkalinity, (calc.)	3/3/23 14:10	3/3/23 15:40		1	Not Detected	mg CaCO3/L		0.5	A
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: SC</b>							
* Total Organic Carbon	2/23/23 20:25	2/23/23 20:25		1	Not Detected	mg/L	1.00	2	U

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-15

**Location Code:** WMWGORLF

**Collected:** 2/20/23 13:17

**Customer ID:**

**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04077

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	2/24/23 14:15	2/24/23 14:15		1	2.00	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	2/27/23 12:40	2/27/23 12:40		1	0.301	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	3/1/23 14:01	3/1/23 14:01		50	1400	mg/L	30.0	100	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: DKG</b>							
Conductivity	2/20/23 13:14	2/20/23 13:14			2389.42	uS/cm			FA
pH	2/20/23 13:14	2/20/23 13:14			6.08	SU			FA
Temperature	2/20/23 13:14	2/20/23 13:14			18.93	C			FA
Turbidity	2/20/23 13:14	2/20/23 13:14			4.88	NTU			FA
Sulfide	2/20/23 13:14	2/20/23 13:14			0	mg/L			FA

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 2/20/23 13:17

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-15

**Laboratory ID Number:** BD04077

Sample	Analysis	Units	MB				Standard			Rec		Prec	Limit
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BD04079	Aluminum, Dissolved	mg/L	-0.000276	0.0198	0.100	0.0898	0.0939	0.0965	0.0850 to 0.115	89.8	70.0 to 130	4.46	20.0
BD04078	Aluminum, Total	mg/L	0.000405	0.0198	0.100	0.101	0.102	0.104	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BD04079	Antimony, Dissolved	mg/L	0.000346	0.00100	0.100	0.0869	0.0903	0.0904	0.0850 to 0.115	86.9	70.0 to 130	3.84	20.0
BD04078	Antimony, Total	mg/L	0.000397	0.00100	0.100	0.110	0.110	0.0988	0.0850 to 0.115	110	70.0 to 130	0.00	20.0
BD04079	Arsenic, Dissolved	mg/L	-0.0000191	0.000200	0.100	0.100	0.106	0.0960	0.0850 to 0.115	98.2	70.0 to 130	5.83	20.0
BD04078	Arsenic, Total	mg/L	0.0000097	0.000200	0.100	0.103	0.104	0.0999	0.0850 to 0.115	101	70.0 to 130	0.966	20.0
BD04079	Barium, Dissolved	mg/L	-0.0000092	0.00100	0.100	0.105	0.108	0.0954	0.0850 to 0.115	94.3	70.0 to 130	2.82	20.0
BD04078	Barium, Total	mg/L	-0.0000132	0.00100	0.100	0.120	0.123	0.107	0.0850 to 0.115	107	70.0 to 130	2.47	20.0
BD04079	Beryllium, Dissolved	mg/L	0.0000161	0.000880	0.100	0.104	0.102	0.108	0.0850 to 0.115	104	70.0 to 130	1.94	20.0
BD04078	Beryllium, Total	mg/L	0.0000113	0.000880	0.100	0.0915	0.0912	0.0997	0.0850 to 0.115	91.5	70.0 to 130	0.328	20.0
BD04079	Boron, Dissolved	mg/L	-0.00311	0.0650	1.00	1.09	1.08	1.01	0.850 to 1.15	105	70.0 to 130	0.922	20.0
BD04078	Boron, Total	mg/L	-0.00347	0.0650	1.00	1.08	1.07	1.00	0.850 to 1.15	104	70.0 to 130	0.930	20.0
BD04079	Cadmium, Dissolved	mg/L	0.0000000	0.000147	0.100	0.0905	0.0950	0.0975	0.0850 to 0.115	90.5	70.0 to 130	4.85	20.0
BD04078	Cadmium, Total	mg/L	0.0000042	0.000147	0.100	0.0993	0.0984	0.104	0.0850 to 0.115	99.3	70.0 to 130	0.910	20.0
BD04079	Calcium, Dissolved	mg/L	-0.0143	0.152	5.00	316	324	5.07	4.25 to 5.75	-360	70.0 to 130	2.50	20.0
BD04078	Calcium, Total	mg/L	-0.0229	0.152	5.00	296	308	4.80	4.25 to 5.75	-20.0	70.0 to 130	3.97	20.0
BD04078	Chloride	mg/L	0.0274	1.00	10.0	13.1	13.0	10.1	9.00 to 11.0	102	80.0 to 120	0.766	20.0
BD04079	Chromium, Dissolved	mg/L	-0.0000558	0.000440	0.100	0.0917	0.0975	0.0989	0.0850 to 0.115	91.7	70.0 to 130	6.13	20.0
BD04078	Chromium, Total	mg/L	0.0000667	0.000440	0.100	0.102	0.103	0.106	0.0850 to 0.115	102	70.0 to 130	0.976	20.0
BD04079	Cobalt, Dissolved	mg/L	-0.0000015	0.000147	0.100	0.0979	0.102	0.0995	0.0850 to 0.115	89.1	70.0 to 130	4.10	20.0
BD04078	Cobalt, Total	mg/L	0.0000023	0.000147	0.100	0.116	0.114	0.112	0.0850 to 0.115	106	70.0 to 130	1.74	20.0
BD04078	Fluoride	mg/L	0.0384	0.125	2.50	2.72	2.79	2.59	2.25 to 2.75	102	80.0 to 120	2.54	20.0
BD04079	Iron, Dissolved	mg/L	-0.000232	0.0176	0.2	2.65	2.63	0.202	0.170 to 0.230	95.0	70.0 to 130	0.758	20.0
BD04078	Iron, Total	mg/L	0.000927	0.0176	0.2	2.70	2.68	0.200	0.170 to 0.230	90.0	70.0 to 130	0.743	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF  
**Sample Date:** 2/20/23 13:17  
**Customer ID:**  
**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-15

**Laboratory ID Number:** BD04077

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BD04079	Lead, Dissolved	mg/L	0.000017	0.000147	0.100	0.0928	0.101	0.100	0.0850 to 0.115	92.8	70.0 to 130	8.46	20.0
BD04078	Lead, Total	mg/L	0.000011	0.000147	0.100	0.107	0.108	0.112	0.0850 to 0.115	107	70.0 to 130	0.930	20.0
BD04079	Lithium, Dissolved	mg/L	0.000766	0.0154	0.200	0.228	0.225	0.194	0.170 to 0.230	106	70.0 to 130	1.32	20.0
BD04078	Lithium, Total	mg/L	-0.000337	0.0154	0.200	0.233	0.227	0.198	0.170 to 0.230	108	70.0 to 130	2.61	20.0
BD04079	Magnesium, Dissolved	mg/L	-0.0245	0.0462	5.00	279	285	5.09	4.25 to 5.75	-240	70.0 to 130	2.13	20.0
BD04078	Magnesium, Total	mg/L	-0.00494	0.0462	5.00	253	252	5.01	4.25 to 5.75	100	70.0 to 130	0.396	20.0
BD04079	Manganese, Dissolved	mg/L	0.0000252	0.00033	0.100	2.64	2.71	0.0997	0.0850 to 0.115	20.0	70.0 to 130	2.62	20.0
BD04078	Manganese, Total	mg/L	-0.0000306	0.00033	0.100	2.74	2.72	0.107	0.0850 to 0.115	10.0	70.0 to 130	0.733	20.0
BD04079	Mercury, Total by CVAA	mg/L	-1.000E-05	0.000500	0.004	0.00376	0.00369	0.00348	0.00340 to 0.00460	94.0	70.0 to 130	1.88	20.0
BD04079	Molybdenum, Dissolved	mg/L	0.0000079	0.0002	0.100	0.0959	0.0992	0.0972	0.0850 to 0.115	95.4	70.0 to 130	3.38	20.0
BD04078	Molybdenum, Total	mg/L	0.000028	0.0002	0.100	0.104	0.104	0.103	0.0850 to 0.115	104	70.0 to 130	0.00	20.0
BD04079	Potassium, Dissolved	mg/L	-0.00373	0.367	10.0	15.8	17.1	9.85	8.50 to 11.5	87.2	70.0 to 130	7.90	20.0
BD04078	Potassium, Total	mg/L	0.0259	0.367	10.0	17.7	18.2	10.3	8.50 to 11.5	96.7	70.0 to 130	2.79	20.0
BD04079	Selenium, Dissolved	mg/L	-0.0000434	0.00100	0.100	0.110	0.115	0.101	0.0850 to 0.115	110	70.0 to 130	4.44	20.0
BD04078	Selenium, Total	mg/L	0.0000768	0.00100	0.100	0.103	0.103	0.103	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BD04079	Silicon, Dissolved	mg/L	-0.000019	0.0440	1.00	6.89	6.88	1.01	0.850 to 1.15	101	70.0 to 130	0.145	20.0
BD04078	Silicon, Total	mg/L	0.000121	0.0440	1.00	6.85	6.81	0.995	0.850 to 1.15	93.0	70.0 to 130	0.586	20.0
BD04079	Sodium, Dissolved	mg/L	-0.00164	0.0880	5.00	31.9	31.6	4.91	4.25 to 5.75	108	70.0 to 130	0.945	20.0
BD04078	Sodium, Total	mg/L	-0.000766	0.0880	5.00	31.7	31.2	4.88	4.25 to 5.75	112	70.0 to 130	1.59	20.0
BD04078	Sulfate	mg/L	0.0571	2.0	1600	2960	3050	19.3	18.0 to 22.0	101	80.0 to 120	3.00	20.0
BD04079	Thallium, Dissolved	mg/L	-0.0000047	0.000147	0.100	0.0942	0.101	0.101	0.0850 to 0.115	94.2	70.0 to 130	6.97	20.0
BD04078	Thallium, Total	mg/L	0.0000046	0.000147	0.100	0.111	0.107	0.110	0.0850 to 0.115	111	70.0 to 130	3.67	20.0
BD04078	Total Organic Carbon	mg/L	0.0924	1.00	10.0	11.5	13.9	25.5		104	80.0 to 120	18.9	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

## Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 2/20/23 13:17

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-15

**Laboratory ID Number:** BD04077

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Limit	Prec	Prec Limit
BD04082	Alkalinity to pH 4.5	mg CaCO3/L					144	49.9	45.0 to 55.0			0.00	10.0
BD04078	Nitrogen, Nitrate/Nitrite	mg/L as N	0.00	0.200	2.00	2.23	0.022	1.83	1.80 to 2.20	112	90.0 to 110	0.00	15.0
BD04078	Solids, Dissolved	mg/L	1.00	25.0			2260	50.0	40.0 to 60.0			3.05	10.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-16

**Location Code:** WMWGORLF  
**Collected:** 2/20/23 14:45  
**Customer ID:**  
**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04078

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Total	2/24/23 13:19	2/27/23 15:32		1.015	0.0416	mg/L	0.030000	0.1015	J
* Calcium, Total	2/24/23 13:19	2/28/23 14:18		10.15	297	mg/L	0.70035	4.06	RA
* Iron, Total	2/24/23 13:19	2/27/23 15:32		1.015	2.52	mg/L	0.008120	0.0406	
* Lithium, Total	2/24/23 13:19	2/27/23 15:32		1.015	0.0166	mg/L	0.007105	0.01999956	J
* Magnesium, Total	2/24/23 13:19	3/2/23 13:13		10.15	248	mg/L	0.21315	4.06	
* Silica, Total (calc.)	2/24/23 13:19	2/27/23 15:32		1	12.7	mg/L			
* Silicon, Total	2/24/23 13:19	2/27/23 15:32		1.015	5.92	mg/L	0.02030	0.25375	
* Sodium, Total	2/24/23 13:19	2/27/23 15:32		1.015	26.1	mg/L	0.03045	0.406	
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	2/23/23 13:36	2/27/23 11:44		1.015	0.0418	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	2/23/23 13:36	2/27/23 13:32		10.15	306	mg/L	0.70035	4.06	
* Iron, Dissolved	2/23/23 13:36	2/27/23 11:44		1.015	2.49	mg/L	0.008120	0.0406	
* Lithium, Dissolved	2/23/23 13:36	2/27/23 11:44		1.015	0.0169	mg/L	0.007105	0.01999956	J
* Magnesium, Dissolved	2/23/23 13:36	2/27/23 13:32		10.15	268	mg/L	0.21315	4.06	
* Silica, Dissolved (calc.)	2/23/23 13:36	2/27/23 11:44		1	12.6	mg/L			
* Silicon, Dissolved	2/23/23 13:36	2/27/23 11:44		1.015	5.91	mg/L	0.02030	0.25375	
* Sodium, Dissolved	2/23/23 13:36	2/27/23 11:44		1.015	26.4	mg/L	0.03045	0.406	
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: DLJ</b>		<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	2/24/23 13:19	2/27/23 17:16		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	2/24/23 13:19	2/27/23 17:16		1.015	Not Detected	mg/L	0.006090	0.05075	U
* Arsenic, Total	2/24/23 13:19	2/27/23 17:16		1.015	0.00216	mg/L	0.000081	0.000203	
* Barium, Total	2/24/23 13:19	2/27/23 17:16		1.015	0.0128	mg/L	0.000508	0.001015	
* Beryllium, Total	2/24/23 13:19	2/27/23 17:16		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	2/24/23 13:19	2/27/23 17:16		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	2/24/23 13:19	2/27/23 17:16		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Total	2/24/23 13:19	2/27/23 17:16		1.015	0.0103	mg/L	0.000068	0.000203	
* Lead, Total	2/24/23 13:19	2/27/23 17:16		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	2/24/23 13:19	2/27/23 19:10		5.075	2.73	mg/L	0.000761	0.005075	RA
* Molybdenum, Total	2/24/23 13:19	2/27/23 17:16		1.015	0.000466	mg/L	0.000102	0.000203	
* Potassium, Total	2/24/23 13:19	2/27/23 17:16		1.015	8.03	mg/L	0.169505	0.5075	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.  
 Total Organic Carbon & Nitrate-Nitrite matrix spike recovery and/or matrix spike duplicate recovery is outside of specification limit.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-16

**Location Code:** WMWGORLF  
**Collected:** 2/20/23 14:45  
**Customer ID:**  
**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04078

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/24/23 13:19	2/27/23 17:16		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	2/24/23 13:19	2/27/23 17:16		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	2/23/23 13:36	2/23/23 15:35		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/23/23 13:36	2/23/23 15:35		1.015	Not Detected	mg/L	0.006090	0.05075	U
* Arsenic, Dissolved	2/23/23 13:36	2/23/23 15:35		1.015	0.00211	mg/L	0.000081	0.000203	
* Barium, Dissolved	2/23/23 13:36	2/23/23 15:35		1.015	0.0111	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	2/23/23 13:36	2/28/23 10:13		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	2/23/23 13:36	2/23/23 15:35		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	2/23/23 13:36	2/23/23 15:35		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	2/23/23 13:36	2/23/23 15:35		1.015	0.00888	mg/L	0.000068	0.000203	
* Lead, Dissolved	2/23/23 13:36	2/23/23 15:35		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	2/23/23 13:36	2/28/23 11:45		5.075	2.63	mg/L	0.000761	0.005075	
* Molybdenum, Dissolved	2/23/23 13:36	2/23/23 15:35		1.015	0.000846	mg/L	0.000102	0.000203	
* Potassium, Dissolved	2/23/23 13:36	2/23/23 15:35		1.015	7.03	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/23/23 13:36	2/23/23 15:35		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	2/23/23 13:36	2/23/23 15:35		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: ELH</b>							
* Mercury, Total by CVAA	2/27/23 19:37	2/28/23 02:35		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: SC</b>							
* Nitrogen, Nitrate/Nitrite	2/24/23 11:15	2/24/23 11:15		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
* Alkalinity to pH 4.5	3/3/23 14:10	3/3/23 15:40		1	370	mg CaCO3/L			
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	2/23/23 13:45	2/24/23 13:45		1	2330	mg/L		147.1	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
* Bicarbonate Alkalinity, (calc.)	3/3/23 14:10	3/3/23 15:40		1	370	mg CaCO3/L		1	A
* Carbonate Alkalinity, (calc.)	3/3/23 14:10	3/3/23 15:40		1	Not Detected	mg CaCO3/L		0.5	A
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: SC</b>							
* Total Organic Carbon	2/23/23 20:43	2/23/23 20:43		1	1.10	mg/L	1.00	2	J

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.  
 Total Organic Carbon & Nitrate-Nitrite matrix spike recovery and/or matrix spike duplicate recovery is outside of specification limit.



# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-16

**Location Code:** WMWGORLF

**Collected:** 2/20/23 14:45

**Customer ID:**

**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04078

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	2/24/23 14:16	2/24/23 14:16		1	2.85	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	2/27/23 12:42	2/27/23 12:42		1	0.165	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	3/1/23 14:03	3/1/23 14:03		80	1350	mg/L	48.0	160	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: DKG</b>							
Conductivity	2/20/23 14:43	2/20/23 14:43			2593.82	uS/cm			FA
pH	2/20/23 14:43	2/20/23 14:43			6.53	SU			FA
Temperature	2/20/23 14:43	2/20/23 14:43			19.63	C			FA
Turbidity	2/20/23 14:43	2/20/23 14:43			1.66	NTU			FA
Sulfide	2/20/23 14:43	2/20/23 14:43			0	mg/L			FA

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.  
 Total Organic Carbon & Nitrate-Nitrite matrix spike recovery and/or matrix spike duplicate recovery is outside of specification limit.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 2/20/23 14:45

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-16

**Laboratory ID Number:** BD04078

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BD04079	Aluminum, Dissolved	mg/L	-0.000276	0.0198	0.100	0.0898	0.0939	0.0965	0.0850 to 0.115	89.8	70.0 to 130	4.46	20.0
BD04078	Aluminum, Total	mg/L	0.000405	0.0198	0.100	0.101	0.102	0.104	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BD04079	Antimony, Dissolved	mg/L	0.000346	0.00100	0.100	0.0869	0.0903	0.0904	0.0850 to 0.115	86.9	70.0 to 130	3.84	20.0
BD04078	Antimony, Total	mg/L	0.000397	0.00100	0.100	0.110	0.110	0.0988	0.0850 to 0.115	110	70.0 to 130	0.00	20.0
BD04079	Arsenic, Dissolved	mg/L	-0.0000191	0.000200	0.100	0.100	0.106	0.0960	0.0850 to 0.115	98.2	70.0 to 130	5.83	20.0
BD04078	Arsenic, Total	mg/L	0.0000097	0.000200	0.100	0.103	0.104	0.0999	0.0850 to 0.115	101	70.0 to 130	0.966	20.0
BD04079	Barium, Dissolved	mg/L	-0.0000092	0.00100	0.100	0.105	0.108	0.0954	0.0850 to 0.115	94.3	70.0 to 130	2.82	20.0
BD04078	Barium, Total	mg/L	-0.0000132	0.00100	0.100	0.120	0.123	0.107	0.0850 to 0.115	107	70.0 to 130	2.47	20.0
BD04079	Beryllium, Dissolved	mg/L	0.0000161	0.000880	0.100	0.104	0.102	0.108	0.0850 to 0.115	104	70.0 to 130	1.94	20.0
BD04078	Beryllium, Total	mg/L	0.0000113	0.000880	0.100	0.0915	0.0912	0.0997	0.0850 to 0.115	91.5	70.0 to 130	0.328	20.0
BD04079	Boron, Dissolved	mg/L	-0.00311	0.0650	1.00	1.09	1.08	1.01	0.850 to 1.15	105	70.0 to 130	0.922	20.0
BD04078	Boron, Total	mg/L	-0.00347	0.0650	1.00	1.08	1.07	1.00	0.850 to 1.15	104	70.0 to 130	0.930	20.0
BD04079	Cadmium, Dissolved	mg/L	0.0000000	0.000147	0.100	0.0905	0.0950	0.0975	0.0850 to 0.115	90.5	70.0 to 130	4.85	20.0
BD04078	Cadmium, Total	mg/L	0.0000042	0.000147	0.100	0.0993	0.0984	0.104	0.0850 to 0.115	99.3	70.0 to 130	0.910	20.0
BD04079	Calcium, Dissolved	mg/L	-0.0143	0.152	5.00	316	324	5.07	4.25 to 5.75	-360	70.0 to 130	2.50	20.0
BD04078	Calcium, Total	mg/L	-0.0229	0.152	5.00	296	308	4.80	4.25 to 5.75	-20.0	70.0 to 130	3.97	20.0
BD04078	Chloride	mg/L	0.0274	1.00	10.0	13.1	13.0	10.1	9.00 to 11.0	102	80.0 to 120	0.766	20.0
BD04079	Chromium, Dissolved	mg/L	-0.0000558	0.000440	0.100	0.0917	0.0975	0.0989	0.0850 to 0.115	91.7	70.0 to 130	6.13	20.0
BD04078	Chromium, Total	mg/L	0.0000667	0.000440	0.100	0.102	0.103	0.106	0.0850 to 0.115	102	70.0 to 130	0.976	20.0
BD04079	Cobalt, Dissolved	mg/L	-0.0000015	0.000147	0.100	0.0979	0.102	0.0995	0.0850 to 0.115	89.1	70.0 to 130	4.10	20.0
BD04078	Cobalt, Total	mg/L	0.0000023	0.000147	0.100	0.116	0.114	0.112	0.0850 to 0.115	106	70.0 to 130	1.74	20.0
BD04078	Fluoride	mg/L	0.0384	0.125	2.50	2.72	2.79	2.59	2.25 to 2.75	102	80.0 to 120	2.54	20.0
BD04079	Iron, Dissolved	mg/L	-0.000232	0.0176	0.2	2.65	2.63	0.202	0.170 to 0.230	95.0	70.0 to 130	0.758	20.0
BD04078	Iron, Total	mg/L	0.000927	0.0176	0.2	2.70	2.68	0.200	0.170 to 0.230	90.0	70.0 to 130	0.743	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.  
 Total Organic Carbon & Nitrate-Nitrite matrix spike recovery and/or matrix spike duplicate recovery is outside of specification limit.

# Batch QC Summary

**Customer Account:** WMWGORLF  
**Sample Date:** 2/20/23 14:45  
**Customer ID:**  
**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-16

**Laboratory ID Number:** BD04078

Sample	Analysis	Units	MB	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
				Limit					Standard	Limit	Rec	Limit		
BD04079	Lead, Dissolved	mg/L	0.000017	0.000147	0.100	0.0928	0.101	0.100	0.0850 to 0.115	92.8	70.0 to 130	8.46	20.0	
BD04078	Lead, Total	mg/L	0.000011	0.000147	0.100	0.107	0.108	0.112	0.0850 to 0.115	107	70.0 to 130	0.930	20.0	
BD04079	Lithium, Dissolved	mg/L	0.000766	0.0154	0.200	0.228	0.225	0.194	0.170 to 0.230	106	70.0 to 130	1.32	20.0	
BD04078	Lithium, Total	mg/L	-0.000337	0.0154	0.200	0.233	0.227	0.198	0.170 to 0.230	108	70.0 to 130	2.61	20.0	
BD04079	Magnesium, Dissolved	mg/L	-0.0245	0.0462	5.00	279	285	5.09	4.25 to 5.75	-240	70.0 to 130	2.13	20.0	
BD04078	Magnesium, Total	mg/L	-0.00494	0.0462	5.00	253	252	5.01	4.25 to 5.75	100	70.0 to 130	0.396	20.0	
BD04079	Manganese, Dissolved	mg/L	0.0000252	0.00033	0.100	2.64	2.71	0.0997	0.0850 to 0.115	20.0	70.0 to 130	2.62	20.0	
BD04078	Manganese, Total	mg/L	-0.0000306	0.00033	0.100	2.74	2.72	0.107	0.0850 to 0.115	10.0	70.0 to 130	0.733	20.0	
BD04079	Mercury, Total by CVAA	mg/L	-1.000E-05	0.000500	0.004	0.00376	0.00369	0.00348	0.00340 to 0.00460	94.0	70.0 to 130	1.88	20.0	
BD04079	Molybdenum, Dissolved	mg/L	0.0000079	0.0002	0.100	0.0959	0.0992	0.0972	0.0850 to 0.115	95.4	70.0 to 130	3.38	20.0	
BD04078	Molybdenum, Total	mg/L	0.000028	0.0002	0.100	0.104	0.104	0.103	0.0850 to 0.115	104	70.0 to 130	0.00	20.0	
BD04079	Potassium, Dissolved	mg/L	-0.00373	0.367	10.0	15.8	17.1	9.85	8.50 to 11.5	87.2	70.0 to 130	7.90	20.0	
BD04078	Potassium, Total	mg/L	0.0259	0.367	10.0	17.7	18.2	10.3	8.50 to 11.5	96.7	70.0 to 130	2.79	20.0	
BD04079	Selenium, Dissolved	mg/L	-0.0000434	0.00100	0.100	0.110	0.115	0.101	0.0850 to 0.115	110	70.0 to 130	4.44	20.0	
BD04078	Selenium, Total	mg/L	0.0000768	0.00100	0.100	0.103	0.103	0.103	0.0850 to 0.115	103	70.0 to 130	0.00	20.0	
BD04079	Silicon, Dissolved	mg/L	-0.000019	0.0440	1.00	6.89	6.88	1.01	0.850 to 1.15	101	70.0 to 130	0.145	20.0	
BD04078	Silicon, Total	mg/L	0.000121	0.0440	1.00	6.85	6.81	0.995	0.850 to 1.15	93.0	70.0 to 130	0.586	20.0	
BD04079	Sodium, Dissolved	mg/L	-0.00164	0.0880	5.00	31.9	31.6	4.91	4.25 to 5.75	108	70.0 to 130	0.945	20.0	
BD04078	Sodium, Total	mg/L	-0.000766	0.0880	5.00	31.7	31.2	4.88	4.25 to 5.75	112	70.0 to 130	1.59	20.0	
BD04078	Sulfate	mg/L	0.0571	2.0	1600	2960	3050	19.3	18.0 to 22.0	101	80.0 to 120	3.00	20.0	
BD04079	Thallium, Dissolved	mg/L	-0.0000047	0.000147	0.100	0.0942	0.101	0.101	0.0850 to 0.115	94.2	70.0 to 130	6.97	20.0	
BD04078	Thallium, Total	mg/L	0.0000046	0.000147	0.100	0.111	0.107	0.110	0.0850 to 0.115	111	70.0 to 130	3.67	20.0	
BD04078	Total Organic Carbon	mg/L	0.0924	1.00	10.0	11.5	13.9	25.5		104	80.0 to 120	18.9	20.0	

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.  
 Total Organic Carbon & Nitrate-Nitrite matrix spike recovery and/or matrix spike duplicate recovery is outside of specification limit.

## Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 2/20/23 14:45

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-16

**Laboratory ID Number:** BD04078

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BD04082	Alkalinity to pH 4.5	mg CaCO3/L					144	49.9	45.0 to 55.0			0.00	10.0
BD04078	Nitrogen, Nitrate/Nitrite	mg/L as N	0.00	0.200	2.00	2.23	0.022	1.83	1.80 to 2.20	112	90.0 to 110	0.00	15.0
BD04078	Solids, Dissolved	mg/L	1.00	25.0			2260	50.0	40.0 to 60.0			3.05	10.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.  
 Total Organic Carbon & Nitrate-Nitrite matrix spike recovery and/or matrix spike duplicate recovery is outside of specification limit.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-16 Dup

**Location Code:** WMWGORLF  
**Collected:** 2/20/23 14:45  
**Customer ID:**  
**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04079

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>					
* Boron, Total	2/24/23 13:19	2/28/23 11:17		1.015	0.0450	mg/L	0.030000	0.1015	J	
* Calcium, Total	2/24/23 13:19	2/28/23 14:33		10.15	315	mg/L	0.70035	4.06		
* Iron, Total	2/24/23 13:19	2/28/23 11:17		1.015	2.51	mg/L	0.008120	0.0406		
* Lithium, Total	2/24/23 13:19	2/28/23 11:17		1.015	0.0166	mg/L	0.007105	0.01999956	J	
* Magnesium, Total	2/24/23 13:19	2/28/23 14:33		10.15	269	mg/L	0.21315	4.06		
* Silica, Total (calc.)	2/24/23 13:19	2/28/23 11:17		1	12.7	mg/L				
* Silicon, Total	2/24/23 13:19	2/28/23 11:17		1.015	5.93	mg/L	0.02030	0.25375		
* Sodium, Total	2/24/23 13:19	2/28/23 11:17		1.015	25.9	mg/L	0.03045	0.406		
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>					
* Boron, Dissolved	2/23/23 13:36	2/27/23 11:47		1.015	0.0416	mg/L	0.030000	0.1015	J	
* Calcium, Dissolved	2/23/23 13:36	2/27/23 13:35		10.15	334	mg/L	0.70035	4.06	RA	
* Iron, Dissolved	2/23/23 13:36	2/27/23 11:47		1.015	2.46	mg/L	0.008120	0.0406		
* Lithium, Dissolved	2/23/23 13:36	2/27/23 11:47		1.015	0.0164	mg/L	0.007105	0.01999956	J	
* Magnesium, Dissolved	2/23/23 13:36	2/27/23 13:35		10.15	291	mg/L	0.21315	4.06	RA	
* Silica, Dissolved (calc.)	2/23/23 13:36	2/27/23 11:47		1	12.6	mg/L				
* Silicon, Dissolved	2/23/23 13:36	2/27/23 11:47		1.015	5.88	mg/L	0.02030	0.25375		
* Sodium, Dissolved	2/23/23 13:36	2/27/23 11:47		1.015	26.5	mg/L	0.03045	0.406		
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>			<b>Preparation Method: EPA 1638</b>					
* Antimony, Total	2/24/23 13:19	2/27/23 17:38		1.015	Not Detected	mg/L	0.000508	0.001015	U	
* Aluminum, Total	2/24/23 13:19	2/27/23 17:38		1.015	Not Detected	mg/L	0.006090	0.05075	U	
* Arsenic, Total	2/24/23 13:19	2/27/23 17:38		1.015	0.00206	mg/L	0.000081	0.000203		
* Barium, Total	2/24/23 13:19	2/27/23 17:38		1.015	0.0126	mg/L	0.000508	0.001015		
* Beryllium, Total	2/24/23 13:19	2/27/23 17:38		1.015	Not Detected	mg/L	0.000406	0.001015	U	
* Cadmium, Total	2/24/23 13:19	2/27/23 17:38		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Chromium, Total	2/24/23 13:19	2/27/23 17:38		1.015	Not Detected	mg/L	0.000203	0.001015	U	
* Cobalt, Total	2/24/23 13:19	2/27/23 17:38		1.015	0.0103	mg/L	0.000068	0.000203		
* Lead, Total	2/24/23 13:19	2/27/23 17:38		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Manganese, Total	2/24/23 13:19	2/27/23 19:31		5.075	2.59	mg/L	0.000761	0.005075		
* Molybdenum, Total	2/24/23 13:19	2/27/23 17:38		1.015	0.000429	mg/L	0.000102	0.000203		
* Potassium, Total	2/24/23 13:19	2/27/23 17:38		1.015	7.81	mg/L	0.169505	0.5075		

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-16 Dup

**Location Code:** WMWGORLF  
**Collected:** 2/20/23 14:45  
**Customer ID:**  
**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04079

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/24/23 13:19	2/27/23 17:38		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	2/24/23 13:19	2/27/23 17:38		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	2/23/23 13:36	2/23/23 15:39		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/23/23 13:36	2/23/23 15:39		1.015	Not Detected	mg/L	0.006090	0.05075	U
* Arsenic, Dissolved	2/23/23 13:36	2/23/23 15:39		1.015	0.00182	mg/L	0.000081	0.000203	
* Barium, Dissolved	2/23/23 13:36	2/23/23 15:39		1.015	0.0107	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	2/23/23 13:36	2/28/23 10:17		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	2/23/23 13:36	2/23/23 15:39		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	2/23/23 13:36	2/23/23 15:39		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	2/23/23 13:36	2/23/23 15:39		1.015	0.00880	mg/L	0.000068	0.000203	
* Lead, Dissolved	2/23/23 13:36	2/23/23 15:39		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	2/23/23 13:36	2/28/23 11:49		5.075	2.62	mg/L	0.000761	0.005075	RA
* Molybdenum, Dissolved	2/23/23 13:36	2/23/23 15:39		1.015	0.000528	mg/L	0.000102	0.000203	
* Potassium, Dissolved	2/23/23 13:36	2/23/23 15:39		1.015	7.08	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/23/23 13:36	2/23/23 15:39		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	2/23/23 13:36	2/23/23 15:39		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: ELH</b>							
* Mercury, Total by CVAA	2/27/23 19:37	2/28/23 02:39		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: SC</b>							
* Nitrogen, Nitrate/Nitrite	2/24/23 11:20	2/24/23 11:20		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
* Alkalinity to pH 4.5	3/3/23 14:10	3/3/23 15:40		1	357	mg CaCO3/L			
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	2/23/23 13:45	2/24/23 13:45		1	2320	mg/L		147.1	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
* Bicarbonate Alkalinity, (calc.)	3/3/23 14:10	3/3/23 15:40		1	357	mg CaCO3/L		1	A
* Carbonate Alkalinity, (calc.)	3/3/23 14:10	3/3/23 15:40		1	Not Detected	mg CaCO3/L		0.5	A
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: SC</b>							
* Total Organic Carbon	2/23/23 21:58	2/23/23 21:58		1	1.02	mg/L	1.00	2	J

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-16 Dup

**Location Code:** WMWGORLF

**Collected:** 2/20/23 14:45

**Customer ID:**

**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04079

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	2/24/23 14:29	2/24/23 14:29		1	2.82	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	2/27/23 12:53	2/27/23 12:53		1	0.183	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	3/1/23 14:16	3/1/23 14:16		50	1350	mg/L	30.0	100	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: DKG</b>							
Conductivity	2/20/23 14:43	2/20/23 14:43			2593.82	uS/cm			FA
pH	2/20/23 14:43	2/20/23 14:43			6.53	SU			FA
Temperature	2/20/23 14:43	2/20/23 14:43			19.63	C			FA
Turbidity	2/20/23 14:43	2/20/23 14:43			1.66	NTU			FA
Sulfide	2/20/23 14:43	2/20/23 14:43			0	mg/L			FA

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 2/20/23 14:45

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-16 Dup

**Laboratory ID Number:** BD04079

Sample	Analysis	Units	MB	MB				Standard		Rec			Prec Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit	Prec	
BD04079	Aluminum, Dissolved	mg/L	-0.000276	0.0198	0.100	0.0898	0.0939	0.0965	0.0850 to 0.115	89.8	70.0 to 130	4.46	20.0
BD04088	Aluminum, Total	mg/L	0.000405	0.0198	0.100	0.102	0.105	0.104	0.0850 to 0.115	102	70.0 to 130	2.90	20.0
BD04079	Antimony, Dissolved	mg/L	0.000346	0.00100	0.100	0.0869	0.0903	0.0904	0.0850 to 0.115	86.9	70.0 to 130	3.84	20.0
BD04088	Antimony, Total	mg/L	0.000397	0.00100	0.100	0.108	0.117	0.0988	0.0850 to 0.115	108	70.0 to 130	8.00	20.0
BD04079	Arsenic, Dissolved	mg/L	-0.0000191	0.000200	0.100	0.100	0.106	0.0960	0.0850 to 0.115	98.2	70.0 to 130	5.83	20.0
BD04088	Arsenic, Total	mg/L	0.0000097	0.000200	0.100	0.104	0.111	0.0999	0.0850 to 0.115	99.4	70.0 to 130	6.51	20.0
BD04079	Barium, Dissolved	mg/L	-0.0000092	0.00100	0.100	0.105	0.108	0.0954	0.0850 to 0.115	94.3	70.0 to 130	2.82	20.0
BD04088	Barium, Total	mg/L	-0.0000132	0.00100	0.100	0.127	0.136	0.107	0.0850 to 0.115	107	70.0 to 130	6.84	20.0
BD04079	Beryllium, Dissolved	mg/L	0.0000161	0.000880	0.100	0.104	0.102	0.108	0.0850 to 0.115	104	70.0 to 130	1.94	20.0
BD04088	Beryllium, Total	mg/L	0.0000113	0.000880	0.100	0.0983	0.101	0.0997	0.0850 to 0.115	98.3	70.0 to 130	2.71	20.0
BD04079	Boron, Dissolved	mg/L	-0.00311	0.0650	1.00	1.09	1.08	1.01	0.850 to 1.15	105	70.0 to 130	0.922	20.0
BD04088	Boron, Total	mg/L	-0.00347	0.0650	1.00	1.18	1.17	1.00	0.850 to 1.15	103	70.0 to 130	0.851	20.0
BD04079	Cadmium, Dissolved	mg/L	0.0000000	0.000147	0.100	0.0905	0.0950	0.0975	0.0850 to 0.115	90.5	70.0 to 130	4.85	20.0
BD04088	Cadmium, Total	mg/L	0.0000042	0.000147	0.100	0.0992	0.106	0.104	0.0850 to 0.115	99.2	70.0 to 130	6.63	20.0
BD04079	Calcium, Dissolved	mg/L	-0.0143	0.152	5.00	316	324	5.07	4.25 to 5.75	-360	70.0 to 130	2.50	20.0
BD04088	Calcium, Total	mg/L	-0.0229	0.152	5.00	312	300	4.80	4.25 to 5.75	300	70.0 to 130	3.92	20.0
BD04088	Chloride	mg/L	0.0239	1.00	80.0	121	114	10.0	9.00 to 11.0	108	80.0 to 120	5.96	20.0
BD04079	Chromium, Dissolved	mg/L	-0.0000558	0.000440	0.100	0.0917	0.0975	0.0989	0.0850 to 0.115	91.7	70.0 to 130	6.13	20.0
BD04088	Chromium, Total	mg/L	0.0000667	0.000440	0.100	0.100	0.104	0.106	0.0850 to 0.115	100	70.0 to 130	3.92	20.0
BD04079	Cobalt, Dissolved	mg/L	-0.0000015	0.000147	0.100	0.0979	0.102	0.0995	0.0850 to 0.115	89.1	70.0 to 130	4.10	20.0
BD04088	Cobalt, Total	mg/L	0.0000023	0.000147	0.100	0.104	0.109	0.112	0.0850 to 0.115	104	70.0 to 130	4.69	20.0
BD04088	Fluoride	mg/L	0.0375	0.125	2.50	2.77	2.78	2.62	2.25 to 2.75	103	80.0 to 120	0.360	20.0
BD04079	Iron, Dissolved	mg/L	-0.000232	0.0176	0.2	2.65	2.63	0.202	0.170 to 0.230	95.0	70.0 to 130	0.758	20.0
BD04088	Iron, Total	mg/L	0.000927	0.0176	0.2	4.48	4.16	0.200	0.170 to 0.230	220	70.0 to 130	7.41	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.



# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 2/20/23 14:45

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-16 Dup

**Laboratory ID Number:** BD04079

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BD04079	Lead, Dissolved	mg/L	0.000017	0.000147	0.100	0.0928	0.101	0.100	0.0850 to 0.115	92.8	70.0 to 130	8.46	20.0
BD04088	Lead, Total	mg/L	0.000011	0.000147	0.100	0.109	0.112	0.112	0.0850 to 0.115	109	70.0 to 130	2.71	20.0
BD04079	Lithium, Dissolved	mg/L	0.000766	0.0154	0.200	0.228	0.225	0.194	0.170 to 0.230	106	70.0 to 130	1.32	20.0
BD04088	Lithium, Total	mg/L	-0.000337	0.0154	0.200	0.483	0.481	0.198	0.170 to 0.230	102	70.0 to 130	0.415	20.0
BD04079	Magnesium, Dissolved	mg/L	-0.0245	0.0462	5.00	279	285	5.09	4.25 to 5.75	-240	70.0 to 130	2.13	20.0
BD04088	Magnesium, Total	mg/L	-0.00494	0.0462	5.00	203	196	5.01	4.25 to 5.75	240	70.0 to 130	3.51	20.0
BD04079	Manganese, Dissolved	mg/L	0.0000252	0.00033	0.100	2.64	2.71	0.0997	0.0850 to 0.115	20.0	70.0 to 130	2.62	20.0
BD04088	Manganese, Total	mg/L	-0.0000306	0.00033	0.100	0.570	0.596	0.107	0.0850 to 0.115	92.0	70.0 to 130	4.46	20.0
BD04079	Mercury, Total by CVAA	mg/L	-1.000E-05	0.000500	0.004	0.00376	0.00369	0.00348	0.00340 to 0.00460	94.0	70.0 to 130	1.88	20.0
BD04079	Molybdenum, Dissolved	mg/L	0.0000079	0.0002	0.100	0.0959	0.0992	0.0972	0.0850 to 0.115	95.4	70.0 to 130	3.38	20.0
BD04088	Molybdenum, Total	mg/L	0.000028	0.0002	0.100	0.105	0.112	0.103	0.0850 to 0.115	102	70.0 to 130	6.45	20.0
BD04079	Potassium, Dissolved	mg/L	-0.00373	0.367	10.0	15.8	17.1	9.85	8.50 to 11.5	87.2	70.0 to 130	7.90	20.0
BD04088	Potassium, Total	mg/L	0.0259	0.367	10.0	17.5	17.8	10.3	8.50 to 11.5	102	70.0 to 130	1.70	20.0
BD04079	Selenium, Dissolved	mg/L	-0.0000434	0.00100	0.100	0.110	0.115	0.101	0.0850 to 0.115	110	70.0 to 130	4.44	20.0
BD04088	Selenium, Total	mg/L	0.0000768	0.00100	0.100	0.0994	0.106	0.103	0.0850 to 0.115	99.4	70.0 to 130	6.43	20.0
BD04079	Silicon, Dissolved	mg/L	-0.000019	0.0440	1.00	6.89	6.88	1.01	0.850 to 1.15	101	70.0 to 130	0.145	20.0
BD04088	Silicon, Total	mg/L	0.000121	0.0440	1.00	8.10	8.05	0.995	0.850 to 1.15	99.0	70.0 to 130	0.619	20.0
BD04079	Sodium, Dissolved	mg/L	-0.00164	0.0880	5.00	31.9	31.6	4.91	4.25 to 5.75	108	70.0 to 130	0.945	20.0
BD04088	Sodium, Total	mg/L	-0.000766	0.0880	5.00	162	157	4.88	4.25 to 5.75	200	70.0 to 130	3.13	20.0
BD04088	Sulfate	mg/L	0.0257	2.0	1600	2980	3210	18.9	18.0 to 22.0	102	80.0 to 120	7.43	20.0
BD04079	Thallium, Dissolved	mg/L	-0.0000047	0.000147	0.100	0.0942	0.101	0.101	0.0850 to 0.115	94.2	70.0 to 130	6.97	20.0
BD04088	Thallium, Total	mg/L	0.0000046	0.000147	0.100	0.109	0.113	0.110	0.0850 to 0.115	109	70.0 to 130	3.60	20.0
BD04088	Total Organic Carbon	mg/L	0.0453	1.00	10.0	14.8	15.2	27.1		100	80.0 to 120	2.67	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

## Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 2/20/23 14:45

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-16 Dup

**Laboratory ID Number:** BD04079

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BD04082	Alkalinity to pH 4.5	mg CaCO3/L					144	49.9	45.0 to 55.0			0.00	10.0
BD04088	Nitrogen, Nitrate/Nitrite	mg/L as N	-0.02	0.200	2.00	1.97	0.005	1.88	1.80 to 2.20	98.5	90.0 to 110	0.00	15.0
BD04088	Solids, Dissolved	mg/L	1.00	25.0			2260	50.0	40.0 to 60.0			0.889	10.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill Field Blank-1

**Location Code:** WMWGORLFFB  
**Collected:** 2/20/23 15:10  
**Customer ID:**  
**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04080

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>					
* Boron, Total	2/24/23 13:19	2/28/23 11:20		1.015	Not Detected	mg/L	0.030000	0.1015	U	
* Calcium, Total	2/24/23 13:19	2/28/23 11:20		1.015	Not Detected	mg/L	0.070035	0.406	U	
* Iron, Total	2/24/23 13:19	2/28/23 11:20		1.015	Not Detected	mg/L	0.008120	0.0406	U	
* Lithium, Total	2/24/23 13:19	2/28/23 11:20		1.015	Not Detected	mg/L	0.007105	0.01999956	U	
* Magnesium, Total	2/24/23 13:19	2/28/23 11:20		1.015	0.0359	mg/L	0.021315	0.406	J	
* Silica, Total (calc.)	2/24/23 13:19	2/28/23 11:20		1	Not Detected	mg/L				
* Silicon, Total	2/24/23 13:19	2/28/23 11:20		1.015	Not Detected	mg/L	0.02030	0.25375	U	
* Sodium, Total	2/24/23 13:19	2/28/23 11:20		1.015	Not Detected	mg/L	0.03045	0.406	U	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>			<b>Preparation Method: EPA 1638</b>					
* Antimony, Total	2/24/23 13:19	2/27/23 17:41		1.015	Not Detected	mg/L	0.000508	0.001015	U	
* Aluminum, Total	2/24/23 13:19	2/27/23 17:41		1.015	Not Detected	mg/L	0.006090	0.05075	U	
* Arsenic, Total	2/24/23 13:19	2/27/23 17:41		1.015	Not Detected	mg/L	0.000081	0.000203	U	
* Barium, Total	2/24/23 13:19	2/27/23 17:41		1.015	Not Detected	mg/L	0.000508	0.001015	U	
* Beryllium, Total	2/24/23 13:19	2/27/23 17:41		1.015	Not Detected	mg/L	0.000406	0.001015	U	
* Cadmium, Total	2/24/23 13:19	2/27/23 17:41		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Chromium, Total	2/24/23 13:19	2/27/23 17:41		1.015	Not Detected	mg/L	0.000203	0.001015	U	
* Cobalt, Total	2/24/23 13:19	2/27/23 17:41		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Lead, Total	2/24/23 13:19	2/27/23 17:41		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Manganese, Total	2/24/23 13:19	2/27/23 17:41		1.015	0.000204	mg/L	0.000152	0.001015	J	
* Molybdenum, Total	2/24/23 13:19	2/27/23 17:41		1.015	Not Detected	mg/L	0.000102	0.000203	U	
* Potassium, Total	2/24/23 13:19	2/27/23 17:41		1.015	Not Detected	mg/L	0.169505	0.5075	U	
* Selenium, Total	2/24/23 13:19	2/27/23 17:41		1.015	Not Detected	mg/L	0.000508	0.001015	U	
* Thallium, Total	2/24/23 13:19	2/27/23 17:41		1.015	Not Detected	mg/L	0.000068	0.000203	U	
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: ELH</b>								
* Mercury, Total by CVAA	2/27/23 19:37	2/28/23 02:59		1	Not Detected	mg/L	0.0003	0.0005	U	
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: SC</b>								
* Nitrogen, Nitrate/Nitrite	2/24/23 11:22	2/24/23 11:22		1	Not Detected	mg/L as N	0.20	0.3	U	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>								
* Solids, Dissolved	2/23/23 13:45	2/24/23 13:45		1	Not Detected	mg/L		25	U	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:**

# Certificate Of Analysis

**Description:** Gorgas Landfill Field Blank-1

**Location Code:** WMWGORLFFB

**Collected:** 2/20/23 15:10

**Customer ID:**

**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04080

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: SC</b>							
* Total Organic Carbon	2/23/23 22:14	2/23/23 22:14		1	Not Detected	mg/L	1.00	2	U
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	2/24/23 14:30	2/24/23 14:30		1	Not Detected	mg/L	0.50	1	U
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	2/27/23 12:54	2/27/23 12:54		1	Not Detected	mg/L	0.06	0.125	U
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	3/1/23 14:17	3/1/23 14:17		1	Not Detected	mg/L	0.6	2	U

---

MDL's and RL's are adjusted for sample dilution, as applicable

---

**Comments:**

# Batch QC Summary

**Customer Account:** WMWGORLFFB

**Sample Date:** 2/20/23 15:10

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill Field Blank-1

**Laboratory ID Number:** BD04080

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BD04088	Aluminum, Total	mg/L	0.000405	0.0198	0.100	0.102	0.105	0.104	0.0850 to 0.115	102	70.0 to 130	2.90	20.0
BD04088	Antimony, Total	mg/L	0.000397	0.00100	0.100	0.108	0.117	0.0988	0.0850 to 0.115	108	70.0 to 130	8.00	20.0
BD04088	Arsenic, Total	mg/L	0.0000097	0.000200	0.100	0.104	0.111	0.0999	0.0850 to 0.115	99.4	70.0 to 130	6.51	20.0
BD04088	Barium, Total	mg/L	-0.0000132	0.00100	0.100	0.127	0.136	0.107	0.0850 to 0.115	107	70.0 to 130	6.84	20.0
BD04088	Beryllium, Total	mg/L	0.0000113	0.000880	0.100	0.0983	0.101	0.0997	0.0850 to 0.115	98.3	70.0 to 130	2.71	20.0
BD04088	Boron, Total	mg/L	-0.00347	0.0650	1.00	1.18	1.17	1.00	0.850 to 1.15	103	70.0 to 130	0.851	20.0
BD04088	Cadmium, Total	mg/L	0.0000042	0.000147	0.100	0.0992	0.106	0.104	0.0850 to 0.115	99.2	70.0 to 130	6.63	20.0
BD04088	Calcium, Total	mg/L	-0.0229	0.152	5.00	312	300	4.80	4.25 to 5.75	300	70.0 to 130	3.92	20.0
BD04088	Chloride	mg/L	0.0239	1.00	80.0	121	114	10.0	9.00 to 11.0	108	80.0 to 120	5.96	20.0
BD04088	Chromium, Total	mg/L	0.0000667	0.000440	0.100	0.100	0.104	0.106	0.0850 to 0.115	100	70.0 to 130	3.92	20.0
BD04088	Cobalt, Total	mg/L	0.0000023	0.000147	0.100	0.104	0.109	0.112	0.0850 to 0.115	104	70.0 to 130	4.69	20.0
BD04088	Fluoride	mg/L	0.0375	0.125	2.50	2.77	2.78	2.62	2.25 to 2.75	103	80.0 to 120	0.360	20.0
BD04088	Iron, Total	mg/L	0.000927	0.0176	0.2	4.48	4.16	0.200	0.170 to 0.230	220	70.0 to 130	7.41	20.0
BD04088	Lead, Total	mg/L	0.000011	0.000147	0.100	0.109	0.112	0.112	0.0850 to 0.115	109	70.0 to 130	2.71	20.0
BD04088	Lithium, Total	mg/L	-0.000337	0.0154	0.200	0.483	0.481	0.198	0.170 to 0.230	102	70.0 to 130	0.415	20.0
BD04088	Magnesium, Total	mg/L	-0.00494	0.0462	5.00	203	196	5.01	4.25 to 5.75	240	70.0 to 130	3.51	20.0
BD04088	Manganese, Total	mg/L	-0.0000306	0.00033	0.100	0.570	0.596	0.107	0.0850 to 0.115	92.0	70.0 to 130	4.46	20.0
BD04089	Mercury, Total by CVAA	mg/L	-1.000E-05	0.000500	0.004	0.00367	0.00372	0.00348	0.00340 to 0.00460	91.8	70.0 to 130	1.35	20.0
BD04088	Molybdenum, Total	mg/L	0.000028	0.0002	0.100	0.105	0.112	0.103	0.0850 to 0.115	102	70.0 to 130	6.45	20.0
BD04088	Potassium, Total	mg/L	0.0259	0.367	10.0	17.5	17.8	10.3	8.50 to 11.5	102	70.0 to 130	1.70	20.0
BD04088	Selenium, Total	mg/L	0.0000768	0.00100	0.100	0.0994	0.106	0.103	0.0850 to 0.115	99.4	70.0 to 130	6.43	20.0
BD04088	Silicon, Total	mg/L	0.000121	0.0440	1.00	8.10	8.05	0.995	0.850 to 1.15	99.0	70.0 to 130	0.619	20.0
BD04088	Sodium, Total	mg/L	-0.000766	0.0880	5.00	162	157	4.88	4.25 to 5.75	200	70.0 to 130	3.13	20.0
BD04088	Sulfate	mg/L	0.0257	2.0	1600	2980	3210	18.9	18.0 to 22.0	102	80.0 to 120	7.43	20.0

**Comments:**

# Batch QC Summary

**Customer Account:** WMWGORLFFB

**Sample Date:** 2/20/23 15:10

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill Field Blank-1

**Laboratory ID Number:** BD04080

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit	Prec	Limit
BD04088	Thallium, Total	mg/L	0.0000046	0.000147	0.100	0.109	0.113	0.110	0.0850 to 0.115	109	70.0 to 130	3.60	20.0
BD04088	Total Organic Carbon	mg/L	0.0453	1.00	10.0	14.8	15.2	27.1		100	80.0 to 120	2.67	20.0

---

**Comments:**

## Batch QC Summary

**Customer Account:** WMWGORLFFB

**Sample Date:** 2/20/23 15:10

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill Field Blank-1

**Laboratory ID Number:** BD04080

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BD04088	Nitrogen, Nitrate/Nitrite	mg/L as N	-0.02	0.200	2.00	1.97	0.005	1.88	1.80 to 2.20	98.5	90.0 to 110	0.00	15.0
BD04088	Solids, Dissolved	mg/L	1.00	25.0			2260	50.0	40.0 to 60.0			0.889	10.0

---

**Comments:**

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-17R

**Location Code:** WMWGORLF  
**Collected:** 2/21/23 10:38  
**Customer ID:**  
**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04081

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>			
* Boron, Total	2/24/23 13:19	2/28/23 11:23		1.015	0.0469	mg/L	0.030000	0.1015	J
* Calcium, Total	2/24/23 13:19	2/28/23 14:37		101.5	352	mg/L	7.0035	40.6	
* Iron, Total	2/24/23 13:19	2/28/23 14:37		101.5	18.2	mg/L	0.8120	4.06	
* Lithium, Total	2/24/23 13:19	2/28/23 11:23		1.015	0.0412	mg/L	0.007105	0.01999956	
* Magnesium, Total	2/24/23 13:19	2/28/23 14:37		101.5	382	mg/L	2.1315	40.6	
* Silica, Total (calc.)	2/24/23 13:19	2/28/23 11:23		1	16.9	mg/L			
* Silicon, Total	2/24/23 13:19	2/28/23 11:23		1.015	7.92	mg/L	0.02030	0.25375	
* Sodium, Total	2/24/23 13:19	2/28/23 11:23		1.015	36.7	mg/L	0.03045	0.406	
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>						
* Boron, Dissolved	2/23/23 13:36	2/27/23 12:03		1.015	0.0423	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	2/23/23 13:36	2/27/23 13:51		101.5	378	mg/L	7.0035	40.6	
* Iron, Dissolved	2/23/23 13:36	2/27/23 13:51		101.5	15.8	mg/L	0.8120	4.06	
* Lithium, Dissolved	2/23/23 13:36	2/27/23 12:03		1.015	0.0428	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	2/23/23 13:36	2/27/23 13:51		101.5	419	mg/L	2.1315	40.6	
* Silica, Dissolved (calc.)	2/23/23 13:36	2/27/23 12:03		1	16.8	mg/L			
* Silicon, Dissolved	2/23/23 13:36	2/27/23 12:03		1.015	7.87	mg/L	0.02030	0.25375	
* Sodium, Dissolved	2/23/23 13:36	2/27/23 12:03		1.015	37.2	mg/L	0.03045	0.406	
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: DLJ</b>			<b>Preparation Method: EPA 1638</b>			
* Antimony, Total	2/24/23 13:19	2/27/23 17:45		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	2/24/23 13:19	2/27/23 17:45		1.015	0.00723	mg/L	0.006090	0.05075	J
* Arsenic, Total	2/24/23 13:19	2/27/23 17:45		1.015	0.00134	mg/L	0.000081	0.000203	
* Barium, Total	2/24/23 13:19	2/27/23 17:45		1.015	0.0135	mg/L	0.000508	0.001015	
* Beryllium, Total	2/24/23 13:19	2/27/23 17:45		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	2/24/23 13:19	2/27/23 17:45		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	2/24/23 13:19	2/27/23 17:45		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Total	2/24/23 13:19	2/27/23 17:45		1.015	0.325	mg/L	0.000068	0.000203	
* Lead, Total	2/24/23 13:19	2/27/23 17:45		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	2/24/23 13:19	2/27/23 19:35		92.365	17.7	mg/L	0.013855	0.092365	
* Molybdenum, Total	2/24/23 13:19	2/27/23 17:45		1.015	0.000181	mg/L	0.000102	0.000203	J
* Potassium, Total	2/24/23 13:19	2/27/23 17:45		1.015	7.12	mg/L	0.169505	0.5075	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.



# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-17R

**Location Code:** WMWGORLF

**Collected:** 2/21/23 10:38

**Customer ID:**

**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04081

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/24/23 13:19	2/27/23 17:45		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	2/24/23 13:19	2/27/23 17:45		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	2/23/23 13:36	2/23/23 16:02		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/23/23 13:36	2/23/23 16:02		1.015	Not Detected	mg/L	0.006090	0.05075	U
* Arsenic, Dissolved	2/23/23 13:36	2/23/23 16:02		1.015	0.00143	mg/L	0.000081	0.000203	
* Barium, Dissolved	2/23/23 13:36	2/23/23 16:02		1.015	0.0117	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	2/23/23 13:36	2/28/23 10:38		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	2/23/23 13:36	2/23/23 16:02		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	2/23/23 13:36	2/23/23 16:02		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	2/23/23 13:36	2/23/23 16:02		1.015	0.251	mg/L	0.000068	0.000203	
* Lead, Dissolved	2/23/23 13:36	2/23/23 16:02		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	2/23/23 13:36	2/28/23 11:59		92.365	16.5	mg/L	0.013855	0.092365	
* Molybdenum, Dissolved	2/23/23 13:36	2/23/23 16:02		1.015	0.00130	mg/L	0.000102	0.000203	
* Potassium, Dissolved	2/23/23 13:36	2/23/23 16:02		1.015	6.51	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/23/23 13:36	2/23/23 16:02		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	2/23/23 13:36	2/23/23 16:02		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: ELH</b>							
* Mercury, Total by CVAA	2/27/23 19:37	2/28/23 03:02		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: SC</b>							
* Nitrogen, Nitrate/Nitrite	2/24/23 11:24	2/24/23 11:24		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
* Alkalinity to pH 4.5	3/3/23 14:10	3/3/23 15:40		1	178	mg CaCO3/L			
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	2/23/23 13:45	2/24/23 13:45		1	3740	mg/L		227.3	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
* Bicarbonate Alkalinity, (calc.)	3/3/23 14:10	3/3/23 15:40		1	178	mg CaCO3/L		1	A
* Carbonate Alkalinity, (calc.)	3/3/23 14:10	3/3/23 15:40		1	Not Detected	mg CaCO3/L		0.5	A
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: SC</b>							
* Total Organic Carbon	2/23/23 22:31	2/23/23 22:31		1	1.82	mg/L	1.00	2	J

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-17R

**Location Code:** WMWGORLF

**Collected:** 2/21/23 10:38

**Customer ID:**

**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04081

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	2/24/23 14:31	2/24/23 14:31		1	2.20	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	2/27/23 12:56	2/27/23 12:56		1	0.198	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	3/1/23 14:19	3/1/23 14:19		80	2460	mg/L	48.0	160	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: DKG</b>							
Conductivity	2/21/23 10:35	2/21/23 10:35			3602.75	uS/cm			FA
pH	2/21/23 10:35	2/21/23 10:35			6.07	SU			FA
Temperature	2/21/23 10:35	2/21/23 10:35			20.41	C			FA
Turbidity	2/21/23 10:35	2/21/23 10:35			1.8	NTU			FA
Sulfide	2/21/23 10:35	2/21/23 10:35			0	mg/L			FA

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF  
**Sample Date:** 2/21/23 10:38  
**Customer ID:**  
**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-17R

**Laboratory ID Number:** BD04081

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BD04089	Aluminum, Dissolved	mg/L	-0.000276	0.0198	0.100	0.0922	0.0981	0.0965	0.0850 to 0.115	92.2	70.0 to 130	6.20	20.0
BD04088	Aluminum, Total	mg/L	0.000405	0.0198	0.100	0.102	0.105	0.104	0.0850 to 0.115	102	70.0 to 130	2.90	20.0
BD04089	Antimony, Dissolved	mg/L	0.000346	0.00100	0.100	0.0972	0.101	0.0904	0.0850 to 0.115	97.2	70.0 to 130	3.83	20.0
BD04088	Antimony, Total	mg/L	0.000397	0.00100	0.100	0.108	0.117	0.0988	0.0850 to 0.115	108	70.0 to 130	8.00	20.0
BD04089	Arsenic, Dissolved	mg/L	-0.0000191	0.000200	0.100	0.167	0.164	0.0960	0.0850 to 0.115	107	70.0 to 130	1.81	20.0
BD04088	Arsenic, Total	mg/L	0.0000097	0.000200	0.100	0.104	0.111	0.0999	0.0850 to 0.115	99.4	70.0 to 130	6.51	20.0
BD04089	Barium, Dissolved	mg/L	-0.0000092	0.00100	0.100	0.105	0.109	0.0954	0.0850 to 0.115	94.5	70.0 to 130	3.74	20.0
BD04088	Barium, Total	mg/L	-0.0000132	0.00100	0.100	0.127	0.136	0.107	0.0850 to 0.115	107	70.0 to 130	6.84	20.0
BD04089	Beryllium, Dissolved	mg/L	0.0000161	0.000880	0.100	0.0944	0.0957	0.108	0.0850 to 0.115	94.4	70.0 to 130	1.37	20.0
BD04088	Beryllium, Total	mg/L	0.0000113	0.000880	0.100	0.0983	0.101	0.0997	0.0850 to 0.115	98.3	70.0 to 130	2.71	20.0
BD04089	Boron, Dissolved	mg/L	-0.00311	0.0650	1.00	1.18	1.18	1.01	0.850 to 1.15	103	70.0 to 130	0.00	20.0
BD04088	Boron, Total	mg/L	-0.00347	0.0650	1.00	1.18	1.17	1.00	0.850 to 1.15	103	70.0 to 130	0.851	20.0
BD04089	Cadmium, Dissolved	mg/L	0.0000000	0.000147	0.100	0.0912	0.0945	0.0975	0.0850 to 0.115	91.2	70.0 to 130	3.55	20.0
BD04088	Cadmium, Total	mg/L	0.0000042	0.000147	0.100	0.0992	0.106	0.104	0.0850 to 0.115	99.2	70.0 to 130	6.63	20.0
BD04089	Calcium, Dissolved	mg/L	-0.0143	0.152	5.00	312	312	5.07	4.25 to 5.75	-260	70.0 to 130	0.00	20.0
BD04088	Calcium, Total	mg/L	-0.0229	0.152	5.00	312	300	4.80	4.25 to 5.75	300	70.0 to 130	3.92	20.0
BD04088	Chloride	mg/L	0.0239	1.00	80.0	121	114	10.0	9.00 to 11.0	108	80.0 to 120	5.96	20.0
BD04089	Chromium, Dissolved	mg/L	-0.0000558	0.000440	0.100	0.0928	0.0973	0.0989	0.0850 to 0.115	92.8	70.0 to 130	4.73	20.0
BD04088	Chromium, Total	mg/L	0.0000667	0.000440	0.100	0.100	0.104	0.106	0.0850 to 0.115	100	70.0 to 130	3.92	20.0
BD04089	Cobalt, Dissolved	mg/L	-0.0000015	0.000147	0.100	0.139	0.146	0.0995	0.0850 to 0.115	95.2	70.0 to 130	4.91	20.0
BD04088	Cobalt, Total	mg/L	0.0000023	0.000147	0.100	0.104	0.109	0.112	0.0850 to 0.115	104	70.0 to 130	4.69	20.0
BD04088	Fluoride	mg/L	0.0375	0.125	2.50	2.77	2.78	2.62	2.25 to 2.75	103	80.0 to 120	0.360	20.0
BD04089	Iron, Dissolved	mg/L	-0.000232	0.0176	0.2	163	167	0.202	0.170 to 0.230	2500	70.0 to 130	2.42	20.0
BD04088	Iron, Total	mg/L	0.000927	0.0176	0.2	4.48	4.16	0.200	0.170 to 0.230	220	70.0 to 130	7.41	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF  
**Sample Date:** 2/21/23 10:38  
**Customer ID:**  
**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-17R

**Laboratory ID Number:** BD04081

Sample	Analysis	Units	MB					Standard		Rec		Prec	Limit
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BD04089	Lead, Dissolved	mg/L	0.000017	0.000147	0.100	0.102	0.104	0.100	0.0850 to 0.115	102	70.0 to 130	1.94	20.0
BD04088	Lead, Total	mg/L	0.000011	0.000147	0.100	0.109	0.112	0.112	0.0850 to 0.115	109	70.0 to 130	2.71	20.0
BD04089	Lithium, Dissolved	mg/L	0.000766	0.0154	0.200	0.280	0.277	0.194	0.170 to 0.230	109	70.0 to 130	1.08	20.0
BD04088	Lithium, Total	mg/L	-0.000337	0.0154	0.200	0.483	0.481	0.198	0.170 to 0.230	102	70.0 to 130	0.415	20.0
BD04089	Magnesium, Dissolved	mg/L	-0.0245	0.0462	5.00	359	358	5.09	4.25 to 5.75	-400	70.0 to 130	0.279	20.0
BD04088	Magnesium, Total	mg/L	-0.00494	0.0462	5.00	203	196	5.01	4.25 to 5.75	240	70.0 to 130	3.51	20.0
BD04089	Manganese, Dissolved	mg/L	0.0000252	0.00033	0.100	21.2	20.9	0.0997	0.0850 to 0.115	500	70.0 to 130	1.43	20.0
BD04088	Manganese, Total	mg/L	-0.0000306	0.00033	0.100	0.570	0.596	0.107	0.0850 to 0.115	92.0	70.0 to 130	4.46	20.0
BD04089	Mercury, Total by CVAA	mg/L	-1.000E-05	0.000500	0.004	0.00367	0.00372	0.00348	0.00340 to 0.00460	91.8	70.0 to 130	1.35	20.0
BD04089	Molybdenum, Dissolved	mg/L	0.0000079	0.0002	0.100	0.0939	0.0976	0.0972	0.0850 to 0.115	93.4	70.0 to 130	3.86	20.0
BD04088	Molybdenum, Total	mg/L	0.000028	0.0002	0.100	0.105	0.112	0.103	0.0850 to 0.115	102	70.0 to 130	6.45	20.0
BD04089	Potassium, Dissolved	mg/L	-0.00373	0.367	10.0	29.3	31.0	9.85	8.50 to 11.5	111	70.0 to 130	5.64	20.0
BD04088	Potassium, Total	mg/L	0.0259	0.367	10.0	17.5	17.8	10.3	8.50 to 11.5	102	70.0 to 130	1.70	20.0
BD04089	Selenium, Dissolved	mg/L	-0.0000434	0.00100	0.100	0.111	0.107	0.101	0.0850 to 0.115	111	70.0 to 130	3.67	20.0
BD04088	Selenium, Total	mg/L	0.0000768	0.00100	0.100	0.0994	0.106	0.103	0.0850 to 0.115	99.4	70.0 to 130	6.43	20.0
BD04089	Silicon, Dissolved	mg/L	-0.000019	0.0440	1.00	15.2	15.2	1.01	0.850 to 1.15	90.0	70.0 to 130	0.00	20.0
BD04088	Silicon, Total	mg/L	0.000121	0.0440	1.00	8.10	8.05	0.995	0.850 to 1.15	99.0	70.0 to 130	0.619	20.0
BD04089	Sodium, Dissolved	mg/L	-0.00164	0.0880	5.00	44.2	48.6	4.91	4.25 to 5.75	-132	70.0 to 130	9.48	20.0
BD04088	Sodium, Total	mg/L	-0.000766	0.0880	5.00	162	157	4.88	4.25 to 5.75	200	70.0 to 130	3.13	20.0
BD04088	Sulfate	mg/L	0.0257	2.0	1600	2980	3210	18.9	18.0 to 22.0	102	80.0 to 120	7.43	20.0
BD04089	Thallium, Dissolved	mg/L	-0.0000047	0.000147	0.100	0.101	0.105	0.101	0.0850 to 0.115	101	70.0 to 130	3.88	20.0
BD04088	Thallium, Total	mg/L	0.0000046	0.000147	0.100	0.109	0.113	0.110	0.0850 to 0.115	109	70.0 to 130	3.60	20.0
BD04088	Total Organic Carbon	mg/L	0.0453	1.00	10.0	14.8	15.2	27.1		100	80.0 to 120	2.67	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

## Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 2/21/23 10:38

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-17R

**Laboratory ID Number:** BD04081

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BD04082	Alkalinity to pH 4.5	mg CaCO3/L					144	49.9	45.0 to 55.0			0.00	10.0
BD04088	Nitrogen, Nitrate/Nitrite	mg/L as N	-0.02	0.200	2.00	1.97	0.005	1.88	1.80 to 2.20	98.5	90.0 to 110	0.00	15.0
BD04088	Solids, Dissolved	mg/L	1.00	25.0			2260	50.0	40.0 to 60.0			0.889	10.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-18

**Location Code:** WMWGORLF  
**Collected:** 2/21/23 11:40  
**Customer ID:**  
**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04082

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Total	2/24/23 13:19	2/28/23 11:27		1.015	0.0316	mg/L	0.030000	0.1015	J
* Calcium, Total	2/24/23 13:19	2/28/23 14:40		10.15	283	mg/L	0.70035	4.06	
* Iron, Total	2/24/23 13:19	2/28/23 11:27		1.015	Not Detected	mg/L	0.008120	0.0406	U
* Lithium, Total	2/24/23 13:19	2/28/23 11:27		1.015	0.0473	mg/L	0.007105	0.01999956	
* Magnesium, Total	2/24/23 13:19	2/28/23 14:40		10.15	283	mg/L	0.21315	4.06	
* Silica, Total (calc.)	2/24/23 13:19	2/28/23 11:27		1	13.4	mg/L			
* Silicon, Total	2/24/23 13:19	2/28/23 11:27		1.015	6.28	mg/L	0.02030	0.25375	
* Sodium, Total	2/24/23 13:19	2/28/23 11:27		1.015	28.1	mg/L	0.03045	0.406	
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	2/23/23 13:36	2/27/23 12:06		1.015	Not Detected	mg/L	0.030000	0.1015	U
* Calcium, Dissolved	2/23/23 13:36	2/27/23 13:54		10.15	288	mg/L	0.70035	4.06	
* Iron, Dissolved	2/23/23 13:36	2/27/23 12:06		1.015	Not Detected	mg/L	0.008120	0.0406	U
* Lithium, Dissolved	2/23/23 13:36	2/27/23 12:06		1.015	0.0476	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	2/23/23 13:36	2/27/23 13:54		10.15	300	mg/L	0.21315	4.06	
* Silica, Dissolved (calc.)	2/23/23 13:36	2/27/23 12:06		1	13.4	mg/L			
* Silicon, Dissolved	2/23/23 13:36	2/27/23 12:06		1.015	6.28	mg/L	0.02030	0.25375	
* Sodium, Dissolved	2/23/23 13:36	2/27/23 12:06		1.015	28.1	mg/L	0.03045	0.406	
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: DLJ</b>		<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	2/24/23 13:19	2/27/23 17:48		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	2/24/23 13:19	2/27/23 17:48		1.015	Not Detected	mg/L	0.006090	0.05075	U
* Arsenic, Total	2/24/23 13:19	2/27/23 17:48		1.015	Not Detected	mg/L	0.000081	0.000203	U
* Barium, Total	2/24/23 13:19	2/27/23 17:48		1.015	0.0112	mg/L	0.000508	0.001015	
* Beryllium, Total	2/24/23 13:19	2/27/23 17:48		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	2/24/23 13:19	2/27/23 17:48		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	2/24/23 13:19	2/27/23 17:48		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Total	2/24/23 13:19	2/27/23 17:48		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Lead, Total	2/24/23 13:19	2/27/23 17:48		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	2/24/23 13:19	2/27/23 17:48		1.015	0.000829	mg/L	0.000152	0.001015	J
* Molybdenum, Total	2/24/23 13:19	2/27/23 17:48		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Potassium, Total	2/24/23 13:19	2/27/23 17:48		1.015	6.71	mg/L	0.169505	0.5075	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-18

**Location Code:** WMWGORLF  
**Collected:** 2/21/23 11:40  
**Customer ID:**  
**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04082

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/24/23 13:19	2/27/23 17:48		1.015	0.00436	mg/L	0.000508	0.001015	
* Thallium, Total	2/24/23 13:19	2/27/23 17:48		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	2/23/23 13:36	2/23/23 16:06		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/23/23 13:36	2/23/23 16:06		1.015	Not Detected	mg/L	0.006090	0.05075	U
* Arsenic, Dissolved	2/23/23 13:36	2/23/23 16:06		1.015	Not Detected	mg/L	0.000081	0.000203	U
* Barium, Dissolved	2/23/23 13:36	2/23/23 16:06		1.015	0.00893	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	2/23/23 13:36	2/28/23 10:41		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	2/23/23 13:36	2/23/23 16:06		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	2/23/23 13:36	2/23/23 16:06		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	2/23/23 13:36	2/23/23 16:06		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Lead, Dissolved	2/23/23 13:36	2/23/23 16:06		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	2/23/23 13:36	2/23/23 16:06		1.015	0.000415	mg/L	0.000152	0.001015	J
* Molybdenum, Dissolved	2/23/23 13:36	2/23/23 16:06		1.015	0.00123	mg/L	0.000102	0.000203	
* Potassium, Dissolved	2/23/23 13:36	2/23/23 16:06		1.015	5.95	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/23/23 13:36	2/23/23 16:06		1.015	0.00408	mg/L	0.000508	0.001015	
* Thallium, Dissolved	2/23/23 13:36	2/23/23 16:06		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: ELH</b>							
* Mercury, Total by CVAA	2/27/23 19:37	2/28/23 03:06		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: SC</b>							
* Nitrogen, Nitrate/Nitrite	2/24/23 11:26	2/24/23 11:26		1	0.473	mg/L as N	0.20	0.3	
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
* Alkalinity to pH 4.5	3/3/23 14:10	3/3/23 15:40		1	144	mg CaCO3/L			
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	2/23/23 13:45	2/24/23 13:45		1	2480	mg/L		147.1	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
* Bicarbonate Alkalinity, (calc.)	3/3/23 14:10	3/3/23 15:40		1	144	mg CaCO3/L		1	A
* Carbonate Alkalinity, (calc.)	3/3/23 14:10	3/3/23 15:40		1	Not Detected	mg CaCO3/L		0.5	A
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: SC</b>							
* Total Organic Carbon	2/23/23 22:46	2/23/23 22:46		1	Not Detected	mg/L	1.00	2	U

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-18

**Location Code:** WMWGORLF

**Collected:** 2/21/23 11:40

**Customer ID:**

**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04082

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	2/24/23 14:32	2/24/23 14:32		1	1.30	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	2/27/23 12:57	2/27/23 12:57		1	0.317	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	3/1/23 14:20	3/1/23 14:20		50	1610	mg/L	30.0	100	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: DKG</b>							
Conductivity	2/21/23 11:37	2/21/23 11:37			2625.69	uS/cm			FA
pH	2/21/23 11:37	2/21/23 11:37			6.63	SU			FA
Temperature	2/21/23 11:37	2/21/23 11:37			19.76	C			FA
Turbidity	2/21/23 11:37	2/21/23 11:37			0.87	NTU			FA
Sulfide	2/21/23 11:37	2/21/23 11:37			0	mg/L			FA

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.



# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 2/21/23 11:40

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-18

**Laboratory ID Number:** BD04082

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BD04089	Aluminum, Dissolved	mg/L	-0.000276	0.0198	0.100	0.0922	0.0981	0.0965	0.0850 to 0.115	92.2	70.0 to 130	6.20	20.0
BD04088	Aluminum, Total	mg/L	0.000405	0.0198	0.100	0.102	0.105	0.104	0.0850 to 0.115	102	70.0 to 130	2.90	20.0
BD04089	Antimony, Dissolved	mg/L	0.000346	0.00100	0.100	0.0972	0.101	0.0904	0.0850 to 0.115	97.2	70.0 to 130	3.83	20.0
BD04088	Antimony, Total	mg/L	0.000397	0.00100	0.100	0.108	0.117	0.0988	0.0850 to 0.115	108	70.0 to 130	8.00	20.0
BD04089	Arsenic, Dissolved	mg/L	-0.0000191	0.000200	0.100	0.167	0.164	0.0960	0.0850 to 0.115	107	70.0 to 130	1.81	20.0
BD04088	Arsenic, Total	mg/L	0.0000097	0.000200	0.100	0.104	0.111	0.0999	0.0850 to 0.115	99.4	70.0 to 130	6.51	20.0
BD04089	Barium, Dissolved	mg/L	-0.0000092	0.00100	0.100	0.105	0.109	0.0954	0.0850 to 0.115	94.5	70.0 to 130	3.74	20.0
BD04088	Barium, Total	mg/L	-0.0000132	0.00100	0.100	0.127	0.136	0.107	0.0850 to 0.115	107	70.0 to 130	6.84	20.0
BD04089	Beryllium, Dissolved	mg/L	0.0000161	0.000880	0.100	0.0944	0.0957	0.108	0.0850 to 0.115	94.4	70.0 to 130	1.37	20.0
BD04088	Beryllium, Total	mg/L	0.0000113	0.000880	0.100	0.0983	0.101	0.0997	0.0850 to 0.115	98.3	70.0 to 130	2.71	20.0
BD04089	Boron, Dissolved	mg/L	-0.00311	0.0650	1.00	1.18	1.18	1.01	0.850 to 1.15	103	70.0 to 130	0.00	20.0
BD04088	Boron, Total	mg/L	-0.00347	0.0650	1.00	1.18	1.17	1.00	0.850 to 1.15	103	70.0 to 130	0.851	20.0
BD04089	Cadmium, Dissolved	mg/L	0.0000000	0.000147	0.100	0.0912	0.0945	0.0975	0.0850 to 0.115	91.2	70.0 to 130	3.55	20.0
BD04088	Cadmium, Total	mg/L	0.0000042	0.000147	0.100	0.0992	0.106	0.104	0.0850 to 0.115	99.2	70.0 to 130	6.63	20.0
BD04089	Calcium, Dissolved	mg/L	-0.0143	0.152	5.00	312	312	5.07	4.25 to 5.75	-260	70.0 to 130	0.00	20.0
BD04088	Calcium, Total	mg/L	-0.0229	0.152	5.00	312	300	4.80	4.25 to 5.75	300	70.0 to 130	3.92	20.0
BD04088	Chloride	mg/L	0.0239	1.00	80.0	121	114	10.0	9.00 to 11.0	108	80.0 to 120	5.96	20.0
BD04089	Chromium, Dissolved	mg/L	-0.0000558	0.000440	0.100	0.0928	0.0973	0.0989	0.0850 to 0.115	92.8	70.0 to 130	4.73	20.0
BD04088	Chromium, Total	mg/L	0.0000667	0.000440	0.100	0.100	0.104	0.106	0.0850 to 0.115	100	70.0 to 130	3.92	20.0
BD04089	Cobalt, Dissolved	mg/L	-0.0000015	0.000147	0.100	0.139	0.146	0.0995	0.0850 to 0.115	95.2	70.0 to 130	4.91	20.0
BD04088	Cobalt, Total	mg/L	0.0000023	0.000147	0.100	0.104	0.109	0.112	0.0850 to 0.115	104	70.0 to 130	4.69	20.0
BD04088	Fluoride	mg/L	0.0375	0.125	2.50	2.77	2.78	2.62	2.25 to 2.75	103	80.0 to 120	0.360	20.0
BD04089	Iron, Dissolved	mg/L	-0.000232	0.0176	0.2	163	167	0.202	0.170 to 0.230	2500	70.0 to 130	2.42	20.0
BD04088	Iron, Total	mg/L	0.000927	0.0176	0.2	4.48	4.16	0.200	0.170 to 0.230	220	70.0 to 130	7.41	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 2/21/23 11:40

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-18

**Laboratory ID Number:** BD04082

Sample	Analysis	Units	MB				Standard			Rec		Prec	Limit
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BD04089	Lead, Dissolved	mg/L	0.000017	0.000147	0.100	0.102	0.104	0.100	0.0850 to 0.115	102	70.0 to 130	1.94	20.0
BD04088	Lead, Total	mg/L	0.000011	0.000147	0.100	0.109	0.112	0.112	0.0850 to 0.115	109	70.0 to 130	2.71	20.0
BD04089	Lithium, Dissolved	mg/L	0.000766	0.0154	0.200	0.280	0.277	0.194	0.170 to 0.230	109	70.0 to 130	1.08	20.0
BD04088	Lithium, Total	mg/L	-0.000337	0.0154	0.200	0.483	0.481	0.198	0.170 to 0.230	102	70.0 to 130	0.415	20.0
BD04089	Magnesium, Dissolved	mg/L	-0.0245	0.0462	5.00	359	358	5.09	4.25 to 5.75	-400	70.0 to 130	0.279	20.0
BD04088	Magnesium, Total	mg/L	-0.00494	0.0462	5.00	203	196	5.01	4.25 to 5.75	240	70.0 to 130	3.51	20.0
BD04089	Manganese, Dissolved	mg/L	0.0000252	0.00033	0.100	21.2	20.9	0.0997	0.0850 to 0.115	500	70.0 to 130	1.43	20.0
BD04088	Manganese, Total	mg/L	-0.0000306	0.00033	0.100	0.570	0.596	0.107	0.0850 to 0.115	92.0	70.0 to 130	4.46	20.0
BD04089	Mercury, Total by CVAA	mg/L	-1.000E-05	0.000500	0.004	0.00367	0.00372	0.00348	0.00340 to 0.00460	91.8	70.0 to 130	1.35	20.0
BD04089	Molybdenum, Dissolved	mg/L	0.0000079	0.0002	0.100	0.0939	0.0976	0.0972	0.0850 to 0.115	93.4	70.0 to 130	3.86	20.0
BD04088	Molybdenum, Total	mg/L	0.000028	0.0002	0.100	0.105	0.112	0.103	0.0850 to 0.115	102	70.0 to 130	6.45	20.0
BD04089	Potassium, Dissolved	mg/L	-0.00373	0.367	10.0	29.3	31.0	9.85	8.50 to 11.5	111	70.0 to 130	5.64	20.0
BD04088	Potassium, Total	mg/L	0.0259	0.367	10.0	17.5	17.8	10.3	8.50 to 11.5	102	70.0 to 130	1.70	20.0
BD04089	Selenium, Dissolved	mg/L	-0.0000434	0.00100	0.100	0.111	0.107	0.101	0.0850 to 0.115	111	70.0 to 130	3.67	20.0
BD04088	Selenium, Total	mg/L	0.0000768	0.00100	0.100	0.0994	0.106	0.103	0.0850 to 0.115	99.4	70.0 to 130	6.43	20.0
BD04089	Silicon, Dissolved	mg/L	-0.000019	0.0440	1.00	15.2	15.2	1.01	0.850 to 1.15	90.0	70.0 to 130	0.00	20.0
BD04088	Silicon, Total	mg/L	0.000121	0.0440	1.00	8.10	8.05	0.995	0.850 to 1.15	99.0	70.0 to 130	0.619	20.0
BD04089	Sodium, Dissolved	mg/L	-0.00164	0.0880	5.00	44.2	48.6	4.91	4.25 to 5.75	-132	70.0 to 130	9.48	20.0
BD04088	Sodium, Total	mg/L	-0.000766	0.0880	5.00	162	157	4.88	4.25 to 5.75	200	70.0 to 130	3.13	20.0
BD04088	Sulfate	mg/L	0.0257	2.0	1600	2980	3210	18.9	18.0 to 22.0	102	80.0 to 120	7.43	20.0
BD04089	Thallium, Dissolved	mg/L	-0.0000047	0.000147	0.100	0.101	0.105	0.101	0.0850 to 0.115	101	70.0 to 130	3.88	20.0
BD04088	Thallium, Total	mg/L	0.0000046	0.000147	0.100	0.109	0.113	0.110	0.0850 to 0.115	109	70.0 to 130	3.60	20.0
BD04088	Total Organic Carbon	mg/L	0.0453	1.00	10.0	14.8	15.2	27.1		100	80.0 to 120	2.67	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

## Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 2/21/23 11:40

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-18

**Laboratory ID Number:** BD04082

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BD04082	Alkalinity to pH 4.5	mg CaCO3/L					144	49.9	45.0 to 55.0			0.00	10.0
BD04088	Nitrogen, Nitrate/Nitrite	mg/L as N	-0.02	0.200	2.00	1.97	0.005	1.88	1.80 to 2.20	98.5	90.0 to 110	0.00	15.0
BD04088	Solids, Dissolved	mg/L	1.00	25.0			2260	50.0	40.0 to 60.0			0.889	10.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-19

**Location Code:** WMWGORLF  
**Collected:** 2/21/23 12:46  
**Customer ID:**  
**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04083

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Total	2/24/23 13:19	2/28/23 11:30		1.015	0.0376	mg/L	0.030000	0.1015	J
* Calcium, Total	2/24/23 13:19	2/28/23 14:43		101.5	292	mg/L	7.0035	40.6	
* Iron, Total	2/24/23 13:19	2/28/23 11:30		1.015	3.87	mg/L	0.008120	0.0406	
* Lithium, Total	2/24/23 13:19	2/28/23 11:30		1.015	0.0508	mg/L	0.007105	0.01999956	
* Magnesium, Total	2/24/23 13:19	2/28/23 14:43		101.5	299	mg/L	2.1315	40.6	
* Silica, Total (calc.)	2/24/23 13:19	2/28/23 11:30		1	17.5	mg/L			
* Silicon, Total	2/24/23 13:19	2/28/23 11:30		1.015	8.18	mg/L	0.02030	0.25375	
* Sodium, Total	2/24/23 13:19	2/28/23 11:30		1.015	32.5	mg/L	0.03045	0.406	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	2/23/23 13:36	2/27/23 12:10		1.015	0.0331	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	2/23/23 13:36	2/27/23 13:57		101.5	297	mg/L	7.0035	40.6	
* Iron, Dissolved	2/23/23 13:36	2/27/23 12:10		1.015	1.81	mg/L	0.008120	0.0406	
* Lithium, Dissolved	2/23/23 13:36	2/27/23 12:10		1.015	0.0523	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	2/23/23 13:36	2/27/23 13:57		101.5	309	mg/L	2.1315	40.6	
* Silica, Dissolved (calc.)	2/23/23 13:36	2/27/23 12:10		1	16.9	mg/L			
* Silicon, Dissolved	2/23/23 13:36	2/27/23 12:10		1.015	7.90	mg/L	0.02030	0.25375	
* Sodium, Dissolved	2/23/23 13:36	2/27/23 12:10		1.015	32.9	mg/L	0.03045	0.406	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>			<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	2/24/23 13:19	2/27/23 17:52		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	2/24/23 13:19	2/27/23 17:52		1.015	Not Detected	mg/L	0.006090	0.05075	U
* Arsenic, Total	2/24/23 13:19	2/27/23 17:52		1.015	0.000311	mg/L	0.000081	0.000203	
* Barium, Total	2/24/23 13:19	2/27/23 17:52		1.015	0.0100	mg/L	0.000508	0.001015	
* Beryllium, Total	2/24/23 13:19	2/27/23 17:52		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	2/24/23 13:19	2/27/23 17:52		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	2/24/23 13:19	2/27/23 17:52		1.015	0.000246	mg/L	0.000203	0.001015	J
* Cobalt, Total	2/24/23 13:19	2/27/23 17:52		1.015	0.0440	mg/L	0.000068	0.000203	
* Lead, Total	2/24/23 13:19	2/27/23 17:52		1.015	0.0000751	mg/L	0.000068	0.000203	J
* Manganese, Total	2/24/23 13:19	2/27/23 19:38		5.075	2.84	mg/L	0.000761	0.005075	
* Molybdenum, Total	2/24/23 13:19	2/27/23 17:52		1.015	0.000229	mg/L	0.000102	0.000203	
* Potassium, Total	2/24/23 13:19	2/27/23 17:52		1.015	5.77	mg/L	0.169505	0.5075	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-19

**Location Code:** WMWGORLF  
**Collected:** 2/21/23 12:46  
**Customer ID:**  
**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04083

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/24/23 13:19	2/27/23 17:52		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	2/24/23 13:19	2/27/23 17:52		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	2/23/23 13:36	2/23/23 16:09		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/23/23 13:36	2/23/23 16:09		1.015	Not Detected	mg/L	0.006090	0.05075	U
* Arsenic, Dissolved	2/23/23 13:36	2/23/23 16:09		1.015	Not Detected	mg/L	0.000081	0.000203	U
* Barium, Dissolved	2/23/23 13:36	2/23/23 16:09		1.015	0.00835	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	2/23/23 13:36	2/28/23 10:45		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	2/23/23 13:36	2/23/23 16:09		1.015	0.0000953	mg/L	0.000068	0.000203	J
* Chromium, Dissolved	2/23/23 13:36	2/23/23 16:09		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	2/23/23 13:36	2/23/23 16:09		1.015	0.0376	mg/L	0.000068	0.000203	
* Lead, Dissolved	2/23/23 13:36	2/23/23 16:09		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	2/23/23 13:36	2/28/23 12:03		5.075	2.81	mg/L	0.000761	0.005075	
* Molybdenum, Dissolved	2/23/23 13:36	2/23/23 16:09		1.015	0.000328	mg/L	0.000102	0.000203	
* Potassium, Dissolved	2/23/23 13:36	2/23/23 16:09		1.015	5.27	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/23/23 13:36	2/23/23 16:09		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	2/23/23 13:36	2/23/23 16:09		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: ELH</b>							
* Mercury, Total by CVAA	2/27/23 19:37	2/28/23 03:10		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: SC</b>							
* Nitrogen, Nitrate/Nitrite	2/24/23 11:28	2/24/23 11:28		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
* Alkalinity to pH 4.5	3/6/23 13:15	3/6/23 14:40		1	200	mg CaCO3/L			
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	2/23/23 13:45	2/24/23 13:45		1	2910	mg/L		178.6	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
* Bicarbonate Alkalinity, (calc.)	3/6/23 13:15	3/6/23 14:40		1	200	mg CaCO3/L		1	A
* Carbonate Alkalinity, (calc.)	3/6/23 13:15	3/6/23 14:40		1	Not Detected	mg CaCO3/L		0.5	A
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: SC</b>							
* Total Organic Carbon	2/23/23 23:05	2/23/23 23:05		1	Not Detected	mg/L	1.00	2	U

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-19

**Location Code:** WMWGORLF

**Collected:** 2/21/23 12:46

**Customer ID:**

**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04083

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	2/24/23 14:33	2/24/23 14:33		1	2.19	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	2/27/23 12:58	2/27/23 12:58		1	0.381	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	3/1/23 14:21	3/1/23 14:21		64	1960	mg/L	38.4	128	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: DKG</b>							
Conductivity	2/21/23 12:43	2/21/23 12:43			2971.83	uS/cm			FA
pH	2/21/23 12:43	2/21/23 12:43			6.32	SU			FA
Temperature	2/21/23 12:43	2/21/23 12:43			19.22	C			FA
Turbidity	2/21/23 12:43	2/21/23 12:43			2.24	NTU			FA
Sulfide	2/21/23 12:43	2/21/23 12:43			0	mg/L			FA

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 2/21/23 12:46

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-19

**Laboratory ID Number:** BD04083

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BD04089	Aluminum, Dissolved	mg/L	-0.000276	0.0198	0.100	0.0922	0.0981	0.0965	0.0850 to 0.115	92.2	70.0 to 130	6.20	20.0
BD04088	Aluminum, Total	mg/L	0.000405	0.0198	0.100	0.102	0.105	0.104	0.0850 to 0.115	102	70.0 to 130	2.90	20.0
BD04089	Antimony, Dissolved	mg/L	0.000346	0.00100	0.100	0.0972	0.101	0.0904	0.0850 to 0.115	97.2	70.0 to 130	3.83	20.0
BD04088	Antimony, Total	mg/L	0.000397	0.00100	0.100	0.108	0.117	0.0988	0.0850 to 0.115	108	70.0 to 130	8.00	20.0
BD04089	Arsenic, Dissolved	mg/L	-0.0000191	0.000200	0.100	0.167	0.164	0.0960	0.0850 to 0.115	107	70.0 to 130	1.81	20.0
BD04088	Arsenic, Total	mg/L	0.0000097	0.000200	0.100	0.104	0.111	0.0999	0.0850 to 0.115	99.4	70.0 to 130	6.51	20.0
BD04089	Barium, Dissolved	mg/L	-0.0000092	0.00100	0.100	0.105	0.109	0.0954	0.0850 to 0.115	94.5	70.0 to 130	3.74	20.0
BD04088	Barium, Total	mg/L	-0.0000132	0.00100	0.100	0.127	0.136	0.107	0.0850 to 0.115	107	70.0 to 130	6.84	20.0
BD04089	Beryllium, Dissolved	mg/L	0.0000161	0.000880	0.100	0.0944	0.0957	0.108	0.0850 to 0.115	94.4	70.0 to 130	1.37	20.0
BD04088	Beryllium, Total	mg/L	0.0000113	0.000880	0.100	0.0983	0.101	0.0997	0.0850 to 0.115	98.3	70.0 to 130	2.71	20.0
BD04089	Boron, Dissolved	mg/L	-0.00311	0.0650	1.00	1.18	1.18	1.01	0.850 to 1.15	103	70.0 to 130	0.00	20.0
BD04088	Boron, Total	mg/L	-0.00347	0.0650	1.00	1.18	1.17	1.00	0.850 to 1.15	103	70.0 to 130	0.851	20.0
BD04089	Cadmium, Dissolved	mg/L	0.0000000	0.000147	0.100	0.0912	0.0945	0.0975	0.0850 to 0.115	91.2	70.0 to 130	3.55	20.0
BD04088	Cadmium, Total	mg/L	0.0000042	0.000147	0.100	0.0992	0.106	0.104	0.0850 to 0.115	99.2	70.0 to 130	6.63	20.0
BD04089	Calcium, Dissolved	mg/L	-0.0143	0.152	5.00	312	312	5.07	4.25 to 5.75	-260	70.0 to 130	0.00	20.0
BD04088	Calcium, Total	mg/L	-0.0229	0.152	5.00	312	300	4.80	4.25 to 5.75	300	70.0 to 130	3.92	20.0
BD04088	Chloride	mg/L	0.0239	1.00	80.0	121	114	10.0	9.00 to 11.0	108	80.0 to 120	5.96	20.0
BD04089	Chromium, Dissolved	mg/L	-0.0000558	0.000440	0.100	0.0928	0.0973	0.0989	0.0850 to 0.115	92.8	70.0 to 130	4.73	20.0
BD04088	Chromium, Total	mg/L	0.0000667	0.000440	0.100	0.100	0.104	0.106	0.0850 to 0.115	100	70.0 to 130	3.92	20.0
BD04089	Cobalt, Dissolved	mg/L	-0.0000015	0.000147	0.100	0.139	0.146	0.0995	0.0850 to 0.115	95.2	70.0 to 130	4.91	20.0
BD04088	Cobalt, Total	mg/L	0.0000023	0.000147	0.100	0.104	0.109	0.112	0.0850 to 0.115	104	70.0 to 130	4.69	20.0
BD04088	Fluoride	mg/L	0.0375	0.125	2.50	2.77	2.78	2.62	2.25 to 2.75	103	80.0 to 120	0.360	20.0
BD04089	Iron, Dissolved	mg/L	-0.000232	0.0176	0.2	163	167	0.202	0.170 to 0.230	2500	70.0 to 130	2.42	20.0
BD04088	Iron, Total	mg/L	0.000927	0.0176	0.2	4.48	4.16	0.200	0.170 to 0.230	220	70.0 to 130	7.41	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 2/21/23 12:46

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-19

**Laboratory ID Number:** BD04083

Sample	Analysis	Units	MB					Standard		Rec		Prec	Limit
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BD04089	Lead, Dissolved	mg/L	0.000017	0.000147	0.100	0.102	0.104	0.100	0.0850 to 0.115	102	70.0 to 130	1.94	20.0
BD04088	Lead, Total	mg/L	0.000011	0.000147	0.100	0.109	0.112	0.112	0.0850 to 0.115	109	70.0 to 130	2.71	20.0
BD04089	Lithium, Dissolved	mg/L	0.000766	0.0154	0.200	0.280	0.277	0.194	0.170 to 0.230	109	70.0 to 130	1.08	20.0
BD04088	Lithium, Total	mg/L	-0.000337	0.0154	0.200	0.483	0.481	0.198	0.170 to 0.230	102	70.0 to 130	0.415	20.0
BD04089	Magnesium, Dissolved	mg/L	-0.0245	0.0462	5.00	359	358	5.09	4.25 to 5.75	-400	70.0 to 130	0.279	20.0
BD04088	Magnesium, Total	mg/L	-0.00494	0.0462	5.00	203	196	5.01	4.25 to 5.75	240	70.0 to 130	3.51	20.0
BD04089	Manganese, Dissolved	mg/L	0.0000252	0.00033	0.100	21.2	20.9	0.0997	0.0850 to 0.115	500	70.0 to 130	1.43	20.0
BD04088	Manganese, Total	mg/L	-0.0000306	0.00033	0.100	0.570	0.596	0.107	0.0850 to 0.115	92.0	70.0 to 130	4.46	20.0
BD04089	Mercury, Total by CVAA	mg/L	-1.000E-05	0.000500	0.004	0.00367	0.00372	0.00348	0.00340 to 0.00460	91.8	70.0 to 130	1.35	20.0
BD04089	Molybdenum, Dissolved	mg/L	0.0000079	0.0002	0.100	0.0939	0.0976	0.0972	0.0850 to 0.115	93.4	70.0 to 130	3.86	20.0
BD04088	Molybdenum, Total	mg/L	0.000028	0.0002	0.100	0.105	0.112	0.103	0.0850 to 0.115	102	70.0 to 130	6.45	20.0
BD04089	Potassium, Dissolved	mg/L	-0.00373	0.367	10.0	29.3	31.0	9.85	8.50 to 11.5	111	70.0 to 130	5.64	20.0
BD04088	Potassium, Total	mg/L	0.0259	0.367	10.0	17.5	17.8	10.3	8.50 to 11.5	102	70.0 to 130	1.70	20.0
BD04089	Selenium, Dissolved	mg/L	-0.0000434	0.00100	0.100	0.111	0.107	0.101	0.0850 to 0.115	111	70.0 to 130	3.67	20.0
BD04088	Selenium, Total	mg/L	0.0000768	0.00100	0.100	0.0994	0.106	0.103	0.0850 to 0.115	99.4	70.0 to 130	6.43	20.0
BD04089	Silicon, Dissolved	mg/L	-0.000019	0.0440	1.00	15.2	15.2	1.01	0.850 to 1.15	90.0	70.0 to 130	0.00	20.0
BD04088	Silicon, Total	mg/L	0.000121	0.0440	1.00	8.10	8.05	0.995	0.850 to 1.15	99.0	70.0 to 130	0.619	20.0
BD04089	Sodium, Dissolved	mg/L	-0.00164	0.0880	5.00	44.2	48.6	4.91	4.25 to 5.75	-132	70.0 to 130	9.48	20.0
BD04088	Sodium, Total	mg/L	-0.000766	0.0880	5.00	162	157	4.88	4.25 to 5.75	200	70.0 to 130	3.13	20.0
BD04088	Sulfate	mg/L	0.0257	2.0	1600	2980	3210	18.9	18.0 to 22.0	102	80.0 to 120	7.43	20.0
BD04089	Thallium, Dissolved	mg/L	-0.0000047	0.000147	0.100	0.101	0.105	0.101	0.0850 to 0.115	101	70.0 to 130	3.88	20.0
BD04088	Thallium, Total	mg/L	0.0000046	0.000147	0.100	0.109	0.113	0.110	0.0850 to 0.115	109	70.0 to 130	3.60	20.0
BD04088	Total Organic Carbon	mg/L	0.0453	1.00	10.0	14.8	15.2	27.1		100	80.0 to 120	2.67	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.



## Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 2/21/23 12:46

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-19

**Laboratory ID Number:** BD04083

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BD04089	Alkalinity to pH 4.5	mg CaCO3/L					214	50.4	45.0 to 55.0			0.00	10.0
BD04088	Nitrogen, Nitrate/Nitrite	mg/L as N	-0.02	0.200	2.00	1.97	0.005	1.88	1.80 to 2.20	98.5	90.0 to 110	0.00	15.0
BD04088	Solids, Dissolved	mg/L	1.00	25.0			2260	50.0	40.0 to 60.0			0.889	10.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-19 Dup

**Location Code:** WMWGORLF  
**Collected:** 2/21/23 12:46  
**Customer ID:**  
**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04084

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>					
* Boron, Total	2/24/23 13:19	2/28/23 11:33		1.015	0.0371	mg/L	0.030000	0.1015	J	
* Calcium, Total	2/24/23 13:19	2/28/23 14:46		101.5	298	mg/L	7.0035	40.6		
* Iron, Total	2/24/23 13:19	2/28/23 11:33		1.015	3.23	mg/L	0.008120	0.0406		
* Lithium, Total	2/24/23 13:19	2/28/23 11:33		1.015	0.0512	mg/L	0.007105	0.01999956		
* Magnesium, Total	2/24/23 13:19	2/28/23 14:46		101.5	298	mg/L	2.1315	40.6		
* Silica, Total (calc.)	2/24/23 13:19	2/28/23 11:33		1	17.3	mg/L				
* Silicon, Total	2/24/23 13:19	2/28/23 11:33		1.015	8.07	mg/L	0.02030	0.25375		
* Sodium, Total	2/24/23 13:19	2/28/23 11:33		1.015	32.4	mg/L	0.03045	0.406		
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>					
* Boron, Dissolved	2/23/23 13:36	2/27/23 12:13		1.015	0.0332	mg/L	0.030000	0.1015	J	
* Calcium, Dissolved	2/23/23 13:36	2/27/23 14:00		101.5	300	mg/L	7.0035	40.6		
* Iron, Dissolved	2/23/23 13:36	2/27/23 12:13		1.015	1.81	mg/L	0.008120	0.0406		
* Lithium, Dissolved	2/23/23 13:36	2/27/23 12:13		1.015	0.0522	mg/L	0.007105	0.01999956		
* Magnesium, Dissolved	2/23/23 13:36	2/27/23 14:00		101.5	314	mg/L	2.1315	40.6		
* Silica, Dissolved (calc.)	2/23/23 13:36	2/27/23 12:13		1	17.0	mg/L				
* Silicon, Dissolved	2/23/23 13:36	2/27/23 12:13		1.015	7.94	mg/L	0.02030	0.25375		
* Sodium, Dissolved	2/23/23 13:36	2/27/23 12:13		1.015	32.8	mg/L	0.03045	0.406		
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>			<b>Preparation Method: EPA 1638</b>					
* Antimony, Total	2/24/23 13:19	2/27/23 17:55		1.015	Not Detected	mg/L	0.000508	0.001015	U	
* Aluminum, Total	2/24/23 13:19	2/27/23 17:55		1.015	Not Detected	mg/L	0.006090	0.05075	U	
* Arsenic, Total	2/24/23 13:19	2/27/23 17:55		1.015	0.000266	mg/L	0.000081	0.000203		
* Barium, Total	2/24/23 13:19	2/27/23 17:55		1.015	0.00993	mg/L	0.000508	0.001015		
* Beryllium, Total	2/24/23 13:19	2/27/23 17:55		1.015	Not Detected	mg/L	0.000406	0.001015	U	
* Cadmium, Total	2/24/23 13:19	2/27/23 17:55		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Chromium, Total	2/24/23 13:19	2/27/23 17:55		1.015	Not Detected	mg/L	0.000203	0.001015	U	
* Cobalt, Total	2/24/23 13:19	2/27/23 17:55		1.015	0.0445	mg/L	0.000068	0.000203		
* Lead, Total	2/24/23 13:19	2/27/23 17:55		1.015	0.0000696	mg/L	0.000068	0.000203	J	
* Manganese, Total	2/24/23 13:19	2/27/23 19:42		5.075	2.80	mg/L	0.000761	0.005075		
* Molybdenum, Total	2/24/23 13:19	2/27/23 17:55		1.015	0.000167	mg/L	0.000102	0.000203	J	
* Potassium, Total	2/24/23 13:19	2/27/23 17:55		1.015	5.97	mg/L	0.169505	0.5075		

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-19 Dup

**Location Code:** WMWGORLF  
**Collected:** 2/21/23 12:46  
**Customer ID:**  
**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04084

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/24/23 13:19	2/27/23 17:55		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	2/24/23 13:19	2/27/23 17:55		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	2/23/23 13:36	2/23/23 16:13		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/23/23 13:36	2/23/23 16:13		1.015	Not Detected	mg/L	0.006090	0.05075	U
* Arsenic, Dissolved	2/23/23 13:36	2/23/23 16:13		1.015	0.0000987	mg/L	0.000081	0.000203	J
* Barium, Dissolved	2/23/23 13:36	2/23/23 16:13		1.015	0.00882	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	2/23/23 13:36	2/28/23 10:48		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	2/23/23 13:36	2/23/23 16:13		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	2/23/23 13:36	2/23/23 16:13		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	2/23/23 13:36	2/23/23 16:13		1.015	0.0380	mg/L	0.000068	0.000203	
* Lead, Dissolved	2/23/23 13:36	2/23/23 16:13		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	2/23/23 13:36	2/28/23 12:06		5.075	2.83	mg/L	0.000761	0.005075	
* Molybdenum, Dissolved	2/23/23 13:36	2/23/23 16:13		1.015	0.000591	mg/L	0.000102	0.000203	
* Potassium, Dissolved	2/23/23 13:36	2/23/23 16:13		1.015	5.34	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/23/23 13:36	2/23/23 16:13		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	2/23/23 13:36	2/23/23 16:13		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: ELH</b>							
* Mercury, Total by CVAA	2/27/23 19:37	2/28/23 03:14		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: SC</b>							
* Nitrogen, Nitrate/Nitrite	2/24/23 11:30	2/24/23 11:30		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
* Alkalinity to pH 4.5	3/6/23 13:15	3/6/23 14:40		1	200	mg CaCO3/L			
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	2/23/23 13:45	2/24/23 13:45		1	2900	mg/L		178.6	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
* Bicarbonate Alkalinity, (calc.)	3/6/23 13:15	3/6/23 14:40		1	200	mg CaCO3/L		1	A
* Carbonate Alkalinity, (calc.)	3/6/23 13:15	3/6/23 14:40		1	Not Detected	mg CaCO3/L		0.5	A
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: SC</b>							
* Total Organic Carbon	2/23/23 23:18	2/23/23 23:18		1	4.90	mg/L	1.00	2	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-19 Dup

**Location Code:** WMWGORLF  
**Collected:** 2/21/23 12:46  
**Customer ID:**  
**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04084

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	2/24/23 14:35	2/24/23 14:35		1	2.17	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	2/27/23 12:59	2/27/23 12:59		1	0.382	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	3/1/23 14:22	3/1/23 14:22		64	1920	mg/L	38.4	128	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: DKG</b>							
Conductivity	2/21/23 12:43	2/21/23 12:43			2971.83	uS/cm			FA
pH	2/21/23 12:43	2/21/23 12:43			6.32	SU			FA
Temperature	2/21/23 12:43	2/21/23 12:43			19.22	C			FA
Turbidity	2/21/23 12:43	2/21/23 12:43			2.24	NTU			FA
Sulfide	2/21/23 12:43	2/21/23 12:43			0	mg/L			FA

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 2/21/23 12:46

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-19 Dup

**Laboratory ID Number:** BD04084

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec			Prec Limit
			MB	Limit				Standard	Limit	Rec	Limit	Prec	
BD04089	Aluminum, Dissolved	mg/L	-0.000276	0.0198	0.100	0.0922	0.0981	0.0965	0.0850 to 0.115	92.2	70.0 to 130	6.20	20.0
BD04088	Aluminum, Total	mg/L	0.000405	0.0198	0.100	0.102	0.105	0.104	0.0850 to 0.115	102	70.0 to 130	2.90	20.0
BD04089	Antimony, Dissolved	mg/L	0.000346	0.00100	0.100	0.0972	0.101	0.0904	0.0850 to 0.115	97.2	70.0 to 130	3.83	20.0
BD04088	Antimony, Total	mg/L	0.000397	0.00100	0.100	0.108	0.117	0.0988	0.0850 to 0.115	108	70.0 to 130	8.00	20.0
BD04089	Arsenic, Dissolved	mg/L	-0.0000191	0.000200	0.100	0.167	0.164	0.0960	0.0850 to 0.115	107	70.0 to 130	1.81	20.0
BD04088	Arsenic, Total	mg/L	0.0000097	0.000200	0.100	0.104	0.111	0.0999	0.0850 to 0.115	99.4	70.0 to 130	6.51	20.0
BD04089	Barium, Dissolved	mg/L	-0.0000092	0.00100	0.100	0.105	0.109	0.0954	0.0850 to 0.115	94.5	70.0 to 130	3.74	20.0
BD04088	Barium, Total	mg/L	-0.0000132	0.00100	0.100	0.127	0.136	0.107	0.0850 to 0.115	107	70.0 to 130	6.84	20.0
BD04089	Beryllium, Dissolved	mg/L	0.0000161	0.000880	0.100	0.0944	0.0957	0.108	0.0850 to 0.115	94.4	70.0 to 130	1.37	20.0
BD04088	Beryllium, Total	mg/L	0.0000113	0.000880	0.100	0.0983	0.101	0.0997	0.0850 to 0.115	98.3	70.0 to 130	2.71	20.0
BD04089	Boron, Dissolved	mg/L	-0.00311	0.0650	1.00	1.18	1.18	1.01	0.850 to 1.15	103	70.0 to 130	0.00	20.0
BD04088	Boron, Total	mg/L	-0.00347	0.0650	1.00	1.18	1.17	1.00	0.850 to 1.15	103	70.0 to 130	0.851	20.0
BD04089	Cadmium, Dissolved	mg/L	0.0000000	0.000147	0.100	0.0912	0.0945	0.0975	0.0850 to 0.115	91.2	70.0 to 130	3.55	20.0
BD04088	Cadmium, Total	mg/L	0.0000042	0.000147	0.100	0.0992	0.106	0.104	0.0850 to 0.115	99.2	70.0 to 130	6.63	20.0
BD04089	Calcium, Dissolved	mg/L	-0.0143	0.152	5.00	312	312	5.07	4.25 to 5.75	-260	70.0 to 130	0.00	20.0
BD04088	Calcium, Total	mg/L	-0.0229	0.152	5.00	312	300	4.80	4.25 to 5.75	300	70.0 to 130	3.92	20.0
BD04088	Chloride	mg/L	0.0239	1.00	80.0	121	114	10.0	9.00 to 11.0	108	80.0 to 120	5.96	20.0
BD04089	Chromium, Dissolved	mg/L	-0.0000558	0.000440	0.100	0.0928	0.0973	0.0989	0.0850 to 0.115	92.8	70.0 to 130	4.73	20.0
BD04088	Chromium, Total	mg/L	0.0000667	0.000440	0.100	0.100	0.104	0.106	0.0850 to 0.115	100	70.0 to 130	3.92	20.0
BD04089	Cobalt, Dissolved	mg/L	-0.0000015	0.000147	0.100	0.139	0.146	0.0995	0.0850 to 0.115	95.2	70.0 to 130	4.91	20.0
BD04088	Cobalt, Total	mg/L	0.0000023	0.000147	0.100	0.104	0.109	0.112	0.0850 to 0.115	104	70.0 to 130	4.69	20.0
BD04088	Fluoride	mg/L	0.0375	0.125	2.50	2.77	2.78	2.62	2.25 to 2.75	103	80.0 to 120	0.360	20.0
BD04089	Iron, Dissolved	mg/L	-0.000232	0.0176	0.2	163	167	0.202	0.170 to 0.230	2500	70.0 to 130	2.42	20.0
BD04088	Iron, Total	mg/L	0.000927	0.0176	0.2	4.48	4.16	0.200	0.170 to 0.230	220	70.0 to 130	7.41	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 2/21/23 12:46

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-19 Dup

**Laboratory ID Number:** BD04084

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BD04089	Lead, Dissolved	mg/L	0.000017	0.000147	0.100	0.102	0.104	0.100	0.0850 to 0.115	102	70.0 to 130	1.94	20.0
BD04088	Lead, Total	mg/L	0.000011	0.000147	0.100	0.109	0.112	0.112	0.0850 to 0.115	109	70.0 to 130	2.71	20.0
BD04089	Lithium, Dissolved	mg/L	0.000766	0.0154	0.200	0.280	0.277	0.194	0.170 to 0.230	109	70.0 to 130	1.08	20.0
BD04088	Lithium, Total	mg/L	-0.000337	0.0154	0.200	0.483	0.481	0.198	0.170 to 0.230	102	70.0 to 130	0.415	20.0
BD04089	Magnesium, Dissolved	mg/L	-0.0245	0.0462	5.00	359	358	5.09	4.25 to 5.75	-400	70.0 to 130	0.279	20.0
BD04088	Magnesium, Total	mg/L	-0.00494	0.0462	5.00	203	196	5.01	4.25 to 5.75	240	70.0 to 130	3.51	20.0
BD04089	Manganese, Dissolved	mg/L	0.0000252	0.00033	0.100	21.2	20.9	0.0997	0.0850 to 0.115	500	70.0 to 130	1.43	20.0
BD04088	Manganese, Total	mg/L	-0.0000306	0.00033	0.100	0.570	0.596	0.107	0.0850 to 0.115	92.0	70.0 to 130	4.46	20.0
BD04089	Mercury, Total by CVAA	mg/L	-1.000E-05	0.000500	0.004	0.00367	0.00372	0.00348	0.00340 to 0.00460	91.8	70.0 to 130	1.35	20.0
BD04089	Molybdenum, Dissolved	mg/L	0.0000079	0.0002	0.100	0.0939	0.0976	0.0972	0.0850 to 0.115	93.4	70.0 to 130	3.86	20.0
BD04088	Molybdenum, Total	mg/L	0.000028	0.0002	0.100	0.105	0.112	0.103	0.0850 to 0.115	102	70.0 to 130	6.45	20.0
BD04089	Potassium, Dissolved	mg/L	-0.00373	0.367	10.0	29.3	31.0	9.85	8.50 to 11.5	111	70.0 to 130	5.64	20.0
BD04088	Potassium, Total	mg/L	0.0259	0.367	10.0	17.5	17.8	10.3	8.50 to 11.5	102	70.0 to 130	1.70	20.0
BD04089	Selenium, Dissolved	mg/L	-0.0000434	0.00100	0.100	0.111	0.107	0.101	0.0850 to 0.115	111	70.0 to 130	3.67	20.0
BD04088	Selenium, Total	mg/L	0.0000768	0.00100	0.100	0.0994	0.106	0.103	0.0850 to 0.115	99.4	70.0 to 130	6.43	20.0
BD04089	Silicon, Dissolved	mg/L	-0.000019	0.0440	1.00	15.2	15.2	1.01	0.850 to 1.15	90.0	70.0 to 130	0.00	20.0
BD04088	Silicon, Total	mg/L	0.000121	0.0440	1.00	8.10	8.05	0.995	0.850 to 1.15	99.0	70.0 to 130	0.619	20.0
BD04089	Sodium, Dissolved	mg/L	-0.00164	0.0880	5.00	44.2	48.6	4.91	4.25 to 5.75	-132	70.0 to 130	9.48	20.0
BD04088	Sodium, Total	mg/L	-0.000766	0.0880	5.00	162	157	4.88	4.25 to 5.75	200	70.0 to 130	3.13	20.0
BD04088	Sulfate	mg/L	0.0257	2.0	1600	2980	3210	18.9	18.0 to 22.0	102	80.0 to 120	7.43	20.0
BD04089	Thallium, Dissolved	mg/L	-0.0000047	0.000147	0.100	0.101	0.105	0.101	0.0850 to 0.115	101	70.0 to 130	3.88	20.0
BD04088	Thallium, Total	mg/L	0.0000046	0.000147	0.100	0.109	0.113	0.110	0.0850 to 0.115	109	70.0 to 130	3.60	20.0
BD04088	Total Organic Carbon	mg/L	0.0453	1.00	10.0	14.8	15.2	27.1		100	80.0 to 120	2.67	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

## Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 2/21/23 12:46

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-19 Dup

**Laboratory ID Number:** BD04084

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BD04089	Alkalinity to pH 4.5	mg CaCO3/L					214	50.4	45.0 to 55.0			0.00	10.0
BD04088	Nitrogen, Nitrate/Nitrite	mg/L as N	-0.02	0.200	2.00	1.97	0.005	1.88	1.80 to 2.20	98.5	90.0 to 110	0.00	15.0
BD04088	Solids, Dissolved	mg/L	1.00	25.0			2260	50.0	40.0 to 60.0			0.889	10.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-20

**Location Code:** WMWGORLF  
**Collected:** 2/21/23 14:00  
**Customer ID:**  
**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04085

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Total	2/24/23 13:19	2/28/23 11:36		1.015	0.104	mg/L	0.030000	0.1015	
* Calcium, Total	2/24/23 13:19	2/28/23 14:49		10.15	310	mg/L	0.70035	4.06	
* Iron, Total	2/24/23 13:19	2/28/23 14:49		10.15	6.84	mg/L	0.08120	0.406	
* Lithium, Total	2/24/23 13:19	2/28/23 11:36		1.015	0.190	mg/L	0.007105	0.01999956	
* Magnesium, Total	2/24/23 13:19	2/28/23 14:49		10.15	165	mg/L	0.21315	4.06	
* Silica, Total (calc.)	2/24/23 13:19	2/28/23 11:36		1	21.2	mg/L			
* Silicon, Total	2/24/23 13:19	2/28/23 11:36		1.015	9.89	mg/L	0.02030	0.25375	
* Sodium, Total	2/24/23 13:19	2/28/23 14:49		10.15	130	mg/L	0.3045	4.06	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	2/23/23 13:36	2/27/23 12:16		1.015	0.100	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	2/23/23 13:36	2/27/23 14:03		10.15	324	mg/L	0.70035	4.06	
* Iron, Dissolved	2/23/23 13:36	2/27/23 14:03		10.15	6.91	mg/L	0.08120	0.406	
* Lithium, Dissolved	2/23/23 13:36	2/27/23 12:16		1.015	0.192	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	2/23/23 13:36	2/27/23 14:03		10.15	176	mg/L	0.21315	4.06	
* Silica, Dissolved (calc.)	2/23/23 13:36	2/27/23 12:16		1	20.8	mg/L			
* Silicon, Dissolved	2/23/23 13:36	2/27/23 12:16		1.015	9.74	mg/L	0.02030	0.25375	
* Sodium, Dissolved	2/23/23 13:36	2/27/23 14:03		10.15	137	mg/L	0.3045	4.06	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>			<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	2/24/23 13:19	2/27/23 17:59		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	2/24/23 13:19	2/27/23 17:59		1.015	Not Detected	mg/L	0.006090	0.05075	U
* Arsenic, Total	2/24/23 13:19	2/27/23 17:59		1.015	0.000706	mg/L	0.000081	0.000203	
* Barium, Total	2/24/23 13:19	2/27/23 17:59		1.015	0.0164	mg/L	0.000508	0.001015	
* Beryllium, Total	2/24/23 13:19	2/27/23 17:59		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	2/24/23 13:19	2/27/23 17:59		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	2/24/23 13:19	2/27/23 17:59		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Total	2/24/23 13:19	2/27/23 17:59		1.015	0.000330	mg/L	0.000068	0.000203	
* Lead, Total	2/24/23 13:19	2/27/23 17:59		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	2/24/23 13:19	2/27/23 17:59		1.015	1.11	mg/L	0.000152	0.001015	
* Molybdenum, Total	2/24/23 13:19	2/27/23 17:59		1.015	0.000949	mg/L	0.000102	0.000203	
* Potassium, Total	2/24/23 13:19	2/27/23 17:59		1.015	6.06	mg/L	0.169505	0.5075	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.



# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-20

**Location Code:** WMWGORLF  
**Collected:** 2/21/23 14:00  
**Customer ID:**  
**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04085

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/24/23 13:19	2/27/23 17:59		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	2/24/23 13:19	2/27/23 17:59		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	2/23/23 13:36	2/23/23 16:17		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/23/23 13:36	2/23/23 16:17		1.015	Not Detected	mg/L	0.006090	0.05075	U
* Arsenic, Dissolved	2/23/23 13:36	2/23/23 16:17		1.015	0.000634	mg/L	0.000081	0.000203	
* Barium, Dissolved	2/23/23 13:36	2/23/23 16:17		1.015	0.0158	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	2/23/23 13:36	2/28/23 10:52		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	2/23/23 13:36	2/23/23 16:17		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	2/23/23 13:36	2/23/23 16:17		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	2/23/23 13:36	2/23/23 16:17		1.015	0.000270	mg/L	0.000068	0.000203	
* Lead, Dissolved	2/23/23 13:36	2/23/23 16:17		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	2/23/23 13:36	2/23/23 16:17		1.015	1.00	mg/L	0.000152	0.001015	
* Molybdenum, Dissolved	2/23/23 13:36	2/23/23 16:17		1.015	0.00188	mg/L	0.000102	0.000203	
* Potassium, Dissolved	2/23/23 13:36	2/23/23 16:17		1.015	5.45	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/23/23 13:36	2/23/23 16:17		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	2/23/23 13:36	2/23/23 16:17		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: ELH</b>							
* Mercury, Total by CVAA	2/27/23 19:37	2/28/23 03:18		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: SC</b>							
* Nitrogen, Nitrate/Nitrite	2/24/23 11:32	2/24/23 11:32		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
* Alkalinity to pH 4.5	3/6/23 13:15	3/6/23 14:40		1	258	mg CaCO3/L			
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	2/23/23 13:45	2/24/23 13:45		1	2220	mg/L		147.1	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
* Bicarbonate Alkalinity, (calc.)	3/6/23 13:15	3/6/23 14:40		1	258	mg CaCO3/L		1	A
* Carbonate Alkalinity, (calc.)	3/6/23 13:15	3/6/23 14:40		1	Not Detected	mg CaCO3/L		0.5	A
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: SC</b>							
* Total Organic Carbon	2/23/23 23:33	2/23/23 23:33		1	3.40	mg/L	1.00	2	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-20

**Location Code:** WMWGORLF

**Collected:** 2/21/23 14:00

**Customer ID:**

**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04085

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	2/24/23 14:43	2/24/23 14:43		5	58.9	mg/L	2.50	5	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	2/27/23 13:00	2/27/23 13:00		1	0.148	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	3/1/23 14:23	3/1/23 14:23		50	1390	mg/L	30.0	100	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: DKG</b>							
Conductivity	2/21/23 13:56	2/21/23 13:56			2686.59	uS/cm			FA
pH	2/21/23 13:56	2/21/23 13:56			6.81	SU			FA
Temperature	2/21/23 13:56	2/21/23 13:56			19.48	C			FA
Turbidity	2/21/23 13:56	2/21/23 13:56			0.84	NTU			FA
Sulfide	2/21/23 13:56	2/21/23 13:56			0	mg/L			FA

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 2/21/23 14:00

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-20

**Laboratory ID Number:** BD04085

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BD04089	Aluminum, Dissolved	mg/L	-0.000276	0.0198	0.100	0.0922	0.0981	0.0965	0.0850 to 0.115	92.2	70.0 to 130	6.20	20.0
BD04088	Aluminum, Total	mg/L	0.000405	0.0198	0.100	0.102	0.105	0.104	0.0850 to 0.115	102	70.0 to 130	2.90	20.0
BD04089	Antimony, Dissolved	mg/L	0.000346	0.00100	0.100	0.0972	0.101	0.0904	0.0850 to 0.115	97.2	70.0 to 130	3.83	20.0
BD04088	Antimony, Total	mg/L	0.000397	0.00100	0.100	0.108	0.117	0.0988	0.0850 to 0.115	108	70.0 to 130	8.00	20.0
BD04089	Arsenic, Dissolved	mg/L	-0.0000191	0.000200	0.100	0.167	0.164	0.0960	0.0850 to 0.115	107	70.0 to 130	1.81	20.0
BD04088	Arsenic, Total	mg/L	0.0000097	0.000200	0.100	0.104	0.111	0.0999	0.0850 to 0.115	99.4	70.0 to 130	6.51	20.0
BD04089	Barium, Dissolved	mg/L	-0.0000092	0.00100	0.100	0.105	0.109	0.0954	0.0850 to 0.115	94.5	70.0 to 130	3.74	20.0
BD04088	Barium, Total	mg/L	-0.0000132	0.00100	0.100	0.127	0.136	0.107	0.0850 to 0.115	107	70.0 to 130	6.84	20.0
BD04089	Beryllium, Dissolved	mg/L	0.0000161	0.000880	0.100	0.0944	0.0957	0.108	0.0850 to 0.115	94.4	70.0 to 130	1.37	20.0
BD04088	Beryllium, Total	mg/L	0.0000113	0.000880	0.100	0.0983	0.101	0.0997	0.0850 to 0.115	98.3	70.0 to 130	2.71	20.0
BD04089	Boron, Dissolved	mg/L	-0.00311	0.0650	1.00	1.18	1.18	1.01	0.850 to 1.15	103	70.0 to 130	0.00	20.0
BD04088	Boron, Total	mg/L	-0.00347	0.0650	1.00	1.18	1.17	1.00	0.850 to 1.15	103	70.0 to 130	0.851	20.0
BD04089	Cadmium, Dissolved	mg/L	0.0000000	0.000147	0.100	0.0912	0.0945	0.0975	0.0850 to 0.115	91.2	70.0 to 130	3.55	20.0
BD04088	Cadmium, Total	mg/L	0.0000042	0.000147	0.100	0.0992	0.106	0.104	0.0850 to 0.115	99.2	70.0 to 130	6.63	20.0
BD04089	Calcium, Dissolved	mg/L	-0.0143	0.152	5.00	312	312	5.07	4.25 to 5.75	-260	70.0 to 130	0.00	20.0
BD04088	Calcium, Total	mg/L	-0.0229	0.152	5.00	312	300	4.80	4.25 to 5.75	300	70.0 to 130	3.92	20.0
BD04088	Chloride	mg/L	0.0239	1.00	80.0	121	114	10.0	9.00 to 11.0	108	80.0 to 120	5.96	20.0
BD04089	Chromium, Dissolved	mg/L	-0.0000558	0.000440	0.100	0.0928	0.0973	0.0989	0.0850 to 0.115	92.8	70.0 to 130	4.73	20.0
BD04088	Chromium, Total	mg/L	0.0000667	0.000440	0.100	0.100	0.104	0.106	0.0850 to 0.115	100	70.0 to 130	3.92	20.0
BD04089	Cobalt, Dissolved	mg/L	-0.0000015	0.000147	0.100	0.139	0.146	0.0995	0.0850 to 0.115	95.2	70.0 to 130	4.91	20.0
BD04088	Cobalt, Total	mg/L	0.0000023	0.000147	0.100	0.104	0.109	0.112	0.0850 to 0.115	104	70.0 to 130	4.69	20.0
BD04088	Fluoride	mg/L	0.0375	0.125	2.50	2.77	2.78	2.62	2.25 to 2.75	103	80.0 to 120	0.360	20.0
BD04089	Iron, Dissolved	mg/L	-0.000232	0.0176	0.2	163	167	0.202	0.170 to 0.230	2500	70.0 to 130	2.42	20.0
BD04088	Iron, Total	mg/L	0.000927	0.0176	0.2	4.48	4.16	0.200	0.170 to 0.230	220	70.0 to 130	7.41	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 2/21/23 14:00

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-20

**Laboratory ID Number:** BD04085

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BD04089	Lead, Dissolved	mg/L	0.000017	0.000147	0.100	0.102	0.104	0.100	0.0850 to 0.115	102	70.0 to 130	1.94	20.0
BD04088	Lead, Total	mg/L	0.000011	0.000147	0.100	0.109	0.112	0.112	0.0850 to 0.115	109	70.0 to 130	2.71	20.0
BD04089	Lithium, Dissolved	mg/L	0.000766	0.0154	0.200	0.280	0.277	0.194	0.170 to 0.230	109	70.0 to 130	1.08	20.0
BD04088	Lithium, Total	mg/L	-0.000337	0.0154	0.200	0.483	0.481	0.198	0.170 to 0.230	102	70.0 to 130	0.415	20.0
BD04089	Magnesium, Dissolved	mg/L	-0.0245	0.0462	5.00	359	358	5.09	4.25 to 5.75	-400	70.0 to 130	0.279	20.0
BD04088	Magnesium, Total	mg/L	-0.00494	0.0462	5.00	203	196	5.01	4.25 to 5.75	240	70.0 to 130	3.51	20.0
BD04089	Manganese, Dissolved	mg/L	0.0000252	0.00033	0.100	21.2	20.9	0.0997	0.0850 to 0.115	500	70.0 to 130	1.43	20.0
BD04088	Manganese, Total	mg/L	-0.0000306	0.00033	0.100	0.570	0.596	0.107	0.0850 to 0.115	92.0	70.0 to 130	4.46	20.0
BD04089	Mercury, Total by CVAA	mg/L	-1.000E-05	0.000500	0.004	0.00367	0.00372	0.00348	0.00340 to 0.00460	91.8	70.0 to 130	1.35	20.0
BD04089	Molybdenum, Dissolved	mg/L	0.0000079	0.0002	0.100	0.0939	0.0976	0.0972	0.0850 to 0.115	93.4	70.0 to 130	3.86	20.0
BD04088	Molybdenum, Total	mg/L	0.000028	0.0002	0.100	0.105	0.112	0.103	0.0850 to 0.115	102	70.0 to 130	6.45	20.0
BD04089	Potassium, Dissolved	mg/L	-0.00373	0.367	10.0	29.3	31.0	9.85	8.50 to 11.5	111	70.0 to 130	5.64	20.0
BD04088	Potassium, Total	mg/L	0.0259	0.367	10.0	17.5	17.8	10.3	8.50 to 11.5	102	70.0 to 130	1.70	20.0
BD04089	Selenium, Dissolved	mg/L	-0.0000434	0.00100	0.100	0.111	0.107	0.101	0.0850 to 0.115	111	70.0 to 130	3.67	20.0
BD04088	Selenium, Total	mg/L	0.0000768	0.00100	0.100	0.0994	0.106	0.103	0.0850 to 0.115	99.4	70.0 to 130	6.43	20.0
BD04089	Silicon, Dissolved	mg/L	-0.000019	0.0440	1.00	15.2	15.2	1.01	0.850 to 1.15	90.0	70.0 to 130	0.00	20.0
BD04088	Silicon, Total	mg/L	0.000121	0.0440	1.00	8.10	8.05	0.995	0.850 to 1.15	99.0	70.0 to 130	0.619	20.0
BD04089	Sodium, Dissolved	mg/L	-0.00164	0.0880	5.00	44.2	48.6	4.91	4.25 to 5.75	-132	70.0 to 130	9.48	20.0
BD04088	Sodium, Total	mg/L	-0.000766	0.0880	5.00	162	157	4.88	4.25 to 5.75	200	70.0 to 130	3.13	20.0
BD04088	Sulfate	mg/L	0.0257	2.0	1600	2980	3210	18.9	18.0 to 22.0	102	80.0 to 120	7.43	20.0
BD04089	Thallium, Dissolved	mg/L	-0.0000047	0.000147	0.100	0.101	0.105	0.101	0.0850 to 0.115	101	70.0 to 130	3.88	20.0
BD04088	Thallium, Total	mg/L	0.0000046	0.000147	0.100	0.109	0.113	0.110	0.0850 to 0.115	109	70.0 to 130	3.60	20.0
BD04088	Total Organic Carbon	mg/L	0.0453	1.00	10.0	14.8	15.2	27.1		100	80.0 to 120	2.67	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

## Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 2/21/23 14:00

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-20

**Laboratory ID Number:** BD04085

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BD04089	Alkalinity to pH 4.5	mg CaCO3/L					214	50.4	45.0 to 55.0			0.00	10.0
BD04088	Nitrogen, Nitrate/Nitrite	mg/L as N	-0.02	0.200	2.00	1.97	0.005	1.88	1.80 to 2.20	98.5	90.0 to 110	0.00	15.0
BD04088	Solids, Dissolved	mg/L	1.00	25.0			2260	50.0	40.0 to 60.0			0.889	10.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill Equipment Blank-1

**Location Code:** WMWGORLFEB  
**Collected:** 2/21/23 14:35  
**Customer ID:**  
**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04086

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>					
* Boron, Total	2/24/23 13:19	2/28/23 11:39		1.015	Not Detected	mg/L	0.030000	0.1015	U	
* Calcium, Total	2/24/23 13:19	2/28/23 11:39		1.015	Not Detected	mg/L	0.070035	0.406	U	
* Iron, Total	2/24/23 13:19	2/28/23 11:39		1.015	Not Detected	mg/L	0.008120	0.0406	U	
* Lithium, Total	2/24/23 13:19	2/28/23 11:39		1.015	Not Detected	mg/L	0.007105	0.01999956	U	
* Magnesium, Total	2/24/23 13:19	2/28/23 11:39		1.015	Not Detected	mg/L	0.021315	0.406	U	
* Silica, Total (calc.)	2/24/23 13:19	2/28/23 11:39		1	Not Detected	mg/L				
* Silicon, Total	2/24/23 13:19	2/28/23 11:39		1.015	Not Detected	mg/L	0.02030	0.25375	U	
* Sodium, Total	2/24/23 13:19	2/28/23 11:39		1.015	Not Detected	mg/L	0.03045	0.406	U	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>			<b>Preparation Method: EPA 1638</b>					
* Antimony, Total	2/24/23 13:19	2/27/23 18:02		1.015	Not Detected	mg/L	0.000508	0.001015	U	
* Aluminum, Total	2/24/23 13:19	2/27/23 18:02		1.015	Not Detected	mg/L	0.006090	0.05075	U	
* Arsenic, Total	2/24/23 13:19	2/27/23 18:02		1.015	Not Detected	mg/L	0.000081	0.000203	U	
* Barium, Total	2/24/23 13:19	2/27/23 18:02		1.015	Not Detected	mg/L	0.000508	0.001015	U	
* Beryllium, Total	2/24/23 13:19	2/27/23 18:02		1.015	Not Detected	mg/L	0.000406	0.001015	U	
* Cadmium, Total	2/24/23 13:19	2/27/23 18:02		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Chromium, Total	2/24/23 13:19	2/27/23 18:02		1.015	Not Detected	mg/L	0.000203	0.001015	U	
* Cobalt, Total	2/24/23 13:19	2/27/23 18:02		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Lead, Total	2/24/23 13:19	2/27/23 18:02		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Manganese, Total	2/24/23 13:19	2/27/23 18:02		1.015	0.000307	mg/L	0.000152	0.001015	J	
* Molybdenum, Total	2/24/23 13:19	2/27/23 18:02		1.015	Not Detected	mg/L	0.000102	0.000203	U	
* Potassium, Total	2/24/23 13:19	2/27/23 18:02		1.015	Not Detected	mg/L	0.169505	0.5075	U	
* Selenium, Total	2/24/23 13:19	2/27/23 18:02		1.015	Not Detected	mg/L	0.000508	0.001015	U	
* Thallium, Total	2/24/23 13:19	2/27/23 18:02		1.015	Not Detected	mg/L	0.000068	0.000203	U	
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: ELH</b>								
* Mercury, Total by CVAA	2/27/23 19:37	2/28/23 03:22		1	Not Detected	mg/L	0.0003	0.0005	U	
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: SC</b>								
* Nitrogen, Nitrate/Nitrite	2/24/23 11:37	2/24/23 11:37		1	Not Detected	mg/L as N	0.20	0.3	U	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>								
* Solids, Dissolved	2/23/23 13:45	2/24/23 13:45		1	Not Detected	mg/L		25	U	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:**

# Certificate Of Analysis

**Description:** Gorgas Landfill Equipment Blank-1

**Location Code:** WMWGORLFEB

**Collected:** 2/21/23 14:35

**Customer ID:**

**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04086

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: SC</b>							
* Total Organic Carbon	2/23/23 23:48	2/23/23 23:48		1	Not Detected	mg/L	1.00	2	U
<b>Analytical Method: SM4500CI E</b>		<b>Analyst: JCC</b>							
* Chloride	2/24/23 14:37	2/24/23 14:37		1	Not Detected	mg/L	0.50	1	U
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	2/27/23 13:02	2/27/23 13:02		1	Not Detected	mg/L	0.06	0.125	U
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	3/1/23 14:25	3/1/23 14:25		1	Not Detected	mg/L	0.6	2	U

---

MDL's and RL's are adjusted for sample dilution, as applicable

---

**Comments:**

# Batch QC Summary

**Customer Account:** WMWGORLFEB

**Sample Date:** 2/21/23 14:35

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill Equipment Blank-1

**Laboratory ID Number:** BD04086

Sample	Analysis	Units	MB					Standard		Rec		Prec	Limit
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BD04088	Aluminum, Total	mg/L	0.000405	0.0198	0.100	0.102	0.105	0.104	0.0850 to 0.115	102	70.0 to 130	2.90	20.0
BD04088	Antimony, Total	mg/L	0.000397	0.00100	0.100	0.108	0.117	0.0988	0.0850 to 0.115	108	70.0 to 130	8.00	20.0
BD04088	Arsenic, Total	mg/L	0.0000097	0.000200	0.100	0.104	0.111	0.0999	0.0850 to 0.115	99.4	70.0 to 130	6.51	20.0
BD04088	Barium, Total	mg/L	-0.0000132	0.00100	0.100	0.127	0.136	0.107	0.0850 to 0.115	107	70.0 to 130	6.84	20.0
BD04088	Beryllium, Total	mg/L	0.0000113	0.000880	0.100	0.0983	0.101	0.0997	0.0850 to 0.115	98.3	70.0 to 130	2.71	20.0
BD04088	Boron, Total	mg/L	-0.00347	0.0650	1.00	1.18	1.17	1.00	0.850 to 1.15	103	70.0 to 130	0.851	20.0
BD04088	Cadmium, Total	mg/L	0.0000042	0.000147	0.100	0.0992	0.106	0.104	0.0850 to 0.115	99.2	70.0 to 130	6.63	20.0
BD04088	Calcium, Total	mg/L	-0.0229	0.152	5.00	312	300	4.80	4.25 to 5.75	300	70.0 to 130	3.92	20.0
BD04088	Chloride	mg/L	0.0239	1.00	80.0	121	114	10.0	9.00 to 11.0	108	80.0 to 120	5.96	20.0
BD04088	Chromium, Total	mg/L	0.0000667	0.000440	0.100	0.100	0.104	0.106	0.0850 to 0.115	100	70.0 to 130	3.92	20.0
BD04088	Cobalt, Total	mg/L	0.0000023	0.000147	0.100	0.104	0.109	0.112	0.0850 to 0.115	104	70.0 to 130	4.69	20.0
BD04088	Fluoride	mg/L	0.0375	0.125	2.50	2.77	2.78	2.62	2.25 to 2.75	103	80.0 to 120	0.360	20.0
BD04088	Iron, Total	mg/L	0.000927	0.0176	0.2	4.48	4.16	0.200	0.170 to 0.230	220	70.0 to 130	7.41	20.0
BD04088	Lead, Total	mg/L	0.000011	0.000147	0.100	0.109	0.112	0.112	0.0850 to 0.115	109	70.0 to 130	2.71	20.0
BD04088	Lithium, Total	mg/L	-0.000337	0.0154	0.200	0.483	0.481	0.198	0.170 to 0.230	102	70.0 to 130	0.415	20.0
BD04088	Magnesium, Total	mg/L	-0.00494	0.0462	5.00	203	196	5.01	4.25 to 5.75	240	70.0 to 130	3.51	20.0
BD04088	Manganese, Total	mg/L	-0.0000306	0.00033	0.100	0.570	0.596	0.107	0.0850 to 0.115	92.0	70.0 to 130	4.46	20.0
BD04089	Mercury, Total by CVAA	mg/L	-1.000E-05	0.000500	0.004	0.00367	0.00372	0.00348	0.00340 to 0.00460	91.8	70.0 to 130	1.35	20.0
BD04088	Molybdenum, Total	mg/L	0.000028	0.0002	0.100	0.105	0.112	0.103	0.0850 to 0.115	102	70.0 to 130	6.45	20.0
BD04088	Potassium, Total	mg/L	0.0259	0.367	10.0	17.5	17.8	10.3	8.50 to 11.5	102	70.0 to 130	1.70	20.0
BD04088	Selenium, Total	mg/L	0.0000768	0.00100	0.100	0.0994	0.106	0.103	0.0850 to 0.115	99.4	70.0 to 130	6.43	20.0
BD04088	Silicon, Total	mg/L	0.000121	0.0440	1.00	8.10	8.05	0.995	0.850 to 1.15	99.0	70.0 to 130	0.619	20.0
BD04088	Sodium, Total	mg/L	-0.000766	0.0880	5.00	162	157	4.88	4.25 to 5.75	200	70.0 to 130	3.13	20.0
BD04088	Sulfate	mg/L	0.0257	2.0	1600	2980	3210	18.9	18.0 to 22.0	102	80.0 to 120	7.43	20.0

**Comments:**



# Batch QC Summary

**Customer Account:** WMWGORLFEB

**Sample Date:** 2/21/23 14:35

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill Equipment Blank-1

**Laboratory ID Number:** BD04086

Sample	Analysis	Units	MB	MB				MSD	Standard	Standard		Rec		Prec	Limit
				Limit	Spike	MS	Limit			Limit	Rec	Limit			
BD04088	Thallium, Total	mg/L	0.0000046	0.000147	0.100	0.109	0.113	0.110	0.0850 to 0.115		109	70.0 to 130		3.60	20.0
BD04088	Total Organic Carbon	mg/L	0.0453	1.00	10.0	14.8	15.2	27.1			100	80.0 to 120		2.67	20.0

**Comments:**

## Batch QC Summary

**Customer Account:** WMWGORLFEB

**Sample Date:** 2/21/23 14:35

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill Equipment Blank-1

**Laboratory ID Number:** BD04086

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard Standard	Standard Limit	Rec Rec	Limit	Prec	Prec Limit
BD04088	Nitrogen, Nitrate/Nitrite	mg/L as N	-0.02	0.200	2.00	1.97	0.005	1.88	1.80 to 2.20	98.5	90.0 to 110	0.00	15.0
BD04088	Solids, Dissolved	mg/L	1.00	25.0			2260	50.0	40.0 to 60.0			0.889	10.0

---

**Comments:**

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-11

**Location Code:** WMWGORLF  
**Collected:** 2/21/23 15:25  
**Customer ID:**  
**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04087

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Total	2/24/23 13:19	2/28/23 11:43		1.015	0.104	mg/L	0.030000	0.1015	
* Calcium, Total	2/24/23 13:19	2/28/23 14:52		10.15	314	mg/L	0.70035	4.06	
* Iron, Total	2/24/23 13:19	2/28/23 11:43		1.015	3.94	mg/L	0.008120	0.0406	
* Lithium, Total	2/24/23 13:19	2/28/23 11:43		1.015	0.204	mg/L	0.007105	0.01999956	
* Magnesium, Total	2/24/23 13:19	2/28/23 14:52		10.15	165	mg/L	0.21315	4.06	
* Silica, Total (calc.)	2/24/23 13:19	2/28/23 11:43		1	21.4	mg/L			
* Silicon, Total	2/24/23 13:19	2/28/23 11:43		1.015	9.99	mg/L	0.02030	0.25375	
* Sodium, Total	2/24/23 13:19	2/28/23 14:52		10.15	139	mg/L	0.3045	4.06	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	2/23/23 13:36	2/27/23 12:19		1.015	0.101	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	2/23/23 13:36	2/27/23 14:07		10.15	327	mg/L	0.70035	4.06	
* Iron, Dissolved	2/23/23 13:36	2/27/23 12:19		1.015	3.86	mg/L	0.008120	0.0406	
* Lithium, Dissolved	2/23/23 13:36	2/27/23 12:19		1.015	0.206	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	2/23/23 13:36	2/27/23 14:07		10.15	178	mg/L	0.21315	4.06	
* Silica, Dissolved (calc.)	2/23/23 13:36	2/27/23 12:19		1	21.2	mg/L			
* Silicon, Dissolved	2/23/23 13:36	2/27/23 12:19		1.015	9.91	mg/L	0.02030	0.25375	
* Sodium, Dissolved	2/23/23 13:36	2/27/23 14:07		10.15	147	mg/L	0.3045	4.06	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>			<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	2/24/23 13:19	2/27/23 18:06		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	2/24/23 13:19	2/27/23 18:06		1.015	0.00821	mg/L	0.006090	0.05075	J
* Arsenic, Total	2/24/23 13:19	2/27/23 18:06		1.015	0.000859	mg/L	0.000081	0.000203	
* Barium, Total	2/24/23 13:19	2/27/23 18:06		1.015	0.0167	mg/L	0.000508	0.001015	
* Beryllium, Total	2/24/23 13:19	2/27/23 18:06		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	2/24/23 13:19	2/27/23 18:06		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	2/24/23 13:19	2/27/23 18:06		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Total	2/24/23 13:19	2/27/23 18:06		1.015	0.000889	mg/L	0.000068	0.000203	
* Lead, Total	2/24/23 13:19	2/27/23 18:06		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	2/24/23 13:19	2/27/23 19:45		5.075	1.46	mg/L	0.000761	0.005075	
* Molybdenum, Total	2/24/23 13:19	2/27/23 18:06		1.015	0.00138	mg/L	0.000102	0.000203	
* Potassium, Total	2/24/23 13:19	2/27/23 18:06		1.015	6.25	mg/L	0.169505	0.5075	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-11

**Location Code:** WMWGORLF  
**Collected:** 2/21/23 15:25  
**Customer ID:**  
**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04087

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/24/23 13:19	2/27/23 18:06		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	2/24/23 13:19	2/27/23 18:06		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	2/23/23 13:36	2/23/23 16:21		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/23/23 13:36	2/23/23 16:21		1.015	Not Detected	mg/L	0.006090	0.05075	U
* Arsenic, Dissolved	2/23/23 13:36	2/23/23 16:21		1.015	0.000801	mg/L	0.000081	0.000203	
* Barium, Dissolved	2/23/23 13:36	2/23/23 16:21		1.015	0.0144	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	2/23/23 13:36	2/28/23 10:55		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	2/23/23 13:36	2/23/23 16:21		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	2/23/23 13:36	2/23/23 16:21		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	2/23/23 13:36	2/23/23 16:21		1.015	0.000846	mg/L	0.000068	0.000203	
* Lead, Dissolved	2/23/23 13:36	2/23/23 16:21		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	2/23/23 13:36	2/28/23 12:21		5.075	1.52	mg/L	0.000761	0.005075	
* Molybdenum, Dissolved	2/23/23 13:36	2/23/23 16:21		1.015	0.00164	mg/L	0.000102	0.000203	
* Potassium, Dissolved	2/23/23 13:36	2/23/23 16:21		1.015	5.70	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/23/23 13:36	2/23/23 16:21		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	2/23/23 13:36	2/23/23 16:21		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: ELH</b>							
* Mercury, Total by CVAA	2/27/23 19:37	2/28/23 03:26		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: SC</b>							
* Nitrogen, Nitrate/Nitrite	2/24/23 11:39	2/24/23 11:39		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
* Alkalinity to pH 4.5	3/6/23 13:15	3/6/23 14:40		1	270	mg CaCO3/L			
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	2/23/23 13:45	2/24/23 13:45		1	2160	mg/L		147.1	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
* Bicarbonate Alkalinity, (calc.)	3/6/23 13:15	3/6/23 14:40		1	269	mg CaCO3/L		1	A
* Carbonate Alkalinity, (calc.)	3/6/23 13:15	3/6/23 14:40		1	0.517	mg CaCO3/L		0.5	A
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: SC</b>							
* Total Organic Carbon	2/24/23 00:03	2/24/23 00:03		1	4.96	mg/L	1.00	2	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-11

**Location Code:** WMWGORLF

**Collected:** 2/21/23 15:25

**Customer ID:**

**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04087

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	2/24/23 14:44	2/24/23 14:44		4	50.4	mg/L	2.00	4	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	2/27/23 13:03	2/27/23 13:03		1	0.129	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	3/1/23 14:26	3/1/23 14:26		50	1290	mg/L	30.0	100	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: DKG</b>							
Conductivity	2/21/23 15:22	2/21/23 15:22			2597.79	uS/cm			FA
pH	2/21/23 15:22	2/21/23 15:22			6.77	SU			FA
Temperature	2/21/23 15:22	2/21/23 15:22			20.11	C			FA
Turbidity	2/21/23 15:22	2/21/23 15:22			0.8	NTU			FA
Sulfide	2/21/23 15:22	2/21/23 15:22			0	mg/L			FA

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF  
**Sample Date:** 2/21/23 15:25  
**Customer ID:**  
**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-11

**Laboratory ID Number:** BD04087

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BD04089	Aluminum, Dissolved	mg/L	-0.000276	0.0198	0.100	0.0922	0.0981	0.0965	0.0850 to 0.115	92.2	70.0 to 130	6.20	20.0
BD04088	Aluminum, Total	mg/L	0.000405	0.0198	0.100	0.102	0.105	0.104	0.0850 to 0.115	102	70.0 to 130	2.90	20.0
BD04089	Antimony, Dissolved	mg/L	0.000346	0.00100	0.100	0.0972	0.101	0.0904	0.0850 to 0.115	97.2	70.0 to 130	3.83	20.0
BD04088	Antimony, Total	mg/L	0.000397	0.00100	0.100	0.108	0.117	0.0988	0.0850 to 0.115	108	70.0 to 130	8.00	20.0
BD04089	Arsenic, Dissolved	mg/L	-0.0000191	0.000200	0.100	0.167	0.164	0.0960	0.0850 to 0.115	107	70.0 to 130	1.81	20.0
BD04088	Arsenic, Total	mg/L	0.0000097	0.000200	0.100	0.104	0.111	0.0999	0.0850 to 0.115	99.4	70.0 to 130	6.51	20.0
BD04089	Barium, Dissolved	mg/L	-0.0000092	0.00100	0.100	0.105	0.109	0.0954	0.0850 to 0.115	94.5	70.0 to 130	3.74	20.0
BD04088	Barium, Total	mg/L	-0.0000132	0.00100	0.100	0.127	0.136	0.107	0.0850 to 0.115	107	70.0 to 130	6.84	20.0
BD04089	Beryllium, Dissolved	mg/L	0.0000161	0.000880	0.100	0.0944	0.0957	0.108	0.0850 to 0.115	94.4	70.0 to 130	1.37	20.0
BD04088	Beryllium, Total	mg/L	0.0000113	0.000880	0.100	0.0983	0.101	0.0997	0.0850 to 0.115	98.3	70.0 to 130	2.71	20.0
BD04089	Boron, Dissolved	mg/L	-0.00311	0.0650	1.00	1.18	1.18	1.01	0.850 to 1.15	103	70.0 to 130	0.00	20.0
BD04088	Boron, Total	mg/L	-0.00347	0.0650	1.00	1.18	1.17	1.00	0.850 to 1.15	103	70.0 to 130	0.851	20.0
BD04089	Cadmium, Dissolved	mg/L	0.0000000	0.000147	0.100	0.0912	0.0945	0.0975	0.0850 to 0.115	91.2	70.0 to 130	3.55	20.0
BD04088	Cadmium, Total	mg/L	0.0000042	0.000147	0.100	0.0992	0.106	0.104	0.0850 to 0.115	99.2	70.0 to 130	6.63	20.0
BD04089	Calcium, Dissolved	mg/L	-0.0143	0.152	5.00	312	312	5.07	4.25 to 5.75	-260	70.0 to 130	0.00	20.0
BD04088	Calcium, Total	mg/L	-0.0229	0.152	5.00	312	300	4.80	4.25 to 5.75	300	70.0 to 130	3.92	20.0
BD04088	Chloride	mg/L	0.0239	1.00	80.0	121	114	10.0	9.00 to 11.0	108	80.0 to 120	5.96	20.0
BD04089	Chromium, Dissolved	mg/L	-0.0000558	0.000440	0.100	0.0928	0.0973	0.0989	0.0850 to 0.115	92.8	70.0 to 130	4.73	20.0
BD04088	Chromium, Total	mg/L	0.0000667	0.000440	0.100	0.100	0.104	0.106	0.0850 to 0.115	100	70.0 to 130	3.92	20.0
BD04089	Cobalt, Dissolved	mg/L	-0.0000015	0.000147	0.100	0.139	0.146	0.0995	0.0850 to 0.115	95.2	70.0 to 130	4.91	20.0
BD04088	Cobalt, Total	mg/L	0.0000023	0.000147	0.100	0.104	0.109	0.112	0.0850 to 0.115	104	70.0 to 130	4.69	20.0
BD04088	Fluoride	mg/L	0.0375	0.125	2.50	2.77	2.78	2.62	2.25 to 2.75	103	80.0 to 120	0.360	20.0
BD04089	Iron, Dissolved	mg/L	-0.000232	0.0176	0.2	163	167	0.202	0.170 to 0.230	2500	70.0 to 130	2.42	20.0
BD04088	Iron, Total	mg/L	0.000927	0.0176	0.2	4.48	4.16	0.200	0.170 to 0.230	220	70.0 to 130	7.41	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 2/21/23 15:25

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-11

**Laboratory ID Number:** BD04087

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BD04089	Lead, Dissolved	mg/L	0.000017	0.000147	0.100	0.102	0.104	0.100	0.0850 to 0.115	102	70.0 to 130	1.94	20.0
BD04088	Lead, Total	mg/L	0.000011	0.000147	0.100	0.109	0.112	0.112	0.0850 to 0.115	109	70.0 to 130	2.71	20.0
BD04089	Lithium, Dissolved	mg/L	0.000766	0.0154	0.200	0.280	0.277	0.194	0.170 to 0.230	109	70.0 to 130	1.08	20.0
BD04088	Lithium, Total	mg/L	-0.000337	0.0154	0.200	0.483	0.481	0.198	0.170 to 0.230	102	70.0 to 130	0.415	20.0
BD04089	Magnesium, Dissolved	mg/L	-0.0245	0.0462	5.00	359	358	5.09	4.25 to 5.75	-400	70.0 to 130	0.279	20.0
BD04088	Magnesium, Total	mg/L	-0.00494	0.0462	5.00	203	196	5.01	4.25 to 5.75	240	70.0 to 130	3.51	20.0
BD04089	Manganese, Dissolved	mg/L	0.0000252	0.00033	0.100	21.2	20.9	0.0997	0.0850 to 0.115	500	70.0 to 130	1.43	20.0
BD04088	Manganese, Total	mg/L	-0.0000306	0.00033	0.100	0.570	0.596	0.107	0.0850 to 0.115	92.0	70.0 to 130	4.46	20.0
BD04089	Mercury, Total by CVAA	mg/L	-1.000E-05	0.000500	0.004	0.00367	0.00372	0.00348	0.00340 to 0.00460	91.8	70.0 to 130	1.35	20.0
BD04089	Molybdenum, Dissolved	mg/L	0.0000079	0.0002	0.100	0.0939	0.0976	0.0972	0.0850 to 0.115	93.4	70.0 to 130	3.86	20.0
BD04088	Molybdenum, Total	mg/L	0.000028	0.0002	0.100	0.105	0.112	0.103	0.0850 to 0.115	102	70.0 to 130	6.45	20.0
BD04089	Potassium, Dissolved	mg/L	-0.00373	0.367	10.0	29.3	31.0	9.85	8.50 to 11.5	111	70.0 to 130	5.64	20.0
BD04088	Potassium, Total	mg/L	0.0259	0.367	10.0	17.5	17.8	10.3	8.50 to 11.5	102	70.0 to 130	1.70	20.0
BD04089	Selenium, Dissolved	mg/L	-0.0000434	0.00100	0.100	0.111	0.107	0.101	0.0850 to 0.115	111	70.0 to 130	3.67	20.0
BD04088	Selenium, Total	mg/L	0.0000768	0.00100	0.100	0.0994	0.106	0.103	0.0850 to 0.115	99.4	70.0 to 130	6.43	20.0
BD04089	Silicon, Dissolved	mg/L	-0.000019	0.0440	1.00	15.2	15.2	1.01	0.850 to 1.15	90.0	70.0 to 130	0.00	20.0
BD04088	Silicon, Total	mg/L	0.000121	0.0440	1.00	8.10	8.05	0.995	0.850 to 1.15	99.0	70.0 to 130	0.619	20.0
BD04089	Sodium, Dissolved	mg/L	-0.00164	0.0880	5.00	44.2	48.6	4.91	4.25 to 5.75	-132	70.0 to 130	9.48	20.0
BD04088	Sodium, Total	mg/L	-0.000766	0.0880	5.00	162	157	4.88	4.25 to 5.75	200	70.0 to 130	3.13	20.0
BD04088	Sulfate	mg/L	0.0257	2.0	1600	2980	3210	18.9	18.0 to 22.0	102	80.0 to 120	7.43	20.0
BD04089	Thallium, Dissolved	mg/L	-0.0000047	0.000147	0.100	0.101	0.105	0.101	0.0850 to 0.115	101	70.0 to 130	3.88	20.0
BD04088	Thallium, Total	mg/L	0.0000046	0.000147	0.100	0.109	0.113	0.110	0.0850 to 0.115	109	70.0 to 130	3.60	20.0
BD04088	Total Organic Carbon	mg/L	0.0453	1.00	10.0	14.8	15.2	27.1		100	80.0 to 120	2.67	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

## Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 2/21/23 15:25

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-11

**Laboratory ID Number:** BD04087

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BD04089	Alkalinity to pH 4.5	mg CaCO3/L					214	50.4	45.0 to 55.0			0.00	10.0
BD04088	Nitrogen, Nitrate/Nitrite	mg/L as N	-0.02	0.200	2.00	1.97	0.005	1.88	1.80 to 2.20	98.5	90.0 to 110	0.00	15.0
BD04088	Solids, Dissolved	mg/L	1.00	25.0			2260	50.0	40.0 to 60.0			0.889	10.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.



# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-12V

**Location Code:** WMWGORLF  
**Collected:** 2/22/23 12:35  
**Customer ID:**  
**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04088

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Total	2/24/23 13:19	2/28/23 11:46		1.015	0.152	mg/L	0.030000	0.1015	
* Calcium, Total	2/24/23 13:19	2/28/23 14:56		10.15	297	mg/L	0.70035	4.06	RA
* Iron, Total	2/24/23 13:19	2/28/23 14:56		10.15	4.04	mg/L	0.08120	0.406	RA
* Lithium, Total	2/24/23 13:19	2/28/23 11:46		1.015	0.279	mg/L	0.007105	0.01999956	
* Magnesium, Total	2/24/23 13:19	2/28/23 14:56		10.15	191	mg/L	0.21315	4.06	RA
* Silica, Total (calc.)	2/24/23 13:19	2/28/23 11:46		1	15.2	mg/L			
* Silicon, Total	2/24/23 13:19	2/28/23 11:46		1.015	7.11	mg/L	0.02030	0.25375	
* Sodium, Total	2/24/23 13:19	2/28/23 14:56		10.15	152	mg/L	0.3045	4.06	RA
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	2/23/23 13:36	2/27/23 12:22		1.015	0.151	mg/L	0.030000	0.1015	
* Calcium, Dissolved	2/23/23 13:36	2/27/23 14:10		10.15	277	mg/L	0.70035	4.06	
* Iron, Dissolved	2/23/23 13:36	2/27/23 12:22		1.015	3.54	mg/L	0.008120	0.0406	
* Lithium, Dissolved	2/23/23 13:36	2/27/23 12:22		1.015	0.287	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	2/23/23 13:36	2/27/23 14:10		10.15	187	mg/L	0.21315	4.06	
* Silica, Dissolved (calc.)	2/23/23 13:36	2/27/23 12:22		1	15.1	mg/L			
* Silicon, Dissolved	2/23/23 13:36	2/27/23 12:22		1.015	7.05	mg/L	0.02030	0.25375	
* Sodium, Dissolved	2/23/23 13:36	2/27/23 14:10		10.15	146	mg/L	0.3045	4.06	
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: DLJ</b>		<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	2/24/23 13:19	2/27/23 18:09		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	2/24/23 13:19	2/27/23 18:09		1.015	Not Detected	mg/L	0.006090	0.05075	U
* Arsenic, Total	2/24/23 13:19	2/27/23 18:09		1.015	0.00455	mg/L	0.000081	0.000203	
* Barium, Total	2/24/23 13:19	2/27/23 18:09		1.015	0.0198	mg/L	0.000508	0.001015	
* Beryllium, Total	2/24/23 13:19	2/27/23 18:09		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	2/24/23 13:19	2/27/23 18:09		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	2/24/23 13:19	2/27/23 18:09		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Total	2/24/23 13:19	2/27/23 18:09		1.015	0.000114	mg/L	0.000068	0.000203	J
* Lead, Total	2/24/23 13:19	2/27/23 18:09		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	2/24/23 13:19	2/27/23 18:09		1.015	0.478	mg/L	0.000152	0.001015	
* Molybdenum, Total	2/24/23 13:19	2/27/23 18:09		1.015	0.00304	mg/L	0.000102	0.000203	
* Potassium, Total	2/24/23 13:19	2/27/23 18:09		1.015	7.31	mg/L	0.169505	0.5075	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-12V

**Location Code:** WMWGORLF  
**Collected:** 2/22/23 12:35  
**Customer ID:**  
**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04088

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/24/23 13:19	2/27/23 18:09		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	2/24/23 13:19	2/27/23 18:09		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	2/23/23 13:36	2/23/23 16:25		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/23/23 13:36	2/23/23 16:25		1.015	Not Detected	mg/L	0.006090	0.05075	U
* Arsenic, Dissolved	2/23/23 13:36	2/23/23 16:25		1.015	0.00423	mg/L	0.000081	0.000203	
* Barium, Dissolved	2/23/23 13:36	2/23/23 16:25		1.015	0.0174	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	2/23/23 13:36	2/28/23 10:59		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	2/23/23 13:36	2/23/23 16:25		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	2/23/23 13:36	2/23/23 16:25		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	2/23/23 13:36	2/23/23 16:25		1.015	0.0000949	mg/L	0.000068	0.000203	J
* Lead, Dissolved	2/23/23 13:36	2/23/23 16:25		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	2/23/23 13:36	2/23/23 16:25		1.015	0.425	mg/L	0.000152	0.001015	
* Molybdenum, Dissolved	2/23/23 13:36	2/23/23 16:25		1.015	0.00288	mg/L	0.000102	0.000203	
* Potassium, Dissolved	2/23/23 13:36	2/23/23 16:25		1.015	6.49	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/23/23 13:36	2/23/23 16:25		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	2/23/23 13:36	2/23/23 16:25		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: ELH</b>							
* Mercury, Total by CVAA	2/27/23 19:37	2/28/23 03:30		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: SC</b>							
* Nitrogen, Nitrate/Nitrite	2/24/23 11:40	2/24/23 11:40		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
* Alkalinity to pH 4.5	3/6/23 13:15	3/6/23 14:40		1	293	mg CaCO3/L			
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	2/23/23 13:45	2/24/23 13:45		1	2240	mg/L		147.1	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
* Bicarbonate Alkalinity, (calc.)	3/6/23 13:15	3/6/23 14:40		1	292	mg CaCO3/L		1	A
* Carbonate Alkalinity, (calc.)	3/6/23 13:15	3/6/23 14:40		1	0.615	mg CaCO3/L		0.5	A
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: SC</b>							
* Total Organic Carbon	2/24/23 00:19	2/24/23 00:19		1	4.80	mg/L	1.00	2	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-12V

**Location Code:** WMWGORLF

**Collected:** 2/22/23 12:35

**Customer ID:**

**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04088

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	2/24/23 14:55	2/24/23 14:55		8	34.3	mg/L	4.00	8	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	2/27/23 13:04	2/27/23 13:04		1	0.199	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	3/1/23 14:27	3/1/23 14:27		80	1340	mg/L	48.0	160	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: DKG</b>							
Conductivity	2/22/23 12:32	2/22/23 12:32			2671.70	uS/cm			FA
pH	2/22/23 12:32	2/22/23 12:32			6.95	SU			FA
Temperature	2/22/23 12:32	2/22/23 12:32			22.78	C			FA
Turbidity	2/22/23 12:32	2/22/23 12:32			1.96	NTU			FA
Sulfide	2/22/23 12:32	2/22/23 12:32			0	mg/L			FA

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF  
**Sample Date:** 2/22/23 12:35  
**Customer ID:**  
**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-12V

**Laboratory ID Number:** BD04088

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BD04089	Aluminum, Dissolved	mg/L	-0.000276	0.0198	0.100	0.0922	0.0981	0.0965	0.0850 to 0.115	92.2	70.0 to 130	6.20	20.0
BD04088	Aluminum, Total	mg/L	0.000405	0.0198	0.100	0.102	0.105	0.104	0.0850 to 0.115	102	70.0 to 130	2.90	20.0
BD04089	Antimony, Dissolved	mg/L	0.000346	0.00100	0.100	0.0972	0.101	0.0904	0.0850 to 0.115	97.2	70.0 to 130	3.83	20.0
BD04088	Antimony, Total	mg/L	0.000397	0.00100	0.100	0.108	0.117	0.0988	0.0850 to 0.115	108	70.0 to 130	8.00	20.0
BD04089	Arsenic, Dissolved	mg/L	-0.0000191	0.000200	0.100	0.167	0.164	0.0960	0.0850 to 0.115	107	70.0 to 130	1.81	20.0
BD04088	Arsenic, Total	mg/L	0.0000097	0.000200	0.100	0.104	0.111	0.0999	0.0850 to 0.115	99.4	70.0 to 130	6.51	20.0
BD04089	Barium, Dissolved	mg/L	-0.0000092	0.00100	0.100	0.105	0.109	0.0954	0.0850 to 0.115	94.5	70.0 to 130	3.74	20.0
BD04088	Barium, Total	mg/L	-0.0000132	0.00100	0.100	0.127	0.136	0.107	0.0850 to 0.115	107	70.0 to 130	6.84	20.0
BD04089	Beryllium, Dissolved	mg/L	0.0000161	0.000880	0.100	0.0944	0.0957	0.108	0.0850 to 0.115	94.4	70.0 to 130	1.37	20.0
BD04088	Beryllium, Total	mg/L	0.0000113	0.000880	0.100	0.0983	0.101	0.0997	0.0850 to 0.115	98.3	70.0 to 130	2.71	20.0
BD04089	Boron, Dissolved	mg/L	-0.00311	0.0650	1.00	1.18	1.18	1.01	0.850 to 1.15	103	70.0 to 130	0.00	20.0
BD04088	Boron, Total	mg/L	-0.00347	0.0650	1.00	1.18	1.17	1.00	0.850 to 1.15	103	70.0 to 130	0.851	20.0
BD04089	Cadmium, Dissolved	mg/L	0.0000000	0.000147	0.100	0.0912	0.0945	0.0975	0.0850 to 0.115	91.2	70.0 to 130	3.55	20.0
BD04088	Cadmium, Total	mg/L	0.0000042	0.000147	0.100	0.0992	0.106	0.104	0.0850 to 0.115	99.2	70.0 to 130	6.63	20.0
BD04089	Calcium, Dissolved	mg/L	-0.0143	0.152	5.00	312	312	5.07	4.25 to 5.75	-260	70.0 to 130	0.00	20.0
BD04088	Calcium, Total	mg/L	-0.0229	0.152	5.00	312	300	4.80	4.25 to 5.75	300	70.0 to 130	3.92	20.0
BD04088	Chloride	mg/L	0.0239	1.00	80.0	121	114	10.0	9.00 to 11.0	108	80.0 to 120	5.96	20.0
BD04089	Chromium, Dissolved	mg/L	-0.0000558	0.000440	0.100	0.0928	0.0973	0.0989	0.0850 to 0.115	92.8	70.0 to 130	4.73	20.0
BD04088	Chromium, Total	mg/L	0.0000667	0.000440	0.100	0.100	0.104	0.106	0.0850 to 0.115	100	70.0 to 130	3.92	20.0
BD04089	Cobalt, Dissolved	mg/L	-0.0000015	0.000147	0.100	0.139	0.146	0.0995	0.0850 to 0.115	95.2	70.0 to 130	4.91	20.0
BD04088	Cobalt, Total	mg/L	0.0000023	0.000147	0.100	0.104	0.109	0.112	0.0850 to 0.115	104	70.0 to 130	4.69	20.0
BD04088	Fluoride	mg/L	0.0375	0.125	2.50	2.77	2.78	2.62	2.25 to 2.75	103	80.0 to 120	0.360	20.0
BD04089	Iron, Dissolved	mg/L	-0.000232	0.0176	0.2	163	167	0.202	0.170 to 0.230	2500	70.0 to 130	2.42	20.0
BD04088	Iron, Total	mg/L	0.000927	0.0176	0.2	4.48	4.16	0.200	0.170 to 0.230	220	70.0 to 130	7.41	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 2/22/23 12:35

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-12V

**Laboratory ID Number:** BD04088

Sample	Analysis	Units	MB					Standard		Rec		Prec	Limit
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BD04089	Lead, Dissolved	mg/L	0.000017	0.000147	0.100	0.102	0.104	0.100	0.0850 to 0.115	102	70.0 to 130	1.94	20.0
BD04088	Lead, Total	mg/L	0.000011	0.000147	0.100	0.109	0.112	0.112	0.0850 to 0.115	109	70.0 to 130	2.71	20.0
BD04089	Lithium, Dissolved	mg/L	0.000766	0.0154	0.200	0.280	0.277	0.194	0.170 to 0.230	109	70.0 to 130	1.08	20.0
BD04088	Lithium, Total	mg/L	-0.000337	0.0154	0.200	0.483	0.481	0.198	0.170 to 0.230	102	70.0 to 130	0.415	20.0
BD04089	Magnesium, Dissolved	mg/L	-0.0245	0.0462	5.00	359	358	5.09	4.25 to 5.75	-400	70.0 to 130	0.279	20.0
BD04088	Magnesium, Total	mg/L	-0.00494	0.0462	5.00	203	196	5.01	4.25 to 5.75	240	70.0 to 130	3.51	20.0
BD04089	Manganese, Dissolved	mg/L	0.0000252	0.00033	0.100	21.2	20.9	0.0997	0.0850 to 0.115	500	70.0 to 130	1.43	20.0
BD04088	Manganese, Total	mg/L	-0.0000306	0.00033	0.100	0.570	0.596	0.107	0.0850 to 0.115	92.0	70.0 to 130	4.46	20.0
BD04089	Mercury, Total by CVAA	mg/L	-1.000E-05	0.000500	0.004	0.00367	0.00372	0.00348	0.00340 to 0.00460	91.8	70.0 to 130	1.35	20.0
BD04089	Molybdenum, Dissolved	mg/L	0.0000079	0.0002	0.100	0.0939	0.0976	0.0972	0.0850 to 0.115	93.4	70.0 to 130	3.86	20.0
BD04088	Molybdenum, Total	mg/L	0.000028	0.0002	0.100	0.105	0.112	0.103	0.0850 to 0.115	102	70.0 to 130	6.45	20.0
BD04089	Potassium, Dissolved	mg/L	-0.00373	0.367	10.0	29.3	31.0	9.85	8.50 to 11.5	111	70.0 to 130	5.64	20.0
BD04088	Potassium, Total	mg/L	0.0259	0.367	10.0	17.5	17.8	10.3	8.50 to 11.5	102	70.0 to 130	1.70	20.0
BD04089	Selenium, Dissolved	mg/L	-0.0000434	0.00100	0.100	0.111	0.107	0.101	0.0850 to 0.115	111	70.0 to 130	3.67	20.0
BD04088	Selenium, Total	mg/L	0.0000768	0.00100	0.100	0.0994	0.106	0.103	0.0850 to 0.115	99.4	70.0 to 130	6.43	20.0
BD04089	Silicon, Dissolved	mg/L	-0.000019	0.0440	1.00	15.2	15.2	1.01	0.850 to 1.15	90.0	70.0 to 130	0.00	20.0
BD04088	Silicon, Total	mg/L	0.000121	0.0440	1.00	8.10	8.05	0.995	0.850 to 1.15	99.0	70.0 to 130	0.619	20.0
BD04089	Sodium, Dissolved	mg/L	-0.00164	0.0880	5.00	44.2	48.6	4.91	4.25 to 5.75	-132	70.0 to 130	9.48	20.0
BD04088	Sodium, Total	mg/L	-0.000766	0.0880	5.00	162	157	4.88	4.25 to 5.75	200	70.0 to 130	3.13	20.0
BD04088	Sulfate	mg/L	0.0257	2.0	1600	2980	3210	18.9	18.0 to 22.0	102	80.0 to 120	7.43	20.0
BD04089	Thallium, Dissolved	mg/L	-0.0000047	0.000147	0.100	0.101	0.105	0.101	0.0850 to 0.115	101	70.0 to 130	3.88	20.0
BD04088	Thallium, Total	mg/L	0.0000046	0.000147	0.100	0.109	0.113	0.110	0.0850 to 0.115	109	70.0 to 130	3.60	20.0
BD04088	Total Organic Carbon	mg/L	0.0453	1.00	10.0	14.8	15.2	27.1		100	80.0 to 120	2.67	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

## Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 2/22/23 12:35

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-12V

**Laboratory ID Number:** BD04088

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BD04089	Alkalinity to pH 4.5	mg CaCO3/L					214	50.4	45.0 to 55.0			0.00	10.0
BD04088	Nitrogen, Nitrate/Nitrite	mg/L as N	-0.02	0.200	2.00	1.97	0.005	1.88	1.80 to 2.20	98.5	90.0 to 110	0.00	15.0
BD04088	Solids, Dissolved	mg/L	1.00	25.0			2260	50.0	40.0 to 60.0			0.889	10.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-12

**Location Code:** WMWGORLF  
**Collected:** 2/22/23 13:47  
**Customer ID:**  
**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04089

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Total	2/24/23 13:19	2/28/23 12:08		1.015	0.153	mg/L	0.030000	0.1015	
* Calcium, Total	2/24/23 13:19	2/28/23 15:05		101.5	304	mg/L	7.0035	40.6	RA
* Iron, Total	2/24/23 13:19	2/28/23 15:05		101.5	164	mg/L	0.8120	4.06	RA
* Lithium, Total	2/24/23 13:19	2/28/23 12:08		1.015	0.0615	mg/L	0.007105	0.01999956	
* Magnesium, Total	2/24/23 13:19	2/28/23 15:05		101.5	342	mg/L	2.1315	40.6	RA
* Silica, Total (calc.)	2/24/23 13:19	2/28/23 12:08		1	30.8	mg/L			
* Silicon, Total	2/24/23 13:19	2/28/23 12:08		1.015	14.4	mg/L	0.02030	0.25375	
* Sodium, Total	2/24/23 13:19	2/28/23 15:05		101.5	44.8	mg/L	3.045	40.6	RA
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	2/23/23 13:36	2/27/23 12:25		1.015	0.148	mg/L	0.030000	0.1015	
* Calcium, Dissolved	2/23/23 13:36	2/27/23 14:13		101.5	325	mg/L	7.0035	40.6	RA
* Iron, Dissolved	2/23/23 13:36	2/27/23 14:13		101.5	158	mg/L	0.8120	4.06	RA
* Lithium, Dissolved	2/23/23 13:36	2/27/23 12:25		1.015	0.0613	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	2/23/23 13:36	2/27/23 14:13		101.5	379	mg/L	2.1315	40.6	RA
* Silica, Dissolved (calc.)	2/23/23 13:36	2/27/23 12:25		1	30.6	mg/L			
* Silicon, Dissolved	2/23/23 13:36	2/27/23 12:25		1.015	14.3	mg/L	0.02030	0.25375	
* Sodium, Dissolved	2/23/23 13:36	2/27/23 14:13		101.5	50.8	mg/L	3.045	40.6	RA
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: DLJ</b>		<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	2/24/23 13:19	2/27/23 18:38		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	2/24/23 13:19	2/27/23 18:38		1.015	Not Detected	mg/L	0.006090	0.05075	U
* Arsenic, Total	2/24/23 13:19	2/27/23 18:38		1.015	0.0651	mg/L	0.000081	0.000203	
* Barium, Total	2/24/23 13:19	2/27/23 18:38		1.015	0.0131	mg/L	0.000508	0.001015	
* Beryllium, Total	2/24/23 13:19	2/27/23 18:38		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	2/24/23 13:19	2/27/23 18:38		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	2/24/23 13:19	2/27/23 18:38		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Total	2/24/23 13:19	2/27/23 18:38		1.015	0.0535	mg/L	0.000068	0.000203	
* Lead, Total	2/24/23 13:19	2/27/23 18:38		1.015	0.000214	mg/L	0.000068	0.000203	
* Manganese, Total	2/24/23 13:19	2/27/23 19:49		92.365	17.2	mg/L	0.013855	0.092365	RA
* Molybdenum, Total	2/24/23 13:19	2/27/23 18:38		1.015	0.000131	mg/L	0.000102	0.000203	J
* Potassium, Total	2/24/23 13:19	2/27/23 18:38		1.015	22.8	mg/L	0.169505	0.5075	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.  
 Nitrate-Nitrite precision, matrix spike recovery and/or matrix spike duplicate recovery is outside of specification limit.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-12

**Location Code:** WMWGORLF  
**Collected:** 2/22/23 13:47  
**Customer ID:**  
**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04089

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/24/23 13:19	2/27/23 18:38		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	2/24/23 13:19	2/27/23 18:38		1.015	0.000112	mg/L	0.000068	0.000203	J
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	2/23/23 13:36	2/23/23 16:28		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/23/23 13:36	2/23/23 16:28		1.015	Not Detected	mg/L	0.006090	0.05075	U
* Arsenic, Dissolved	2/23/23 13:36	2/23/23 16:28		1.015	0.0599	mg/L	0.000081	0.000203	
* Barium, Dissolved	2/23/23 13:36	2/23/23 16:28		1.015	0.0105	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	2/23/23 13:36	2/28/23 11:02		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	2/23/23 13:36	2/23/23 16:28		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	2/23/23 13:36	2/23/23 16:28		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	2/23/23 13:36	2/23/23 16:28		1.015	0.0438	mg/L	0.000068	0.000203	
* Lead, Dissolved	2/23/23 13:36	2/23/23 16:28		1.015	0.0000924	mg/L	0.000068	0.000203	J
* Manganese, Dissolved	2/23/23 13:36	2/28/23 12:24		92.365	20.7	mg/L	0.013855	0.092365	RA
* Molybdenum, Dissolved	2/23/23 13:36	2/23/23 16:28		1.015	0.000455	mg/L	0.000102	0.000203	
* Potassium, Dissolved	2/23/23 13:36	2/23/23 16:28		1.015	18.2	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/23/23 13:36	2/23/23 16:28		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	2/23/23 13:36	2/23/23 16:28		1.015	0.000107	mg/L	0.000068	0.000203	J
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: ELH</b>							
* Mercury, Total by CVAA	2/27/23 19:37	2/28/23 03:34		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: SC</b>							
* Nitrogen, Nitrate/Nitrite	2/24/23 11:42	2/24/23 11:42		1	0.298	mg/L as N	0.20	0.3	J
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
* Alkalinity to pH 4.5	3/6/23 13:15	3/6/23 14:40		1	214	mg CaCO3/L			
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	2/24/23 10:25	2/27/23 13:48		1	3880	mg/L		208.3	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
* Bicarbonate Alkalinity, (calc.)	3/6/23 13:15	3/6/23 14:40		1	214	mg CaCO3/L		1	A
* Carbonate Alkalinity, (calc.)	3/6/23 13:15	3/6/23 14:40		1	Not Detected	mg CaCO3/L		0.5	A
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: SC</b>							
* Total Organic Carbon	2/24/23 01:38	2/24/23 01:38		1	15.6	mg/L	1.00	2	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.  
 Nitrate-Nitrite precision, matrix spike recovery and/or matrix spike duplicate recovery is outside of specification limit.



# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-12

**Location Code:** WMWGORLF  
**Collected:** 2/22/23 13:47  
**Customer ID:**  
**Submittal Date:** 2/23/23 11:07

**Laboratory ID Number:** BD04089

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	2/24/23 15:07	2/24/23 15:07		1	10.9	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	2/27/23 13:15	2/27/23 13:15		1	0.239	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	3/1/23 14:39	3/1/23 14:39		100	2440	mg/L	60.0	200	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: DKG</b>							
Conductivity	2/22/23 13:44	2/22/23 13:44			3585.09	uS/cm			FA
pH	2/22/23 13:44	2/22/23 13:44			5.72	SU			FA
Temperature	2/22/23 13:44	2/22/23 13:44			21.83	C			FA
Turbidity	2/22/23 13:44	2/22/23 13:44			3.81	NTU			FA
Sulfide	2/22/23 13:44	2/22/23 13:44			0	mg/L			FA

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.  
 Nitrate-Nitrite precision, matrix spike recovery and/or matrix spike duplicate recovery is outside of specification limit.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 2/22/23 13:47

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-12

**Laboratory ID Number:** BD04089

Sample	Analysis	Units	MB	MB		MS	MSD	Standard		Rec		Prec	Limit
				Limit	Spike			Standard	Limit	Rec	Limit		
BD04089	Aluminum, Dissolved	mg/L	-0.000276	0.0198	0.100	0.0922	0.0981	0.0965	0.0850 to 0.115	92.2	70.0 to 130	6.20	20.0
BD04089	Aluminum, Total	mg/L	0.000636	0.0198	0.100	0.105	0.103	0.101	0.0850 to 0.115	105	70.0 to 130	1.92	20.0
BD04089	Antimony, Dissolved	mg/L	0.000346	0.00100	0.100	0.0972	0.101	0.0904	0.0850 to 0.115	97.2	70.0 to 130	3.83	20.0
BD04089	Antimony, Total	mg/L	0.000349	0.00100	0.100	0.108	0.109	0.0963	0.0850 to 0.115	108	70.0 to 130	0.922	20.0
BD04089	Arsenic, Dissolved	mg/L	-0.0000191	0.000200	0.100	0.167	0.164	0.0960	0.0850 to 0.115	107	70.0 to 130	1.81	20.0
BD04089	Arsenic, Total	mg/L	0.0000129	0.000200	0.100	0.168	0.165	0.0992	0.0850 to 0.115	103	70.0 to 130	1.80	20.0
BD04089	Barium, Dissolved	mg/L	-0.0000092	0.00100	0.100	0.105	0.109	0.0954	0.0850 to 0.115	94.5	70.0 to 130	3.74	20.0
BD04089	Barium, Total	mg/L	-0.000013	0.00100	0.100	0.118	0.120	0.106	0.0850 to 0.115	105	70.0 to 130	1.68	20.0
BD04089	Beryllium, Dissolved	mg/L	0.0000161	0.000880	0.100	0.0944	0.0957	0.108	0.0850 to 0.115	94.4	70.0 to 130	1.37	20.0
BD04089	Beryllium, Total	mg/L	0.0000082	0.000880	0.100	0.0951	0.0984	0.104	0.0850 to 0.115	95.1	70.0 to 130	3.41	20.0
BD04089	Boron, Dissolved	mg/L	-0.00311	0.0650	1.00	1.18	1.18	1.01	0.850 to 1.15	103	70.0 to 130	0.00	20.0
BD04089	Boron, Total	mg/L	0.000025	0.0650	1.00	1.13	1.14	0.992	0.850 to 1.15	97.7	70.0 to 130	0.881	20.0
BD04089	Cadmium, Dissolved	mg/L	0.0000000	0.000147	0.100	0.0912	0.0945	0.0975	0.0850 to 0.115	91.2	70.0 to 130	3.55	20.0
BD04089	Cadmium, Total	mg/L	0.0000068	0.000147	0.100	0.102	0.102	0.103	0.0850 to 0.115	102	70.0 to 130	0.00	20.0
BD04089	Calcium, Dissolved	mg/L	-0.0143	0.152	5.00	312	312	5.07	4.25 to 5.75	-260	70.0 to 130	0.00	20.0
BD04089	Calcium, Total	mg/L	-0.0162	0.152	5.00	310	315	4.84	4.25 to 5.75	120	70.0 to 130	1.60	20.0
BD04089	Chloride	mg/L	0.0485	1.00	10.0	19.9	20.1	9.94	9.00 to 11.0	90.0	80.0 to 120	1.00	20.0
BD04089	Chromium, Dissolved	mg/L	-0.0000558	0.000440	0.100	0.0928	0.0973	0.0989	0.0850 to 0.115	92.8	70.0 to 130	4.73	20.0
BD04089	Chromium, Total	mg/L	0.0000069	0.000440	0.100	0.102	0.0992	0.103	0.0850 to 0.115	102	70.0 to 130	2.78	20.0
BD04089	Cobalt, Dissolved	mg/L	-0.0000015	0.000147	0.100	0.139	0.146	0.0995	0.0850 to 0.115	95.2	70.0 to 130	4.91	20.0
BD04089	Cobalt, Total	mg/L	0.0000003	0.000147	0.100	0.161	0.157	0.108	0.0850 to 0.115	108	70.0 to 130	2.52	20.0
BD04089	Fluoride	mg/L	0.0293	0.125	2.50	2.69	2.71	2.51	2.25 to 2.75	98.0	80.0 to 120	0.741	20.0
BD04089	Iron, Dissolved	mg/L	-0.000232	0.0176	0.2	163	167	0.202	0.170 to 0.230	2500	70.0 to 130	2.42	20.0
BD04089	Iron, Total	mg/L	0.000997	0.0176	0.2	164	165	0.202	0.170 to 0.230	0.00	70.0 to 130	0.608	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.  
 Nitrate-Nitrite precision, matrix spike recovery and/or matrix spike duplicate recovery is outside of specification limit.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 2/22/23 13:47

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-12

**Laboratory ID Number:** BD04089

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BD04089	Lead, Dissolved	mg/L	0.000017	0.000147	0.100	0.102	0.104	0.100	0.0850 to 0.115	102	70.0 to 130	1.94	20.0
BD04089	Lead, Total	mg/L	0.000059	0.000147	0.100	0.108	0.108	0.111	0.0850 to 0.115	108	70.0 to 130	0.00	20.0
BD04089	Lithium, Dissolved	mg/L	0.000766	0.0154	0.200	0.280	0.277	0.194	0.170 to 0.230	109	70.0 to 130	1.08	20.0
BD04089	Lithium, Total	mg/L	-0.000372	0.0154	0.200	0.277	0.275	0.202	0.170 to 0.230	108	70.0 to 130	0.725	20.0
BD04089	Magnesium, Dissolved	mg/L	-0.0245	0.0462	5.00	359	358	5.09	4.25 to 5.75	-400	70.0 to 130	0.279	20.0
BD04089	Magnesium, Total	mg/L	-0.00153	0.0462	5.00	344	348	5.01	4.25 to 5.75	40.0	70.0 to 130	1.16	20.0
BD04089	Manganese, Dissolved	mg/L	0.0000252	0.00033	0.100	21.2	20.9	0.0997	0.0850 to 0.115	500	70.0 to 130	1.43	20.0
BD04089	Manganese, Total	mg/L	0.0000492	0.00033	0.100	20.6	19.4	0.103	0.0850 to 0.115	3400	70.0 to 130	6.00	20.0
BD04089	Mercury, Total by CVAA	mg/L	-1.000E-05	0.000500	0.004	0.00367	0.00372	0.00348	0.00340 to 0.00460	91.8	70.0 to 130	1.35	20.0
BD04089	Molybdenum, Dissolved	mg/L	0.0000079	0.0002	0.100	0.0939	0.0976	0.0972	0.0850 to 0.115	93.4	70.0 to 130	3.86	20.0
BD04089	Molybdenum, Total	mg/L	0.0000215	0.0002	0.100	0.105	0.105	0.102	0.0850 to 0.115	105	70.0 to 130	0.00	20.0
BD04089	Potassium, Dissolved	mg/L	-0.00373	0.367	10.0	29.3	31.0	9.85	8.50 to 11.5	111	70.0 to 130	5.64	20.0
BD04089	Potassium, Total	mg/L	0.0422	0.367	10.0	34.9	34.6	10.3	8.50 to 11.5	121	70.0 to 130	0.863	20.0
BD04089	Selenium, Dissolved	mg/L	-0.0000434	0.00100	0.100	0.111	0.107	0.101	0.0850 to 0.115	111	70.0 to 130	3.67	20.0
BD04089	Selenium, Total	mg/L	0.000111	0.00100	0.100	0.105	0.103	0.101	0.0850 to 0.115	105	70.0 to 130	1.92	20.0
BD04089	Silicon, Dissolved	mg/L	-0.000019	0.0440	1.00	15.2	15.2	1.01	0.850 to 1.15	90.0	70.0 to 130	0.00	20.0
BD04089	Silicon, Total	mg/L	-0.000001	0.0440	1.00	15.4	15.3	1.00	0.850 to 1.15	100	70.0 to 130	0.651	20.0
BD04089	Sodium, Dissolved	mg/L	-0.00164	0.0880	5.00	44.2	48.6	4.91	4.25 to 5.75	-132	70.0 to 130	9.48	20.0
BD04089	Sodium, Total	mg/L	-0.000232	0.0880	5.00	47.2	47.8	5.08	4.25 to 5.75	48.0	70.0 to 130	1.26	20.0
BD04089	Sulfate	mg/L	0.221	2.0	2000	4490	4440	18.9	18.0 to 22.0	102	80.0 to 120	1.12	20.0
BD04089	Thallium, Dissolved	mg/L	-0.0000047	0.000147	0.100	0.101	0.105	0.101	0.0850 to 0.115	101	70.0 to 130	3.88	20.0
BD04089	Thallium, Total	mg/L	0.0000032	0.000147	0.100	0.107	0.107	0.111	0.0850 to 0.115	107	70.0 to 130	0.00	20.0
BD04089	Total Organic Carbon	mg/L	0.0531	1.00	10.0	26.1	25.6	25.8		105	80.0 to 120	1.93	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.  
 Nitrate-Nitrite precision, matrix spike recovery and/or matrix spike duplicate recovery is outside of specification limit.

## Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 2/22/23 13:47

**Customer ID:**

**Delivery Date:** 2/23/23 11:07

**Description:** Gorgas Landfill - MW-12

**Laboratory ID Number:** BD04089

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BD04089	Alkalinity to pH 4.5	mg CaCO3/L					214	50.4	45.0 to 55.0			0.00	10.0
BD04089	Nitrogen, Nitrate/Nitrite	mg/L as N	-0.02	0.200	2.00	1.81	0.378	1.88	1.80 to 2.20	75.6	90.0 to 110	23.7	15.0
BD04089	Solids, Dissolved	mg/L	2.00	25.0			3860	54.0	40.0 to 60.0			0.517	10.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.  
 Nitrate-Nitrite precision, matrix spike recovery and/or matrix spike duplicate recovery is outside of specification limit.

# Definitions

**Project Number:** WMWGORLF\_1399

Abbreviation	Description
DF	Dilution Factor
LCS	Lab Control Sample
LFM	Lab Fortified Matrix
MB	Method Blank
MDL	Method Detection Limit; minimum concentration of an analyte that can be determined with 99% confidence that the concentration is greater than zero.
MS	Matrix Spike
MSD	Matrix Spike Duplicate
Prec	Precision (% RPD)
Q	Qualifier; comment used to note deviations or additional information associated with analytical results.
QC	Quality Control
Rec	Recovery of Matrix Spike
RL	Reporting Limit; lowest concentration at which an analyte can be quantitatively measured.
Vio Spec	Violation Specification; regulatory limit which has been exceeded by the sample analyzed.

Qualifier	Description
A	Bicarbonate alkalinity, carbonate alkalinity, hydroxide alkalinity, free carbon dioxide, and/or total carbon dioxide calculations are estimates due to pH>10SU and/or TDS>500mg/L.
C	Analyte was verified by re-analysis.
FA	Field results were reviewed by the Water Field Group. Refer to APC Field Case Narrative.
J	Reported value is an estimate because concentration is less than reporting limit.
RA	Matrix spike is invalid due to sample concentration.
U	Compound was analyzed, but not detected.



# Chain of Custody

## Groundwater

APC General Testing Laboratory

Field Complete  
 Lab Complete

Outside Lab

Lab ETA

Requested Complete Date	Routine	Results To	Dustin Brooks, Greg Dyer		
	Collector		TJ Daugherty	Requested By	Greg Dyer
					Location

Bottles	1	Metals	500 mL	3	Hg	250 mL	5	TDS/Alkalinity	500 mL	7	N/A	N/A
	2	Dissolved Metals	500 mL	4	Nitrite, Nitrate; TOC	250 mL	6	Anions	500 mL	8	N/A	N/A

Comments

Sample #	Date	Time	Bottle Count	Description	Lab Filter	Lab Id	pH Check
MW-5	02/21/2023	12:22	6	Groundwater		BD04069	<input checked="" type="checkbox"/>
MW-7	02/21/2023	14:25	6	Groundwater		BD04070	<input checked="" type="checkbox"/>
MW-8	02/21/2023	15:40	6	Groundwater		BD04071	<input checked="" type="checkbox"/>
MW-6	02/22/2023	13:20	6	Groundwater		BD04072	<input checked="" type="checkbox"/>
FB-2	02/22/2023	14:10	5	Field Blank		BD04073	<input checked="" type="checkbox"/>
MW-10	02/22/2023	14:30	6	Groundwater		BD04074	<input checked="" type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>

Relinquished By	Received By	Date/Time
		02/22/2023 16:30
		02/23/2023 08:38

SmarTroll ID	7586-41445-5-4	Cooler Temp	1.1 °C
Turbidity ID	4677-23343-4-2	Thermometer ID	10614-61208-2-1
Sample Event	1399	pH Strip ID	10429-60252-10-8

Bottles/Pre-Preserved Bottles are provided by the GTL.  
 Total Metals and Alkalinity are not performed on Dissolved Sets  
 Dissolved Metals and Alkalinity are not performed on blanks i.e. Field Blanks or Equipment Blanks



# Chain of Custody

## Groundwater

APC General Testing Laboratory

Field Complete  
 Lab Complete

Outside Lab

Lab ETA

Requested Complete Date	Routine	Results To	Dustin Brooks, Greg Dyer
	Collector		Dallas Gentry
		Location	Gorgas Landfill

Bottles	1	Metals	500 mL	3	Hg	250 mL	5	TDS/Alkalinity	500 mL	7	N/A	N/A
	2	Dissolved Metals	500 mL	4	Nitrite, Nitrate; TOC	250 mL	6	Anions	500 mL	8	N/A	N/A

Comments: Changed collection time from 1510 to 1435 on EB-1 per sample container. BC 02/23/23

Sample #	Date	Time	Bottle Count	Description	Lab Filter	Lab Id	pH Check
MW-13	02/20/2023	11:02	6	Groundwater		BD04075	<input checked="" type="checkbox"/>
MW-14	02/20/2023	12:02	6	Groundwater		BD04076	<input checked="" type="checkbox"/>
MW-15	02/20/2023	13:17	6	Groundwater		BD04077	<input checked="" type="checkbox"/>
MW-16	02/20/2023	14:45	6	Groundwater		BD04078	<input checked="" type="checkbox"/>
MW-16 dup	02/20/2023	14:45	6	Sample Duplicate		BD04079	<input checked="" type="checkbox"/>
FB-1	02/20/2023	15:10	5	Field Blank		BD04080	<input checked="" type="checkbox"/>
MW-17R	02/21/2023	10:38	6	Groundwater		BD04081	<input checked="" type="checkbox"/>
MW-18	02/21/2023	11:40	6	Groundwater		BD04082	<input checked="" type="checkbox"/>
MW-19	02/21/2023	12:46	6	Groundwater		BD04083	<input checked="" type="checkbox"/>
MW-19 dup	02/21/2023	12:46	6	Sample Duplicate		BD04084	<input checked="" type="checkbox"/>
MW-20	02/21/2023	14:00	6	Groundwater		BD04085	<input checked="" type="checkbox"/>
EB-1	02/21/2023	14:35	5	Equipment Blank		BD04086	<input checked="" type="checkbox"/>
MW-11	02/21/2023	15:25	6	Groundwater		BD04087	<input checked="" type="checkbox"/>
MW-12V	02/22/2023	12:35	6	Groundwater		BD04088	<input checked="" type="checkbox"/>
MW-12	02/22/2023	13:47	6	Groundwater		BD04089	<input checked="" type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>

Relinquished By	Received By	Date/Time
<i>Dallas Gentry</i>	<i>Quinn Cotton</i>	02/23/2023 08:37

SmarTroll ID	7586-41443-5-2	Cooler Temp	1.1 °C
Turbidity ID	9901-57263-1-1	Thermometer ID	10614-61208-2-1
Sample Event	1399	pH Strip ID	10429-60252-10-8

Bottles/Pre-Preserved Bottles are provided by the GTL.  
 Total Metals and Alkalinity are not performed on Dissolved Sets  
 Dissolved Metals and Alkalinity are not performed on blanks i.e. Field Blanks or Equipment Blanks



# Chain of Custody Groundwater

APC General Testing Laboratory

Field Complete  
 Lab Complete

Outside Lab

Lab ETA

Requested Complete Date	Routine	Results To	Dustin Brooks, Greg Dyer
Collector	TJ Daugherty	Requested By	Greg Dyer
		Location	Gorgas Landfill

Bottles	1	Radium	1 L	3	N/A	N/A	5	N/A	N/A	7	N/A	N/A
	2	N/A	N/A	4	N/A	N/A	6	N/A	N/A	8	N/A	N/A

Comments Rad MS/MSD @ MW-10

Sample #	Date	Time	Bottle Count	Description	Lab Filter	Lab Id	pH Check
MW-5	02/21/2023	12:22	1	Groundwater		BD04090	<input checked="" type="checkbox"/>
MW-7	02/21/2023	14:25	1	Groundwater		BD04091	<input checked="" type="checkbox"/>
MW-8	02/21/2023	15:40	1	Groundwater		BD04092	<input checked="" type="checkbox"/>
MW-6	02/22/2023	13:20	1	Groundwater		BD04093	<input checked="" type="checkbox"/>
FB-2	02/22/2023	14:10	1	Field Blank		BD04094	<input checked="" type="checkbox"/>
MW-10	02/22/2023	14:30	3	Groundwater		BD04095	<input checked="" type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>

Relinquished By	Received By	Date/Time
		02/22/2023 16:30
		02/23/2023 08:38

SmarTroll ID	7586-41445-5-4	Cooler Temp	N/A
Turbidity ID	4677-23343-4-2	Thermometer ID	N/A
Sample Event	1399	pH Strip ID	10429-60252-10-8

Bottles/Pre-Preserved Bottles are provided by the GTL.  
Total Metals and Alkalinity are not performed on Dissolved Sets  
Dissolved Metals and Alkalinity are not performed on blanks i.e. Field Blanks or Equipment Blanks





# Chain of Custody

## Groundwater

APC General Testing Laboratory

Field Complete  
 Lab Complete

Outside Lab

Lab ETA

Requested Complete Date	Routine	Results To	Dustin Brooks, Greg Dyer
	Collector		Dallas Gentry
		Location	Gorgas Landfill

Bottles	1	Radium	1 L	3	N/A	N/A	5	N/A	N/A	7	N/A	N/A
	2	N/A	N/A	4	N/A	N/A	6	N/A	N/A	8	N/A	N/A

Comments: Radium MS/MSD collected at MW-14  
 Changed collection time from 1510 to 1435 on EB-1 per sample container. BC 02/23/23

Sample #	Date	Time	Bottle Count	Description	Lab Filter	Lab Id	pH Check
MW-13	02/20/2023	11:02	1	Groundwater		BD04096	<input checked="" type="checkbox"/>
MW-14	02/20/2023	12:02	3	Groundwater		BD04097	<input checked="" type="checkbox"/>
MW-15	02/20/2023	13:17	1	Groundwater		BD04098	<input checked="" type="checkbox"/>
MW-16	02/20/2023	14:45	1	Groundwater		BD04099	<input checked="" type="checkbox"/>
MW-16 dup	02/20/2023	14:45	1	Sample Duplicate		BD04100	<input checked="" type="checkbox"/>
FB-1	02/20/2023	15:10	1	Field Blank		BD04101	<input checked="" type="checkbox"/>
MW-17R	02/21/2023	10:38	1	Groundwater		BD04102	<input checked="" type="checkbox"/>
MW-18	02/21/2023	11:40	1	Groundwater		BD04103	<input checked="" type="checkbox"/>
MW-19	02/21/2023	12:46	1	Groundwater		BD04104	<input checked="" type="checkbox"/>
MW-19 dup	02/21/2023	12:46	1	Sample Duplicate		BD04105	<input checked="" type="checkbox"/>
MW-20	02/21/2023	14:00	1	Groundwater		BD04106	<input checked="" type="checkbox"/>
EB-1	02/21/2023	14:35	1	Equipment Blank		BD04107	<input checked="" type="checkbox"/>
MW-11	02/21/2023	15:25	1	Groundwater		BD04108	<input checked="" type="checkbox"/>
MW-12V	02/22/2023	12:35	1	Groundwater		BD04109	<input checked="" type="checkbox"/>
MW-12	02/22/2023	13:47	1	Groundwater		BD04110	<input checked="" type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>

Relinquished By	Received By	Date/Time
<i>Dallas Gentry</i>	<i>Breanne Catton</i>	02/23/2023 08:37

SmarTroll ID	7586-41443-5-2	Cooler Temp	N/A
Turbidity ID	9901-57263-1-1	Thermometer ID	N/A
Sample Event	1399	pH Strip ID	10429-60252-10-8

Bottles/Pre-Preserved Bottles are provided by the GTL.  
 Total Metals and Alkalinity are not performed on Dissolved Sets  
 Dissolved Metals and Alkalinity are not performed on blanks i.e. Field Blanks or Equipment Blanks

April 18, 2023

Brooke Caton  
Alabama Power  
744 Highway 87  
Calera, AL 35040

RE: Project: WMWGORLF\_1399  
Pace Project No.: 30566801

Dear Brooke Caton:

Enclosed are the analytical results for sample(s) received by the laboratory on March 02, 2023. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Greensburg

Greensburg, PA - Revision 1 - This report replaces the April 17, 2023 report. This project was revised on April 18, 2023 to add Rad QC sheets to the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Skyler C. Richmond  
skyler.richmond@pacelabs.com  
(724)850-5600  
Project Manager

Enclosures

cc: Blaine Denton, Alabama Power  
Renee Jernigan, Alabama Power



## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## CERTIFICATIONS

Project: WMWGORLF\_1399  
Pace Project No.: 30566801

---

### **Pace Analytical Services Pennsylvania**

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601  
ANAB DOD-ELAP Rad Accreditation #: L2417  
Alabama Certification #: 41590  
Arizona Certification #: AZ0734  
Arkansas Certification  
California Certification #: 04222CA  
Colorado Certification #: PA01547  
Connecticut Certification #: PH-0694  
Delaware Certification  
EPA Region 4 DW Rad  
Florida/TNI Certification #: E87683  
Georgia Certification #: C040  
Florida: Cert E871149 SEKS WET  
Guam Certification  
Hawaii Certification  
Idaho Certification  
Illinois Certification  
Indiana Certification  
Iowa Certification #: 391  
Kansas/TNI Certification #: E-10358  
Kentucky Certification #: KY90133  
KY WW Permit #: KY0098221  
KY WW Permit #: KY0000221  
Louisiana DHH/TNI Certification #: LA180012  
Louisiana DEQ/TNI Certification #: 4086  
Maine Certification #: 2017020  
Maryland Certification #: 308  
Massachusetts Certification #: M-PA1457  
Michigan/PADEP Certification #: 9991

Missouri Certification #: 235  
Montana Certification #: Cert0082  
Nebraska Certification #: NE-OS-29-14  
Nevada Certification #: PA014572018-1  
New Hampshire/TNI Certification #: 297617  
New Jersey/TNI Certification #: PA051  
New Mexico Certification #: PA01457  
New York/TNI Certification #: 10888  
North Carolina Certification #: 42706  
North Dakota Certification #: R-190  
Ohio EPA Rad Approval: #41249  
Oregon/TNI Certification #: PA200002-010  
Pennsylvania/TNI Certification #: 65-00282  
Puerto Rico Certification #: PA01457  
Rhode Island Certification #: 65-00282  
South Dakota Certification  
Tennessee Certification #: 02867  
Texas/TNI Certification #: T104704188-17-3  
Utah/TNI Certification #: PA014572017-9  
USDA Soil Permit #: P330-17-00091  
Vermont Dept. of Health: ID# VT-0282  
Virgin Island/PADEP Certification  
Virginia/VELAP Certification #: 460198  
Washington Certification #: C868  
West Virginia DEP Certification #: 143  
West Virginia DHHR Certification #: 9964C  
Wisconsin Approve List for Rad  
Wyoming Certification #: 8TMS-L

---

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## SAMPLE SUMMARY

Project: WMWGORLF\_1399

Pace Project No.: 30566801

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30566801001	BD04090 MW-5	Water	02/21/23 12:22	03/02/23 11:00
30566801002	BD04091 MW-7	Water	02/21/23 14:25	03/02/23 11:00
30566801003	BD04092 MW-8	Water	02/21/23 15:40	03/02/23 11:00
30566801004	BD04093 MW-6	Water	02/22/23 13:20	03/02/23 11:00
30566801005	BD04094 FB-2	Water	02/22/23 14:10	03/02/23 11:00
30566801006	BD04095 MW-10	Water	02/22/23 14:30	03/02/23 11:00
30566801007	BD04095 MW-10 MS	Water	02/22/23 14:30	03/02/23 11:00
30566801008	BD04095 MW-10 MSD	Water	02/22/23 14:30	03/02/23 11:00
30566801009	BD04096 MW-13	Water	02/20/23 11:02	03/02/23 11:00
30566801010	BD04097 MW-14	Water	02/20/23 12:02	03/02/23 11:00
30566801011	BD04097 MW-14 MS	Water	02/20/23 12:02	03/02/23 11:00
30566801012	BD04097 MW-14 MSD	Water	02/20/23 12:02	03/02/23 11:00
30566801013	BD04098 MW-15	Water	02/20/23 13:17	03/02/23 11:00
30566801014	BD04099 MW-16	Water	02/20/23 14:45	03/02/23 11:00
30566801015	BD04100 MW-16 Dup	Water	02/20/23 14:45	03/02/23 11:00
30566801016	BD04101 FB-1	Water	02/20/23 15:10	03/02/23 11:00
30566801017	BD04102 MW-17R	Water	02/21/23 10:38	03/02/23 11:00
30566801018	BD04103 MW-18	Water	02/21/23 11:40	03/02/23 11:00
30566801019	BD04104 MW-19	Water	02/21/23 12:46	03/02/23 11:00
30566801020	BD04105 MW-19 Dup	Water	02/21/23 12:46	03/02/23 11:00
30566801021	BD04106 MW-20	Water	02/21/23 14:00	03/02/23 11:00
30566801022	BD04107 EB-1	Water	02/21/23 14:35	03/02/23 11:00
30566801023	BD04108 MW-11	Water	02/21/23 15:25	03/02/23 11:00
30566801024	BD04109 MW-12V	Water	02/22/23 12:35	03/02/23 11:00
30566801025	BD04110 MW-12	Water	02/22/23 13:47	03/02/23 11:00

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

### SAMPLE ANALYTE COUNT

Project: WMWGORLF\_1399  
Pace Project No.: 30566801

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30566801001	BD04090 MW-5	EPA 9315	SLC	1	PASI-PA
		EPA 9320	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30566801002	BD04091 MW-7	EPA 9315	SLC	1	PASI-PA
		EPA 9320	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30566801003	BD04092 MW-8	EPA 9315	SLC	1	PASI-PA
		EPA 9320	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30566801004	BD04093 MW-6	EPA 9315	SLC	1	PASI-PA
		EPA 9320	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30566801005	BD04094 FB-2	EPA 9315	SLC	1	PASI-PA
		EPA 9320	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30566801006	BD04095 MW-10	EPA 9315	SLC	1	PASI-PA
		EPA 9320	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30566801007	BD04095 MW-10 MS	EPA 9315	SLC	1	PASI-PA
		EPA 9320	JJS1	1	PASI-PA
30566801008	BD04095 MW-10 MSD	EPA 9315	SLC	1	PASI-PA
		EPA 9320	JJS1	1	PASI-PA
30566801009	BD04096 MW-13	EPA 9315	SLC	1	PASI-PA
		EPA 9320	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30566801010	BD04097 MW-14	EPA 9315	SLC	1	PASI-PA
		EPA 9320	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30566801011	BD04097 MW-14 MS	EPA 9315	SLC	1	PASI-PA
		EPA 9320	JJS1	1	PASI-PA
30566801012	BD04097 MW-14 MSD	EPA 9315	SLC	1	PASI-PA
		EPA 9320	JJS1	1	PASI-PA
30566801013	BD04098 MW-15	EPA 9315	SLC	1	PASI-PA
		EPA 9320	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30566801014	BD04099 MW-16	EPA 9315	SLC	1	PASI-PA
		EPA 9320	JJS1	1	PASI-PA

### REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

### SAMPLE ANALYTE COUNT

Project: WMWGORLF\_1399  
Pace Project No.: 30566801

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30566801015	BD04100 MW-16 Dup	Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	SLC	1	PASI-PA
		EPA 9320	JJS1	1	PASI-PA
30566801016	BD04101 FB-1	Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	SLC	1	PASI-PA
		EPA 9320	JJS1	1	PASI-PA
30566801017	BD04102 MW-17R	Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	SLC	1	PASI-PA
		EPA 9320	JJS1	1	PASI-PA
30566801018	BD04103 MW-18	Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	SLC	1	PASI-PA
		EPA 9320	JJS1	1	PASI-PA
30566801019	BD04104 MW-19	Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	SLC	1	PASI-PA
		EPA 9320	JJS1	1	PASI-PA
30566801020	BD04105 MW-19 Dup	Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	SLC	1	PASI-PA
		EPA 9320	JJS1	1	PASI-PA
30566801021	BD04106 MW-20	Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	SLC	1	PASI-PA
		EPA 9320	JJS1	1	PASI-PA
30566801022	BD04107 EB-1	Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	SLC	1	PASI-PA
		EPA 9320	JJS1	1	PASI-PA
30566801023	BD04108 MW-11	Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	SLC	1	PASI-PA
		EPA 9320	JJS1	1	PASI-PA
30566801024	BD04109 MW-12V	Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	SLC	1	PASI-PA
		EPA 9320	JJS1	1	PASI-PA
30566801025	BD04110 MW-12	Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	SLC	1	PASI-PA
		EPA 9320	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

### REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## PROJECT NARRATIVE

Project: WMWGORLF\_1399

Pace Project No.: 30566801

---

**Method:** EPA 9315

**Description:** 9315 Total Radium

**Client:** Alabama Power

**Date:** April 18, 2023

**General Information:**

25 samples were analyzed for EPA 9315 by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

**Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

**Method Blank:**

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

**Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

**Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

**Additional Comments:**

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## PROJECT NARRATIVE

Project: WMWGORLF\_1399

Pace Project No.: 30566801

---

**Method:** EPA 9320

**Description:** 9320 Radium 228

**Client:** Alabama Power

**Date:** April 18, 2023

**General Information:**

25 samples were analyzed for EPA 9320 by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

**Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

**Method Blank:**

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

**Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

**Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

**Additional Comments:**

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.



## PROJECT NARRATIVE

Project: WMWGORLF\_1399

Pace Project No.: 30566801

---

**Method:** Total Radium Calculation

**Description:** Total Radium 228+226

**Client:** Alabama Power

**Date:** April 18, 2023

**General Information:**

21 samples were analyzed for Total Radium Calculation by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

**Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

**Method Blank:**

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

**Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

**Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

**Additional Comments:**

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF\_1399

Pace Project No.: 30566801

**Sample: BD04090 MW-5**      **Lab ID: 30566801001**      Collected: 02/21/23 12:22      Received: 03/02/23 11:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>0.184U ± 0.138 (0.230)</b> <b>C:97% T:NA</b>	pCi/L	03/29/23 20:49	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>0.0909U ± 0.313 (0.709)</b> <b>C:79% T:88%</b>	pCi/L	03/10/23 16:05	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>0.275U ± 0.451 (0.939)</b>	pCi/L	03/30/23 14:59	7440-14-4	

### REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF\_1399

Pace Project No.: 30566801

**Sample: BD04091 MW-7**      **Lab ID: 30566801002**      Collected: 02/21/23 14:25      Received: 03/02/23 11:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>0.108U ± 0.156 (0.339)</b> <b>C:99% T:NA</b>	pCi/L	03/29/23 20:49	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>0.681U ± 0.402 (0.732)</b> <b>C:80% T:79%</b>	pCi/L	03/10/23 16:05	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>0.789U ± 0.558 (1.07)</b>	pCi/L	03/30/23 14:59	7440-14-4	

### REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF\_1399

Pace Project No.: 30566801

**Sample: BD04092 MW-8**      **Lab ID: 30566801003**      Collected: 02/21/23 15:40      Received: 03/02/23 11:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.0337U ± 0.0976 (0.240)</b> <b>C:97% T:NA</b>	pCi/L	03/29/23 20:49	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>2.16 ± 0.607 (0.678)</b> <b>C:78% T:96%</b>	pCi/L	03/10/23 16:05	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>2.19 ± 0.705 (0.918)</b>	pCi/L	03/30/23 14:59	7440-14-4	

### REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF\_1399

Pace Project No.: 30566801

**Sample: BD04093 MW-6**      **Lab ID: 30566801004**      Collected: 02/22/23 13:20      Received: 03/02/23 11:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.250U ± 0.167 (0.263)</b> <b>C:98% T:NA</b>	pCi/L	03/29/23 20:49	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>3.50 ± 0.841 (0.673)</b> <b>C:78% T:89%</b>	pCi/L	03/10/23 16:05	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>3.75 ± 1.01 (0.936)</b>	pCi/L	03/30/23 14:59	7440-14-4	

### REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF\_1399

Pace Project No.: 30566801

**Sample: BD04094 FB-2**      **Lab ID: 30566801005**      Collected: 02/22/23 14:10      Received: 03/02/23 11:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>0.0570U ± 0.132 (0.312)</b> <b>C:95% T:NA</b>	pCi/L	03/29/23 20:49	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>1.57 ± 0.509 (0.654)</b> <b>C:78% T:91%</b>	pCi/L	03/10/23 16:05	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>1.63 ± 0.641 (0.966)</b>	pCi/L	03/30/23 14:59	7440-14-4	

### REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF\_1399

Pace Project No.: 30566801

**Sample: BD04095 MW-10**      **Lab ID: 30566801006**      Collected: 02/22/23 14:30      Received: 03/02/23 11:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.0867U ± 0.126 (0.273)</b> <b>C:91% T:NA</b>	pCi/L	03/29/23 20:49	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.717 ± 0.378 (0.667)</b> <b>C:78% T:92%</b>	pCi/L	03/10/23 16:06	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.804U ± 0.504 (0.940)</b>	pCi/L	03/30/23 14:59	7440-14-4	

### REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF\_1399

Pace Project No.: 30566801

**Sample: BD04095 MW-10 MS**      **Lab ID: 30566801007**      Collected: 02/22/23 14:30      Received: 03/02/23 11:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>97.53 %REC ± NA (NA)</b> <b>C:NA T:NA</b>	pCi/L	03/29/23 20:49	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>77.04 %REC ± NA (NA)</b> <b>C:NA T:NA</b>	pCi/L	03/10/23 16:06	15262-20-1	

### REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.



### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF\_1399

Pace Project No.: 30566801

**Sample: BD04095 MW-10 MSD**      **Lab ID: 30566801008**      Collected: 02/22/23 14:30      Received: 03/02/23 11:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>104.24 %REC 6.66RPD ±</b> <b>NA (NA)</b> <b>C:NA T:NA</b>	pCi/L	03/29/23 20:49	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>86.03 %REC 11.02RPD ±</b> <b>NA (NA)</b> <b>C:NA T:NA</b>	pCi/L	03/10/23 16:06	15262-20-1	

### REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF\_1399

Pace Project No.: 30566801

**Sample: BD04096 MW-13**      **Lab ID: 30566801009**      Collected: 02/20/23 11:02      Received: 03/02/23 11:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.138U ± 0.166 (0.349)</b> <b>C:96% T:NA</b>	pCi/L	03/29/23 20:11	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>1.09 ± 0.450 (0.703)</b> <b>C:75% T:88%</b>	pCi/L	03/10/23 16:06	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>1.23 ± 0.616 (1.05)</b>	pCi/L	03/30/23 14:59	7440-14-4	

### REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF\_1399

Pace Project No.: 30566801

**Sample: BD04097 MW-14**      **Lab ID: 30566801010**      Collected: 02/20/23 12:02      Received: 03/02/23 11:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>-0.0892U ± 0.0623 (0.287)</b> <b>C:95% T:NA</b>	pCi/L	03/30/23 09:42	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>0.625 ± 0.332 (0.577)</b> <b>C:80% T:89%</b>	pCi/L	03/13/23 13:13	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>0.625U ± 0.394 (0.864)</b>	pCi/L	03/30/23 15:00	7440-14-4	

### REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF\_1399

Pace Project No.: 30566801

**Sample: BD04097 MW-14 MS**      **Lab ID: 30566801011**      Collected: 02/20/23 12:02      Received: 03/02/23 11:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>88.31 %REC ± NA (NA)</b> <b>C:NA T:NA</b>	pCi/L	03/30/23 09:42	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>80.65 %REC ± NA (NA)</b> <b>C:NA T:NA</b>	pCi/L	03/13/23 13:13	15262-20-1	

### REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF\_1399

Pace Project No.: 30566801

**Sample: BD04097 MW-14 MSD**      **Lab ID: 30566801012**      Collected: 02/20/23 12:02      Received: 03/02/23 11:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>103.42 %REC 15.76RPD ±</b> <b>NA (NA)</b> <b>C:NA T:NA</b>	pCi/L	03/30/23 09:42	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>65.1 %REC 21.34RPD ± NA</b> <b>(NA)</b> <b>C:NA T:NA</b>	pCi/L	03/13/23 13:13	15262-20-1	

### REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF\_1399

Pace Project No.: 30566801

**Sample: BD04098 MW-15**      **Lab ID: 30566801013**      Collected: 02/20/23 13:17      Received: 03/02/23 11:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.0764U ± 0.131 (0.296)</b> <b>C:99% T:NA</b>	pCi/L	03/29/23 20:10	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.739 ± 0.392 (0.693)</b> <b>C:75% T:94%</b>	pCi/L	03/10/23 16:07	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.815U ± 0.523 (0.989)</b>	pCi/L	03/30/23 14:59	7440-14-4	

### REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF\_1399

Pace Project No.: 30566801

**Sample: BD04099 MW-16**      **Lab ID: 30566801014**      Collected: 02/20/23 14:45      Received: 03/02/23 11:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>0.0563U ± 0.0906 (0.198)</b> <b>C:98% T:NA</b>	pCi/L	03/29/23 19:33	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>0.164U ± 0.336 (0.742)</b> <b>C:73% T:92%</b>	pCi/L	03/10/23 16:07	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>0.220U ± 0.427 (0.940)</b>	pCi/L	03/30/23 14:59	7440-14-4	

### REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF\_1399

Pace Project No.: 30566801

**Sample: BD04100 MW-16 Dup**      **Lab ID: 30566801015**      Collected: 02/20/23 14:45      Received: 03/02/23 11:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>0.155U ± 0.132 (0.232)</b> <b>C:99% T:NA</b>	pCi/L	03/29/23 20:21	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>0.344U ± 0.329 (0.668)</b> <b>C:80% T:89%</b>	pCi/L	03/10/23 16:08	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>0.499U ± 0.461 (0.900)</b>	pCi/L	03/30/23 14:59	7440-14-4	

### REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.



### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF\_1399

Pace Project No.: 30566801

**Sample: BD04101 FB-1**      **Lab ID: 30566801016**      Collected: 02/20/23 15:10      Received: 03/02/23 11:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.0664U ± 0.124 (0.283)</b> <b>C:99% T:NA</b>	pCi/L	03/29/23 21:36	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.285U ± 0.301 (0.621)</b> <b>C:78% T:92%</b>	pCi/L	03/10/23 16:08	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.351U ± 0.425 (0.904)</b>	pCi/L	03/30/23 14:59	7440-14-4	

### REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF\_1399

Pace Project No.: 30566801

**Sample: BD04102 MW-17R**      **Lab ID: 30566801017**      Collected: 02/21/23 10:38      Received: 03/02/23 11:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>0.121U ± 0.141 (0.286)</b> <b>C:99% T:NA</b>	pCi/L	03/29/23 21:35	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>0.286U ± 0.283 (0.581)</b> <b>C:76% T:107%</b>	pCi/L	03/10/23 16:08	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>0.407U ± 0.424 (0.867)</b>	pCi/L	03/30/23 14:59	7440-14-4	

### REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF\_1399

Pace Project No.: 30566801

**Sample: BD04103 MW-18**      **Lab ID: 30566801018**      Collected: 02/21/23 11:40      Received: 03/02/23 11:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>0.187U ± 0.164 (0.299)</b> <b>C:98% T:NA</b>	pCi/L	03/29/23 21:35	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>0.416U ± 0.341 (0.671)</b> <b>C:72% T:90%</b>	pCi/L	03/10/23 16:11	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>0.603U ± 0.505 (0.970)</b>	pCi/L	03/30/23 14:59	7440-14-4	

### REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF\_1399

Pace Project No.: 30566801

**Sample: BD04104 MW-19**      **Lab ID: 30566801019**      Collected: 02/21/23 12:46      Received: 03/02/23 11:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>-0.0227U ± 0.0771 (0.248)</b> <b>C:100% T:NA</b>	pCi/L	03/29/23 20:23	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.535U ± 0.342 (0.631)</b> <b>C:76% T:90%</b>	pCi/L	03/10/23 16:11	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.535U ± 0.419 (0.879)</b>	pCi/L	03/30/23 14:59	7440-14-4	

### REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF\_1399

Pace Project No.: 30566801

**Sample: BD04105 MW-19 Dup**      **Lab ID: 30566801020**      Collected: 02/21/23 12:46      Received: 03/02/23 11:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>0.181U ± 0.151 (0.263)</b> <b>C:95% T:NA</b>	pCi/L	03/30/23 09:42	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>0.319U ± 0.330 (0.679)</b> <b>C:75% T:87%</b>	pCi/L	03/10/23 16:11	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>0.500U ± 0.481 (0.942)</b>	pCi/L	03/30/23 14:59	7440-14-4	

### REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF\_1399

Pace Project No.: 30566801

**Sample: BD04106 MW-20**      **Lab ID: 30566801021**      Collected: 02/21/23 14:00      Received: 03/02/23 11:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.328 ± 0.205 (0.312)</b> <b>C:97% T:NA</b>	pCi/L	03/30/23 09:42	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.830 ± 0.395 (0.669)</b> <b>C:77% T:98%</b>	pCi/L	03/10/23 16:11	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>1.16 ± 0.600 (0.981)</b>	pCi/L	03/30/23 14:59	7440-14-4	

### REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF\_1399

Pace Project No.: 30566801

**Sample: BD04107 EB-1**      **Lab ID: 30566801022**      Collected: 02/21/23 14:35      Received: 03/02/23 11:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.167U ± 0.140 (0.247)</b> <b>C:98% T:NA</b>	pCi/L	03/30/23 09:42	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.0881U ± 0.345 (0.783)</b> <b>C:75% T:88%</b>	pCi/L	03/10/23 16:11	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.255U ± 0.485 (1.03)</b>	pCi/L	03/30/23 14:59	7440-14-4	

### REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF\_1399

Pace Project No.: 30566801

**Sample: BD04108 MW-11**      **Lab ID: 30566801023**      Collected: 02/21/23 15:25      Received: 03/02/23 11:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>0.280U ± 0.194 (0.324)</b> <b>C:91% T:NA</b>	pCi/L	03/30/23 09:42	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>0.419U ± 0.402 (0.823)</b> <b>C:72% T:87%</b>	pCi/L	03/10/23 16:11	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>0.699U ± 0.596 (1.15)</b>	pCi/L	03/30/23 14:59	7440-14-4	

### REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.



### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF\_1399

Pace Project No.: 30566801

**Sample: BD04109 MW-12V**      **Lab ID: 30566801024**      Collected: 02/22/23 12:35      Received: 03/02/23 11:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>0.139U ± 0.169 (0.354)</b> <b>C:97% T:NA</b>	pCi/L	03/30/23 08:33	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>0.643 ± 0.329 (0.571)</b> <b>C:82% T:94%</b>	pCi/L	03/13/23 13:13	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>0.782U ± 0.498 (0.925)</b>	pCi/L	03/30/23 15:00	7440-14-4	

### REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF\_1399

Pace Project No.: 30566801

**Sample: BD04110 MW-12**      **Lab ID: 30566801025**      Collected: 02/22/23 13:47      Received: 03/02/23 11:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>0.186U ± 0.158 (0.291)</b> <b>C:98% T:NA</b>	pCi/L	03/30/23 08:29	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>0.864 ± 0.387 (0.619)</b> <b>C:79% T:92%</b>	pCi/L	03/13/23 17:07	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>1.05 ± 0.545 (0.910)</b>	pCi/L	03/30/23 15:00	7440-14-4	

### REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

### QUALITY CONTROL - RADIOCHEMISTRY

Project: WMWGORLF\_1399

Pace Project No.: 30566801

QC Batch: 571662

Analysis Method: EPA 9315

QC Batch Method: EPA 9315

Analysis Description: 9315 Total Radium

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 30566801010, 30566801011, 30566801012, 30566801024, 30566801025

METHOD BLANK: 2775793

Matrix: Water

Associated Lab Samples: 30566801010, 30566801011, 30566801012, 30566801024, 30566801025

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0310 ± 0.0800 (0.192) C:94% T:NA	pCi/L	03/30/23 09:42	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

### REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

### QUALITY CONTROL - RADIOCHEMISTRY

Project: WMWGORLF\_1399

Pace Project No.: 30566801

QC Batch: 571663

Analysis Method: EPA 9320

QC Batch Method: EPA 9320

Analysis Description: 9320 Radium 228

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 30566801010, 30566801011, 30566801012, 30566801024, 30566801025

METHOD BLANK: 2775794

Matrix: Water

Associated Lab Samples: 30566801010, 30566801011, 30566801012, 30566801024, 30566801025

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	-0.0779 ± 0.273 (0.657) C:80% T:89%	pCi/L	03/13/23 13:13	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

### REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

### QUALITY CONTROL - RADIOCHEMISTRY

Project: WMWGORLF\_1399

Pace Project No.: 30566801

---

QC Batch:	571658	Analysis Method:	EPA 9315
QC Batch Method:	EPA 9315	Analysis Description:	9315 Total Radium
		Laboratory:	Pace Analytical Services - Greensburg

Associated Lab Samples: 30566801001, 30566801002, 30566801003, 30566801004, 30566801005, 30566801006, 30566801007, 30566801008, 30566801009, 30566801013, 30566801014, 30566801015, 30566801016, 30566801017, 30566801018, 30566801019, 30566801020, 30566801021, 30566801022, 30566801023

---

METHOD BLANK: 2775780 Matrix: Water

Associated Lab Samples: 30566801001, 30566801002, 30566801003, 30566801004, 30566801005, 30566801006, 30566801007, 30566801008, 30566801009, 30566801013, 30566801014, 30566801015, 30566801016, 30566801017, 30566801018, 30566801019, 30566801020, 30566801021, 30566801022, 30566801023

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.0242 ± 0.0393 (0.143) C:100% T:NA	pCi/L	03/29/23 20:49	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

### REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

**QUALITY CONTROL - RADIOCHEMISTRY**

Project: WMWGORLF\_1399

Pace Project No.: 30566801

---

QC Batch:	571660	Analysis Method:	EPA 9320
QC Batch Method:	EPA 9320	Analysis Description:	9320 Radium 228
		Laboratory:	Pace Analytical Services - Greensburg

Associated Lab Samples: 30566801001, 30566801002, 30566801003, 30566801004, 30566801005, 30566801006, 30566801007, 30566801008, 30566801009, 30566801013, 30566801014, 30566801015, 30566801016, 30566801017, 30566801018, 30566801019, 30566801020, 30566801021, 30566801022, 30566801023

---

METHOD BLANK: 2775784 Matrix: Water

Associated Lab Samples: 30566801001, 30566801002, 30566801003, 30566801004, 30566801005, 30566801006, 30566801007, 30566801008, 30566801009, 30566801013, 30566801014, 30566801015, 30566801016, 30566801017, 30566801018, 30566801019, 30566801020, 30566801021, 30566801022, 30566801023

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.369 ± 0.302 (0.596) C:79% T:94%	pCi/L	03/10/23 16:05	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

**REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## QUALIFIERS

Project: WMWGORLF\_1399  
Pace Project No.: 30566801

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Act - Activity

Unc - Uncertainty: For Safe Drinking Water Act (SDWA) analyses, the reported Unc. is the calculated Count Uncertainty (95% confidence interval) using a coverage factor of 1.96. For all other matrices (non-SDWA), the reported Unc. is the calculated Expanded Uncertainty (aka Combined Standard Uncertainty, CSU), reported at the 95% confidence interval using a coverage factor of 1.96.

Gamma Spec: The Unc. reported for all gamma-spectroscopy analyses (EPA 901.1), is the calculated Expanded Uncertainty (CSU) at the 95.4% confidence interval, using a coverage factor of 2.0.

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WMWGORLF\_1399

Pace Project No.: 30566801

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30566801001	BD04090 MW-5	EPA 9315	571658		
30566801002	BD04091 MW-7	EPA 9315	571658		
30566801003	BD04092 MW-8	EPA 9315	571658		
30566801004	BD04093 MW-6	EPA 9315	571658		
30566801005	BD04094 FB-2	EPA 9315	571658		
30566801006	BD04095 MW-10	EPA 9315	571658		
30566801007	BD04095 MW-10 MS	EPA 9315	571658		
30566801008	BD04095 MW-10 MSD	EPA 9315	571658		
30566801009	BD04096 MW-13	EPA 9315	571658		
30566801010	BD04097 MW-14	EPA 9315	571662		
30566801011	BD04097 MW-14 MS	EPA 9315	571662		
30566801012	BD04097 MW-14 MSD	EPA 9315	571662		
30566801013	BD04098 MW-15	EPA 9315	571658		
30566801014	BD04099 MW-16	EPA 9315	571658		
30566801015	BD04100 MW-16 Dup	EPA 9315	571658		
30566801016	BD04101 FB-1	EPA 9315	571658		
30566801017	BD04102 MW-17R	EPA 9315	571658		
30566801018	BD04103 MW-18	EPA 9315	571658		
30566801019	BD04104 MW-19	EPA 9315	571658		
30566801020	BD04105 MW-19 Dup	EPA 9315	571658		
30566801021	BD04106 MW-20	EPA 9315	571658		
30566801022	BD04107 EB-1	EPA 9315	571658		
30566801023	BD04108 MW-11	EPA 9315	571658		
30566801024	BD04109 MW-12V	EPA 9315	571662		
30566801025	BD04110 MW-12	EPA 9315	571662		
30566801001	BD04090 MW-5	EPA 9320	571660		
30566801002	BD04091 MW-7	EPA 9320	571660		
30566801003	BD04092 MW-8	EPA 9320	571660		
30566801004	BD04093 MW-6	EPA 9320	571660		
30566801005	BD04094 FB-2	EPA 9320	571660		
30566801006	BD04095 MW-10	EPA 9320	571660		
30566801007	BD04095 MW-10 MS	EPA 9320	571660		
30566801008	BD04095 MW-10 MSD	EPA 9320	571660		
30566801009	BD04096 MW-13	EPA 9320	571660		
30566801010	BD04097 MW-14	EPA 9320	571663		
30566801011	BD04097 MW-14 MS	EPA 9320	571663		
30566801012	BD04097 MW-14 MSD	EPA 9320	571663		
30566801013	BD04098 MW-15	EPA 9320	571660		
30566801014	BD04099 MW-16	EPA 9320	571660		
30566801015	BD04100 MW-16 Dup	EPA 9320	571660		
30566801016	BD04101 FB-1	EPA 9320	571660		
30566801017	BD04102 MW-17R	EPA 9320	571660		
30566801018	BD04103 MW-18	EPA 9320	571660		
30566801019	BD04104 MW-19	EPA 9320	571660		
30566801020	BD04105 MW-19 Dup	EPA 9320	571660		
30566801021	BD04106 MW-20	EPA 9320	571660		

### REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.



### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WMWGORLF\_1399  
Pace Project No.: 30566801

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30566801022	BD04107 EB-1	EPA 9320	571660		
30566801023	BD04108 MW-11	EPA 9320	571660		
30566801024	BD04109 MW-12V	EPA 9320	571663		
30566801025	BD04110 MW-12	EPA 9320	571663		
30566801001	BD04090 MW-5	Total Radium Calculation	577499		
30566801002	BD04091 MW-7	Total Radium Calculation	577499		
30566801003	BD04092 MW-8	Total Radium Calculation	577499		
30566801004	BD04093 MW-6	Total Radium Calculation	577499		
30566801005	BD04094 FB-2	Total Radium Calculation	577499		
30566801006	BD04095 MW-10	Total Radium Calculation	577499		
30566801009	BD04096 MW-13	Total Radium Calculation	577499		
30566801010	BD04097 MW-14	Total Radium Calculation	577500		
30566801013	BD04098 MW-15	Total Radium Calculation	577499		
30566801014	BD04099 MW-16	Total Radium Calculation	577499		
30566801015	BD04100 MW-16 Dup	Total Radium Calculation	577499		
30566801016	BD04101 FB-1	Total Radium Calculation	577499		
30566801017	BD04102 MW-17R	Total Radium Calculation	577499		
30566801018	BD04103 MW-18	Total Radium Calculation	577499		
30566801019	BD04104 MW-19	Total Radium Calculation	577499		
30566801020	BD04105 MW-19 Dup	Total Radium Calculation	577499		
30566801021	BD04106 MW-20	Total Radium Calculation	577499		
30566801022	BD04107 EB-1	Total Radium Calculation	577499		
30566801023	BD04108 MW-11	Total Radium Calculation	577499		
30566801024	BD04109 MW-12V	Total Radium Calculation	577500		
30566801025	BD04110 MW-12	Total Radium Calculation	577500		

### REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

**CHAIN-OF-CUSTODY / Analytical Request Document**

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A

Required Client Information:

Company:	Alabama Power Company	Report To:	Brooke Caton	Attention:	Brooke Caton
Address:	744 Highway 87 GSC Bldg #8 Calera, AL 35040	Copy To:	Renee Jernigan & Blaine Denton	Company Name:	Alabama Power Co.
Email To:	fbwill@sothernco.com	Purchase Order #:	APC10755838	Address:	744 Highway 87 GSC Bldg #8
Phone:	205-664-6247	Project Name:	Plant Gorgas CCB Landfills	Pace Quota:	CCR
Requested Due Date:	Normal	Project Number:	WMWGORLUF_1399	Pace Project Manager:	Skyler Richmond
				State / Location:	AL
				Regulatory Agency:	

Section B

Required Project Information:

Invoice Information:	
Sample Duplicate:	<input type="checkbox"/>
Matrix Spike/Matrix Spike Duplicate:	<input type="checkbox"/>
Field Filtered:	<input type="checkbox"/>
Sample Type (G=GRAB C=COMP):	GW
Matrix Code:	GW
DATE:	2/21/2023
TIME:	12:22
START:	
COLLECTED:	
# OF CONTAINERS:	1
Unpreserved:	<input type="checkbox"/>
NaOH/ZnAcetate:	<input type="checkbox"/>
HNO3:	<input type="checkbox"/>
Preservatives:	
Analyzes Test:	Y/N
EPA 9315:	X
EPA 9320:	X
Total Radium Sum:	X
Total Sulfide:	X
Residual Chlorine (Y/N):	
Requested Analysis Filtered (Y/N):	

ITEM #	Description	Station Name Location Code	Site Name Facility ID	Matrix Spike/Matrix Spike Duplicate	Field Filtered	Sample Type (G=GRAB C=COMP)	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS	Received on	Ice	Custody	Sealed	Cooler	Containers	Interact	(Y/N)	
																					RELINQUISHED BY / AFFILIATION
1	BD04090	APCO-GS-CCB-MW-5	APCO_Gorgas_CCB_Landfills			GW	2/21/2023	12:22	Brooke Caton / APC GTL	2/24/2023	9:46	016									
2	BD04091	APCO-GS-CCB-MW-7	APCO_Gorgas_CCB_Landfills			GW	2/21/2023	14:25				001									
3	BD04092	APCO-GS-CCB-MW-8	APCO_Gorgas_CCB_Landfills			GW	2/21/2023	15:40				002									
4	BD04093	APCO-GS-CCB-MW-6	APCO_Gorgas_CCB_Landfills			GW	2/22/2023	13:20				004									
5	BD04094	APCO-GS-CCB-FB-02	APCO_Gorgas_CCB_Landfills			GW	2/22/2023	14:10				005									
6	BD04095	APCO-GS-CCB-MW-10	APCO_Gorgas_CCB_Landfills	x		GW	2/22/2023	14:30				006,007,008									
7	BD04096	APCO-GS-CCB-MW-13	APCO_Gorgas_CCB_Landfills			GW	2/20/2023	11:02				009									
8	BD04097	APCO-GS-CCB-MW-14	APCO_Gorgas_CCB_Landfills	x		GW	2/20/2023	12:02				010,011,012									
9	BD04098	APCO-GS-CCB-MW-15	APCO_Gorgas_CCB_Landfills			GW	2/20/2023	13:17				013									
10	BD04099	APCO-GS-CCB-MW-16	APCO_Gorgas_CCB_Landfills			GW	2/20/2023	14:45				014									
11	BD04100	APCO-GS-CCB-MW-16	APCO_Gorgas_CCB_Landfills	x		GW	2/20/2023	14:45				015									
12	BD04101	APCO-GS-CCB-FB-01	APCO_Gorgas_CCB_Landfills			GW	2/20/2023	15:10				016									
ADDITIONAL COMMENTS										RELINQUISHED BY / AFFILIATION		DATE		TIME		SAMPLE CONDITIONS					
										Brooke Caton / APC GTL		2/24/2023		9:46							

WO#: 30566801



30566801

SAMPLER NAME AND SIGNATURE  
PRINT Name of SAMPLER:  
SIGNATURE of SAMPLER:

DATE Signed:

# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Alabama Power Company	Report To:	Brooke Caton	Attention:	Brooke Caton
Address:	744 Highway 87 GSC Bldg #8 Calera, AL 35040	Copy To:	Renee Jernigan & Blaine Denton	Company Name:	Alabama Power Co.
Email To:	lbwill@southernco.com	Purchase Order #:	APC10755638	Address:	744 Highway 87 GSC Bldg #8
Phone:	205-664-6101	Project Name:	Plant Gorgas CCB Landfills	Pace Quote:	CCR
Requested Due Date:	Normal	Project Number:	WMWGORLF_1399	Pace Project Manager:	Skyler Richmond
				Pace Profile #:	16788
				State / Location:	AL
				Regulatory Agency:	

ITEM #	Description	Station Name Location_Code	Site Name Facility_ID	Sample Duplicate	Matrix Spike/Matrix Spike Duplicate	Field Filtered	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		# OF CONTAINERS	Unpreserved	NaOH/ZnAcetate	HNO3	Preservatives	Y/N	Requested Analysis Filtered (Y/N)		Residual Chlorine (Y/N)	
									DATE	TIME							EPA 9315	EPA 9320		Total Radium Sum
1	BD04102	MW-17R	APCO-GS-CCB-MW-17R	APCO_Gorgas_CCBLandfills			GW	G	2/21/2023	10:38	1						X	X		617
2	BD04103	MW-18	APCO-GS-CCB-MW-18	APCO_Gorgas_CCBLandfills			GW	G	2/21/2023	11:40	1						X	X		018
3	BD04104	MW-19	APCO-GS-CCB-MW-19	APCO_Gorgas_CCBLandfills			GW	G	2/21/2023	12:46	1						X	X		01A
4	BD04105	MW-19 Dup	APCO-GS-CCB-MW-19	APCO_Gorgas_CCBLandfills	X		GW	G	2/21/2023	12:46	1						X	X		020
5	BD04106	MW-20	APCO-GS-CCB-MW-20	APCO_Gorgas_CCBLandfills			GW	G	2/21/2023	14:00	1						X	X		021
6	BD04107	EB-1	APCO-GS-CCB-EB-01	APCO_Gorgas_CCBLandfills			GW	G	2/21/2023	14:35	1						X	X		022
7	BD04108	MW-11	APCO-GS-CCB-MW-11	APCO_Gorgas_CCBLandfills			GW	G	2/21/2023	15:25	1						X	X		023
8	BD04109	MW-12V	APCO-GS-CCB-MW-12V	APCO_Gorgas_CCBLandfills			GW	G	2/22/2023	12:35	1						X	X		024
9	BD04110	MW-12	APCO-GS-CCB-MW-12	APCO_Gorgas_CCBLandfills			GW	G	2/22/2023	13:47	1						X	X		025
10																				
11																				
12																				

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Brooke Caton / APC GTL	2/24/2023	9:46	<i>[Signature]</i>	3-2-23	11:00	

**WO#: 30566801**

PH: SCR Due Date: 03/30/23  
 CLIENT: ALABAMA PWR  
 SAMPLE NAME AND SIGNATURE: \_\_\_\_\_  
 PRINT Name of SAMPLER: \_\_\_\_\_  
 SIGNATURE of SAMPLER: \_\_\_\_\_  
 DATE Signed: \_\_\_\_\_



DC#\_Title: ENV-FRM-GBUR-0088 v04\_Sample Condition Upon Receipt-  
Pittsburgh

WO#: 30566801

Effective Date: 02/03/2023

PM: SCR Due Date: 03/30/23  
CLIENT: ALABAMA PWR

Client Name: Alabama Power Company

Courier:  Fed Ex  UPS  USPS  Client  Commercial  Pace  Other

Tracking Number: 615402596805

Examined By	TH
Labeled By	TH
Temped By	-

Custody Seal on Cooler/Box Present:  Yes  No Seals Intact:  Yes  No

Thermometer Used: \_\_\_\_\_ Type of Ice: Wet Blue None

Cooler Temperature: Observed Temp \_\_\_\_\_ °C Correction Factor: \_\_\_\_\_ °C Final Temp: \_\_\_\_\_ °C  
Temp should be above freezing to 6°C

Comments:				pH paper Lot#	D.P.D. Residual Chlorine Lot #
	Yes	No	NA	1002221	
Chain of Custody Present	J				
Chain of Custody Filled Out:	J				
-Were client corrections present on COC		J			
Chain of Custody Relinquished	J				
Sampler Name & Signature on COC:	J	J			
Sample Labels match COC:	J				
-Includes date/time/ID					
Matrix:		WT			
Samples Arrived within Hold Time:	J				
Short Hold Time Analysis (<72hr remaining):		J			
Rush Turn Around Time Requested:		J			
Sufficient Volume:	J				
Correct Containers Used:	J				
-Pace Containers Used	J				
Containers Intact:	J				
Orthophosphate field filtered:			J		
Hex Cr Aqueous samples field filtered:			J		
Organic Samples checked for dechlorination			J		
Filtered volume received for dissolved tests:	J				
All containers checked for preservation:					
exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, non-aqueous matrix					
All containers meet method preservation requirements:	J			Initial when completed TH	Date/Time of Preservation
				Lot# of added Preservative	
8260C/D: Headspace in VOA Vials (> 6mm)			J		
624.1: Headspace in VOA Vials (0mm)			J		
Trip Blank Present:			J		Trip blank custody seal present? YES or NO
Rad Samples Screened <0.5 mrem/hr.	J			Initial when completed TH	Date: 3/1/23 Survey Meter SN: 1563
Comments:					

Note: For NC compliance samples with discrepancies, a copy of this form must be sent to the DEHNR Certification office. PM Review is documented electronically in LIMS through the SRF Review schedule in the Workorder Edit Screen.

16788

Profile Number

Notes

Page 1 of 3

Client

Site Plant Gorgas CB Landfills

Sample Line Item	Amber Glass				Plastic				Vials				Other															
	AG1H	AG3S	AG3U	AG5U	AG5T	BP1N	BP1U	BP2S	BP2U	BP3C	BP3N	BP3S	BP3U	DG9S	VG9H	VG9T	VG9U	VOAK	WG9U	WG9V	WG9W	ZPLC	GCUB	GJN	12GN	GN	BG1U	
1																												
2																												
3																												
4																												
5																												
6																												
7																												
8																												
9																												
10																												
11																												
12																												

WO#: 30566801

PM: SCR Due Date: 03/30/23  
 CLIENT: ALABAMA PMR

Container Codes

Glass	
GJN	1 Gallon Jug with HNO3
AG5U	100mL amber glass unpreserved
AG5T	100mL amber glass Na Thiosulfate
GJN	1 Gallon Jug
AG1S	1L amber glass H2SO4
AG1H	1L amber glass HCl
AG1T	1L amber glass NA Thiosulfate
BG1U	1L clear glass unpreserved
AG3S	250mL amber glass H2SO4
AG3U	250mL amber glass unpreserved

Plastic/Misc.	
GCUB	1 gallon cubitainer
12GN	1/2 gallon cubitainer
SP5T	120mL coliform/Na Thiosulfate
BP1N	1L plastic HNO3
BP1U	1L plastic unpreserved
BP3S	250mL plastic H2SO4
BP3N	250mL plastic HNO3
BP3U	250mL plastic unpreserved
BP3C	250mL plastic NAOH
BP2S	500mL plastic H2SO4
BP2U	500mL plastic unpreserved

EZI	5g Encore
VOAK	Kit Volatile Solid
I	Wipe/Swab
ZPLC	Siploc Bag

WT	Water
SL	Solid
OL	Non-Aq Liquid
WP	Wipe

16788

Profile Number

Notes

Page 2 of 3

Client

Plant Gorges Cob Landfills

Sample Line Item	Amber Glass					Plastic					Vials					Other										
	AG1H	AG3S	AG3U	AG5U	AG5T	BP1U	BP2S	BP2U	BP3C	BP3N	BP3S	BP3U	DG9S	VG9H	VG9T	VG9U	VOAK	WG9U	WG9V	ZPLC	GCUB	GJN	12GN	GN	BG1U	
13																										
14																										
15																										
16																										
17																										
18																										
19																										
20																										
21																										
22																										
23																										
24																										

WO#: 30566801

PM: SCR Due Date: 03/30/23  
 CLIENT: ALABAMA PWR

Container Codes

Glass	
GJN	1 Gallon Jug with HNO3
AG5U	100mL amber glass unpreserved
AG5T	100mL amber glass Na Thiosulfate
GJN	1 Gallon Jug
AG1S	1L amber glass H2SO4
AG1H	1L amber glass HCl
AG1T	1L amber glass NA Thiosulfate
BG1U	1L clear glass unpreserved
AG3S	250mL amber glass H2SO4
AG3U	250mL amber glass unpreserved

Plastic/Misc.	
GCUB	1 gallon cubitainer
12GN	1/2 gallon cubitainer
SP5T	120mL coliform Na Thiosulfate
BP1N	1L plastic HNO3
BP1U	1L plastic unpreserved
BP3S	250mL plastic H2SO4
BP3N	250mL plastic HNO3
BP3U	250mL plastic unpreserved
BP3C	250mL plastic NaOH
BP2S	500mL plastic H2SO4
BP2U	500mL plastic unpreserved
EZ1	5g Encore
VOAK	Kit Volatile Solid
I	Wipe/Swab
ZPLC	Siploc Bag
WT	Water
SL	Solid
OL	Non-Aq Liquid
WP	Wipe

16788

Profile Number  
 Notes

Page 3 of 3

Client  
 Site Plant Georgia CCB landfill

Sample Line Item	Amber Glass					Plastic					Vials					Other											
	AG1H	AG3S	AG3U	AG5U	AG5T	BP1U	BP2S	BP2U	BP3C	BP3N	BP3S	BP3U	DG9S	VG9H	VG9T	VG9U	VOAK	WG9U	WG9T	WG9U	ZPLC	GCUB	GJN	12GN	GN	BG1U	
25					WT																						

WO#: 30566801

PM: SCR Due Date: 03/30/23  
 CLIENT: ALABAMA PWR

Container Codes

Glass	
GJN	1 Gallon Jug with HNO3
AG5U	100mL amber glass unreserved
AG5T	100mL amber glass Na Thiosulfate
GJN	1 Gallon Jug
AG1S	1L amber glass H2SO4
AG1H	1L amber glass HCl
AG1T	1L amber glass NA Thiosulfate
BG1U	1L clear glass unreserved
AG3S	250mL amber glass H2SO4
AG3U	250mL amber glass unreserved
DG9S	40mL amber VOA vial H2SO4
VG9U	40mL clear VOA vial
VG9T	40mL clear VOA vial Na Thiosulfate
VG9H	40mL clear VOA vial HCl
JGFU	4oz amber wide jar
WG9U	4oz wide jar unreserved
BG2U	500mL clear glass unreserved
AG2U	500mL amber glass unreserved
WG9U	8oz wide jar unreserved
GN	General

Plastic/Misc.	
GCUB	1 gallon cubitainer
12GN	1/2 gallon cubitainer
SP5T	120mL coliform Na Thiosulfate
BP1N	1L plastic HNO3
BP1U	1L plastic unreserved
BP3S	250mL plastic H2SO4
BP3N	250mL plastic HNO3
BP3U	250mL plastic unreserved
BP3C	250mL plastic NaOH
BP2S	500mL plastic H2SO4
BP2U	500mL plastic unreserved
EZ1	5g Encore
VOAK	Kit Volatile Solid
I	Wipe/Swab
ZPLC	Siploc Bag
WT	Water
SL	Solid
OL	Non-Aq Liquid
WP	Wipe

# Quality Control Sample Performance Assessment



**Analyst Must Manually Enter All Fields Highlighted in Yellow.**

Test: Ra-228  
Analyst: JJS1  
Date: 3/7/2023  
Worklist: 71855  
Matrix: WT

**Method Blank Assessment**

MB Sample ID: 2775794  
MB concentration: -0.078  
M/B 2 Sigma CSU: 0.273  
MB MDC: 0.657  
MB Numerical Performance Indicator: -0.56  
MB Status vs. Numerical Indicator: Pass  
MB Status vs. MDC: Pass

**Laboratory Control Sample Assessment**

Count Date:	LCS (Y or N)?	N
3/7/3/2023	LCS71855	LCS71855
Decay Corrected Spike Concentration (pCi/mL):	22-040	
Volume Used (mL):	33.255	
Aliquot Volume (L, g, F):	0.10	
Target Conc. (pCi/L, g, F):	0.801	
Uncertainty (Calculated):	4.151	
Result (pCi/L, g, F):	0.203	
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	4.630	
Numerical Performance Indicator:	1.057	
Percent Recovery:	0.87	
Status vs Numerical Indicator:	111.54%	
Status vs Recovery:	N/A	
Upper % Recovery Limits:	Pass	
Lower % Recovery Limits:	135%	
	60%	

**Duplicate Sample Assessment**

Sample I.D.:  
Duplicate Sample I.D.:  
Sample Result (pCi/L, g, F):  
Sample Result 2 Sigma CSU (pCi/L, g, F):  
Sample Duplicate Result (pCi/L, g, F):  
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):  
Are sample and/or duplicate results below RL?  
Duplicate Numerical Performance Indicator:  
Duplicate RPD:  
Duplicate Status vs Numerical Indicator:  
Duplicate Status vs RPD:  
% RPD Limit:

Enter Duplicate sample IDs if other than LCS/LCSD in the space below.

See Below ##

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Sample Collection Date:	2/20/2023	2/21/2023
Sample I.D.:	30566801010	30566812005
Sample MS I.D.:	30566801011	30566812006
Sample MSD I.D.:	30566801012	30566812007
Spike I.D.:	22-040	22-040
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	33.489	33.489
Spike Volume Used in MS (mL):	0.20	0.20
Spike Volume Used in MSD (mL):	0.20	0.20
MS Aliquot (L, g, F):	0.802	0.805
MS Target Conc. (pCi/L, g, F):	8.356	8.318
MSD Aliquot (L, g, F):	0.801	0.801
MSD Target Conc. (pCi/L, g, F):	8.359	8.363
MS Spike Uncertainty (calculated):	0.409	0.408
MS Numerical Performance Indicator:	0.410	0.410
MS Percent Recovery:	0.625	0.272
MS Status vs Numerical Indicator:	0.332	0.335
MS Status vs Recovery:	7.364	7.217
MS/MSD Upper % Recovery Limits:	1.499	1.484
MS/MSD Lower % Recovery Limits:	6.067	8.153
	1.264	1.657
	-1.994	-1.709
	80.65%	83.50%
	65.10%	94.24%
	Pass	Pass
	Fail****	Pass
	Pass	Pass
	Pass	Pass
	135%	135%
	60%	60%

**Matrix Spike/Matrix Spike Duplicate Sample Assessment**

Sample I.D.:  
Duplicate Sample I.D.:  
Sample MS I.D.:  
Sample MSD I.D.:  
Sample Matrix Spike Result:  
Sample Matrix Spike Duplicate Result:  
Sample Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):  
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):  
Duplicate Numerical Performance Indicator:  
(Based on the Percent Recoveries) MS/MSD Duplicate RPD:  
MS/MSD Duplicate Status vs Numerical Indicator:  
MS/MSD Duplicate Status vs RPD:  
% RPD Limit:

30566801010  
30566801011  
30566801012  
7.364  
1.499  
6.067  
1.264  
1.296  
21.34%  
Pass  
Pass  
Pass  
36%

## Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

*JJS*  
*3/4/23*

*VAL*  
*3/19/23*



# Quality Control Sample Performance Assessment



Analyst **Must Manually Enter All Fields Highlighted in Yellow.**

Test: Ra-226  
Analyst: SLC  
Date: 3/6/2023  
Worklist: 71852  
Matrix: DW

Method Blank Assessment	
MB Sample ID	2775780
MB concentration:	-0.024
MIB Counting Uncertainty:	0.039
MB MDC:	0.143
MB Numerical Performance Indicator:	-1.21
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	
	LCSD71852	LCSD71852
Count Date:	3/30/2023	3/30/2023
Spike I.D.:	19-033	19-033
Decay Corrected Spike Concentration (pCi/mL):	24.018	24.018
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.500	0.501
Target Conc. (pCi/L, g, F):	4.800	4.792
Uncertainty (Calculated):	0.058	0.058
Result (pCi/L, g, F):	4.635	4.831
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.453	0.457
Numerical Performance Indicator:	-0.71	0.17
Percent Recovery:	96.56%	100.81%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	125%	125%
Lower % Recovery Limits:	75%	75%

Duplicate Sample Assessment	
Sample I.D.:	LCSD71852
Duplicate Sample I.D.:	LCSD71852
Sample Result (pCi/L, g, F):	4.635
Sample Duplicate Result (pCi/L, g, F):	4.453
Sample Duplicate Counting Uncertainty (pCi/L, g, F):	0.453
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.457
Are sample and/or duplicate results below RL?	NO
Duplicate Numerical Performance Indicator:	-0.597
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	4.31%
Duplicate Status vs Numerical Indicator:	N/A
Duplicate Status vs RPD:	Pass
% RPD Limit:	25%

## Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

*JLJ 3-30-23*

SLC 3/30/23 Page 48 of 50

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Sample Collection Date:	2/22/2023	
Sample I.D.:	30566801006	
Sample MS I.D.:	30566801007	
Sample MSD I.D.:	30566801008	
Spike I.D.:	19-033	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	24.019	
Spike Volume Used in MS (mL):	0.20	
Spike Volume Used in MSD (mL):	0.20	
MS Aliquot (L, g, F):	0.309	
MS Target Conc. (pCi/L, g, F):	15.572	
MSD Aliquot (L, g, F):	0.275	
MSD Target Conc. (pCi/L, g, F):	17.464	
MS Spike Uncertainty (calculated):	0.187	
MSD Spike Uncertainty (calculated):	0.210	
Sample Result:	0.087	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.126	
Sample Matrix Spike Result:	15.273	
Sample Matrix Spike Counting Uncertainty (pCi/L, g, F):	1.022	
Sample Matrix Spike Duplicate Result:	18.292	
Sample Matrix Spike Duplicate Counting Uncertainty (pCi/L, g, F):	1.183	
MS Numerical Performance Indicator:	-0.721	
MSD Numerical Performance Indicator:	1.203	
MS Percent Recovery:	97.53%	
MSD Percent Recovery:	104.24%	
MS Status vs Numerical Indicator:	N/A	
MSD Status vs Numerical Indicator:	N/A	
MS Status vs Recovery:	Pass	
MSD Status vs Recovery:	Pass	
MS/MSD Upper % Recovery Limits:	125%	
MS/MSD Lower % Recovery Limits:	75%	

Matrix Spike/Matrix Spike Duplicate Sample Assessment	
Sample I.D.:	30566801006
Sample MS I.D.:	30566801007
Sample MSD I.D.:	30566801008
Sample Matrix Spike Result:	15.273
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	1.022
Sample Matrix Spike Duplicate Result:	18.292
Sample Matrix Spike Duplicate Counting Uncertainty (pCi/L, g, F):	1.183
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	-3.785
Duplicate Numerical Performance Indicator:	6.66%
(Based on the Percent Recoveries) MS/MSD Duplicate RPD:	N/A
MS/MSD Duplicate Status vs Numerical Indicator:	Pass
MS/MSD Duplicate Status vs RPD:	Pass
% RPD Limit:	25%

# Quality Control Sample Performance Assessment



**Analyst Must Manually Enter All Fields Highlighted in Yellow.**

Test: Ra-228  
Analyst: JJS1  
Date: 3/8/2023  
Worklist: 71853  
Matrix: WT

Method Blank Assessment	
MB Sample ID	2775784
MB concentration:	0.369
MB 2 Sigma CSU:	0.302
MB MDC:	0.596
MB Numerical Performance Indicator:	2.40
MB Status vs Numerical Indicator:	Warning
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCS (Y or N)?		N
	LCS71853	LCS71853	
Count Date:	3/10/2023		LCS71853
Spike I.D.:	22-040		
Decay Corrected Spike Concentration (pCi/mL):	33.289		
Volume Used (mL):	0.10		
Aliquot Volume (L, g, F):	0.803		
Target Conc. (pCi/L, g, F):	4.147		
Uncertainty (Calculated):	0.203		
Result (pCi/L, g, F):	4.599		
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	1.066		
Numerical Performance Indicator:	0.82		
Percent Recovery:	110.89%		
Status vs Numerical Indicator:	N/A		
Status vs Recovery:	Pass		
Upper % Recovery Limits:	135%		
Lower % Recovery Limits:	60%		

Duplicate Sample Assessment	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Sample I.D.:	
Duplicate Sample I.D.:	
Sample Result (pCi/L, g, F):	
Sample Duplicate Result (pCi/L, g, F):	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	
Are sample and/or duplicate results below RL?	
Duplicate Numerical Performance Indicator:	
Duplicate RPD:	
Duplicate Status vs Numerical Indicator:	
Duplicate Status vs RPD:	
% RPD Limit:	

# Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

*VAL*  
*3/13/23*

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Sample Collection Date:	2/22/2023	
Sample I.D.:	30566801006	
Sample MS I.D.:	30566801007	
Sample MSD I.D.:	30566801008	
Spike I.D.:	22-040	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	33.466	
Spike Volume Used in MS (mL):	0.20	
Spike Volume Used in MSD (mL):	0.20	
MS Aliquot (L, g, F):	0.802	
MS Target Conc. (pCi/L, g, F):	8.348	
MSD Aliquot (L, g, F):	0.801	
MSD Target Conc. (pCi/L, g, F):	8.359	
MS Spike Uncertainty (calculated):	0.409	
MSD Spike Uncertainty (calculated):	0.410	
Sample Result:	0.717	
Sample Result 2 Sigma CSU (pCi/L, g, F):	0.378	
Sample Matrix Spike Result:	7.149	
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):	1.505	
Sample Matrix Spike Duplicate Result:	7.908	
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.594	
MS Numerical Performance Indicator:	-2.341	
MSD Numerical Performance Indicator:	-1.355	
MS Percent Recovery:	77.04%	
MSD Percent Recovery:	86.03%	
MS Status vs Numerical Indicator:	Warning	
MSD Status vs Numerical Indicator:	Pass	
MS Status vs Recovery:	Pass	
MSD Status vs Recovery:	Pass	
MS/MSD Upper % Recovery Limits:	135%	
MS/MSD Lower % Recovery Limits:	60%	

Matrix Spike/Matrix Spike Duplicate Sample Assessment	
Sample I.D.:	30566801006
Sample MS I.D.:	30566801007
Sample MSD I.D.:	30566801008
Spike I.D.:	7.149
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):	1.505
Sample Matrix Spike Duplicate Result:	7.908
Sample Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.594
Duplicate Numerical Performance Indicator:	-0.679
(Based on the Percent Recoveries) MS/MSD Duplicate RPD:	11.02%
MS/MSD Duplicate Status vs Numerical Indicator:	Pass
MS/MSD Duplicate Status vs RPD:	Pass
% RPD Limit:	36%

# Quality Control Sample Performance Assessment



*Analyst Must Manually Enter All Fields Highlighted in Yellow.*

Test: Ra-226  
Analyst: SLC  
Date: 3/6/2023  
Worklist: 71854  
Matrix: DW

Method Blank Assessment	
MB Sample ID	2775793
MB Concentration:	0.031
MB Counting Uncertainty:	0.080
MB MDC:	0.192
MB Numerical Performance Indicator:	0.76
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	
LCSD (Y or NJ)?	N
LCSD71854	LCSD71854
Count Date:	3/30/2023
Spike I.D.:	19-033
Decay Corrected Spike Concentration (pCi/mL):	24.018
Volume Used (mL):	0.10
Aliquot Volume (L, g, F):	0.500
Target Conc. (pCi/L, g, F):	4.799
Uncertainty (Calculated):	0.058
Result (pCi/L, g, F):	4.775
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.460
Numerical Performance Indicator:	-0.10
Percent Recovery:	99.50%
Status vs Numerical Indicator:	N/A
Status vs Recovery:	Pass
Upper % Recovery Limits:	125%
Lower % Recovery Limits:	75%

Sample Matrix Spike Control Assessment	
Sample Collection Date:	MS/MSD 1 2/20/2023
Sample I.D.:	30566801010
Sample MS I.D.:	30566801011
Sample MSD I.D.:	30566801012
Spike I.D.:	19-033
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	24.019
Spike Volume Used in MS (mL):	0.20
Spike Volume Used in MSD (mL):	0.20
MS Aliquot (L, g, F):	0.301
MS Target Conc. (pCi/L, g, F):	15.943
MSD Aliquot (L, g, F):	0.271
MSD Target Conc. (pCi/L, g, F):	17.740
MSD Spike Uncertainty (calculated):	0.191
MSD Spike Uncertainty (calculated):	0.213
Sample Result:	0.028
Sample Matrix Spike Result:	0.061
Sample Matrix Spike Result:	13.990
Sample Matrix Spike Result:	1.010
Sample Matrix Spike Duplicate Result:	18.258
Sample Matrix Spike Duplicate Result:	1.204
MS Numerical Performance Indicator:	-3.546
MSD Numerical Performance Indicator:	0.972
MS Percent Recovery:	88.31%
MSD Percent Recovery:	103.42%
MS Status vs Numerical Indicator:	N/A
MSD Status vs Numerical Indicator:	N/A
MS Status vs Recovery:	Pass
MSD Status vs Recovery:	Pass
MS/MSD Upper % Recovery Limits:	125%
MS/MSD Lower % Recovery Limits:	75%

Matrix Spike/Matrix Spike Duplicate Sample Assessment	
Sample I.D.:	30566801010
Sample MS I.D.:	30566801011
Sample MSD I.D.:	30566801012
Sample Matrix Spike Result:	13.990
Sample Matrix Spike Duplicate Result:	1.010
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	18.258
Sample Matrix Spike Duplicate Result:	1.204
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	-5.322
Duplicate Numerical Performance Indicator:	15.76%
(Based on the Percent Recoveries) MS/MSD Duplicate RPD:	N/A
MS/MSD Duplicate Status vs Numerical Indicator:	Pass
MS/MSD Duplicate Status vs RPD:	25%
% RPD Limit:	25%

Duplicate Sample Assessment	
Sample I.D.:	See Below ##
Duplicate Sample I.D.:	
Sample Result (pCi/L, g, F):	
Sample Result Counting Uncertainty (pCi/L, g, F):	
Sample Duplicate Result (pCi/L, g, F):	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	
Are sample and/or duplicate results below RL?	
Duplicate Numerical Performance Indicator:	
Duplicate RPD:	
Duplicate Status vs Numerical Indicator:	
Duplicate Status vs RPD:	
% RPD Limit:	

## Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

JH-3003

SLC 3/30/23

Alabama Power General Test Laboratory  
744 County Road 87, GSC#8  
Calera, AL 35040  
(205) 664-6032 or 6171  
FAX (205) 257-1654

## ***Field Case Narrative***



# **Plant Gorgas Pooled Upgradient Wells**

## **2023 Compliance Event 2**

All samples were collected using methods defined in Alabama Power's Water Field Group Low-Flow Groundwater Sampling Procedure and the associated site-specific Sampling and Analysis Plan (SAP).

MW-4 was inadvertently sampled before the DO stabilization criteria was met. This was discovered during the peer review process and was communicated to the appropriate parties. It was decided by SCS Earth Sciences personnel to keep the field and analytical data and include a summary in this field narrative. All other indicator parameter stabilization criteria were met prior to sampling. An "F" qualifier was used next to the last 3 DO field readings to denote this occurrence.

Field quality control procedures were performed as follows:

- Blanks and Sample Duplicates were collected as described in the SAP.
- Calibration verifications for all required field parameters were performed daily, before and after sample collection.

Alabama Power General Test Laboratory  
744 County Road 87, GSC#8  
Calera, AL 35040  
(205) 664-6032 or 6171  
FAX (205) 257-1654

## ***Field Case Narrative***



## **Plant Gorgas Landfill**

### **2023 Compliance Event 2**

All samples were collected using methods defined in Alabama Power's Water Field Group Low-Flow Groundwater Sampling Procedure and the associated site-specific Sampling and Analysis Plan (SAP).

Suspected iron bacteria was present during initial pumping of well MW-12.

Field quality control procedures were performed as follows:

- Blanks and Sample Duplicates were collected as described in the SAP.
  - Equipment Blank 1 (EB-1) had results greater than the RL for Manganese and Sulfate.
- Calibration verifications for all required field parameters were performed daily, before and after sample collection.





Plant Gorgas CCB Landfills  
Field Parameter Summary

Well ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
APCO-GS-CCB- MW-1	COND	Conductivity	8/22/2023 12:38	2196.92	uS/cm
APCO-GS-CCB- MW-1	DO	DO	8/22/2023 12:38	0.52	mg/L
APCO-GS-CCB- MW-1	DTW	Depth to Water Detail	8/22/2023 12:38	92.8	ft
APCO-GS-CCB- MW-1	ORP	Oxidation Reduction Potential	8/22/2023 12:38	297.82	mv
APCO-GS-CCB- MW-1	PH	pH	8/22/2023 12:38	4.88	SU
APCO-GS-CCB- MW-1	TEMP	Temperature	8/22/2023 12:38	22.3	C
APCO-GS-CCB- MW-1	TURB	Turbidity	8/22/2023 12:38	2.74	NTU
APCO-GS-CCB- MW-1	COND	Conductivity	8/22/2023 12:43	2180.39	uS/cm
APCO-GS-CCB- MW-1	DO	DO	8/22/2023 12:43	0.77	mg/L
APCO-GS-CCB- MW-1	DTW	Depth to Water Detail	8/22/2023 12:43	92.8	ft
APCO-GS-CCB- MW-1	ORP	Oxidation Reduction Potential	8/22/2023 12:43	321.71	mv
APCO-GS-CCB- MW-1	PH	pH	8/22/2023 12:43	4.85	SU
APCO-GS-CCB- MW-1	TEMP	Temperature	8/22/2023 12:43	22.07	C
APCO-GS-CCB- MW-1	TURB	Turbidity	8/22/2023 12:43	1.4	NTU
APCO-GS-CCB- MW-1	COND	Conductivity	8/22/2023 12:48	2204.07	uS/cm
APCO-GS-CCB- MW-1	DO	DO	8/22/2023 12:48	0.5	mg/L
APCO-GS-CCB- MW-1	DTW	Depth to Water Detail	8/22/2023 12:48	92.8	ft
APCO-GS-CCB- MW-1	ORP	Oxidation Reduction Potential	8/22/2023 12:48	333.02	mv
APCO-GS-CCB- MW-1	PH	pH	8/22/2023 12:48	4.88	SU
APCO-GS-CCB- MW-1	TEMP	Temperature	8/22/2023 12:48	22.19	C
APCO-GS-CCB- MW-1	TURB	Turbidity	8/22/2023 12:48	1.58	NTU
APCO-GS-CCB- MW-1	COND	Conductivity	8/22/2023 12:53	2206.04	uS/cm
APCO-GS-CCB- MW-1	DO	DO	8/22/2023 12:53	0.34	mg/L
APCO-GS-CCB- MW-1	DTW	Depth to Water Detail	8/22/2023 12:53	92.8	ft
APCO-GS-CCB- MW-1	ORP	Oxidation Reduction Potential	8/22/2023 12:53	338.64	mv
APCO-GS-CCB- MW-1	PH	pH	8/22/2023 12:53	4.92	SU
APCO-GS-CCB- MW-1	SULFIDE	Sulfide	8/22/2023 12:53	0	mg/L
APCO-GS-CCB- MW-1	TEMP	Temperature	8/22/2023 12:53	22.09	C
APCO-GS-CCB- MW-1	TURB	Turbidity	8/22/2023 12:53	1.06	NTU
APCO-GS-CCB- MW-2	COND	Conductivity	8/22/2023 13:33	1734.93	uS/cm
APCO-GS-CCB- MW-2	DO	DO	8/22/2023 13:33	0.18	mg/L
APCO-GS-CCB- MW-2	DTW	Depth to Water Detail	8/22/2023 13:33	84.6	ft
APCO-GS-CCB- MW-2	ORP	Oxidation Reduction Potential	8/22/2023 13:33	67.36	mv
APCO-GS-CCB- MW-2	PH	pH	8/22/2023 13:33	5.82	SU
APCO-GS-CCB- MW-2	TEMP	Temperature	8/22/2023 13:33	21.99	C
APCO-GS-CCB- MW-2	TURB	Turbidity	8/22/2023 13:33	21.9	NTU
APCO-GS-CCB- MW-2	COND	Conductivity	8/22/2023 13:38	1720.39	uS/cm
APCO-GS-CCB- MW-2	DO	DO	8/22/2023 13:38	0.12	mg/L
APCO-GS-CCB- MW-2	DTW	Depth to Water Detail	8/22/2023 13:38	84.6	ft
APCO-GS-CCB- MW-2	ORP	Oxidation Reduction Potential	8/22/2023 13:38	71.28	mv
APCO-GS-CCB- MW-2	PH	pH	8/22/2023 13:38	5.79	SU
APCO-GS-CCB- MW-2	TEMP	Temperature	8/22/2023 13:38	21.44	C
APCO-GS-CCB- MW-2	TURB	Turbidity	8/22/2023 13:38	9.91	NTU
APCO-GS-CCB- MW-2	COND	Conductivity	8/22/2023 13:43	1719.27	uS/cm
APCO-GS-CCB- MW-2	DO	DO	8/22/2023 13:43	0.1	mg/L
APCO-GS-CCB- MW-2	DTW	Depth to Water Detail	8/22/2023 13:43	84.6	ft
APCO-GS-CCB- MW-2	ORP	Oxidation Reduction Potential	8/22/2023 13:43	69.58	mv
APCO-GS-CCB- MW-2	PH	pH	8/22/2023 13:43	5.8	SU
APCO-GS-CCB- MW-2	TEMP	Temperature	8/22/2023 13:43	21.21	C
APCO-GS-CCB- MW-2	TURB	Turbidity	8/22/2023 13:43	6.95	NTU
APCO-GS-CCB- MW-2	COND	Conductivity	8/22/2023 13:48	1720.05	uS/cm
APCO-GS-CCB- MW-2	DO	DO	8/22/2023 13:48	0.09	mg/L
APCO-GS-CCB- MW-2	DTW	Depth to Water Detail	8/22/2023 13:48	84.6	ft
APCO-GS-CCB- MW-2	ORP	Oxidation Reduction Potential	8/22/2023 13:48	69.56	mv
APCO-GS-CCB- MW-2	PH	pH	8/22/2023 13:48	5.81	SU
APCO-GS-CCB- MW-2	SULFIDE	Sulfide	8/22/2023 13:48	0	mg/L
APCO-GS-CCB- MW-2	TEMP	Temperature	8/22/2023 13:48	21.04	C



Plant Gorgas CCB Landfills  
Field Parameter Summary

Well ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
APCO-GS-CCB- MW-2	TURB	Turbidity	8/22/2023 13:48	2.91	NTU
APCO-GS-CCB- MW-3	COND	Conductivity	8/22/2023 14:25	2710.92	uS/cm
APCO-GS-CCB- MW-3	DO	DO	8/22/2023 14:25	7.93	mg/L
APCO-GS-CCB- MW-3	DTW	Depth to Water Detail	8/22/2023 14:25	110.6	ft
APCO-GS-CCB- MW-3	ORP	Oxidation Reduction Potential	8/22/2023 14:25	107.59	mv
APCO-GS-CCB- MW-3	PH	pH	8/22/2023 14:25	6.77	SU
APCO-GS-CCB- MW-3	TEMP	Temperature	8/22/2023 14:25	30.96	C
APCO-GS-CCB- MW-3	TURB	Turbidity	8/22/2023 14:25	8.64	NTU
APCO-GS-CCB- MW-3	COND	Conductivity	8/22/2023 14:30	2927.96	uS/cm
APCO-GS-CCB- MW-3	DO	DO	8/22/2023 14:30	6.45	mg/L
APCO-GS-CCB- MW-3	DTW	Depth to Water Detail	8/22/2023 14:30	110.7	ft
APCO-GS-CCB- MW-3	ORP	Oxidation Reduction Potential	8/22/2023 14:30	106.33	mv
APCO-GS-CCB- MW-3	PH	pH	8/22/2023 14:30	5.74	SU
APCO-GS-CCB- MW-3	TEMP	Temperature	8/22/2023 14:30	30.09	C
APCO-GS-CCB- MW-3	TURB	Turbidity	8/22/2023 14:30	12.8	NTU
APCO-GS-CCB- MW-3	COND	Conductivity	8/22/2023 14:35	3186.4	uS/cm
APCO-GS-CCB- MW-3	DO	DO	8/22/2023 14:35	2.32	mg/L
APCO-GS-CCB- MW-3	DTW	Depth to Water Detail	8/22/2023 14:35	110.82	ft
APCO-GS-CCB- MW-3	ORP	Oxidation Reduction Potential	8/22/2023 14:35	149.98	mv
APCO-GS-CCB- MW-3	PH	pH	8/22/2023 14:35	5.3	SU
APCO-GS-CCB- MW-3	TEMP	Temperature	8/22/2023 14:35	30.29	C
APCO-GS-CCB- MW-3	TURB	Turbidity	8/22/2023 14:35	36	NTU
APCO-GS-CCB- MW-3	COND	Conductivity	8/22/2023 14:40	3737.45	uS/cm
APCO-GS-CCB- MW-3	DO	DO	8/22/2023 14:40	1.59	mg/L
APCO-GS-CCB- MW-3	DTW	Depth to Water Detail	8/22/2023 14:40	110.92	ft
APCO-GS-CCB- MW-3	ORP	Oxidation Reduction Potential	8/22/2023 14:40	173.45	mv
APCO-GS-CCB- MW-3	PH	pH	8/22/2023 14:40	5.18	SU
APCO-GS-CCB- MW-3	TEMP	Temperature	8/22/2023 14:40	30.37	C
APCO-GS-CCB- MW-3	TURB	Turbidity	8/22/2023 14:40	24	NTU
APCO-GS-CCB- MW-3	COND	Conductivity	8/22/2023 14:45	3703.94	uS/cm
APCO-GS-CCB- MW-3	DO	DO	8/22/2023 14:45	1.31	mg/L
APCO-GS-CCB- MW-3	DTW	Depth to Water Detail	8/22/2023 14:45	111	ft
APCO-GS-CCB- MW-3	ORP	Oxidation Reduction Potential	8/22/2023 14:45	195.14	mv
APCO-GS-CCB- MW-3	PH	pH	8/22/2023 14:45	5.13	SU
APCO-GS-CCB- MW-3	TEMP	Temperature	8/22/2023 14:45	29.84	C
APCO-GS-CCB- MW-3	TURB	Turbidity	8/22/2023 14:45	16.4	NTU
APCO-GS-CCB- MW-3	COND	Conductivity	8/22/2023 14:50	4111.39	uS/cm
APCO-GS-CCB- MW-3	DO	DO	8/22/2023 14:50	1.3	mg/L
APCO-GS-CCB- MW-3	DTW	Depth to Water Detail	8/22/2023 14:50	111.1	ft
APCO-GS-CCB- MW-3	ORP	Oxidation Reduction Potential	8/22/2023 14:50	210.96	mv
APCO-GS-CCB- MW-3	PH	pH	8/22/2023 14:50	5.09	SU
APCO-GS-CCB- MW-3	TEMP	Temperature	8/22/2023 14:50	30.06	C
APCO-GS-CCB- MW-3	TURB	Turbidity	8/22/2023 14:50	11	NTU
APCO-GS-CCB- MW-3	COND	Conductivity	8/22/2023 14:55	4098.69	uS/cm
APCO-GS-CCB- MW-3	DO	DO	8/22/2023 14:55	1.42	mg/L
APCO-GS-CCB- MW-3	DTW	Depth to Water Detail	8/22/2023 14:55	111.15	ft
APCO-GS-CCB- MW-3	ORP	Oxidation Reduction Potential	8/22/2023 14:55	217.32	mv
APCO-GS-CCB- MW-3	PH	pH	8/22/2023 14:55	5.06	SU
APCO-GS-CCB- MW-3	TEMP	Temperature	8/22/2023 14:55	30.19	C
APCO-GS-CCB- MW-3	TURB	Turbidity	8/22/2023 14:55	8.03	NTU
APCO-GS-CCB- MW-3	COND	Conductivity	8/22/2023 15:00	4080.83	uS/cm
APCO-GS-CCB- MW-3	DO	DO	8/22/2023 15:00	1.44	mg/L
APCO-GS-CCB- MW-3	DTW	Depth to Water Detail	8/22/2023 15:00	111.25	ft
APCO-GS-CCB- MW-3	ORP	Oxidation Reduction Potential	8/22/2023 15:00	216.99	mv
APCO-GS-CCB- MW-3	PH	pH	8/22/2023 15:00	5.04	SU
APCO-GS-CCB- MW-3	SULFIDE	Sulfide	8/22/2023 15:00	0	mg/L
APCO-GS-CCB- MW-3	TEMP	Temperature	8/22/2023 15:00	30.15	C

Plant Gorgas CCB Landfills  
Field Parameter Summary

Well ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
APCO-GS-CCB- MW-3	TURB	Turbidity	8/22/2023 15:00	5.66	NTU
APCO-GS-CCB- MW-4	COND	Conductivity	8/22/2023 16:10	3000.74	uS/cm
APCO-GS-CCB- MW-4	DO	DO	8/22/2023 16:10	1.59	mg/L
APCO-GS-CCB- MW-4	DTW	Depth to Water Detail	8/22/2023 16:10	117.38	ft
APCO-GS-CCB- MW-4	ORP	Oxidation Reduction Potential	8/22/2023 16:10	144.57	mv
APCO-GS-CCB- MW-4	PH	pH	8/22/2023 16:10	6.12	SU
APCO-GS-CCB- MW-4	TEMP	Temperature	8/22/2023 16:10	24.36	C
APCO-GS-CCB- MW-4	TURB	Turbidity	8/22/2023 16:10	40.6	NTU
APCO-GS-CCB- MW-4	COND	Conductivity	8/22/2023 16:15	3122.72	uS/cm
APCO-GS-CCB- MW-4	DO	DO	8/22/2023 16:15	1.21	mg/L
APCO-GS-CCB- MW-4	DTW	Depth to Water Detail	8/22/2023 16:15	117.38	ft
APCO-GS-CCB- MW-4	ORP	Oxidation Reduction Potential	8/22/2023 16:15	154.59	mv
APCO-GS-CCB- MW-4	PH	pH	8/22/2023 16:15	6.16	SU
APCO-GS-CCB- MW-4	TEMP	Temperature	8/22/2023 16:15	23.63	C
APCO-GS-CCB- MW-4	TURB	Turbidity	8/22/2023 16:15	18.6	NTU
APCO-GS-CCB- MW-4	COND	Conductivity	8/22/2023 16:20	2957.37	uS/cm
APCO-GS-CCB- MW-4	DO	DO	8/22/2023 16:20	1.55	mg/L
APCO-GS-CCB- MW-4	DTW	Depth to Water Detail	8/22/2023 16:20	117.38	ft
APCO-GS-CCB- MW-4	ORP	Oxidation Reduction Potential	8/22/2023 16:20	158.62	mv
APCO-GS-CCB- MW-4	PH	pH	8/22/2023 16:20	6.24	SU
APCO-GS-CCB- MW-4	TEMP	Temperature	8/22/2023 16:20	23.22	C
APCO-GS-CCB- MW-4	TURB	Turbidity	8/22/2023 16:20	12.1	NTU
APCO-GS-CCB- MW-4	COND	Conductivity	8/22/2023 16:25	2923.19	uS/cm
APCO-GS-CCB- MW-4	DO	DO	8/22/2023 16:25	1.84	mg/L
APCO-GS-CCB- MW-4	DTW	Depth to Water Detail	8/22/2023 16:25	117.38	ft
APCO-GS-CCB- MW-4	ORP	Oxidation Reduction Potential	8/22/2023 16:25	163.28	mv
APCO-GS-CCB- MW-4	PH	pH	8/22/2023 16:25	6.27	SU
APCO-GS-CCB- MW-4	TEMP	Temperature	8/22/2023 16:25	23.14	C
APCO-GS-CCB- MW-4	TURB	Turbidity	8/22/2023 16:25	8.66	NTU
APCO-GS-CCB- MW-4	COND	Conductivity	8/22/2023 16:30	2962.35	uS/cm
APCO-GS-CCB- MW-4	DO	DO	8/22/2023 16:30	1.95	mg/L
APCO-GS-CCB- MW-4	DTW	Depth to Water Detail	8/22/2023 16:30	117.38	ft
APCO-GS-CCB- MW-4	ORP	Oxidation Reduction Potential	8/22/2023 16:30	168.43	mv
APCO-GS-CCB- MW-4	PH	pH	8/22/2023 16:30	6.28	SU
APCO-GS-CCB- MW-4	SULFIDE	Sulfide	8/22/2023 16:30	0	mg/L
APCO-GS-CCB- MW-4	TEMP	Temperature	8/22/2023 16:30	23.06	C
APCO-GS-CCB- MW-4	TURB	Turbidity	8/22/2023 16:30	7.22	NTU
APCO-GS-CCB- MW-5	COND	Conductivity	8/16/2023 10:12	3499.86	uS/cm
APCO-GS-CCB- MW-5	DO	DO	8/16/2023 10:12	0.85	mg/L
APCO-GS-CCB- MW-5	DTW	Depth to Water Detail	8/16/2023 10:12	126.05	ft
APCO-GS-CCB- MW-5	ORP	Oxidation Reduction Potential	8/16/2023 10:12	-4.72	mv
APCO-GS-CCB- MW-5	PH	pH	8/16/2023 10:12	6.5	SU
APCO-GS-CCB- MW-5	TEMP	Temperature	8/16/2023 10:12	23.35	C
APCO-GS-CCB- MW-5	TURB	Turbidity	8/16/2023 10:12	44.4	NTU
APCO-GS-CCB- MW-5	COND	Conductivity	8/16/2023 10:17	3498.61	uS/cm
APCO-GS-CCB- MW-5	DO	DO	8/16/2023 10:17	0.63	mg/L
APCO-GS-CCB- MW-5	DTW	Depth to Water Detail	8/16/2023 10:17	126.08	ft
APCO-GS-CCB- MW-5	ORP	Oxidation Reduction Potential	8/16/2023 10:17	-8.41	mv
APCO-GS-CCB- MW-5	PH	pH	8/16/2023 10:17	6.5	SU
APCO-GS-CCB- MW-5	TEMP	Temperature	8/16/2023 10:17	23.52	C
APCO-GS-CCB- MW-5	TURB	Turbidity	8/16/2023 10:17	21.8	NTU
APCO-GS-CCB- MW-5	COND	Conductivity	8/16/2023 10:22	3515.28	uS/cm
APCO-GS-CCB- MW-5	DO	DO	8/16/2023 10:22	0.56	mg/L
APCO-GS-CCB- MW-5	DTW	Depth to Water Detail	8/16/2023 10:22	126.16	ft
APCO-GS-CCB- MW-5	ORP	Oxidation Reduction Potential	8/16/2023 10:22	-9.18	mv
APCO-GS-CCB- MW-5	PH	pH	8/16/2023 10:22	6.5	SU
APCO-GS-CCB- MW-5	TEMP	Temperature	8/16/2023 10:22	23.41	C

Plant Gorgas CCB Landfills  
Field Parameter Summary

Well ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
APCO-GS-CCB- MW-5	TURB	Turbidity	8/16/2023 10:22	13.6	NTU
APCO-GS-CCB- MW-5	COND	Conductivity	8/16/2023 10:27	3522.35	uS/cm
APCO-GS-CCB- MW-5	DO	DO	8/16/2023 10:27	0.51	mg/L
APCO-GS-CCB- MW-5	DTW	Depth to Water Detail	8/16/2023 10:27	126.16	ft
APCO-GS-CCB- MW-5	ORP	Oxidation Reduction Potential	8/16/2023 10:27	-14.89	mv
APCO-GS-CCB- MW-5	PH	pH	8/16/2023 10:27	6.5	SU
APCO-GS-CCB- MW-5	TEMP	Temperature	8/16/2023 10:27	23.76	C
APCO-GS-CCB- MW-5	TURB	Turbidity	8/16/2023 10:27	12.18	NTU
APCO-GS-CCB- MW-5	COND	Conductivity	8/16/2023 10:32	3517.4	uS/cm
APCO-GS-CCB- MW-5	DO	DO	8/16/2023 10:32	0.47	mg/L
APCO-GS-CCB- MW-5	DTW	Depth to Water Detail	8/16/2023 10:32	126.2	ft
APCO-GS-CCB- MW-5	ORP	Oxidation Reduction Potential	8/16/2023 10:32	-12.24	mv
APCO-GS-CCB- MW-5	PH	pH	8/16/2023 10:32	6.5	SU
APCO-GS-CCB- MW-5	TEMP	Temperature	8/16/2023 10:32	23.72	C
APCO-GS-CCB- MW-5	TURB	Turbidity	8/16/2023 10:32	7.81	NTU
APCO-GS-CCB- MW-5	COND	Conductivity	8/16/2023 10:37	3518.09	uS/cm
APCO-GS-CCB- MW-5	DO	DO	8/16/2023 10:37	0.46	mg/L
APCO-GS-CCB- MW-5	DTW	Depth to Water Detail	8/16/2023 10:37	126.2	ft
APCO-GS-CCB- MW-5	ORP	Oxidation Reduction Potential	8/16/2023 10:37	-10.03	mv
APCO-GS-CCB- MW-5	PH	pH	8/16/2023 10:37	6.5	SU
APCO-GS-CCB- MW-5	SULFIDE	Sulfide	8/16/2023 10:37	0	mg/L
APCO-GS-CCB- MW-5	TEMP	Temperature	8/16/2023 10:37	24.07	C
APCO-GS-CCB- MW-5	TURB	Turbidity	8/16/2023 10:37	6.87	NTU
APCO-GS-CCB- MW-6	COND	Conductivity	8/16/2023 11:40	2746.25	uS/cm
APCO-GS-CCB- MW-6	DO	DO	8/16/2023 11:40	7.36	mg/L
APCO-GS-CCB- MW-6	DTW	Depth to Water Detail	8/16/2023 11:40	105.82	ft
APCO-GS-CCB- MW-6	ORP	Oxidation Reduction Potential	8/16/2023 11:40	169.66	mv
APCO-GS-CCB- MW-6	PH	pH	8/16/2023 11:40	4.31	SU
APCO-GS-CCB- MW-6	TEMP	Temperature	8/16/2023 11:40	23.59	C
APCO-GS-CCB- MW-6	TURB	Turbidity	8/16/2023 11:40		NTU
APCO-GS-CCB- MW-6	COND	Conductivity	8/16/2023 11:45	3055.9	uS/cm
APCO-GS-CCB- MW-6	DO	DO	8/16/2023 11:45	0.29	mg/L
APCO-GS-CCB- MW-6	DTW	Depth to Water Detail	8/16/2023 11:45	106.1	ft
APCO-GS-CCB- MW-6	ORP	Oxidation Reduction Potential	8/16/2023 11:45	-10.02	mv
APCO-GS-CCB- MW-6	PH	pH	8/16/2023 11:45	5.83	SU
APCO-GS-CCB- MW-6	TEMP	Temperature	8/16/2023 11:45	22.26	C
APCO-GS-CCB- MW-6	TURB	Turbidity	8/16/2023 11:45	27.4	NTU
APCO-GS-CCB- MW-6	COND	Conductivity	8/16/2023 11:46	3061.64	uS/cm
APCO-GS-CCB- MW-6	DO	DO	8/16/2023 11:46	0.25	mg/L
APCO-GS-CCB- MW-6	DTW	Depth to Water Detail	8/16/2023 11:46	106.1	ft
APCO-GS-CCB- MW-6	ORP	Oxidation Reduction Potential	8/16/2023 11:46	-18.12	mv
APCO-GS-CCB- MW-6	PH	pH	8/16/2023 11:46	5.85	SU
APCO-GS-CCB- MW-6	TEMP	Temperature	8/16/2023 11:46	21.97	C
APCO-GS-CCB- MW-6	TURB	Turbidity	8/16/2023 11:46	27.4	NTU
APCO-GS-CCB- MW-6	COND	Conductivity	8/16/2023 11:51	3047.32	uS/cm
APCO-GS-CCB- MW-6	DO	DO	8/16/2023 11:51	0.18	mg/L
APCO-GS-CCB- MW-6	DTW	Depth to Water Detail	8/16/2023 11:51	106.1	ft
APCO-GS-CCB- MW-6	ORP	Oxidation Reduction Potential	8/16/2023 11:51	-33.26	mv
APCO-GS-CCB- MW-6	PH	pH	8/16/2023 11:51	5.89	SU
APCO-GS-CCB- MW-6	TEMP	Temperature	8/16/2023 11:51	21.8	C
APCO-GS-CCB- MW-6	TURB	Turbidity	8/16/2023 11:51	15.4	NTU
APCO-GS-CCB- MW-6	COND	Conductivity	8/16/2023 11:56	3046.79	uS/cm
APCO-GS-CCB- MW-6	DO	DO	8/16/2023 11:56	0.15	mg/L
APCO-GS-CCB- MW-6	DTW	Depth to Water Detail	8/16/2023 11:56	106.1	ft
APCO-GS-CCB- MW-6	ORP	Oxidation Reduction Potential	8/16/2023 11:56	-36.36	mv
APCO-GS-CCB- MW-6	PH	pH	8/16/2023 11:56	5.91	SU
APCO-GS-CCB- MW-6	TEMP	Temperature	8/16/2023 11:56	22.33	C

Plant Gorgas CCB Landfills  
Field Parameter Summary

Well ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
APCO-GS-CCB- MW-6	TURB	Turbidity	8/16/2023 11:56	16.3	NTU
APCO-GS-CCB- MW-6	COND	Conductivity	8/16/2023 12:01	3044.83	uS/cm
APCO-GS-CCB- MW-6	DO	DO	8/16/2023 12:01	0.14	mg/L
APCO-GS-CCB- MW-6	DTW	Depth to Water Detail	8/16/2023 12:01	106.1	ft
APCO-GS-CCB- MW-6	ORP	Oxidation Reduction Potential	8/16/2023 12:01	-40.53	mv
APCO-GS-CCB- MW-6	PH	pH	8/16/2023 12:01	5.93	SU
APCO-GS-CCB- MW-6	TEMP	Temperature	8/16/2023 12:01	22.07	C
APCO-GS-CCB- MW-6	TURB	Turbidity	8/16/2023 12:01	13.6	NTU
APCO-GS-CCB- MW-6	COND	Conductivity	8/16/2023 12:06	3038	uS/cm
APCO-GS-CCB- MW-6	DO	DO	8/16/2023 12:06	0.12	mg/L
APCO-GS-CCB- MW-6	DTW	Depth to Water Detail	8/16/2023 12:06	106.1	ft
APCO-GS-CCB- MW-6	ORP	Oxidation Reduction Potential	8/16/2023 12:06	-43.23	mv
APCO-GS-CCB- MW-6	PH	pH	8/16/2023 12:06	5.94	SU
APCO-GS-CCB- MW-6	TEMP	Temperature	8/16/2023 12:06	22.2	C
APCO-GS-CCB- MW-6	TURB	Turbidity	8/16/2023 12:06	10.75	NTU
APCO-GS-CCB- MW-6	COND	Conductivity	8/16/2023 12:11	3033.3	uS/cm
APCO-GS-CCB- MW-6	DO	DO	8/16/2023 12:11	0.11	mg/L
APCO-GS-CCB- MW-6	DTW	Depth to Water Detail	8/16/2023 12:11	106.1	ft
APCO-GS-CCB- MW-6	ORP	Oxidation Reduction Potential	8/16/2023 12:11	-47.56	mv
APCO-GS-CCB- MW-6	PH	pH	8/16/2023 12:11	5.97	SU
APCO-GS-CCB- MW-6	TEMP	Temperature	8/16/2023 12:11	22.11	C
APCO-GS-CCB- MW-6	TURB	Turbidity	8/16/2023 12:11	7.24	NTU
APCO-GS-CCB- MW-6	COND	Conductivity	8/16/2023 12:16	3036.34	uS/cm
APCO-GS-CCB- MW-6	DO	DO	8/16/2023 12:16	0.1	mg/L
APCO-GS-CCB- MW-6	DTW	Depth to Water Detail	8/16/2023 12:16	106.1	ft
APCO-GS-CCB- MW-6	ORP	Oxidation Reduction Potential	8/16/2023 12:16	-49.81	mv
APCO-GS-CCB- MW-6	PH	pH	8/16/2023 12:16	6.01	SU
APCO-GS-CCB- MW-6	SULFIDE	Sulfide	8/16/2023 12:16	0	mg/L
APCO-GS-CCB- MW-6	TEMP	Temperature	8/16/2023 12:16	22.19	C
APCO-GS-CCB- MW-6	TURB	Turbidity	8/16/2023 12:16	5.76	NTU
APCO-GS-CCB- MW-7	COND	Conductivity	8/15/2023 15:48	1656.72	uS/cm
APCO-GS-CCB- MW-7	DO	DO	8/15/2023 15:48	0.42	mg/L
APCO-GS-CCB- MW-7	DTW	Depth to Water Detail	8/15/2023 15:48	59.05	ft
APCO-GS-CCB- MW-7	ORP	Oxidation Reduction Potential	8/15/2023 15:48	6.94	mv
APCO-GS-CCB- MW-7	PH	pH	8/15/2023 15:48	7.44	SU
APCO-GS-CCB- MW-7	TEMP	Temperature	8/15/2023 15:48	20.74	C
APCO-GS-CCB- MW-7	TURB	Turbidity	8/15/2023 15:48	20.7	NTU
APCO-GS-CCB- MW-7	COND	Conductivity	8/15/2023 15:53	1634.5	uS/cm
APCO-GS-CCB- MW-7	DO	DO	8/15/2023 15:53	0.2	mg/L
APCO-GS-CCB- MW-7	DTW	Depth to Water Detail	8/15/2023 15:53	59.05	ft
APCO-GS-CCB- MW-7	ORP	Oxidation Reduction Potential	8/15/2023 15:53	6.22	mv
APCO-GS-CCB- MW-7	PH	pH	8/15/2023 15:53	7.45	SU
APCO-GS-CCB- MW-7	TEMP	Temperature	8/15/2023 15:53	20.53	C
APCO-GS-CCB- MW-7	TURB	Turbidity	8/15/2023 15:53	12.9	NTU
APCO-GS-CCB- MW-7	COND	Conductivity	8/15/2023 15:58	1611.32	uS/cm
APCO-GS-CCB- MW-7	DO	DO	8/15/2023 15:58	0.16	mg/L
APCO-GS-CCB- MW-7	DTW	Depth to Water Detail	8/15/2023 15:58	59.05	ft
APCO-GS-CCB- MW-7	ORP	Oxidation Reduction Potential	8/15/2023 15:58	4.84	mv
APCO-GS-CCB- MW-7	PH	pH	8/15/2023 15:58	7.46	SU
APCO-GS-CCB- MW-7	TEMP	Temperature	8/15/2023 15:58	20.58	C
APCO-GS-CCB- MW-7	TURB	Turbidity	8/15/2023 15:58	8.79	NTU
APCO-GS-CCB- MW-7	COND	Conductivity	8/15/2023 16:03	1591.01	uS/cm
APCO-GS-CCB- MW-7	DO	DO	8/15/2023 16:03	0.14	mg/L
APCO-GS-CCB- MW-7	DTW	Depth to Water Detail	8/15/2023 16:03	59.05	ft
APCO-GS-CCB- MW-7	ORP	Oxidation Reduction Potential	8/15/2023 16:03	3.69	mv
APCO-GS-CCB- MW-7	PH	pH	8/15/2023 16:03	7.47	SU
APCO-GS-CCB- MW-7	SULFIDE	Sulfide	8/15/2023 16:03	0	mg/L

Plant Gorgas CCB Landfills  
Field Parameter Summary

Well ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
APCO-GS-CCB- MW-7	TEMP	Temperature	8/15/2023 16:03	20.57	C
APCO-GS-CCB- MW-7	TURB	Turbidity	8/15/2023 16:03	7.68	NTU
APCO-GS-CCB- MW-8	COND	Conductivity	8/15/2023 14:19	1862.46	uS/cm
APCO-GS-CCB- MW-8	DO	DO	8/15/2023 14:19	1.5	mg/L
APCO-GS-CCB- MW-8	DTW	Depth to Water Detail	8/15/2023 14:19	65.98	ft
APCO-GS-CCB- MW-8	ORP	Oxidation Reduction Potential	8/15/2023 14:19	-12.01	mv
APCO-GS-CCB- MW-8	PH	pH	8/15/2023 14:19	7.6	SU
APCO-GS-CCB- MW-8	TEMP	Temperature	8/15/2023 14:19	26.72	C
APCO-GS-CCB- MW-8	TURB	Turbidity	8/15/2023 14:19	73.4	NTU
APCO-GS-CCB- MW-8	COND	Conductivity	8/15/2023 14:24	1848.7	uS/cm
APCO-GS-CCB- MW-8	DO	DO	8/15/2023 14:24	0.97	mg/L
APCO-GS-CCB- MW-8	DTW	Depth to Water Detail	8/15/2023 14:24	66.12	ft
APCO-GS-CCB- MW-8	ORP	Oxidation Reduction Potential	8/15/2023 14:24	-8.52	mv
APCO-GS-CCB- MW-8	PH	pH	8/15/2023 14:24	7.6	SU
APCO-GS-CCB- MW-8	TEMP	Temperature	8/15/2023 14:24	26.6	C
APCO-GS-CCB- MW-8	TURB	Turbidity	8/15/2023 14:24	56	NTU
APCO-GS-CCB- MW-8	COND	Conductivity	8/15/2023 14:29	1836.65	uS/cm
APCO-GS-CCB- MW-8	DO	DO	8/15/2023 14:29	0.8	mg/L
APCO-GS-CCB- MW-8	DTW	Depth to Water Detail	8/15/2023 14:29	66.18	ft
APCO-GS-CCB- MW-8	ORP	Oxidation Reduction Potential	8/15/2023 14:29	-6.22	mv
APCO-GS-CCB- MW-8	PH	pH	8/15/2023 14:29	7.6	SU
APCO-GS-CCB- MW-8	TEMP	Temperature	8/15/2023 14:29	26.57	C
APCO-GS-CCB- MW-8	TURB	Turbidity	8/15/2023 14:29	36.1	NTU
APCO-GS-CCB- MW-8	COND	Conductivity	8/15/2023 14:34	1812.9	uS/cm
APCO-GS-CCB- MW-8	DO	DO	8/15/2023 14:34	0.72	mg/L
APCO-GS-CCB- MW-8	DTW	Depth to Water Detail	8/15/2023 14:34	66.22	ft
APCO-GS-CCB- MW-8	ORP	Oxidation Reduction Potential	8/15/2023 14:34	-4.36	mv
APCO-GS-CCB- MW-8	PH	pH	8/15/2023 14:34	7.6	SU
APCO-GS-CCB- MW-8	TEMP	Temperature	8/15/2023 14:34	25.93	C
APCO-GS-CCB- MW-8	TURB	Turbidity	8/15/2023 14:34	24.3	NTU
APCO-GS-CCB- MW-8	COND	Conductivity	8/15/2023 14:39	1774.51	uS/cm
APCO-GS-CCB- MW-8	DO	DO	8/15/2023 14:39	0.67	mg/L
APCO-GS-CCB- MW-8	DTW	Depth to Water Detail	8/15/2023 14:39	66.22	ft
APCO-GS-CCB- MW-8	ORP	Oxidation Reduction Potential	8/15/2023 14:39	-2.52	mv
APCO-GS-CCB- MW-8	PH	pH	8/15/2023 14:39	7.6	SU
APCO-GS-CCB- MW-8	TEMP	Temperature	8/15/2023 14:39	24.99	C
APCO-GS-CCB- MW-8	TURB	Turbidity	8/15/2023 14:39	17.6	NTU
APCO-GS-CCB- MW-8	COND	Conductivity	8/15/2023 14:44	1800.77	uS/cm
APCO-GS-CCB- MW-8	DO	DO	8/15/2023 14:44	0.63	mg/L
APCO-GS-CCB- MW-8	DTW	Depth to Water Detail	8/15/2023 14:44	66.22	ft
APCO-GS-CCB- MW-8	ORP	Oxidation Reduction Potential	8/15/2023 14:44	-2.08	mv
APCO-GS-CCB- MW-8	PH	pH	8/15/2023 14:44	7.59	SU
APCO-GS-CCB- MW-8	TEMP	Temperature	8/15/2023 14:44	25.95	C
APCO-GS-CCB- MW-8	TURB	Turbidity	8/15/2023 14:44	12.6	NTU
APCO-GS-CCB- MW-8	COND	Conductivity	8/15/2023 14:49	1804.9	uS/cm
APCO-GS-CCB- MW-8	DO	DO	8/15/2023 14:49	0.6	mg/L
APCO-GS-CCB- MW-8	DTW	Depth to Water Detail	8/15/2023 14:49	66.22	ft
APCO-GS-CCB- MW-8	ORP	Oxidation Reduction Potential	8/15/2023 14:49	-1.78	mv
APCO-GS-CCB- MW-8	PH	pH	8/15/2023 14:49	7.58	SU
APCO-GS-CCB- MW-8	TEMP	Temperature	8/15/2023 14:49	26.27	C
APCO-GS-CCB- MW-8	TURB	Turbidity	8/15/2023 14:49	11.7	NTU
APCO-GS-CCB- MW-8	COND	Conductivity	8/15/2023 14:54	1795.35	uS/cm
APCO-GS-CCB- MW-8	DO	DO	8/15/2023 14:54	0.56	mg/L
APCO-GS-CCB- MW-8	DTW	Depth to Water Detail	8/15/2023 14:54	66.22	ft
APCO-GS-CCB- MW-8	ORP	Oxidation Reduction Potential	8/15/2023 14:54	-1.01	mv
APCO-GS-CCB- MW-8	PH	pH	8/15/2023 14:54	7.58	SU
APCO-GS-CCB- MW-8	TEMP	Temperature	8/15/2023 14:54	25.89	C

Plant Gorgas CCB Landfills  
Field Parameter Summary

Well ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
APCO-GS-CCB- MW-8	TURB	Turbidity	8/15/2023 14:54	10.47	NTU
APCO-GS-CCB- MW-8	COND	Conductivity	8/15/2023 14:59	1793.82	uS/cm
APCO-GS-CCB- MW-8	DO	DO	8/15/2023 14:59	0.56	mg/L
APCO-GS-CCB- MW-8	DTW	Depth to Water Detail	8/15/2023 14:59	66.22	ft
APCO-GS-CCB- MW-8	ORP	Oxidation Reduction Potential	8/15/2023 14:59	-0.67	mv
APCO-GS-CCB- MW-8	PH	pH	8/15/2023 14:59	7.58	SU
APCO-GS-CCB- MW-8	SULFIDE	Sulfide	8/15/2023 14:59	0	mg/L
APCO-GS-CCB- MW-8	TEMP	Temperature	8/15/2023 14:59	26.03	C
APCO-GS-CCB- MW-8	TURB	Turbidity	8/15/2023 14:59	9.69	NTU
APCO-GS-CCB- MW-10	COND	Conductivity	8/15/2023 12:14	1201.6	uS/cm
APCO-GS-CCB- MW-10	DO	DO	8/15/2023 12:14	5.82	mg/L
APCO-GS-CCB- MW-10	DTW	Depth to Water Detail	8/15/2023 12:14	88.36	ft
APCO-GS-CCB- MW-10	ORP	Oxidation Reduction Potential	8/15/2023 12:14	-7.46	mv
APCO-GS-CCB- MW-10	PH	pH	8/15/2023 12:14	7.75	SU
APCO-GS-CCB- MW-10	TEMP	Temperature	8/15/2023 12:14	24.93	C
APCO-GS-CCB- MW-10	TURB	Turbidity	8/15/2023 12:14	88.7	NTU
APCO-GS-CCB- MW-10	COND	Conductivity	8/15/2023 12:19	1139.48	uS/cm
APCO-GS-CCB- MW-10	DO	DO	8/15/2023 12:19	2.63	mg/L
APCO-GS-CCB- MW-10	DTW	Depth to Water Detail	8/15/2023 12:19	88.52	ft
APCO-GS-CCB- MW-10	ORP	Oxidation Reduction Potential	8/15/2023 12:19	-1.02	mv
APCO-GS-CCB- MW-10	PH	pH	8/15/2023 12:19	7.62	SU
APCO-GS-CCB- MW-10	TEMP	Temperature	8/15/2023 12:19	25.09	C
APCO-GS-CCB- MW-10	TURB	Turbidity	8/15/2023 12:19	96.1	NTU
APCO-GS-CCB- MW-10	COND	Conductivity	8/15/2023 12:24	1128.4	uS/cm
APCO-GS-CCB- MW-10	DO	DO	8/15/2023 12:24	1.49	mg/L
APCO-GS-CCB- MW-10	DTW	Depth to Water Detail	8/15/2023 12:24	88.61	ft
APCO-GS-CCB- MW-10	ORP	Oxidation Reduction Potential	8/15/2023 12:24	-0.43	mv
APCO-GS-CCB- MW-10	PH	pH	8/15/2023 12:24	7.59	SU
APCO-GS-CCB- MW-10	TEMP	Temperature	8/15/2023 12:24	25.01	C
APCO-GS-CCB- MW-10	TURB	Turbidity	8/15/2023 12:24	67.4	NTU
APCO-GS-CCB- MW-10	COND	Conductivity	8/15/2023 12:29	1127.59	uS/cm
APCO-GS-CCB- MW-10	DO	DO	8/15/2023 12:29	1.17	mg/L
APCO-GS-CCB- MW-10	DTW	Depth to Water Detail	8/15/2023 12:29	88.67	ft
APCO-GS-CCB- MW-10	ORP	Oxidation Reduction Potential	8/15/2023 12:29	-0.42	mv
APCO-GS-CCB- MW-10	PH	pH	8/15/2023 12:29	7.58	SU
APCO-GS-CCB- MW-10	TEMP	Temperature	8/15/2023 12:29	25.33	C
APCO-GS-CCB- MW-10	TURB	Turbidity	8/15/2023 12:29	47	NTU
APCO-GS-CCB- MW-10	COND	Conductivity	8/15/2023 12:34	1134.51	uS/cm
APCO-GS-CCB- MW-10	DO	DO	8/15/2023 12:34	1.08	mg/L
APCO-GS-CCB- MW-10	DTW	Depth to Water Detail	8/15/2023 12:34	88.67	ft
APCO-GS-CCB- MW-10	ORP	Oxidation Reduction Potential	8/15/2023 12:34	-0.78	mv
APCO-GS-CCB- MW-10	PH	pH	8/15/2023 12:34	7.57	SU
APCO-GS-CCB- MW-10	TEMP	Temperature	8/15/2023 12:34	26.12	C
APCO-GS-CCB- MW-10	TURB	Turbidity	8/15/2023 12:34	39.3	NTU
APCO-GS-CCB- MW-10	COND	Conductivity	8/15/2023 12:39	1134.2	uS/cm
APCO-GS-CCB- MW-10	DO	DO	8/15/2023 12:39	1.04	mg/L
APCO-GS-CCB- MW-10	DTW	Depth to Water Detail	8/15/2023 12:39	88.67	ft
APCO-GS-CCB- MW-10	ORP	Oxidation Reduction Potential	8/15/2023 12:39	-1.22	mv
APCO-GS-CCB- MW-10	PH	pH	8/15/2023 12:39	7.57	SU
APCO-GS-CCB- MW-10	TEMP	Temperature	8/15/2023 12:39	26.6	C
APCO-GS-CCB- MW-10	TURB	Turbidity	8/15/2023 12:39	29.6	NTU
APCO-GS-CCB- MW-10	COND	Conductivity	8/15/2023 12:44	1142.93	uS/cm
APCO-GS-CCB- MW-10	DO	DO	8/15/2023 12:44	1.07	mg/L
APCO-GS-CCB- MW-10	DTW	Depth to Water Detail	8/15/2023 12:44	88.67	ft
APCO-GS-CCB- MW-10	ORP	Oxidation Reduction Potential	8/15/2023 12:44	-1.63	mv
APCO-GS-CCB- MW-10	PH	pH	8/15/2023 12:44	7.56	SU
APCO-GS-CCB- MW-10	TEMP	Temperature	8/15/2023 12:44	27.12	C

Plant Gorgas CCB Landfills  
Field Parameter Summary

Well ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
APCO-GS-CCB- MW-10	TURB	Turbidity	8/15/2023 12:44	25.4	NTU
APCO-GS-CCB- MW-10	COND	Conductivity	8/15/2023 12:49	1152.33	uS/cm
APCO-GS-CCB- MW-10	DO	DO	8/15/2023 12:49	1.17	mg/L
APCO-GS-CCB- MW-10	DTW	Depth to Water Detail	8/15/2023 12:49	88.67	ft
APCO-GS-CCB- MW-10	ORP	Oxidation Reduction Potential	8/15/2023 12:49	-2.58	mv
APCO-GS-CCB- MW-10	PH	pH	8/15/2023 12:49	7.56	SU
APCO-GS-CCB- MW-10	TEMP	Temperature	8/15/2023 12:49	27.93	C
APCO-GS-CCB- MW-10	TURB	Turbidity	8/15/2023 12:49	32.2	NTU
APCO-GS-CCB- MW-10	COND	Conductivity	8/15/2023 12:54	1148.12	uS/cm
APCO-GS-CCB- MW-10	DO	DO	8/15/2023 12:54	1.21	mg/L
APCO-GS-CCB- MW-10	DTW	Depth to Water Detail	8/15/2023 12:54	88.67	ft
APCO-GS-CCB- MW-10	ORP	Oxidation Reduction Potential	8/15/2023 12:54	-2.8	mv
APCO-GS-CCB- MW-10	PH	pH	8/15/2023 12:54	7.56	SU
APCO-GS-CCB- MW-10	TEMP	Temperature	8/15/2023 12:54	28.13	C
APCO-GS-CCB- MW-10	TURB	Turbidity	8/15/2023 12:54	20.4	NTU
APCO-GS-CCB- MW-10	COND	Conductivity	8/15/2023 12:59	1138.85	uS/cm
APCO-GS-CCB- MW-10	DO	DO	8/15/2023 12:59	1.1	mg/L
APCO-GS-CCB- MW-10	DTW	Depth to Water Detail	8/15/2023 12:59	88.67	ft
APCO-GS-CCB- MW-10	ORP	Oxidation Reduction Potential	8/15/2023 12:59	-1.91	mv
APCO-GS-CCB- MW-10	PH	pH	8/15/2023 12:59	7.56	SU
APCO-GS-CCB- MW-10	TEMP	Temperature	8/15/2023 12:59	27.42	C
APCO-GS-CCB- MW-10	TURB	Turbidity	8/15/2023 12:59	20.1	NTU
APCO-GS-CCB- MW-10	COND	Conductivity	8/15/2023 13:04	1143.3	uS/cm
APCO-GS-CCB- MW-10	DO	DO	8/15/2023 13:04	1.1	mg/L
APCO-GS-CCB- MW-10	DTW	Depth to Water Detail	8/15/2023 13:04	88.67	ft
APCO-GS-CCB- MW-10	ORP	Oxidation Reduction Potential	8/15/2023 13:04	-2.07	mv
APCO-GS-CCB- MW-10	PH	pH	8/15/2023 13:04	7.55	SU
APCO-GS-CCB- MW-10	TEMP	Temperature	8/15/2023 13:04	27.58	C
APCO-GS-CCB- MW-10	TURB	Turbidity	8/15/2023 13:04	14.9	NTU
APCO-GS-CCB- MW-10	COND	Conductivity	8/15/2023 13:09	1133.79	uS/cm
APCO-GS-CCB- MW-10	DO	DO	8/15/2023 13:09	0.97	mg/L
APCO-GS-CCB- MW-10	DTW	Depth to Water Detail	8/15/2023 13:09	88.67	ft
APCO-GS-CCB- MW-10	ORP	Oxidation Reduction Potential	8/15/2023 13:09	-1.09	mv
APCO-GS-CCB- MW-10	PH	pH	8/15/2023 13:09	7.54	SU
APCO-GS-CCB- MW-10	TEMP	Temperature	8/15/2023 13:09	26.14	C
APCO-GS-CCB- MW-10	TURB	Turbidity	8/15/2023 13:09	12.7	NTU
APCO-GS-CCB- MW-10	COND	Conductivity	8/15/2023 13:14	1127.99	uS/cm
APCO-GS-CCB- MW-10	DO	DO	8/15/2023 13:14	0.94	mg/L
APCO-GS-CCB- MW-10	DTW	Depth to Water Detail	8/15/2023 13:14	88.67	ft
APCO-GS-CCB- MW-10	ORP	Oxidation Reduction Potential	8/15/2023 13:14	-1.84	mv
APCO-GS-CCB- MW-10	PH	pH	8/15/2023 13:14	7.54	SU
APCO-GS-CCB- MW-10	TEMP	Temperature	8/15/2023 13:14	25.42	C
APCO-GS-CCB- MW-10	TURB	Turbidity	8/15/2023 13:14	10.1	NTU
APCO-GS-CCB- MW-10	COND	Conductivity	8/15/2023 13:19	1123.05	uS/cm
APCO-GS-CCB- MW-10	DO	DO	8/15/2023 13:19	0.91	mg/L
APCO-GS-CCB- MW-10	DTW	Depth to Water Detail	8/15/2023 13:19	88.67	ft
APCO-GS-CCB- MW-10	ORP	Oxidation Reduction Potential	8/15/2023 13:19	-3.4	mv
APCO-GS-CCB- MW-10	PH	pH	8/15/2023 13:19	7.53	SU
APCO-GS-CCB- MW-10	SULFIDE	Sulfide	8/15/2023 13:19	0	mg/L
APCO-GS-CCB- MW-10	TEMP	Temperature	8/15/2023 13:19	24.75	C
APCO-GS-CCB- MW-10	TURB	Turbidity	8/15/2023 13:19	9.72	NTU
APCO-GS-CCB- MW-11	COND	Conductivity	8/15/2023 10:46	2227.4	uS/cm
APCO-GS-CCB- MW-11	DO	DO	8/15/2023 10:46	1.28	mg/L
APCO-GS-CCB- MW-11	DTW	Depth to Water Detail	8/15/2023 10:46	109.9	ft
APCO-GS-CCB- MW-11	ORP	Oxidation Reduction Potential	8/15/2023 10:46	10.78	mv
APCO-GS-CCB- MW-11	PH	pH	8/15/2023 10:46	7.59	SU
APCO-GS-CCB- MW-11	TEMP	Temperature	8/15/2023 10:46	21.31	C

Plant Gorgas CCB Landfills  
Field Parameter Summary

Well ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
APCO-GS-CCB- MW-11	TURB	Turbidity	8/15/2023 10:46	4.14	NTU
APCO-GS-CCB- MW-11	COND	Conductivity	8/15/2023 10:51	2203.18	uS/cm
APCO-GS-CCB- MW-11	DO	DO	8/15/2023 10:51	0.93	mg/L
APCO-GS-CCB- MW-11	DTW	Depth to Water Detail	8/15/2023 10:51	110.71	ft
APCO-GS-CCB- MW-11	ORP	Oxidation Reduction Potential	8/15/2023 10:51	-4.73	mv
APCO-GS-CCB- MW-11	PH	pH	8/15/2023 10:51	7.62	SU
APCO-GS-CCB- MW-11	TEMP	Temperature	8/15/2023 10:51	22.61	C
APCO-GS-CCB- MW-11	TURB	Turbidity	8/15/2023 10:51	3.82	NTU
APCO-GS-CCB- MW-11	COND	Conductivity	8/15/2023 10:56	2170.2	uS/cm
APCO-GS-CCB- MW-11	DO	DO	8/15/2023 10:56	0.95	mg/L
APCO-GS-CCB- MW-11	DTW	Depth to Water Detail	8/15/2023 10:56	110.88	ft
APCO-GS-CCB- MW-11	ORP	Oxidation Reduction Potential	8/15/2023 10:56	-13.77	mv
APCO-GS-CCB- MW-11	PH	pH	8/15/2023 10:56	7.63	SU
APCO-GS-CCB- MW-11	TEMP	Temperature	8/15/2023 10:56	22.78	C
APCO-GS-CCB- MW-11	TURB	Turbidity	8/15/2023 10:56	3.11	NTU
APCO-GS-CCB- MW-11	COND	Conductivity	8/15/2023 11:01	2136.13	uS/cm
APCO-GS-CCB- MW-11	DO	DO	8/15/2023 11:01	0.9	mg/L
APCO-GS-CCB- MW-11	DTW	Depth to Water Detail	8/15/2023 11:01	111.2	ft
APCO-GS-CCB- MW-11	ORP	Oxidation Reduction Potential	8/15/2023 11:01	-18.69	mv
APCO-GS-CCB- MW-11	PH	pH	8/15/2023 11:01	7.62	SU
APCO-GS-CCB- MW-11	TEMP	Temperature	8/15/2023 11:01	22.55	C
APCO-GS-CCB- MW-11	TURB	Turbidity	8/15/2023 11:01	3.08	NTU
APCO-GS-CCB- MW-11	COND	Conductivity	8/15/2023 11:06	2120.78	uS/cm
APCO-GS-CCB- MW-11	DO	DO	8/15/2023 11:06	0.88	mg/L
APCO-GS-CCB- MW-11	DTW	Depth to Water Detail	8/15/2023 11:06	111.43	ft
APCO-GS-CCB- MW-11	ORP	Oxidation Reduction Potential	8/15/2023 11:06	-22.05	mv
APCO-GS-CCB- MW-11	PH	pH	8/15/2023 11:06	7.62	SU
APCO-GS-CCB- MW-11	TEMP	Temperature	8/15/2023 11:06	22.56	C
APCO-GS-CCB- MW-11	TURB	Turbidity	8/15/2023 11:06	2.89	NTU
APCO-GS-CCB- MW-11	COND	Conductivity	8/15/2023 11:11	2115.88	uS/cm
APCO-GS-CCB- MW-11	DO	DO	8/15/2023 11:11	0.92	mg/L
APCO-GS-CCB- MW-11	DTW	Depth to Water Detail	8/15/2023 11:11	111.46	ft
APCO-GS-CCB- MW-11	ORP	Oxidation Reduction Potential	8/15/2023 11:11	-25.2	mv
APCO-GS-CCB- MW-11	PH	pH	8/15/2023 11:11	7.62	SU
APCO-GS-CCB- MW-11	SULFIDE	Sulfide	8/15/2023 11:11	0	mg/L
APCO-GS-CCB- MW-11	TEMP	Temperature	8/15/2023 11:11	23.14	C
APCO-GS-CCB- MW-11	TURB	Turbidity	8/15/2023 11:11	2.6	NTU
APCO-GS-CCB- MW-12	COND	Conductivity	8/16/2023 8:45	2536.84	uS/cm
APCO-GS-CCB- MW-12	DO	DO	8/16/2023 8:45	1.77	mg/L
APCO-GS-CCB- MW-12	DTW	Depth to Water Detail	8/16/2023 8:45	155.82	ft
APCO-GS-CCB- MW-12	ORP	Oxidation Reduction Potential	8/16/2023 8:45	31.9	mv
APCO-GS-CCB- MW-12	PH	pH	8/16/2023 8:45	5.74	SU
APCO-GS-CCB- MW-12	TEMP	Temperature	8/16/2023 8:45	22.12	C
APCO-GS-CCB- MW-12	TURB	Turbidity	8/16/2023 8:45	12.2	NTU
APCO-GS-CCB- MW-12	COND	Conductivity	8/16/2023 8:50	2533.72	uS/cm
APCO-GS-CCB- MW-12	DO	DO	8/16/2023 8:50	0.85	mg/L
APCO-GS-CCB- MW-12	DTW	Depth to Water Detail	8/16/2023 8:50	155.82	ft
APCO-GS-CCB- MW-12	ORP	Oxidation Reduction Potential	8/16/2023 8:50	29.56	mv
APCO-GS-CCB- MW-12	PH	pH	8/16/2023 8:50	5.8	SU
APCO-GS-CCB- MW-12	TEMP	Temperature	8/16/2023 8:50	22.41	C
APCO-GS-CCB- MW-12	TURB	Turbidity	8/16/2023 8:50	10.2	NTU
APCO-GS-CCB- MW-12	COND	Conductivity	8/16/2023 8:55	2518.9	uS/cm
APCO-GS-CCB- MW-12	DO	DO	8/16/2023 8:55	1.05	mg/L
APCO-GS-CCB- MW-12	DTW	Depth to Water Detail	8/16/2023 8:55	155.82	ft
APCO-GS-CCB- MW-12	ORP	Oxidation Reduction Potential	8/16/2023 8:55	28.58	mv
APCO-GS-CCB- MW-12	PH	pH	8/16/2023 8:55	5.8	SU
APCO-GS-CCB- MW-12	TEMP	Temperature	8/16/2023 8:55	22.21	C



Plant Gorgas CCB Landfills  
Field Parameter Summary

Well ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
APCO-GS-CCB- MW-12	TURB	Turbidity	8/16/2023 8:55	7.78	NTU
APCO-GS-CCB- MW-12	COND	Conductivity	8/16/2023 9:00	2513.81	uS/cm
APCO-GS-CCB- MW-12	DO	DO	8/16/2023 9:00	0.21	mg/L
APCO-GS-CCB- MW-12	DTW	Depth to Water Detail	8/16/2023 9:00	155.82	ft
APCO-GS-CCB- MW-12	ORP	Oxidation Reduction Potential	8/16/2023 9:00	27.75	mv
APCO-GS-CCB- MW-12	PH	pH	8/16/2023 9:00	5.81	SU
APCO-GS-CCB- MW-12	SULFIDE	Sulfide	8/16/2023 9:00	0	mg/L
APCO-GS-CCB- MW-12	TEMP	Temperature	8/16/2023 9:00	22.33	C
APCO-GS-CCB- MW-12	TURB	Turbidity	8/16/2023 9:00	6.87	NTU
APCO-GS-CCB- MW-12V	COND	Conductivity	8/16/2023 7:34	2566.97	uS/cm
APCO-GS-CCB- MW-12V	DO	DO	8/16/2023 7:34	2.82	mg/L
APCO-GS-CCB- MW-12V	DTW	Depth to Water Detail	8/16/2023 7:34	158.85	ft
APCO-GS-CCB- MW-12V	ORP	Oxidation Reduction Potential	8/16/2023 7:34	15.82	mv
APCO-GS-CCB- MW-12V	PH	pH	8/16/2023 7:34	6.9	SU
APCO-GS-CCB- MW-12V	TEMP	Temperature	8/16/2023 7:34	21.74	C
APCO-GS-CCB- MW-12V	TURB	Turbidity	8/16/2023 7:34	10.58	NTU
APCO-GS-CCB- MW-12V	COND	Conductivity	8/16/2023 7:39	2585.1	uS/cm
APCO-GS-CCB- MW-12V	DO	DO	8/16/2023 7:39	1.39	mg/L
APCO-GS-CCB- MW-12V	DTW	Depth to Water Detail	8/16/2023 7:39	159.01	ft
APCO-GS-CCB- MW-12V	ORP	Oxidation Reduction Potential	8/16/2023 7:39	0.76	mv
APCO-GS-CCB- MW-12V	PH	pH	8/16/2023 7:39	6.9	SU
APCO-GS-CCB- MW-12V	TEMP	Temperature	8/16/2023 7:39	21.81	C
APCO-GS-CCB- MW-12V	TURB	Turbidity	8/16/2023 7:39	7.45	NTU
APCO-GS-CCB- MW-12V	COND	Conductivity	8/16/2023 7:44	2560.72	uS/cm
APCO-GS-CCB- MW-12V	DO	DO	8/16/2023 7:44	1	mg/L
APCO-GS-CCB- MW-12V	DTW	Depth to Water Detail	8/16/2023 7:44	159.16	ft
APCO-GS-CCB- MW-12V	ORP	Oxidation Reduction Potential	8/16/2023 7:44	-14.53	mv
APCO-GS-CCB- MW-12V	PH	pH	8/16/2023 7:44	6.9	SU
APCO-GS-CCB- MW-12V	TEMP	Temperature	8/16/2023 7:44	21.79	C
APCO-GS-CCB- MW-12V	TURB	Turbidity	8/16/2023 7:44	6.22	NTU
APCO-GS-CCB- MW-12V	COND	Conductivity	8/16/2023 7:49	2535.37	uS/cm
APCO-GS-CCB- MW-12V	DO	DO	8/16/2023 7:49	0.92	mg/L
APCO-GS-CCB- MW-12V	DTW	Depth to Water Detail	8/16/2023 7:49	159.28	ft
APCO-GS-CCB- MW-12V	ORP	Oxidation Reduction Potential	8/16/2023 7:49	-24.24	mv
APCO-GS-CCB- MW-12V	PH	pH	8/16/2023 7:49	6.9	SU
APCO-GS-CCB- MW-12V	TEMP	Temperature	8/16/2023 7:49	21.8	C
APCO-GS-CCB- MW-12V	TURB	Turbidity	8/16/2023 7:49	5.58	NTU
APCO-GS-CCB- MW-12V	COND	Conductivity	8/16/2023 7:54	2498.91	uS/cm
APCO-GS-CCB- MW-12V	DO	DO	8/16/2023 7:54	0.84	mg/L
APCO-GS-CCB- MW-12V	DTW	Depth to Water Detail	8/16/2023 7:54	159.42	ft
APCO-GS-CCB- MW-12V	ORP	Oxidation Reduction Potential	8/16/2023 7:54	-30.24	mv
APCO-GS-CCB- MW-12V	PH	pH	8/16/2023 7:54	6.91	SU
APCO-GS-CCB- MW-12V	SULFIDE	Sulfide	8/16/2023 7:54	0	mg/L
APCO-GS-CCB- MW-12V	TEMP	Temperature	8/16/2023 7:54	21.77	C
APCO-GS-CCB- MW-12V	TURB	Turbidity	8/16/2023 7:54	4.96	NTU
APCO-GS-CCB- MW-13	COND	Conductivity	8/16/2023 9:43	1922.4	uS/cm
APCO-GS-CCB- MW-13	DO	DO	8/16/2023 9:43	2.04	mg/L
APCO-GS-CCB- MW-13	DTW	Depth to Water Detail	8/16/2023 9:43	94.86	ft
APCO-GS-CCB- MW-13	ORP	Oxidation Reduction Potential	8/16/2023 9:43	-14.51	mv
APCO-GS-CCB- MW-13	PH	pH	8/16/2023 9:43	6.45	SU
APCO-GS-CCB- MW-13	TEMP	Temperature	8/16/2023 9:43	21.1	C
APCO-GS-CCB- MW-13	TURB	Turbidity	8/16/2023 9:43	10.3	NTU
APCO-GS-CCB- MW-13	COND	Conductivity	8/16/2023 9:54	2318.83	uS/cm
APCO-GS-CCB- MW-13	DO	DO	8/16/2023 9:54	4.34	mg/L
APCO-GS-CCB- MW-13	DTW	Depth to Water Detail	8/16/2023 9:54	94.89	ft
APCO-GS-CCB- MW-13	ORP	Oxidation Reduction Potential	8/16/2023 9:54	-27.69	mv
APCO-GS-CCB- MW-13	PH	pH	8/16/2023 9:54	6.62	SU

Plant Gorgas CCB Landfills  
Field Parameter Summary

Well ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
APCO-GS-CCB- MW-13	TEMP	Temperature	8/16/2023 9:54	24.44	C
APCO-GS-CCB- MW-13	TURB	Turbidity	8/16/2023 9:54	9.78	NTU
APCO-GS-CCB- MW-13	COND	Conductivity	8/16/2023 9:59	2065.65	uS/cm
APCO-GS-CCB- MW-13	DO	DO	8/16/2023 9:59	1.29	mg/L
APCO-GS-CCB- MW-13	DTW	Depth to Water Detail	8/16/2023 9:59	95.18	ft
APCO-GS-CCB- MW-13	ORP	Oxidation Reduction Potential	8/16/2023 9:59	-10.45	mv
APCO-GS-CCB- MW-13	PH	pH	8/16/2023 9:59	6.52	SU
APCO-GS-CCB- MW-13	TEMP	Temperature	8/16/2023 9:59	21.73	C
APCO-GS-CCB- MW-13	TURB	Turbidity	8/16/2023 9:59	6.98	NTU
APCO-GS-CCB- MW-13	COND	Conductivity	8/16/2023 10:04	1999.34	uS/cm
APCO-GS-CCB- MW-13	DO	DO	8/16/2023 10:04	0.61	mg/L
APCO-GS-CCB- MW-13	DTW	Depth to Water Detail	8/16/2023 10:04	95.31	ft
APCO-GS-CCB- MW-13	ORP	Oxidation Reduction Potential	8/16/2023 10:04	-3.7	mv
APCO-GS-CCB- MW-13	PH	pH	8/16/2023 10:04	6.51	SU
APCO-GS-CCB- MW-13	TEMP	Temperature	8/16/2023 10:04	21.37	C
APCO-GS-CCB- MW-13	TURB	Turbidity	8/16/2023 10:04	6.56	NTU
APCO-GS-CCB- MW-13	COND	Conductivity	8/16/2023 10:09	1960.19	uS/cm
APCO-GS-CCB- MW-13	DO	DO	8/16/2023 10:09	0.63	mg/L
APCO-GS-CCB- MW-13	DTW	Depth to Water Detail	8/16/2023 10:09	95.42	ft
APCO-GS-CCB- MW-13	ORP	Oxidation Reduction Potential	8/16/2023 10:09	1.11	mv
APCO-GS-CCB- MW-13	PH	pH	8/16/2023 10:09	6.51	SU
APCO-GS-CCB- MW-13	TEMP	Temperature	8/16/2023 10:09	21.22	C
APCO-GS-CCB- MW-13	TURB	Turbidity	8/16/2023 10:09	6.34	NTU
APCO-GS-CCB- MW-13	COND	Conductivity	8/16/2023 10:14	1958.78	uS/cm
APCO-GS-CCB- MW-13	DO	DO	8/16/2023 10:14	0.69	mg/L
APCO-GS-CCB- MW-13	DTW	Depth to Water Detail	8/16/2023 10:14	95.48	ft
APCO-GS-CCB- MW-13	ORP	Oxidation Reduction Potential	8/16/2023 10:14	4.33	mv
APCO-GS-CCB- MW-13	PH	pH	8/16/2023 10:14	6.5	SU
APCO-GS-CCB- MW-13	TEMP	Temperature	8/16/2023 10:14	22.26	C
APCO-GS-CCB- MW-13	TURB	Turbidity	8/16/2023 10:14	6.22	NTU
APCO-GS-CCB- MW-13	COND	Conductivity	8/16/2023 10:19	1922.86	uS/cm
APCO-GS-CCB- MW-13	DO	DO	8/16/2023 10:19	0.68	mg/L
APCO-GS-CCB- MW-13	DTW	Depth to Water Detail	8/16/2023 10:19	95.52	ft
APCO-GS-CCB- MW-13	ORP	Oxidation Reduction Potential	8/16/2023 10:19	8.27	mv
APCO-GS-CCB- MW-13	PH	pH	8/16/2023 10:19	6.51	SU
APCO-GS-CCB- MW-13	SULFIDE	Sulfide	8/16/2023 10:19	0	mg/L
APCO-GS-CCB- MW-13	TEMP	Temperature	8/16/2023 10:19	21.49	C
APCO-GS-CCB- MW-13	TURB	Turbidity	8/16/2023 10:19	6.3	NTU
APCO-GS-CCB- MW-14	COND	Conductivity	8/16/2023 10:54	1983.99	uS/cm
APCO-GS-CCB- MW-14	DO	DO	8/16/2023 10:54	3.73	mg/L
APCO-GS-CCB- MW-14	DTW	Depth to Water Detail	8/16/2023 10:54	89.28	ft
APCO-GS-CCB- MW-14	ORP	Oxidation Reduction Potential	8/16/2023 10:54	23.41	mv
APCO-GS-CCB- MW-14	PH	pH	8/16/2023 10:54	6.49	SU
APCO-GS-CCB- MW-14	TEMP	Temperature	8/16/2023 10:54	20.29	C
APCO-GS-CCB- MW-14	TURB	Turbidity	8/16/2023 10:54	79.3	NTU
APCO-GS-CCB- MW-14	COND	Conductivity	8/16/2023 10:59	1967.84	uS/cm
APCO-GS-CCB- MW-14	DO	DO	8/16/2023 10:59	5.01	mg/L
APCO-GS-CCB- MW-14	DTW	Depth to Water Detail	8/16/2023 10:59	89.28	ft
APCO-GS-CCB- MW-14	ORP	Oxidation Reduction Potential	8/16/2023 10:59	22.84	mv
APCO-GS-CCB- MW-14	PH	pH	8/16/2023 10:59	6.53	SU
APCO-GS-CCB- MW-14	TEMP	Temperature	8/16/2023 10:59	20.21	C
APCO-GS-CCB- MW-14	TURB	Turbidity	8/16/2023 10:59	101	NTU
APCO-GS-CCB- MW-14	COND	Conductivity	8/16/2023 11:04	1957.19	uS/cm
APCO-GS-CCB- MW-14	DO	DO	8/16/2023 11:04	5.71	mg/L
APCO-GS-CCB- MW-14	DTW	Depth to Water Detail	8/16/2023 11:04	89.28	ft
APCO-GS-CCB- MW-14	ORP	Oxidation Reduction Potential	8/16/2023 11:04	22.44	mv
APCO-GS-CCB- MW-14	PH	pH	8/16/2023 11:04	6.55	SU

Plant Gorgas CCB Landfills  
Field Parameter Summary

Well ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
APCO-GS-CCB- MW-14	TEMP	Temperature	8/16/2023 11:04	20.2	C
APCO-GS-CCB- MW-14	TURB	Turbidity	8/16/2023 11:04	101.5	NTU
APCO-GS-CCB- MW-14	COND	Conductivity	8/16/2023 11:09	1950.96	uS/cm
APCO-GS-CCB- MW-14	DO	DO	8/16/2023 11:09	5.96	mg/L
APCO-GS-CCB- MW-14	DTW	Depth to Water Detail	8/16/2023 11:09	89.28	ft
APCO-GS-CCB- MW-14	ORP	Oxidation Reduction Potential	8/16/2023 11:09	22.58	mv
APCO-GS-CCB- MW-14	PH	pH	8/16/2023 11:09	6.56	SU
APCO-GS-CCB- MW-14	TEMP	Temperature	8/16/2023 11:09	20.3	C
APCO-GS-CCB- MW-14	TURB	Turbidity	8/16/2023 11:09	90.8	NTU
APCO-GS-CCB- MW-14	COND	Conductivity	8/16/2023 11:14	1941.72	uS/cm
APCO-GS-CCB- MW-14	DO	DO	8/16/2023 11:14	6.21	mg/L
APCO-GS-CCB- MW-14	DTW	Depth to Water Detail	8/16/2023 11:14	89.28	ft
APCO-GS-CCB- MW-14	ORP	Oxidation Reduction Potential	8/16/2023 11:14	22.64	mv
APCO-GS-CCB- MW-14	PH	pH	8/16/2023 11:14	6.58	SU
APCO-GS-CCB- MW-14	TEMP	Temperature	8/16/2023 11:14	20.27	C
APCO-GS-CCB- MW-14	TURB	Turbidity	8/16/2023 11:14	73.6	NTU
APCO-GS-CCB- MW-14	COND	Conductivity	8/16/2023 11:19	1922.75	uS/cm
APCO-GS-CCB- MW-14	DO	DO	8/16/2023 11:19	6.62	mg/L
APCO-GS-CCB- MW-14	DTW	Depth to Water Detail	8/16/2023 11:19	89.28	ft
APCO-GS-CCB- MW-14	ORP	Oxidation Reduction Potential	8/16/2023 11:19	22.74	mv
APCO-GS-CCB- MW-14	PH	pH	8/16/2023 11:19	6.6	SU
APCO-GS-CCB- MW-14	TEMP	Temperature	8/16/2023 11:19	19.88	C
APCO-GS-CCB- MW-14	TURB	Turbidity	8/16/2023 11:19	63.2	NTU
APCO-GS-CCB- MW-14	COND	Conductivity	8/16/2023 11:24	1911.39	uS/cm
APCO-GS-CCB- MW-14	DO	DO	8/16/2023 11:24	6.76	mg/L
APCO-GS-CCB- MW-14	DTW	Depth to Water Detail	8/16/2023 11:24	89.28	ft
APCO-GS-CCB- MW-14	ORP	Oxidation Reduction Potential	8/16/2023 11:24	23.34	mv
APCO-GS-CCB- MW-14	PH	pH	8/16/2023 11:24	6.61	SU
APCO-GS-CCB- MW-14	TEMP	Temperature	8/16/2023 11:24	19.82	C
APCO-GS-CCB- MW-14	TURB	Turbidity	8/16/2023 11:24	43.4	NTU
APCO-GS-CCB- MW-14	COND	Conductivity	8/16/2023 11:29	1921.33	uS/cm
APCO-GS-CCB- MW-14	DO	DO	8/16/2023 11:29	6.84	mg/L
APCO-GS-CCB- MW-14	DTW	Depth to Water Detail	8/16/2023 11:29	89.28	ft
APCO-GS-CCB- MW-14	ORP	Oxidation Reduction Potential	8/16/2023 11:29	23.7	mv
APCO-GS-CCB- MW-14	PH	pH	8/16/2023 11:29	6.61	SU
APCO-GS-CCB- MW-14	TEMP	Temperature	8/16/2023 11:29	20.4	C
APCO-GS-CCB- MW-14	TURB	Turbidity	8/16/2023 11:29	42.7	NTU
APCO-GS-CCB- MW-14	COND	Conductivity	8/16/2023 11:34	1918.21	uS/cm
APCO-GS-CCB- MW-14	DO	DO	8/16/2023 11:34	6.83	mg/L
APCO-GS-CCB- MW-14	DTW	Depth to Water Detail	8/16/2023 11:34	89.28	ft
APCO-GS-CCB- MW-14	ORP	Oxidation Reduction Potential	8/16/2023 11:34	24.81	mv
APCO-GS-CCB- MW-14	PH	pH	8/16/2023 11:34	6.6	SU
APCO-GS-CCB- MW-14	TEMP	Temperature	8/16/2023 11:34	20.44	C
APCO-GS-CCB- MW-14	TURB	Turbidity	8/16/2023 11:34	35.2	NTU
APCO-GS-CCB- MW-14	COND	Conductivity	8/16/2023 11:39	1913.26	uS/cm
APCO-GS-CCB- MW-14	DO	DO	8/16/2023 11:39	6.8	mg/L
APCO-GS-CCB- MW-14	DTW	Depth to Water Detail	8/16/2023 11:39	89.28	ft
APCO-GS-CCB- MW-14	ORP	Oxidation Reduction Potential	8/16/2023 11:39	25.64	mv
APCO-GS-CCB- MW-14	PH	pH	8/16/2023 11:39	6.61	SU
APCO-GS-CCB- MW-14	TEMP	Temperature	8/16/2023 11:39	20.49	C
APCO-GS-CCB- MW-14	TURB	Turbidity	8/16/2023 11:39	25.4	NTU
APCO-GS-CCB- MW-14	COND	Conductivity	8/16/2023 11:44	1924.8	uS/cm
APCO-GS-CCB- MW-14	DO	DO	8/16/2023 11:44	6.83	mg/L
APCO-GS-CCB- MW-14	DTW	Depth to Water Detail	8/16/2023 11:44	89.28	ft
APCO-GS-CCB- MW-14	ORP	Oxidation Reduction Potential	8/16/2023 11:44	26.21	mv
APCO-GS-CCB- MW-14	PH	pH	8/16/2023 11:44	6.61	SU
APCO-GS-CCB- MW-14	TEMP	Temperature	8/16/2023 11:44	20.57	C

Plant Gorgas CCB Landfills  
Field Parameter Summary

Well ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
APCO-GS-CCB- MW-14	TURB	Turbidity	8/16/2023 11:44	21.7	NTU
APCO-GS-CCB- MW-14	COND	Conductivity	8/16/2023 11:49	1909.58	uS/cm
APCO-GS-CCB- MW-14	DO	DO	8/16/2023 11:49	6.88	mg/L
APCO-GS-CCB- MW-14	DTW	Depth to Water Detail	8/16/2023 11:49	89.28	ft
APCO-GS-CCB- MW-14	ORP	Oxidation Reduction Potential	8/16/2023 11:49	27.17	mv
APCO-GS-CCB- MW-14	PH	pH	8/16/2023 11:49	6.61	SU
APCO-GS-CCB- MW-14	TEMP	Temperature	8/16/2023 11:49	20.38	C
APCO-GS-CCB- MW-14	TURB	Turbidity	8/16/2023 11:49	18.7	NTU
APCO-GS-CCB- MW-14	COND	Conductivity	8/16/2023 11:54	1908.76	uS/cm
APCO-GS-CCB- MW-14	DO	DO	8/16/2023 11:54	6.88	mg/L
APCO-GS-CCB- MW-14	DTW	Depth to Water Detail	8/16/2023 11:54	89.28	ft
APCO-GS-CCB- MW-14	ORP	Oxidation Reduction Potential	8/16/2023 11:54	28.12	mv
APCO-GS-CCB- MW-14	PH	pH	8/16/2023 11:54	6.61	SU
APCO-GS-CCB- MW-14	TEMP	Temperature	8/16/2023 11:54	20.46	C
APCO-GS-CCB- MW-14	TURB	Turbidity	8/16/2023 11:54	13.7	NTU
APCO-GS-CCB- MW-14	COND	Conductivity	8/16/2023 11:59	1903.35	uS/cm
APCO-GS-CCB- MW-14	DO	DO	8/16/2023 11:59	6.92	mg/L
APCO-GS-CCB- MW-14	DTW	Depth to Water Detail	8/16/2023 11:59	89.28	ft
APCO-GS-CCB- MW-14	ORP	Oxidation Reduction Potential	8/16/2023 11:59	29.04	mv
APCO-GS-CCB- MW-14	PH	pH	8/16/2023 11:59	6.61	SU
APCO-GS-CCB- MW-14	TEMP	Temperature	8/16/2023 11:59	20.46	C
APCO-GS-CCB- MW-14	TURB	Turbidity	8/16/2023 11:59	11.2	NTU
APCO-GS-CCB- MW-14	COND	Conductivity	8/16/2023 12:04	1901.08	uS/cm
APCO-GS-CCB- MW-14	DO	DO	8/16/2023 12:04	6.93	mg/L
APCO-GS-CCB- MW-14	DTW	Depth to Water Detail	8/16/2023 12:04	89.28	ft
APCO-GS-CCB- MW-14	ORP	Oxidation Reduction Potential	8/16/2023 12:04	29.81	mv
APCO-GS-CCB- MW-14	PH	pH	8/16/2023 12:04	6.61	SU
APCO-GS-CCB- MW-14	TEMP	Temperature	8/16/2023 12:04	20.45	C
APCO-GS-CCB- MW-14	TURB	Turbidity	8/16/2023 12:04	10.53	NTU
APCO-GS-CCB- MW-14	COND	Conductivity	8/16/2023 12:09	1892.39	uS/cm
APCO-GS-CCB- MW-14	DO	DO	8/16/2023 12:09	6.96	mg/L
APCO-GS-CCB- MW-14	DTW	Depth to Water Detail	8/16/2023 12:09	89.28	ft
APCO-GS-CCB- MW-14	ORP	Oxidation Reduction Potential	8/16/2023 12:09	30.73	mv
APCO-GS-CCB- MW-14	PH	pH	8/16/2023 12:09	6.62	SU
APCO-GS-CCB- MW-14	SULFIDE	Sulfide	8/16/2023 12:09	0	mg/L
APCO-GS-CCB- MW-14	TEMP	Temperature	8/16/2023 12:09	20.4	C
APCO-GS-CCB- MW-14	TURB	Turbidity	8/16/2023 12:09	9.16	NTU
APCO-GS-CCB- MW-15	COND	Conductivity	8/16/2023 12:40	1668.35	uS/cm
APCO-GS-CCB- MW-15	DO	DO	8/16/2023 12:40	1.06	mg/L
APCO-GS-CCB- MW-15	DTW	Depth to Water Detail	8/16/2023 12:40	67.94	ft
APCO-GS-CCB- MW-15	ORP	Oxidation Reduction Potential	8/16/2023 12:40	68.06	mv
APCO-GS-CCB- MW-15	PH	pH	8/16/2023 12:40	5.92	SU
APCO-GS-CCB- MW-15	TEMP	Temperature	8/16/2023 12:40	21.07	C
APCO-GS-CCB- MW-15	TURB	Turbidity	8/16/2023 12:40	17.9	NTU
APCO-GS-CCB- MW-15	COND	Conductivity	8/16/2023 12:45	1669.63	uS/cm
APCO-GS-CCB- MW-15	DO	DO	8/16/2023 12:45	0.96	mg/L
APCO-GS-CCB- MW-15	DTW	Depth to Water Detail	8/16/2023 12:45	67.94	ft
APCO-GS-CCB- MW-15	ORP	Oxidation Reduction Potential	8/16/2023 12:45	65.9	mv
APCO-GS-CCB- MW-15	PH	pH	8/16/2023 12:45	5.93	SU
APCO-GS-CCB- MW-15	TEMP	Temperature	8/16/2023 12:45	20.8	C
APCO-GS-CCB- MW-15	TURB	Turbidity	8/16/2023 12:45	11.8	NTU
APCO-GS-CCB- MW-15	COND	Conductivity	8/16/2023 12:50	1662.4	uS/cm
APCO-GS-CCB- MW-15	DO	DO	8/16/2023 12:50	0.65	mg/L
APCO-GS-CCB- MW-15	DTW	Depth to Water Detail	8/16/2023 12:50	67.94	ft
APCO-GS-CCB- MW-15	ORP	Oxidation Reduction Potential	8/16/2023 12:50	62.61	mv
APCO-GS-CCB- MW-15	PH	pH	8/16/2023 12:50	5.96	SU
APCO-GS-CCB- MW-15	TEMP	Temperature	8/16/2023 12:50	20.79	C

Plant Gorgas CCB Landfills  
Field Parameter Summary

Well ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
APCO-GS-CCB- MW-15	TURB	Turbidity	8/16/2023 12:50	9.18	NTU
APCO-GS-CCB- MW-15	COND	Conductivity	8/16/2023 12:55	1656.97	uS/cm
APCO-GS-CCB- MW-15	DO	DO	8/16/2023 12:55	0.39	mg/L
APCO-GS-CCB- MW-15	DTW	Depth to Water Detail	8/16/2023 12:55	67.94	ft
APCO-GS-CCB- MW-15	ORP	Oxidation Reduction Potential	8/16/2023 12:55	59.51	mv
APCO-GS-CCB- MW-15	PH	pH	8/16/2023 12:55	5.97	SU
APCO-GS-CCB- MW-15	SULFIDE	Sulfide	8/16/2023 12:55	0	mg/L
APCO-GS-CCB- MW-15	TEMP	Temperature	8/16/2023 12:55	20.76	C
APCO-GS-CCB- MW-15	TURB	Turbidity	8/16/2023 12:55	8.41	NTU
APCO-GS-CCB- MW-16	COND	Conductivity	8/16/2023 13:53	1849.22	uS/cm
APCO-GS-CCB- MW-16	DO	DO	8/16/2023 13:53	1	mg/L
APCO-GS-CCB- MW-16	DTW	Depth to Water Detail	8/16/2023 13:53	91.03	ft
APCO-GS-CCB- MW-16	ORP	Oxidation Reduction Potential	8/16/2023 13:53	8.85	mv
APCO-GS-CCB- MW-16	PH	pH	8/16/2023 13:53	6.35	SU
APCO-GS-CCB- MW-16	TEMP	Temperature	8/16/2023 13:53	20.68	C
APCO-GS-CCB- MW-16	TURB	Turbidity	8/16/2023 13:53	21.1	NTU
APCO-GS-CCB- MW-16	COND	Conductivity	8/16/2023 13:58	1768.38	uS/cm
APCO-GS-CCB- MW-16	DO	DO	8/16/2023 13:58	0.39	mg/L
APCO-GS-CCB- MW-16	DTW	Depth to Water Detail	8/16/2023 13:58	91.03	ft
APCO-GS-CCB- MW-16	ORP	Oxidation Reduction Potential	8/16/2023 13:58	4.29	mv
APCO-GS-CCB- MW-16	PH	pH	8/16/2023 13:58	6.47	SU
APCO-GS-CCB- MW-16	TEMP	Temperature	8/16/2023 13:58	20.52	C
APCO-GS-CCB- MW-16	TURB	Turbidity	8/16/2023 13:58	18.8	NTU
APCO-GS-CCB- MW-16	COND	Conductivity	8/16/2023 14:03	1748.07	uS/cm
APCO-GS-CCB- MW-16	DO	DO	8/16/2023 14:03	0.28	mg/L
APCO-GS-CCB- MW-16	DTW	Depth to Water Detail	8/16/2023 14:03	91.03	ft
APCO-GS-CCB- MW-16	ORP	Oxidation Reduction Potential	8/16/2023 14:03	3.85	mv
APCO-GS-CCB- MW-16	PH	pH	8/16/2023 14:03	6.5	SU
APCO-GS-CCB- MW-16	TEMP	Temperature	8/16/2023 14:03	20.56	C
APCO-GS-CCB- MW-16	TURB	Turbidity	8/16/2023 14:03	10.5	NTU
APCO-GS-CCB- MW-16	COND	Conductivity	8/16/2023 14:08	1739.77	uS/cm
APCO-GS-CCB- MW-16	DO	DO	8/16/2023 14:08	0.23	mg/L
APCO-GS-CCB- MW-16	DTW	Depth to Water Detail	8/16/2023 14:08	91.03	ft
APCO-GS-CCB- MW-16	ORP	Oxidation Reduction Potential	8/16/2023 14:08	4.46	mv
APCO-GS-CCB- MW-16	PH	pH	8/16/2023 14:08	6.48	SU
APCO-GS-CCB- MW-16	TEMP	Temperature	8/16/2023 14:08	20.71	C
APCO-GS-CCB- MW-16	TURB	Turbidity	8/16/2023 14:08	9.19	NTU
APCO-GS-CCB- MW-16	COND	Conductivity	8/16/2023 14:13	1733.66	uS/cm
APCO-GS-CCB- MW-16	DO	DO	8/16/2023 14:13	0.22	mg/L
APCO-GS-CCB- MW-16	DTW	Depth to Water Detail	8/16/2023 14:13	91.03	ft
APCO-GS-CCB- MW-16	ORP	Oxidation Reduction Potential	8/16/2023 14:13	5.29	mv
APCO-GS-CCB- MW-16	PH	pH	8/16/2023 14:13	6.47	SU
APCO-GS-CCB- MW-16	SULFIDE	Sulfide	8/16/2023 14:13	0	mg/L
APCO-GS-CCB- MW-16	TEMP	Temperature	8/16/2023 14:13	20.76	C
APCO-GS-CCB- MW-16	TURB	Turbidity	8/16/2023 14:13	8.28	NTU
APCO-GS-CCB- MW-17R	COND	Conductivity	8/16/2023 14:42	2206.48	uS/cm
APCO-GS-CCB- MW-17R	DO	DO	8/16/2023 14:42	1.46	mg/L
APCO-GS-CCB- MW-17R	DTW	Depth to Water Detail	8/16/2023 14:42	127.15	ft
APCO-GS-CCB- MW-17R	ORP	Oxidation Reduction Potential	8/16/2023 14:42	54.73	mv
APCO-GS-CCB- MW-17R	PH	pH	8/16/2023 14:42	5.69	SU
APCO-GS-CCB- MW-17R	TEMP	Temperature	8/16/2023 14:42	23.09	C
APCO-GS-CCB- MW-17R	TURB	Turbidity	8/16/2023 14:42	12.4	NTU
APCO-GS-CCB- MW-17R	COND	Conductivity	8/16/2023 14:47	2226.93	uS/cm
APCO-GS-CCB- MW-17R	DO	DO	8/16/2023 14:47	0.67	mg/L
APCO-GS-CCB- MW-17R	DTW	Depth to Water Detail	8/16/2023 14:47	127.19	ft
APCO-GS-CCB- MW-17R	ORP	Oxidation Reduction Potential	8/16/2023 14:47	50.43	mv
APCO-GS-CCB- MW-17R	PH	pH	8/16/2023 14:47	5.75	SU

Plant Gorgas CCB Landfills  
Field Parameter Summary

Well ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
APCO-GS-CCB- MW-17R	TEMP	Temperature	8/16/2023 14:47	23.83	C
APCO-GS-CCB- MW-17R	TURB	Turbidity	8/16/2023 14:47	8.23	NTU
APCO-GS-CCB- MW-17R	COND	Conductivity	8/16/2023 14:52	2236.82	uS/cm
APCO-GS-CCB- MW-17R	DO	DO	8/16/2023 14:52	0.55	mg/L
APCO-GS-CCB- MW-17R	DTW	Depth to Water Detail	8/16/2023 14:52	127.19	ft
APCO-GS-CCB- MW-17R	ORP	Oxidation Reduction Potential	8/16/2023 14:52	42.29	mv
APCO-GS-CCB- MW-17R	PH	pH	8/16/2023 14:52	5.87	SU
APCO-GS-CCB- MW-17R	TEMP	Temperature	8/16/2023 14:52	24.06	C
APCO-GS-CCB- MW-17R	TURB	Turbidity	8/16/2023 14:52	7.14	NTU
APCO-GS-CCB- MW-17R	COND	Conductivity	8/16/2023 14:57	2211.89	uS/cm
APCO-GS-CCB- MW-17R	DO	DO	8/16/2023 14:57	0.46	mg/L
APCO-GS-CCB- MW-17R	DTW	Depth to Water Detail	8/16/2023 14:57	127.19	ft
APCO-GS-CCB- MW-17R	ORP	Oxidation Reduction Potential	8/16/2023 14:57	36.34	mv
APCO-GS-CCB- MW-17R	PH	pH	8/16/2023 14:57	5.98	SU
APCO-GS-CCB- MW-17R	TEMP	Temperature	8/16/2023 14:57	24	C
APCO-GS-CCB- MW-17R	TURB	Turbidity	8/16/2023 14:57	6.68	NTU
APCO-GS-CCB- MW-17R	COND	Conductivity	8/16/2023 15:02	2224.25	uS/cm
APCO-GS-CCB- MW-17R	DO	DO	8/16/2023 15:02	0.44	mg/L
APCO-GS-CCB- MW-17R	DTW	Depth to Water Detail	8/16/2023 15:02	127.19	ft
APCO-GS-CCB- MW-17R	ORP	Oxidation Reduction Potential	8/16/2023 15:02	33.15	mv
APCO-GS-CCB- MW-17R	PH	pH	8/16/2023 15:02	6.03	SU
APCO-GS-CCB- MW-17R	SULFIDE	Sulfide	8/16/2023 15:02	0	mg/L
APCO-GS-CCB- MW-17R	TEMP	Temperature	8/16/2023 15:02	24	C
APCO-GS-CCB- MW-17R	TURB	Turbidity	8/16/2023 15:02	6.05	NTU

Alabama Power  
General Test Laboratory  
744 County Road 87, GSC #8  
Calera, AL 35040  
205-664-6001

# *Analytical Report*



**Sample Group :** WMWGORLF\_1420

**Project/Site :** Gorgas Landfill  
Parrish, AL 35580

**For :** Southern Company Services  
3535 Colonnade Parkway  
Birmingham, AL 35243

**Attention :** Dustin Brooks & Greg Budd

**Released By :** Brooke Caton  
tbwill@southernco.com  
(205) 664-6101

September 07, 2023

Dear Dustin Brooks,

Enclosed are the analytical results for sample(s) received by the laboratory on August 17, 2023. All results reported herein conform to the laboratory's most current Quality Assurance Manual. Results marked with an asterisk conform to the most current applicable TNI/NELAC requirements. Exceptions will be noted in the body of the report.

Laboratory certification ID: E571114  
Issued By: State of Florida, Department of Health  
Expiration: June 30, 2024

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Quality Control: **Brooke  
Caton**

Digitally signed by Brooke  
Caton  
Date: 2023.09.07  
14:35:01 -05'00'

Supervision: **T Durant  
Maske**

Digitally signed by T Durant Maske  
DN: cn=T Durant Maske, gn=T Durant Maske c=US  
United States, o=US United States  
e=tdmaske@southernco.com  
Reason: I am the author of this document  
Location:  
Date: 2023-09-11 07:18:05-00



### REPORT OF LABORATORY ANALYSIS

This Certificate states the physical and/or chemical characteristics of the sample as submitted.  
This document shall not be reproduced, except in full, without written consent from  
Alabama Power's General Test Laboratory.





Total Metals ICP

Gorgas Landfill

WMWGORLF\_1420

1. This report consists of all MWs and corresponding Lab IDs listed on the Chain of Custody.
2. Refer to comments on Chain of Custody for information regarding sample receipt.
3. All standards and solutions meet NELAP traceability requirements and were used within their recommended shelf life.

<u>Sample ID</u>	<u>Batch ID</u>	<u>Project ID</u>
BD15731	763769	WMWGORLF_1420
BD15732	763769	WMWGORLF_1420
BD15733	763769	WMWGORLF_1420
BD15734	763769	WMWGORLF_1420
BD15735	763769	WMWGORLF_1420
BD15736	763769	WMWGORLF_1420
BD15737	763769	WMWGORLF_1420
BD15738	763769	WMWGORLF_1420
BD15739	763769	WMWGORLF_1420
BD15740	763769	WMWGORLF_1420
BD15741	763770	WMWGORLF_1420
BD15742	763770	WMWGORLF_1420
BD15743	763770	WMWGORLF_1420
BD15744	763770	WMWGORLF_1420
BD15745	763770	WMWGORLF_1420
BD15746	763770	WMWGORLF_1420
BD15747	763770	WMWGORLF_1420
BD15748	763770	WMWGORLF_1420
BD15749	763770	WMWGORLF_1420
BD15750	763770	WMWGORLF_1420
BD15751	763771	WMWGORLF_1420

4. All of the above samples were analyzed by EPA 200.7 and prepared by EPA 1638.
5. All samples were prepared and analyzed within the established hold times.
6. All in house quality control procedures were followed, as described below.

General Quality Control Procedures:

- Prior to sample analysis, an initial calibration verification (ICV) was analyzed, and all criteria were met.
- Following the ICV, an initial calibration blank (ICB) was analyzed, and all criteria were met.
- All continued calibration verification (CCV) were within the acceptance criteria for the requested analytes.
- All continued calibration blanks (CCB) were analyzed, and all criteria were met.

- A preparation method blank and laboratory control sample were digested and analyzed with the samples in each digestion batch.
- All laboratory control sample criteria were met.
- The method blank associated with each digestion batch passed all acceptance criteria for all requested analytes.
- All calibration curve requirements were within acceptance criteria.
- All sample internal standard criteria were met.
- The spectral interference check associated with EPA 200.7 was analyzed, and all acceptance criteria were met.
- It is noted that the QC summary page typically provides the QC results from the original batch analytical sequence. If dilutions were subsequently performed to bring sample concentrations within the calibration range, any additional QC data from the dilution analyses may need to be obtained from the laboratory. Any qualifications applied to original analyses or dilution re-analyses are based upon QC data available at the time of review.

Matrix Specific Quality Control Procedures:

Similarity of matrix and therefore relevance of matrix specific QC results should not be automatically inferred for any sample other than the sample selected for QC.

- A matrix spike and matrix spike duplicate were digested and analyzed with each ICP batch. All acceptance criteria for accuracy were met, except for the following:
    - BD15750 Calcium, Iron, and Magnesium MS/MSD spike levels were less than 30% of the sample concentrations.
    - BD15751 Calcium and Magnesium MS/MSD spike levels were less than 30% of the sample concentrations.
  - A matrix spike and matrix spike duplicate were digested and analyzed with each ICP batch. All acceptance criteria for precision were met.
7. The following samples were diluted due to the analyzed sample concentration being greater than the high standard of the calibration curve:

<u>Sample ID</u>	<u>Analyte</u>	<u>Dilution Factor</u>
BD15731	Calcium, Magnesium, Sodium	10.15
BD15733	Calcium, Iron, Magnesium, Sodium	10.15
BD15734	Calcium, Magnesium	10.15
BD15735	Calcium, Magnesium, Sodium	10.15
BD15736	Calcium, Magnesium, Sodium	10.15
BD15737	Calcium, Iron, Magnesium, Sodium	101.5
BD15738	Calcium, Magnesium	10.15
BD15739	Calcium	10.15
BD15741	Calcium, Iron, Magnesium	10.15
BD15742	Calcium, Iron, Magnesium	10.15
BD15743	Magnesium	10.15
BD15744	Calcium, Iron, Magnesium	101.5

## Case Narrative

BD15746	Calcium, Magnesium, Sodium	101.5
BD15747	Calcium, Iron, Magnesium, Sodium	101.5
BD15748	Iron, Magnesium, Sodium	10.15
BD15749	Iron, Magnesium, Sodium	10.15
BD15750	Calcium, Magnesium	101.5
BD15751	Calcium, Magnesium	10.15
BD15739	Magnesium	101.5
BD15743	Calcium	101.5
BD15748	Calcium	101.5
BD15749	Calcium	101.5

8. The raw data results are shown with dilution factors included.

Dissolved Metals ICP

Gorgas Landfill

WMWGORLF\_1420

1. This report consists of all MWs and corresponding Lab IDs listed on the Chain of Custody.
2. Refer to comments on Chain of Custody for information regarding sample receipt.
3. All standards and solutions meet NELAP traceability requirements and were used within their recommended shelf life.

<u>Sample ID</u>	<u>Batch ID</u>	<u>Project ID</u>
BD15731	763797	WMWGORLF_1420
BD15733	763797	WMWGORLF_1420
BD15734	763797	WMWGORLF_1420
BD15735	763797	WMWGORLF_1420
BD15736	763797	WMWGORLF_1420
BD15737	763797	WMWGORLF_1420
BD15738	763797	WMWGORLF_1420
BD15739	763797	WMWGORLF_1420
BD15741	763797	WMWGORLF_1420
BD15742	763797	WMWGORLF_1420
BD15743	763798	WMWGORLF_1420
BD15744	763798	WMWGORLF_1420
BD15746	763798	WMWGORLF_1420
BD15747	763798	WMWGORLF_1420
BD15748	763798	WMWGORLF_1420
BD15749	763798	WMWGORLF_1420
BD15750	763798	WMWGORLF_1420
BD15751	763798	WMWGORLF_1420

4. All of the above samples were analyzed and prepared by EPA 200.7 for dissolved analysis.
5. All samples were prepared and analyzed within the established hold times.
6. All in house quality control procedures were followed, as described below.

#### General Quality Control Procedures:

- Prior to sample analysis, an initial calibration verification (ICV) was analyzed, and all criteria were met.
- Following the ICV, an initial calibration blank (ICB) was analyzed, and all criteria were met.
- All continued calibration verification (CCV) were within the acceptance criteria for the requested analytes.
- All continued calibration blanks (CCB) were analyzed, and all criteria were met.
- Due to no filtered method blank (MB) or laboratory control sample (LCS) submitted with the sample set, an unfiltered MB and LCS were analyzed with the samples in each batch.
- All laboratory control sample criteria were met.

- The method blank associated with each batch passed all acceptance criteria for all requested analytes.
- All calibration curve requirements were within acceptance criteria.
- All sample internal standard criteria were met.
- The spectral interference check associated with EPA 200.7 was analyzed and all acceptance criteria were met.
- It is noted that the QC summary page typically provides the QC results from the original batch analytical sequence. If dilutions were subsequently performed to bring sample concentrations within the calibration range, any additional QC data from the dilution analyses may need to be obtained from the laboratory. Any qualifications applied to original analyses or dilution re-analyses are based upon QC data available at the time of review.

Matrix Specific Quality Control Procedures:

Similarity of matrix and therefore relevance of matrix specific QC results should not be automatically inferred for any sample other than the sample selected for QC.

- A matrix spike and matrix spike duplicate were analyzed with each ICP batch. All acceptance criteria for accuracy were met, except for the following:
    - BD15742 Calcium, Iron, and Magnesium MS/MSD spike levels were less than 30% of the sample concentrations.
    - BD15751 Calcium and Magnesium MS/MSD spike levels were less than 30% of the sample concentrations.
  - A matrix spike and matrix spike duplicate were analyzed with each ICP batch. All acceptance criteria for precision were met.
7. The following samples were diluted due to the analyzed sample concentration being greater than the high standard of the calibration curve:

<u>Sample ID</u>	<u>Analyte</u>	<u>Dilution Factor</u>
BD15731	Calcium, Magnesium, Sodium	10.15
BD15733	Calcium, Iron, Magnesium, Sodium	10.15
BD15734	Calcium, Magnesium	10.15
BD15735	Calcium, Magnesium	10.15
BD15736	Calcium, Magnesium, Sodium	10.15
BD15737	Calcium, Iron, Magnesium, Sodium	101.5
BD15738	Calcium, Magnesium	10.15
BD15739	Calcium, Magnesium	10.15
BD15741	Calcium, Iron, Magnesium	10.15
BD15742	Calcium, Iron, Magnesium	10.15
BD15743	Calcium, Magnesium	10.15
BD15744	Calcium, Iron, Magnesium	101.5
BD15746	Calcium, Magnesium, Sodium	101.5
BD15747	Calcium, Iron, Magnesium, Sodium	101.5
BD15748	Calcium, Iron, Magnesium, Sodium	10.15
BD15749	Calcium, Iron, Magnesium, Sodium	10.15

## Case Narrative

BD15750	Calcium, Magnesium	10.15
BD15751	Calcium, Magnesium	10.15

8. The raw data results are shown with dilution factors included.

Total Metals ICPMS

Gorgas Landfill

WMWGORLF\_1420

1. This report consists of all MWs and corresponding Lab IDs listed on the Chain of Custody.
2. Refer to comments on Chain of Custody for information regarding sample receipt.
3. All standards and solutions meet NELAP traceability requirements and were used within their recommended shelf life.

<u>Sample ID</u>	<u>Batch ID</u>	<u>Project ID</u>
BD15731	764785	WMWGORLF_1420
BD15732	764785	WMWGORLF_1420
BD15733	764785	WMWGORLF_1420
BD15734	764785	WMWGORLF_1420
BD15735	764785	WMWGORLF_1420
BD15736	764785	WMWGORLF_1420
BD15737	764785	WMWGORLF_1420
BD15738	764785	WMWGORLF_1420
BD15739	764785	WMWGORLF_1420
BD15740	764785	WMWGORLF_1420
BD15741	764786	WMWGORLF_1420
BD15742	764786	WMWGORLF_1420
BD15743	764786	WMWGORLF_1420
BD15744	764786	WMWGORLF_1420
BD15745	764786	WMWGORLF_1420
BD15746	764786	WMWGORLF_1420
BD15747	764786	WMWGORLF_1420
BD15748	764786	WMWGORLF_1420
BD15749	764786	WMWGORLF_1420
BD15750	764786	WMWGORLF_1420
BD15751	764787	WMWGORLF_1420

4. All of the above samples were analyzed by EPA 200.8 and prepared by EPA 1638.
5. All samples were prepared and analyzed within the established hold times.
6. All in house quality control procedures were followed, as described below.

General Quality Control Procedures:

- All tune and calibration met criteria for all requested analytes.
- Prior to sample analysis, an initial calibration verification (ICV) was analyzed, and all criteria were met.
- Following the ICV, an initial calibration blank (ICB) was analyzed and was below the limit of quantitation for all requested analytes.
- All continued calibration verification (CCV) were within the acceptance criteria for the requested analytes.

- All continued calibration blanks (CCB) were below the limit of quantitation for the requested analytes.
- A preparation method blank and laboratory control sample were digested and analyzed with the samples in each digestion batch.
- All laboratory control sample criteria were met.
- The method blank associated with each digestion batch passed all acceptance criteria for all requested analytes.
- The interference check samples associated with EPA 200.8 were analyzed and passed for all requested analytes.
- All sample internal standard criteria were met.
- It is noted that the QC summary page typically provides the QC results from the original batch analytical sequence. If dilutions were subsequently performed to bring sample concentrations within the calibration range, any additional QC data from the dilution analyses may need to be obtained from the laboratory. Any qualifications applied to original analyses or dilution re-analyses are based upon QC data available at the time of review.

Matrix Specific Quality Control Procedures:

Similarity of matrix and therefore relevance of matrix specific QC results should not be automatically inferred for any sample other than the sample selected for QC.

- A matrix spike and matrix spike duplicate were digested and analyzed with each ICPMS batch. All acceptance criteria for accuracy were met.
  - A matrix spike and matrix spike duplicate were digested and analyzed with each ICPMS batch. All acceptance criteria for precision were met.
7. The following samples were diluted due to the analyzed sample concentration being greater than the high standard of the calibration curve:

<u>Sample ID</u>	<u>Analyte</u>	<u>Dilution Factor</u>
BD15731	Manganese	5.075
BD15735	Manganese	5.075
BD15737	Manganese	92.365
BD15738	Manganese	5.075
BD15739	Manganese	5.075
BD15741	Manganese	92.365
BD15742	Manganese	92.365
BD15743	Manganese	5.075
BD15744	Manganese	92.365
BD15747	Manganese	10.15
BD15750	Manganese	5.075

8. The raw data results are shown with dilution factors included.



Dissolved Metals ICPMS

Gorgas Landfill

WMWGORLF\_1420

1. This report consists of all MWs and corresponding Lab IDs listed on the Chain of Custody.
2. Refer to comments on Chain of Custody for information regarding sample receipt.
3. All standards and solutions meet NELAP traceability requirements and were used within their recommended shelf life.

<u>Sample ID</u>	<u>Batch ID</u>	<u>Project ID</u>
BD15731	764718	WMWGORLF_1420
BD15733	764718	WMWGORLF_1420
BD15734	764718	WMWGORLF_1420
BD15735	764718	WMWGORLF_1420
BD15736	764718	WMWGORLF_1420
BD15737	764718	WMWGORLF_1420
BD15738	764718	WMWGORLF_1420
BD15739	764718	WMWGORLF_1420
BD15741	764718	WMWGORLF_1420
BD15742	764718	WMWGORLF_1420
BD15743	764719	WMWGORLF_1420
BD15744	764719	WMWGORLF_1420
BD15746	764719	WMWGORLF_1420
BD15747	764719	WMWGORLF_1420
BD15748	764719	WMWGORLF_1420
BD15749	764719	WMWGORLF_1420
BD15750	764719	WMWGORLF_1420
BD15751	764719	WMWGORLF_1420

4. All of the above samples were analyzed and prepared by EPA 200.8 for dissolved analysis.
5. All samples were prepared and analyzed within the established hold times.
6. All in house quality control procedures were followed, as described below.

General Quality Control Procedures:

- All tune and calibration met criteria for all requested analytes.
- Prior to sample analysis, an initial calibration verification (ICV) was analyzed, and all criteria were met.
- Following the ICV, an initial calibration blank (ICB) was analyzed and was below the limit of quantitation for all requested analytes.
- All continued calibration verification (CCV) were within the acceptance criteria for the requested analytes.
- All continued calibration blanks (CCB) were below the limit of quantitation for the requested analytes.
- Due to no filtered method blank (MB) or laboratory control sample (LCS) submitted with the sample set, an unfiltered MB and LCS were analyzed with the samples in each batch.

- All laboratory control sample criteria were met.
- The method blank associated with each preparation batch passed all acceptance criteria for all requested analytes.
- The interference check samples associated with EPA 200.8 were analyzed and passed for all requested analytes.
- All sample internal standard criteria were met.
- It is noted that the QC summary page typically provides the QC results from the original batch analytical sequence. If dilutions were subsequently performed to bring sample concentrations within the calibration range, any additional QC data from the dilution analyses may need to be obtained from the laboratory. Any qualifications applied to original analyses or dilution re-analyses are based upon QC data available at the time of review.

Matrix Specific Quality Control Procedures:

Similarity of matrix and therefore relevance of matrix specific QC results should not be automatically inferred for any sample other than the sample selected for QC.

- A matrix spike and matrix spike duplicate were analyzed with each ICPMS batch. All acceptance criteria for accuracy were met, except for the following:
    - BD15742 Manganese MS/MSD spike levels were less than 30% of the sample concentrations.
  - A matrix spike and matrix spike duplicate were analyzed with each ICPMS batch. All acceptance criteria for precision were met.
7. The following samples were diluted due to the analyzed sample concentration being greater than the high standard of the calibration curve:

<u>Sample ID</u>	<u>Analyte</u>	<u>Dilution Factor</u>
BD15731	Manganese	5.075
BD15733	Manganese	5.075
BD15735	Manganese	5.075
BD15737	Manganese	92.365
BD15738	Manganese	5.075
BD15739	Manganese	5.075
BD15741	Manganese	92.365
BD15742	Manganese	92.365
BD15743	Manganese	5.075
BD15744	Manganese	92.365
BD15747	Manganese	10.15
BD15750	Manganese	5.075

8. The raw data results are shown with dilution factors included.

Mercury

Gorgas Landfill

WMWGORLF\_1420

1. This report consists of all MWs and corresponding Lab IDs listed on the Chain of Custody.
2. Refer to comments on Chain of Custody for information regarding sample receipt.
3. All standards and solutions meet NELAP traceability requirements and were used within their recommended shelf life.

<u>Sample ID</u>	<u>Batch ID</u>	<u>Project ID</u>
BD15731	763707	WMWGORLF_1420
BD15732	763707	WMWGORLF_1420
BD15733	763707	WMWGORLF_1420
BD15734	763707	WMWGORLF_1420
BD15735	763707	WMWGORLF_1420
BD15736	763707	WMWGORLF_1420
BD15737	763707	WMWGORLF_1420
BD15738	763707	WMWGORLF_1420
BD15739	763707	WMWGORLF_1420
BD15740	763707	WMWGORLF_1420
BD15741	763708	WMWGORLF_1420
BD15742	763708	WMWGORLF_1420
BD15743	763708	WMWGORLF_1420
BD15744	763708	WMWGORLF_1420
BD15745	763708	WMWGORLF_1420
BD15746	763708	WMWGORLF_1420
BD15747	763708	WMWGORLF_1420
BD15748	763708	WMWGORLF_1420
BD15749	763708	WMWGORLF_1420
BD15750	763708	WMWGORLF_1420
BD15751	763938	WMWGORLF_1420

4. All of the above samples were analyzed and prepared by EPA 245.1.
5. All samples were prepared and analyzed within the established hold times.
6. All in house quality control procedures were followed, as described below.

General Quality Control Procedures:

- Prior to sample analysis, an initial calibration verification (ICV) was analyzed and all criteria were met.
- Following the ICV, an initial calibration blank (ICB) was analyzed and was below the method detection limit for the requested analyte.
- All continued calibration verification (CCV) were within the acceptance criteria for the requested analyte.
- All continued calibration blanks (CCB) were below the limit of quantitation for the requested analyte.

- A preparation method blank and laboratory control sample were digested and analyzed with the samples in each digestion batch.
- All laboratory control sample criteria were met.
- The method blank associated with each digestion batch was below the limit of quantitation for the requested analyte.
- All calibration met criteria for the requested analyte.
- All response signals were satisfactory.

### Matrix Specific Quality Control Procedures:

Similarity of matrix and therefore relevance of matrix specific QC results should not be automatically inferred for any sample other than the sample selected for QC.

- A matrix spike and matrix spike duplicate were digested and analyzed with each analytical batch. All acceptance criteria for accuracy were met.
  - A matrix spike and matrix spike duplicate were digested and analyzed with each analytical batch. All acceptance criteria for precision were met, except for the following:
    - BD15740 Precision is out of specification limit.
7. All samples were analyzed without a dilution.

Total Dissolved Solids

Gorgas Landfill

WMWGORLF\_1420

1. This report consists of all MWs and corresponding Lab IDs listed on the Chain of Custody.
2. Refer to comments on Chain of Custody for information regarding sample receipt.
3. All standards and solutions meet NELAP traceability requirements and were used within their recommended shelf life.

<u>Sample ID</u>	<u>Batch ID</u>	<u>Project ID</u>
BD15731	763503	WMWGORLF_1420
BD15732	763503	WMWGORLF_1420
BD15733	763503	WMWGORLF_1420
BD15734	763503	WMWGORLF_1420
BD15735	763503	WMWGORLF_1420
BD15736	763503	WMWGORLF_1420
BD15737	763504	WMWGORLF_1420
BD15738	763504	WMWGORLF_1420
BD15739	763504	WMWGORLF_1420
BD15740	763504	WMWGORLF_1420
BD15741	763504	WMWGORLF_1420
BD15742	763504	WMWGORLF_1420
BD15743	763504	WMWGORLF_1420
BD15744	763504	WMWGORLF_1420
BD15745	763504	WMWGORLF_1420
BD15746	763504	WMWGORLF_1420
BD15747	763874	WMWGORLF_1420
BD15748	763874	WMWGORLF_1420
BD15749	763874	WMWGORLF_1420
BD15750	763874	WMWGORLF_1420
BD15751	763874	WMWGORLF_1420

4. All of the above samples were prepared and analyzed by Standard Method 2540C.
5. All samples were prepared and analyzed within the established hold times.
6. All in house quality control procedures were followed, as described below.

General Quality Control Procedures:

- A Method Blank was analyzed with each batch. All criteria were met.
- All final weights of samples, standards, and blanks agreed within 0.5mg of the previous weight.
- A sample duplicate was analyzed with each batch, and RPD was  $\leq 10\%$ .
- A laboratory control sample was analyzed with each batch. All criteria were met.
- Samples were between 2.5mg and 200mg residue.

- All samples with residue <2.5mg had the maximum volume of 150mL filtered. Affected samples are as follows:
  - BD15732
  - BD15740
  - BD15745

Alkalinity

Gorgas Landfill

WMWGORLF\_1420

1. This report consists of all MWs and corresponding Lab IDs listed on the Chain of Custody.
2. Refer to comments on Chain of Custody for information regarding sample receipt.
3. All standards and solutions meet NELAP traceability requirements and were used within their recommended shelf life.

<u>Sample ID</u>	<u>Batch ID</u>	<u>Project ID</u>
BD15731	764714, 764715, 764716, 764717	WMWGORLF_1420
BD15733	764714, 764715, 764716, 764717	WMWGORLF_1420
BD15734	764714, 764715, 764716, 764717	WMWGORLF_1420
BD15735	764714, 764715, 764716, 764717	WMWGORLF_1420
BD15736	764714, 764715, 764716, 764717	WMWGORLF_1420
BD15737	764714, 764715, 764716, 764717	WMWGORLF_1420
BD15738	764714, 764715, 764716, 764717	WMWGORLF_1420
BD15739	764714, 764715, 764716, 764717	WMWGORLF_1420
BD15741	764714, 764715, 764716, 764717	WMWGORLF_1420
BD15742	764714, 764715, 764716, 764717	WMWGORLF_1420
BD15743	764714, 764715, 764716, 764717	WMWGORLF_1420
BD15744	764714, 764715, 764716, 764717	WMWGORLF_1420
BD15746	764714, 764715, 764716, 764717	WMWGORLF_1420
BD15747	764714, 764715, 764716, 764717	WMWGORLF_1420
BD15748	764714, 764715, 764716, 764717	WMWGORLF_1420
BD15749	764714, 764715, 764716, 764717	WMWGORLF_1420
BD15750	764714, 764715, 764716, 764717	WMWGORLF_1420
BD15751	764714, 764715, 764716, 764717	WMWGORLF_1420

4. All of the above samples were prepared and analyzed by Standard Method 2320B.
5. All samples were prepared and analyzed within the established hold times.
6. All in house quality control procedures were followed, as described below.

General Quality Control Procedures:

- An initial pH check was analyzed with each batch. The acceptance criteria were met.
  - A final pH check was analyzed with each batch. The acceptance criteria were met.
  - An alkalinity laboratory control sample was analyzed with each batch. Range criteria of within 10% of true value was met.
  - An alkalinity sample duplicate was analyzed with each batch. Precision criteria less than 10 RPD was met.
7. The following samples had pH>10 and/or TDS>500mg/L. Therefore, the calculations for carbonate and bicarbonate are estimates:

- BD15731
- BD15733
- BD15734
- BD15735
- BD15736
- BD15737
- BD15738
- BD15739
- BD15741
- BD15742
- BD15743
- BD15744
- BD15746
- BD15747
- BD15748
- BD15749
- BD15750
- BD15751



Anions

Gorgas Landfill

WMWGORLF\_1420

1. This report consists of all MWs and corresponding Lab IDs listed on the Chain of Custody.
2. Refer to comments on Chain of Custody for information regarding sample receipt.
3. All standards and solutions meet NELAP traceability requirements and were used within their recommended shelf life.

<u>Sample ID</u>	<u>Batch ID</u>	<u>Project ID</u>
BD15731	763910, 763737, 764199	WMWGORLF_1420
BD15732	763910, 763737, 764199	WMWGORLF_1420
BD15733	763910, 763737, 764199	WMWGORLF_1420
BD15734	763910, 763737, 764199	WMWGORLF_1420
BD15735	763910, 763737, 764199	WMWGORLF_1420
BD15736	763910, 763737, 764199	WMWGORLF_1420
BD15737	763910, 763737, 764199	WMWGORLF_1420
BD15738	763910, 763737, 764199	WMWGORLF_1420
BD15739	763910, 763737, 764199	WMWGORLF_1420
BD15740	763910, 763737, 764199	WMWGORLF_1420
BD15741	763911, 763738, 764200	WMWGORLF_1420
BD15742	763911, 763738, 764200	WMWGORLF_1420
BD15743	763911, 763738, 764200	WMWGORLF_1420
BD15744	763911, 763738, 764200	WMWGORLF_1420
BD15745	763911, 763738, 764200	WMWGORLF_1420
BD15746	763911, 763738, 764200	WMWGORLF_1420
BD15747	763911, 763738, 764200	WMWGORLF_1420
BD15748	763911, 763738, 764200	WMWGORLF_1420
BD15749	763911, 763738, 764200	WMWGORLF_1420
BD15750	763911, 763738, 764200	WMWGORLF_1420
BD15751	763912, 763739, 764201	WMWGORLF_1420

4. All of the above samples were analyzed and prepared by SM4500 Cl E, SM4500 F G, and SM4500 SO4 E.
5. All samples were prepared and analyzed within the established hold times.
6. All in house quality control procedures were followed, as described below.

General Quality Control Procedures:

- All calibration met criteria for the requested analyte.
- Prior to sample analysis, an initial calibration verification (ICV), and all criteria were met.

- Prior to sample analysis, an initial calibration blank (ICB) was analyzed and was below half the limit of quantitation for the requested analyte.
- All continued calibration verification (CCV) were within the acceptance criteria for the requested analyte.
- All continued calibration blanks (CCB) were below the limit of quantitation for the requested analyte.
- It is noted that the QC summary page typically provides the QC results from the original batch analytical sequence. If dilutions were subsequently performed to bring sample concentrations within the calibration range, any additional QC data from the dilution analyses may need to be obtained from the laboratory. Any qualifications applied to original analyses or dilution re-analyses are based upon QC data available at the time of review.

Matrix Specific Quality Control Procedures:

Similarity of matrix and therefore relevance of matrix specific QC results should not be automatically inferred for any sample other than the sample selected for QC.

- A matrix spike and matrix spike duplicate were analyzed with each batch. All acceptance criteria for accuracy were met.
  - A matrix spike and matrix spike duplicate were analyzed with each batch. All acceptance criteria for precision were met.
7. The following samples were diluted due to the analyzed sample concentration being greater than the high standard of the calibration curve:

<u>Sample ID</u>	<u>Analyte</u>	<u>Dilution Factor</u>
BD15731	Chloride, Sulfate	4, 50
BD15733	Sulfate	32
BD15734	Sulfate	80
BD15735	Sulfate	80
BD15736	Chloride, Sulfate	4, 80
BD15737	Sulfate	100
BD15738	Sulfate	80
BD15739	Sulfate	100
BD15741	Sulfate	50
BD15742	Sulfate	50
BD15743	Sulfate	50
BD15744	Sulfate	100
BD15746	Sulfate	100
BD15747	Sulfate	100
BD15748	Chloride, Sulfate	5, 50
BD15749	Chloride, Sulfate	5, 50
BD15750	Sulfate	160
BD15751	Sulfate	160

8. The raw data results are shown with dilution factors included.

Nitrate-Nitrite

Gorgas Landfill

WMWGORLF\_1420

1. This report consists of all MWs and corresponding Lab IDs listed on the Chain of Custody.
2. Refer to comments on Chain of Custody for information regarding sample receipt.
3. All standards and solutions meet NELAP traceability requirements and were used within their recommended shelf life.

<u>Sample ID</u>	<u>Batch ID</u>	<u>Project ID</u>
BD15731	763888	WMWGORLF_1420
BD15732	763888	WMWGORLF_1420
BD15733	763888	WMWGORLF_1420
BD15734	763888	WMWGORLF_1420
BD15735	763888	WMWGORLF_1420
BD15736	763888	WMWGORLF_1420
BD15737	763888	WMWGORLF_1420
BD15738	763888	WMWGORLF_1420
BD15739	763888	WMWGORLF_1420
BD15740	763888	WMWGORLF_1420
BD15741	763889	WMWGORLF_1420
BD15742	763889	WMWGORLF_1420
BD15743	763889	WMWGORLF_1420
BD15744	763889	WMWGORLF_1420
BD15745	763889	WMWGORLF_1420
BD15746	763889	WMWGORLF_1420
BD15747	763889	WMWGORLF_1420
BD15748	763889	WMWGORLF_1420
BD15749	763889	WMWGORLF_1420
BD15750	763889	WMWGORLF_1420
BD15751	763890	WMWGORLF_1420

4. All of the above samples were prepared and analyzed for NO<sub>x</sub> by EPA 353.2.
5. All samples were prepared and analyzed within the established hold times.
6. All in house quality control procedures were followed, as described below.

General Quality Control Procedures:

- Water baseline report was run and met criteria.
- All calibration met criteria for the requested analytes.
- Prior to sample analysis, an initial calibration verification (ICV) was analyzed and met all criteria.

- All continued calibration verification (CCV) were within the acceptance criteria.
- Prior to sample analysis, an initial calibration blank (ICB) was analyzed and were below limit of detection.
- All continued calibration blanks (CCB) were below the limit of detection.

### EPA 353.2 Specific QC:

- Prior to sample analysis, Cadmium coil reduction efficiency check met criteria.
  - Matrix Specific QC:
    - A sample duplicate was run and criteria for precision was met.
    - A matrix spike was run and criteria for accuracy was met.
7. All samples were analyzed without a dilution factor.
8. The raw data results are shown with dilution factors included.

Total Organic Carbon

Gorgas Landfill

WMWGORLF\_1420

1. This report consists of all MWs and corresponding Lab IDs listed on the Chain of Custody.
2. Refer to comments on Chain of Custody for information regarding sample receipt.
3. All standards and solutions meet NELAP traceability requirements and were used within their recommended shelf life.

<u>Sample ID</u>	<u>Batch ID</u>	<u>Project ID</u>
BD15731	763686	WMWGORLF_1420
BD15732	763686	WMWGORLF_1420
BD15733	763686	WMWGORLF_1420
BD15734	763686	WMWGORLF_1420
BD15735	763686	WMWGORLF_1420
BD15736	763686	WMWGORLF_1420
BD15737	763686	WMWGORLF_1420
BD15738	763686	WMWGORLF_1420
BD15739	763686	WMWGORLF_1420
BD15740	763686	WMWGORLF_1420
BD15741	763687	WMWGORLF_1420
BD15742	763687	WMWGORLF_1420
BD15743	763687	WMWGORLF_1420
BD15744	763687	WMWGORLF_1420
BD15745	763687	WMWGORLF_1420
BD15746	763687	WMWGORLF_1420
BD15747	763687	WMWGORLF_1420
BD15748	763687	WMWGORLF_1420
BD15749	763687	WMWGORLF_1420
BD15750	763687	WMWGORLF_1420
BD15751	763844	WMWGORLF_1420

4. All of the above samples were prepared and analyzed by Standard Method 5310B.
5. All samples were prepared and analyzed within the established hold times.
6. All in house quality control procedures were followed, as described below.

General Quality Control Procedures:

- All calibration criteria were met.
- Prior to sample analysis, an initial calibration verification (ICV) was analyzed and met all criteria.
- Prior to sample analysis, an initial calibration blank (ICB) was analyzed and was <1/2RL.
- All continued calibration verifications (CCVs) were within the acceptance range.
- All continued calibration blanks (CCBs) were <1/2RL.

### Matrix Specific Quality Control Procedures:

- A matrix spike and matrix spike duplicate were analyzed with each batch. All acceptance criteria for accuracy were met.
  - A matrix spike and matrix spike duplicate were analyzed with each batch. All acceptance criteria for precision were met.
7. All samples were analyzed without a dilution factor.
  8. The raw data results are shown with dilution factors included.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-11

**Location Code:** WMWGORLF  
**Collected:** 8/15/23 11:14  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:50

**Laboratory ID Number:** BD15731

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Total	8/18/23 11:30	8/21/23 13:38		1.015	0.105	mg/L	0.030000	0.1015	
* Calcium, Total	8/18/23 11:30	8/22/23 14:09		10.15	367	mg/L	0.70035	4.06	
* Iron, Total	8/18/23 11:30	8/21/23 13:38		1.015	4.03	mg/L	0.008120	0.0406	
* Lithium, Total	8/18/23 11:30	8/21/23 13:38		1.015	0.197	mg/L	0.007105	0.01999956	
* Magnesium, Total	8/18/23 11:30	8/22/23 14:09		10.15	194	mg/L	0.21315	4.06	
* Molybdenum, Total	8/18/23 11:30	8/21/23 13:38		1.015	Not Detected	mg/L	0.005075	0.01015	U
* Silica, Total (calc.)	8/18/23 11:30	8/21/23 13:38		1	21.8	mg/L			
* Silicon, Total	8/18/23 11:30	8/21/23 13:38		1.015	10.2	mg/L	0.02030	0.25375	
* Sodium, Total	8/18/23 11:30	8/22/23 14:09		10.15	164	mg/L	0.4060	4.06	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>							
* Boron, Dissolved	8/18/23 14:30	8/23/23 12:59		1.015	0.102	mg/L	0.030000	0.1015	
* Calcium, Dissolved	8/18/23 14:30	8/24/23 12:20		10.15	360	mg/L	0.70035	4.06	
* Iron, Dissolved	8/18/23 14:30	8/23/23 12:59		1.015	4.01	mg/L	0.008120	0.0406	
* Lithium, Dissolved	8/18/23 14:30	8/23/23 12:59		1.015	0.193	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	8/18/23 14:30	8/24/23 12:20		10.15	188	mg/L	0.21315	4.06	
* Molybdenum, Dissolved	8/18/23 14:30	8/23/23 12:59		1.015	Not Detected	mg/L	0.005075	0.01015	U
* Silica, Dissolved (calc.)	8/18/23 14:30	8/23/23 12:59		1	21.1	mg/L			
* Silicon, Dissolved	8/18/23 14:30	8/23/23 12:59		1.015	9.87	mg/L	0.02030	0.25375	
* Sodium, Dissolved	8/18/23 14:30	8/24/23 12:20		10.15	154	mg/L	0.4060	4.06	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>			<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	8/18/23 11:30	8/18/23 12:47		1.015	Not Detected	mg/L	0.000710	0.001015	U
* Arsenic, Total	8/18/23 11:30	8/18/23 12:47		1.015	0.000825	mg/L	0.000112	0.000203	
* Aluminum, Total	8/18/23 11:30	8/18/23 12:47		1.015	Not Detected	mg/L	0.009135	0.05075	U
* Barium, Total	8/18/23 11:30	8/18/23 12:47		1.015	0.0135	mg/L	0.000508	0.001015	
* Beryllium, Total	8/18/23 11:30	8/18/23 12:47		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	8/18/23 11:30	8/18/23 12:47		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	8/18/23 11:30	8/18/23 12:47		1.015	0.000258	mg/L	0.000203	0.001015	J
* Cobalt, Total	8/18/23 11:30	8/18/23 12:47		1.015	0.000894	mg/L	0.000068	0.000203	
* Lead, Total	8/18/23 11:30	8/18/23 12:47		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	8/18/23 11:30	8/21/23 11:16		5.075	1.35	mg/L	0.000761	0.005075	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-11

**Location Code:** WMWGORLF

**Collected:** 8/15/23 11:14

**Customer ID:**

**Submittal Date:** 8/17/23 08:50

**Laboratory ID Number:** BD15731

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Potassium, Total	8/18/23 11:30	8/18/23 12:47		1.015	5.93	mg/L	0.169505	0.5075	
* Selenium, Total	8/18/23 11:30	8/18/23 12:47		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	8/18/23 11:30	8/18/23 12:47		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	8/18/23 14:30	8/21/23 11:02		1.015	Not Detected	mg/L	0.000710	0.001015	U
* Aluminum, Dissolved	8/18/23 14:30	8/21/23 11:02		1.015	Not Detected	mg/L	0.009135	0.05075	U
* Arsenic, Dissolved	8/18/23 14:30	8/21/23 11:02		1.015	0.000880	mg/L	0.000112	0.000203	
* Barium, Dissolved	8/18/23 14:30	8/21/23 11:02		1.015	0.0152	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	8/18/23 14:30	8/21/23 11:02		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	8/18/23 14:30	8/21/23 11:02		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	8/18/23 14:30	8/21/23 11:02		1.015	0.000275	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	8/18/23 14:30	8/21/23 11:02		1.015	0.00106	mg/L	0.000068	0.000203	
* Lead, Dissolved	8/18/23 14:30	8/21/23 11:02		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	8/18/23 14:30	8/21/23 12:34		5.075	1.50	mg/L	0.000761	0.005075	
* Potassium, Dissolved	8/18/23 14:30	8/21/23 11:02		1.015	6.15	mg/L	0.169505	0.5075	
* Selenium, Dissolved	8/18/23 14:30	8/21/23 11:02		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	8/18/23 14:30	8/21/23 11:02		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: ABB</b>							
* Mercury, Total by CVAA	8/22/23 17:17	8/22/23 21:14		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: SC</b>							
* Nitrogen, Nitrate/Nitrite	8/18/23 10:07	8/18/23 10:07		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: DHC</b>							
* Alkalinity	8/28/23 09:07	8/28/23 13:56		1	280	mg CaCO3/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	8/17/23 11:10	8/18/23 13:20		1	2130	mg/L		125	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: DHC</b>							
* Bicarbonate Alkalinity, (calc.)	8/28/23 09:07	8/28/23 13:56		1	280	mg CaCO3/L		1	A
* Carbonate Alkalinity, (calc.)	8/28/23 09:07	8/28/23 13:56		1	Not Detected	mg CaCO3/L		0.5	A
<b>Analytical Method: SM 4500H+ B</b>		<b>Analyst: DHC</b>							
Alkalinity pH Endpoint	8/28/23 09:07	8/28/23 13:56		1	4.52	SU		2	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.



# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-11

**Location Code:** WMWGORLF

**Collected:** 8/15/23 11:14

**Customer ID:**

**Submittal Date:** 8/17/23 08:50

**Laboratory ID Number:** BD15731

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: SC</b>							
* Total Organic Carbon	8/17/23 15:55	8/17/23 15:55	1		1.49	mg/L	1.00	2	J
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	8/18/23 09:26	8/18/23 09:26	4		50.4	mg/L	2.00	4	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	8/17/23 13:00	8/17/23 13:00	1		0.122	mg/L	0.06	0.125	J
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	8/23/23 11:41	8/23/23 11:41	50		1280	mg/L	30.0	100	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: DKG</b>							
Conductivity	8/15/23 11:11	8/15/23 11:11			2115.88	uS/cm			FA
pH	8/15/23 11:11	8/15/23 11:11			7.62	SU			FA
Temperature	8/15/23 11:11	8/15/23 11:11			23.14	C			FA
Turbidity	8/15/23 11:11	8/15/23 11:11			2.6	NTU			FA
Sulfide	8/15/23 11:11	8/15/23 11:11			0	mg/L			FA

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/15/23 11:14

**Customer ID:**

**Delivery Date:** 8/17/23 08:50

**Description:** Gorgas Landfill - MW-11

**Laboratory ID Number:** BD15731

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BD15742	Aluminum, Dissolved	mg/L	0.000155	0.0198	0.100	0.104	0.103	0.105	0.0850 to 0.115	104	70.0 to 130	0.966	20.0
BD15740	Aluminum, Total	mg/L	0.00553	0.0198	0.100	0.0961	0.0937	0.101	0.0850 to 0.115	96.1	70.0 to 130	2.53	20.0
BD15742	Antimony, Dissolved	mg/L	0.000319	0.00100	0.100	0.0921	0.0925	0.0854	0.0850 to 0.115	92.1	70.0 to 130	0.433	20.0
BD15740	Antimony, Total	mg/L	0.000304	0.00100	0.100	0.0929	0.0912	0.0915	0.0850 to 0.115	92.9	70.0 to 130	1.85	20.0
BD15742	Arsenic, Dissolved	mg/L	0.0000034	0.000200	0.100	0.102	0.101	0.101	0.0850 to 0.115	102	70.0 to 130	0.985	20.0
BD15740	Arsenic, Total	mg/L	0.0000161	0.000200	0.100	0.105	0.103	0.103	0.0850 to 0.115	105	70.0 to 130	1.92	20.0
BD15742	Barium, Dissolved	mg/L	0.0000346	0.00100	0.100	0.108	0.108	0.0939	0.0850 to 0.115	96.2	70.0 to 130	0.00	20.0
BD15740	Barium, Total	mg/L	-0.0000098	0.00100	0.100	0.0964	0.0936	0.0933	0.0850 to 0.115	96.4	70.0 to 130	2.95	20.0
BD15742	Beryllium, Dissolved	mg/L	0.0000164	0.000880	0.100	0.0993	0.0988	0.0939	0.0850 to 0.115	99.3	70.0 to 130	0.505	20.0
BD15740	Beryllium, Total	mg/L	-0.0000104	0.000880	0.100	0.110	0.111	0.101	0.0850 to 0.115	110	70.0 to 130	0.905	20.0
BD15742	Boron, Dissolved	mg/L	0.000396	0.0650	1.00	1.04	1.04	0.987	0.850 to 1.15	99.6	70.0 to 130	0.00	20.0
BD15740	Boron, Total	mg/L	-0.000022	0.0650	1.00	0.985	0.975	0.993	0.850 to 1.15	98.5	70.0 to 130	1.02	20.0
BD15742	Cadmium, Dissolved	mg/L	0.0000067	0.000147	0.100	0.0963	0.0966	0.0988	0.0850 to 0.115	96.3	70.0 to 130	0.311	20.0
BD15740	Cadmium, Total	mg/L	0.0000000	0.000147	0.100	0.103	0.100	0.101	0.0850 to 0.115	103	70.0 to 130	2.96	20.0
BD15742	Calcium, Dissolved	mg/L	-0.0283	0.152	5.00	261	290	4.62	4.25 to 5.75	-100	70.0 to 130	10.5	20.0
BD15740	Calcium, Total	mg/L	-0.0174	0.152	5.00	4.84	4.82	4.91	4.25 to 5.75	96.8	70.0 to 130	0.414	20.0
BD15740	Chloride	mg/L	-0.0296	1.00	10.0	9.92	10.0	9.95	9.00 to 11.0	99.2	80.0 to 120	0.803	20.0
BD15742	Chromium, Dissolved	mg/L	-0.0000122	0.000440	0.100	0.0955	0.0945	0.0973	0.0850 to 0.115	95.5	70.0 to 130	1.05	20.0
BD15740	Chromium, Total	mg/L	0.0000700	0.000440	0.100	0.0990	0.0991	0.0985	0.0850 to 0.115	99.0	70.0 to 130	0.101	20.0
BD15742	Cobalt, Dissolved	mg/L	-0.0000488	0.000147	0.100	0.168	0.166	0.0996	0.0850 to 0.115	96.7	70.0 to 130	1.20	20.0
BD15740	Cobalt, Total	mg/L	-0.0000044	0.000147	0.100	0.103	0.102	0.101	0.0850 to 0.115	103	70.0 to 130	0.976	20.0
BD15740	Fluoride	mg/L	0.0164	0.125	2.50	2.61	2.66	2.56	2.25 to 2.75	104	80.0 to 120	1.90	20.0
BD15742	Iron, Dissolved	mg/L	-0.00135	0.0176	0.2	19.7	21.0	0.198	0.170 to 0.230	-150	70.0 to 130	6.39	20.0
BD15740	Iron, Total	mg/L	0.00125	0.0176	0.2	0.192	0.192	0.196	0.170 to 0.230	96.0	70.0 to 130	0.00	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/15/23 11:14

**Customer ID:**

**Delivery Date:** 8/17/23 08:50

**Description:** Gorgas Landfill - MW-11

**Laboratory ID Number:** BD15731

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BD15742	Lead, Dissolved	mg/L	0.0000023	0.000147	0.100	0.0965	0.0985	0.101	0.0850 to 0.115	96.5	70.0 to 130	2.05	20.0
BD15740	Lead, Total	mg/L	0.0000050	0.000147	0.100	0.0993	0.0968	0.0970	0.0850 to 0.115	99.3	70.0 to 130	2.55	20.0
BD15742	Lithium, Dissolved	mg/L	0.000173	0.0154	0.200	0.259	0.262	0.190	0.170 to 0.230	104	70.0 to 130	1.15	20.0
BD15740	Lithium, Total	mg/L	-0.000259	0.0154	0.200	0.206	0.209	0.193	0.170 to 0.230	103	70.0 to 130	1.45	20.0
BD15742	Magnesium, Dissolved	mg/L	-0.00201	0.0462	5.00	281	310	4.89	4.25 to 5.75	-20.0	70.0 to 130	9.81	20.0
BD15740	Magnesium, Total	mg/L	-0.0418	0.0462	5.00	5.02	4.99	4.94	4.25 to 5.75	100	70.0 to 130	0.599	20.0
BD15742	Manganese, Dissolved	mg/L	0.0000019	0.00033	0.100	14.5	15.1	0.104	0.0850 to 0.115	200	70.0 to 130	4.05	20.0
BD15740	Manganese, Total	mg/L	0.0000037	0.00033	0.100	0.102	0.100	0.101	0.0850 to 0.115	102	70.0 to 130	1.98	20.0
BD15740	Mercury, Total by CVAA	mg/L	0.000	0.000500	0.004	0.00324	0.00409	0.00379	0.00340 to 0.00460	81.0	70.0 to 130	23.2	20.0
BD15742	Molybdenum, Dissolved	mg/L	0.000424	0.0100	0.2	0.188	0.189	0.195	0.170 to 0.230	94.0	70.0 to 130	0.531	20.0
BD15740	Molybdenum, Total	mg/L	0.000	0.0100	0.2	0.194	0.194	0.197	0.170 to 0.230	97.0	70.0 to 130	0.00	20.0
BD15742	Potassium, Dissolved	mg/L	-0.00187	0.367	10.0	15.0	14.7	10.1	8.50 to 11.5	98.0	70.0 to 130	2.02	20.0
BD15740	Potassium, Total	mg/L	-0.00486	0.367	10.0	9.90	9.88	9.95	8.50 to 11.5	99.0	70.0 to 130	0.202	20.0
BD15742	Selenium, Dissolved	mg/L	0.0000413	0.00100	0.100	0.0980	0.100	0.102	0.0850 to 0.115	98.0	70.0 to 130	2.02	20.0
BD15740	Selenium, Total	mg/L	0.0000035	0.00100	0.100	0.105	0.103	0.106	0.0850 to 0.115	105	70.0 to 130	1.92	20.0
BD15742	Silicon, Dissolved	mg/L	0.000291	0.0440	1.00	10.7	10.7	1.00	0.850 to 1.15	102	70.0 to 130	0.00	20.0
BD15740	Silicon, Total	mg/L	-0.00039	0.0440	1.00	0.992	0.984	0.994	0.850 to 1.15	99.2	70.0 to 130	0.810	20.0
BD15742	Sodium, Dissolved	mg/L	0.00414	0.0880	5.00	28.9	28.9	4.88	4.25 to 5.75	104	70.0 to 130	0.00	20.0
BD15740	Sodium, Total	mg/L	0.000994	0.0880	5.00	5.16	5.24	4.88	4.25 to 5.75	103	70.0 to 130	1.54	20.0
BD15740	Sulfate	mg/L	0.292	2.0	20.0	20.5	20.4	19.9	18.0 to 22.0	98.7	80.0 to 120	0.489	20.0
BD15742	Thallium, Dissolved	mg/L	-0.0000298	0.000147	0.100	0.0976	0.0989	0.102	0.0850 to 0.115	97.6	70.0 to 130	1.32	20.0
BD15740	Thallium, Total	mg/L	0.0000074	0.000147	0.100	0.100	0.0981	0.0994	0.0850 to 0.115	100	70.0 to 130	1.92	20.0
BD15740	Total Organic Carbon	mg/L	0.158	1.00	10.0	10.0	8.84	23.6		100	80.0 to 120	12.3	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

## Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/15/23 11:14

**Customer ID:**

**Delivery Date:** 8/17/23 08:50

**Description:** Gorgas Landfill - MW-11

**Laboratory ID Number:** BD15731

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BD15751	Alkalinity	mg CaCO3/L					184	51.3	45.0 to 55.0			0.542	10.0
BD15740	Nitrogen, Nitrate/Nitrite	mg/L as N	-0.06	0.200	2.00	2.06	-0.078	2.04	1.80 to 2.20	103	90.0 to 110	0.00	15.0
BD15736	Solids, Dissolved	mg/L	1.00	25.0			2230	49.0	40.0 to 60.0			0.449	10.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill Field Blank-1

**Location Code:** WMWGORLFFB  
**Collected:** 8/15/23 11:55  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15732

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>					
* Boron, Total	8/18/23 11:30	8/21/23 13:42		1.015	Not Detected	mg/L	0.030000	0.1015	U	
* Calcium, Total	8/18/23 11:30	8/24/23 10:55		1.015	Not Detected	mg/L	0.070035	0.406	U	
* Iron, Total	8/18/23 11:30	8/21/23 13:42		1.015	Not Detected	mg/L	0.008120	0.0406	U	
* Lithium, Total	8/18/23 11:30	8/21/23 13:42		1.015	Not Detected	mg/L	0.007105	0.01999956	U	
* Magnesium, Total	8/18/23 11:30	8/21/23 13:42		1.015	Not Detected	mg/L	0.021315	0.406	U	
* Molybdenum, Total	8/18/23 11:30	8/21/23 13:42		1.015	Not Detected	mg/L	0.005075	0.01015	U	
* Silica, Total (calc.)	8/18/23 11:30	8/21/23 13:42		1	Not Detected	mg/L				
* Silicon, Total	8/18/23 11:30	8/21/23 13:42		1.015	Not Detected	mg/L	0.02030	0.25375	U	
* Sodium, Total	8/18/23 11:30	8/21/23 13:42		1.015	Not Detected	mg/L	0.04060	0.406	U	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>			<b>Preparation Method: EPA 1638</b>					
* Antimony, Total	8/18/23 11:30	8/18/23 12:51		1.015	Not Detected	mg/L	0.000710	0.001015	U	
* Aluminum, Total	8/18/23 11:30	8/18/23 12:51		1.015	Not Detected	mg/L	0.009135	0.05075	U	
* Arsenic, Total	8/18/23 11:30	8/18/23 12:51		1.015	Not Detected	mg/L	0.000112	0.000203	U	
* Barium, Total	8/18/23 11:30	8/18/23 12:51		1.015	Not Detected	mg/L	0.000508	0.001015	U	
* Beryllium, Total	8/18/23 11:30	8/18/23 12:51		1.015	Not Detected	mg/L	0.000406	0.001015	U	
* Cadmium, Total	8/18/23 11:30	8/18/23 12:51		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Chromium, Total	8/18/23 11:30	8/18/23 12:51		1.015	Not Detected	mg/L	0.000203	0.001015	U	
* Cobalt, Total	8/18/23 11:30	8/18/23 12:51		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Lead, Total	8/18/23 11:30	8/18/23 12:51		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Manganese, Total	8/18/23 11:30	8/18/23 12:51		1.015	Not Detected	mg/L	0.000152	0.001015	U	
* Potassium, Total	8/18/23 11:30	8/18/23 12:51		1.015	Not Detected	mg/L	0.169505	0.5075	U	
* Selenium, Total	8/18/23 11:30	8/18/23 12:51		1.015	Not Detected	mg/L	0.000508	0.001015	U	
* Thallium, Total	8/18/23 11:30	8/18/23 12:51		1.015	Not Detected	mg/L	0.000068	0.000203	U	
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: ABB</b>								
* Mercury, Total by CVAA	8/22/23 17:17	8/22/23 21:18		1	Not Detected	mg/L	0.0003	0.0005	U	
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: SC</b>								
* Nitrogen, Nitrate/Nitrite	8/18/23 10:08	8/18/23 10:08		1	Not Detected	mg/L as N	0.20	0.3	U	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>								
* Solids, Dissolved	8/17/23 11:10	8/18/23 13:20		1	Not Detected	mg/L		25	U	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:**

# Certificate Of Analysis

**Description:** Gorgas Landfill Field Blank-1

**Location Code:** WMWGORLFFB

**Collected:** 8/15/23 11:55

**Customer ID:**

**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15732

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: SC</b>							
* Total Organic Carbon	8/17/23 16:11	8/17/23 16:11		1	Not Detected	mg/L	1.00	2	U
<b>Analytical Method: SM4500CI E</b>		<b>Analyst: JCC</b>							
* Chloride	8/18/23 09:13	8/18/23 09:13		1	Not Detected	mg/L	0.50	1	U
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	8/17/23 13:01	8/17/23 13:01		1	Not Detected	mg/L	0.06	0.125	U
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	8/23/23 11:28	8/23/23 11:28		1	0.979	mg/L	0.6	2	J

---

MDL's and RL's are adjusted for sample dilution, as applicable

---

**Comments:**

# Batch QC Summary

**Customer Account:** WMWGORLFFB

**Sample Date:** 8/15/23 11:55

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill Field Blank-1

**Laboratory ID Number:** BD15732

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BD15740	Aluminum, Total	mg/L	0.00553	0.0198	0.100	0.0961	0.0937	0.101	0.0850 to 0.115	96.1	70.0 to 130	2.53	20.0
BD15740	Antimony, Total	mg/L	0.000304	0.00100	0.100	0.0929	0.0912	0.0915	0.0850 to 0.115	92.9	70.0 to 130	1.85	20.0
BD15740	Arsenic, Total	mg/L	0.0000161	0.000200	0.100	0.105	0.103	0.103	0.0850 to 0.115	105	70.0 to 130	1.92	20.0
BD15740	Barium, Total	mg/L	-0.0000098	0.00100	0.100	0.0964	0.0936	0.0933	0.0850 to 0.115	96.4	70.0 to 130	2.95	20.0
BD15740	Beryllium, Total	mg/L	-0.0000104	0.000880	0.100	0.110	0.111	0.101	0.0850 to 0.115	110	70.0 to 130	0.905	20.0
BD15740	Boron, Total	mg/L	-0.000022	0.0650	1.00	0.985	0.975	0.993	0.850 to 1.15	98.5	70.0 to 130	1.02	20.0
BD15740	Cadmium, Total	mg/L	0.0000000	0.000147	0.100	0.103	0.100	0.101	0.0850 to 0.115	103	70.0 to 130	2.96	20.0
BD15740	Calcium, Total	mg/L	-0.0174	0.152	5.00	4.84	4.82	4.91	4.25 to 5.75	96.8	70.0 to 130	0.414	20.0
BD15740	Chloride	mg/L	-0.0296	1.00	10.0	9.92	10.0	9.95	9.00 to 11.0	99.2	80.0 to 120	0.803	20.0
BD15740	Chromium, Total	mg/L	0.0000700	0.000440	0.100	0.0990	0.0991	0.0985	0.0850 to 0.115	99.0	70.0 to 130	0.101	20.0
BD15740	Cobalt, Total	mg/L	-0.0000044	0.000147	0.100	0.103	0.102	0.101	0.0850 to 0.115	103	70.0 to 130	0.976	20.0
BD15740	Fluoride	mg/L	0.0164	0.125	2.50	2.61	2.66	2.56	2.25 to 2.75	104	80.0 to 120	1.90	20.0
BD15740	Iron, Total	mg/L	0.00125	0.0176	0.2	0.192	0.192	0.196	0.170 to 0.230	96.0	70.0 to 130	0.00	20.0
BD15740	Lead, Total	mg/L	0.0000050	0.000147	0.100	0.0993	0.0968	0.0970	0.0850 to 0.115	99.3	70.0 to 130	2.55	20.0
BD15740	Lithium, Total	mg/L	-0.000259	0.0154	0.200	0.206	0.209	0.193	0.170 to 0.230	103	70.0 to 130	1.45	20.0
BD15740	Magnesium, Total	mg/L	-0.0418	0.0462	5.00	5.02	4.99	4.94	4.25 to 5.75	100	70.0 to 130	0.599	20.0
BD15740	Manganese, Total	mg/L	0.0000037	0.00033	0.100	0.102	0.100	0.101	0.0850 to 0.115	102	70.0 to 130	1.98	20.0
BD15740	Mercury, Total by CVAA	mg/L	0.000	0.000500	0.004	0.00324	0.00409	0.00379	0.00340 to 0.00460	81.0	70.0 to 130	23.2	20.0
BD15740	Molybdenum, Total	mg/L	0.000	0.0100	0.2	0.194	0.194	0.197	0.170 to 0.230	97.0	70.0 to 130	0.00	20.0
BD15740	Potassium, Total	mg/L	-0.00486	0.367	10.0	9.90	9.88	9.95	8.50 to 11.5	99.0	70.0 to 130	0.202	20.0
BD15740	Selenium, Total	mg/L	0.0000035	0.00100	0.100	0.105	0.103	0.106	0.0850 to 0.115	105	70.0 to 130	1.92	20.0
BD15740	Silicon, Total	mg/L	-0.00039	0.0440	1.00	0.992	0.984	0.994	0.850 to 1.15	99.2	70.0 to 130	0.810	20.0
BD15740	Sodium, Total	mg/L	0.000994	0.0880	5.00	5.16	5.24	4.88	4.25 to 5.75	103	70.0 to 130	1.54	20.0
BD15740	Sulfate	mg/L	0.292	2.0	20.0	20.5	20.4	19.9	18.0 to 22.0	98.7	80.0 to 120	0.489	20.0

**Comments:**

# Batch QC Summary

**Customer Account:** WMWGORLFFB

**Sample Date:** 8/15/23 11:55

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill Field Blank-1

**Laboratory ID Number:** BD15732

Sample	Analysis	Units	MB	MB				MSD	Standard	Standard		Rec		Prec	Limit
				Limit	Spike	MS	Limit			Limit	Rec	Limit			
BD15740	Thallium, Total	mg/L	0.0000074	0.000147	0.100	0.100	0.0981	0.0994	0.0850 to 0.115		100	70.0 to 130		1.92	20.0
BD15740	Total Organic Carbon	mg/L	0.158	1.00	10.0	10.0	8.84	23.6			100	80.0 to 120		12.3	20.0

---

**Comments:**



## Batch QC Summary

**Customer Account:** WMWGORLFFB

**Sample Date:** 8/15/23 11:55

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill Field Blank-1

**Laboratory ID Number:** BD15732

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BD15740	Nitrogen, Nitrate/Nitrite	mg/L as N	-0.06	0.200	2.00	2.06	-0.078	2.04	1.80 to 2.20	103	90.0 to 110	0.00	15.0
BD15736	Solids, Dissolved	mg/L	1.00	25.0			2230	49.0	40.0 to 60.0			0.449	10.0

---

**Comments:**

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-10

**Location Code:** WMWGORLF  
**Collected:** 8/15/23 13:23  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15733

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Total	8/18/23 11:30	8/21/23 13:45		1.015	0.146	mg/L	0.030000	0.1015	
* Calcium, Total	8/18/23 11:30	8/22/23 14:12		10.15	188	mg/L	0.70035	4.06	
* Iron, Total	8/18/23 11:30	8/22/23 14:12		10.15	9.32	mg/L	0.08120	0.406	
* Lithium, Total	8/18/23 11:30	8/21/23 13:45		1.015	0.153	mg/L	0.007105	0.01999956	
* Magnesium, Total	8/18/23 11:30	8/22/23 14:12		10.15	99.1	mg/L	0.21315	4.06	
* Molybdenum, Total	8/18/23 11:30	8/21/23 13:45		1.015	Not Detected	mg/L	0.005075	0.01015	U
* Silica, Total (calc.)	8/18/23 11:30	8/21/23 13:45		1	11.9	mg/L			
* Silicon, Total	8/18/23 11:30	8/21/23 13:45		1.015	5.56	mg/L	0.02030	0.25375	
* Sodium, Total	8/18/23 11:30	8/22/23 14:12		10.15	109	mg/L	0.4060	4.06	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	8/18/23 14:30	8/23/23 13:02		1.015	0.168	mg/L	0.030000	0.1015	
* Calcium, Dissolved	8/18/23 14:30	8/24/23 12:23		10.15	186	mg/L	0.70035	4.06	
* Iron, Dissolved	8/18/23 14:30	8/24/23 12:23		10.15	11.1	mg/L	0.08120	0.406	
* Lithium, Dissolved	8/18/23 14:30	8/23/23 13:02		1.015	0.152	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	8/18/23 14:30	8/24/23 12:23		10.15	95.4	mg/L	0.21315	4.06	
* Molybdenum, Dissolved	8/18/23 14:30	8/23/23 13:02		1.015	Not Detected	mg/L	0.005075	0.01015	U
* Silica, Dissolved (calc.)	8/18/23 14:30	8/23/23 13:02		1	12.4	mg/L			
* Silicon, Dissolved	8/18/23 14:30	8/23/23 13:02		1.015	5.80	mg/L	0.02030	0.25375	
* Sodium, Dissolved	8/18/23 14:30	8/24/23 12:23		10.15	94.4	mg/L	0.4060	4.06	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>			<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	8/18/23 11:30	8/18/23 12:54		1.015	Not Detected	mg/L	0.000710	0.001015	U
* Arsenic, Total	8/18/23 11:30	8/18/23 12:54		1.015	0.000759	mg/L	0.000112	0.000203	
* Aluminum, Total	8/18/23 11:30	8/18/23 12:54		1.015	0.458	mg/L	0.009135	0.05075	
* Barium, Total	8/18/23 11:30	8/18/23 12:54		1.015	0.0195	mg/L	0.000508	0.001015	
* Beryllium, Total	8/18/23 11:30	8/18/23 12:54		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	8/18/23 11:30	8/18/23 12:54		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	8/18/23 11:30	8/18/23 12:54		1.015	0.000265	mg/L	0.000203	0.001015	J
* Cobalt, Total	8/18/23 11:30	8/18/23 12:54		1.015	0.00267	mg/L	0.000068	0.000203	
* Lead, Total	8/18/23 11:30	8/18/23 12:54		1.015	0.000201	mg/L	0.000068	0.000203	J
* Manganese, Total	8/18/23 11:30	8/18/23 12:54		1.015	0.928	mg/L	0.000152	0.001015	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-10

**Location Code:** WMWGORLF  
**Collected:** 8/15/23 13:23  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15733

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Potassium, Total	8/18/23 11:30	8/18/23 12:54		1.015	4.72	mg/L	0.169505	0.5075	
* Selenium, Total	8/18/23 11:30	8/18/23 12:54		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	8/18/23 11:30	8/18/23 12:54		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	8/18/23 14:30	8/21/23 11:05		1.015	Not Detected	mg/L	0.000710	0.001015	U
* Aluminum, Dissolved	8/18/23 14:30	8/21/23 11:05		1.015	Not Detected	mg/L	0.009135	0.05075	U
* Arsenic, Dissolved	8/18/23 14:30	8/21/23 11:05		1.015	0.000875	mg/L	0.000112	0.000203	
* Barium, Dissolved	8/18/23 14:30	8/21/23 11:05		1.015	0.0214	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	8/18/23 14:30	8/21/23 11:05		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	8/18/23 14:30	8/21/23 11:05		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	8/18/23 14:30	8/21/23 11:05		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	8/18/23 14:30	8/21/23 11:05		1.015	0.00430	mg/L	0.000068	0.000203	
* Lead, Dissolved	8/18/23 14:30	8/21/23 11:05		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	8/18/23 14:30	8/23/23 09:31		5.075	1.21	mg/L	0.000761	0.005075	
* Potassium, Dissolved	8/18/23 14:30	8/21/23 11:05		1.015	5.14	mg/L	0.169505	0.5075	
* Selenium, Dissolved	8/18/23 14:30	8/21/23 11:05		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	8/18/23 14:30	8/21/23 11:05		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: ABB</b>							
* Mercury, Total by CVAA	8/22/23 17:17	8/22/23 21:22		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: SC</b>							
* Nitrogen, Nitrate/Nitrite	8/18/23 10:10	8/18/23 10:10		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: DHC</b>							
* Alkalinity	8/28/23 09:07	8/28/23 13:56		1	187	mg CaCO3/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	8/17/23 11:10	8/18/23 13:20		1	1050	mg/L		50	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: DHC</b>							
* Bicarbonate Alkalinity, (calc.)	8/28/23 09:07	8/28/23 13:56		1	187	mg CaCO3/L		1	A
* Carbonate Alkalinity, (calc.)	8/28/23 09:07	8/28/23 13:56		1	Not Detected	mg CaCO3/L		0.5	A
<b>Analytical Method: SM 4500H+ B</b>		<b>Analyst: DHC</b>							
Alkalinity pH Endpoint	8/28/23 09:07	8/28/23 13:56		1	4.51	SU		2	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-10

**Location Code:** WMWGORLF  
**Collected:** 8/15/23 13:23  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15733

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: SC</b>							
* Total Organic Carbon	8/17/23 16:24	8/17/23 16:24		1	Not Detected	mg/L	1.00	2	U
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	8/18/23 09:14	8/18/23 09:14		1	3.54	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	8/17/23 13:02	8/17/23 13:02		1	0.0889	mg/L	0.06	0.125	J
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	8/23/23 11:43	8/23/23 11:43		32	631	mg/L	19.2	64	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: DKG</b>							
Conductivity	8/15/23 13:19	8/15/23 13:19			1123.05	uS/cm			FA
pH	8/15/23 13:19	8/15/23 13:19			7.53	SU			FA
Temperature	8/15/23 13:19	8/15/23 13:19			24.75	C			FA
Turbidity	8/15/23 13:19	8/15/23 13:19			9.72	NTU			FA
Sulfide	8/15/23 13:19	8/15/23 13:19			0	mg/L			FA

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/15/23 13:23

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-10

**Laboratory ID Number:** BD15733

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BD15742	Aluminum, Dissolved	mg/L	0.000155	0.0198	0.100	0.104	0.103	0.105	0.0850 to 0.115	104	70.0 to 130	0.966	20.0
BD15740	Aluminum, Total	mg/L	0.00553	0.0198	0.100	0.0961	0.0937	0.101	0.0850 to 0.115	96.1	70.0 to 130	2.53	20.0
BD15742	Antimony, Dissolved	mg/L	0.000319	0.00100	0.100	0.0921	0.0925	0.0854	0.0850 to 0.115	92.1	70.0 to 130	0.433	20.0
BD15740	Antimony, Total	mg/L	0.000304	0.00100	0.100	0.0929	0.0912	0.0915	0.0850 to 0.115	92.9	70.0 to 130	1.85	20.0
BD15742	Arsenic, Dissolved	mg/L	0.0000034	0.000200	0.100	0.102	0.101	0.101	0.0850 to 0.115	102	70.0 to 130	0.985	20.0
BD15740	Arsenic, Total	mg/L	0.0000161	0.000200	0.100	0.105	0.103	0.103	0.0850 to 0.115	105	70.0 to 130	1.92	20.0
BD15742	Barium, Dissolved	mg/L	0.0000346	0.00100	0.100	0.108	0.108	0.0939	0.0850 to 0.115	96.2	70.0 to 130	0.00	20.0
BD15740	Barium, Total	mg/L	-0.0000098	0.00100	0.100	0.0964	0.0936	0.0933	0.0850 to 0.115	96.4	70.0 to 130	2.95	20.0
BD15742	Beryllium, Dissolved	mg/L	0.0000164	0.000880	0.100	0.0993	0.0988	0.0939	0.0850 to 0.115	99.3	70.0 to 130	0.505	20.0
BD15740	Beryllium, Total	mg/L	-0.0000104	0.000880	0.100	0.110	0.111	0.101	0.0850 to 0.115	110	70.0 to 130	0.905	20.0
BD15742	Boron, Dissolved	mg/L	0.000396	0.0650	1.00	1.04	1.04	0.987	0.850 to 1.15	99.6	70.0 to 130	0.00	20.0
BD15740	Boron, Total	mg/L	-0.000022	0.0650	1.00	0.985	0.975	0.993	0.850 to 1.15	98.5	70.0 to 130	1.02	20.0
BD15742	Cadmium, Dissolved	mg/L	0.0000067	0.000147	0.100	0.0963	0.0966	0.0988	0.0850 to 0.115	96.3	70.0 to 130	0.311	20.0
BD15740	Cadmium, Total	mg/L	0.0000000	0.000147	0.100	0.103	0.100	0.101	0.0850 to 0.115	103	70.0 to 130	2.96	20.0
BD15742	Calcium, Dissolved	mg/L	-0.0283	0.152	5.00	261	290	4.62	4.25 to 5.75	-100	70.0 to 130	10.5	20.0
BD15740	Calcium, Total	mg/L	-0.0174	0.152	5.00	4.84	4.82	4.91	4.25 to 5.75	96.8	70.0 to 130	0.414	20.0
BD15740	Chloride	mg/L	-0.0296	1.00	10.0	9.92	10.0	9.95	9.00 to 11.0	99.2	80.0 to 120	0.803	20.0
BD15742	Chromium, Dissolved	mg/L	-0.0000122	0.000440	0.100	0.0955	0.0945	0.0973	0.0850 to 0.115	95.5	70.0 to 130	1.05	20.0
BD15740	Chromium, Total	mg/L	0.0000700	0.000440	0.100	0.0990	0.0991	0.0985	0.0850 to 0.115	99.0	70.0 to 130	0.101	20.0
BD15742	Cobalt, Dissolved	mg/L	-0.0000488	0.000147	0.100	0.168	0.166	0.0996	0.0850 to 0.115	96.7	70.0 to 130	1.20	20.0
BD15740	Cobalt, Total	mg/L	-0.0000044	0.000147	0.100	0.103	0.102	0.101	0.0850 to 0.115	103	70.0 to 130	0.976	20.0
BD15740	Fluoride	mg/L	0.0164	0.125	2.50	2.61	2.66	2.56	2.25 to 2.75	104	80.0 to 120	1.90	20.0
BD15742	Iron, Dissolved	mg/L	-0.00135	0.0176	0.2	19.7	21.0	0.198	0.170 to 0.230	-150	70.0 to 130	6.39	20.0
BD15740	Iron, Total	mg/L	0.00125	0.0176	0.2	0.192	0.192	0.196	0.170 to 0.230	96.0	70.0 to 130	0.00	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF  
**Sample Date:** 8/15/23 13:23  
**Customer ID:**  
**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-10

**Laboratory ID Number:** BD15733

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BD15742	Lead, Dissolved	mg/L	0.0000023	0.000147	0.100	0.0965	0.0985	0.101	0.0850 to 0.115	96.5	70.0 to 130	2.05	20.0
BD15740	Lead, Total	mg/L	0.0000050	0.000147	0.100	0.0993	0.0968	0.0970	0.0850 to 0.115	99.3	70.0 to 130	2.55	20.0
BD15742	Lithium, Dissolved	mg/L	0.000173	0.0154	0.200	0.259	0.262	0.190	0.170 to 0.230	104	70.0 to 130	1.15	20.0
BD15740	Lithium, Total	mg/L	-0.000259	0.0154	0.200	0.206	0.209	0.193	0.170 to 0.230	103	70.0 to 130	1.45	20.0
BD15742	Magnesium, Dissolved	mg/L	-0.00201	0.0462	5.00	281	310	4.89	4.25 to 5.75	-20.0	70.0 to 130	9.81	20.0
BD15740	Magnesium, Total	mg/L	-0.0418	0.0462	5.00	5.02	4.99	4.94	4.25 to 5.75	100	70.0 to 130	0.599	20.0
BD15742	Manganese, Dissolved	mg/L	0.0000019	0.00033	0.100	14.5	15.1	0.104	0.0850 to 0.115	200	70.0 to 130	4.05	20.0
BD15740	Manganese, Total	mg/L	0.0000037	0.00033	0.100	0.102	0.100	0.101	0.0850 to 0.115	102	70.0 to 130	1.98	20.0
BD15740	Mercury, Total by CVAA	mg/L	0.000	0.000500	0.004	0.00324	0.00409	0.00379	0.00340 to 0.00460	81.0	70.0 to 130	23.2	20.0
BD15742	Molybdenum, Dissolved	mg/L	0.000424	0.0100	0.2	0.188	0.189	0.195	0.170 to 0.230	94.0	70.0 to 130	0.531	20.0
BD15740	Molybdenum, Total	mg/L	0.000	0.0100	0.2	0.194	0.194	0.197	0.170 to 0.230	97.0	70.0 to 130	0.00	20.0
BD15742	Potassium, Dissolved	mg/L	-0.00187	0.367	10.0	15.0	14.7	10.1	8.50 to 11.5	98.0	70.0 to 130	2.02	20.0
BD15740	Potassium, Total	mg/L	-0.00486	0.367	10.0	9.90	9.88	9.95	8.50 to 11.5	99.0	70.0 to 130	0.202	20.0
BD15742	Selenium, Dissolved	mg/L	0.0000413	0.00100	0.100	0.0980	0.100	0.102	0.0850 to 0.115	98.0	70.0 to 130	2.02	20.0
BD15740	Selenium, Total	mg/L	0.0000035	0.00100	0.100	0.105	0.103	0.106	0.0850 to 0.115	105	70.0 to 130	1.92	20.0
BD15742	Silicon, Dissolved	mg/L	0.000291	0.0440	1.00	10.7	10.7	1.00	0.850 to 1.15	102	70.0 to 130	0.00	20.0
BD15740	Silicon, Total	mg/L	-0.00039	0.0440	1.00	0.992	0.984	0.994	0.850 to 1.15	99.2	70.0 to 130	0.810	20.0
BD15742	Sodium, Dissolved	mg/L	0.00414	0.0880	5.00	28.9	28.9	4.88	4.25 to 5.75	104	70.0 to 130	0.00	20.0
BD15740	Sodium, Total	mg/L	0.000994	0.0880	5.00	5.16	5.24	4.88	4.25 to 5.75	103	70.0 to 130	1.54	20.0
BD15740	Sulfate	mg/L	0.292	2.0	20.0	20.5	20.4	19.9	18.0 to 22.0	98.7	80.0 to 120	0.489	20.0
BD15742	Thallium, Dissolved	mg/L	-0.0000298	0.000147	0.100	0.0976	0.0989	0.102	0.0850 to 0.115	97.6	70.0 to 130	1.32	20.0
BD15740	Thallium, Total	mg/L	0.0000074	0.000147	0.100	0.100	0.0981	0.0994	0.0850 to 0.115	100	70.0 to 130	1.92	20.0
BD15740	Total Organic Carbon	mg/L	0.158	1.00	10.0	10.0	8.84	23.6		100	80.0 to 120	12.3	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

## Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/15/23 13:23

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-10

**Laboratory ID Number:** BD15733

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BD15751	Alkalinity	mg CaCO3/L					184	51.3	45.0 to 55.0			0.542	10.0
BD15740	Nitrogen, Nitrate/Nitrite	mg/L as N	-0.06	0.200	2.00	2.06	-0.078	2.04	1.80 to 2.20	103	90.0 to 110	0.00	15.0
BD15736	Solids, Dissolved	mg/L	1.00	25.0			2230	49.0	40.0 to 60.0			0.449	10.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-8

**Location Code:** WMWGORLF  
**Collected:** 8/15/23 15:02  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15734

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Total	8/18/23 11:30	8/21/23 13:48		1.015	0.0654	mg/L	0.030000	0.1015	J
* Calcium, Total	8/18/23 11:30	8/22/23 14:15		10.15	328	mg/L	0.70035	4.06	
* Iron, Total	8/18/23 11:30	8/21/23 13:48		1.015	2.69	mg/L	0.008120	0.0406	
* Lithium, Total	8/18/23 11:30	8/21/23 13:48		1.015	0.117	mg/L	0.007105	0.01999956	
* Magnesium, Total	8/18/23 11:30	8/22/23 14:15		10.15	332	mg/L	0.21315	4.06	
* Molybdenum, Total	8/18/23 11:30	8/21/23 13:48		1.015	Not Detected	mg/L	0.005075	0.01015	U
* Silica, Total (calc.)	8/18/23 11:30	8/21/23 13:48		1	11.2	mg/L			
* Silicon, Total	8/18/23 11:30	8/21/23 13:48		1.015	5.22	mg/L	0.02030	0.25375	
* Sodium, Total	8/18/23 11:30	8/21/23 13:48		1.015	36.7	mg/L	0.04060	0.406	
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>						
* Boron, Dissolved	8/18/23 14:30	8/23/23 13:05		1.015	0.0632	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	8/18/23 14:30	8/24/23 12:27		10.15	320	mg/L	0.70035	4.06	
* Iron, Dissolved	8/18/23 14:30	8/23/23 13:05		1.015	0.901	mg/L	0.008120	0.0406	
* Lithium, Dissolved	8/18/23 14:30	8/23/23 13:05		1.015	0.113	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	8/18/23 14:30	8/24/23 12:27		10.15	318	mg/L	0.21315	4.06	
* Molybdenum, Dissolved	8/18/23 14:30	8/23/23 13:05		1.015	Not Detected	mg/L	0.005075	0.01015	U
* Silica, Dissolved (calc.)	8/18/23 14:30	8/23/23 13:05		1	10.8	mg/L			
* Silicon, Dissolved	8/18/23 14:30	8/23/23 13:05		1.015	5.05	mg/L	0.02030	0.25375	
* Sodium, Dissolved	8/18/23 14:30	8/23/23 13:05		1.015	35.8	mg/L	0.04060	0.406	
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: DLJ</b>		<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	8/18/23 11:30	8/18/23 12:58		1.015	Not Detected	mg/L	0.000710	0.001015	U
* Aluminum, Total	8/18/23 11:30	8/18/23 12:58		1.015	Not Detected	mg/L	0.009135	0.05075	U
* Arsenic, Total	8/18/23 11:30	8/18/23 12:58		1.015	0.00163	mg/L	0.000112	0.000203	
* Barium, Total	8/18/23 11:30	8/18/23 12:58		1.015	0.0129	mg/L	0.000508	0.001015	
* Beryllium, Total	8/18/23 11:30	8/18/23 12:58		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	8/18/23 11:30	8/18/23 12:58		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	8/18/23 11:30	8/18/23 12:58		1.015	0.000211	mg/L	0.000203	0.001015	J
* Cobalt, Total	8/18/23 11:30	8/18/23 12:58		1.015	0.00596	mg/L	0.000068	0.000203	
* Lead, Total	8/18/23 11:30	8/18/23 12:58		1.015	0.000178	mg/L	0.000068	0.000203	J
* Manganese, Total	8/18/23 11:30	8/18/23 12:58		1.015	0.903	mg/L	0.000152	0.001015	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.



# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-8

**Location Code:** WMWGORLF  
**Collected:** 8/15/23 15:02  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15734

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Potassium, Total	8/18/23 11:30	8/18/23 12:58		1.015	7.48	mg/L	0.169505	0.5075	
* Selenium, Total	8/18/23 11:30	8/18/23 12:58		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	8/18/23 11:30	8/18/23 12:58		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	8/18/23 14:30	8/21/23 11:09		1.015	Not Detected	mg/L	0.000710	0.001015	U
* Aluminum, Dissolved	8/18/23 14:30	8/21/23 11:09		1.015	Not Detected	mg/L	0.009135	0.05075	U
* Arsenic, Dissolved	8/18/23 14:30	8/21/23 11:09		1.015	0.000396	mg/L	0.000112	0.000203	
* Barium, Dissolved	8/18/23 14:30	8/21/23 11:09		1.015	0.0136	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	8/18/23 14:30	8/21/23 11:09		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	8/18/23 14:30	8/21/23 11:09		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	8/18/23 14:30	8/21/23 11:09		1.015	0.000262	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	8/18/23 14:30	8/21/23 11:09		1.015	0.00556	mg/L	0.000068	0.000203	
* Lead, Dissolved	8/18/23 14:30	8/21/23 11:09		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	8/18/23 14:30	8/21/23 11:09		1.015	0.909	mg/L	0.000152	0.001015	
* Potassium, Dissolved	8/18/23 14:30	8/21/23 11:09		1.015	7.58	mg/L	0.169505	0.5075	
* Selenium, Dissolved	8/18/23 14:30	8/21/23 11:09		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	8/18/23 14:30	8/21/23 11:09		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: ABB</b>							
* Mercury, Total by CVAA	8/22/23 17:17	8/22/23 21:26		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: SC</b>							
* Nitrogen, Nitrate/Nitrite	8/18/23 10:12	8/18/23 10:12		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: DHC</b>							
* Alkalinity	8/28/23 09:07	8/28/23 13:56		1	360	mg CaCO3/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	8/17/23 11:10	8/18/23 13:20		1	2410	mg/L		100	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: DHC</b>							
* Bicarbonate Alkalinity, (calc.)	8/28/23 09:07	8/28/23 13:56		1	360	mg CaCO3/L		1	A
* Carbonate Alkalinity, (calc.)	8/28/23 09:07	8/28/23 13:56		1	Not Detected	mg CaCO3/L		0.5	A
<b>Analytical Method: SM 4500H+ B</b>		<b>Analyst: DHC</b>							
Alkalinity pH Endpoint	8/28/23 09:07	8/28/23 13:56		1	4.45	SU		2	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-8

**Location Code:** WMWGORLF  
**Collected:** 8/15/23 15:02  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15734

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: SC</b>							
* Total Organic Carbon	8/17/23 16:38	8/17/23 16:38		1	1.39	mg/L	1.00	2	J
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	8/18/23 09:15	8/18/23 09:15		1	4.92	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	8/17/23 13:03	8/17/23 13:03		1	0.174	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	8/23/23 11:44	8/23/23 11:44		80	1480	mg/L	48.0	160	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: DKG</b>							
Conductivity	8/15/23 14:59	8/15/23 14:59			1793.82	uS/cm			FA
pH	8/15/23 14:59	8/15/23 14:59			7.58	SU			FA
Temperature	8/15/23 14:59	8/15/23 14:59			26.03	C			FA
Turbidity	8/15/23 14:59	8/15/23 14:59			9.69	NTU			FA
Sulfide	8/15/23 14:59	8/15/23 14:59			0	mg/L			FA

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/15/23 15:02

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-8

**Laboratory ID Number:** BD15734

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BD15742	Aluminum, Dissolved	mg/L	0.000155	0.0198	0.100	0.104	0.103	0.105	0.0850 to 0.115	104	70.0 to 130	0.966	20.0
BD15740	Aluminum, Total	mg/L	0.00553	0.0198	0.100	0.0961	0.0937	0.101	0.0850 to 0.115	96.1	70.0 to 130	2.53	20.0
BD15742	Antimony, Dissolved	mg/L	0.000319	0.00100	0.100	0.0921	0.0925	0.0854	0.0850 to 0.115	92.1	70.0 to 130	0.433	20.0
BD15740	Antimony, Total	mg/L	0.000304	0.00100	0.100	0.0929	0.0912	0.0915	0.0850 to 0.115	92.9	70.0 to 130	1.85	20.0
BD15742	Arsenic, Dissolved	mg/L	0.0000034	0.000200	0.100	0.102	0.101	0.101	0.0850 to 0.115	102	70.0 to 130	0.985	20.0
BD15740	Arsenic, Total	mg/L	0.0000161	0.000200	0.100	0.105	0.103	0.103	0.0850 to 0.115	105	70.0 to 130	1.92	20.0
BD15742	Barium, Dissolved	mg/L	0.0000346	0.00100	0.100	0.108	0.108	0.0939	0.0850 to 0.115	96.2	70.0 to 130	0.00	20.0
BD15740	Barium, Total	mg/L	-0.0000098	0.00100	0.100	0.0964	0.0936	0.0933	0.0850 to 0.115	96.4	70.0 to 130	2.95	20.0
BD15742	Beryllium, Dissolved	mg/L	0.0000164	0.000880	0.100	0.0993	0.0988	0.0939	0.0850 to 0.115	99.3	70.0 to 130	0.505	20.0
BD15740	Beryllium, Total	mg/L	-0.0000104	0.000880	0.100	0.110	0.111	0.101	0.0850 to 0.115	110	70.0 to 130	0.905	20.0
BD15742	Boron, Dissolved	mg/L	0.000396	0.0650	1.00	1.04	1.04	0.987	0.850 to 1.15	99.6	70.0 to 130	0.00	20.0
BD15740	Boron, Total	mg/L	-0.000022	0.0650	1.00	0.985	0.975	0.993	0.850 to 1.15	98.5	70.0 to 130	1.02	20.0
BD15742	Cadmium, Dissolved	mg/L	0.0000067	0.000147	0.100	0.0963	0.0966	0.0988	0.0850 to 0.115	96.3	70.0 to 130	0.311	20.0
BD15740	Cadmium, Total	mg/L	0.0000000	0.000147	0.100	0.103	0.100	0.101	0.0850 to 0.115	103	70.0 to 130	2.96	20.0
BD15742	Calcium, Dissolved	mg/L	-0.0283	0.152	5.00	261	290	4.62	4.25 to 5.75	-100	70.0 to 130	10.5	20.0
BD15740	Calcium, Total	mg/L	-0.0174	0.152	5.00	4.84	4.82	4.91	4.25 to 5.75	96.8	70.0 to 130	0.414	20.0
BD15740	Chloride	mg/L	-0.0296	1.00	10.0	9.92	10.0	9.95	9.00 to 11.0	99.2	80.0 to 120	0.803	20.0
BD15742	Chromium, Dissolved	mg/L	-0.0000122	0.000440	0.100	0.0955	0.0945	0.0973	0.0850 to 0.115	95.5	70.0 to 130	1.05	20.0
BD15740	Chromium, Total	mg/L	0.0000700	0.000440	0.100	0.0990	0.0991	0.0985	0.0850 to 0.115	99.0	70.0 to 130	0.101	20.0
BD15742	Cobalt, Dissolved	mg/L	-0.0000488	0.000147	0.100	0.168	0.166	0.0996	0.0850 to 0.115	96.7	70.0 to 130	1.20	20.0
BD15740	Cobalt, Total	mg/L	-0.0000044	0.000147	0.100	0.103	0.102	0.101	0.0850 to 0.115	103	70.0 to 130	0.976	20.0
BD15740	Fluoride	mg/L	0.0164	0.125	2.50	2.61	2.66	2.56	2.25 to 2.75	104	80.0 to 120	1.90	20.0
BD15742	Iron, Dissolved	mg/L	-0.00135	0.0176	0.2	19.7	21.0	0.198	0.170 to 0.230	-150	70.0 to 130	6.39	20.0
BD15740	Iron, Total	mg/L	0.00125	0.0176	0.2	0.192	0.192	0.196	0.170 to 0.230	96.0	70.0 to 130	0.00	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/15/23 15:02

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-8

**Laboratory ID Number:** BD15734

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BD15742	Lead, Dissolved	mg/L	0.0000023	0.000147	0.100	0.0965	0.0985	0.101	0.0850 to 0.115	96.5	70.0 to 130	2.05	20.0
BD15740	Lead, Total	mg/L	0.0000050	0.000147	0.100	0.0993	0.0968	0.0970	0.0850 to 0.115	99.3	70.0 to 130	2.55	20.0
BD15742	Lithium, Dissolved	mg/L	0.000173	0.0154	0.200	0.259	0.262	0.190	0.170 to 0.230	104	70.0 to 130	1.15	20.0
BD15740	Lithium, Total	mg/L	-0.000259	0.0154	0.200	0.206	0.209	0.193	0.170 to 0.230	103	70.0 to 130	1.45	20.0
BD15742	Magnesium, Dissolved	mg/L	-0.00201	0.0462	5.00	281	310	4.89	4.25 to 5.75	-20.0	70.0 to 130	9.81	20.0
BD15740	Magnesium, Total	mg/L	-0.0418	0.0462	5.00	5.02	4.99	4.94	4.25 to 5.75	100	70.0 to 130	0.599	20.0
BD15742	Manganese, Dissolved	mg/L	0.0000019	0.00033	0.100	14.5	15.1	0.104	0.0850 to 0.115	200	70.0 to 130	4.05	20.0
BD15740	Manganese, Total	mg/L	0.0000037	0.00033	0.100	0.102	0.100	0.101	0.0850 to 0.115	102	70.0 to 130	1.98	20.0
BD15740	Mercury, Total by CVAA	mg/L	0.000	0.000500	0.004	0.00324	0.00409	0.00379	0.00340 to 0.00460	81.0	70.0 to 130	23.2	20.0
BD15742	Molybdenum, Dissolved	mg/L	0.000424	0.0100	0.2	0.188	0.189	0.195	0.170 to 0.230	94.0	70.0 to 130	0.531	20.0
BD15740	Molybdenum, Total	mg/L	0.000	0.0100	0.2	0.194	0.194	0.197	0.170 to 0.230	97.0	70.0 to 130	0.00	20.0
BD15742	Potassium, Dissolved	mg/L	-0.00187	0.367	10.0	15.0	14.7	10.1	8.50 to 11.5	98.0	70.0 to 130	2.02	20.0
BD15740	Potassium, Total	mg/L	-0.00486	0.367	10.0	9.90	9.88	9.95	8.50 to 11.5	99.0	70.0 to 130	0.202	20.0
BD15742	Selenium, Dissolved	mg/L	0.0000413	0.00100	0.100	0.0980	0.100	0.102	0.0850 to 0.115	98.0	70.0 to 130	2.02	20.0
BD15740	Selenium, Total	mg/L	0.0000035	0.00100	0.100	0.105	0.103	0.106	0.0850 to 0.115	105	70.0 to 130	1.92	20.0
BD15742	Silicon, Dissolved	mg/L	0.000291	0.0440	1.00	10.7	10.7	1.00	0.850 to 1.15	102	70.0 to 130	0.00	20.0
BD15740	Silicon, Total	mg/L	-0.00039	0.0440	1.00	0.992	0.984	0.994	0.850 to 1.15	99.2	70.0 to 130	0.810	20.0
BD15742	Sodium, Dissolved	mg/L	0.00414	0.0880	5.00	28.9	28.9	4.88	4.25 to 5.75	104	70.0 to 130	0.00	20.0
BD15740	Sodium, Total	mg/L	0.000994	0.0880	5.00	5.16	5.24	4.88	4.25 to 5.75	103	70.0 to 130	1.54	20.0
BD15740	Sulfate	mg/L	0.292	2.0	20.0	20.5	20.4	19.9	18.0 to 22.0	98.7	80.0 to 120	0.489	20.0
BD15742	Thallium, Dissolved	mg/L	-0.0000298	0.000147	0.100	0.0976	0.0989	0.102	0.0850 to 0.115	97.6	70.0 to 130	1.32	20.0
BD15740	Thallium, Total	mg/L	0.0000074	0.000147	0.100	0.100	0.0981	0.0994	0.0850 to 0.115	100	70.0 to 130	1.92	20.0
BD15740	Total Organic Carbon	mg/L	0.158	1.00	10.0	10.0	8.84	23.6		100	80.0 to 120	12.3	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

## Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/15/23 15:02

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-8

**Laboratory ID Number:** BD15734

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BD15751	Alkalinity	mg CaCO3/L					184	51.3	45.0 to 55.0			0.542	10.0
BD15740	Nitrogen, Nitrate/Nitrite	mg/L as N	-0.06	0.200	2.00	2.06	-0.078	2.04	1.80 to 2.20	103	90.0 to 110	0.00	15.0
BD15736	Solids, Dissolved	mg/L	1.00	25.0			2230	49.0	40.0 to 60.0			0.449	10.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-7

**Location Code:** WMWGORLF  
**Collected:** 8/15/23 16:06  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15735

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Total	8/18/23 11:30	8/21/23 13:51		1.015	0.0663	mg/L	0.030000	0.1015	J
* Calcium, Total	8/18/23 11:30	8/22/23 14:18		10.15	339	mg/L	0.70035	4.06	
* Iron, Total	8/18/23 11:30	8/21/23 13:51		1.015	2.30	mg/L	0.008120	0.0406	
* Lithium, Total	8/18/23 11:30	8/21/23 13:51		1.015	0.0977	mg/L	0.007105	0.01999956	
* Magnesium, Total	8/18/23 11:30	8/22/23 14:18		10.15	302	mg/L	0.21315	4.06	
* Molybdenum, Total	8/18/23 11:30	8/21/23 13:51		1.015	Not Detected	mg/L	0.005075	0.01015	U
* Silica, Total (calc.)	8/18/23 11:30	8/21/23 13:51		1	10.7	mg/L			
* Silicon, Total	8/18/23 11:30	8/21/23 13:51		1.015	5.01	mg/L	0.02030	0.25375	
* Sodium, Total	8/18/23 11:30	8/22/23 14:18		10.15	49.5	mg/L	0.4060	4.06	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	8/18/23 14:30	8/23/23 13:08		1.015	0.0658	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	8/18/23 14:30	8/24/23 12:30		10.15	324	mg/L	0.70035	4.06	
* Iron, Dissolved	8/18/23 14:30	8/23/23 13:08		1.015	2.11	mg/L	0.008120	0.0406	
* Lithium, Dissolved	8/18/23 14:30	8/23/23 13:08		1.015	0.0892	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	8/18/23 14:30	8/24/23 12:30		10.15	292	mg/L	0.21315	4.06	
* Molybdenum, Dissolved	8/18/23 14:30	8/23/23 13:08		1.015	Not Detected	mg/L	0.005075	0.01015	U
* Silica, Dissolved (calc.)	8/18/23 14:30	8/23/23 13:08		1	10.6	mg/L			
* Silicon, Dissolved	8/18/23 14:30	8/23/23 13:08		1.015	4.96	mg/L	0.02030	0.25375	
* Sodium, Dissolved	8/18/23 14:30	8/23/23 13:08		1.015	39.2	mg/L	0.04060	0.406	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>			<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	8/18/23 11:30	8/18/23 13:02		1.015	Not Detected	mg/L	0.000710	0.001015	U
* Aluminum, Total	8/18/23 11:30	8/18/23 13:02		1.015	0.0445	mg/L	0.009135	0.05075	J
* Arsenic, Total	8/18/23 11:30	8/18/23 13:02		1.015	0.00164	mg/L	0.000112	0.000203	
* Barium, Total	8/18/23 11:30	8/18/23 13:02		1.015	0.0132	mg/L	0.000508	0.001015	
* Beryllium, Total	8/18/23 11:30	8/18/23 13:02		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	8/18/23 11:30	8/18/23 13:02		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	8/18/23 11:30	8/18/23 13:02		1.015	0.000260	mg/L	0.000203	0.001015	J
* Cobalt, Total	8/18/23 11:30	8/18/23 13:02		1.015	0.00391	mg/L	0.000068	0.000203	
* Lead, Total	8/18/23 11:30	8/18/23 13:02		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	8/18/23 11:30	8/21/23 11:20		5.075	1.93	mg/L	0.000761	0.005075	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-7

**Location Code:** WMWGORLF  
**Collected:** 8/15/23 16:06  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15735

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Potassium, Total	8/18/23 11:30	8/18/23 13:02		1.015	6.40	mg/L	0.169505	0.5075	
* Selenium, Total	8/18/23 11:30	8/18/23 13:02		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	8/18/23 11:30	8/18/23 13:02		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	8/18/23 14:30	8/21/23 11:12		1.015	Not Detected	mg/L	0.000710	0.001015	U
* Aluminum, Dissolved	8/18/23 14:30	8/21/23 11:12		1.015	Not Detected	mg/L	0.009135	0.05075	U
* Arsenic, Dissolved	8/18/23 14:30	8/21/23 11:12		1.015	0.00157	mg/L	0.000112	0.000203	
* Barium, Dissolved	8/18/23 14:30	8/21/23 11:12		1.015	0.0133	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	8/18/23 14:30	8/21/23 11:12		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	8/18/23 14:30	8/21/23 11:12		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	8/18/23 14:30	8/21/23 11:12		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	8/18/23 14:30	8/21/23 11:12		1.015	0.00420	mg/L	0.000068	0.000203	
* Lead, Dissolved	8/18/23 14:30	8/21/23 11:12		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	8/18/23 14:30	8/21/23 12:48		5.075	2.08	mg/L	0.000761	0.005075	
* Potassium, Dissolved	8/18/23 14:30	8/21/23 11:12		1.015	6.56	mg/L	0.169505	0.5075	
* Selenium, Dissolved	8/18/23 14:30	8/21/23 11:12		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	8/18/23 14:30	8/21/23 11:12		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: ABB</b>							
* Mercury, Total by CVAA	8/22/23 17:17	8/22/23 21:30		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: SC</b>							
* Nitrogen, Nitrate/Nitrite	8/18/23 10:14	8/18/23 10:14		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: DHC</b>							
* Alkalinity	8/28/23 09:07	8/28/23 13:56		1	304	mg CaCO3/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	8/17/23 11:10	8/18/23 13:20		1	2270	mg/L		75.8	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: DHC</b>							
* Bicarbonate Alkalinity, (calc.)	8/28/23 09:07	8/28/23 13:56		1	304	mg CaCO3/L		1	A
* Carbonate Alkalinity, (calc.)	8/28/23 09:07	8/28/23 13:56		1	Not Detected	mg CaCO3/L		0.5	A
<b>Analytical Method: SM 4500H+ B</b>		<b>Analyst: DHC</b>							
Alkalinity pH Endpoint	8/28/23 09:07	8/28/23 13:56		1	4.51	SU		2	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-7

**Location Code:** WMWGORLF

**Collected:** 8/15/23 16:06

**Customer ID:**

**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15735

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: SC</b>							
* Total Organic Carbon	8/17/23 16:56	8/17/23 16:56	1		1.36	mg/L	1.00	2	J
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	8/18/23 09:16	8/18/23 09:16	1		6.51	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	8/17/23 13:05	8/17/23 13:05	1		0.154	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	8/23/23 11:45	8/23/23 11:45	80		1360	mg/L	48.0	160	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: DKG</b>							
Conductivity	8/15/23 16:03	8/15/23 16:03			1591.01	uS/cm			FA
pH	8/15/23 16:03	8/15/23 16:03			7.47	SU			FA
Temperature	8/15/23 16:03	8/15/23 16:03			20.57	C			FA
Turbidity	8/15/23 16:03	8/15/23 16:03			7.68	NTU			FA
Sulfide	8/15/23 16:03	8/15/23 16:03			0	mg/L			FA

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.



# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/15/23 16:06

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-7

**Laboratory ID Number:** BD15735

Sample	Analysis	Units	MB	MB		Spike	MS	MSD	Standard		Rec		Prec
				Limit					Standard	Limit	Rec	Limit	
BD15742	Aluminum, Dissolved	mg/L	0.000155	0.0198	0.100	0.104	0.103	0.105	0.0850 to 0.115	104	70.0 to 130	0.966	20.0
BD15740	Aluminum, Total	mg/L	0.00553	0.0198	0.100	0.0961	0.0937	0.101	0.0850 to 0.115	96.1	70.0 to 130	2.53	20.0
BD15742	Antimony, Dissolved	mg/L	0.000319	0.00100	0.100	0.0921	0.0925	0.0854	0.0850 to 0.115	92.1	70.0 to 130	0.433	20.0
BD15740	Antimony, Total	mg/L	0.000304	0.00100	0.100	0.0929	0.0912	0.0915	0.0850 to 0.115	92.9	70.0 to 130	1.85	20.0
BD15742	Arsenic, Dissolved	mg/L	0.0000034	0.000200	0.100	0.102	0.101	0.101	0.0850 to 0.115	102	70.0 to 130	0.985	20.0
BD15740	Arsenic, Total	mg/L	0.0000161	0.000200	0.100	0.105	0.103	0.103	0.0850 to 0.115	105	70.0 to 130	1.92	20.0
BD15742	Barium, Dissolved	mg/L	0.0000346	0.00100	0.100	0.108	0.108	0.0939	0.0850 to 0.115	96.2	70.0 to 130	0.00	20.0
BD15740	Barium, Total	mg/L	-0.0000098	0.00100	0.100	0.0964	0.0936	0.0933	0.0850 to 0.115	96.4	70.0 to 130	2.95	20.0
BD15742	Beryllium, Dissolved	mg/L	0.0000164	0.000880	0.100	0.0993	0.0988	0.0939	0.0850 to 0.115	99.3	70.0 to 130	0.505	20.0
BD15740	Beryllium, Total	mg/L	-0.0000104	0.000880	0.100	0.110	0.111	0.101	0.0850 to 0.115	110	70.0 to 130	0.905	20.0
BD15742	Boron, Dissolved	mg/L	0.000396	0.0650	1.00	1.04	1.04	0.987	0.850 to 1.15	99.6	70.0 to 130	0.00	20.0
BD15740	Boron, Total	mg/L	-0.000022	0.0650	1.00	0.985	0.975	0.993	0.850 to 1.15	98.5	70.0 to 130	1.02	20.0
BD15742	Cadmium, Dissolved	mg/L	0.0000067	0.000147	0.100	0.0963	0.0966	0.0988	0.0850 to 0.115	96.3	70.0 to 130	0.311	20.0
BD15740	Cadmium, Total	mg/L	0.0000000	0.000147	0.100	0.103	0.100	0.101	0.0850 to 0.115	103	70.0 to 130	2.96	20.0
BD15742	Calcium, Dissolved	mg/L	-0.0283	0.152	5.00	261	290	4.62	4.25 to 5.75	-100	70.0 to 130	10.5	20.0
BD15740	Calcium, Total	mg/L	-0.0174	0.152	5.00	4.84	4.82	4.91	4.25 to 5.75	96.8	70.0 to 130	0.414	20.0
BD15740	Chloride	mg/L	-0.0296	1.00	10.0	9.92	10.0	9.95	9.00 to 11.0	99.2	80.0 to 120	0.803	20.0
BD15742	Chromium, Dissolved	mg/L	-0.0000122	0.000440	0.100	0.0955	0.0945	0.0973	0.0850 to 0.115	95.5	70.0 to 130	1.05	20.0
BD15740	Chromium, Total	mg/L	0.0000700	0.000440	0.100	0.0990	0.0991	0.0985	0.0850 to 0.115	99.0	70.0 to 130	0.101	20.0
BD15742	Cobalt, Dissolved	mg/L	-0.0000488	0.000147	0.100	0.168	0.166	0.0996	0.0850 to 0.115	96.7	70.0 to 130	1.20	20.0
BD15740	Cobalt, Total	mg/L	-0.0000044	0.000147	0.100	0.103	0.102	0.101	0.0850 to 0.115	103	70.0 to 130	0.976	20.0
BD15740	Fluoride	mg/L	0.0164	0.125	2.50	2.61	2.66	2.56	2.25 to 2.75	104	80.0 to 120	1.90	20.0
BD15742	Iron, Dissolved	mg/L	-0.00135	0.0176	0.2	19.7	21.0	0.198	0.170 to 0.230	-150	70.0 to 130	6.39	20.0
BD15740	Iron, Total	mg/L	0.00125	0.0176	0.2	0.192	0.192	0.196	0.170 to 0.230	96.0	70.0 to 130	0.00	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/15/23 16:06

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-7

**Laboratory ID Number:** BD15735

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BD15742	Lead, Dissolved	mg/L	0.000023	0.000147	0.100	0.0965	0.0985	0.101	0.0850 to 0.115	96.5	70.0 to 130	2.05	20.0
BD15740	Lead, Total	mg/L	0.0000050	0.000147	0.100	0.0993	0.0968	0.0970	0.0850 to 0.115	99.3	70.0 to 130	2.55	20.0
BD15742	Lithium, Dissolved	mg/L	0.000173	0.0154	0.200	0.259	0.262	0.190	0.170 to 0.230	104	70.0 to 130	1.15	20.0
BD15740	Lithium, Total	mg/L	-0.000259	0.0154	0.200	0.206	0.209	0.193	0.170 to 0.230	103	70.0 to 130	1.45	20.0
BD15742	Magnesium, Dissolved	mg/L	-0.00201	0.0462	5.00	281	310	4.89	4.25 to 5.75	-20.0	70.0 to 130	9.81	20.0
BD15740	Magnesium, Total	mg/L	-0.0418	0.0462	5.00	5.02	4.99	4.94	4.25 to 5.75	100	70.0 to 130	0.599	20.0
BD15742	Manganese, Dissolved	mg/L	0.0000019	0.00033	0.100	14.5	15.1	0.104	0.0850 to 0.115	200	70.0 to 130	4.05	20.0
BD15740	Manganese, Total	mg/L	0.0000037	0.00033	0.100	0.102	0.100	0.101	0.0850 to 0.115	102	70.0 to 130	1.98	20.0
BD15740	Mercury, Total by CVAA	mg/L	0.000	0.000500	0.004	0.00324	0.00409	0.00379	0.00340 to 0.00460	81.0	70.0 to 130	23.2	20.0
BD15742	Molybdenum, Dissolved	mg/L	0.000424	0.0100	0.2	0.188	0.189	0.195	0.170 to 0.230	94.0	70.0 to 130	0.531	20.0
BD15740	Molybdenum, Total	mg/L	0.000	0.0100	0.2	0.194	0.194	0.197	0.170 to 0.230	97.0	70.0 to 130	0.00	20.0
BD15742	Potassium, Dissolved	mg/L	-0.00187	0.367	10.0	15.0	14.7	10.1	8.50 to 11.5	98.0	70.0 to 130	2.02	20.0
BD15740	Potassium, Total	mg/L	-0.00486	0.367	10.0	9.90	9.88	9.95	8.50 to 11.5	99.0	70.0 to 130	0.202	20.0
BD15742	Selenium, Dissolved	mg/L	0.0000413	0.00100	0.100	0.0980	0.100	0.102	0.0850 to 0.115	98.0	70.0 to 130	2.02	20.0
BD15740	Selenium, Total	mg/L	0.0000035	0.00100	0.100	0.105	0.103	0.106	0.0850 to 0.115	105	70.0 to 130	1.92	20.0
BD15742	Silicon, Dissolved	mg/L	0.000291	0.0440	1.00	10.7	10.7	1.00	0.850 to 1.15	102	70.0 to 130	0.00	20.0
BD15740	Silicon, Total	mg/L	-0.00039	0.0440	1.00	0.992	0.984	0.994	0.850 to 1.15	99.2	70.0 to 130	0.810	20.0
BD15742	Sodium, Dissolved	mg/L	0.00414	0.0880	5.00	28.9	28.9	4.88	4.25 to 5.75	104	70.0 to 130	0.00	20.0
BD15740	Sodium, Total	mg/L	0.000994	0.0880	5.00	5.16	5.24	4.88	4.25 to 5.75	103	70.0 to 130	1.54	20.0
BD15740	Sulfate	mg/L	0.292	2.0	20.0	20.5	20.4	19.9	18.0 to 22.0	98.7	80.0 to 120	0.489	20.0
BD15742	Thallium, Dissolved	mg/L	-0.0000298	0.000147	0.100	0.0976	0.0989	0.102	0.0850 to 0.115	97.6	70.0 to 130	1.32	20.0
BD15740	Thallium, Total	mg/L	0.0000074	0.000147	0.100	0.100	0.0981	0.0994	0.0850 to 0.115	100	70.0 to 130	1.92	20.0
BD15740	Total Organic Carbon	mg/L	0.158	1.00	10.0	10.0	8.84	23.6		100	80.0 to 120	12.3	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

## Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/15/23 16:06

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-7

**Laboratory ID Number:** BD15735

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard Standard	Standard Limit	Rec Rec	Rec Limit	Prec Prec	Prec Limit
BD15751	Alkalinity	mg CaCO3/L					184	51.3	45.0 to 55.0			0.542	10.0
BD15740	Nitrogen, Nitrate/Nitrite	mg/L as N	-0.06	0.200	2.00	2.06	-0.078	2.04	1.80 to 2.20	103	90.0 to 110	0.00	15.0
BD15736	Solids, Dissolved	mg/L	1.00	25.0			2230	49.0	40.0 to 60.0			0.449	10.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-12V

**Location Code:** WMWGORLF  
**Collected:** 8/16/23 07:57  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15736

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Total	8/18/23 11:30	8/21/23 13:54		1.015	0.152	mg/L	0.030000	0.1015	
* Calcium, Total	8/18/23 11:30	8/22/23 14:21		10.15	319	mg/L	0.70035	4.06	
* Iron, Total	8/18/23 11:30	8/21/23 13:54		1.015	3.46	mg/L	0.008120	0.0406	
* Lithium, Total	8/18/23 11:30	8/21/23 13:54		1.015	0.280	mg/L	0.007105	0.01999956	
* Magnesium, Total	8/18/23 11:30	8/22/23 14:21		10.15	208	mg/L	0.21315	4.06	
* Molybdenum, Total	8/18/23 11:30	8/21/23 13:54		1.015	Not Detected	mg/L	0.005075	0.01015	U
* Silica, Total (calc.)	8/18/23 11:30	8/21/23 13:54		1	15.2	mg/L			
* Silicon, Total	8/18/23 11:30	8/21/23 13:54		1.015	7.10	mg/L	0.02030	0.25375	
* Sodium, Total	8/18/23 11:30	8/22/23 14:21		10.15	181	mg/L	0.4060	4.06	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>							
* Boron, Dissolved	8/18/23 14:30	8/23/23 13:11		1.015	0.149	mg/L	0.030000	0.1015	
* Calcium, Dissolved	8/18/23 14:30	8/24/23 12:33		10.15	341	mg/L	0.70035	4.06	
* Iron, Dissolved	8/18/23 14:30	8/23/23 13:11		1.015	3.41	mg/L	0.008120	0.0406	
* Lithium, Dissolved	8/18/23 14:30	8/23/23 13:11		1.015	0.283	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	8/18/23 14:30	8/24/23 12:33		10.15	220	mg/L	0.21315	4.06	
* Molybdenum, Dissolved	8/18/23 14:30	8/23/23 13:11		1.015	Not Detected	mg/L	0.005075	0.01015	U
* Silica, Dissolved (calc.)	8/18/23 14:30	8/23/23 13:11		1	15.0	mg/L			
* Silicon, Dissolved	8/18/23 14:30	8/23/23 13:11		1.015	7.01	mg/L	0.02030	0.25375	
* Sodium, Dissolved	8/18/23 14:30	8/24/23 12:33		10.15	187	mg/L	0.4060	4.06	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>			<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	8/18/23 11:30	8/18/23 13:05		1.015	Not Detected	mg/L	0.000710	0.001015	U
* Aluminum, Total	8/18/23 11:30	8/18/23 13:05		1.015	0.0505	mg/L	0.009135	0.05075	J
* Arsenic, Total	8/18/23 11:30	8/18/23 13:05		1.015	0.00370	mg/L	0.000112	0.000203	
* Barium, Total	8/18/23 11:30	8/18/23 13:05		1.015	0.0197	mg/L	0.000508	0.001015	
* Beryllium, Total	8/18/23 11:30	8/18/23 13:05		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	8/18/23 11:30	8/18/23 13:05		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	8/18/23 11:30	8/18/23 13:05		1.015	0.000252	mg/L	0.000203	0.001015	J
* Cobalt, Total	8/18/23 11:30	8/18/23 13:05		1.015	0.000175	mg/L	0.000068	0.000203	J
* Lead, Total	8/18/23 11:30	8/18/23 13:05		1.015	0.000104	mg/L	0.000068	0.000203	J
* Manganese, Total	8/18/23 11:30	8/18/23 13:05		1.015	0.449	mg/L	0.000152	0.001015	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-12V

**Location Code:** WMWGORLF  
**Collected:** 8/16/23 07:57  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15736

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Potassium, Total	8/18/23 11:30	8/18/23 13:05		1.015	7.07	mg/L	0.169505	0.5075	
* Selenium, Total	8/18/23 11:30	8/18/23 13:05		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	8/18/23 11:30	8/18/23 13:05		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	8/18/23 14:30	8/21/23 11:16		1.015	Not Detected	mg/L	0.000710	0.001015	U
* Aluminum, Dissolved	8/18/23 14:30	8/21/23 11:16		1.015	Not Detected	mg/L	0.009135	0.05075	U
* Arsenic, Dissolved	8/18/23 14:30	8/21/23 11:16		1.015	0.00375	mg/L	0.000112	0.000203	
* Barium, Dissolved	8/18/23 14:30	8/21/23 11:16		1.015	0.0178	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	8/18/23 14:30	8/21/23 11:16		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	8/18/23 14:30	8/21/23 11:16		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	8/18/23 14:30	8/21/23 11:16		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	8/18/23 14:30	8/21/23 11:16		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Lead, Dissolved	8/18/23 14:30	8/21/23 11:16		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	8/18/23 14:30	8/21/23 11:16		1.015	0.465	mg/L	0.000152	0.001015	
* Potassium, Dissolved	8/18/23 14:30	8/21/23 11:16		1.015	7.06	mg/L	0.169505	0.5075	
* Selenium, Dissolved	8/18/23 14:30	8/21/23 11:16		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	8/18/23 14:30	8/21/23 11:16		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: ABB</b>							
* Mercury, Total by CVAA	8/22/23 17:17	8/22/23 21:34		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: SC</b>							
* Nitrogen, Nitrate/Nitrite	8/18/23 10:16	8/18/23 10:16		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: DHC</b>							
* Alkalinity	8/28/23 09:07	8/28/23 13:56		1	286	mg CaCO3/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	8/17/23 11:10	8/18/23 13:20		1	2220	mg/L		147.1	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: DHC</b>							
* Bicarbonate Alkalinity, (calc.)	8/28/23 09:07	8/28/23 13:56		1	285	mg CaCO3/L		1	A
* Carbonate Alkalinity, (calc.)	8/28/23 09:07	8/28/23 13:56		1	0.995	mg CaCO3/L		0.5	A
<b>Analytical Method: SM 4500H+ B</b>		<b>Analyst: DHC</b>							
Alkalinity pH Endpoint	8/28/23 09:07	8/28/23 13:56		1	4.50	SU		2	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-12V

**Location Code:** WMWGORLF  
**Collected:** 8/16/23 07:57  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15736

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: SC</b>							
* Total Organic Carbon	8/17/23 17:11	8/17/23 17:11		1	Not Detected	mg/L	1.00	2	U
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	8/18/23 09:27	8/18/23 09:27		4	41.3	mg/L	2.00	4	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	8/17/23 13:06	8/17/23 13:06		1	0.152	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	8/23/23 11:46	8/23/23 11:46		80	1300	mg/L	48.0	160	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: DKG</b>							
Conductivity	8/16/23 07:54	8/16/23 07:54			2498.91	uS/cm			FA
pH	8/16/23 07:54	8/16/23 07:54			6.91	SU			FA
Temperature	8/16/23 07:54	8/16/23 07:54			21.77	C			FA
Turbidity	8/16/23 07:54	8/16/23 07:54			4.96	NTU			FA
Sulfide	8/16/23 07:54	8/16/23 07:54			0	mg/L			FA

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/16/23 07:57

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-12V

**Laboratory ID Number:** BD15736

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BD15742	Aluminum, Dissolved	mg/L	0.000155	0.0198	0.100	0.104	0.103	0.105	0.0850 to 0.115	104	70.0 to 130	0.966	20.0
BD15740	Aluminum, Total	mg/L	0.00553	0.0198	0.100	0.0961	0.0937	0.101	0.0850 to 0.115	96.1	70.0 to 130	2.53	20.0
BD15742	Antimony, Dissolved	mg/L	0.000319	0.00100	0.100	0.0921	0.0925	0.0854	0.0850 to 0.115	92.1	70.0 to 130	0.433	20.0
BD15740	Antimony, Total	mg/L	0.000304	0.00100	0.100	0.0929	0.0912	0.0915	0.0850 to 0.115	92.9	70.0 to 130	1.85	20.0
BD15742	Arsenic, Dissolved	mg/L	0.0000034	0.000200	0.100	0.102	0.101	0.101	0.0850 to 0.115	102	70.0 to 130	0.985	20.0
BD15740	Arsenic, Total	mg/L	0.0000161	0.000200	0.100	0.105	0.103	0.103	0.0850 to 0.115	105	70.0 to 130	1.92	20.0
BD15742	Barium, Dissolved	mg/L	0.0000346	0.00100	0.100	0.108	0.108	0.0939	0.0850 to 0.115	96.2	70.0 to 130	0.00	20.0
BD15740	Barium, Total	mg/L	-0.0000098	0.00100	0.100	0.0964	0.0936	0.0933	0.0850 to 0.115	96.4	70.0 to 130	2.95	20.0
BD15742	Beryllium, Dissolved	mg/L	0.0000164	0.000880	0.100	0.0993	0.0988	0.0939	0.0850 to 0.115	99.3	70.0 to 130	0.505	20.0
BD15740	Beryllium, Total	mg/L	-0.0000104	0.000880	0.100	0.110	0.111	0.101	0.0850 to 0.115	110	70.0 to 130	0.905	20.0
BD15742	Boron, Dissolved	mg/L	0.000396	0.0650	1.00	1.04	1.04	0.987	0.850 to 1.15	99.6	70.0 to 130	0.00	20.0
BD15740	Boron, Total	mg/L	-0.000022	0.0650	1.00	0.985	0.975	0.993	0.850 to 1.15	98.5	70.0 to 130	1.02	20.0
BD15742	Cadmium, Dissolved	mg/L	0.0000067	0.000147	0.100	0.0963	0.0966	0.0988	0.0850 to 0.115	96.3	70.0 to 130	0.311	20.0
BD15740	Cadmium, Total	mg/L	0.0000000	0.000147	0.100	0.103	0.100	0.101	0.0850 to 0.115	103	70.0 to 130	2.96	20.0
BD15742	Calcium, Dissolved	mg/L	-0.0283	0.152	5.00	261	290	4.62	4.25 to 5.75	-100	70.0 to 130	10.5	20.0
BD15740	Calcium, Total	mg/L	-0.0174	0.152	5.00	4.84	4.82	4.91	4.25 to 5.75	96.8	70.0 to 130	0.414	20.0
BD15740	Chloride	mg/L	-0.0296	1.00	10.0	9.92	10.0	9.95	9.00 to 11.0	99.2	80.0 to 120	0.803	20.0
BD15742	Chromium, Dissolved	mg/L	-0.0000122	0.000440	0.100	0.0955	0.0945	0.0973	0.0850 to 0.115	95.5	70.0 to 130	1.05	20.0
BD15740	Chromium, Total	mg/L	0.0000700	0.000440	0.100	0.0990	0.0991	0.0985	0.0850 to 0.115	99.0	70.0 to 130	0.101	20.0
BD15742	Cobalt, Dissolved	mg/L	-0.0000488	0.000147	0.100	0.168	0.166	0.0996	0.0850 to 0.115	96.7	70.0 to 130	1.20	20.0
BD15740	Cobalt, Total	mg/L	-0.0000044	0.000147	0.100	0.103	0.102	0.101	0.0850 to 0.115	103	70.0 to 130	0.976	20.0
BD15740	Fluoride	mg/L	0.0164	0.125	2.50	2.61	2.66	2.56	2.25 to 2.75	104	80.0 to 120	1.90	20.0
BD15742	Iron, Dissolved	mg/L	-0.00135	0.0176	0.2	19.7	21.0	0.198	0.170 to 0.230	-150	70.0 to 130	6.39	20.0
BD15740	Iron, Total	mg/L	0.00125	0.0176	0.2	0.192	0.192	0.196	0.170 to 0.230	96.0	70.0 to 130	0.00	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/16/23 07:57

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-12V

**Laboratory ID Number:** BD15736

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BD15742	Lead, Dissolved	mg/L	0.0000023	0.000147	0.100	0.0965	0.0985	0.101	0.0850 to 0.115	96.5	70.0 to 130	2.05	20.0
BD15740	Lead, Total	mg/L	0.0000050	0.000147	0.100	0.0993	0.0968	0.0970	0.0850 to 0.115	99.3	70.0 to 130	2.55	20.0
BD15742	Lithium, Dissolved	mg/L	0.000173	0.0154	0.200	0.259	0.262	0.190	0.170 to 0.230	104	70.0 to 130	1.15	20.0
BD15740	Lithium, Total	mg/L	-0.000259	0.0154	0.200	0.206	0.209	0.193	0.170 to 0.230	103	70.0 to 130	1.45	20.0
BD15742	Magnesium, Dissolved	mg/L	-0.00201	0.0462	5.00	281	310	4.89	4.25 to 5.75	-20.0	70.0 to 130	9.81	20.0
BD15740	Magnesium, Total	mg/L	-0.0418	0.0462	5.00	5.02	4.99	4.94	4.25 to 5.75	100	70.0 to 130	0.599	20.0
BD15742	Manganese, Dissolved	mg/L	0.0000019	0.00033	0.100	14.5	15.1	0.104	0.0850 to 0.115	200	70.0 to 130	4.05	20.0
BD15740	Manganese, Total	mg/L	0.0000037	0.00033	0.100	0.102	0.100	0.101	0.0850 to 0.115	102	70.0 to 130	1.98	20.0
BD15740	Mercury, Total by CVAA	mg/L	0.000	0.000500	0.004	0.00324	0.00409	0.00379	0.00340 to 0.00460	81.0	70.0 to 130	23.2	20.0
BD15742	Molybdenum, Dissolved	mg/L	0.000424	0.0100	0.2	0.188	0.189	0.195	0.170 to 0.230	94.0	70.0 to 130	0.531	20.0
BD15740	Molybdenum, Total	mg/L	0.000	0.0100	0.2	0.194	0.194	0.197	0.170 to 0.230	97.0	70.0 to 130	0.00	20.0
BD15742	Potassium, Dissolved	mg/L	-0.00187	0.367	10.0	15.0	14.7	10.1	8.50 to 11.5	98.0	70.0 to 130	2.02	20.0
BD15740	Potassium, Total	mg/L	-0.00486	0.367	10.0	9.90	9.88	9.95	8.50 to 11.5	99.0	70.0 to 130	0.202	20.0
BD15742	Selenium, Dissolved	mg/L	0.0000413	0.00100	0.100	0.0980	0.100	0.102	0.0850 to 0.115	98.0	70.0 to 130	2.02	20.0
BD15740	Selenium, Total	mg/L	0.0000035	0.00100	0.100	0.105	0.103	0.106	0.0850 to 0.115	105	70.0 to 130	1.92	20.0
BD15742	Silicon, Dissolved	mg/L	0.000291	0.0440	1.00	10.7	10.7	1.00	0.850 to 1.15	102	70.0 to 130	0.00	20.0
BD15740	Silicon, Total	mg/L	-0.00039	0.0440	1.00	0.992	0.984	0.994	0.850 to 1.15	99.2	70.0 to 130	0.810	20.0
BD15742	Sodium, Dissolved	mg/L	0.00414	0.0880	5.00	28.9	28.9	4.88	4.25 to 5.75	104	70.0 to 130	0.00	20.0
BD15740	Sodium, Total	mg/L	0.000994	0.0880	5.00	5.16	5.24	4.88	4.25 to 5.75	103	70.0 to 130	1.54	20.0
BD15740	Sulfate	mg/L	0.292	2.0	20.0	20.5	20.4	19.9	18.0 to 22.0	98.7	80.0 to 120	0.489	20.0
BD15742	Thallium, Dissolved	mg/L	-0.0000298	0.000147	0.100	0.0976	0.0989	0.102	0.0850 to 0.115	97.6	70.0 to 130	1.32	20.0
BD15740	Thallium, Total	mg/L	0.0000074	0.000147	0.100	0.100	0.0981	0.0994	0.0850 to 0.115	100	70.0 to 130	1.92	20.0
BD15740	Total Organic Carbon	mg/L	0.158	1.00	10.0	10.0	8.84	23.6		100	80.0 to 120	12.3	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.



## Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/16/23 07:57

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-12V

**Laboratory ID Number:** BD15736

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BD15751	Alkalinity	mg CaCO3/L					184	51.3	45.0 to 55.0			0.542	10.0
BD15740	Nitrogen, Nitrate/Nitrite	mg/L as N	-0.06	0.200	2.00	2.06	-0.078	2.04	1.80 to 2.20	103	90.0 to 110	0.00	15.0
BD15736	Solids, Dissolved	mg/L	1.00	25.0			2230	49.0	40.0 to 60.0			0.449	10.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-12

**Location Code:** WMWGORLF  
**Collected:** 8/16/23 09:03  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15737

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Total	8/18/23 11:30	8/21/23 13:58		1.015	0.165	mg/L	0.030000	0.1015	
* Calcium, Total	8/18/23 11:30	8/22/23 14:24		101.5	313	mg/L	7.0035	40.6	
* Iron, Total	8/18/23 11:30	8/22/23 14:24		101.5	160	mg/L	0.8120	4.06	
* Lithium, Total	8/18/23 11:30	8/21/23 13:58		1.015	0.0612	mg/L	0.007105	0.01999956	
* Magnesium, Total	8/18/23 11:30	8/22/23 14:24		101.5	359	mg/L	2.1315	40.6	
* Molybdenum, Total	8/18/23 11:30	8/21/23 13:58		1.015	Not Detected	mg/L	0.005075	0.01015	U
* Silica, Total (calc.)	8/18/23 11:30	8/21/23 13:58		1	30.2	mg/L			
* Silicon, Total	8/18/23 11:30	8/21/23 13:58		1.015	14.1	mg/L	0.02030	0.25375	
* Sodium, Total	8/18/23 11:30	8/22/23 14:24		101.5	46.0	mg/L	4.060	40.6	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	8/18/23 14:30	8/23/23 13:14		1.015	0.159	mg/L	0.030000	0.1015	
* Calcium, Dissolved	8/18/23 14:30	8/24/23 12:36		101.5	311	mg/L	7.0035	40.6	
* Iron, Dissolved	8/18/23 14:30	8/24/23 12:36		101.5	156	mg/L	0.8120	4.06	
* Lithium, Dissolved	8/18/23 14:30	8/23/23 13:14		1.015	0.0583	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	8/18/23 14:30	8/24/23 12:36		101.5	361	mg/L	2.1315	40.6	
* Molybdenum, Dissolved	8/18/23 14:30	8/23/23 13:14		1.015	Not Detected	mg/L	0.005075	0.01015	U
* Silica, Dissolved (calc.)	8/18/23 14:30	8/23/23 13:14		1	30.2	mg/L			
* Silicon, Dissolved	8/18/23 14:30	8/23/23 13:14		1.015	14.1	mg/L	0.02030	0.25375	
* Sodium, Dissolved	8/18/23 14:30	8/24/23 12:36		101.5	45.3	mg/L	4.060	40.6	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>			<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	8/18/23 11:30	8/18/23 13:09		1.015	Not Detected	mg/L	0.000710	0.001015	U
* Arsenic, Total	8/18/23 11:30	8/18/23 13:09		1.015	0.0714	mg/L	0.000112	0.000203	
* Aluminum, Total	8/18/23 11:30	8/18/23 13:09		1.015	0.0101	mg/L	0.009135	0.05075	J
* Barium, Total	8/18/23 11:30	8/18/23 13:09		1.015	0.0105	mg/L	0.000508	0.001015	
* Beryllium, Total	8/18/23 11:30	8/18/23 13:09		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	8/18/23 11:30	8/18/23 13:09		1.015	0.0000871	mg/L	0.000068	0.000203	J
* Chromium, Total	8/18/23 11:30	8/18/23 13:09		1.015	0.000370	mg/L	0.000203	0.001015	J
* Cobalt, Total	8/18/23 11:30	8/18/23 13:09		1.015	0.0527	mg/L	0.000068	0.000203	
* Lead, Total	8/18/23 11:30	8/18/23 13:09		1.015	0.000531	mg/L	0.000068	0.000203	
* Manganese, Total	8/18/23 11:30	8/21/23 11:23		92.365	19.9	mg/L	0.013855	0.092365	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-12

**Location Code:** WMWGORLF  
**Collected:** 8/16/23 09:03  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15737

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Potassium, Total	8/18/23 11:30	8/18/23 13:09		1.015	22.2	mg/L	0.169505	0.5075	
* Selenium, Total	8/18/23 11:30	8/18/23 13:09		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	8/18/23 11:30	8/18/23 13:09		1.015	0.0000974	mg/L	0.000068	0.000203	J
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	8/18/23 14:30	8/21/23 11:19		1.015	Not Detected	mg/L	0.000710	0.001015	U
* Aluminum, Dissolved	8/18/23 14:30	8/21/23 11:19		1.015	Not Detected	mg/L	0.009135	0.05075	U
* Arsenic, Dissolved	8/18/23 14:30	8/21/23 11:19		1.015	0.0672	mg/L	0.000112	0.000203	
* Barium, Dissolved	8/18/23 14:30	8/21/23 11:19		1.015	0.0111	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	8/18/23 14:30	8/21/23 11:19		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	8/18/23 14:30	8/21/23 11:19		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	8/18/23 14:30	8/21/23 11:19		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	8/18/23 14:30	8/21/23 11:19		1.015	0.0507	mg/L	0.000068	0.000203	
* Lead, Dissolved	8/18/23 14:30	8/21/23 11:19		1.015	0.0000879	mg/L	0.000068	0.000203	J
* Manganese, Dissolved	8/18/23 14:30	8/21/23 12:52		92.365	21.1	mg/L	0.013855	0.092365	
* Potassium, Dissolved	8/18/23 14:30	8/21/23 11:19		1.015	23.3	mg/L	0.169505	0.5075	
* Selenium, Dissolved	8/18/23 14:30	8/21/23 11:19		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	8/18/23 14:30	8/21/23 11:19		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: ABB</b>							
* Mercury, Total by CVAA	8/22/23 17:17	8/22/23 21:38		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: SC</b>							
* Nitrogen, Nitrate/Nitrite	8/18/23 10:18	8/18/23 10:18		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: DHC</b>							
* Alkalinity	8/28/23 09:07	8/28/23 13:56		1	234	mg CaCO3/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	8/17/23 11:10	8/18/23 13:20		1	3780	mg/L		147.1	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: DHC</b>							
* Bicarbonate Alkalinity, (calc.)	8/28/23 09:07	8/28/23 13:56		1	234	mg CaCO3/L		1	A
* Carbonate Alkalinity, (calc.)	8/28/23 09:07	8/28/23 13:56		1	Not Detected	mg CaCO3/L		0.5	A
<b>Analytical Method: SM 4500H+ B</b>		<b>Analyst: DHC</b>							
Alkalinity pH Endpoint	8/28/23 09:07	8/28/23 13:56		1	4.55	SU		2	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-12

**Location Code:** WMWGORLF  
**Collected:** 8/16/23 09:03  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15737

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: SC</b>							
* Total Organic Carbon	8/17/23 17:24	8/17/23 17:24		1	4.85	mg/L	1.00	2	
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	8/18/23 09:19	8/18/23 09:19		1	11.0	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	8/17/23 13:07	8/17/23 13:07		1	0.134	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	8/23/23 11:47	8/23/23 11:47		100	2320	mg/L	60.0	200	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: DKG</b>							
Conductivity	8/16/23 09:00	8/16/23 09:00			2513.81	uS/cm			FA
pH	8/16/23 09:00	8/16/23 09:00			5.81	SU			FA
Temperature	8/16/23 09:00	8/16/23 09:00			22.33	C			FA
Turbidity	8/16/23 09:00	8/16/23 09:00			6.87	NTU			FA
Sulfide	8/16/23 09:00	8/16/23 09:00			0	mg/L			FA

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/16/23 09:03

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-12

**Laboratory ID Number:** BD15737

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BD15742	Aluminum, Dissolved	mg/L	0.000155	0.0198	0.100	0.104	0.103	0.105	0.0850 to 0.115	104	70.0 to 130	0.966	20.0
BD15740	Aluminum, Total	mg/L	0.00553	0.0198	0.100	0.0961	0.0937	0.101	0.0850 to 0.115	96.1	70.0 to 130	2.53	20.0
BD15742	Antimony, Dissolved	mg/L	0.000319	0.00100	0.100	0.0921	0.0925	0.0854	0.0850 to 0.115	92.1	70.0 to 130	0.433	20.0
BD15740	Antimony, Total	mg/L	0.000304	0.00100	0.100	0.0929	0.0912	0.0915	0.0850 to 0.115	92.9	70.0 to 130	1.85	20.0
BD15742	Arsenic, Dissolved	mg/L	0.0000034	0.000200	0.100	0.102	0.101	0.101	0.0850 to 0.115	102	70.0 to 130	0.985	20.0
BD15740	Arsenic, Total	mg/L	0.0000161	0.000200	0.100	0.105	0.103	0.103	0.0850 to 0.115	105	70.0 to 130	1.92	20.0
BD15742	Barium, Dissolved	mg/L	0.0000346	0.00100	0.100	0.108	0.108	0.0939	0.0850 to 0.115	96.2	70.0 to 130	0.00	20.0
BD15740	Barium, Total	mg/L	-0.0000098	0.00100	0.100	0.0964	0.0936	0.0933	0.0850 to 0.115	96.4	70.0 to 130	2.95	20.0
BD15742	Beryllium, Dissolved	mg/L	0.0000164	0.000880	0.100	0.0993	0.0988	0.0939	0.0850 to 0.115	99.3	70.0 to 130	0.505	20.0
BD15740	Beryllium, Total	mg/L	-0.0000104	0.000880	0.100	0.110	0.111	0.101	0.0850 to 0.115	110	70.0 to 130	0.905	20.0
BD15742	Boron, Dissolved	mg/L	0.000396	0.0650	1.00	1.04	1.04	0.987	0.850 to 1.15	99.6	70.0 to 130	0.00	20.0
BD15740	Boron, Total	mg/L	-0.000022	0.0650	1.00	0.985	0.975	0.993	0.850 to 1.15	98.5	70.0 to 130	1.02	20.0
BD15742	Cadmium, Dissolved	mg/L	0.0000067	0.000147	0.100	0.0963	0.0966	0.0988	0.0850 to 0.115	96.3	70.0 to 130	0.311	20.0
BD15740	Cadmium, Total	mg/L	0.0000000	0.000147	0.100	0.103	0.100	0.101	0.0850 to 0.115	103	70.0 to 130	2.96	20.0
BD15742	Calcium, Dissolved	mg/L	-0.0283	0.152	5.00	261	290	4.62	4.25 to 5.75	-100	70.0 to 130	10.5	20.0
BD15740	Calcium, Total	mg/L	-0.0174	0.152	5.00	4.84	4.82	4.91	4.25 to 5.75	96.8	70.0 to 130	0.414	20.0
BD15740	Chloride	mg/L	-0.0296	1.00	10.0	9.92	10.0	9.95	9.00 to 11.0	99.2	80.0 to 120	0.803	20.0
BD15742	Chromium, Dissolved	mg/L	-0.0000122	0.000440	0.100	0.0955	0.0945	0.0973	0.0850 to 0.115	95.5	70.0 to 130	1.05	20.0
BD15740	Chromium, Total	mg/L	0.0000700	0.000440	0.100	0.0990	0.0991	0.0985	0.0850 to 0.115	99.0	70.0 to 130	0.101	20.0
BD15742	Cobalt, Dissolved	mg/L	-0.0000488	0.000147	0.100	0.168	0.166	0.0996	0.0850 to 0.115	96.7	70.0 to 130	1.20	20.0
BD15740	Cobalt, Total	mg/L	-0.0000044	0.000147	0.100	0.103	0.102	0.101	0.0850 to 0.115	103	70.0 to 130	0.976	20.0
BD15740	Fluoride	mg/L	0.0164	0.125	2.50	2.61	2.66	2.56	2.25 to 2.75	104	80.0 to 120	1.90	20.0
BD15742	Iron, Dissolved	mg/L	-0.00135	0.0176	0.2	19.7	21.0	0.198	0.170 to 0.230	-150	70.0 to 130	6.39	20.0
BD15740	Iron, Total	mg/L	0.00125	0.0176	0.2	0.192	0.192	0.196	0.170 to 0.230	96.0	70.0 to 130	0.00	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/16/23 09:03

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-12

**Laboratory ID Number:** BD15737

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BD15742	Lead, Dissolved	mg/L	0.000023	0.000147	0.100	0.0965	0.0985	0.101	0.0850 to 0.115	96.5	70.0 to 130	2.05	20.0
BD15740	Lead, Total	mg/L	0.0000050	0.000147	0.100	0.0993	0.0968	0.0970	0.0850 to 0.115	99.3	70.0 to 130	2.55	20.0
BD15742	Lithium, Dissolved	mg/L	0.000173	0.0154	0.200	0.259	0.262	0.190	0.170 to 0.230	104	70.0 to 130	1.15	20.0
BD15740	Lithium, Total	mg/L	-0.000259	0.0154	0.200	0.206	0.209	0.193	0.170 to 0.230	103	70.0 to 130	1.45	20.0
BD15742	Magnesium, Dissolved	mg/L	-0.00201	0.0462	5.00	281	310	4.89	4.25 to 5.75	-20.0	70.0 to 130	9.81	20.0
BD15740	Magnesium, Total	mg/L	-0.0418	0.0462	5.00	5.02	4.99	4.94	4.25 to 5.75	100	70.0 to 130	0.599	20.0
BD15742	Manganese, Dissolved	mg/L	0.0000019	0.00033	0.100	14.5	15.1	0.104	0.0850 to 0.115	200	70.0 to 130	4.05	20.0
BD15740	Manganese, Total	mg/L	0.0000037	0.00033	0.100	0.102	0.100	0.101	0.0850 to 0.115	102	70.0 to 130	1.98	20.0
BD15740	Mercury, Total by CVAA	mg/L	0.000	0.000500	0.004	0.00324	0.00409	0.00379	0.00340 to 0.00460	81.0	70.0 to 130	23.2	20.0
BD15742	Molybdenum, Dissolved	mg/L	0.000424	0.0100	0.2	0.188	0.189	0.195	0.170 to 0.230	94.0	70.0 to 130	0.531	20.0
BD15740	Molybdenum, Total	mg/L	0.000	0.0100	0.2	0.194	0.194	0.197	0.170 to 0.230	97.0	70.0 to 130	0.00	20.0
BD15742	Potassium, Dissolved	mg/L	-0.00187	0.367	10.0	15.0	14.7	10.1	8.50 to 11.5	98.0	70.0 to 130	2.02	20.0
BD15740	Potassium, Total	mg/L	-0.00486	0.367	10.0	9.90	9.88	9.95	8.50 to 11.5	99.0	70.0 to 130	0.202	20.0
BD15742	Selenium, Dissolved	mg/L	0.0000413	0.00100	0.100	0.0980	0.100	0.102	0.0850 to 0.115	98.0	70.0 to 130	2.02	20.0
BD15740	Selenium, Total	mg/L	0.0000035	0.00100	0.100	0.105	0.103	0.106	0.0850 to 0.115	105	70.0 to 130	1.92	20.0
BD15742	Silicon, Dissolved	mg/L	0.000291	0.0440	1.00	10.7	10.7	1.00	0.850 to 1.15	102	70.0 to 130	0.00	20.0
BD15740	Silicon, Total	mg/L	-0.00039	0.0440	1.00	0.992	0.984	0.994	0.850 to 1.15	99.2	70.0 to 130	0.810	20.0
BD15742	Sodium, Dissolved	mg/L	0.00414	0.0880	5.00	28.9	28.9	4.88	4.25 to 5.75	104	70.0 to 130	0.00	20.0
BD15740	Sodium, Total	mg/L	0.000994	0.0880	5.00	5.16	5.24	4.88	4.25 to 5.75	103	70.0 to 130	1.54	20.0
BD15740	Sulfate	mg/L	0.292	2.0	20.0	20.5	20.4	19.9	18.0 to 22.0	98.7	80.0 to 120	0.489	20.0
BD15742	Thallium, Dissolved	mg/L	-0.0000298	0.000147	0.100	0.0976	0.0989	0.102	0.0850 to 0.115	97.6	70.0 to 130	1.32	20.0
BD15740	Thallium, Total	mg/L	0.0000074	0.000147	0.100	0.100	0.0981	0.0994	0.0850 to 0.115	100	70.0 to 130	1.92	20.0
BD15740	Total Organic Carbon	mg/L	0.158	1.00	10.0	10.0	8.84	23.6		100	80.0 to 120	12.3	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

## Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/16/23 09:03

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-12

**Laboratory ID Number:** BD15737

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BD15751	Alkalinity	mg CaCO3/L					184	51.3	45.0 to 55.0			0.542	10.0
BD15740	Nitrogen, Nitrate/Nitrite	mg/L as N	-0.06	0.200	2.00	2.06	-0.078	2.04	1.80 to 2.20	103	90.0 to 110	0.00	15.0
BD15746	Solids, Dissolved	mg/L	1.00	25.0			3680	49.0	40.0 to 60.0			1.09	10.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-13

**Location Code:** WMWGORLF  
**Collected:** 8/16/23 10:22  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15738

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Total	8/18/23 11:30	8/21/23 14:01		1.015	0.0557	mg/L	0.030000	0.1015	J
* Calcium, Total	8/18/23 11:30	8/22/23 14:28		10.15	308	mg/L	0.70035	4.06	
* Iron, Total	8/18/23 11:30	8/21/23 14:01		1.015	0.217	mg/L	0.008120	0.0406	
* Lithium, Total	8/18/23 11:30	8/21/23 14:01		1.015	0.0172	mg/L	0.007105	0.01999956	J
* Magnesium, Total	8/18/23 11:30	8/22/23 14:28		10.15	360	mg/L	0.21315	4.06	
* Molybdenum, Total	8/18/23 11:30	8/21/23 14:01		1.015	Not Detected	mg/L	0.005075	0.01015	U
* Silica, Total (calc.)	8/18/23 11:30	8/21/23 14:01		1	9.10	mg/L			
* Silicon, Total	8/18/23 11:30	8/21/23 14:01		1.015	4.25	mg/L	0.02030	0.25375	
* Sodium, Total	8/18/23 11:30	8/21/23 14:01		1.015	35.3	mg/L	0.04060	0.406	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>							
* Boron, Dissolved	8/18/23 14:30	8/23/23 13:18		1.015	0.0549	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	8/18/23 14:30	8/24/23 12:39		10.15	286	mg/L	0.70035	4.06	
* Iron, Dissolved	8/18/23 14:30	8/23/23 13:18		1.015	0.0392	mg/L	0.008120	0.0406	J
* Lithium, Dissolved	8/18/23 14:30	8/23/23 13:18		1.015	0.0169	mg/L	0.007105	0.01999956	J
* Magnesium, Dissolved	8/18/23 14:30	8/24/23 12:39		10.15	339	mg/L	0.21315	4.06	
* Molybdenum, Dissolved	8/18/23 14:30	8/23/23 13:18		1.015	Not Detected	mg/L	0.005075	0.01015	U
* Silica, Dissolved (calc.)	8/18/23 14:30	8/23/23 13:18		1	9.03	mg/L			
* Silicon, Dissolved	8/18/23 14:30	8/23/23 13:18		1.015	4.22	mg/L	0.02030	0.25375	
* Sodium, Dissolved	8/18/23 14:30	8/23/23 13:18		1.015	37.9	mg/L	0.04060	0.406	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>			<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	8/18/23 11:30	8/18/23 13:12		1.015	Not Detected	mg/L	0.000710	0.001015	U
* Aluminum, Total	8/18/23 11:30	8/18/23 13:12		1.015	0.0142	mg/L	0.009135	0.05075	J
* Arsenic, Total	8/18/23 11:30	8/18/23 13:12		1.015	0.000320	mg/L	0.000112	0.000203	
* Barium, Total	8/18/23 11:30	8/18/23 13:12		1.015	0.0108	mg/L	0.000508	0.001015	
* Beryllium, Total	8/18/23 11:30	8/18/23 13:12		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	8/18/23 11:30	8/18/23 13:12		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	8/18/23 11:30	8/18/23 13:12		1.015	0.000215	mg/L	0.000203	0.001015	J
* Cobalt, Total	8/18/23 11:30	8/18/23 13:12		1.015	0.00716	mg/L	0.000068	0.000203	
* Lead, Total	8/18/23 11:30	8/18/23 13:12		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	8/18/23 11:30	8/21/23 11:27		5.075	3.72	mg/L	0.000761	0.005075	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.



# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-13

**Location Code:** WMWGORLF  
**Collected:** 8/16/23 10:22  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15738

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Potassium, Total	8/18/23 11:30	8/18/23 13:12		1.015	7.70	mg/L	0.169505	0.5075	
* Selenium, Total	8/18/23 11:30	8/18/23 13:12		1.015	0.000865	mg/L	0.000508	0.001015	J
* Thallium, Total	8/18/23 11:30	8/18/23 13:12		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	8/18/23 14:30	8/21/23 11:23		1.015	Not Detected	mg/L	0.000710	0.001015	U
* Aluminum, Dissolved	8/18/23 14:30	8/21/23 11:23		1.015	Not Detected	mg/L	0.009135	0.05075	U
* Arsenic, Dissolved	8/18/23 14:30	8/21/23 11:23		1.015	0.000125	mg/L	0.000112	0.000203	J
* Barium, Dissolved	8/18/23 14:30	8/21/23 11:23		1.015	0.0109	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	8/18/23 14:30	8/21/23 11:23		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	8/18/23 14:30	8/21/23 11:23		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	8/18/23 14:30	8/21/23 11:23		1.015	0.000213	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	8/18/23 14:30	8/21/23 11:23		1.015	0.00684	mg/L	0.000068	0.000203	
* Lead, Dissolved	8/18/23 14:30	8/21/23 11:23		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	8/18/23 14:30	8/21/23 12:55		5.075	3.27	mg/L	0.000761	0.005075	
* Potassium, Dissolved	8/18/23 14:30	8/21/23 11:23		1.015	8.18	mg/L	0.169505	0.5075	
* Selenium, Dissolved	8/18/23 14:30	8/21/23 11:23		1.015	0.00115	mg/L	0.000508	0.001015	
* Thallium, Dissolved	8/18/23 14:30	8/21/23 11:23		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: ABB</b>							
* Mercury, Total by CVAA	8/22/23 17:17	8/22/23 21:41		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: SC</b>							
* Nitrogen, Nitrate/Nitrite	8/18/23 10:19	8/18/23 10:19		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: DHC</b>							
* Alkalinity	8/28/23 09:07	8/28/23 13:56		1	244	mg CaCO3/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	8/17/23 11:10	8/18/23 13:20		1	2440	mg/L		100	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: DHC</b>							
* Bicarbonate Alkalinity, (calc.)	8/28/23 09:07	8/28/23 13:56		1	244	mg CaCO3/L		1	A
* Carbonate Alkalinity, (calc.)	8/28/23 09:07	8/28/23 13:56		1	Not Detected	mg CaCO3/L		0.5	A
<b>Analytical Method: SM 4500H+ B</b>		<b>Analyst: DHC</b>							
Alkalinity pH Endpoint	8/28/23 09:07	8/28/23 13:56		1	4.48	SU		2	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-13

**Location Code:** WMWGORLF  
**Collected:** 8/16/23 10:22  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15738

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: SC</b>							
* Total Organic Carbon	8/17/23 17:40	8/17/23 17:40		1	2.01	mg/L	1.00	2	
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	8/18/23 09:20	8/18/23 09:20		1	1.80	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	8/17/23 13:08	8/17/23 13:08		1	0.174	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	8/23/23 11:49	8/23/23 11:49		80	1490	mg/L	48.0	160	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: DKG</b>							
Conductivity	8/16/23 10:19	8/16/23 10:19			1922.86	uS/cm			FA
pH	8/16/23 10:19	8/16/23 10:19			6.51	SU			FA
Temperature	8/16/23 10:19	8/16/23 10:19			21.49	C			FA
Turbidity	8/16/23 10:19	8/16/23 10:19			6.3	NTU			FA
Sulfide	8/16/23 10:19	8/16/23 10:19			0	mg/L			FA

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/16/23 10:22

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-13

**Laboratory ID Number:** BD15738

Sample	Analysis	Units	MB	MB		MS	MSD	Standard	Standard Limit	Rec		Prec	Prec Limit
				Limit	Spike					Rec	Limit		
BD15742	Aluminum, Dissolved	mg/L	0.000155	0.0198	0.100	0.104	0.103	0.105	0.0850 to 0.115	104	70.0 to 130	0.966	20.0
BD15740	Aluminum, Total	mg/L	0.00553	0.0198	0.100	0.0961	0.0937	0.101	0.0850 to 0.115	96.1	70.0 to 130	2.53	20.0
BD15742	Antimony, Dissolved	mg/L	0.000319	0.00100	0.100	0.0921	0.0925	0.0854	0.0850 to 0.115	92.1	70.0 to 130	0.433	20.0
BD15740	Antimony, Total	mg/L	0.000304	0.00100	0.100	0.0929	0.0912	0.0915	0.0850 to 0.115	92.9	70.0 to 130	1.85	20.0
BD15742	Arsenic, Dissolved	mg/L	0.0000034	0.000200	0.100	0.102	0.101	0.101	0.0850 to 0.115	102	70.0 to 130	0.985	20.0
BD15740	Arsenic, Total	mg/L	0.0000161	0.000200	0.100	0.105	0.103	0.103	0.0850 to 0.115	105	70.0 to 130	1.92	20.0
BD15742	Barium, Dissolved	mg/L	0.0000346	0.00100	0.100	0.108	0.108	0.0939	0.0850 to 0.115	96.2	70.0 to 130	0.00	20.0
BD15740	Barium, Total	mg/L	-0.0000098	0.00100	0.100	0.0964	0.0936	0.0933	0.0850 to 0.115	96.4	70.0 to 130	2.95	20.0
BD15742	Beryllium, Dissolved	mg/L	0.0000164	0.000880	0.100	0.0993	0.0988	0.0939	0.0850 to 0.115	99.3	70.0 to 130	0.505	20.0
BD15740	Beryllium, Total	mg/L	-0.0000104	0.000880	0.100	0.110	0.111	0.101	0.0850 to 0.115	110	70.0 to 130	0.905	20.0
BD15742	Boron, Dissolved	mg/L	0.000396	0.0650	1.00	1.04	1.04	0.987	0.850 to 1.15	99.6	70.0 to 130	0.00	20.0
BD15740	Boron, Total	mg/L	-0.000022	0.0650	1.00	0.985	0.975	0.993	0.850 to 1.15	98.5	70.0 to 130	1.02	20.0
BD15742	Cadmium, Dissolved	mg/L	0.0000067	0.000147	0.100	0.0963	0.0966	0.0988	0.0850 to 0.115	96.3	70.0 to 130	0.311	20.0
BD15740	Cadmium, Total	mg/L	0.0000000	0.000147	0.100	0.103	0.100	0.101	0.0850 to 0.115	103	70.0 to 130	2.96	20.0
BD15742	Calcium, Dissolved	mg/L	-0.0283	0.152	5.00	261	290	4.62	4.25 to 5.75	-100	70.0 to 130	10.5	20.0
BD15740	Calcium, Total	mg/L	-0.0174	0.152	5.00	4.84	4.82	4.91	4.25 to 5.75	96.8	70.0 to 130	0.414	20.0
BD15740	Chloride	mg/L	-0.0296	1.00	10.0	9.92	10.0	9.95	9.00 to 11.0	99.2	80.0 to 120	0.803	20.0
BD15742	Chromium, Dissolved	mg/L	-0.0000122	0.000440	0.100	0.0955	0.0945	0.0973	0.0850 to 0.115	95.5	70.0 to 130	1.05	20.0
BD15740	Chromium, Total	mg/L	0.0000700	0.000440	0.100	0.0990	0.0991	0.0985	0.0850 to 0.115	99.0	70.0 to 130	0.101	20.0
BD15742	Cobalt, Dissolved	mg/L	-0.0000488	0.000147	0.100	0.168	0.166	0.0996	0.0850 to 0.115	96.7	70.0 to 130	1.20	20.0
BD15740	Cobalt, Total	mg/L	-0.0000044	0.000147	0.100	0.103	0.102	0.101	0.0850 to 0.115	103	70.0 to 130	0.976	20.0
BD15740	Fluoride	mg/L	0.0164	0.125	2.50	2.61	2.66	2.56	2.25 to 2.75	104	80.0 to 120	1.90	20.0
BD15742	Iron, Dissolved	mg/L	-0.00135	0.0176	0.2	19.7	21.0	0.198	0.170 to 0.230	-150	70.0 to 130	6.39	20.0
BD15740	Iron, Total	mg/L	0.00125	0.0176	0.2	0.192	0.192	0.196	0.170 to 0.230	96.0	70.0 to 130	0.00	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/16/23 10:22

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-13

**Laboratory ID Number:** BD15738

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BD15742	Lead, Dissolved	mg/L	0.0000023	0.000147	0.100	0.0965	0.0985	0.101	0.0850 to 0.115	96.5	70.0 to 130	2.05	20.0
BD15740	Lead, Total	mg/L	0.0000050	0.000147	0.100	0.0993	0.0968	0.0970	0.0850 to 0.115	99.3	70.0 to 130	2.55	20.0
BD15742	Lithium, Dissolved	mg/L	0.000173	0.0154	0.200	0.259	0.262	0.190	0.170 to 0.230	104	70.0 to 130	1.15	20.0
BD15740	Lithium, Total	mg/L	-0.000259	0.0154	0.200	0.206	0.209	0.193	0.170 to 0.230	103	70.0 to 130	1.45	20.0
BD15742	Magnesium, Dissolved	mg/L	-0.00201	0.0462	5.00	281	310	4.89	4.25 to 5.75	-20.0	70.0 to 130	9.81	20.0
BD15740	Magnesium, Total	mg/L	-0.0418	0.0462	5.00	5.02	4.99	4.94	4.25 to 5.75	100	70.0 to 130	0.599	20.0
BD15742	Manganese, Dissolved	mg/L	0.0000019	0.00033	0.100	14.5	15.1	0.104	0.0850 to 0.115	200	70.0 to 130	4.05	20.0
BD15740	Manganese, Total	mg/L	0.0000037	0.00033	0.100	0.102	0.100	0.101	0.0850 to 0.115	102	70.0 to 130	1.98	20.0
BD15740	Mercury, Total by CVAA	mg/L	0.000	0.000500	0.004	0.00324	0.00409	0.00379	0.00340 to 0.00460	81.0	70.0 to 130	23.2	20.0
BD15742	Molybdenum, Dissolved	mg/L	0.000424	0.0100	0.2	0.188	0.189	0.195	0.170 to 0.230	94.0	70.0 to 130	0.531	20.0
BD15740	Molybdenum, Total	mg/L	0.000	0.0100	0.2	0.194	0.194	0.197	0.170 to 0.230	97.0	70.0 to 130	0.00	20.0
BD15742	Potassium, Dissolved	mg/L	-0.00187	0.367	10.0	15.0	14.7	10.1	8.50 to 11.5	98.0	70.0 to 130	2.02	20.0
BD15740	Potassium, Total	mg/L	-0.00486	0.367	10.0	9.90	9.88	9.95	8.50 to 11.5	99.0	70.0 to 130	0.202	20.0
BD15742	Selenium, Dissolved	mg/L	0.0000413	0.00100	0.100	0.0980	0.100	0.102	0.0850 to 0.115	98.0	70.0 to 130	2.02	20.0
BD15740	Selenium, Total	mg/L	0.0000035	0.00100	0.100	0.105	0.103	0.106	0.0850 to 0.115	105	70.0 to 130	1.92	20.0
BD15742	Silicon, Dissolved	mg/L	0.000291	0.0440	1.00	10.7	10.7	1.00	0.850 to 1.15	102	70.0 to 130	0.00	20.0
BD15740	Silicon, Total	mg/L	-0.00039	0.0440	1.00	0.992	0.984	0.994	0.850 to 1.15	99.2	70.0 to 130	0.810	20.0
BD15742	Sodium, Dissolved	mg/L	0.00414	0.0880	5.00	28.9	28.9	4.88	4.25 to 5.75	104	70.0 to 130	0.00	20.0
BD15740	Sodium, Total	mg/L	0.000994	0.0880	5.00	5.16	5.24	4.88	4.25 to 5.75	103	70.0 to 130	1.54	20.0
BD15740	Sulfate	mg/L	0.292	2.0	20.0	20.5	20.4	19.9	18.0 to 22.0	98.7	80.0 to 120	0.489	20.0
BD15742	Thallium, Dissolved	mg/L	-0.0000298	0.000147	0.100	0.0976	0.0989	0.102	0.0850 to 0.115	97.6	70.0 to 130	1.32	20.0
BD15740	Thallium, Total	mg/L	0.0000074	0.000147	0.100	0.100	0.0981	0.0994	0.0850 to 0.115	100	70.0 to 130	1.92	20.0
BD15740	Total Organic Carbon	mg/L	0.158	1.00	10.0	10.0	8.84	23.6		100	80.0 to 120	12.3	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

## Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/16/23 10:22

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-13

**Laboratory ID Number:** BD15738

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BD15751	Alkalinity	mg CaCO3/L					184	51.3	45.0 to 55.0			0.542	10.0
BD15740	Nitrogen, Nitrate/Nitrite	mg/L as N	-0.06	0.200	2.00	2.06	-0.078	2.04	1.80 to 2.20	103	90.0 to 110	0.00	15.0
BD15746	Solids, Dissolved	mg/L	1.00	25.0			3680	49.0	40.0 to 60.0			1.09	10.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-14

**Location Code:** WMWGORLF  
**Collected:** 8/16/23 12:12  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15739

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Total	8/18/23 11:30	8/21/23 14:04		1.015	0.0452	mg/L	0.030000	0.1015	J
* Calcium, Total	8/18/23 11:30	8/22/23 14:31		10.15	360	mg/L	0.70035	4.06	
* Iron, Total	8/18/23 11:30	8/21/23 14:04		1.015	1.08	mg/L	0.008120	0.0406	
* Lithium, Total	8/18/23 11:30	8/21/23 14:04		1.015	0.0315	mg/L	0.007105	0.01999956	
* Magnesium, Total	8/18/23 11:30	8/22/23 15:56		101.5	414	mg/L	2.1315	40.6	
* Molybdenum, Total	8/18/23 11:30	8/21/23 14:04		1.015	Not Detected	mg/L	0.005075	0.01015	U
* Silica, Total (calc.)	8/18/23 11:30	8/21/23 14:04		1	11.3	mg/L			
* Silicon, Total	8/18/23 11:30	8/21/23 14:04		1.015	5.30	mg/L	0.02030	0.25375	
* Sodium, Total	8/18/23 11:30	8/21/23 14:04		1.015	27.3	mg/L	0.04060	0.406	
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>						
* Boron, Dissolved	8/18/23 14:30	8/23/23 13:21		1.015	0.0447	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	8/18/23 14:30	8/24/23 12:43		10.15	333	mg/L	0.70035	4.06	
* Iron, Dissolved	8/18/23 14:30	8/23/23 13:21		1.015	0.856	mg/L	0.008120	0.0406	
* Lithium, Dissolved	8/18/23 14:30	8/23/23 13:21		1.015	0.0308	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	8/18/23 14:30	8/24/23 12:43		10.15	386	mg/L	0.21315	4.06	
* Molybdenum, Dissolved	8/18/23 14:30	8/23/23 13:21		1.015	Not Detected	mg/L	0.005075	0.01015	U
* Silica, Dissolved (calc.)	8/18/23 14:30	8/23/23 13:21		1	11.1	mg/L			
* Silicon, Dissolved	8/18/23 14:30	8/23/23 13:21		1.015	5.21	mg/L	0.02030	0.25375	
* Sodium, Dissolved	8/18/23 14:30	8/23/23 13:21		1.015	27.2	mg/L	0.04060	0.406	
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: DLJ</b>		<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	8/18/23 11:30	8/18/23 13:16		1.015	Not Detected	mg/L	0.000710	0.001015	U
* Arsenic, Total	8/18/23 11:30	8/18/23 13:16		1.015	0.00144	mg/L	0.000112	0.000203	
* Aluminum, Total	8/18/23 11:30	8/18/23 13:16		1.015	0.150	mg/L	0.009135	0.05075	
* Barium, Total	8/18/23 11:30	8/18/23 13:16		1.015	0.0126	mg/L	0.000508	0.001015	
* Beryllium, Total	8/18/23 11:30	8/18/23 13:16		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	8/18/23 11:30	8/18/23 13:16		1.015	0.000157	mg/L	0.000068	0.000203	J
* Chromium, Total	8/18/23 11:30	8/18/23 13:16		1.015	0.000606	mg/L	0.000203	0.001015	J
* Cobalt, Total	8/18/23 11:30	8/18/23 13:16		1.015	0.0107	mg/L	0.000068	0.000203	
* Lead, Total	8/18/23 11:30	8/18/23 13:16		1.015	0.000235	mg/L	0.000068	0.000203	
* Manganese, Total	8/18/23 11:30	8/21/23 11:31		5.075	1.92	mg/L	0.000761	0.005075	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-14

**Location Code:** WMWGORLF  
**Collected:** 8/16/23 12:12  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15739

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Potassium, Total	8/18/23 11:30	8/18/23 13:16		1.015	7.82	mg/L	0.169505	0.5075	
* Selenium, Total	8/18/23 11:30	8/18/23 13:16		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	8/18/23 11:30	8/18/23 13:16		1.015	0.0000804	mg/L	0.000068	0.000203	J
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	8/18/23 14:30	8/21/23 11:26		1.015	Not Detected	mg/L	0.000710	0.001015	U
* Aluminum, Dissolved	8/18/23 14:30	8/21/23 11:26		1.015	Not Detected	mg/L	0.009135	0.05075	U
* Arsenic, Dissolved	8/18/23 14:30	8/21/23 11:26		1.015	0.00120	mg/L	0.000112	0.000203	
* Barium, Dissolved	8/18/23 14:30	8/21/23 11:26		1.015	0.0108	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	8/18/23 14:30	8/21/23 11:26		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	8/18/23 14:30	8/21/23 11:26		1.015	0.000152	mg/L	0.000068	0.000203	J
* Chromium, Dissolved	8/18/23 14:30	8/21/23 11:26		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	8/18/23 14:30	8/21/23 11:26		1.015	0.0102	mg/L	0.000068	0.000203	
* Lead, Dissolved	8/18/23 14:30	8/21/23 11:26		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	8/18/23 14:30	8/21/23 12:59		5.075	1.90	mg/L	0.000761	0.005075	
* Potassium, Dissolved	8/18/23 14:30	8/21/23 11:26		1.015	7.71	mg/L	0.169505	0.5075	
* Selenium, Dissolved	8/18/23 14:30	8/21/23 11:26		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	8/18/23 14:30	8/21/23 11:26		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: ABB</b>							
* Mercury, Total by CVAA	8/22/23 17:17	8/22/23 21:45		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: SC</b>							
* Nitrogen, Nitrate/Nitrite	8/18/23 10:21	8/18/23 10:21		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: DHC</b>							
* Alkalinity	8/28/23 09:07	8/28/23 13:56		1	258	mg CaCO3/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	8/17/23 11:10	8/18/23 13:20		1	2790	mg/L		100	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: DHC</b>							
* Bicarbonate Alkalinity, (calc.)	8/28/23 09:07	8/28/23 13:56		1	258	mg CaCO3/L		1	A
* Carbonate Alkalinity, (calc.)	8/28/23 09:07	8/28/23 13:56		1	Not Detected	mg CaCO3/L		0.5	A
<b>Analytical Method: SM 4500H+ B</b>		<b>Analyst: DHC</b>							
Alkalinity pH Endpoint	8/28/23 09:07	8/28/23 13:56		1	4.50	SU		2	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-14

**Location Code:** WMWGORLF  
**Collected:** 8/16/23 12:12  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15739

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: SC</b>							
* Total Organic Carbon	8/17/23 17:57	8/17/23 17:57		1	1.30	mg/L	1.00	2	J
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	8/18/23 09:21	8/18/23 09:21		1	2.14	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	8/17/23 13:09	8/17/23 13:09		1	0.196	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	8/23/23 11:50	8/23/23 11:50		100	1680	mg/L	60.0	200	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: DKG</b>							
Conductivity	8/16/23 12:09	8/16/23 12:09			1892.39	uS/cm			FA
pH	8/16/23 12:09	8/16/23 12:09			6.62	SU			FA
Temperature	8/16/23 12:09	8/16/23 12:09			20.40	C			FA
Turbidity	8/16/23 12:09	8/16/23 12:09			9.16	NTU			FA
Sulfide	8/16/23 12:09	8/16/23 12:09			0	mg/L			FA

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.



# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/16/23 12:12

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-14

**Laboratory ID Number:** BD15739

Sample	Analysis	Units	MB	MB		Spike	MS	MSD	Standard		Rec		Prec
				Limit					Standard	Limit	Rec	Limit	
BD15742	Aluminum, Dissolved	mg/L	0.000155	0.0198	0.100	0.104	0.103	0.105	0.0850 to 0.115	104	70.0 to 130	0.966	20.0
BD15740	Aluminum, Total	mg/L	0.00553	0.0198	0.100	0.0961	0.0937	0.101	0.0850 to 0.115	96.1	70.0 to 130	2.53	20.0
BD15742	Antimony, Dissolved	mg/L	0.000319	0.00100	0.100	0.0921	0.0925	0.0854	0.0850 to 0.115	92.1	70.0 to 130	0.433	20.0
BD15740	Antimony, Total	mg/L	0.000304	0.00100	0.100	0.0929	0.0912	0.0915	0.0850 to 0.115	92.9	70.0 to 130	1.85	20.0
BD15742	Arsenic, Dissolved	mg/L	0.0000034	0.000200	0.100	0.102	0.101	0.101	0.0850 to 0.115	102	70.0 to 130	0.985	20.0
BD15740	Arsenic, Total	mg/L	0.0000161	0.000200	0.100	0.105	0.103	0.103	0.0850 to 0.115	105	70.0 to 130	1.92	20.0
BD15742	Barium, Dissolved	mg/L	0.0000346	0.00100	0.100	0.108	0.108	0.0939	0.0850 to 0.115	96.2	70.0 to 130	0.00	20.0
BD15740	Barium, Total	mg/L	-0.0000098	0.00100	0.100	0.0964	0.0936	0.0933	0.0850 to 0.115	96.4	70.0 to 130	2.95	20.0
BD15742	Beryllium, Dissolved	mg/L	0.0000164	0.000880	0.100	0.0993	0.0988	0.0939	0.0850 to 0.115	99.3	70.0 to 130	0.505	20.0
BD15740	Beryllium, Total	mg/L	-0.0000104	0.000880	0.100	0.110	0.111	0.101	0.0850 to 0.115	110	70.0 to 130	0.905	20.0
BD15742	Boron, Dissolved	mg/L	0.000396	0.0650	1.00	1.04	1.04	0.987	0.850 to 1.15	99.6	70.0 to 130	0.00	20.0
BD15740	Boron, Total	mg/L	-0.000022	0.0650	1.00	0.985	0.975	0.993	0.850 to 1.15	98.5	70.0 to 130	1.02	20.0
BD15742	Cadmium, Dissolved	mg/L	0.0000067	0.000147	0.100	0.0963	0.0966	0.0988	0.0850 to 0.115	96.3	70.0 to 130	0.311	20.0
BD15740	Cadmium, Total	mg/L	0.0000000	0.000147	0.100	0.103	0.100	0.101	0.0850 to 0.115	103	70.0 to 130	2.96	20.0
BD15742	Calcium, Dissolved	mg/L	-0.0283	0.152	5.00	261	290	4.62	4.25 to 5.75	-100	70.0 to 130	10.5	20.0
BD15740	Calcium, Total	mg/L	-0.0174	0.152	5.00	4.84	4.82	4.91	4.25 to 5.75	96.8	70.0 to 130	0.414	20.0
BD15740	Chloride	mg/L	-0.0296	1.00	10.0	9.92	10.0	9.95	9.00 to 11.0	99.2	80.0 to 120	0.803	20.0
BD15742	Chromium, Dissolved	mg/L	-0.0000122	0.000440	0.100	0.0955	0.0945	0.0973	0.0850 to 0.115	95.5	70.0 to 130	1.05	20.0
BD15740	Chromium, Total	mg/L	0.0000700	0.000440	0.100	0.0990	0.0991	0.0985	0.0850 to 0.115	99.0	70.0 to 130	0.101	20.0
BD15742	Cobalt, Dissolved	mg/L	-0.0000488	0.000147	0.100	0.168	0.166	0.0996	0.0850 to 0.115	96.7	70.0 to 130	1.20	20.0
BD15740	Cobalt, Total	mg/L	-0.0000044	0.000147	0.100	0.103	0.102	0.101	0.0850 to 0.115	103	70.0 to 130	0.976	20.0
BD15740	Fluoride	mg/L	0.0164	0.125	2.50	2.61	2.66	2.56	2.25 to 2.75	104	80.0 to 120	1.90	20.0
BD15742	Iron, Dissolved	mg/L	-0.00135	0.0176	0.2	19.7	21.0	0.198	0.170 to 0.230	-150	70.0 to 130	6.39	20.0
BD15740	Iron, Total	mg/L	0.00125	0.0176	0.2	0.192	0.192	0.196	0.170 to 0.230	96.0	70.0 to 130	0.00	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/16/23 12:12

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-14

**Laboratory ID Number:** BD15739

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BD15742	Lead, Dissolved	mg/L	0.0000023	0.000147	0.100	0.0965	0.0985	0.101	0.0850 to 0.115	96.5	70.0 to 130	2.05	20.0
BD15740	Lead, Total	mg/L	0.0000050	0.000147	0.100	0.0993	0.0968	0.0970	0.0850 to 0.115	99.3	70.0 to 130	2.55	20.0
BD15742	Lithium, Dissolved	mg/L	0.000173	0.0154	0.200	0.259	0.262	0.190	0.170 to 0.230	104	70.0 to 130	1.15	20.0
BD15740	Lithium, Total	mg/L	-0.000259	0.0154	0.200	0.206	0.209	0.193	0.170 to 0.230	103	70.0 to 130	1.45	20.0
BD15742	Magnesium, Dissolved	mg/L	-0.00201	0.0462	5.00	281	310	4.89	4.25 to 5.75	-20.0	70.0 to 130	9.81	20.0
BD15740	Magnesium, Total	mg/L	-0.0418	0.0462	5.00	5.02	4.99	4.94	4.25 to 5.75	100	70.0 to 130	0.599	20.0
BD15742	Manganese, Dissolved	mg/L	0.0000019	0.00033	0.100	14.5	15.1	0.104	0.0850 to 0.115	200	70.0 to 130	4.05	20.0
BD15740	Manganese, Total	mg/L	0.0000037	0.00033	0.100	0.102	0.100	0.101	0.0850 to 0.115	102	70.0 to 130	1.98	20.0
BD15740	Mercury, Total by CVAA	mg/L	0.000	0.000500	0.004	0.00324	0.00409	0.00379	0.00340 to 0.00460	81.0	70.0 to 130	23.2	20.0
BD15742	Molybdenum, Dissolved	mg/L	0.000424	0.0100	0.2	0.188	0.189	0.195	0.170 to 0.230	94.0	70.0 to 130	0.531	20.0
BD15740	Molybdenum, Total	mg/L	0.000	0.0100	0.2	0.194	0.194	0.197	0.170 to 0.230	97.0	70.0 to 130	0.00	20.0
BD15742	Potassium, Dissolved	mg/L	-0.00187	0.367	10.0	15.0	14.7	10.1	8.50 to 11.5	98.0	70.0 to 130	2.02	20.0
BD15740	Potassium, Total	mg/L	-0.00486	0.367	10.0	9.90	9.88	9.95	8.50 to 11.5	99.0	70.0 to 130	0.202	20.0
BD15742	Selenium, Dissolved	mg/L	0.0000413	0.00100	0.100	0.0980	0.100	0.102	0.0850 to 0.115	98.0	70.0 to 130	2.02	20.0
BD15740	Selenium, Total	mg/L	0.0000035	0.00100	0.100	0.105	0.103	0.106	0.0850 to 0.115	105	70.0 to 130	1.92	20.0
BD15742	Silicon, Dissolved	mg/L	0.000291	0.0440	1.00	10.7	10.7	1.00	0.850 to 1.15	102	70.0 to 130	0.00	20.0
BD15740	Silicon, Total	mg/L	-0.00039	0.0440	1.00	0.992	0.984	0.994	0.850 to 1.15	99.2	70.0 to 130	0.810	20.0
BD15742	Sodium, Dissolved	mg/L	0.00414	0.0880	5.00	28.9	28.9	4.88	4.25 to 5.75	104	70.0 to 130	0.00	20.0
BD15740	Sodium, Total	mg/L	0.000994	0.0880	5.00	5.16	5.24	4.88	4.25 to 5.75	103	70.0 to 130	1.54	20.0
BD15740	Sulfate	mg/L	0.292	2.0	20.0	20.5	20.4	19.9	18.0 to 22.0	98.7	80.0 to 120	0.489	20.0
BD15742	Thallium, Dissolved	mg/L	-0.0000298	0.000147	0.100	0.0976	0.0989	0.102	0.0850 to 0.115	97.6	70.0 to 130	1.32	20.0
BD15740	Thallium, Total	mg/L	0.0000074	0.000147	0.100	0.100	0.0981	0.0994	0.0850 to 0.115	100	70.0 to 130	1.92	20.0
BD15740	Total Organic Carbon	mg/L	0.158	1.00	10.0	10.0	8.84	23.6		100	80.0 to 120	12.3	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

## Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/16/23 12:12

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-14

**Laboratory ID Number:** BD15739

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BD15751	Alkalinity	mg CaCO3/L					184	51.3	45.0 to 55.0			0.542	10.0
BD15740	Nitrogen, Nitrate/Nitrite	mg/L as N	-0.06	0.200	2.00	2.06	-0.078	2.04	1.80 to 2.20	103	90.0 to 110	0.00	15.0
BD15746	Solids, Dissolved	mg/L	1.00	25.0			3680	49.0	40.0 to 60.0			1.09	10.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill Field Blank-2

**Location Code:** WMWGORLFFB  
**Collected:** 8/16/23 12:40  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15740

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Total	8/18/23 11:30	8/21/23 14:07		1.015	Not Detected	mg/L	0.030000	0.1015	U
* Calcium, Total	8/18/23 11:30	8/24/23 10:58		1.015	Not Detected	mg/L	0.070035	0.406	U
* Iron, Total	8/18/23 11:30	8/21/23 14:07		1.015	Not Detected	mg/L	0.008120	0.0406	U
* Lithium, Total	8/18/23 11:30	8/21/23 14:07		1.015	Not Detected	mg/L	0.007105	0.01999956	U
* Magnesium, Total	8/18/23 11:30	8/21/23 14:07		1.015	Not Detected	mg/L	0.021315	0.406	U
* Molybdenum, Total	8/18/23 11:30	8/21/23 14:07		1.015	Not Detected	mg/L	0.005075	0.01015	U
* Silica, Total (calc.)	8/18/23 11:30	8/21/23 14:07		1	Not Detected	mg/L			
* Silicon, Total	8/18/23 11:30	8/21/23 14:07		1.015	Not Detected	mg/L	0.02030	0.25375	U
* Sodium, Total	8/18/23 11:30	8/21/23 14:07		1.015	Not Detected	mg/L	0.04060	0.406	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>			<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	8/18/23 11:30	8/18/23 13:20		1.015	Not Detected	mg/L	0.000710	0.001015	U
* Aluminum, Total	8/18/23 11:30	8/18/23 13:20		1.015	Not Detected	mg/L	0.009135	0.05075	U
* Arsenic, Total	8/18/23 11:30	8/18/23 13:20		1.015	Not Detected	mg/L	0.000112	0.000203	U
* Barium, Total	8/18/23 11:30	8/18/23 13:20		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Beryllium, Total	8/18/23 11:30	8/18/23 13:20		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	8/18/23 11:30	8/18/23 13:20		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	8/18/23 11:30	8/18/23 13:20		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Total	8/18/23 11:30	8/18/23 13:20		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Lead, Total	8/18/23 11:30	8/18/23 13:20		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	8/18/23 11:30	8/18/23 13:20		1.015	Not Detected	mg/L	0.000152	0.001015	U
* Potassium, Total	8/18/23 11:30	8/18/23 13:20		1.015	Not Detected	mg/L	0.169505	0.5075	U
* Selenium, Total	8/18/23 11:30	8/18/23 13:20		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	8/18/23 11:30	8/18/23 13:20		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: ABB</b>							
* Mercury, Total by CVAA	8/22/23 17:17	8/22/23 21:49		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: SC</b>							
* Nitrogen, Nitrate/Nitrite	8/18/23 10:23	8/18/23 10:23		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	8/17/23 11:10	8/18/23 13:20		1	Not Detected	mg/L		25	U

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Precision is out of specification limit for Mercury.

# Certificate Of Analysis

**Description:** Gorgas Landfill Field Blank-2

**Location Code:** WMWGORLFFB

**Collected:** 8/16/23 12:40

**Customer ID:**

**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15740

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: SC</b>							
* Total Organic Carbon	8/17/23 18:11	8/17/23 18:11		1	Not Detected	mg/L	1.00	2	U
<b>Analytical Method: SM4500CI E</b>		<b>Analyst: JCC</b>							
* Chloride	8/18/23 09:22	8/18/23 09:22		1	Not Detected	mg/L	0.50	1	U
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	8/17/23 13:11	8/17/23 13:11		1	Not Detected	mg/L	0.06	0.125	U
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	8/23/23 11:38	8/23/23 11:38		1	0.765	mg/L	0.6	2	J

---

MDL's and RL's are adjusted for sample dilution, as applicable

---

**Comments:** Precision is out of specification limit for Mercury.

# Batch QC Summary

**Customer Account:** WMWGORLFFB

**Sample Date:** 8/16/23 12:40

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill Field Blank-2

**Laboratory ID Number:** BD15740

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BD15740	Aluminum, Total	mg/L	0.00553	0.0198	0.100	0.0961	0.0937	0.101	0.0850 to 0.115	96.1	70.0 to 130	2.53	20.0
BD15740	Antimony, Total	mg/L	0.000304	0.00100	0.100	0.0929	0.0912	0.0915	0.0850 to 0.115	92.9	70.0 to 130	1.85	20.0
BD15740	Arsenic, Total	mg/L	0.0000161	0.000200	0.100	0.105	0.103	0.103	0.0850 to 0.115	105	70.0 to 130	1.92	20.0
BD15740	Barium, Total	mg/L	-0.0000098	0.00100	0.100	0.0964	0.0936	0.0933	0.0850 to 0.115	96.4	70.0 to 130	2.95	20.0
BD15740	Beryllium, Total	mg/L	-0.0000104	0.000880	0.100	0.110	0.111	0.101	0.0850 to 0.115	110	70.0 to 130	0.905	20.0
BD15740	Boron, Total	mg/L	-0.000022	0.0650	1.00	0.985	0.975	0.993	0.850 to 1.15	98.5	70.0 to 130	1.02	20.0
BD15740	Cadmium, Total	mg/L	0.0000000	0.000147	0.100	0.103	0.100	0.101	0.0850 to 0.115	103	70.0 to 130	2.96	20.0
BD15740	Calcium, Total	mg/L	-0.0174	0.152	5.00	4.84	4.82	4.91	4.25 to 5.75	96.8	70.0 to 130	0.414	20.0
BD15740	Chloride	mg/L	-0.0296	1.00	10.0	9.92	10.0	9.95	9.00 to 11.0	99.2	80.0 to 120	0.803	20.0
BD15740	Chromium, Total	mg/L	0.0000700	0.000440	0.100	0.0990	0.0991	0.0985	0.0850 to 0.115	99.0	70.0 to 130	0.101	20.0
BD15740	Cobalt, Total	mg/L	-0.0000044	0.000147	0.100	0.103	0.102	0.101	0.0850 to 0.115	103	70.0 to 130	0.976	20.0
BD15740	Fluoride	mg/L	0.0164	0.125	2.50	2.61	2.66	2.56	2.25 to 2.75	104	80.0 to 120	1.90	20.0
BD15740	Iron, Total	mg/L	0.00125	0.0176	0.2	0.192	0.192	0.196	0.170 to 0.230	96.0	70.0 to 130	0.00	20.0
BD15740	Lead, Total	mg/L	0.0000050	0.000147	0.100	0.0993	0.0968	0.0970	0.0850 to 0.115	99.3	70.0 to 130	2.55	20.0
BD15740	Lithium, Total	mg/L	-0.000259	0.0154	0.200	0.206	0.209	0.193	0.170 to 0.230	103	70.0 to 130	1.45	20.0
BD15740	Magnesium, Total	mg/L	-0.0418	0.0462	5.00	5.02	4.99	4.94	4.25 to 5.75	100	70.0 to 130	0.599	20.0
BD15740	Manganese, Total	mg/L	0.0000037	0.00033	0.100	0.102	0.100	0.101	0.0850 to 0.115	102	70.0 to 130	1.98	20.0
BD15740	Mercury, Total by CVAA	mg/L	0.000	0.000500	0.004	0.00324	0.00409	0.00379	0.00340 to 0.00460	81.0	70.0 to 130	23.2	20.0
BD15740	Molybdenum, Total	mg/L	0.000	0.0100	0.2	0.194	0.194	0.197	0.170 to 0.230	97.0	70.0 to 130	0.00	20.0
BD15740	Potassium, Total	mg/L	-0.00486	0.367	10.0	9.90	9.88	9.95	8.50 to 11.5	99.0	70.0 to 130	0.202	20.0
BD15740	Selenium, Total	mg/L	0.0000035	0.00100	0.100	0.105	0.103	0.106	0.0850 to 0.115	105	70.0 to 130	1.92	20.0
BD15740	Silicon, Total	mg/L	-0.00039	0.0440	1.00	0.992	0.984	0.994	0.850 to 1.15	99.2	70.0 to 130	0.810	20.0
BD15740	Sodium, Total	mg/L	0.000994	0.0880	5.00	5.16	5.24	4.88	4.25 to 5.75	103	70.0 to 130	1.54	20.0
BD15740	Sulfate	mg/L	0.292	2.0	20.0	20.5	20.4	19.9	18.0 to 22.0	98.7	80.0 to 120	0.489	20.0

**Comments:** Precision is out of specification limit for Mercury.

# Batch QC Summary

**Customer Account:** WMWGORLFFB

**Sample Date:** 8/16/23 12:40

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill Field Blank-2

**Laboratory ID Number:** BD15740

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit	Prec	Limit
BD15740	Thallium, Total	mg/L	0.0000074	0.000147	0.100	0.100	0.0981	0.0994	0.0850 to 0.115	100	70.0 to 130	1.92	20.0
BD15740	Total Organic Carbon	mg/L	0.158	1.00	10.0	10.0	8.84	23.6		100	80.0 to 120	12.3	20.0

**Comments:** Precision is out of specification limit for Mercury.

# Batch QC Summary

**Customer Account:** WMWGORLFFB  
**Sample Date:** 8/16/23 12:40  
**Customer ID:**  
**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill Field Blank-2

**Laboratory ID Number:** BD15740

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BD15740	Nitrogen, Nitrate/Nitrite	mg/L as N	-0.06	0.200	2.00	2.06	-0.078	2.04	1.80 to 2.20	103	90.0 to 110	0.00	15.0
BD15746	Solids, Dissolved	mg/L	1.00	25.0			3680	49.0	40.0 to 60.0			1.09	10.0

**Comments:** Precision is out of specification limit for Mercury.



# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-15

**Location Code:** WMWGORLF  
**Collected:** 8/16/23 12:59  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15741

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Total	8/18/23 11:30	8/22/23 11:20		1.015	0.0467	mg/L	0.030000	0.1015	J
* Calcium, Total	8/18/23 11:30	8/22/23 14:34		10.15	299	mg/L	0.70035	4.06	
* Iron, Total	8/18/23 11:30	8/22/23 14:34		10.15	24.1	mg/L	0.08120	0.406	
* Lithium, Total	8/18/23 11:30	8/22/23 11:20		1.015	0.0525	mg/L	0.007105	0.01999956	
* Magnesium, Total	8/18/23 11:30	8/22/23 14:34		10.15	322	mg/L	0.21315	4.06	
* Molybdenum, Total	8/18/23 11:30	8/22/23 11:20		1.015	Not Detected	mg/L	0.005075	0.01015	U
* Silica, Total (calc.)	8/18/23 11:30	8/22/23 11:20		1	21.4	mg/L			
* Silicon, Total	8/18/23 11:30	8/22/23 11:20		1.015	10.0	mg/L	0.02030	0.25375	
* Sodium, Total	8/18/23 11:30	8/22/23 11:20		1.015	23.7	mg/L	0.04060	0.406	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	8/18/23 14:30	8/23/23 13:24		1.015	0.0436	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	8/18/23 14:30	8/24/23 12:46		10.15	255	mg/L	0.70035	4.06	
* Iron, Dissolved	8/18/23 14:30	8/24/23 12:46		10.15	19.1	mg/L	0.08120	0.406	
* Lithium, Dissolved	8/18/23 14:30	8/23/23 13:24		1.015	0.0540	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	8/18/23 14:30	8/24/23 12:46		10.15	269	mg/L	0.21315	4.06	
* Molybdenum, Dissolved	8/18/23 14:30	8/23/23 13:24		1.015	Not Detected	mg/L	0.005075	0.01015	U
* Silica, Dissolved (calc.)	8/18/23 14:30	8/23/23 13:24		1	20.9	mg/L			
* Silicon, Dissolved	8/18/23 14:30	8/23/23 13:24		1.015	9.77	mg/L	0.02030	0.25375	
* Sodium, Dissolved	8/18/23 14:30	8/23/23 13:24		1.015	25.1	mg/L	0.04060	0.406	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>			<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	8/18/23 11:30	8/18/23 13:41		1.015	Not Detected	mg/L	0.000710	0.001015	U
* Arsenic, Total	8/18/23 11:30	8/18/23 13:41		1.015	0.000301	mg/L	0.000112	0.000203	
* Aluminum, Total	8/18/23 11:30	8/18/23 13:41		1.015	Not Detected	mg/L	0.009135	0.05075	U
* Barium, Total	8/18/23 11:30	8/18/23 13:41		1.015	0.0110	mg/L	0.000508	0.001015	
* Beryllium, Total	8/18/23 11:30	8/18/23 13:41		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	8/18/23 11:30	8/18/23 13:41		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	8/18/23 11:30	8/18/23 13:41		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Total	8/18/23 11:30	8/18/23 13:41		1.015	0.0703	mg/L	0.000068	0.000203	
* Lead, Total	8/18/23 11:30	8/18/23 13:41		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	8/18/23 11:30	8/21/23 16:08		92.365	13.5	mg/L	0.013855	0.092365	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-15

**Location Code:** WMWGORLF  
**Collected:** 8/16/23 12:59  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15741

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Potassium, Total	8/18/23 11:30	8/18/23 13:41		1.015	5.00	mg/L	0.169505	0.5075	
* Selenium, Total	8/18/23 11:30	8/18/23 13:41		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	8/18/23 11:30	8/18/23 13:41		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	8/18/23 14:30	8/21/23 11:30		1.015	Not Detected	mg/L	0.000710	0.001015	U
* Aluminum, Dissolved	8/18/23 14:30	8/21/23 11:30		1.015	Not Detected	mg/L	0.009135	0.05075	U
* Arsenic, Dissolved	8/18/23 14:30	8/21/23 11:30		1.015	0.000211	mg/L	0.000112	0.000203	
* Barium, Dissolved	8/18/23 14:30	8/21/23 11:30		1.015	0.0117	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	8/18/23 14:30	8/21/23 11:30		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	8/18/23 14:30	8/21/23 11:30		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	8/18/23 14:30	8/21/23 11:30		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	8/18/23 14:30	8/21/23 11:30		1.015	0.0708	mg/L	0.000068	0.000203	
* Lead, Dissolved	8/18/23 14:30	8/21/23 11:30		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	8/18/23 14:30	8/21/23 13:02		92.365	14.2	mg/L	0.013855	0.092365	
* Potassium, Dissolved	8/18/23 14:30	8/21/23 11:30		1.015	5.11	mg/L	0.169505	0.5075	
* Selenium, Dissolved	8/18/23 14:30	8/21/23 11:30		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	8/18/23 14:30	8/21/23 11:30		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: ABB</b>							
* Mercury, Total by CVAA	8/22/23 17:17	8/22/23 22:09		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: SC</b>							
* Nitrogen, Nitrate/Nitrite	8/18/23 10:32	8/18/23 10:32		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: DHC</b>							
* Alkalinity	8/28/23 09:07	8/28/23 13:56		1	155	mg CaCO3/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	8/17/23 11:10	8/18/23 13:20		1	2380	mg/L		100	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: DHC</b>							
* Bicarbonate Alkalinity, (calc.)	8/28/23 09:07	8/28/23 13:56		1	155	mg CaCO3/L		1	A
* Carbonate Alkalinity, (calc.)	8/28/23 09:07	8/28/23 13:56		1	Not Detected	mg CaCO3/L		0.5	A
<b>Analytical Method: SM 4500H+ B</b>		<b>Analyst: DHC</b>							
Alkalinity pH Endpoint	8/28/23 09:07	8/28/23 13:56		1	4.46	SU		2	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-15

**Location Code:** WMWGORLF

**Collected:** 8/16/23 12:59

**Customer ID:**

**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15741

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: SC</b>							
* Total Organic Carbon	8/17/23 19:20	8/17/23 19:20		1	1.12	mg/L	1.00	2	J
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	8/18/23 09:37	8/18/23 09:37		1	2.22	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	8/17/23 13:22	8/17/23 13:22		1	0.235	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	8/23/23 12:22	8/23/23 12:22		50	1530	mg/L	30.0	100	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: DKG</b>							
Conductivity	8/16/23 12:55	8/16/23 12:55			1656.97	uS/cm			FA
pH	8/16/23 12:55	8/16/23 12:55			5.97	SU			FA
Temperature	8/16/23 12:55	8/16/23 12:55			20.76	C			FA
Turbidity	8/16/23 12:55	8/16/23 12:55			8.41	NTU			FA
Sulfide	8/16/23 12:55	8/16/23 12:55			0	mg/L			FA

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/16/23 12:59

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-15

**Laboratory ID Number:** BD15741

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BD15742	Aluminum, Dissolved	mg/L	0.000155	0.0198	0.100	0.104	0.103	0.105	0.0850 to 0.115	104	70.0 to 130	0.966	20.0
BD15750	Aluminum, Total	mg/L	0.00553	0.0198	0.100	0.103	0.103	0.101	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BD15742	Antimony, Dissolved	mg/L	0.000319	0.00100	0.100	0.0921	0.0925	0.0854	0.0850 to 0.115	92.1	70.0 to 130	0.433	20.0
BD15750	Antimony, Total	mg/L	0.000304	0.00100	0.100	0.0957	0.0951	0.0915	0.0850 to 0.115	95.7	70.0 to 130	0.629	20.0
BD15742	Arsenic, Dissolved	mg/L	0.0000034	0.000200	0.100	0.102	0.101	0.101	0.0850 to 0.115	102	70.0 to 130	0.985	20.0
BD15750	Arsenic, Total	mg/L	0.0000161	0.000200	0.100	0.104	0.106	0.103	0.0850 to 0.115	104	70.0 to 130	1.90	20.0
BD15742	Barium, Dissolved	mg/L	0.0000346	0.00100	0.100	0.108	0.108	0.0939	0.0850 to 0.115	96.2	70.0 to 130	0.00	20.0
BD15750	Barium, Total	mg/L	-0.0000098	0.00100	0.100	0.104	0.104	0.0933	0.0850 to 0.115	94.4	70.0 to 130	0.00	20.0
BD15742	Beryllium, Dissolved	mg/L	0.0000164	0.000880	0.100	0.0993	0.0988	0.0939	0.0850 to 0.115	99.3	70.0 to 130	0.505	20.0
BD15750	Beryllium, Total	mg/L	-0.0000104	0.000880	0.100	0.107	0.108	0.101	0.0850 to 0.115	107	70.0 to 130	0.930	20.0
BD15742	Boron, Dissolved	mg/L	0.000396	0.0650	1.00	1.04	1.04	0.987	0.850 to 1.15	99.6	70.0 to 130	0.00	20.0
BD15750	Boron, Total	mg/L	-0.000022	0.0650	1.00	1.07	1.07	0.993	0.850 to 1.15	103	70.0 to 130	0.00	20.0
BD15742	Cadmium, Dissolved	mg/L	0.0000067	0.000147	0.100	0.0963	0.0966	0.0988	0.0850 to 0.115	96.3	70.0 to 130	0.311	20.0
BD15750	Cadmium, Total	mg/L	0.0000000	0.000147	0.100	0.0967	0.102	0.101	0.0850 to 0.115	96.6	70.0 to 130	5.33	20.0
BD15742	Calcium, Dissolved	mg/L	-0.0283	0.152	5.00	261	290	4.62	4.25 to 5.75	-100	70.0 to 130	10.5	20.0
BD15750	Calcium, Total	mg/L	-0.0174	0.152	5.00	357	387	4.91	4.25 to 5.75	20.0	70.0 to 130	8.06	20.0
BD15750	Chloride	mg/L	-0.0734	1.00	10.0	12.2	12.1	9.93	9.00 to 11.0	101	80.0 to 120	0.823	20.0
BD15742	Chromium, Dissolved	mg/L	-0.0000122	0.000440	0.100	0.0955	0.0945	0.0973	0.0850 to 0.115	95.5	70.0 to 130	1.05	20.0
BD15750	Chromium, Total	mg/L	0.0000700	0.000440	0.100	0.0968	0.0959	0.0985	0.0850 to 0.115	96.6	70.0 to 130	0.934	20.0
BD15742	Cobalt, Dissolved	mg/L	-0.0000488	0.000147	0.100	0.168	0.166	0.0996	0.0850 to 0.115	96.7	70.0 to 130	1.20	20.0
BD15750	Cobalt, Total	mg/L	-0.0000044	0.000147	0.100	0.143	0.142	0.101	0.0850 to 0.115	99.8	70.0 to 130	0.702	20.0
BD15750	Fluoride	mg/L	0.017	0.125	2.50	3.00	3.01	2.59	2.25 to 2.75	108	80.0 to 120	0.333	20.0
BD15742	Iron, Dissolved	mg/L	-0.00135	0.0176	0.2	19.7	21.0	0.198	0.170 to 0.230	-150	70.0 to 130	6.39	20.0
BD15750	Iron, Total	mg/L	0.00125	0.0176	0.2	3.02	2.98	0.196	0.170 to 0.230	85.0	70.0 to 130	1.33	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/16/23 12:59

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-15

**Laboratory ID Number:** BD15741

Sample	Analysis	Units	MB	MB		MS	MSD	Standard		Rec		Prec	Limit
				Limit	Spike			Standard	Limit	Rec	Limit		
BD15742	Lead, Dissolved	mg/L	0.0000023	0.000147	0.100	0.0965	0.0985	0.101	0.0850 to 0.115	96.5	70.0 to 130	2.05	20.0
BD15750	Lead, Total	mg/L	0.0000050	0.000147	0.100	0.0944	0.0961	0.0970	0.0850 to 0.115	94.3	70.0 to 130	1.78	20.0
BD15742	Lithium, Dissolved	mg/L	0.000173	0.0154	0.200	0.259	0.262	0.190	0.170 to 0.230	104	70.0 to 130	1.15	20.0
BD15750	Lithium, Total	mg/L	-0.000259	0.0154	0.200	0.281	0.281	0.193	0.170 to 0.230	112	70.0 to 130	0.00	20.0
BD15742	Magnesium, Dissolved	mg/L	-0.00201	0.0462	5.00	281	310	4.89	4.25 to 5.75	-20.0	70.0 to 130	9.81	20.0
BD15750	Magnesium, Total	mg/L	-0.0418	0.0462	5.00	372	394	4.94	4.25 to 5.75	20.0	70.0 to 130	5.74	20.0
BD15742	Manganese, Dissolved	mg/L	0.0000019	0.00033	0.100	14.5	15.1	0.104	0.0850 to 0.115	200	70.0 to 130	4.05	20.0
BD15750	Manganese, Total	mg/L	0.0000037	0.00033	0.100	3.09	3.08	0.101	0.0850 to 0.115	90.0	70.0 to 130	0.324	20.0
BD15750	Mercury, Total by CVAA	mg/L	0.000	0.000500	0.004	0.00417	0.00414	0.00379	0.00340 to 0.00460	104	70.0 to 130	0.722	20.0
BD15742	Molybdenum, Dissolved	mg/L	0.000424	0.0100	0.2	0.188	0.189	0.195	0.170 to 0.230	94.0	70.0 to 130	0.531	20.0
BD15750	Molybdenum, Total	mg/L	0.000	0.0100	0.2	0.196	0.195	0.197	0.170 to 0.230	98.0	70.0 to 130	0.512	20.0
BD15742	Potassium, Dissolved	mg/L	-0.00187	0.367	10.0	15.0	14.7	10.1	8.50 to 11.5	98.0	70.0 to 130	2.02	20.0
BD15750	Potassium, Total	mg/L	-0.00486	0.367	10.0	15.3	15.5	9.95	8.50 to 11.5	95.7	70.0 to 130	1.30	20.0
BD15742	Selenium, Dissolved	mg/L	0.0000413	0.00100	0.100	0.0980	0.100	0.102	0.0850 to 0.115	98.0	70.0 to 130	2.02	20.0
BD15750	Selenium, Total	mg/L	0.0000035	0.00100	0.100	0.103	0.103	0.106	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BD15742	Silicon, Dissolved	mg/L	0.000291	0.0440	1.00	10.7	10.7	1.00	0.850 to 1.15	102	70.0 to 130	0.00	20.0
BD15750	Silicon, Total	mg/L	-0.00039	0.0440	1.00	8.60	8.54	0.994	0.850 to 1.15	98.0	70.0 to 130	0.700	20.0
BD15742	Sodium, Dissolved	mg/L	0.00414	0.0880	5.00	28.9	28.9	4.88	4.25 to 5.75	104	70.0 to 130	0.00	20.0
BD15750	Sodium, Total	mg/L	0.000994	0.0880	5.00	40.8	40.7	4.88	4.25 to 5.75	118	70.0 to 130	0.245	20.0
BD15750	Sulfate	mg/L	0.499	2.0	3200	5220	5490	20.1	18.0 to 22.0	91.6	80.0 to 120	5.04	20.0
BD15742	Thallium, Dissolved	mg/L	-0.0000298	0.000147	0.100	0.0976	0.0989	0.102	0.0850 to 0.115	97.6	70.0 to 130	1.32	20.0
BD15750	Thallium, Total	mg/L	0.0000074	0.000147	0.100	0.0967	0.0981	0.0994	0.0850 to 0.115	96.7	70.0 to 130	1.44	20.0
BD15750	Total Organic Carbon	mg/L	0.175	1.00	10.0	9.85	10.7	23.9		88.3	80.0 to 120	8.27	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

## Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/16/23 12:59

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-15

**Laboratory ID Number:** BD15741

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BD15751	Alkalinity	mg CaCO3/L					184	51.3	45.0 to 55.0			0.542	10.0
BD15750	Nitrogen, Nitrate/Nitrite	mg/L as N	-0.07	0.200	2.00	2.02	-0.080	2.00	1.80 to 2.20	101	90.0 to 110	0.00	15.0
BD15746	Solids, Dissolved	mg/L	1.00	25.0			3680	49.0	40.0 to 60.0			1.09	10.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-15 Dup

**Location Code:** WMWGORLF  
**Collected:** 8/16/23 12:59  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15742

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>					
* Boron, Total	8/18/23 11:30	8/22/23 11:23		1.015	0.0465	mg/L	0.030000	0.1015	J	
* Calcium, Total	8/18/23 11:30	8/22/23 14:37		10.15	316	mg/L	0.70035	4.06		
* Iron, Total	8/18/23 11:30	8/22/23 14:37		10.15	24.3	mg/L	0.08120	0.406		
* Lithium, Total	8/18/23 11:30	8/22/23 11:23		1.015	0.0523	mg/L	0.007105	0.01999956		
* Magnesium, Total	8/18/23 11:30	8/22/23 14:37		10.15	327	mg/L	0.21315	4.06		
* Molybdenum, Total	8/18/23 11:30	8/22/23 11:23		1.015	Not Detected	mg/L	0.005075	0.01015	U	
* Silica, Total (calc.)	8/18/23 11:30	8/22/23 11:23		1	21.4	mg/L				
* Silicon, Total	8/18/23 11:30	8/22/23 11:23		1.015	10.0	mg/L	0.02030	0.25375		
* Sodium, Total	8/18/23 11:30	8/22/23 11:23		1.015	23.7	mg/L	0.04060	0.406		
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>								
* Boron, Dissolved	8/18/23 14:30	8/23/23 13:27		1.015	0.0435	mg/L	0.030000	0.1015	J	
* Calcium, Dissolved	8/18/23 14:30	8/24/23 12:49		10.15	266	mg/L	0.70035	4.06	RA	
* Iron, Dissolved	8/18/23 14:30	8/24/23 12:49		10.15	20.0	mg/L	0.08120	0.406	RA	
* Lithium, Dissolved	8/18/23 14:30	8/23/23 13:27		1.015	0.0517	mg/L	0.007105	0.01999956		
* Magnesium, Dissolved	8/18/23 14:30	8/24/23 12:49		10.15	282	mg/L	0.21315	4.06	RA	
* Molybdenum, Dissolved	8/18/23 14:30	8/23/23 13:27		1.015	Not Detected	mg/L	0.005075	0.01015	U	
* Silica, Dissolved (calc.)	8/18/23 14:30	8/23/23 13:27		1	20.7	mg/L				
* Silicon, Dissolved	8/18/23 14:30	8/23/23 13:27		1.015	9.68	mg/L	0.02030	0.25375		
* Sodium, Dissolved	8/18/23 14:30	8/23/23 13:27		1.015	23.7	mg/L	0.04060	0.406		
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>			<b>Preparation Method: EPA 1638</b>					
* Antimony, Total	8/18/23 11:30	8/18/23 13:45		1.015	Not Detected	mg/L	0.000710	0.001015	U	
* Arsenic, Total	8/18/23 11:30	8/18/23 13:45		1.015	0.000341	mg/L	0.000112	0.000203		
* Aluminum, Total	8/18/23 11:30	8/18/23 13:45		1.015	Not Detected	mg/L	0.009135	0.05075	U	
* Barium, Total	8/18/23 11:30	8/18/23 13:45		1.015	0.0110	mg/L	0.000508	0.001015		
* Beryllium, Total	8/18/23 11:30	8/18/23 13:45		1.015	Not Detected	mg/L	0.000406	0.001015	U	
* Cadmium, Total	8/18/23 11:30	8/18/23 13:45		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Chromium, Total	8/18/23 11:30	8/18/23 13:45		1.015	Not Detected	mg/L	0.000203	0.001015	U	
* Cobalt, Total	8/18/23 11:30	8/18/23 13:45		1.015	0.0698	mg/L	0.000068	0.000203		
* Lead, Total	8/18/23 11:30	8/18/23 13:45		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Manganese, Total	8/18/23 11:30	8/23/23 09:34		92.365	13.7	mg/L	0.013855	0.092365		

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-15 Dup

**Location Code:** WMWGORLF  
**Collected:** 8/16/23 12:59  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15742

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Potassium, Total	8/18/23 11:30	8/18/23 13:45		1.015	4.87	mg/L	0.169505	0.5075	
* Selenium, Total	8/18/23 11:30	8/18/23 13:45		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	8/18/23 11:30	8/18/23 13:45		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	8/18/23 14:30	8/21/23 11:34		1.015	Not Detected	mg/L	0.000710	0.001015	U
* Aluminum, Dissolved	8/18/23 14:30	8/21/23 11:34		1.015	Not Detected	mg/L	0.009135	0.05075	U
* Arsenic, Dissolved	8/18/23 14:30	8/21/23 11:34		1.015	0.000240	mg/L	0.000112	0.000203	
* Barium, Dissolved	8/18/23 14:30	8/21/23 11:34		1.015	0.0118	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	8/18/23 14:30	8/21/23 11:34		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	8/18/23 14:30	8/21/23 11:34		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	8/18/23 14:30	8/21/23 11:34		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	8/18/23 14:30	8/21/23 11:34		1.015	0.0713	mg/L	0.000068	0.000203	
* Lead, Dissolved	8/18/23 14:30	8/21/23 11:34		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	8/18/23 14:30	8/21/23 13:06		92.365	14.3	mg/L	0.013855	0.092365	RA
* Potassium, Dissolved	8/18/23 14:30	8/21/23 11:34		1.015	5.20	mg/L	0.169505	0.5075	
* Selenium, Dissolved	8/18/23 14:30	8/21/23 11:34		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	8/18/23 14:30	8/21/23 11:34		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: ABB</b>							
* Mercury, Total by CVAA	8/22/23 17:17	8/22/23 22:13		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: SC</b>							
* Nitrogen, Nitrate/Nitrite	8/18/23 10:34	8/18/23 10:34		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: DHC</b>							
* Alkalinity	8/28/23 09:07	8/28/23 13:56		1	154	mg CaCO3/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	8/17/23 11:10	8/18/23 13:20		1	2360	mg/L		100	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: DHC</b>							
* Bicarbonate Alkalinity, (calc.)	8/28/23 09:07	8/28/23 13:56		1	154	mg CaCO3/L		1	A
* Carbonate Alkalinity, (calc.)	8/28/23 09:07	8/28/23 13:56		1	Not Detected	mg CaCO3/L		0.5	A
<b>Analytical Method: SM 4500H+ B</b>		<b>Analyst: DHC</b>							
Alkalinity pH Endpoint	8/28/23 09:07	8/28/23 13:56		1	4.45	SU		2	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.



# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-15 Dup

**Location Code:** WMWGORLF

**Collected:** 8/16/23 12:59

**Customer ID:**

**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15742

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: SC</b>							
* Total Organic Carbon	8/17/23 19:37	8/17/23 19:37		1	1.16	mg/L	1.00	2	J
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	8/18/23 09:38	8/18/23 09:38		1	2.29	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	8/17/23 13:23	8/17/23 13:23		1	0.218	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	8/23/23 12:23	8/23/23 12:23		50	1540	mg/L	30.0	100	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: DKG</b>							
Conductivity	8/16/23 12:55	8/16/23 12:55			1656.97	uS/cm			FA
pH	8/16/23 12:55	8/16/23 12:55			5.97	SU			FA
Temperature	8/16/23 12:55	8/16/23 12:55			20.76	C			FA
Turbidity	8/16/23 12:55	8/16/23 12:55			8.41	NTU			FA
Sulfide	8/16/23 12:55	8/16/23 12:55			0	mg/L			FA

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/16/23 12:59

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-15 Dup

**Laboratory ID Number:** BD15742

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BD15742	Aluminum, Dissolved	mg/L	0.000155	0.0198	0.100	0.104	0.103	0.105	0.0850 to 0.115	104	70.0 to 130	0.966	20.0
BD15750	Aluminum, Total	mg/L	0.00553	0.0198	0.100	0.103	0.103	0.101	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BD15742	Antimony, Dissolved	mg/L	0.000319	0.00100	0.100	0.0921	0.0925	0.0854	0.0850 to 0.115	92.1	70.0 to 130	0.433	20.0
BD15750	Antimony, Total	mg/L	0.000304	0.00100	0.100	0.0957	0.0951	0.0915	0.0850 to 0.115	95.7	70.0 to 130	0.629	20.0
BD15742	Arsenic, Dissolved	mg/L	0.0000034	0.000200	0.100	0.102	0.101	0.101	0.0850 to 0.115	102	70.0 to 130	0.985	20.0
BD15750	Arsenic, Total	mg/L	0.0000161	0.000200	0.100	0.104	0.106	0.103	0.0850 to 0.115	104	70.0 to 130	1.90	20.0
BD15742	Barium, Dissolved	mg/L	0.0000346	0.00100	0.100	0.108	0.108	0.0939	0.0850 to 0.115	96.2	70.0 to 130	0.00	20.0
BD15750	Barium, Total	mg/L	-0.0000098	0.00100	0.100	0.104	0.104	0.0933	0.0850 to 0.115	94.4	70.0 to 130	0.00	20.0
BD15742	Beryllium, Dissolved	mg/L	0.0000164	0.000880	0.100	0.0993	0.0988	0.0939	0.0850 to 0.115	99.3	70.0 to 130	0.505	20.0
BD15750	Beryllium, Total	mg/L	-0.0000104	0.000880	0.100	0.107	0.108	0.101	0.0850 to 0.115	107	70.0 to 130	0.930	20.0
BD15742	Boron, Dissolved	mg/L	0.000396	0.0650	1.00	1.04	1.04	0.987	0.850 to 1.15	99.6	70.0 to 130	0.00	20.0
BD15750	Boron, Total	mg/L	-0.000022	0.0650	1.00	1.07	1.07	0.993	0.850 to 1.15	103	70.0 to 130	0.00	20.0
BD15742	Cadmium, Dissolved	mg/L	0.0000067	0.000147	0.100	0.0963	0.0966	0.0988	0.0850 to 0.115	96.3	70.0 to 130	0.311	20.0
BD15750	Cadmium, Total	mg/L	0.0000000	0.000147	0.100	0.0967	0.102	0.101	0.0850 to 0.115	96.6	70.0 to 130	5.33	20.0
BD15742	Calcium, Dissolved	mg/L	-0.0283	0.152	5.00	261	290	4.62	4.25 to 5.75	-100	70.0 to 130	10.5	20.0
BD15750	Calcium, Total	mg/L	-0.0174	0.152	5.00	357	387	4.91	4.25 to 5.75	20.0	70.0 to 130	8.06	20.0
BD15750	Chloride	mg/L	-0.0734	1.00	10.0	12.2	12.1	9.93	9.00 to 11.0	101	80.0 to 120	0.823	20.0
BD15742	Chromium, Dissolved	mg/L	-0.0000122	0.000440	0.100	0.0955	0.0945	0.0973	0.0850 to 0.115	95.5	70.0 to 130	1.05	20.0
BD15750	Chromium, Total	mg/L	0.0000700	0.000440	0.100	0.0968	0.0959	0.0985	0.0850 to 0.115	96.6	70.0 to 130	0.934	20.0
BD15742	Cobalt, Dissolved	mg/L	-0.0000488	0.000147	0.100	0.168	0.166	0.0996	0.0850 to 0.115	96.7	70.0 to 130	1.20	20.0
BD15750	Cobalt, Total	mg/L	-0.0000044	0.000147	0.100	0.143	0.142	0.101	0.0850 to 0.115	99.8	70.0 to 130	0.702	20.0
BD15750	Fluoride	mg/L	0.017	0.125	2.50	3.00	3.01	2.59	2.25 to 2.75	108	80.0 to 120	0.333	20.0
BD15742	Iron, Dissolved	mg/L	-0.00135	0.0176	0.2	19.7	21.0	0.198	0.170 to 0.230	-150	70.0 to 130	6.39	20.0
BD15750	Iron, Total	mg/L	0.00125	0.0176	0.2	3.02	2.98	0.196	0.170 to 0.230	85.0	70.0 to 130	1.33	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/16/23 12:59

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-15 Dup

**Laboratory ID Number:** BD15742

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BD15742	Lead, Dissolved	mg/L	0.0000023	0.000147	0.100	0.0965	0.0985	0.101	0.0850 to 0.115	96.5	70.0 to 130	2.05	20.0
BD15750	Lead, Total	mg/L	0.0000050	0.000147	0.100	0.0944	0.0961	0.0970	0.0850 to 0.115	94.3	70.0 to 130	1.78	20.0
BD15742	Lithium, Dissolved	mg/L	0.000173	0.0154	0.200	0.259	0.262	0.190	0.170 to 0.230	104	70.0 to 130	1.15	20.0
BD15750	Lithium, Total	mg/L	-0.000259	0.0154	0.200	0.281	0.281	0.193	0.170 to 0.230	112	70.0 to 130	0.00	20.0
BD15742	Magnesium, Dissolved	mg/L	-0.00201	0.0462	5.00	281	310	4.89	4.25 to 5.75	-20.0	70.0 to 130	9.81	20.0
BD15750	Magnesium, Total	mg/L	-0.0418	0.0462	5.00	372	394	4.94	4.25 to 5.75	20.0	70.0 to 130	5.74	20.0
BD15742	Manganese, Dissolved	mg/L	0.0000019	0.00033	0.100	14.5	15.1	0.104	0.0850 to 0.115	200	70.0 to 130	4.05	20.0
BD15750	Manganese, Total	mg/L	0.0000037	0.00033	0.100	3.09	3.08	0.101	0.0850 to 0.115	90.0	70.0 to 130	0.324	20.0
BD15750	Mercury, Total by CVAA	mg/L	0.000	0.000500	0.004	0.00417	0.00414	0.00379	0.00340 to 0.00460	104	70.0 to 130	0.722	20.0
BD15742	Molybdenum, Dissolved	mg/L	0.000424	0.0100	0.2	0.188	0.189	0.195	0.170 to 0.230	94.0	70.0 to 130	0.531	20.0
BD15750	Molybdenum, Total	mg/L	0.000	0.0100	0.2	0.196	0.195	0.197	0.170 to 0.230	98.0	70.0 to 130	0.512	20.0
BD15742	Potassium, Dissolved	mg/L	-0.00187	0.367	10.0	15.0	14.7	10.1	8.50 to 11.5	98.0	70.0 to 130	2.02	20.0
BD15750	Potassium, Total	mg/L	-0.00486	0.367	10.0	15.3	15.5	9.95	8.50 to 11.5	95.7	70.0 to 130	1.30	20.0
BD15742	Selenium, Dissolved	mg/L	0.0000413	0.00100	0.100	0.0980	0.100	0.102	0.0850 to 0.115	98.0	70.0 to 130	2.02	20.0
BD15750	Selenium, Total	mg/L	0.0000035	0.00100	0.100	0.103	0.103	0.106	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BD15742	Silicon, Dissolved	mg/L	0.000291	0.0440	1.00	10.7	10.7	1.00	0.850 to 1.15	102	70.0 to 130	0.00	20.0
BD15750	Silicon, Total	mg/L	-0.00039	0.0440	1.00	8.60	8.54	0.994	0.850 to 1.15	98.0	70.0 to 130	0.700	20.0
BD15742	Sodium, Dissolved	mg/L	0.00414	0.0880	5.00	28.9	28.9	4.88	4.25 to 5.75	104	70.0 to 130	0.00	20.0
BD15750	Sodium, Total	mg/L	0.000994	0.0880	5.00	40.8	40.7	4.88	4.25 to 5.75	118	70.0 to 130	0.245	20.0
BD15750	Sulfate	mg/L	0.499	2.0	3200	5220	5490	20.1	18.0 to 22.0	91.6	80.0 to 120	5.04	20.0
BD15742	Thallium, Dissolved	mg/L	-0.0000298	0.000147	0.100	0.0976	0.0989	0.102	0.0850 to 0.115	97.6	70.0 to 130	1.32	20.0
BD15750	Thallium, Total	mg/L	0.0000074	0.000147	0.100	0.0967	0.0981	0.0994	0.0850 to 0.115	96.7	70.0 to 130	1.44	20.0
BD15750	Total Organic Carbon	mg/L	0.175	1.00	10.0	9.85	10.7	23.9		88.3	80.0 to 120	8.27	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

## Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/16/23 12:59

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-15 Dup

**Laboratory ID Number:** BD15742

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BD15751	Alkalinity	mg CaCO3/L					184	51.3	45.0 to 55.0			0.542	10.0
BD15750	Nitrogen, Nitrate/Nitrite	mg/L as N	-0.07	0.200	2.00	2.02	-0.080	2.00	1.80 to 2.20	101	90.0 to 110	0.00	15.0
BD15746	Solids, Dissolved	mg/L	1.00	25.0			3680	49.0	40.0 to 60.0			1.09	10.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-16

**Location Code:** WMWGORLF  
**Collected:** 8/16/23 14:17  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15743

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Total	8/18/23 11:30	8/22/23 11:26		1.015	0.0475	mg/L	0.030000	0.1015	J
* Calcium, Total	8/18/23 11:30	8/22/23 15:59		101.5	329	mg/L	7.0035	40.6	
* Iron, Total	8/18/23 11:30	8/22/23 11:26		1.015	3.16	mg/L	0.008120	0.0406	
* Lithium, Total	8/18/23 11:30	8/22/23 11:26		1.015	0.0177	mg/L	0.007105	0.01999956	J
* Magnesium, Total	8/18/23 11:30	8/22/23 14:46		10.15	390	mg/L	0.21315	4.06	
* Molybdenum, Total	8/18/23 11:30	8/22/23 11:26		1.015	Not Detected	mg/L	0.005075	0.01015	U
* Silica, Total (calc.)	8/18/23 11:30	8/22/23 11:26		1	12.8	mg/L			
* Silicon, Total	8/18/23 11:30	8/22/23 11:26		1.015	5.98	mg/L	0.02030	0.25375	
* Sodium, Total	8/18/23 11:30	8/22/23 11:26		1.015	28.0	mg/L	0.04060	0.406	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	8/18/23 14:30	8/24/23 11:17		1.015	0.0456	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	8/18/23 14:30	8/24/23 13:11		10.15	394	mg/L	0.70035	4.06	
* Iron, Dissolved	8/18/23 14:30	8/24/23 11:17		1.015	2.88	mg/L	0.008120	0.0406	
* Lithium, Dissolved	8/18/23 14:30	8/24/23 11:17		1.015	0.0187	mg/L	0.007105	0.01999956	J
* Magnesium, Dissolved	8/18/23 14:30	8/24/23 13:11		10.15	349	mg/L	0.21315	4.06	
* Molybdenum, Dissolved	8/18/23 14:30	8/24/23 11:17		1.015	Not Detected	mg/L	0.005075	0.01015	U
* Silica, Dissolved (calc.)	8/18/23 14:30	8/24/23 11:17		1	12.3	mg/L			
* Silicon, Dissolved	8/18/23 14:30	8/24/23 11:17		1.015	5.75	mg/L	0.02030	0.25375	
* Sodium, Dissolved	8/18/23 14:30	8/24/23 11:17		1.015	28.6	mg/L	0.04060	0.406	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>			<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	8/18/23 11:30	8/18/23 13:49		1.015	Not Detected	mg/L	0.000710	0.001015	U
* Arsenic, Total	8/18/23 11:30	8/18/23 13:49		1.015	0.00243	mg/L	0.000112	0.000203	
* Aluminum, Total	8/18/23 11:30	8/18/23 13:49		1.015	0.0936	mg/L	0.009135	0.05075	
* Barium, Total	8/18/23 11:30	8/18/23 13:49		1.015	0.0122	mg/L	0.000508	0.001015	
* Beryllium, Total	8/18/23 11:30	8/18/23 13:49		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	8/18/23 11:30	8/18/23 13:49		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	8/18/23 11:30	8/18/23 13:49		1.015	0.000437	mg/L	0.000203	0.001015	J
* Cobalt, Total	8/18/23 11:30	8/18/23 13:49		1.015	0.0102	mg/L	0.000068	0.000203	
* Lead, Total	8/18/23 11:30	8/18/23 13:49		1.015	0.0000979	mg/L	0.000068	0.000203	J
* Manganese, Total	8/18/23 11:30	8/21/23 11:41		5.075	2.76	mg/L	0.000761	0.005075	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-16

**Location Code:** WMWGORLF  
**Collected:** 8/16/23 14:17  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15743

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Potassium, Total	8/18/23 11:30	8/18/23 13:49		1.015	7.69	mg/L	0.169505	0.5075	
* Selenium, Total	8/18/23 11:30	8/18/23 13:49		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	8/18/23 11:30	8/18/23 13:49		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	8/18/23 14:30	8/21/23 11:55		1.015	Not Detected	mg/L	0.000710	0.001015	U
* Aluminum, Dissolved	8/18/23 14:30	8/21/23 11:55		1.015	Not Detected	mg/L	0.009135	0.05075	U
* Arsenic, Dissolved	8/18/23 14:30	8/21/23 11:55		1.015	0.00222	mg/L	0.000112	0.000203	
* Barium, Dissolved	8/18/23 14:30	8/21/23 11:55		1.015	0.0119	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	8/18/23 14:30	8/21/23 11:55		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	8/18/23 14:30	8/21/23 11:55		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	8/18/23 14:30	8/21/23 11:55		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	8/18/23 14:30	8/21/23 11:55		1.015	0.0102	mg/L	0.000068	0.000203	
* Lead, Dissolved	8/18/23 14:30	8/21/23 11:55		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	8/18/23 14:30	8/21/23 13:17		5.075	2.76	mg/L	0.000761	0.005075	
* Potassium, Dissolved	8/18/23 14:30	8/21/23 11:55		1.015	7.87	mg/L	0.169505	0.5075	
* Selenium, Dissolved	8/18/23 14:30	8/21/23 11:55		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	8/18/23 14:30	8/21/23 11:55		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: ABB</b>							
* Mercury, Total by CVAA	8/22/23 17:17	8/22/23 22:17		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: SC</b>							
* Nitrogen, Nitrate/Nitrite	8/18/23 10:36	8/18/23 10:36		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: DHC</b>							
* Alkalinity	8/28/23 09:07	8/28/23 13:56		1	336	mg CaCO3/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	8/17/23 11:10	8/18/23 13:20		1	2470	mg/L		100	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: DHC</b>							
* Bicarbonate Alkalinity, (calc.)	8/28/23 09:07	8/28/23 13:56		1	336	mg CaCO3/L		1	A
* Carbonate Alkalinity, (calc.)	8/28/23 09:07	8/28/23 13:56		1	Not Detected	mg CaCO3/L		0.5	A
<b>Analytical Method: SM 4500H+ B</b>		<b>Analyst: DHC</b>							
Alkalinity pH Endpoint	8/28/23 09:07	8/28/23 13:56		1	4.47	SU		2	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-16

**Location Code:** WMWGORLF

**Collected:** 8/16/23 14:17

**Customer ID:**

**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15743

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: SC</b>							
* Total Organic Carbon	8/17/23 19:55	8/17/23 19:55		1	1.56	mg/L	1.00	2	J
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	8/18/23 09:39	8/18/23 09:39		1	2.81	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	8/17/23 13:24	8/17/23 13:24		1	0.129	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	8/23/23 12:24	8/23/23 12:24		50	1530	mg/L	30.0	100	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: DKG</b>							
Conductivity	8/16/23 14:13	8/16/23 14:13			1733.66	uS/cm			FA
pH	8/16/23 14:13	8/16/23 14:13			6.47	SU			FA
Temperature	8/16/23 14:13	8/16/23 14:13			20.76	C			FA
Turbidity	8/16/23 14:13	8/16/23 14:13			8.28	NTU			FA
Sulfide	8/16/23 14:13	8/16/23 14:13			0	mg/L			FA

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/16/23 14:17

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-16

**Laboratory ID Number:** BD15743

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BD15751	Aluminum, Dissolved	mg/L	0.000155	0.0198	0.100	0.102	0.0989	0.105	0.0850 to 0.115	102	70.0 to 130	3.09	20.0
BD15750	Aluminum, Total	mg/L	0.00553	0.0198	0.100	0.103	0.103	0.101	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BD15751	Antimony, Dissolved	mg/L	0.000319	0.00100	0.100	0.0881	0.0929	0.0854	0.0850 to 0.115	88.1	70.0 to 130	5.30	20.0
BD15750	Antimony, Total	mg/L	0.000304	0.00100	0.100	0.0957	0.0951	0.0915	0.0850 to 0.115	95.7	70.0 to 130	0.629	20.0
BD15751	Arsenic, Dissolved	mg/L	0.0000034	0.000200	0.100	0.0993	0.0981	0.101	0.0850 to 0.115	99.3	70.0 to 130	1.22	20.0
BD15750	Arsenic, Total	mg/L	0.0000161	0.000200	0.100	0.104	0.106	0.103	0.0850 to 0.115	104	70.0 to 130	1.90	20.0
BD15751	Barium, Dissolved	mg/L	0.0000346	0.00100	0.100	0.104	0.110	0.0939	0.0850 to 0.115	95.2	70.0 to 130	5.61	20.0
BD15750	Barium, Total	mg/L	-0.0000098	0.00100	0.100	0.104	0.104	0.0933	0.0850 to 0.115	94.4	70.0 to 130	0.00	20.0
BD15751	Beryllium, Dissolved	mg/L	0.0000164	0.000880	0.100	0.104	0.100	0.0939	0.0850 to 0.115	104	70.0 to 130	3.92	20.0
BD15750	Beryllium, Total	mg/L	-0.0000104	0.000880	0.100	0.107	0.108	0.101	0.0850 to 0.115	107	70.0 to 130	0.930	20.0
BD15751	Boron, Dissolved	mg/L	0.000396	0.0650	1.00	1.04	1.04	0.987	0.850 to 1.15	101	70.0 to 130	0.00	20.0
BD15750	Boron, Total	mg/L	-0.000022	0.0650	1.00	1.07	1.07	0.993	0.850 to 1.15	103	70.0 to 130	0.00	20.0
BD15751	Cadmium, Dissolved	mg/L	0.0000067	0.000147	0.100	0.0951	0.0975	0.0988	0.0850 to 0.115	95.1	70.0 to 130	2.49	20.0
BD15750	Cadmium, Total	mg/L	0.0000000	0.000147	0.100	0.0967	0.102	0.101	0.0850 to 0.115	96.6	70.0 to 130	5.33	20.0
BD15751	Calcium, Dissolved	mg/L	-0.0283	0.152	5.00	327	328	4.62	4.25 to 5.75	180	70.0 to 130	0.305	20.0
BD15750	Calcium, Total	mg/L	-0.0174	0.152	5.00	357	387	4.91	4.25 to 5.75	20.0	70.0 to 130	8.06	20.0
BD15750	Chloride	mg/L	-0.0734	1.00	10.0	12.2	12.1	9.93	9.00 to 11.0	101	80.0 to 120	0.823	20.0
BD15751	Chromium, Dissolved	mg/L	-0.0000122	0.000440	0.100	0.0945	0.0931	0.0973	0.0850 to 0.115	94.5	70.0 to 130	1.49	20.0
BD15750	Chromium, Total	mg/L	0.0000700	0.000440	0.100	0.0968	0.0959	0.0985	0.0850 to 0.115	96.6	70.0 to 130	0.934	20.0
BD15751	Cobalt, Dissolved	mg/L	-0.0000488	0.000147	0.100	0.0962	0.0954	0.0996	0.0850 to 0.115	96.2	70.0 to 130	0.835	20.0
BD15750	Cobalt, Total	mg/L	-0.0000044	0.000147	0.100	0.143	0.142	0.101	0.0850 to 0.115	99.8	70.0 to 130	0.702	20.0
BD15750	Fluoride	mg/L	0.017	0.125	2.50	3.00	3.01	2.59	2.25 to 2.75	108	80.0 to 120	0.333	20.0
BD15751	Iron, Dissolved	mg/L	-0.00135	0.0176	0.2	0.190	0.191	0.198	0.170 to 0.230	95.0	70.0 to 130	0.525	20.0
BD15750	Iron, Total	mg/L	0.00125	0.0176	0.2	3.02	2.98	0.196	0.170 to 0.230	85.0	70.0 to 130	1.33	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.



# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/16/23 14:17

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-16

**Laboratory ID Number:** BD15743

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BD15751	Lead, Dissolved	mg/L	0.000023	0.000147	0.100	0.0991	0.0984	0.101	0.0850 to 0.115	99.1	70.0 to 130	0.709	20.0
BD15750	Lead, Total	mg/L	0.0000050	0.000147	0.100	0.0944	0.0961	0.0970	0.0850 to 0.115	94.3	70.0 to 130	1.78	20.0
BD15751	Lithium, Dissolved	mg/L	0.000173	0.0154	0.200	0.256	0.260	0.190	0.170 to 0.230	103	70.0 to 130	1.55	20.0
BD15750	Lithium, Total	mg/L	-0.000259	0.0154	0.200	0.281	0.281	0.193	0.170 to 0.230	112	70.0 to 130	0.00	20.0
BD15751	Magnesium, Dissolved	mg/L	-0.00201	0.0462	5.00	338	342	4.89	4.25 to 5.75	60.0	70.0 to 130	1.18	20.0
BD15750	Magnesium, Total	mg/L	-0.0418	0.0462	5.00	372	394	4.94	4.25 to 5.75	20.0	70.0 to 130	5.74	20.0
BD15751	Manganese, Dissolved	mg/L	0.0000019	0.00033	0.100	0.103	0.101	0.104	0.0850 to 0.115	103	70.0 to 130	1.96	20.0
BD15750	Manganese, Total	mg/L	0.0000037	0.00033	0.100	3.09	3.08	0.101	0.0850 to 0.115	90.0	70.0 to 130	0.324	20.0
BD15750	Mercury, Total by CVAA	mg/L	0.000	0.000500	0.004	0.00417	0.00414	0.00379	0.00340 to 0.00460	104	70.0 to 130	0.722	20.0
BD15751	Molybdenum, Dissolved	mg/L	0.000424	0.0100	0.2	0.193	0.194	0.195	0.170 to 0.230	96.5	70.0 to 130	0.517	20.0
BD15750	Molybdenum, Total	mg/L	0.000	0.0100	0.2	0.196	0.195	0.197	0.170 to 0.230	98.0	70.0 to 130	0.512	20.0
BD15751	Potassium, Dissolved	mg/L	-0.00187	0.367	10.0	16.4	16.1	10.1	8.50 to 11.5	99.7	70.0 to 130	1.85	20.0
BD15750	Potassium, Total	mg/L	-0.00486	0.367	10.0	15.3	15.5	9.95	8.50 to 11.5	95.7	70.0 to 130	1.30	20.0
BD15751	Selenium, Dissolved	mg/L	0.0000413	0.00100	0.100	0.103	0.103	0.102	0.0850 to 0.115	99.9	70.0 to 130	0.00	20.0
BD15750	Selenium, Total	mg/L	0.0000035	0.00100	0.100	0.103	0.103	0.106	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BD15751	Silicon, Dissolved	mg/L	0.000291	0.0440	1.00	7.47	7.48	1.00	0.850 to 1.15	99.0	70.0 to 130	0.134	20.0
BD15750	Silicon, Total	mg/L	-0.00039	0.0440	1.00	8.60	8.54	0.994	0.850 to 1.15	98.0	70.0 to 130	0.700	20.0
BD15751	Sodium, Dissolved	mg/L	0.00414	0.0880	5.00	33.7	34.0	4.88	4.25 to 5.75	102	70.0 to 130	0.886	20.0
BD15750	Sodium, Total	mg/L	0.000994	0.0880	5.00	40.8	40.7	4.88	4.25 to 5.75	118	70.0 to 130	0.245	20.0
BD15750	Sulfate	mg/L	0.499	2.0	3200	5220	5490	20.1	18.0 to 22.0	91.6	80.0 to 120	5.04	20.0
BD15751	Thallium, Dissolved	mg/L	-0.0000298	0.000147	0.100	0.101	0.0972	0.102	0.0850 to 0.115	101	70.0 to 130	3.83	20.0
BD15750	Thallium, Total	mg/L	0.0000074	0.000147	0.100	0.0967	0.0981	0.0994	0.0850 to 0.115	96.7	70.0 to 130	1.44	20.0
BD15750	Total Organic Carbon	mg/L	0.175	1.00	10.0	9.85	10.7	23.9		88.3	80.0 to 120	8.27	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

## Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/16/23 14:17

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-16

**Laboratory ID Number:** BD15743

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BD15751	Alkalinity	mg CaCO3/L					184	51.3	45.0 to 55.0			0.542	10.0
BD15750	Nitrogen, Nitrate/Nitrite	mg/L as N	-0.07	0.200	2.00	2.02	-0.080	2.00	1.80 to 2.20	101	90.0 to 110	0.00	15.0
BD15746	Solids, Dissolved	mg/L	1.00	25.0			3680	49.0	40.0 to 60.0			1.09	10.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-17R

**Location Code:** WMWGORLF  
**Collected:** 8/16/23 15:05  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15744

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Total	8/18/23 11:30	8/22/23 11:30		1.015	0.0470	mg/L	0.030000	0.1015	J
* Calcium, Total	8/18/23 11:30	8/22/23 14:50		101.5	378	mg/L	7.0035	40.6	
* Iron, Total	8/18/23 11:30	8/22/23 14:50		101.5	15.0	mg/L	0.8120	4.06	
* Lithium, Total	8/18/23 11:30	8/22/23 11:30		1.015	0.0429	mg/L	0.007105	0.01999956	
* Magnesium, Total	8/18/23 11:30	8/22/23 14:50		101.5	413	mg/L	2.1315	40.6	
* Molybdenum, Total	8/18/23 11:30	8/22/23 11:30		1.015	Not Detected	mg/L	0.005075	0.01015	U
* Silica, Total (calc.)	8/18/23 11:30	8/22/23 11:30		1	17.1	mg/L			
* Silicon, Total	8/18/23 11:30	8/22/23 11:30		1.015	7.99	mg/L	0.02030	0.25375	
* Sodium, Total	8/18/23 11:30	8/22/23 11:30		1.015	38.6	mg/L	0.04060	0.406	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	8/18/23 14:30	8/24/23 11:20		1.015	0.0468	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	8/18/23 14:30	8/24/23 13:14		101.5	399	mg/L	7.0035	40.6	
* Iron, Dissolved	8/18/23 14:30	8/24/23 13:14		101.5	13.0	mg/L	0.8120	4.06	
* Lithium, Dissolved	8/18/23 14:30	8/24/23 11:20		1.015	0.0451	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	8/18/23 14:30	8/24/23 13:14		101.5	439	mg/L	2.1315	40.6	
* Molybdenum, Dissolved	8/18/23 14:30	8/24/23 11:20		1.015	Not Detected	mg/L	0.005075	0.01015	U
* Silica, Dissolved (calc.)	8/18/23 14:30	8/24/23 11:20		1	16.4	mg/L			
* Silicon, Dissolved	8/18/23 14:30	8/24/23 11:20		1.015	7.68	mg/L	0.02030	0.25375	
* Sodium, Dissolved	8/18/23 14:30	8/24/23 11:20		1.015	37.7	mg/L	0.04060	0.406	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>			<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	8/18/23 11:30	8/18/23 13:52		1.015	Not Detected	mg/L	0.000710	0.001015	U
* Aluminum, Total	8/18/23 11:30	8/18/23 13:52		1.015	0.0302	mg/L	0.009135	0.05075	J
* Arsenic, Total	8/18/23 11:30	8/18/23 13:52		1.015	0.00151	mg/L	0.000112	0.000203	
* Barium, Total	8/18/23 11:30	8/18/23 13:52		1.015	0.0119	mg/L	0.000508	0.001015	
* Beryllium, Total	8/18/23 11:30	8/18/23 13:52		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	8/18/23 11:30	8/18/23 13:52		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	8/18/23 11:30	8/18/23 13:52		1.015	0.000242	mg/L	0.000203	0.001015	J
* Cobalt, Total	8/18/23 11:30	8/18/23 13:52		1.015	0.295	mg/L	0.000068	0.000203	
* Lead, Total	8/18/23 11:30	8/18/23 13:52		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	8/18/23 11:30	8/21/23 11:45		92.365	17.3	mg/L	0.013855	0.092365	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-17R

**Location Code:** WMWGORLF  
**Collected:** 8/16/23 15:05  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15744

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Potassium, Total	8/18/23 11:30	8/18/23 13:52		1.015	6.97	mg/L	0.169505	0.5075	
* Selenium, Total	8/18/23 11:30	8/18/23 13:52		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	8/18/23 11:30	8/18/23 13:52		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	8/18/23 14:30	8/21/23 11:58		1.015	Not Detected	mg/L	0.000710	0.001015	U
* Aluminum, Dissolved	8/18/23 14:30	8/21/23 11:58		1.015	Not Detected	mg/L	0.009135	0.05075	U
* Arsenic, Dissolved	8/18/23 14:30	8/21/23 11:58		1.015	0.00117	mg/L	0.000112	0.000203	
* Barium, Dissolved	8/18/23 14:30	8/21/23 11:58		1.015	0.0120	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	8/18/23 14:30	8/21/23 11:58		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	8/18/23 14:30	8/21/23 11:58		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	8/18/23 14:30	8/21/23 11:58		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	8/18/23 14:30	8/21/23 11:58		1.015	0.223	mg/L	0.000068	0.000203	
* Lead, Dissolved	8/18/23 14:30	8/21/23 11:58		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	8/18/23 14:30	8/21/23 13:20		92.365	10.8	mg/L	0.013855	0.092365	
* Potassium, Dissolved	8/18/23 14:30	8/21/23 11:58		1.015	6.72	mg/L	0.169505	0.5075	
* Selenium, Dissolved	8/18/23 14:30	8/21/23 11:58		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	8/18/23 14:30	8/21/23 11:58		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: ABB</b>							
* Mercury, Total by CVAA	8/22/23 17:17	8/22/23 22:21		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: SC</b>							
* Nitrogen, Nitrate/Nitrite	8/18/23 10:38	8/18/23 10:38		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: DHC</b>							
* Alkalinity	8/28/23 09:07	8/28/23 13:56		1	173	mg CaCO3/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	8/17/23 11:10	8/18/23 13:20		1	3880	mg/L		125	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: DHC</b>							
* Bicarbonate Alkalinity, (calc.)	8/28/23 09:07	8/28/23 13:56		1	173	mg CaCO3/L		1	A
* Carbonate Alkalinity, (calc.)	8/28/23 09:07	8/28/23 13:56		1	Not Detected	mg CaCO3/L		0.5	A
<b>Analytical Method: SM 4500H+ B</b>		<b>Analyst: DHC</b>							
Alkalinity pH Endpoint	8/28/23 09:07	8/28/23 13:56		1	4.55	SU		2	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-17R

**Location Code:** WMWGORLF

**Collected:** 8/16/23 15:05

**Customer ID:**

**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15744

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: SC</b>							
* Total Organic Carbon	8/17/23 20:10	8/17/23 20:10		1	1.25	mg/L	1.00	2	J
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	8/18/23 09:43	8/18/23 09:43		1	2.67	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	8/17/23 13:26	8/17/23 13:26		1	0.127	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	8/23/23 12:25	8/23/23 12:25		100	2570	mg/L	60.0	200	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: DKG</b>							
Conductivity	8/16/23 15:02	8/16/23 15:02			2224.25	uS/cm			FA
pH	8/16/23 15:02	8/16/23 15:02			6.03	SU			FA
Temperature	8/16/23 15:02	8/16/23 15:02			24	C			FA
Turbidity	8/16/23 15:02	8/16/23 15:02			6.05	NTU			FA
Sulfide	8/16/23 15:02	8/16/23 15:02			0	mg/L			FA

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF  
**Sample Date:** 8/16/23 15:05  
**Customer ID:**  
**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-17R

**Laboratory ID Number:** BD15744

Sample	Analysis	Units	MB					Standard		Rec		Prec	Limit
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BD15751	Aluminum, Dissolved	mg/L	0.000155	0.0198	0.100	0.102	0.0989	0.105	0.0850 to 0.115	102	70.0 to 130	3.09	20.0
BD15750	Aluminum, Total	mg/L	0.00553	0.0198	0.100	0.103	0.103	0.101	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BD15751	Antimony, Dissolved	mg/L	0.000319	0.00100	0.100	0.0881	0.0929	0.0854	0.0850 to 0.115	88.1	70.0 to 130	5.30	20.0
BD15750	Antimony, Total	mg/L	0.000304	0.00100	0.100	0.0957	0.0951	0.0915	0.0850 to 0.115	95.7	70.0 to 130	0.629	20.0
BD15751	Arsenic, Dissolved	mg/L	0.0000034	0.000200	0.100	0.0993	0.0981	0.101	0.0850 to 0.115	99.3	70.0 to 130	1.22	20.0
BD15750	Arsenic, Total	mg/L	0.0000161	0.000200	0.100	0.104	0.106	0.103	0.0850 to 0.115	104	70.0 to 130	1.90	20.0
BD15751	Barium, Dissolved	mg/L	0.0000346	0.00100	0.100	0.104	0.110	0.0939	0.0850 to 0.115	95.2	70.0 to 130	5.61	20.0
BD15750	Barium, Total	mg/L	-0.0000098	0.00100	0.100	0.104	0.104	0.0933	0.0850 to 0.115	94.4	70.0 to 130	0.00	20.0
BD15751	Beryllium, Dissolved	mg/L	0.0000164	0.000880	0.100	0.104	0.100	0.0939	0.0850 to 0.115	104	70.0 to 130	3.92	20.0
BD15750	Beryllium, Total	mg/L	-0.0000104	0.000880	0.100	0.107	0.108	0.101	0.0850 to 0.115	107	70.0 to 130	0.930	20.0
BD15751	Boron, Dissolved	mg/L	0.000396	0.0650	1.00	1.04	1.04	0.987	0.850 to 1.15	101	70.0 to 130	0.00	20.0
BD15750	Boron, Total	mg/L	-0.000022	0.0650	1.00	1.07	1.07	0.993	0.850 to 1.15	103	70.0 to 130	0.00	20.0
BD15751	Cadmium, Dissolved	mg/L	0.0000067	0.000147	0.100	0.0951	0.0975	0.0988	0.0850 to 0.115	95.1	70.0 to 130	2.49	20.0
BD15750	Cadmium, Total	mg/L	0.0000000	0.000147	0.100	0.0967	0.102	0.101	0.0850 to 0.115	96.6	70.0 to 130	5.33	20.0
BD15751	Calcium, Dissolved	mg/L	-0.0283	0.152	5.00	327	328	4.62	4.25 to 5.75	180	70.0 to 130	0.305	20.0
BD15750	Calcium, Total	mg/L	-0.0174	0.152	5.00	357	387	4.91	4.25 to 5.75	20.0	70.0 to 130	8.06	20.0
BD15750	Chloride	mg/L	-0.0734	1.00	10.0	12.2	12.1	9.93	9.00 to 11.0	101	80.0 to 120	0.823	20.0
BD15751	Chromium, Dissolved	mg/L	-0.0000122	0.000440	0.100	0.0945	0.0931	0.0973	0.0850 to 0.115	94.5	70.0 to 130	1.49	20.0
BD15750	Chromium, Total	mg/L	0.0000700	0.000440	0.100	0.0968	0.0959	0.0985	0.0850 to 0.115	96.6	70.0 to 130	0.934	20.0
BD15751	Cobalt, Dissolved	mg/L	-0.0000488	0.000147	0.100	0.0962	0.0954	0.0996	0.0850 to 0.115	96.2	70.0 to 130	0.835	20.0
BD15750	Cobalt, Total	mg/L	-0.0000044	0.000147	0.100	0.143	0.142	0.101	0.0850 to 0.115	99.8	70.0 to 130	0.702	20.0
BD15750	Fluoride	mg/L	0.017	0.125	2.50	3.00	3.01	2.59	2.25 to 2.75	108	80.0 to 120	0.333	20.0
BD15751	Iron, Dissolved	mg/L	-0.00135	0.0176	0.2	0.190	0.191	0.198	0.170 to 0.230	95.0	70.0 to 130	0.525	20.0
BD15750	Iron, Total	mg/L	0.00125	0.0176	0.2	3.02	2.98	0.196	0.170 to 0.230	85.0	70.0 to 130	1.33	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF  
**Sample Date:** 8/16/23 15:05  
**Customer ID:**  
**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-17R

**Laboratory ID Number:** BD15744

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BD15751	Lead, Dissolved	mg/L	0.0000023	0.000147	0.100	0.0991	0.0984	0.101	0.0850 to 0.115	99.1	70.0 to 130	0.709	20.0
BD15750	Lead, Total	mg/L	0.0000050	0.000147	0.100	0.0944	0.0961	0.0970	0.0850 to 0.115	94.3	70.0 to 130	1.78	20.0
BD15751	Lithium, Dissolved	mg/L	0.000173	0.0154	0.200	0.256	0.260	0.190	0.170 to 0.230	103	70.0 to 130	1.55	20.0
BD15750	Lithium, Total	mg/L	-0.000259	0.0154	0.200	0.281	0.281	0.193	0.170 to 0.230	112	70.0 to 130	0.00	20.0
BD15751	Magnesium, Dissolved	mg/L	-0.00201	0.0462	5.00	338	342	4.89	4.25 to 5.75	60.0	70.0 to 130	1.18	20.0
BD15750	Magnesium, Total	mg/L	-0.0418	0.0462	5.00	372	394	4.94	4.25 to 5.75	20.0	70.0 to 130	5.74	20.0
BD15751	Manganese, Dissolved	mg/L	0.0000019	0.00033	0.100	0.103	0.101	0.104	0.0850 to 0.115	103	70.0 to 130	1.96	20.0
BD15750	Manganese, Total	mg/L	0.0000037	0.00033	0.100	3.09	3.08	0.101	0.0850 to 0.115	90.0	70.0 to 130	0.324	20.0
BD15750	Mercury, Total by CVAA	mg/L	0.000	0.000500	0.004	0.00417	0.00414	0.00379	0.00340 to 0.00460	104	70.0 to 130	0.722	20.0
BD15751	Molybdenum, Dissolved	mg/L	0.000424	0.0100	0.2	0.193	0.194	0.195	0.170 to 0.230	96.5	70.0 to 130	0.517	20.0
BD15750	Molybdenum, Total	mg/L	0.000	0.0100	0.2	0.196	0.195	0.197	0.170 to 0.230	98.0	70.0 to 130	0.512	20.0
BD15751	Potassium, Dissolved	mg/L	-0.00187	0.367	10.0	16.4	16.1	10.1	8.50 to 11.5	99.7	70.0 to 130	1.85	20.0
BD15750	Potassium, Total	mg/L	-0.00486	0.367	10.0	15.3	15.5	9.95	8.50 to 11.5	95.7	70.0 to 130	1.30	20.0
BD15751	Selenium, Dissolved	mg/L	0.0000413	0.00100	0.100	0.103	0.103	0.102	0.0850 to 0.115	99.9	70.0 to 130	0.00	20.0
BD15750	Selenium, Total	mg/L	0.0000035	0.00100	0.100	0.103	0.103	0.106	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BD15751	Silicon, Dissolved	mg/L	0.000291	0.0440	1.00	7.47	7.48	1.00	0.850 to 1.15	99.0	70.0 to 130	0.134	20.0
BD15750	Silicon, Total	mg/L	-0.00039	0.0440	1.00	8.60	8.54	0.994	0.850 to 1.15	98.0	70.0 to 130	0.700	20.0
BD15751	Sodium, Dissolved	mg/L	0.00414	0.0880	5.00	33.7	34.0	4.88	4.25 to 5.75	102	70.0 to 130	0.886	20.0
BD15750	Sodium, Total	mg/L	0.000994	0.0880	5.00	40.8	40.7	4.88	4.25 to 5.75	118	70.0 to 130	0.245	20.0
BD15750	Sulfate	mg/L	0.499	2.0	3200	5220	5490	20.1	18.0 to 22.0	91.6	80.0 to 120	5.04	20.0
BD15751	Thallium, Dissolved	mg/L	-0.0000298	0.000147	0.100	0.101	0.0972	0.102	0.0850 to 0.115	101	70.0 to 130	3.83	20.0
BD15750	Thallium, Total	mg/L	0.0000074	0.000147	0.100	0.0967	0.0981	0.0994	0.0850 to 0.115	96.7	70.0 to 130	1.44	20.0
BD15750	Total Organic Carbon	mg/L	0.175	1.00	10.0	9.85	10.7	23.9		88.3	80.0 to 120	8.27	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

## Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/16/23 15:05

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-17R

**Laboratory ID Number:** BD15744

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BD15751	Alkalinity	mg CaCO3/L					184	51.3	45.0 to 55.0			0.542	10.0
BD15750	Nitrogen, Nitrate/Nitrite	mg/L as N	-0.07	0.200	2.00	2.02	-0.080	2.00	1.80 to 2.20	101	90.0 to 110	0.00	15.0
BD15746	Solids, Dissolved	mg/L	1.00	25.0			3680	49.0	40.0 to 60.0			1.09	10.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.



# Certificate Of Analysis

**Description:** Gorgas Landfill Equipment Blank-1

**Location Code:** WMWGORLFEB  
**Collected:** 8/16/23 15:40  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15745

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>					
* Boron, Total	8/18/23 11:30	8/22/23 11:33		1.015	Not Detected	mg/L	0.030000	0.1015	U	
* Calcium, Total	8/18/23 11:30	8/22/23 11:33		1.015	0.0828	mg/L	0.070035	0.406	J	
* Iron, Total	8/18/23 11:30	8/22/23 11:33		1.015	Not Detected	mg/L	0.008120	0.0406	U	
* Lithium, Total	8/18/23 11:30	8/22/23 11:33		1.015	Not Detected	mg/L	0.007105	0.01999956	U	
* Magnesium, Total	8/18/23 11:30	8/22/23 11:33		1.015	0.0817	mg/L	0.021315	0.406	J	
* Molybdenum, Total	8/18/23 11:30	8/22/23 11:33		1.015	Not Detected	mg/L	0.005075	0.01015	U	
* Silica, Total (calc.)	8/18/23 11:30	8/22/23 11:33		1	Not Detected	mg/L				
* Silicon, Total	8/18/23 11:30	8/22/23 11:33		1.015	Not Detected	mg/L	0.02030	0.25375	U	
* Sodium, Total	8/18/23 11:30	8/22/23 11:33		1.015	Not Detected	mg/L	0.04060	0.406	U	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>			<b>Preparation Method: EPA 1638</b>					
* Antimony, Total	8/18/23 11:30	8/18/23 13:56		1.015	Not Detected	mg/L	0.000710	0.001015	U	
* Aluminum, Total	8/18/23 11:30	8/18/23 13:56		1.015	Not Detected	mg/L	0.009135	0.05075	U	
* Arsenic, Total	8/18/23 11:30	8/18/23 13:56		1.015	Not Detected	mg/L	0.000112	0.000203	U	
* Barium, Total	8/18/23 11:30	8/18/23 13:56		1.015	Not Detected	mg/L	0.000508	0.001015	U	
* Beryllium, Total	8/18/23 11:30	8/18/23 13:56		1.015	Not Detected	mg/L	0.000406	0.001015	U	
* Cadmium, Total	8/18/23 11:30	8/18/23 13:56		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Chromium, Total	8/18/23 11:30	8/18/23 13:56		1.015	Not Detected	mg/L	0.000203	0.001015	U	
* Cobalt, Total	8/18/23 11:30	8/18/23 13:56		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Lead, Total	8/18/23 11:30	8/18/23 13:56		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Manganese, Total	8/18/23 11:30	8/18/23 13:56		1.015	0.00176	mg/L	0.000152	0.001015		
* Potassium, Total	8/18/23 11:30	8/18/23 13:56		1.015	Not Detected	mg/L	0.169505	0.5075	U	
* Selenium, Total	8/18/23 11:30	8/18/23 13:56		1.015	Not Detected	mg/L	0.000508	0.001015	U	
* Thallium, Total	8/18/23 11:30	8/18/23 13:56		1.015	Not Detected	mg/L	0.000068	0.000203	U	
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: ABB</b>								
* Mercury, Total by CVAA	8/22/23 17:17	8/22/23 22:25		1	Not Detected	mg/L	0.0003	0.0005	U	
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: SC</b>								
* Nitrogen, Nitrate/Nitrite	8/18/23 10:40	8/18/23 10:40		1	Not Detected	mg/L as N	0.20	0.3	U	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>								
* Solids, Dissolved	8/17/23 11:10	8/18/23 13:20		1	Not Detected	mg/L		25	U	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:**

# Certificate Of Analysis

**Description:** Gorgas Landfill Equipment Blank-1

**Location Code:** WMWGORLFEB  
**Collected:** 8/16/23 15:40  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15745

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: SC</b>							
* Total Organic Carbon	8/17/23 20:24	8/17/23 20:24		1	Not Detected	mg/L	1.00	2	U
<b>Analytical Method: SM4500CI E</b>		<b>Analyst: JCC</b>							
* Chloride	8/18/23 09:41	8/18/23 09:41		1	Not Detected	mg/L	0.50	1	U
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	8/17/23 13:27	8/17/23 13:27		1	Not Detected	mg/L	0.06	0.125	U
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	8/23/23 12:12	8/23/23 12:12		1	3.34	mg/L	0.6	2	

---

MDL's and RL's are adjusted for sample dilution, as applicable

---

**Comments:**

# Batch QC Summary

**Customer Account:** WMWGORLFEB

**Sample Date:** 8/16/23 15:40

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill Equipment Blank-1

**Laboratory ID Number:** BD15745

Sample	Analysis	Units	MB				Standard		Rec		Prec	Limit	
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec			Limit
BD15750	Aluminum, Total	mg/L	0.00553	0.0198	0.100	0.103	0.103	0.101	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BD15750	Antimony, Total	mg/L	0.000304	0.00100	0.100	0.0957	0.0951	0.0915	0.0850 to 0.115	95.7	70.0 to 130	0.629	20.0
BD15750	Arsenic, Total	mg/L	0.0000161	0.000200	0.100	0.104	0.106	0.103	0.0850 to 0.115	104	70.0 to 130	1.90	20.0
BD15750	Barium, Total	mg/L	-0.0000098	0.00100	0.100	0.104	0.104	0.0933	0.0850 to 0.115	94.4	70.0 to 130	0.00	20.0
BD15750	Beryllium, Total	mg/L	-0.0000104	0.000880	0.100	0.107	0.108	0.101	0.0850 to 0.115	107	70.0 to 130	0.930	20.0
BD15750	Boron, Total	mg/L	-0.000022	0.0650	1.00	1.07	1.07	0.993	0.850 to 1.15	103	70.0 to 130	0.00	20.0
BD15750	Cadmium, Total	mg/L	0.0000000	0.000147	0.100	0.0967	0.102	0.101	0.0850 to 0.115	96.6	70.0 to 130	5.33	20.0
BD15750	Calcium, Total	mg/L	-0.0174	0.152	5.00	357	387	4.91	4.25 to 5.75	20.0	70.0 to 130	8.06	20.0
BD15750	Chloride	mg/L	-0.0734	1.00	10.0	12.2	12.1	9.93	9.00 to 11.0	101	80.0 to 120	0.823	20.0
BD15750	Chromium, Total	mg/L	0.0000700	0.000440	0.100	0.0968	0.0959	0.0985	0.0850 to 0.115	96.6	70.0 to 130	0.934	20.0
BD15750	Cobalt, Total	mg/L	-0.0000044	0.000147	0.100	0.143	0.142	0.101	0.0850 to 0.115	99.8	70.0 to 130	0.702	20.0
BD15750	Fluoride	mg/L	0.017	0.125	2.50	3.00	3.01	2.59	2.25 to 2.75	108	80.0 to 120	0.333	20.0
BD15750	Iron, Total	mg/L	0.00125	0.0176	0.2	3.02	2.98	0.196	0.170 to 0.230	85.0	70.0 to 130	1.33	20.0
BD15750	Lead, Total	mg/L	0.0000050	0.000147	0.100	0.0944	0.0961	0.0970	0.0850 to 0.115	94.3	70.0 to 130	1.78	20.0
BD15750	Lithium, Total	mg/L	-0.000259	0.0154	0.200	0.281	0.281	0.193	0.170 to 0.230	112	70.0 to 130	0.00	20.0
BD15750	Magnesium, Total	mg/L	-0.0418	0.0462	5.00	372	394	4.94	4.25 to 5.75	20.0	70.0 to 130	5.74	20.0
BD15750	Manganese, Total	mg/L	0.0000037	0.00033	0.100	3.09	3.08	0.101	0.0850 to 0.115	90.0	70.0 to 130	0.324	20.0
BD15750	Mercury, Total by CVAA	mg/L	0.000	0.000500	0.004	0.00417	0.00414	0.00379	0.00340 to 0.00460	104	70.0 to 130	0.722	20.0
BD15750	Molybdenum, Total	mg/L	0.000	0.0100	0.2	0.196	0.195	0.197	0.170 to 0.230	98.0	70.0 to 130	0.512	20.0
BD15750	Potassium, Total	mg/L	-0.00486	0.367	10.0	15.3	15.5	9.95	8.50 to 11.5	95.7	70.0 to 130	1.30	20.0
BD15750	Selenium, Total	mg/L	0.0000035	0.00100	0.100	0.103	0.103	0.106	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BD15750	Silicon, Total	mg/L	-0.00039	0.0440	1.00	8.60	8.54	0.994	0.850 to 1.15	98.0	70.0 to 130	0.700	20.0
BD15750	Sodium, Total	mg/L	0.000994	0.0880	5.00	40.8	40.7	4.88	4.25 to 5.75	118	70.0 to 130	0.245	20.0
BD15750	Sulfate	mg/L	0.499	2.0	3200	5220	5490	20.1	18.0 to 22.0	91.6	80.0 to 120	5.04	20.0

**Comments:**

# Batch QC Summary

**Customer Account:** WMWGORLFEB

**Sample Date:** 8/16/23 15:40

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill Equipment Blank-1

**Laboratory ID Number:** BD15745

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit	Prec	Limit
BD15750	Thallium, Total	mg/L	0.0000074	0.000147	0.100	0.0967	0.0981	0.0994	0.0850 to 0.115	96.7	70.0 to 130	1.44	20.0
BD15750	Total Organic Carbon	mg/L	0.175	1.00	10.0	9.85	10.7	23.9		88.3	80.0 to 120	8.27	20.0

**Comments:**

## Batch QC Summary

**Customer Account:** WMWGORLFEB

**Sample Date:** 8/16/23 15:40

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill Equipment Blank-1

**Laboratory ID Number:** BD15745

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BD15750	Nitrogen, Nitrate/Nitrite	mg/L as N	-0.07	0.200	2.00	2.02	-0.080	2.00	1.80 to 2.20	101	90.0 to 110	0.00	15.0
BD15746	Solids, Dissolved	mg/L	1.00	25.0			3680	49.0	40.0 to 60.0			1.09	10.0

---

**Comments:**

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-5

**Location Code:** WMWGORLF  
**Collected:** 8/16/23 10:40  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15746

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Total	8/18/23 11:30	8/22/23 11:36		1.015	0.0320	mg/L	0.030000	0.1015	J
* Calcium, Total	8/18/23 11:30	8/22/23 14:53		101.5	361	mg/L	7.0035	40.6	
* Iron, Total	8/18/23 11:30	8/22/23 11:36		1.015	1.04	mg/L	0.008120	0.0406	
* Lithium, Total	8/18/23 11:30	8/22/23 11:36		1.015	0.0864	mg/L	0.007105	0.01999956	
* Magnesium, Total	8/18/23 11:30	8/22/23 14:53		101.5	400	mg/L	2.1315	40.6	
* Molybdenum, Total	8/18/23 11:30	8/22/23 11:36		1.015	Not Detected	mg/L	0.005075	0.01015	U
* Silica, Total (calc.)	8/18/23 11:30	8/22/23 11:36		1	16.0	mg/L			
* Silicon, Total	8/18/23 11:30	8/22/23 11:36		1.015	7.48	mg/L	0.02030	0.25375	
* Sodium, Total	8/18/23 11:30	8/22/23 14:53		101.5	54.3	mg/L	4.060	40.6	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>							
* Boron, Dissolved	8/18/23 14:30	8/24/23 11:24		1.015	Not Detected	mg/L	0.030000	0.1015	U
* Calcium, Dissolved	8/18/23 14:30	8/24/23 13:18		101.5	413	mg/L	7.0035	40.6	
* Iron, Dissolved	8/18/23 14:30	8/24/23 11:24		1.015	0.450	mg/L	0.008120	0.0406	
* Lithium, Dissolved	8/18/23 14:30	8/24/23 11:24		1.015	0.0824	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	8/18/23 14:30	8/24/23 13:18		101.5	477	mg/L	2.1315	40.6	
* Molybdenum, Dissolved	8/18/23 14:30	8/24/23 11:24		1.015	Not Detected	mg/L	0.005075	0.01015	U
* Silica, Dissolved (calc.)	8/18/23 14:30	8/24/23 11:24		1	15.3	mg/L			
* Silicon, Dissolved	8/18/23 14:30	8/24/23 11:24		1.015	7.14	mg/L	0.02030	0.25375	
* Sodium, Dissolved	8/18/23 14:30	8/24/23 13:18		101.5	65.7	mg/L	4.060	40.6	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>			<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	8/18/23 11:30	8/18/23 14:00		1.015	Not Detected	mg/L	0.000710	0.001015	U
* Aluminum, Total	8/18/23 11:30	8/18/23 14:00		1.015	0.0469	mg/L	0.009135	0.05075	J
* Arsenic, Total	8/18/23 11:30	8/18/23 14:00		1.015	0.000224	mg/L	0.000112	0.000203	
* Barium, Total	8/18/23 11:30	8/18/23 14:00		1.015	0.0111	mg/L	0.000508	0.001015	
* Beryllium, Total	8/18/23 11:30	8/18/23 14:00		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	8/18/23 11:30	8/18/23 14:00		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	8/18/23 11:30	8/18/23 14:00		1.015	0.000324	mg/L	0.000203	0.001015	J
* Cobalt, Total	8/18/23 11:30	8/18/23 14:00		1.015	0.000931	mg/L	0.000068	0.000203	
* Lead, Total	8/18/23 11:30	8/18/23 14:00		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	8/18/23 11:30	8/18/23 14:00		1.015	0.400	mg/L	0.000152	0.001015	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-5

**Location Code:** WMWGORLF  
**Collected:** 8/16/23 10:40  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15746

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Potassium, Total	8/18/23 11:30	8/18/23 14:00		1.015	6.25	mg/L	0.169505	0.5075	
* Selenium, Total	8/18/23 11:30	8/18/23 14:00		1.015	0.00247	mg/L	0.000508	0.001015	
* Thallium, Total	8/18/23 11:30	8/18/23 14:00		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	8/18/23 14:30	8/21/23 12:02		1.015	Not Detected	mg/L	0.000710	0.001015	U
* Aluminum, Dissolved	8/18/23 14:30	8/21/23 12:02		1.015	Not Detected	mg/L	0.009135	0.05075	U
* Arsenic, Dissolved	8/18/23 14:30	8/21/23 12:02		1.015	0.000119	mg/L	0.000112	0.000203	J
* Barium, Dissolved	8/18/23 14:30	8/21/23 12:02		1.015	0.0101	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	8/18/23 14:30	8/21/23 12:02		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	8/18/23 14:30	8/21/23 12:02		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	8/18/23 14:30	8/21/23 12:02		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	8/18/23 14:30	8/21/23 12:02		1.015	0.00109	mg/L	0.000068	0.000203	
* Lead, Dissolved	8/18/23 14:30	8/21/23 12:02		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	8/18/23 14:30	8/21/23 12:02		1.015	0.500	mg/L	0.000152	0.001015	
* Potassium, Dissolved	8/18/23 14:30	8/21/23 12:02		1.015	6.19	mg/L	0.169505	0.5075	
* Selenium, Dissolved	8/18/23 14:30	8/21/23 12:02		1.015	0.00267	mg/L	0.000508	0.001015	
* Thallium, Dissolved	8/18/23 14:30	8/21/23 12:02		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: ABB</b>							
* Mercury, Total by CVAA	8/22/23 17:17	8/22/23 22:29		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: SC</b>							
* Nitrogen, Nitrate/Nitrite	8/18/23 10:42	8/18/23 10:42		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: DHC</b>							
* Alkalinity	8/28/23 09:07	8/28/23 13:56		1	289	mg CaCO3/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	8/17/23 11:10	8/18/23 13:20		1	3640	mg/L		208.3	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: DHC</b>							
* Bicarbonate Alkalinity, (calc.)	8/28/23 09:07	8/28/23 13:56		1	289	mg CaCO3/L		1	A
* Carbonate Alkalinity, (calc.)	8/28/23 09:07	8/28/23 13:56		1	Not Detected	mg CaCO3/L		0.5	A
<b>Analytical Method: SM 4500H+ B</b>		<b>Analyst: DHC</b>							
Alkalinity pH Endpoint	8/28/23 09:07	8/28/23 13:56		1	4.51	SU		2	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-5

**Location Code:** WMWGORLF  
**Collected:** 8/16/23 10:40  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15746

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: SC</b>							
* Total Organic Carbon	8/17/23 20:41	8/17/23 20:41		1	1.55	mg/L	1.00	2	J
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	8/18/23 09:44	8/18/23 09:44		1	7.19	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	8/17/23 13:28	8/17/23 13:28		1	0.266	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	8/23/23 12:27	8/23/23 12:27		100	2310	mg/L	60.0	200	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: AWG</b>							
Conductivity	8/16/23 10:37	8/16/23 10:37			3518.09	uS/cm			FA
pH	8/16/23 10:37	8/16/23 10:37			6.50	SU			FA
Temperature	8/16/23 10:37	8/16/23 10:37			24.07	C			FA
Turbidity	8/16/23 10:37	8/16/23 10:37			6.87	NTU			FA
Sulfide	8/16/23 10:37	8/16/23 10:37			0	mg/L			FA

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.



# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/16/23 10:40

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-5

**Laboratory ID Number:** BD15746

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BD15751	Aluminum, Dissolved	mg/L	0.000155	0.0198	0.100	0.102	0.0989	0.105	0.0850 to 0.115	102	70.0 to 130	3.09	20.0
BD15750	Aluminum, Total	mg/L	0.00553	0.0198	0.100	0.103	0.103	0.101	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BD15751	Antimony, Dissolved	mg/L	0.000319	0.00100	0.100	0.0881	0.0929	0.0854	0.0850 to 0.115	88.1	70.0 to 130	5.30	20.0
BD15750	Antimony, Total	mg/L	0.000304	0.00100	0.100	0.0957	0.0951	0.0915	0.0850 to 0.115	95.7	70.0 to 130	0.629	20.0
BD15751	Arsenic, Dissolved	mg/L	0.0000034	0.000200	0.100	0.0993	0.0981	0.101	0.0850 to 0.115	99.3	70.0 to 130	1.22	20.0
BD15750	Arsenic, Total	mg/L	0.0000161	0.000200	0.100	0.104	0.106	0.103	0.0850 to 0.115	104	70.0 to 130	1.90	20.0
BD15751	Barium, Dissolved	mg/L	0.0000346	0.00100	0.100	0.104	0.110	0.0939	0.0850 to 0.115	95.2	70.0 to 130	5.61	20.0
BD15750	Barium, Total	mg/L	-0.0000098	0.00100	0.100	0.104	0.104	0.0933	0.0850 to 0.115	94.4	70.0 to 130	0.00	20.0
BD15751	Beryllium, Dissolved	mg/L	0.0000164	0.000880	0.100	0.104	0.100	0.0939	0.0850 to 0.115	104	70.0 to 130	3.92	20.0
BD15750	Beryllium, Total	mg/L	-0.0000104	0.000880	0.100	0.107	0.108	0.101	0.0850 to 0.115	107	70.0 to 130	0.930	20.0
BD15751	Boron, Dissolved	mg/L	0.000396	0.0650	1.00	1.04	1.04	0.987	0.850 to 1.15	101	70.0 to 130	0.00	20.0
BD15750	Boron, Total	mg/L	-0.000022	0.0650	1.00	1.07	1.07	0.993	0.850 to 1.15	103	70.0 to 130	0.00	20.0
BD15751	Cadmium, Dissolved	mg/L	0.0000067	0.000147	0.100	0.0951	0.0975	0.0988	0.0850 to 0.115	95.1	70.0 to 130	2.49	20.0
BD15750	Cadmium, Total	mg/L	0.0000000	0.000147	0.100	0.0967	0.102	0.101	0.0850 to 0.115	96.6	70.0 to 130	5.33	20.0
BD15751	Calcium, Dissolved	mg/L	-0.0283	0.152	5.00	327	328	4.62	4.25 to 5.75	180	70.0 to 130	0.305	20.0
BD15750	Calcium, Total	mg/L	-0.0174	0.152	5.00	357	387	4.91	4.25 to 5.75	20.0	70.0 to 130	8.06	20.0
BD15750	Chloride	mg/L	-0.0734	1.00	10.0	12.2	12.1	9.93	9.00 to 11.0	101	80.0 to 120	0.823	20.0
BD15751	Chromium, Dissolved	mg/L	-0.0000122	0.000440	0.100	0.0945	0.0931	0.0973	0.0850 to 0.115	94.5	70.0 to 130	1.49	20.0
BD15750	Chromium, Total	mg/L	0.0000700	0.000440	0.100	0.0968	0.0959	0.0985	0.0850 to 0.115	96.6	70.0 to 130	0.934	20.0
BD15751	Cobalt, Dissolved	mg/L	-0.0000488	0.000147	0.100	0.0962	0.0954	0.0996	0.0850 to 0.115	96.2	70.0 to 130	0.835	20.0
BD15750	Cobalt, Total	mg/L	-0.0000044	0.000147	0.100	0.143	0.142	0.101	0.0850 to 0.115	99.8	70.0 to 130	0.702	20.0
BD15750	Fluoride	mg/L	0.017	0.125	2.50	3.00	3.01	2.59	2.25 to 2.75	108	80.0 to 120	0.333	20.0
BD15751	Iron, Dissolved	mg/L	-0.00135	0.0176	0.2	0.190	0.191	0.198	0.170 to 0.230	95.0	70.0 to 130	0.525	20.0
BD15750	Iron, Total	mg/L	0.00125	0.0176	0.2	3.02	2.98	0.196	0.170 to 0.230	85.0	70.0 to 130	1.33	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/16/23 10:40

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-5

**Laboratory ID Number:** BD15746

Sample	Analysis	Units	MB				Standard		Rec		Prec	Limit	
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec			Limit
BD15751	Lead, Dissolved	mg/L	0.0000023	0.000147	0.100	0.0991	0.0984	0.101	0.0850 to 0.115	99.1	70.0 to 130	0.709	20.0
BD15750	Lead, Total	mg/L	0.0000050	0.000147	0.100	0.0944	0.0961	0.0970	0.0850 to 0.115	94.3	70.0 to 130	1.78	20.0
BD15751	Lithium, Dissolved	mg/L	0.000173	0.0154	0.200	0.256	0.260	0.190	0.170 to 0.230	103	70.0 to 130	1.55	20.0
BD15750	Lithium, Total	mg/L	-0.000259	0.0154	0.200	0.281	0.281	0.193	0.170 to 0.230	112	70.0 to 130	0.00	20.0
BD15751	Magnesium, Dissolved	mg/L	-0.00201	0.0462	5.00	338	342	4.89	4.25 to 5.75	60.0	70.0 to 130	1.18	20.0
BD15750	Magnesium, Total	mg/L	-0.0418	0.0462	5.00	372	394	4.94	4.25 to 5.75	20.0	70.0 to 130	5.74	20.0
BD15751	Manganese, Dissolved	mg/L	0.0000019	0.00033	0.100	0.103	0.101	0.104	0.0850 to 0.115	103	70.0 to 130	1.96	20.0
BD15750	Manganese, Total	mg/L	0.0000037	0.00033	0.100	3.09	3.08	0.101	0.0850 to 0.115	90.0	70.0 to 130	0.324	20.0
BD15750	Mercury, Total by CVAA	mg/L	0.000	0.000500	0.004	0.00417	0.00414	0.00379	0.00340 to 0.00460	104	70.0 to 130	0.722	20.0
BD15751	Molybdenum, Dissolved	mg/L	0.000424	0.0100	0.2	0.193	0.194	0.195	0.170 to 0.230	96.5	70.0 to 130	0.517	20.0
BD15750	Molybdenum, Total	mg/L	0.000	0.0100	0.2	0.196	0.195	0.197	0.170 to 0.230	98.0	70.0 to 130	0.512	20.0
BD15751	Potassium, Dissolved	mg/L	-0.00187	0.367	10.0	16.4	16.1	10.1	8.50 to 11.5	99.7	70.0 to 130	1.85	20.0
BD15750	Potassium, Total	mg/L	-0.00486	0.367	10.0	15.3	15.5	9.95	8.50 to 11.5	95.7	70.0 to 130	1.30	20.0
BD15751	Selenium, Dissolved	mg/L	0.0000413	0.00100	0.100	0.103	0.103	0.102	0.0850 to 0.115	99.9	70.0 to 130	0.00	20.0
BD15750	Selenium, Total	mg/L	0.0000035	0.00100	0.100	0.103	0.103	0.106	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BD15751	Silicon, Dissolved	mg/L	0.000291	0.0440	1.00	7.47	7.48	1.00	0.850 to 1.15	99.0	70.0 to 130	0.134	20.0
BD15750	Silicon, Total	mg/L	-0.00039	0.0440	1.00	8.60	8.54	0.994	0.850 to 1.15	98.0	70.0 to 130	0.700	20.0
BD15751	Sodium, Dissolved	mg/L	0.00414	0.0880	5.00	33.7	34.0	4.88	4.25 to 5.75	102	70.0 to 130	0.886	20.0
BD15750	Sodium, Total	mg/L	0.000994	0.0880	5.00	40.8	40.7	4.88	4.25 to 5.75	118	70.0 to 130	0.245	20.0
BD15750	Sulfate	mg/L	0.499	2.0	3200	5220	5490	20.1	18.0 to 22.0	91.6	80.0 to 120	5.04	20.0
BD15751	Thallium, Dissolved	mg/L	-0.0000298	0.000147	0.100	0.101	0.0972	0.102	0.0850 to 0.115	101	70.0 to 130	3.83	20.0
BD15750	Thallium, Total	mg/L	0.0000074	0.000147	0.100	0.0967	0.0981	0.0994	0.0850 to 0.115	96.7	70.0 to 130	1.44	20.0
BD15750	Total Organic Carbon	mg/L	0.175	1.00	10.0	9.85	10.7	23.9		88.3	80.0 to 120	8.27	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

## Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/16/23 10:40

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-5

**Laboratory ID Number:** BD15746

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BD15751	Alkalinity	mg CaCO3/L					184	51.3	45.0 to 55.0			0.542	10.0
BD15750	Nitrogen, Nitrate/Nitrite	mg/L as N	-0.07	0.200	2.00	2.02	-0.080	2.00	1.80 to 2.20	101	90.0 to 110	0.00	15.0
BD15746	Solids, Dissolved	mg/L	1.00	25.0			3680	49.0	40.0 to 60.0			1.09	10.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-6

**Location Code:** WMWGORLF  
**Collected:** 8/16/23 12:20  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15747

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Total	8/18/23 11:30	8/22/23 11:39		1.015	0.0686	mg/L	0.030000	0.1015	J
* Calcium, Total	8/18/23 11:30	8/22/23 14:56		101.5	383	mg/L	7.0035	40.6	
* Iron, Total	8/18/23 11:30	8/22/23 14:56		101.5	32.3	mg/L	0.8120	4.06	
* Lithium, Total	8/18/23 11:30	8/22/23 11:39		1.015	0.198	mg/L	0.007105	0.01999956	
* Magnesium, Total	8/18/23 11:30	8/22/23 14:56		101.5	261	mg/L	2.1315	40.6	
* Molybdenum, Total	8/18/23 11:30	8/22/23 11:39		1.015	Not Detected	mg/L	0.005075	0.01015	U
* Silica, Total (calc.)	8/18/23 11:30	8/22/23 11:39		1	27.2	mg/L			
* Silicon, Total	8/18/23 11:30	8/22/23 11:39		1.015	12.7	mg/L	0.02030	0.25375	
* Sodium, Total	8/18/23 11:30	8/22/23 14:56		101.5	61.4	mg/L	4.060	40.6	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	8/18/23 14:30	8/24/23 11:27		1.015	0.0650	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	8/18/23 14:30	8/24/23 13:21		101.5	362	mg/L	7.0035	40.6	
* Iron, Dissolved	8/18/23 14:30	8/24/23 13:21		101.5	30.6	mg/L	0.8120	4.06	
* Lithium, Dissolved	8/18/23 14:30	8/24/23 11:27		1.015	0.192	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	8/18/23 14:30	8/24/23 13:21		101.5	257	mg/L	2.1315	40.6	
* Molybdenum, Dissolved	8/18/23 14:30	8/24/23 11:27		1.015	Not Detected	mg/L	0.005075	0.01015	U
* Silica, Dissolved (calc.)	8/18/23 14:30	8/24/23 11:27		1	26.8	mg/L			
* Silicon, Dissolved	8/18/23 14:30	8/24/23 11:27		1.015	12.5	mg/L	0.02030	0.25375	
* Sodium, Dissolved	8/18/23 14:30	8/24/23 13:21		101.5	62.8	mg/L	4.060	40.6	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>			<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	8/18/23 11:30	8/18/23 14:03		1.015	Not Detected	mg/L	0.000710	0.001015	U
* Aluminum, Total	8/18/23 11:30	8/18/23 14:03		1.015	0.0217	mg/L	0.009135	0.05075	J
* Arsenic, Total	8/18/23 11:30	8/18/23 14:03		1.015	0.00498	mg/L	0.000112	0.000203	
* Barium, Total	8/18/23 11:30	8/18/23 14:03		1.015	0.0129	mg/L	0.000508	0.001015	
* Beryllium, Total	8/18/23 11:30	8/18/23 14:03		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	8/18/23 11:30	8/18/23 14:03		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	8/18/23 11:30	8/18/23 14:03		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Total	8/18/23 11:30	8/18/23 14:03		1.015	0.0520	mg/L	0.000068	0.000203	
* Lead, Total	8/18/23 11:30	8/18/23 14:03		1.015	0.000191	mg/L	0.000068	0.000203	J
* Manganese, Total	8/18/23 11:30	8/21/23 11:49		10.15	7.43	mg/L	0.001522	0.01015	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-6

**Location Code:** WMWGORLF  
**Collected:** 8/16/23 12:20  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15747

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Potassium, Total	8/18/23 11:30	8/18/23 14:03		1.015	6.04	mg/L	0.169505	0.5075	
* Selenium, Total	8/18/23 11:30	8/18/23 14:03		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	8/18/23 11:30	8/18/23 14:03		1.015	0.0000939	mg/L	0.000068	0.000203	J
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	8/18/23 14:30	8/21/23 12:05		1.015	Not Detected	mg/L	0.000710	0.001015	U
* Aluminum, Dissolved	8/18/23 14:30	8/21/23 12:05		1.015	Not Detected	mg/L	0.009135	0.05075	U
* Arsenic, Dissolved	8/18/23 14:30	8/21/23 12:05		1.015	0.00409	mg/L	0.000112	0.000203	
* Barium, Dissolved	8/18/23 14:30	8/21/23 12:05		1.015	0.0134	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	8/18/23 14:30	8/21/23 12:05		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	8/18/23 14:30	8/21/23 12:05		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	8/18/23 14:30	8/21/23 12:05		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	8/18/23 14:30	8/21/23 12:05		1.015	0.0493	mg/L	0.000068	0.000203	
* Lead, Dissolved	8/18/23 14:30	8/21/23 12:05		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	8/18/23 14:30	8/21/23 13:24		10.15	7.96	mg/L	0.001522	0.01015	
* Potassium, Dissolved	8/18/23 14:30	8/21/23 12:05		1.015	6.08	mg/L	0.169505	0.5075	
* Selenium, Dissolved	8/18/23 14:30	8/21/23 12:05		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	8/18/23 14:30	8/21/23 12:05		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: ABB</b>							
* Mercury, Total by CVAA	8/22/23 17:17	8/22/23 22:33		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: SC</b>							
* Nitrogen, Nitrate/Nitrite	8/18/23 10:43	8/18/23 10:43		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: DHC</b>							
* Alkalinity	8/28/23 09:07	8/28/23 13:56		1	172	mg CaCO3/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	8/18/23 10:50	8/21/23 13:15		1	3140	mg/L		178.6	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: DHC</b>							
* Bicarbonate Alkalinity, (calc.)	8/28/23 09:07	8/28/23 13:56		1	172	mg CaCO3/L		1	A
* Carbonate Alkalinity, (calc.)	8/28/23 09:07	8/28/23 13:56		1	Not Detected	mg CaCO3/L		0.5	A
<b>Analytical Method: SM 4500H+ B</b>		<b>Analyst: DHC</b>							
Alkalinity pH Endpoint	8/28/23 09:07	8/28/23 13:56		1	4.49	SU		2	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-6

**Location Code:** WMWGORLF

**Collected:** 8/16/23 12:20

**Customer ID:**

**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15747

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: SC</b>							
* Total Organic Carbon	8/17/23 20:58	8/17/23 20:58		1	1.10	mg/L	1.00	2	J
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	8/18/23 09:45	8/18/23 09:45		1	3.36	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	8/17/23 13:29	8/17/23 13:29		1	0.0931	mg/L	0.06	0.125	J
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	8/23/23 12:28	8/23/23 12:28		100	2060	mg/L	60.0	200	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: AWG</b>							
Conductivity	8/16/23 12:16	8/16/23 12:16			3036.34	uS/cm			FA
pH	8/16/23 12:16	8/16/23 12:16			6.01	SU			FA
Temperature	8/16/23 12:16	8/16/23 12:16			22.19	C			FA
Turbidity	8/16/23 12:16	8/16/23 12:16			5.76	NTU			FA
Sulfide	8/16/23 12:16	8/16/23 12:16			0	mg/L			FA

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/16/23 12:20

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-6

**Laboratory ID Number:** BD15747

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BD15751	Aluminum, Dissolved	mg/L	0.000155	0.0198	0.100	0.102	0.0989	0.105	0.0850 to 0.115	102	70.0 to 130	3.09	20.0
BD15750	Aluminum, Total	mg/L	0.00553	0.0198	0.100	0.103	0.103	0.101	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BD15751	Antimony, Dissolved	mg/L	0.000319	0.00100	0.100	0.0881	0.0929	0.0854	0.0850 to 0.115	88.1	70.0 to 130	5.30	20.0
BD15750	Antimony, Total	mg/L	0.000304	0.00100	0.100	0.0957	0.0951	0.0915	0.0850 to 0.115	95.7	70.0 to 130	0.629	20.0
BD15751	Arsenic, Dissolved	mg/L	0.0000034	0.000200	0.100	0.0993	0.0981	0.101	0.0850 to 0.115	99.3	70.0 to 130	1.22	20.0
BD15750	Arsenic, Total	mg/L	0.0000161	0.000200	0.100	0.104	0.106	0.103	0.0850 to 0.115	104	70.0 to 130	1.90	20.0
BD15751	Barium, Dissolved	mg/L	0.0000346	0.00100	0.100	0.104	0.110	0.0939	0.0850 to 0.115	95.2	70.0 to 130	5.61	20.0
BD15750	Barium, Total	mg/L	-0.0000098	0.00100	0.100	0.104	0.104	0.0933	0.0850 to 0.115	94.4	70.0 to 130	0.00	20.0
BD15751	Beryllium, Dissolved	mg/L	0.0000164	0.000880	0.100	0.104	0.100	0.0939	0.0850 to 0.115	104	70.0 to 130	3.92	20.0
BD15750	Beryllium, Total	mg/L	-0.0000104	0.000880	0.100	0.107	0.108	0.101	0.0850 to 0.115	107	70.0 to 130	0.930	20.0
BD15751	Boron, Dissolved	mg/L	0.000396	0.0650	1.00	1.04	1.04	0.987	0.850 to 1.15	101	70.0 to 130	0.00	20.0
BD15750	Boron, Total	mg/L	-0.000022	0.0650	1.00	1.07	1.07	0.993	0.850 to 1.15	103	70.0 to 130	0.00	20.0
BD15751	Cadmium, Dissolved	mg/L	0.0000067	0.000147	0.100	0.0951	0.0975	0.0988	0.0850 to 0.115	95.1	70.0 to 130	2.49	20.0
BD15750	Cadmium, Total	mg/L	0.0000000	0.000147	0.100	0.0967	0.102	0.101	0.0850 to 0.115	96.6	70.0 to 130	5.33	20.0
BD15751	Calcium, Dissolved	mg/L	-0.0283	0.152	5.00	327	328	4.62	4.25 to 5.75	180	70.0 to 130	0.305	20.0
BD15750	Calcium, Total	mg/L	-0.0174	0.152	5.00	357	387	4.91	4.25 to 5.75	20.0	70.0 to 130	8.06	20.0
BD15750	Chloride	mg/L	-0.0734	1.00	10.0	12.2	12.1	9.93	9.00 to 11.0	101	80.0 to 120	0.823	20.0
BD15751	Chromium, Dissolved	mg/L	-0.0000122	0.000440	0.100	0.0945	0.0931	0.0973	0.0850 to 0.115	94.5	70.0 to 130	1.49	20.0
BD15750	Chromium, Total	mg/L	0.0000700	0.000440	0.100	0.0968	0.0959	0.0985	0.0850 to 0.115	96.6	70.0 to 130	0.934	20.0
BD15751	Cobalt, Dissolved	mg/L	-0.0000488	0.000147	0.100	0.0962	0.0954	0.0996	0.0850 to 0.115	96.2	70.0 to 130	0.835	20.0
BD15750	Cobalt, Total	mg/L	-0.0000044	0.000147	0.100	0.143	0.142	0.101	0.0850 to 0.115	99.8	70.0 to 130	0.702	20.0
BD15750	Fluoride	mg/L	0.017	0.125	2.50	3.00	3.01	2.59	2.25 to 2.75	108	80.0 to 120	0.333	20.0
BD15751	Iron, Dissolved	mg/L	-0.00135	0.0176	0.2	0.190	0.191	0.198	0.170 to 0.230	95.0	70.0 to 130	0.525	20.0
BD15750	Iron, Total	mg/L	0.00125	0.0176	0.2	3.02	2.98	0.196	0.170 to 0.230	85.0	70.0 to 130	1.33	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/16/23 12:20

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-6

**Laboratory ID Number:** BD15747

Sample	Analysis	Units	MB	MB		MS	MSD	Standard		Rec		Prec	Limit
				Limit	Spike			Standard	Limit	Rec	Limit		
BD15751	Lead, Dissolved	mg/L	0.0000023	0.000147	0.100	0.0991	0.0984	0.101	0.0850 to 0.115	99.1	70.0 to 130	0.709	20.0
BD15750	Lead, Total	mg/L	0.0000050	0.000147	0.100	0.0944	0.0961	0.0970	0.0850 to 0.115	94.3	70.0 to 130	1.78	20.0
BD15751	Lithium, Dissolved	mg/L	0.000173	0.0154	0.200	0.256	0.260	0.190	0.170 to 0.230	103	70.0 to 130	1.55	20.0
BD15750	Lithium, Total	mg/L	-0.000259	0.0154	0.200	0.281	0.281	0.193	0.170 to 0.230	112	70.0 to 130	0.00	20.0
BD15751	Magnesium, Dissolved	mg/L	-0.00201	0.0462	5.00	338	342	4.89	4.25 to 5.75	60.0	70.0 to 130	1.18	20.0
BD15750	Magnesium, Total	mg/L	-0.0418	0.0462	5.00	372	394	4.94	4.25 to 5.75	20.0	70.0 to 130	5.74	20.0
BD15751	Manganese, Dissolved	mg/L	0.0000019	0.00033	0.100	0.103	0.101	0.104	0.0850 to 0.115	103	70.0 to 130	1.96	20.0
BD15750	Manganese, Total	mg/L	0.0000037	0.00033	0.100	3.09	3.08	0.101	0.0850 to 0.115	90.0	70.0 to 130	0.324	20.0
BD15750	Mercury, Total by CVAA	mg/L	0.000	0.000500	0.004	0.00417	0.00414	0.00379	0.00340 to 0.00460	104	70.0 to 130	0.722	20.0
BD15751	Molybdenum, Dissolved	mg/L	0.000424	0.0100	0.2	0.193	0.194	0.195	0.170 to 0.230	96.5	70.0 to 130	0.517	20.0
BD15750	Molybdenum, Total	mg/L	0.000	0.0100	0.2	0.196	0.195	0.197	0.170 to 0.230	98.0	70.0 to 130	0.512	20.0
BD15751	Potassium, Dissolved	mg/L	-0.00187	0.367	10.0	16.4	16.1	10.1	8.50 to 11.5	99.7	70.0 to 130	1.85	20.0
BD15750	Potassium, Total	mg/L	-0.00486	0.367	10.0	15.3	15.5	9.95	8.50 to 11.5	95.7	70.0 to 130	1.30	20.0
BD15751	Selenium, Dissolved	mg/L	0.0000413	0.00100	0.100	0.103	0.103	0.102	0.0850 to 0.115	99.9	70.0 to 130	0.00	20.0
BD15750	Selenium, Total	mg/L	0.0000035	0.00100	0.100	0.103	0.103	0.106	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BD15751	Silicon, Dissolved	mg/L	0.000291	0.0440	1.00	7.47	7.48	1.00	0.850 to 1.15	99.0	70.0 to 130	0.134	20.0
BD15750	Silicon, Total	mg/L	-0.00039	0.0440	1.00	8.60	8.54	0.994	0.850 to 1.15	98.0	70.0 to 130	0.700	20.0
BD15751	Sodium, Dissolved	mg/L	0.00414	0.0880	5.00	33.7	34.0	4.88	4.25 to 5.75	102	70.0 to 130	0.886	20.0
BD15750	Sodium, Total	mg/L	0.000994	0.0880	5.00	40.8	40.7	4.88	4.25 to 5.75	118	70.0 to 130	0.245	20.0
BD15750	Sulfate	mg/L	0.499	2.0	3200	5220	5490	20.1	18.0 to 22.0	91.6	80.0 to 120	5.04	20.0
BD15751	Thallium, Dissolved	mg/L	-0.0000298	0.000147	0.100	0.101	0.0972	0.102	0.0850 to 0.115	101	70.0 to 130	3.83	20.0
BD15750	Thallium, Total	mg/L	0.0000074	0.000147	0.100	0.0967	0.0981	0.0994	0.0850 to 0.115	96.7	70.0 to 130	1.44	20.0
BD15750	Total Organic Carbon	mg/L	0.175	1.00	10.0	9.85	10.7	23.9		88.3	80.0 to 120	8.27	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.



## Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/16/23 12:20

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-6

**Laboratory ID Number:** BD15747

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BD15751	Alkalinity	mg CaCO3/L					184	51.3	45.0 to 55.0			0.542	10.0
BD15750	Nitrogen, Nitrate/Nitrite	mg/L as N	-0.07	0.200	2.00	2.02	-0.080	2.00	1.80 to 2.20	101	90.0 to 110	0.00	15.0
BD15859	Solids, Dissolved	mg/L	1.00	25.0			40.0	49.0	40.0 to 60.0			3.20	10.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-20

**Location Code:** WMWGORLF  
**Collected:** 8/16/23 13:30  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15748

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Total	8/18/23 11:30	8/22/23 11:42		1.015	0.104	mg/L	0.030000	0.1015	
* Calcium, Total	8/18/23 11:30	8/22/23 16:02		101.5	357	mg/L	7.0035	40.6	
* Iron, Total	8/18/23 11:30	8/22/23 14:59		10.15	8.04	mg/L	0.08120	0.406	
* Lithium, Total	8/18/23 11:30	8/22/23 11:42		1.015	0.205	mg/L	0.007105	0.01999956	
* Magnesium, Total	8/18/23 11:30	8/22/23 14:59		10.15	207	mg/L	0.21315	4.06	
* Molybdenum, Total	8/18/23 11:30	8/22/23 11:42		1.015	Not Detected	mg/L	0.005075	0.01015	U
* Silica, Total (calc.)	8/18/23 11:30	8/22/23 11:42		1	20.6	mg/L			
* Silicon, Total	8/18/23 11:30	8/22/23 11:42		1.015	9.62	mg/L	0.02030	0.25375	
* Sodium, Total	8/18/23 11:30	8/22/23 14:59		10.15	162	mg/L	0.4060	4.06	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	8/18/23 14:30	8/24/23 11:30		1.015	0.103	mg/L	0.030000	0.1015	
* Calcium, Dissolved	8/18/23 14:30	8/24/23 13:24		10.15	366	mg/L	0.70035	4.06	
* Iron, Dissolved	8/18/23 14:30	8/24/23 13:24		10.15	7.28	mg/L	0.08120	0.406	
* Lithium, Dissolved	8/18/23 14:30	8/24/23 11:30		1.015	0.193	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	8/18/23 14:30	8/24/23 13:24		10.15	199	mg/L	0.21315	4.06	
* Molybdenum, Dissolved	8/18/23 14:30	8/24/23 11:30		1.015	Not Detected	mg/L	0.005075	0.01015	U
* Silica, Dissolved (calc.)	8/18/23 14:30	8/24/23 11:30		1	20.5	mg/L			
* Silicon, Dissolved	8/18/23 14:30	8/24/23 11:30		1.015	9.57	mg/L	0.02030	0.25375	
* Sodium, Dissolved	8/18/23 14:30	8/24/23 13:24		10.15	159	mg/L	0.4060	4.06	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>			<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	8/18/23 11:30	8/18/23 14:07		1.015	Not Detected	mg/L	0.000710	0.001015	U
* Aluminum, Total	8/18/23 11:30	8/18/23 14:07		1.015	0.0165	mg/L	0.009135	0.05075	J
* Arsenic, Total	8/18/23 11:30	8/18/23 14:07		1.015	0.000784	mg/L	0.000112	0.000203	
* Barium, Total	8/18/23 11:30	8/18/23 14:07		1.015	0.0142	mg/L	0.000508	0.001015	
* Beryllium, Total	8/18/23 11:30	8/18/23 14:07		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	8/18/23 11:30	8/18/23 14:07		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	8/18/23 11:30	8/18/23 14:07		1.015	0.000258	mg/L	0.000203	0.001015	J
* Cobalt, Total	8/18/23 11:30	8/18/23 14:07		1.015	0.000218	mg/L	0.000068	0.000203	
* Lead, Total	8/18/23 11:30	8/18/23 14:07		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	8/18/23 11:30	8/18/23 14:07		1.015	1.01	mg/L	0.000152	0.001015	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-20

**Location Code:** WMWGORLF  
**Collected:** 8/16/23 13:30  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15748

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Potassium, Total	8/18/23 11:30	8/18/23 14:07		1.015	5.64	mg/L	0.169505	0.5075	
* Selenium, Total	8/18/23 11:30	8/18/23 14:07		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	8/18/23 11:30	8/18/23 14:07		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	8/18/23 14:30	8/21/23 12:09		1.015	Not Detected	mg/L	0.000710	0.001015	U
* Aluminum, Dissolved	8/18/23 14:30	8/21/23 12:09		1.015	Not Detected	mg/L	0.009135	0.05075	U
* Arsenic, Dissolved	8/18/23 14:30	8/21/23 12:09		1.015	0.000722	mg/L	0.000112	0.000203	
* Barium, Dissolved	8/18/23 14:30	8/21/23 12:09		1.015	0.0154	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	8/18/23 14:30	8/21/23 12:09		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	8/18/23 14:30	8/21/23 12:09		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	8/18/23 14:30	8/21/23 12:09		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	8/18/23 14:30	8/21/23 12:09		1.015	0.000156	mg/L	0.000068	0.000203	J
* Lead, Dissolved	8/18/23 14:30	8/21/23 12:09		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	8/18/23 14:30	8/21/23 12:09		1.015	1.09	mg/L	0.000152	0.001015	
* Potassium, Dissolved	8/18/23 14:30	8/21/23 12:09		1.015	5.71	mg/L	0.169505	0.5075	
* Selenium, Dissolved	8/18/23 14:30	8/21/23 12:09		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	8/18/23 14:30	8/21/23 12:09		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: ABB</b>							
* Mercury, Total by CVAA	8/22/23 17:17	8/22/23 22:36		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: SC</b>							
* Nitrogen, Nitrate/Nitrite	8/18/23 10:45	8/18/23 10:45		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: DHC</b>							
* Alkalinity	8/28/23 09:07	8/28/23 13:56		1	272	mg CaCO3/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	8/18/23 10:50	8/21/23 13:15		1	2200	mg/L		147.1	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: DHC</b>							
* Bicarbonate Alkalinity, (calc.)	8/28/23 09:07	8/28/23 13:56		1	272	mg CaCO3/L		1	A
* Carbonate Alkalinity, (calc.)	8/28/23 09:07	8/28/23 13:56		1	Not Detected	mg CaCO3/L		0.5	A
<b>Analytical Method: SM 4500H+ B</b>		<b>Analyst: DHC</b>							
Alkalinity pH Endpoint	8/28/23 09:07	8/28/23 13:56		1	4.45	SU		2	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-20

**Location Code:** WMWGORLF  
**Collected:** 8/16/23 13:30  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15748

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: SC</b>							
* Total Organic Carbon	8/17/23 21:15	8/17/23 21:15		1	Not Detected	mg/L	1.00	2	U
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	8/18/23 09:52	8/18/23 09:52		5	51.5	mg/L	2.50	5	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	8/17/23 13:30	8/17/23 13:30		1	0.0938	mg/L	0.06	0.125	J
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	8/23/23 12:29	8/23/23 12:29		50	1350	mg/L	30.0	100	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: AWG</b>							
Conductivity	8/16/23 13:28	8/16/23 13:28			2532.77	uS/cm			FA
pH	8/16/23 13:28	8/16/23 13:28			6.61	SU			FA
Temperature	8/16/23 13:28	8/16/23 13:28			21.26	C			FA
Turbidity	8/16/23 13:28	8/16/23 13:28			1.86	NTU			FA
Sulfide	8/16/23 13:28	8/16/23 13:28			0	mg/L			FA

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/16/23 13:30

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-20

**Laboratory ID Number:** BD15748

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BD15751	Aluminum, Dissolved	mg/L	0.000155	0.0198	0.100	0.102	0.0989	0.105	0.0850 to 0.115	102	70.0 to 130	3.09	20.0
BD15750	Aluminum, Total	mg/L	0.00553	0.0198	0.100	0.103	0.103	0.101	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BD15751	Antimony, Dissolved	mg/L	0.000319	0.00100	0.100	0.0881	0.0929	0.0854	0.0850 to 0.115	88.1	70.0 to 130	5.30	20.0
BD15750	Antimony, Total	mg/L	0.000304	0.00100	0.100	0.0957	0.0951	0.0915	0.0850 to 0.115	95.7	70.0 to 130	0.629	20.0
BD15751	Arsenic, Dissolved	mg/L	0.0000034	0.000200	0.100	0.0993	0.0981	0.101	0.0850 to 0.115	99.3	70.0 to 130	1.22	20.0
BD15750	Arsenic, Total	mg/L	0.0000161	0.000200	0.100	0.104	0.106	0.103	0.0850 to 0.115	104	70.0 to 130	1.90	20.0
BD15751	Barium, Dissolved	mg/L	0.0000346	0.00100	0.100	0.104	0.110	0.0939	0.0850 to 0.115	95.2	70.0 to 130	5.61	20.0
BD15750	Barium, Total	mg/L	-0.0000098	0.00100	0.100	0.104	0.104	0.0933	0.0850 to 0.115	94.4	70.0 to 130	0.00	20.0
BD15751	Beryllium, Dissolved	mg/L	0.0000164	0.000880	0.100	0.104	0.100	0.0939	0.0850 to 0.115	104	70.0 to 130	3.92	20.0
BD15750	Beryllium, Total	mg/L	-0.0000104	0.000880	0.100	0.107	0.108	0.101	0.0850 to 0.115	107	70.0 to 130	0.930	20.0
BD15751	Boron, Dissolved	mg/L	0.000396	0.0650	1.00	1.04	1.04	0.987	0.850 to 1.15	101	70.0 to 130	0.00	20.0
BD15750	Boron, Total	mg/L	-0.000022	0.0650	1.00	1.07	1.07	0.993	0.850 to 1.15	103	70.0 to 130	0.00	20.0
BD15751	Cadmium, Dissolved	mg/L	0.0000067	0.000147	0.100	0.0951	0.0975	0.0988	0.0850 to 0.115	95.1	70.0 to 130	2.49	20.0
BD15750	Cadmium, Total	mg/L	0.0000000	0.000147	0.100	0.0967	0.102	0.101	0.0850 to 0.115	96.6	70.0 to 130	5.33	20.0
BD15751	Calcium, Dissolved	mg/L	-0.0283	0.152	5.00	327	328	4.62	4.25 to 5.75	180	70.0 to 130	0.305	20.0
BD15750	Calcium, Total	mg/L	-0.0174	0.152	5.00	357	387	4.91	4.25 to 5.75	20.0	70.0 to 130	8.06	20.0
BD15750	Chloride	mg/L	-0.0734	1.00	10.0	12.2	12.1	9.93	9.00 to 11.0	101	80.0 to 120	0.823	20.0
BD15751	Chromium, Dissolved	mg/L	-0.0000122	0.000440	0.100	0.0945	0.0931	0.0973	0.0850 to 0.115	94.5	70.0 to 130	1.49	20.0
BD15750	Chromium, Total	mg/L	0.0000700	0.000440	0.100	0.0968	0.0959	0.0985	0.0850 to 0.115	96.6	70.0 to 130	0.934	20.0
BD15751	Cobalt, Dissolved	mg/L	-0.0000488	0.000147	0.100	0.0962	0.0954	0.0996	0.0850 to 0.115	96.2	70.0 to 130	0.835	20.0
BD15750	Cobalt, Total	mg/L	-0.0000044	0.000147	0.100	0.143	0.142	0.101	0.0850 to 0.115	99.8	70.0 to 130	0.702	20.0
BD15750	Fluoride	mg/L	0.017	0.125	2.50	3.00	3.01	2.59	2.25 to 2.75	108	80.0 to 120	0.333	20.0
BD15751	Iron, Dissolved	mg/L	-0.00135	0.0176	0.2	0.190	0.191	0.198	0.170 to 0.230	95.0	70.0 to 130	0.525	20.0
BD15750	Iron, Total	mg/L	0.00125	0.0176	0.2	3.02	2.98	0.196	0.170 to 0.230	85.0	70.0 to 130	1.33	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/16/23 13:30

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-20

**Laboratory ID Number:** BD15748

Sample	Analysis	Units	MB				Standard		Rec			Prec	Limit
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BD15751	Lead, Dissolved	mg/L	0.000023	0.000147	0.100	0.0991	0.0984	0.101	0.0850 to 0.115	99.1	70.0 to 130	0.709	20.0
BD15750	Lead, Total	mg/L	0.0000050	0.000147	0.100	0.0944	0.0961	0.0970	0.0850 to 0.115	94.3	70.0 to 130	1.78	20.0
BD15751	Lithium, Dissolved	mg/L	0.000173	0.0154	0.200	0.256	0.260	0.190	0.170 to 0.230	103	70.0 to 130	1.55	20.0
BD15750	Lithium, Total	mg/L	-0.000259	0.0154	0.200	0.281	0.281	0.193	0.170 to 0.230	112	70.0 to 130	0.00	20.0
BD15751	Magnesium, Dissolved	mg/L	-0.00201	0.0462	5.00	338	342	4.89	4.25 to 5.75	60.0	70.0 to 130	1.18	20.0
BD15750	Magnesium, Total	mg/L	-0.0418	0.0462	5.00	372	394	4.94	4.25 to 5.75	20.0	70.0 to 130	5.74	20.0
BD15751	Manganese, Dissolved	mg/L	0.0000019	0.00033	0.100	0.103	0.101	0.104	0.0850 to 0.115	103	70.0 to 130	1.96	20.0
BD15750	Manganese, Total	mg/L	0.0000037	0.00033	0.100	3.09	3.08	0.101	0.0850 to 0.115	90.0	70.0 to 130	0.324	20.0
BD15750	Mercury, Total by CVAA	mg/L	0.000	0.000500	0.004	0.00417	0.00414	0.00379	0.00340 to 0.00460	104	70.0 to 130	0.722	20.0
BD15751	Molybdenum, Dissolved	mg/L	0.000424	0.0100	0.2	0.193	0.194	0.195	0.170 to 0.230	96.5	70.0 to 130	0.517	20.0
BD15750	Molybdenum, Total	mg/L	0.000	0.0100	0.2	0.196	0.195	0.197	0.170 to 0.230	98.0	70.0 to 130	0.512	20.0
BD15751	Potassium, Dissolved	mg/L	-0.00187	0.367	10.0	16.4	16.1	10.1	8.50 to 11.5	99.7	70.0 to 130	1.85	20.0
BD15750	Potassium, Total	mg/L	-0.00486	0.367	10.0	15.3	15.5	9.95	8.50 to 11.5	95.7	70.0 to 130	1.30	20.0
BD15751	Selenium, Dissolved	mg/L	0.0000413	0.00100	0.100	0.103	0.103	0.102	0.0850 to 0.115	99.9	70.0 to 130	0.00	20.0
BD15750	Selenium, Total	mg/L	0.0000035	0.00100	0.100	0.103	0.103	0.106	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BD15751	Silicon, Dissolved	mg/L	0.000291	0.0440	1.00	7.47	7.48	1.00	0.850 to 1.15	99.0	70.0 to 130	0.134	20.0
BD15750	Silicon, Total	mg/L	-0.00039	0.0440	1.00	8.60	8.54	0.994	0.850 to 1.15	98.0	70.0 to 130	0.700	20.0
BD15751	Sodium, Dissolved	mg/L	0.00414	0.0880	5.00	33.7	34.0	4.88	4.25 to 5.75	102	70.0 to 130	0.886	20.0
BD15750	Sodium, Total	mg/L	0.000994	0.0880	5.00	40.8	40.7	4.88	4.25 to 5.75	118	70.0 to 130	0.245	20.0
BD15750	Sulfate	mg/L	0.499	2.0	3200	5220	5490	20.1	18.0 to 22.0	91.6	80.0 to 120	5.04	20.0
BD15751	Thallium, Dissolved	mg/L	-0.0000298	0.000147	0.100	0.101	0.0972	0.102	0.0850 to 0.115	101	70.0 to 130	3.83	20.0
BD15750	Thallium, Total	mg/L	0.0000074	0.000147	0.100	0.0967	0.0981	0.0994	0.0850 to 0.115	96.7	70.0 to 130	1.44	20.0
BD15750	Total Organic Carbon	mg/L	0.175	1.00	10.0	9.85	10.7	23.9		88.3	80.0 to 120	8.27	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

## Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/16/23 13:30

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-20

**Laboratory ID Number:** BD15748

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Limit	Prec	Prec Limit
BD15751	Alkalinity	mg CaCO3/L					184	51.3	45.0 to 55.0			0.542	10.0
BD15750	Nitrogen, Nitrate/Nitrite	mg/L as N	-0.07	0.200	2.00	2.02	-0.080	2.00	1.80 to 2.20	101	90.0 to 110	0.00	15.0
BD15859	Solids, Dissolved	mg/L	1.00	25.0			40.0	49.0	40.0 to 60.0			3.20	10.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-20 Dup

**Location Code:** WMWGORLF  
**Collected:** 8/16/23 13:30  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15749

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Total	8/18/23 11:30	8/22/23 11:45		1.015	0.106	mg/L	0.030000	0.1015	
* Calcium, Total	8/18/23 11:30	8/22/23 16:05		101.5	338	mg/L	7.0035	40.6	
* Iron, Total	8/18/23 11:30	8/22/23 15:02		10.15	8.24	mg/L	0.08120	0.406	
* Lithium, Total	8/18/23 11:30	8/22/23 11:45		1.015	0.197	mg/L	0.007105	0.01999956	
* Magnesium, Total	8/18/23 11:30	8/22/23 15:02		10.15	211	mg/L	0.21315	4.06	
* Molybdenum, Total	8/18/23 11:30	8/22/23 11:45		1.015	Not Detected	mg/L	0.005075	0.01015	U
* Silica, Total (calc.)	8/18/23 11:30	8/22/23 11:45		1	21.3	mg/L			
* Silicon, Total	8/18/23 11:30	8/22/23 11:45		1.015	9.93	mg/L	0.02030	0.25375	
* Sodium, Total	8/18/23 11:30	8/22/23 15:02		10.15	164	mg/L	0.4060	4.06	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	8/18/23 14:30	8/24/23 11:33		1.015	0.103	mg/L	0.030000	0.1015	
* Calcium, Dissolved	8/18/23 14:30	8/24/23 13:27		10.15	358	mg/L	0.70035	4.06	
* Iron, Dissolved	8/18/23 14:30	8/24/23 13:27		10.15	7.24	mg/L	0.08120	0.406	
* Lithium, Dissolved	8/18/23 14:30	8/24/23 11:33		1.015	0.192	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	8/18/23 14:30	8/24/23 13:27		10.15	193	mg/L	0.21315	4.06	
* Molybdenum, Dissolved	8/18/23 14:30	8/24/23 11:33		1.015	Not Detected	mg/L	0.005075	0.01015	U
* Silica, Dissolved (calc.)	8/18/23 14:30	8/24/23 11:33		1	20.5	mg/L			
* Silicon, Dissolved	8/18/23 14:30	8/24/23 11:33		1.015	9.60	mg/L	0.02030	0.25375	
* Sodium, Dissolved	8/18/23 14:30	8/24/23 13:27		10.15	155	mg/L	0.4060	4.06	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>			<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	8/18/23 11:30	8/18/23 14:10		1.015	Not Detected	mg/L	0.000710	0.001015	U
* Arsenic, Total	8/18/23 11:30	8/18/23 14:10		1.015	0.000798	mg/L	0.000112	0.000203	
* Aluminum, Total	8/18/23 11:30	8/18/23 14:10		1.015	0.0147	mg/L	0.009135	0.05075	J
* Barium, Total	8/18/23 11:30	8/18/23 14:10		1.015	0.0139	mg/L	0.000508	0.001015	
* Beryllium, Total	8/18/23 11:30	8/18/23 14:10		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	8/18/23 11:30	8/18/23 14:10		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	8/18/23 11:30	8/18/23 14:10		1.015	0.000233	mg/L	0.000203	0.001015	J
* Cobalt, Total	8/18/23 11:30	8/18/23 14:10		1.015	0.000201	mg/L	0.000068	0.000203	J
* Lead, Total	8/18/23 11:30	8/18/23 14:10		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	8/18/23 11:30	8/18/23 14:10		1.015	1.01	mg/L	0.000152	0.001015	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.



# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-20 Dup

**Location Code:** WMWGORLF  
**Collected:** 8/16/23 13:30  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15749

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Potassium, Total	8/18/23 11:30	8/18/23 14:10		1.015	5.59	mg/L	0.169505	0.5075	
* Selenium, Total	8/18/23 11:30	8/18/23 14:10		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	8/18/23 11:30	8/18/23 14:10		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	8/18/23 14:30	8/21/23 12:12		1.015	Not Detected	mg/L	0.000710	0.001015	U
* Aluminum, Dissolved	8/18/23 14:30	8/21/23 12:12		1.015	Not Detected	mg/L	0.009135	0.05075	U
* Arsenic, Dissolved	8/18/23 14:30	8/21/23 12:12		1.015	0.000730	mg/L	0.000112	0.000203	
* Barium, Dissolved	8/18/23 14:30	8/21/23 12:12		1.015	0.0155	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	8/18/23 14:30	8/21/23 12:12		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	8/18/23 14:30	8/21/23 12:12		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	8/18/23 14:30	8/21/23 12:12		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	8/18/23 14:30	8/21/23 12:12		1.015	0.000151	mg/L	0.000068	0.000203	J
* Lead, Dissolved	8/18/23 14:30	8/21/23 12:12		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	8/18/23 14:30	8/21/23 12:12		1.015	1.09	mg/L	0.000152	0.001015	
* Potassium, Dissolved	8/18/23 14:30	8/21/23 12:12		1.015	5.78	mg/L	0.169505	0.5075	
* Selenium, Dissolved	8/18/23 14:30	8/21/23 12:12		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	8/18/23 14:30	8/21/23 12:12		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: ABB</b>							
* Mercury, Total by CVAA	8/22/23 17:17	8/22/23 22:40		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: SC</b>							
* Nitrogen, Nitrate/Nitrite	8/18/23 10:47	8/18/23 10:47		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: DHC</b>							
* Alkalinity	8/28/23 09:07	8/28/23 13:56		1	267	mg CaCO3/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	8/18/23 10:50	8/21/23 13:15		1	2180	mg/L		147.1	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: DHC</b>							
* Bicarbonate Alkalinity, (calc.)	8/28/23 09:07	8/28/23 13:56		1	267	mg CaCO3/L		1	A
* Carbonate Alkalinity, (calc.)	8/28/23 09:07	8/28/23 13:56		1	Not Detected	mg CaCO3/L		0.5	A
<b>Analytical Method: SM 4500H+ B</b>		<b>Analyst: DHC</b>							
Alkalinity pH Endpoint	8/28/23 09:07	8/28/23 13:56		1	4.51	SU		2	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-20 Dup

**Location Code:** WMWGORLF

**Collected:** 8/16/23 13:30

**Customer ID:**

**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15749

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: SC</b>							
* Total Organic Carbon	8/17/23 21:30	8/17/23 21:30		1	Not Detected	mg/L	1.00	2	U
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	8/18/23 10:33	8/18/23 10:33		5	52.7	mg/L	2.50	5	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	8/17/23 13:32	8/17/23 13:32		1	0.0876	mg/L	0.06	0.125	J
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	8/23/23 12:30	8/23/23 12:30		50	1360	mg/L	30.0	100	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: AWG</b>							
Conductivity	8/16/23 13:28	8/16/23 13:28			2532.77	uS/cm			FA
pH	8/16/23 13:28	8/16/23 13:28			6.61	SU			FA
Temperature	8/16/23 13:28	8/16/23 13:28			21.26	C			FA
Turbidity	8/16/23 13:28	8/16/23 13:28			1.86	NTU			FA
Sulfide	8/16/23 13:28	8/16/23 13:28			0	mg/L			FA

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/16/23 13:30

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-20 Dup

**Laboratory ID Number:** BD15749

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BD15751	Aluminum, Dissolved	mg/L	0.000155	0.0198	0.100	0.102	0.0989	0.105	0.0850 to 0.115	102	70.0 to 130	3.09	20.0
BD15750	Aluminum, Total	mg/L	0.00553	0.0198	0.100	0.103	0.103	0.101	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BD15751	Antimony, Dissolved	mg/L	0.000319	0.00100	0.100	0.0881	0.0929	0.0854	0.0850 to 0.115	88.1	70.0 to 130	5.30	20.0
BD15750	Antimony, Total	mg/L	0.000304	0.00100	0.100	0.0957	0.0951	0.0915	0.0850 to 0.115	95.7	70.0 to 130	0.629	20.0
BD15751	Arsenic, Dissolved	mg/L	0.0000034	0.000200	0.100	0.0993	0.0981	0.101	0.0850 to 0.115	99.3	70.0 to 130	1.22	20.0
BD15750	Arsenic, Total	mg/L	0.0000161	0.000200	0.100	0.104	0.106	0.103	0.0850 to 0.115	104	70.0 to 130	1.90	20.0
BD15751	Barium, Dissolved	mg/L	0.0000346	0.00100	0.100	0.104	0.110	0.0939	0.0850 to 0.115	95.2	70.0 to 130	5.61	20.0
BD15750	Barium, Total	mg/L	-0.0000098	0.00100	0.100	0.104	0.104	0.0933	0.0850 to 0.115	94.4	70.0 to 130	0.00	20.0
BD15751	Beryllium, Dissolved	mg/L	0.0000164	0.000880	0.100	0.104	0.100	0.0939	0.0850 to 0.115	104	70.0 to 130	3.92	20.0
BD15750	Beryllium, Total	mg/L	-0.0000104	0.000880	0.100	0.107	0.108	0.101	0.0850 to 0.115	107	70.0 to 130	0.930	20.0
BD15751	Boron, Dissolved	mg/L	0.000396	0.0650	1.00	1.04	1.04	0.987	0.850 to 1.15	101	70.0 to 130	0.00	20.0
BD15750	Boron, Total	mg/L	-0.000022	0.0650	1.00	1.07	1.07	0.993	0.850 to 1.15	103	70.0 to 130	0.00	20.0
BD15751	Cadmium, Dissolved	mg/L	0.0000067	0.000147	0.100	0.0951	0.0975	0.0988	0.0850 to 0.115	95.1	70.0 to 130	2.49	20.0
BD15750	Cadmium, Total	mg/L	0.0000000	0.000147	0.100	0.0967	0.102	0.101	0.0850 to 0.115	96.6	70.0 to 130	5.33	20.0
BD15751	Calcium, Dissolved	mg/L	-0.0283	0.152	5.00	327	328	4.62	4.25 to 5.75	180	70.0 to 130	0.305	20.0
BD15750	Calcium, Total	mg/L	-0.0174	0.152	5.00	357	387	4.91	4.25 to 5.75	20.0	70.0 to 130	8.06	20.0
BD15750	Chloride	mg/L	-0.0734	1.00	10.0	12.2	12.1	9.93	9.00 to 11.0	101	80.0 to 120	0.823	20.0
BD15751	Chromium, Dissolved	mg/L	-0.0000122	0.000440	0.100	0.0945	0.0931	0.0973	0.0850 to 0.115	94.5	70.0 to 130	1.49	20.0
BD15750	Chromium, Total	mg/L	0.0000700	0.000440	0.100	0.0968	0.0959	0.0985	0.0850 to 0.115	96.6	70.0 to 130	0.934	20.0
BD15751	Cobalt, Dissolved	mg/L	-0.0000488	0.000147	0.100	0.0962	0.0954	0.0996	0.0850 to 0.115	96.2	70.0 to 130	0.835	20.0
BD15750	Cobalt, Total	mg/L	-0.0000044	0.000147	0.100	0.143	0.142	0.101	0.0850 to 0.115	99.8	70.0 to 130	0.702	20.0
BD15750	Fluoride	mg/L	0.017	0.125	2.50	3.00	3.01	2.59	2.25 to 2.75	108	80.0 to 120	0.333	20.0
BD15751	Iron, Dissolved	mg/L	-0.00135	0.0176	0.2	0.190	0.191	0.198	0.170 to 0.230	95.0	70.0 to 130	0.525	20.0
BD15750	Iron, Total	mg/L	0.00125	0.0176	0.2	3.02	2.98	0.196	0.170 to 0.230	85.0	70.0 to 130	1.33	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/16/23 13:30

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-20 Dup

**Laboratory ID Number:** BD15749

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BD15751	Lead, Dissolved	mg/L	0.000023	0.000147	0.100	0.0991	0.0984	0.101	0.0850 to 0.115	99.1	70.0 to 130	0.709	20.0
BD15750	Lead, Total	mg/L	0.0000050	0.000147	0.100	0.0944	0.0961	0.0970	0.0850 to 0.115	94.3	70.0 to 130	1.78	20.0
BD15751	Lithium, Dissolved	mg/L	0.000173	0.0154	0.200	0.256	0.260	0.190	0.170 to 0.230	103	70.0 to 130	1.55	20.0
BD15750	Lithium, Total	mg/L	-0.000259	0.0154	0.200	0.281	0.281	0.193	0.170 to 0.230	112	70.0 to 130	0.00	20.0
BD15751	Magnesium, Dissolved	mg/L	-0.00201	0.0462	5.00	338	342	4.89	4.25 to 5.75	60.0	70.0 to 130	1.18	20.0
BD15750	Magnesium, Total	mg/L	-0.0418	0.0462	5.00	372	394	4.94	4.25 to 5.75	20.0	70.0 to 130	5.74	20.0
BD15751	Manganese, Dissolved	mg/L	0.0000019	0.00033	0.100	0.103	0.101	0.104	0.0850 to 0.115	103	70.0 to 130	1.96	20.0
BD15750	Manganese, Total	mg/L	0.0000037	0.00033	0.100	3.09	3.08	0.101	0.0850 to 0.115	90.0	70.0 to 130	0.324	20.0
BD15750	Mercury, Total by CVAA	mg/L	0.000	0.000500	0.004	0.00417	0.00414	0.00379	0.00340 to 0.00460	104	70.0 to 130	0.722	20.0
BD15751	Molybdenum, Dissolved	mg/L	0.000424	0.0100	0.2	0.193	0.194	0.195	0.170 to 0.230	96.5	70.0 to 130	0.517	20.0
BD15750	Molybdenum, Total	mg/L	0.000	0.0100	0.2	0.196	0.195	0.197	0.170 to 0.230	98.0	70.0 to 130	0.512	20.0
BD15751	Potassium, Dissolved	mg/L	-0.00187	0.367	10.0	16.4	16.1	10.1	8.50 to 11.5	99.7	70.0 to 130	1.85	20.0
BD15750	Potassium, Total	mg/L	-0.00486	0.367	10.0	15.3	15.5	9.95	8.50 to 11.5	95.7	70.0 to 130	1.30	20.0
BD15751	Selenium, Dissolved	mg/L	0.0000413	0.00100	0.100	0.103	0.103	0.102	0.0850 to 0.115	99.9	70.0 to 130	0.00	20.0
BD15750	Selenium, Total	mg/L	0.0000035	0.00100	0.100	0.103	0.103	0.106	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BD15751	Silicon, Dissolved	mg/L	0.000291	0.0440	1.00	7.47	7.48	1.00	0.850 to 1.15	99.0	70.0 to 130	0.134	20.0
BD15750	Silicon, Total	mg/L	-0.00039	0.0440	1.00	8.60	8.54	0.994	0.850 to 1.15	98.0	70.0 to 130	0.700	20.0
BD15751	Sodium, Dissolved	mg/L	0.00414	0.0880	5.00	33.7	34.0	4.88	4.25 to 5.75	102	70.0 to 130	0.886	20.0
BD15750	Sodium, Total	mg/L	0.000994	0.0880	5.00	40.8	40.7	4.88	4.25 to 5.75	118	70.0 to 130	0.245	20.0
BD15750	Sulfate	mg/L	0.499	2.0	3200	5220	5490	20.1	18.0 to 22.0	91.6	80.0 to 120	5.04	20.0
BD15751	Thallium, Dissolved	mg/L	-0.0000298	0.000147	0.100	0.101	0.0972	0.102	0.0850 to 0.115	101	70.0 to 130	3.83	20.0
BD15750	Thallium, Total	mg/L	0.0000074	0.000147	0.100	0.0967	0.0981	0.0994	0.0850 to 0.115	96.7	70.0 to 130	1.44	20.0
BD15750	Total Organic Carbon	mg/L	0.175	1.00	10.0	9.85	10.7	23.9		88.3	80.0 to 120	8.27	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

## Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/16/23 13:30

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-20 Dup

**Laboratory ID Number:** BD15749

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BD15751	Alkalinity	mg CaCO3/L					184	51.3	45.0 to 55.0			0.542	10.0
BD15750	Nitrogen, Nitrate/Nitrite	mg/L as N	-0.07	0.200	2.00	2.02	-0.080	2.00	1.80 to 2.20	101	90.0 to 110	0.00	15.0
BD15859	Solids, Dissolved	mg/L	1.00	25.0			40.0	49.0	40.0 to 60.0			3.20	10.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-19

**Location Code:** WMWGORLF  
**Collected:** 8/16/23 14:35  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15750

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Total	8/18/23 11:30	8/22/23 11:49		1.015	0.0378	mg/L	0.030000	0.1015	J
* Calcium, Total	8/18/23 11:30	8/22/23 16:08		101.5	356	mg/L	7.0035	40.6	RA
* Iron, Total	8/18/23 11:30	8/22/23 11:49		1.015	2.85	mg/L	0.008120	0.0406	RA
* Lithium, Total	8/18/23 11:30	8/22/23 11:49		1.015	0.0564	mg/L	0.007105	0.01999956	
* Magnesium, Total	8/18/23 11:30	8/22/23 16:08		101.5	371	mg/L	2.1315	40.6	RA
* Molybdenum, Total	8/18/23 11:30	8/22/23 11:49		1.015	Not Detected	mg/L	0.005075	0.01015	U
* Silica, Total (calc.)	8/18/23 11:30	8/22/23 11:49		1	16.3	mg/L			
* Silicon, Total	8/18/23 11:30	8/22/23 11:49		1.015	7.62	mg/L	0.02030	0.25375	
* Sodium, Total	8/18/23 11:30	8/22/23 11:49		1.015	34.9	mg/L	0.04060	0.406	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>							
* Boron, Dissolved	8/18/23 14:30	8/24/23 11:36		1.015	0.0360	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	8/18/23 14:30	8/24/23 13:30		10.15	377	mg/L	0.70035	4.06	
* Iron, Dissolved	8/18/23 14:30	8/24/23 11:36		1.015	2.11	mg/L	0.008120	0.0406	
* Lithium, Dissolved	8/18/23 14:30	8/24/23 11:36		1.015	0.0546	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	8/18/23 14:30	8/24/23 13:30		10.15	392	mg/L	0.21315	4.06	
* Molybdenum, Dissolved	8/18/23 14:30	8/24/23 11:36		1.015	Not Detected	mg/L	0.005075	0.01015	U
* Silica, Dissolved (calc.)	8/18/23 14:30	8/24/23 11:36		1	15.8	mg/L			
* Silicon, Dissolved	8/18/23 14:30	8/24/23 11:36		1.015	7.38	mg/L	0.02030	0.25375	
* Sodium, Dissolved	8/18/23 14:30	8/24/23 11:36		1.015	33.2	mg/L	0.04060	0.406	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>			<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	8/18/23 11:30	8/18/23 14:14		1.015	Not Detected	mg/L	0.000710	0.001015	U
* Aluminum, Total	8/18/23 11:30	8/18/23 14:14		1.015	Not Detected	mg/L	0.009135	0.05075	U
* Arsenic, Total	8/18/23 11:30	8/18/23 14:14		1.015	0.000240	mg/L	0.000112	0.000203	
* Barium, Total	8/18/23 11:30	8/18/23 14:14		1.015	0.00960	mg/L	0.000508	0.001015	
* Beryllium, Total	8/18/23 11:30	8/18/23 14:14		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	8/18/23 11:30	8/18/23 14:14		1.015	0.0000752	mg/L	0.000068	0.000203	J
* Chromium, Total	8/18/23 11:30	8/18/23 14:14		1.015	0.000218	mg/L	0.000203	0.001015	J
* Cobalt, Total	8/18/23 11:30	8/18/23 14:14		1.015	0.0432	mg/L	0.000068	0.000203	
* Lead, Total	8/18/23 11:30	8/18/23 14:14		1.015	0.0000716	mg/L	0.000068	0.000203	J
* Manganese, Total	8/18/23 11:30	8/21/23 12:03		5.075	3.00	mg/L	0.000761	0.005075	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-19

**Location Code:** WMWGORLF  
**Collected:** 8/16/23 14:35  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15750

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Potassium, Total	8/18/23 11:30	8/18/23 14:14		1.015	5.73	mg/L	0.169505	0.5075	
* Selenium, Total	8/18/23 11:30	8/18/23 14:14		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	8/18/23 11:30	8/18/23 14:14		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	8/18/23 14:30	8/21/23 12:16		1.015	Not Detected	mg/L	0.000710	0.001015	U
* Aluminum, Dissolved	8/18/23 14:30	8/21/23 12:16		1.015	Not Detected	mg/L	0.009135	0.05075	U
* Arsenic, Dissolved	8/18/23 14:30	8/21/23 12:16		1.015	Not Detected	mg/L	0.000112	0.000203	U
* Barium, Dissolved	8/18/23 14:30	8/21/23 12:16		1.015	0.00902	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	8/18/23 14:30	8/21/23 12:16		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	8/18/23 14:30	8/21/23 12:16		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	8/18/23 14:30	8/21/23 12:16		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	8/18/23 14:30	8/21/23 12:16		1.015	0.0413	mg/L	0.000068	0.000203	
* Lead, Dissolved	8/18/23 14:30	8/21/23 12:16		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	8/18/23 14:30	8/21/23 13:27		5.075	3.00	mg/L	0.000761	0.005075	
* Potassium, Dissolved	8/18/23 14:30	8/21/23 12:16		1.015	5.90	mg/L	0.169505	0.5075	
* Selenium, Dissolved	8/18/23 14:30	8/21/23 12:16		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	8/18/23 14:30	8/21/23 12:16		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: ABB</b>							
* Mercury, Total by CVAA	8/22/23 17:17	8/22/23 22:44		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: SC</b>							
* Nitrogen, Nitrate/Nitrite	8/18/23 10:49	8/18/23 10:49		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: DHC</b>							
* Alkalinity	8/28/23 09:07	8/28/23 13:56		1	197	mg CaCO3/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	8/18/23 10:50	8/21/23 13:15		1	3160	mg/L		178.6	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: DHC</b>							
* Bicarbonate Alkalinity, (calc.)	8/28/23 09:07	8/28/23 13:56		1	197	mg CaCO3/L		1	A
* Carbonate Alkalinity, (calc.)	8/28/23 09:07	8/28/23 13:56		1	Not Detected	mg CaCO3/L		0.5	A
<b>Analytical Method: SM 4500H+ B</b>		<b>Analyst: DHC</b>							
Alkalinity pH Endpoint	8/28/23 09:07	8/28/23 13:56		1	4.54	SU		2	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-19

**Location Code:** WMWGORLF  
**Collected:** 8/16/23 14:35  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15750

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: SC</b>							
* Total Organic Carbon	8/17/23 21:46	8/17/23 21:46		1	1.02	mg/L	1.00	2	J
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	8/18/23 09:49	8/18/23 09:49		1	2.11	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	8/17/23 13:33	8/17/23 13:33		1	0.306	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	8/23/23 12:18	8/23/23 12:18		160	2290	mg/L	96.0	320	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: AWG</b>							
Conductivity	8/16/23 14:29	8/16/23 14:29			3000.02	uS/cm			FA
pH	8/16/23 14:29	8/16/23 14:29			6.33	SU			FA
Temperature	8/16/23 14:29	8/16/23 14:29			20.85	C			FA
Turbidity	8/16/23 14:29	8/16/23 14:29			4.63	NTU			FA
Sulfide	8/16/23 14:29	8/16/23 14:29			0	mg/L			FA

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.



# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/16/23 14:35

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-19

**Laboratory ID Number:** BD15750

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BD15751	Aluminum, Dissolved	mg/L	0.000155	0.0198	0.100	0.102	0.0989	0.105	0.0850 to 0.115	102	70.0 to 130	3.09	20.0
BD15750	Aluminum, Total	mg/L	0.00553	0.0198	0.100	0.103	0.103	0.101	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BD15751	Antimony, Dissolved	mg/L	0.000319	0.00100	0.100	0.0881	0.0929	0.0854	0.0850 to 0.115	88.1	70.0 to 130	5.30	20.0
BD15750	Antimony, Total	mg/L	0.000304	0.00100	0.100	0.0957	0.0951	0.0915	0.0850 to 0.115	95.7	70.0 to 130	0.629	20.0
BD15751	Arsenic, Dissolved	mg/L	0.0000034	0.000200	0.100	0.0993	0.0981	0.101	0.0850 to 0.115	99.3	70.0 to 130	1.22	20.0
BD15750	Arsenic, Total	mg/L	0.0000161	0.000200	0.100	0.104	0.106	0.103	0.0850 to 0.115	104	70.0 to 130	1.90	20.0
BD15751	Barium, Dissolved	mg/L	0.0000346	0.00100	0.100	0.104	0.110	0.0939	0.0850 to 0.115	95.2	70.0 to 130	5.61	20.0
BD15750	Barium, Total	mg/L	-0.0000098	0.00100	0.100	0.104	0.104	0.0933	0.0850 to 0.115	94.4	70.0 to 130	0.00	20.0
BD15751	Beryllium, Dissolved	mg/L	0.0000164	0.000880	0.100	0.104	0.100	0.0939	0.0850 to 0.115	104	70.0 to 130	3.92	20.0
BD15750	Beryllium, Total	mg/L	-0.0000104	0.000880	0.100	0.107	0.108	0.101	0.0850 to 0.115	107	70.0 to 130	0.930	20.0
BD15751	Boron, Dissolved	mg/L	0.000396	0.0650	1.00	1.04	1.04	0.987	0.850 to 1.15	101	70.0 to 130	0.00	20.0
BD15750	Boron, Total	mg/L	-0.000022	0.0650	1.00	1.07	1.07	0.993	0.850 to 1.15	103	70.0 to 130	0.00	20.0
BD15751	Cadmium, Dissolved	mg/L	0.0000067	0.000147	0.100	0.0951	0.0975	0.0988	0.0850 to 0.115	95.1	70.0 to 130	2.49	20.0
BD15750	Cadmium, Total	mg/L	0.0000000	0.000147	0.100	0.0967	0.102	0.101	0.0850 to 0.115	96.6	70.0 to 130	5.33	20.0
BD15751	Calcium, Dissolved	mg/L	-0.0283	0.152	5.00	327	328	4.62	4.25 to 5.75	180	70.0 to 130	0.305	20.0
BD15750	Calcium, Total	mg/L	-0.0174	0.152	5.00	357	387	4.91	4.25 to 5.75	20.0	70.0 to 130	8.06	20.0
BD15750	Chloride	mg/L	-0.0734	1.00	10.0	12.2	12.1	9.93	9.00 to 11.0	101	80.0 to 120	0.823	20.0
BD15751	Chromium, Dissolved	mg/L	-0.0000122	0.000440	0.100	0.0945	0.0931	0.0973	0.0850 to 0.115	94.5	70.0 to 130	1.49	20.0
BD15750	Chromium, Total	mg/L	0.0000700	0.000440	0.100	0.0968	0.0959	0.0985	0.0850 to 0.115	96.6	70.0 to 130	0.934	20.0
BD15751	Cobalt, Dissolved	mg/L	-0.0000488	0.000147	0.100	0.0962	0.0954	0.0996	0.0850 to 0.115	96.2	70.0 to 130	0.835	20.0
BD15750	Cobalt, Total	mg/L	-0.0000044	0.000147	0.100	0.143	0.142	0.101	0.0850 to 0.115	99.8	70.0 to 130	0.702	20.0
BD15750	Fluoride	mg/L	0.017	0.125	2.50	3.00	3.01	2.59	2.25 to 2.75	108	80.0 to 120	0.333	20.0
BD15751	Iron, Dissolved	mg/L	-0.00135	0.0176	0.2	0.190	0.191	0.198	0.170 to 0.230	95.0	70.0 to 130	0.525	20.0
BD15750	Iron, Total	mg/L	0.00125	0.0176	0.2	3.02	2.98	0.196	0.170 to 0.230	85.0	70.0 to 130	1.33	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/16/23 14:35

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-19

**Laboratory ID Number:** BD15750

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BD15751	Lead, Dissolved	mg/L	0.0000023	0.000147	0.100	0.0991	0.0984	0.101	0.0850 to 0.115	99.1	70.0 to 130	0.709	20.0
BD15750	Lead, Total	mg/L	0.0000050	0.000147	0.100	0.0944	0.0961	0.0970	0.0850 to 0.115	94.3	70.0 to 130	1.78	20.0
BD15751	Lithium, Dissolved	mg/L	0.000173	0.0154	0.200	0.256	0.260	0.190	0.170 to 0.230	103	70.0 to 130	1.55	20.0
BD15750	Lithium, Total	mg/L	-0.000259	0.0154	0.200	0.281	0.281	0.193	0.170 to 0.230	112	70.0 to 130	0.00	20.0
BD15751	Magnesium, Dissolved	mg/L	-0.00201	0.0462	5.00	338	342	4.89	4.25 to 5.75	60.0	70.0 to 130	1.18	20.0
BD15750	Magnesium, Total	mg/L	-0.0418	0.0462	5.00	372	394	4.94	4.25 to 5.75	20.0	70.0 to 130	5.74	20.0
BD15751	Manganese, Dissolved	mg/L	0.0000019	0.00033	0.100	0.103	0.101	0.104	0.0850 to 0.115	103	70.0 to 130	1.96	20.0
BD15750	Manganese, Total	mg/L	0.0000037	0.00033	0.100	3.09	3.08	0.101	0.0850 to 0.115	90.0	70.0 to 130	0.324	20.0
BD15750	Mercury, Total by CVAA	mg/L	0.000	0.000500	0.004	0.00417	0.00414	0.00379	0.00340 to 0.00460	104	70.0 to 130	0.722	20.0
BD15751	Molybdenum, Dissolved	mg/L	0.000424	0.0100	0.2	0.193	0.194	0.195	0.170 to 0.230	96.5	70.0 to 130	0.517	20.0
BD15750	Molybdenum, Total	mg/L	0.000	0.0100	0.2	0.196	0.195	0.197	0.170 to 0.230	98.0	70.0 to 130	0.512	20.0
BD15751	Potassium, Dissolved	mg/L	-0.00187	0.367	10.0	16.4	16.1	10.1	8.50 to 11.5	99.7	70.0 to 130	1.85	20.0
BD15750	Potassium, Total	mg/L	-0.00486	0.367	10.0	15.3	15.5	9.95	8.50 to 11.5	95.7	70.0 to 130	1.30	20.0
BD15751	Selenium, Dissolved	mg/L	0.0000413	0.00100	0.100	0.103	0.103	0.102	0.0850 to 0.115	99.9	70.0 to 130	0.00	20.0
BD15750	Selenium, Total	mg/L	0.0000035	0.00100	0.100	0.103	0.103	0.106	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BD15751	Silicon, Dissolved	mg/L	0.000291	0.0440	1.00	7.47	7.48	1.00	0.850 to 1.15	99.0	70.0 to 130	0.134	20.0
BD15750	Silicon, Total	mg/L	-0.00039	0.0440	1.00	8.60	8.54	0.994	0.850 to 1.15	98.0	70.0 to 130	0.700	20.0
BD15751	Sodium, Dissolved	mg/L	0.00414	0.0880	5.00	33.7	34.0	4.88	4.25 to 5.75	102	70.0 to 130	0.886	20.0
BD15750	Sodium, Total	mg/L	0.000994	0.0880	5.00	40.8	40.7	4.88	4.25 to 5.75	118	70.0 to 130	0.245	20.0
BD15750	Sulfate	mg/L	0.499	2.0	3200	5220	5490	20.1	18.0 to 22.0	91.6	80.0 to 120	5.04	20.0
BD15751	Thallium, Dissolved	mg/L	-0.0000298	0.000147	0.100	0.101	0.0972	0.102	0.0850 to 0.115	101	70.0 to 130	3.83	20.0
BD15750	Thallium, Total	mg/L	0.0000074	0.000147	0.100	0.0967	0.0981	0.0994	0.0850 to 0.115	96.7	70.0 to 130	1.44	20.0
BD15750	Total Organic Carbon	mg/L	0.175	1.00	10.0	9.85	10.7	23.9		88.3	80.0 to 120	8.27	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

## Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/16/23 14:35

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-19

**Laboratory ID Number:** BD15750

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BD15751	Alkalinity	mg CaCO3/L					184	51.3	45.0 to 55.0			0.542	10.0
BD15750	Nitrogen, Nitrate/Nitrite	mg/L as N	-0.07	0.200	2.00	2.02	-0.080	2.00	1.80 to 2.20	101	90.0 to 110	0.00	15.0
BD15859	Solids, Dissolved	mg/L	1.00	25.0			40.0	49.0	40.0 to 60.0			3.20	10.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-18

**Location Code:** WMWGORLF  
**Collected:** 8/16/23 15:25  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15751

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>					
* Boron, Total	8/18/23 11:30	8/22/23 12:11		1.015	0.0351	mg/L	0.030000	0.1015	J	
* Calcium, Total	8/18/23 11:30	8/22/23 15:15		10.15	377	mg/L	0.70035	4.06	RA	
* Iron, Total	8/18/23 11:30	8/22/23 12:11		1.015	0.0306	mg/L	0.008120	0.0406	J	
* Lithium, Total	8/18/23 11:30	8/22/23 12:11		1.015	0.0513	mg/L	0.007105	0.01999956		
* Magnesium, Total	8/18/23 11:30	8/22/23 15:15		10.15	376	mg/L	0.21315	4.06	RA	
* Molybdenum, Total	8/18/23 11:30	8/22/23 12:11		1.015	Not Detected	mg/L	0.005075	0.01015	U	
* Silica, Total (calc.)	8/18/23 11:30	8/22/23 12:11		1	14.2	mg/L				
* Silicon, Total	8/18/23 11:30	8/22/23 12:11		1.015	6.62	mg/L	0.02030	0.25375		
* Sodium, Total	8/18/23 11:30	8/22/23 12:11		1.015	30.3	mg/L	0.04060	0.406		
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>					
* Boron, Dissolved	8/18/23 14:30	8/24/23 11:39		1.015	0.0336	mg/L	0.030000	0.1015	J	
* Calcium, Dissolved	8/18/23 14:30	8/24/23 13:34		10.15	318	mg/L	0.70035	4.06	RA	
* Iron, Dissolved	8/18/23 14:30	8/24/23 11:39		1.015	Not Detected	mg/L	0.008120	0.0406	U	
* Lithium, Dissolved	8/18/23 14:30	8/24/23 11:39		1.015	0.0491	mg/L	0.007105	0.01999956		
* Magnesium, Dissolved	8/18/23 14:30	8/24/23 13:34		10.15	335	mg/L	0.21315	4.06	RA	
* Molybdenum, Dissolved	8/18/23 14:30	8/24/23 11:39		1.015	Not Detected	mg/L	0.005075	0.01015	U	
* Silica, Dissolved (calc.)	8/18/23 14:30	8/24/23 11:39		1	13.9	mg/L				
* Silicon, Dissolved	8/18/23 14:30	8/24/23 11:39		1.015	6.48	mg/L	0.02030	0.25375		
* Sodium, Dissolved	8/18/23 14:30	8/24/23 11:39		1.015	28.6	mg/L	0.04060	0.406		
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>			<b>Preparation Method: EPA 1638</b>					
* Antimony, Total	8/18/23 11:30	8/18/23 14:43		1.015	Not Detected	mg/L	0.000710	0.001015	U	
* Aluminum, Total	8/18/23 11:30	8/18/23 14:43		1.015	0.0229	mg/L	0.009135	0.05075	J	
* Arsenic, Total	8/18/23 11:30	8/18/23 14:43		1.015	Not Detected	mg/L	0.000112	0.000203	U	
* Barium, Total	8/18/23 11:30	8/18/23 14:43		1.015	0.00845	mg/L	0.000508	0.001015		
* Beryllium, Total	8/18/23 11:30	8/18/23 14:43		1.015	Not Detected	mg/L	0.000406	0.001015	U	
* Cadmium, Total	8/18/23 11:30	8/18/23 14:43		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Chromium, Total	8/18/23 11:30	8/18/23 14:43		1.015	0.000276	mg/L	0.000203	0.001015	J	
* Cobalt, Total	8/18/23 11:30	8/18/23 14:43		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Lead, Total	8/18/23 11:30	8/18/23 14:43		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Manganese, Total	8/18/23 11:30	8/18/23 14:43		1.015	0.000622	mg/L	0.000152	0.001015	J	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-18

**Location Code:** WMWGORLF  
**Collected:** 8/16/23 15:25  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15751

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Potassium, Total	8/18/23 11:30	8/18/23 14:43		1.015	6.35	mg/L	0.169505	0.5075	
* Selenium, Total	8/18/23 11:30	8/18/23 14:43		1.015	0.00297	mg/L	0.000508	0.001015	
* Thallium, Total	8/18/23 11:30	8/18/23 14:43		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	8/18/23 14:30	8/21/23 12:19		1.015	Not Detected	mg/L	0.000710	0.001015	U
* Aluminum, Dissolved	8/18/23 14:30	8/21/23 12:19		1.015	Not Detected	mg/L	0.009135	0.05075	U
* Arsenic, Dissolved	8/18/23 14:30	8/21/23 12:19		1.015	Not Detected	mg/L	0.000112	0.000203	U
* Barium, Dissolved	8/18/23 14:30	8/21/23 12:19		1.015	0.00877	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	8/18/23 14:30	8/21/23 12:19		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	8/18/23 14:30	8/21/23 12:19		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	8/18/23 14:30	8/21/23 12:19		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	8/18/23 14:30	8/21/23 12:19		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Lead, Dissolved	8/18/23 14:30	8/21/23 12:19		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	8/18/23 14:30	8/21/23 12:19		1.015	0.000470	mg/L	0.000152	0.001015	J
* Potassium, Dissolved	8/18/23 14:30	8/21/23 12:19		1.015	6.43	mg/L	0.169505	0.5075	
* Selenium, Dissolved	8/18/23 14:30	8/21/23 12:19		1.015	0.00306	mg/L	0.000508	0.001015	
* Thallium, Dissolved	8/18/23 14:30	8/21/23 12:19		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: ABB</b>							
* Mercury, Total by CVAA	8/24/23 18:45	8/24/23 22:42		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: SC</b>							
* Nitrogen, Nitrate/Nitrite	8/18/23 10:54	8/18/23 10:54		1	0.326	mg/L as N	0.20	0.3	
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: DHC</b>							
* Alkalinity	8/28/23 09:07	8/28/23 13:56		1	185	mg CaCO3/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	8/18/23 10:50	8/21/23 13:15		1	2530	mg/L		75.8	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: DHC</b>							
* Bicarbonate Alkalinity, (calc.)	8/28/23 09:07	8/28/23 13:56		1	185	mg CaCO3/L		1	A
* Carbonate Alkalinity, (calc.)	8/28/23 09:07	8/28/23 13:56		1	Not Detected	mg CaCO3/L		0.5	A
<b>Analytical Method: SM 4500H+ B</b>		<b>Analyst: DHC</b>							
Alkalinity pH Endpoint	8/28/23 09:07	8/28/23 13:56		1	4.47	SU		2	

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Certificate Of Analysis

**Description:** Gorgas Landfill - MW-18

**Location Code:** WMWGORLF  
**Collected:** 8/16/23 15:25  
**Customer ID:**  
**Submittal Date:** 8/17/23 08:51

**Laboratory ID Number:** BD15751

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: SC</b>							
* Total Organic Carbon	8/17/23 23:04	8/17/23 23:04		1	Not Detected	mg/L	1.00	2	U
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	8/18/23 10:05	8/18/23 10:05		1	1.48	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	8/17/23 13:45	8/17/23 13:45		1	0.260	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	8/23/23 12:40	8/23/23 12:40		160	1530	mg/L	96.0	320	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: AWG</b>							
Conductivity	8/16/23 15:25	8/16/23 15:25			1368.85	uS/cm			FA
pH	8/16/23 15:25	8/16/23 15:25			6.60	SU			FA
Temperature	8/16/23 15:25	8/16/23 15:25			22.63	C			FA
Turbidity	8/16/23 15:25	8/16/23 15:25			3.06	NTU			FA
Sulfide	8/16/23 15:25	8/16/23 15:25			0	mg/L			FA

MDL's and RL's are adjusted for sample dilution, as applicable

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/16/23 15:25

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-18

**Laboratory ID Number:** BD15751

Sample	Analysis	Units	MB				Standard		Rec		Prec	Limit	
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec			Limit
BD15751	Aluminum, Dissolved	mg/L	0.000155	0.0198	0.100	0.102	0.0989	0.105	0.0850 to 0.115	102	70.0 to 130	3.09	20.0
BD15751	Aluminum, Total	mg/L	0.00219	0.0198	0.100	0.120	0.125	0.101	0.0850 to 0.115	97.1	70.0 to 130	4.08	20.0
BD15751	Antimony, Dissolved	mg/L	0.000319	0.00100	0.100	0.0881	0.0929	0.0854	0.0850 to 0.115	88.1	70.0 to 130	5.30	20.0
BD15751	Antimony, Total	mg/L	0.000208	0.00100	0.100	0.0923	0.0937	0.0953	0.0850 to 0.115	92.3	70.0 to 130	1.51	20.0
BD15751	Arsenic, Dissolved	mg/L	0.0000034	0.000200	0.100	0.0993	0.0981	0.101	0.0850 to 0.115	99.3	70.0 to 130	1.22	20.0
BD15751	Arsenic, Total	mg/L	0.0000068	0.000200	0.100	0.104	0.105	0.106	0.0850 to 0.115	104	70.0 to 130	0.957	20.0
BD15751	Barium, Dissolved	mg/L	0.0000346	0.00100	0.100	0.104	0.110	0.0939	0.0850 to 0.115	95.2	70.0 to 130	5.61	20.0
BD15751	Barium, Total	mg/L	-0.0000194	0.00100	0.100	0.102	0.103	0.0944	0.0850 to 0.115	93.6	70.0 to 130	0.976	20.0
BD15751	Beryllium, Dissolved	mg/L	0.0000164	0.000880	0.100	0.104	0.100	0.0939	0.0850 to 0.115	104	70.0 to 130	3.92	20.0
BD15751	Beryllium, Total	mg/L	0.0000374	0.000880	0.100	0.110	0.109	0.115	0.0850 to 0.115	110	70.0 to 130	0.913	20.0
BD15751	Boron, Dissolved	mg/L	0.000396	0.0650	1.00	1.04	1.04	0.987	0.850 to 1.15	101	70.0 to 130	0.00	20.0
BD15751	Boron, Total	mg/L	0.000633	0.0650	1.00	1.05	1.06	0.987	0.850 to 1.15	101	70.0 to 130	0.948	20.0
BD15751	Cadmium, Dissolved	mg/L	0.0000067	0.000147	0.100	0.0951	0.0975	0.0988	0.0850 to 0.115	95.1	70.0 to 130	2.49	20.0
BD15751	Cadmium, Total	mg/L	0.0000040	0.000147	0.100	0.0977	0.0972	0.104	0.0850 to 0.115	97.7	70.0 to 130	0.513	20.0
BD15751	Calcium, Dissolved	mg/L	-0.0283	0.152	5.00	327	328	4.62	4.25 to 5.75	180	70.0 to 130	0.305	20.0
BD15751	Calcium, Total	mg/L	-0.00184	0.152	5.00	365	372	4.64	4.25 to 5.75	-240	70.0 to 130	1.90	20.0
BD15751	Chloride	mg/L	-0.0218	1.00	10.0	11.5	11.5	9.94	9.00 to 11.0	100	80.0 to 120	0.00	20.0
BD15751	Chromium, Dissolved	mg/L	-0.0000122	0.000440	0.100	0.0945	0.0931	0.0973	0.0850 to 0.115	94.5	70.0 to 130	1.49	20.0
BD15751	Chromium, Total	mg/L	-0.0000675	0.000440	0.100	0.0948	0.0968	0.0996	0.0850 to 0.115	94.5	70.0 to 130	2.09	20.0
BD15751	Cobalt, Dissolved	mg/L	-0.0000488	0.000147	0.100	0.0962	0.0954	0.0996	0.0850 to 0.115	96.2	70.0 to 130	0.835	20.0
BD15751	Cobalt, Total	mg/L	-0.0000037	0.000147	0.100	0.0987	0.0980	0.103	0.0850 to 0.115	98.7	70.0 to 130	0.712	20.0
BD15751	Fluoride	mg/L	0.0168	0.125	2.50	2.91	2.94	2.60	2.25 to 2.75	106	80.0 to 120	1.03	20.0
BD15751	Iron, Dissolved	mg/L	-0.00135	0.0176	0.2	0.190	0.191	0.198	0.170 to 0.230	95.0	70.0 to 130	0.525	20.0
BD15751	Iron, Total	mg/L	-0.000609	0.0176	0.2	0.221	0.221	0.198	0.170 to 0.230	95.2	70.0 to 130	0.00	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/16/23 15:25

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-18

**Laboratory ID Number:** BD15751

Sample	Analysis	Units	MB	MB		MS	MSD	Standard		Rec		Prec	Limit
				Limit	Spike			Standard	Limit	Rec	Limit		
BD15751	Lead, Dissolved	mg/L	0.0000023	0.000147	0.100	0.0991	0.0984	0.101	0.0850 to 0.115	99.1	70.0 to 130	0.709	20.0
BD15751	Lead, Total	mg/L	0.0000086	0.000147	0.100	0.0958	0.0962	0.0968	0.0850 to 0.115	95.8	70.0 to 130	0.417	20.0
BD15751	Lithium, Dissolved	mg/L	0.000173	0.0154	0.200	0.256	0.260	0.190	0.170 to 0.230	103	70.0 to 130	1.55	20.0
BD15751	Lithium, Total	mg/L	-0.00108	0.0154	0.200	0.268	0.268	0.216	0.170 to 0.230	108	70.0 to 130	0.00	20.0
BD15751	Magnesium, Dissolved	mg/L	-0.00201	0.0462	5.00	338	342	4.89	4.25 to 5.75	60.0	70.0 to 130	1.18	20.0
BD15751	Magnesium, Total	mg/L	0.00682	0.0462	5.00	372	373	5.08	4.25 to 5.75	-80.0	70.0 to 130	0.268	20.0
BD15751	Manganese, Dissolved	mg/L	0.0000019	0.00033	0.100	0.103	0.101	0.104	0.0850 to 0.115	103	70.0 to 130	1.96	20.0
BD15751	Manganese, Total	mg/L	0.0000638	0.00033	0.100	0.0968	0.0991	0.102	0.0850 to 0.115	96.2	70.0 to 130	2.35	20.0
BD15751	Mercury, Total by CVAA	mg/L	5.000E-05	0.000500	0.004	0.00393	0.00405	0.00378	0.00340 to 0.00460	98.2	70.0 to 130	3.01	20.0
BD15751	Molybdenum, Dissolved	mg/L	0.000424	0.0100	0.2	0.193	0.194	0.195	0.170 to 0.230	96.5	70.0 to 130	0.517	20.0
BD15751	Molybdenum, Total	mg/L	0.000	0.0100	0.2	0.195	0.194	0.198	0.170 to 0.230	97.5	70.0 to 130	0.514	20.0
BD15751	Potassium, Dissolved	mg/L	-0.00187	0.367	10.0	16.4	16.1	10.1	8.50 to 11.5	99.7	70.0 to 130	1.85	20.0
BD15751	Potassium, Total	mg/L	-0.0238	0.367	10.0	15.8	16.0	10.0	8.50 to 11.5	94.5	70.0 to 130	1.26	20.0
BD15751	Selenium, Dissolved	mg/L	0.0000413	0.00100	0.100	0.103	0.103	0.102	0.0850 to 0.115	99.9	70.0 to 130	0.00	20.0
BD15751	Selenium, Total	mg/L	-0.0000573	0.00100	0.100	0.106	0.106	0.106	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BD15751	Silicon, Dissolved	mg/L	0.000291	0.0440	1.00	7.47	7.48	1.00	0.850 to 1.15	99.0	70.0 to 130	0.134	20.0
BD15751	Silicon, Total	mg/L	0.00119	0.0440	1.00	7.61	7.62	1.01	0.850 to 1.15	99.0	70.0 to 130	0.131	20.0
BD15751	Sodium, Dissolved	mg/L	0.00414	0.0880	5.00	33.7	34.0	4.88	4.25 to 5.75	102	70.0 to 130	0.886	20.0
BD15751	Sodium, Total	mg/L	0.00401	0.0880	5.00	35.0	34.9	5.43	4.25 to 5.75	94.0	70.0 to 130	0.286	20.0
BD15751	Sulfate	mg/L	0.337	2.0	3200	4750	4820	20.1	18.0 to 22.0	101	80.0 to 120	1.46	20.0
BD15751	Thallium, Dissolved	mg/L	-0.0000298	0.000147	0.100	0.101	0.0972	0.102	0.0850 to 0.115	101	70.0 to 130	3.83	20.0
BD15751	Thallium, Total	mg/L	0.0000087	0.000147	0.100	0.0973	0.0982	0.0996	0.0850 to 0.115	97.3	70.0 to 130	0.921	20.0
BD15751	Total Organic Carbon	mg/L	0.153	1.00	10.0	10.4	10.8	25.4		104	80.0 to 120	3.77	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.



## Batch QC Summary

**Customer Account:** WMWGORLF

**Sample Date:** 8/16/23 15:25

**Customer ID:**

**Delivery Date:** 8/17/23 08:51

**Description:** Gorgas Landfill - MW-18

**Laboratory ID Number:** BD15751

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard Standard	Standard Limit	Rec Rec	Rec Limit	Prec	Prec Limit
BD15751	Alkalinity	mg CaCO3/L					184	51.3	45.0 to 55.0			0.542	10.0
BD15751	Nitrogen, Nitrate/Nitrite	mg/L as N	-0.08	0.200	2.00	2.28	0.303	2.00	1.80 to 2.20	97.7	90.0 to 110	7.31	15.0
BD15859	Solids, Dissolved	mg/L	1.00	25.0			40.0	49.0	40.0 to 60.0			3.20	10.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.

# Definitions

**Project Number:** WMWGORLF\_1420

Abbreviation	Description
DF	Dilution Factor
LCS	Lab Control Sample
LFM	Lab Fortified Matrix
MB	Method Blank
MDL	Method Detection Limit; minimum concentration of an analyte that can be determined with 99% confidence that the concentration is greater than zero.
MS	Matrix Spike
MSD	Matrix Spike Duplicate
Prec	Precision (% RPD)
Q	Qualifier; comment used to note deviations or additional information associated with analytical results.
QC	Quality Control
Rec	Recovery of Matrix Spike
RL	Reporting Limit; lowest concentration at which an analyte can be quantitatively measured.
Vio Spec	Violation Specification; regulatory limit which has been exceeded by the sample analyzed.

Qualifier	Description
A	Bicarbonate alkalinity, carbonate alkalinity, hydroxide alkalinity, free carbon dioxide, and/or total carbon dioxide calculations are estimates due to pH>10SU and/or TDS>500mg/L.
FA	Field results were reviewed by the Water Field Group. Refer to APC Field Case Narrative.
J	Reported value is an estimate because concentration is less than reporting limit.
RA	Matrix spike is invalid due to sample concentration.
U	Compound was analyzed, but not detected.



# Chain of Custody

## Groundwater

APC General Testing Laboratory

Field Complete  
 Lab Complete

Outside Lab

Lab ETA

Requested Complete Date	Routine	Results To	Dustin Brooks, Greg Dyer
Collector	Dallas Gentry	Requested By	Greg Dyer
		Location	Gorgas Landfill

Bottles	1	Metals	500 mL	3	Hg	250 mL	5	TDS/Alkalinity	500 mL	7	N/A	N/A
	2	Dissolved Metals	500 mL	4	Nitrite, Nitrate; TOC	250 mL	6	Anions	500 mL	8	N/A	N/A

Comments Updated bottle count from 6 to 5 on EB-1. BC 08/17/2023

Sample #	Date	Time	Bottle Count	Description	Lab Filter	Lab Id	pH Check
MW-11	08/15/2023	11:14	6	Groundwater		BD15731	<input checked="" type="checkbox"/>
FB-1	08/15/2023	11:55	5	Field Blank		BD15732	<input checked="" type="checkbox"/>
MW-10	08/15/2023	13:23	6	Groundwater		BD15733	<input checked="" type="checkbox"/>
MW-8	08/15/2023	15:02	6	Groundwater		BD15734	<input checked="" type="checkbox"/>
MW-7	08/15/2023	16:06	6	Groundwater		BD15735	<input checked="" type="checkbox"/>
MW-12V	08/16/2023	07:57	6	Groundwater		BD15736	<input checked="" type="checkbox"/>
MW-12	08/16/2023	09:03	6	Groundwater		BD15737	<input checked="" type="checkbox"/>
MW-13	08/16/2023	10:22	6	Groundwater		BD15738	<input checked="" type="checkbox"/>
MW-14	08/16/2023	12:12	6	Groundwater		BD15739	<input checked="" type="checkbox"/>
FB-2	08/16/2023	12:40	5	Field Blank		BD15740	<input checked="" type="checkbox"/>
MW-15	08/16/2023	12:59	6	Groundwater		BD15741	<input checked="" type="checkbox"/>
MW-15 dup	08/16/2023	12:59	6	Sample Duplicate		BD15742	<input checked="" type="checkbox"/>
MW-16	08/16/2023	14:17	6	Groundwater		BD15743	<input checked="" type="checkbox"/>
MW-17R	08/16/2023	15:05	6	Groundwater		BD15744	<input checked="" type="checkbox"/>
EB-1	08/16/2023	15:40	5	Equipment Blank		BD15745	<input checked="" type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>

Relinquished By	Received By	Date/Time
<i>Mel Dyer</i>	<i>Burke Cotton</i>	08/17/2023 07:58

SmarTroll ID	7586-41443-5-2	Cooler Temp	2.0 °C
Turbidity ID	9901-57263-1-1	Thermometer ID	10614-61208-2-1
Sample Event	1420	pH Strip ID	10853-62410-10-9

Bottles/Pre-Preserved Bottles are provided by the GTL.  
 Total Metals and Alkalinity are not performed on Dissolved Sets  
 Dissolved Metals and Alkalinity are not performed on blanks i.e. Field Blanks or Equipment Blanks







# Chain of Custody

## Groundwater

APC General Testing Laboratory

Field Complete  
 Lab Complete

Outside Lab

Lab ETA

Requested Complete Date	Routine	Results To	Dustin Brooks, Greg Dyer
	Collector		Dallas Gentry
		Location	Gorgas Landfill

Bottles	1 Radium	1 L	3 N/A	N/A	5 N/A	N/A	7 N/A	N/A
	2 N/A	N/A	4 N/A	N/A	6 N/A	N/A	8 N/A	N/A

Comments: Radium MS/MSD collected at MW-7 and MW-14

Sample #	Date	Time	Bottle Count	Description	Lab Filter	Lab Id	pH Check
MW-11	08/15/2023	11:14	1	Groundwater		BD15752	<input checked="" type="checkbox"/>
FB-1	08/15/2023	11:55	1	Field Blank		BD15753	<input checked="" type="checkbox"/>
MW-10	08/15/2023	13:23	1	Groundwater		BD15754	<input checked="" type="checkbox"/>
MW-8	08/15/2023	15:02	1	Groundwater		BD15755	<input checked="" type="checkbox"/>
MW-7	08/15/2023	16:06	3	Groundwater		BD15756	<input checked="" type="checkbox"/>
MW-12V	08/16/2023	07:57	1	Groundwater		BD15757	<input checked="" type="checkbox"/>
MW-12	08/16/2023	09:03	1	Groundwater		BD15758	<input checked="" type="checkbox"/>
MW-13	08/16/2023	10:22	1	Groundwater		BD15759	<input checked="" type="checkbox"/>
MW-14	08/16/2023	12:12	3	Groundwater		BD15760	<input checked="" type="checkbox"/>
FB-2	08/16/2023	12:40	1	Field Blank		BD15761	<input checked="" type="checkbox"/>
MW-15	08/16/2023	12:59	1	Groundwater		BD15762	<input checked="" type="checkbox"/>
MW-15 dup	08/16/2023	12:59	1	Sample Duplicate		BD15763	<input checked="" type="checkbox"/>
MW-16	08/16/2023	14:17	1	Groundwater		BD15764	<input checked="" type="checkbox"/>
MW-17R	08/16/2023	15:05	1	Groundwater		BD15765	<input checked="" type="checkbox"/>
EB-1	08/16/2023	15:40	1	Equipment Blank		BD15766	<input checked="" type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>

Relinquished By	Received By	Date/Time
<i>Dallas Gentry</i>	<i>Burke Cotton</i>	08/17/2023 07:59

SmarTroll ID	7586-41443-5-2	Cooler Temp	N/A
Turbidity ID	9901-57263-1-1	Thermometer ID	N/A
Sample Event	1420	pH Strip ID	10853-62410-10-9

Bottles/Pre-Preserved Bottles are provided by the GTL.

Total Metals and Alkalinity are not performed on Dissolved Sets

Dissolved Metals and Alkalinity are not performed on blanks i.e. Field Blanks or Equipment Blanks



September 22, 2023

Brooke Caton  
Alabama Power  
744 Highway 87  
Calera, AL 35040

RE: Project: WMWGORLF\_1420  
Pace Project No.: 30616376

Dear Brooke Caton:

Enclosed are the analytical results for sample(s) received by the laboratory on August 23, 2023. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Greensburg

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Skyler C. Richmond  
skyler.richmond@pacelabs.com  
(724)850-5600  
Project Manager

Enclosures

cc: Blaine Denton, Alabama Power  
Renee Jernigan, Alabama Power



## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.



## CERTIFICATIONS

Project: WMWGORLF\_1420  
Pace Project No.: 30616376

---

### Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601  
ANAB DOD-ELAP Rad Accreditation #: L2417  
ANABISO/IEC 17025:2017 Rad Cert#: L24170  
Alabama Certification #: 41590  
Arizona Certification #: AZ0734  
Arkansas Certification  
California Certification #: 2950  
Colorado Certification #: PA01547  
Connecticut Certification #: PH-0694  
EPA Region 4 DW Rad  
Florida/TNI Certification #: E87683  
Georgia Certification #: C040  
Guam Certification  
Hawaii Certification  
Idaho Certification  
Illinois Certification  
Indiana Certification  
Iowa Certification #: 391  
Kansas Certification #: E-10358  
Kentucky Certification #: KY90133  
KY WW Permit #: KY0098221  
KY WW Permit #: KY0000221  
Louisiana DHH/TNI Certification #: LA010  
Louisiana DEQ/TNI Certification #: 04086  
Maine Certification #: 2023021  
Maryland Certification #: 308  
Massachusetts Certification #: M-PA1457  
Michigan/PADEP Certification #: 9991

Missouri Certification #: 235  
Montana Certification #: Cert0082  
Nebraska Certification #: NE-OS-29-14  
Nevada Certification #: PA014572023-03  
New Hampshire/TNI Certification #: 297622  
New Jersey/TNI Certification #: PA051  
New Mexico Certification #: PA01457  
New York/TNI Certification #: 10888  
North Carolina Certification #: 42706  
North Dakota Certification #: R-190  
Ohio EPA Rad Approval: #41249  
Oregon/TNI Certification #: PA200002-015  
Pennsylvania/TNI Certification #: 65-00282  
Puerto Rico Certification #: PA01457  
Rhode Island Certification #: 65-00282  
South Dakota Certification  
Tennessee Certification #: TN02867  
Texas/TNI Certification #: T104704188-22-18  
Utah/TNI Certification #: PA014572223-14  
USDA Soil Permit #: 525-23-67-77263  
Vermont Dept. of Health: ID# VT-0282  
Virgin Island/PADEP Certification  
Virginia/VELAP Certification #: 460198  
Washington Certification #: C868  
West Virginia DEP Certification #: 143  
West Virginia DHHR Certification #: 9964C  
Wisconsin Approve List for Rad

---

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.





## SAMPLE SUMMARY

Project: WMWGORLF\_1420  
Pace Project No.: 30616376

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30616376001	BD15752 MW-11	Water	08/15/23 11:14	08/23/23 09:50
30616376002	BD15753 FB-1	Water	08/15/23 11:55	08/23/23 09:50
30616376003	BD15754 MW-10	Water	08/15/23 13:23	08/23/23 09:50
30616376004	BD15755 MW-8	Water	08/15/23 15:02	08/23/23 09:50
30616376005	BD15756 MW-7	Water	08/15/23 16:06	08/23/23 09:50
30616376006	BD15756 MW-7 MS	Water	08/15/23 16:06	08/23/23 09:50
30616376007	BD15756 MW-7 MSD	Water	08/15/23 16:06	08/23/23 09:50
30616376008	BD15757 MW-12V	Water	08/16/23 07:57	08/23/23 09:50
30616376009	BD15758 MW-12	Water	08/16/23 09:03	08/23/23 09:50
30616376010	BD15759 MW-13	Water	08/16/23 10:22	08/23/23 09:50
30616376011	BD15760 MW-14	Water	08/16/23 12:12	08/23/23 09:50
30616376012	BD15760 MW-14 MS	Water	08/16/23 12:12	08/23/23 09:50
30616376013	BD15760 MW-14 MSD	Water	08/16/23 12:12	08/23/23 09:50
30616376014	BD15761 FB-2	Water	08/16/23 12:40	08/23/23 09:50
30616376015	BD15762 MW-15	Water	08/16/23 12:59	08/23/23 09:50
30616376016	BD15763 MW-15 DUP	Water	08/16/23 12:59	08/23/23 09:50
30616376017	BD15764 MW-16	Water	08/16/23 14:17	08/23/23 09:50
30616376018	BD15765 MW-17R	Water	08/16/23 15:05	08/23/23 09:50
30616376019	BD15766 EB-1	Water	08/16/23 15:40	08/23/23 09:50
30616376020	BD15767 MW-5	Water	08/16/23 10:40	08/23/23 09:50
30616376021	BD15768 MW-6	Water	08/16/23 12:20	08/23/23 09:50
30616376022	BD15769 MW-20	Water	08/16/23 13:30	08/23/23 09:50
30616376023	BD15770 MW-20 Dup	Water	08/16/23 13:30	08/23/23 09:50
30616376024	BD15771 MW-19	Water	08/16/23 14:35	08/23/23 09:50
30616376025	BD15772 MW-18	Water	08/16/23 15:25	08/23/23 09:50

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.



**SAMPLE ANALYTE COUNT**

Project: WMWGORLF\_1420  
 Pace Project No.: 30616376

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30616376001	BD15752 MW-11	EPA 9315	SLC	1	PASI-PA
		EPA 9320	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30616376002	BD15753 FB-1	EPA 9315	SLC	1	PASI-PA
		EPA 9320	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30616376003	BD15754 MW-10	EPA 9315	SLC	1	PASI-PA
		EPA 9320	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30616376004	BD15755 MW-8	EPA 9315	SLC	1	PASI-PA
		EPA 9320	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30616376005	BD15756 MW-7	EPA 9315	SLC	1	PASI-PA
		EPA 9320	ZPC	1	PASI-PA
		Total Radium Calculation	LAL	1	PASI-PA
30616376006	BD15756 MW-7 MS	EPA 9315	SLC	1	PASI-PA
		EPA 9320	ZPC	1	PASI-PA
30616376007	BD15756 MW-7 MSD	EPA 9315	SLC	1	PASI-PA
		EPA 9320	ZPC	1	PASI-PA
30616376008	BD15757 MW-12V	EPA 9315	SLC	1	PASI-PA
		EPA 9320	ZPC	1	PASI-PA
		Total Radium Calculation	LAL	1	PASI-PA
30616376009	BD15758 MW-12	EPA 9315	SLC	1	PASI-PA
		EPA 9320	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30616376010	BD15759 MW-13	EPA 9315	SLC	1	PASI-PA
		EPA 9320	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30616376011	BD15760 MW-14	EPA 9315	SLC	1	PASI-PA
		EPA 9320	ZPC	1	PASI-PA
		Total Radium Calculation	LAL	1	PASI-PA
30616376012	BD15760 MW-14 MS	EPA 9315	SLC	1	PASI-PA
		EPA 9320	ZPC	1	PASI-PA
30616376013	BD15760 MW-14 MSD	EPA 9315	SLC	1	PASI-PA
		EPA 9320	ZPC	1	PASI-PA
30616376014	BD15761 FB-2	EPA 9315	SLC	1	PASI-PA
		EPA 9320	ZPC	1	PASI-PA

**REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, except in full,  
 without the written consent of Pace Analytical Services, LLC.



**SAMPLE ANALYTE COUNT**

Project: WMWGORLF\_1420  
 Pace Project No.: 30616376

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30616376015	BD15762 MW-15	Total Radium Calculation	LAL	1	PASI-PA
		EPA 9315	SLC	1	PASI-PA
		EPA 9320	ZPC	1	PASI-PA
30616376016	BD15763 MW-15 DUP	Total Radium Calculation	LAL	1	PASI-PA
		EPA 9315	SLC	1	PASI-PA
		EPA 9320	ZPC	1	PASI-PA
30616376017	BD15764 MW-16	Total Radium Calculation	LAL	1	PASI-PA
		EPA 9315	SLC	1	PASI-PA
		EPA 9320	ZPC	1	PASI-PA
30616376018	BD15765 MW-17R	Total Radium Calculation	LAL	1	PASI-PA
		EPA 9315	SLC	1	PASI-PA
		EPA 9320	ZPC	1	PASI-PA
30616376019	BD15766 EB-1	Total Radium Calculation	LAL	1	PASI-PA
		EPA 9315	SLC	1	PASI-PA
		EPA 9320	ZPC	1	PASI-PA
30616376020	BD15767 MW-5	Total Radium Calculation	LAL	1	PASI-PA
		EPA 9315	SLC	1	PASI-PA
		EPA 9320	ZPC	1	PASI-PA
30616376021	BD15768 MW-6	Total Radium Calculation	LAL	1	PASI-PA
		EPA 9315	SLC	1	PASI-PA
		EPA 9320	JJS1	1	PASI-PA
30616376022	BD15769 MW-20	Total Radium Calculation	LAL	1	PASI-PA
		EPA 9315	SLC	1	PASI-PA
		EPA 9320	JJS1	1	PASI-PA
30616376023	BD15770 MW-20 Dup	Total Radium Calculation	LAL	1	PASI-PA
		EPA 9315	SLC	1	PASI-PA
		EPA 9320	JJS1	1	PASI-PA
30616376024	BD15771 MW-19	Total Radium Calculation	LAL	1	PASI-PA
		EPA 9315	SLC	1	PASI-PA
		EPA 9320	JJS1	1	PASI-PA
30616376025	BD15772 MW-18	Total Radium Calculation	LAL	1	PASI-PA
		EPA 9315	SLC	1	PASI-PA
		EPA 9320	JJS1	1	PASI-PA
		Total Radium Calculation	LAL	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

**REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, except in full,  
 without the written consent of Pace Analytical Services, LLC.



## PROJECT NARRATIVE

Project: WMWGORLF\_1420  
Pace Project No.: 30616376

---

**Method:** EPA 9315  
**Description:** 9315 Total Radium  
**Client:** Alabama Power  
**Date:** September 22, 2023

### General Information:

25 samples were analyzed for EPA 9315 by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Additional Comments:

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.



## PROJECT NARRATIVE

Project: WMWGORLF\_1420  
Pace Project No.: 30616376

---

**Method:** EPA 9320  
**Description:** 9320 Radium 228  
**Client:** Alabama Power  
**Date:** September 22, 2023

### General Information:

25 samples were analyzed for EPA 9320 by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Additional Comments:

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.



## PROJECT NARRATIVE

Project: WMWGORLF\_1420  
Pace Project No.: 30616376

---

**Method:** Total Radium Calculation  
**Description:** Total Radium 228+226  
**Client:** Alabama Power  
**Date:** September 22, 2023

**General Information:**

21 samples were analyzed for Total Radium Calculation by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

**Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

**Method Blank:**

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

**Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

**Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

**Additional Comments:**

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.



**ANALYTICAL RESULTS - RADIOCHEMISTRY**

Project: WMWGORLF\_1420  
 Pace Project No.: 30616376

**Sample: BD15752 MW-11**      **Lab ID: 30616376001**      Collected: 08/15/23 11:14      Received: 08/23/23 09:50      Matrix: Water  
 PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>0.332U ± 0.306 (0.592)</b> <b>C:92% T:NA</b>	pCi/L	09/15/23 15:15	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>0.876 ± 0.424 (0.716)</b> <b>C:79% T:86%</b>	pCi/L	09/18/23 11:53	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>1.21U ± 0.730 (1.31)</b>	pCi/L	09/20/23 13:39	7440-14-4	

**REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, except in full,  
 without the written consent of Pace Analytical Services, LLC.



**ANALYTICAL RESULTS - RADIOCHEMISTRY**

Project: WMWGORLF\_1420  
 Pace Project No.: 30616376

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>0.141U ± 0.261 (0.596)</b> <b>C:78% T:NA</b>	pCi/L	09/15/23 15:15	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>0.463U ± 0.337 (0.646)</b> <b>C:75% T:86%</b>	pCi/L	09/18/23 11:53	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>0.604U ± 0.598 (1.24)</b>	pCi/L	09/20/23 13:39	7440-14-4	

**REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, except in full,  
 without the written consent of Pace Analytical Services, LLC.





**ANALYTICAL RESULTS - RADIOCHEMISTRY**

Project: WMWGORLF\_1420  
 Pace Project No.: 30616376

**Sample: BD15754 MW-10**      **Lab ID: 30616376003**      Collected: 08/15/23 13:23      Received: 08/23/23 09:50      Matrix: Water  
 PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>0.267U ± 0.290 (0.585)</b> <b>C:84% T:NA</b>	pCi/L	09/15/23 15:15	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>0.724 ± 0.387 (0.686)</b> <b>C:80% T:86%</b>	pCi/L	09/18/23 11:53	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>0.991U ± 0.677 (1.27)</b>	pCi/L	09/20/23 13:39	7440-14-4	

**REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, except in full,  
 without the written consent of Pace Analytical Services, LLC.



**ANALYTICAL RESULTS - RADIOCHEMISTRY**

Project: WMWGORLF\_1420  
 Pace Project No.: 30616376

**Sample: BD15755 MW-8**      **Lab ID: 30616376004**      Collected: 08/15/23 15:02      Received: 08/23/23 09:50      Matrix: Water  
 PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>0.269U ± 0.263 (0.488)</b> <b>C:83% T:NA</b>	pCi/L	09/15/23 15:15	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>-0.0862U ± 0.284 (0.688)</b> <b>C:82% T:87%</b>	pCi/L	09/18/23 11:53	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>0.269U ± 0.547 (1.18)</b>	pCi/L	09/20/23 13:39	7440-14-4	

**REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, except in full,  
 without the written consent of Pace Analytical Services, LLC.



**ANALYTICAL RESULTS - RADIOCHEMISTRY**

Project: WMWGORLF\_1420  
 Pace Project No.: 30616376

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
<b>Sample: BD15756 MW-7</b> <b>Lab ID: 30616376005</b> Collected: 08/15/23 16:06      Received: 08/23/23 09:50      Matrix: Water PWS:      Site ID:      Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>0.0803U ± 0.215 (0.516)</b> <b>C:94% T:NA</b>	pCi/L	09/21/23 08:38	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>0.372U ± 0.356 (0.729)</b> <b>C:78% T:90%</b>	pCi/L	09/18/23 11:53	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>0.452U ± 0.571 (1.25)</b>	pCi/L	09/21/23 14:56	7440-14-4	

**REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, except in full,  
 without the written consent of Pace Analytical Services, LLC.



**ANALYTICAL RESULTS - RADIOCHEMISTRY**

Project: WMWGORLF\_1420  
 Pace Project No.: 30616376

**Sample: BD15756 MW-7 MS**      **Lab ID: 30616376006**      Collected: 08/15/23 16:06      Received: 08/23/23 09:50      Matrix: Water  
 PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>113.01 %REC ± NA (NA)</b> <b>C:NA T:NA</b>	pCi/L	09/21/23 08:40	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>71.53 %REC ± NA (NA)</b> <b>C:NA T:NA</b>	pCi/L	09/18/23 11:53	15262-20-1	

**REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, except in full,  
 without the written consent of Pace Analytical Services, LLC.



**ANALYTICAL RESULTS - RADIOCHEMISTRY**

Project: WMWGORLF\_1420  
 Pace Project No.: 30616376

**Sample: BD15756 MW-7 MSD**      **Lab ID: 30616376007**      Collected: 08/15/23 16:06      Received: 08/23/23 09:50      Matrix: Water  
 PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>110.98 %REC 1.81RPD ±</b> <b>NA (NA)</b> <b>C:NA T:NA</b>	pCi/L	09/21/23 08:40	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>90.55 %REC 23.47 RPD ±</b> <b>NA (NA)</b> <b>C:NA T:NA</b>	pCi/L	09/18/23 11:53	15262-20-1	

**REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, except in full,  
 without the written consent of Pace Analytical Services, LLC.



**ANALYTICAL RESULTS - RADIOCHEMISTRY**

Project: WMWGORLF\_1420  
 Pace Project No.: 30616376

**Sample: BD15757 MW-12V**      **Lab ID: 30616376008**      Collected: 08/16/23 07:57      Received: 08/23/23 09:50      Matrix: Water  
 PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>0.346U ± 0.309 (0.602)</b> <b>C:98% T:NA</b>	pCi/L	09/21/23 10:09	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>0.516U ± 0.338 (0.634)</b> <b>C:80% T:86%</b>	pCi/L	09/18/23 11:53	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>0.862U ± 0.647 (1.24)</b>	pCi/L	09/21/23 14:56	7440-14-4	

**REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, except in full,  
 without the written consent of Pace Analytical Services, LLC.



**ANALYTICAL RESULTS - RADIOCHEMISTRY**

Project: WMWGORLF\_1420  
 Pace Project No.: 30616376

**Sample: BD15758 MW-12**      **Lab ID: 30616376009**      Collected: 08/16/23 09:03      Received: 08/23/23 09:50      Matrix: Water  
 PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>0.620 ± 0.361 (0.540)</b> <b>C:89% T:NA</b>	pCi/L	09/15/23 15:15	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>0.344U ± 0.345 (0.710)</b> <b>C:78% T:85%</b>	pCi/L	09/18/23 11:53	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>0.964U ± 0.706 (1.25)</b>	pCi/L	09/20/23 13:39	7440-14-4	

**REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, except in full,  
 without the written consent of Pace Analytical Services, LLC.



**ANALYTICAL RESULTS - RADIOCHEMISTRY**

Project: WMWGORLF\_1420  
 Pace Project No.: 30616376

**Sample: BD15759 MW-13**      **Lab ID: 30616376010**      Collected: 08/16/23 10:22      Received: 08/23/23 09:50      Matrix: Water  
 PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>0.170U ± 0.278 (0.622)</b> <b>C:82% T:NA</b>	pCi/L	09/15/23 15:15	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>0.263U ± 0.376 (0.808)</b> <b>C:75% T:78%</b>	pCi/L	09/18/23 11:54	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>0.433U ± 0.654 (1.43)</b>	pCi/L	09/20/23 13:39	7440-14-4	

**REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, except in full,  
 without the written consent of Pace Analytical Services, LLC.





**ANALYTICAL RESULTS - RADIOCHEMISTRY**

Project: WMWGORLF\_1420  
 Pace Project No.: 30616376

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>0.561U ± 0.339 (0.565)</b> <b>C:99% T:NA</b>	pCi/L	09/21/23 10:10	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>0.944 ± 0.400 (0.625)</b> <b>C:77% T:88%</b>	pCi/L	09/18/23 11:54	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>1.51 ± 0.739 (1.19)</b>	pCi/L	09/21/23 14:56	7440-14-4	

**REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, except in full,  
 without the written consent of Pace Analytical Services, LLC.



**ANALYTICAL RESULTS - RADIOCHEMISTRY**

Project: WMWGORLF\_1420  
 Pace Project No.: 30616376

**Sample: BD15760 MW-14 MS**      **Lab ID: 30616376012**      Collected: 08/16/23 12:12      Received: 08/23/23 09:50      Matrix: Water  
 PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>118.21 %REC ± NA (NA)</b> <b>C:NA T:NA</b>	pCi/L	09/21/23 10:11	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>9.26 ± 1.86 (0.627)</b> <b>C:80% T:86%</b>	pCi/L	09/18/23 11:54	15262-20-1	

**REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, except in full,  
 without the written consent of Pace Analytical Services, LLC.



**ANALYTICAL RESULTS - RADIOCHEMISTRY**

Project: WMWGORLF\_1420  
 Pace Project No.: 30616376

**Sample: BD15760 MW-14 MSD**      **Lab ID: 30616376013**      Collected: 08/16/23 12:12      Received: 08/23/23 09:50      Matrix: Water  
 PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>104.69 %REC 12.13RPD ±</b> <b>NA (NA)</b> <b>C:NA T:NA</b>	pCi/L	09/21/23 10:10	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>8.52 ± 1.72 (0.679)</b> <b>C:78% T:87%</b>	pCi/L	09/18/23 11:54	15262-20-1	

**REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, except in full,  
 without the written consent of Pace Analytical Services, LLC.



**ANALYTICAL RESULTS - RADIOCHEMISTRY**

Project: WMWGORLF\_1420  
 Pace Project No.: 30616376

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>0.221U ± 0.254 (0.523)</b> <b>C:93% T:NA</b>	pCi/L	09/21/23 10:11	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>0.140U ± 0.312 (0.696)</b> <b>C:71% T:81%</b>	pCi/L	09/18/23 11:54	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>0.361U ± 0.566 (1.22)</b>	pCi/L	09/21/23 14:56	7440-14-4	

**REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, except in full,  
 without the written consent of Pace Analytical Services, LLC.



**ANALYTICAL RESULTS - RADIOCHEMISTRY**

Project: WMWGORLF\_1420  
 Pace Project No.: 30616376

**Sample: BD15762 MW-15**      **Lab ID: 30616376015**      Collected: 08/16/23 12:59      Received: 08/23/23 09:50      Matrix: Water  
 PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>0.530U ± 0.337 (0.557)</b> <b>C:92% T:NA</b>	pCi/L	09/21/23 10:14	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>0.595U ± 0.382 (0.717)</b> <b>C:78% T:83%</b>	pCi/L	09/18/23 11:55	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>1.13U ± 0.719 (1.27)</b>	pCi/L	09/21/23 14:56	7440-14-4	

**REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, except in full,  
 without the written consent of Pace Analytical Services, LLC.



**ANALYTICAL RESULTS - RADIOCHEMISTRY**

Project: WMWGORLF\_1420  
 Pace Project No.: 30616376

**Sample: BD15763 MW-15 DUP**      **Lab ID: 30616376016**      Collected: 08/16/23 12:59      Received: 08/23/23 09:50      Matrix: Water  
 PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.247U ± 0.239 (0.460)</b> <b>C:92% T:NA</b>	pCi/L	09/21/23 10:11	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.645U ± 0.385 (0.712)</b> <b>C:81% T:86%</b>	pCi/L	09/18/23 11:55	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.892U ± 0.624 (1.17)</b>	pCi/L	09/21/23 14:56	7440-14-4	

**REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, except in full,  
 without the written consent of Pace Analytical Services, LLC.



**ANALYTICAL RESULTS - RADIOCHEMISTRY**

Project: WMWGORLF\_1420  
 Pace Project No.: 30616376

**Sample: BD15764 MW-16**      **Lab ID: 30616376017**      Collected: 08/16/23 14:17      Received: 08/23/23 09:50      Matrix: Water  
 PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.508U ± 0.329 (0.548)</b> <b>C:91% T:NA</b>	pCi/L	09/21/23 10:11	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.512U ± 0.376 (0.730)</b> <b>C:75% T:85%</b>	pCi/L	09/18/23 11:55	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>1.02U ± 0.705 (1.28)</b>	pCi/L	09/21/23 14:56	7440-14-4	

**REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, except in full,  
 without the written consent of Pace Analytical Services, LLC.



**ANALYTICAL RESULTS - RADIOCHEMISTRY**

Project: WMWGORLF\_1420  
 Pace Project No.: 30616376

**Sample: BD15765 MW-17R**      **Lab ID: 30616376018**      Collected: 08/16/23 15:05      Received: 08/23/23 09:50      Matrix: Water  
 PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.635 ± 0.332 (0.474)</b> <b>C:94% T:NA</b>	pCi/L	09/21/23 10:11	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.257U ± 0.275 (0.569)</b> <b>C:80% T:91%</b>	pCi/L	09/18/23 11:55	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.892U ± 0.607 (1.04)</b>	pCi/L	09/21/23 14:56	7440-14-4	

**REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, except in full,  
 without the written consent of Pace Analytical Services, LLC.





**ANALYTICAL RESULTS - RADIOCHEMISTRY**

Project: WMWGORLF\_1420  
 Pace Project No.: 30616376

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
<b>Sample: BD15766 EB-1</b> <b>Lab ID: 30616376019</b> Collected: 08/16/23 15:40      Received: 08/23/23 09:50      Matrix: Water PWS:      Site ID:      Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>0.127U ± 0.230 (0.523)</b> <b>C:93% T:NA</b>	pCi/L	09/21/23 10:13	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>0.163U ± 0.259 (0.562)</b> <b>C:84% T:85%</b>	pCi/L	09/18/23 11:55	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>0.290U ± 0.489 (1.09)</b>	pCi/L	09/21/23 14:56	7440-14-4	

**REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, except in full,  
 without the written consent of Pace Analytical Services, LLC.



**ANALYTICAL RESULTS - RADIOCHEMISTRY**

Project: WMWGORLF\_1420  
 Pace Project No.: 30616376

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>0.222U ± 0.254 (0.530)</b> <b>C:104% T:NA</b>	pCi/L	09/21/23 10:13	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>0.105U ± 0.301 (0.676)</b> <b>C:78% T:87%</b>	pCi/L	09/18/23 11:55	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>0.327U ± 0.555 (1.21)</b>	pCi/L	09/21/23 14:56	7440-14-4	

**REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, except in full,  
 without the written consent of Pace Analytical Services, LLC.



**ANALYTICAL RESULTS - RADIOCHEMISTRY**

Project: WMWGORLF\_1420  
 Pace Project No.: 30616376

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>1.29 ± 0.463 (0.485)</b> C:99% T:NA	pCi/L	09/21/23 10:13	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>0.898 ± 0.454 (0.785)</b> C:64% T:85%	pCi/L	09/18/23 15:00	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>2.19 ± 0.917 (1.27)</b>	pCi/L	09/21/23 14:56	7440-14-4	

**REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, except in full,  
 without the written consent of Pace Analytical Services, LLC.



**ANALYTICAL RESULTS - RADIOCHEMISTRY**

Project: WMWGORLF\_1420  
 Pace Project No.: 30616376

**Sample: BD15769 MW-20**      **Lab ID: 30616376022**      Collected: 08/16/23 13:30      Received: 08/23/23 09:50      Matrix: Water  
 PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.437U ± 0.287 (0.477)</b> <b>C:98% T:NA</b>	pCi/L	09/21/23 10:51	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.337U ± 0.376 (0.770)</b> <b>C:70% T:86%</b>	pCi/L	09/18/23 15:01	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.774U ± 0.663 (1.25)</b>	pCi/L	09/21/23 14:56	7440-14-4	

**REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, except in full,  
 without the written consent of Pace Analytical Services, LLC.



**ANALYTICAL RESULTS - RADIOCHEMISTRY**

Project: WMWGORLF\_1420  
 Pace Project No.: 30616376

**Sample: BD15770 MW-20 Dup**      **Lab ID: 30616376023**      Collected: 08/16/23 13:30      Received: 08/23/23 09:50      Matrix: Water  
 PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.724 ± 0.342 (0.429)</b> <b>C:96% T:NA</b>	pCi/L	09/21/23 10:12	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.575U ± 0.414 (0.795)</b> <b>C:66% T:85%</b>	pCi/L	09/18/23 15:01	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>1.30 ± 0.756 (1.22)</b>	pCi/L	09/21/23 14:56	7440-14-4	

**REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, except in full,  
 without the written consent of Pace Analytical Services, LLC.



**ANALYTICAL RESULTS - RADIOCHEMISTRY**

Project: WMWGORLF\_1420  
 Pace Project No.: 30616376

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
<b>Sample: BD15771 MW-19</b> <b>Lab ID: 30616376024</b> Collected: 08/16/23 14:35      Received: 08/23/23 09:50      Matrix: Water PWS:      Site ID:      Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>0.160U ± 0.236 (0.518)</b> <b>C:97% T:NA</b>	pCi/L	09/21/23 10:12	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>0.0855U ± 0.352 (0.775)</b> <b>C:69% T:89%</b>	pCi/L	09/18/23 15:01	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>0.246U ± 0.588 (1.29)</b>	pCi/L	09/21/23 14:56	7440-14-4	

**REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, except in full,  
 without the written consent of Pace Analytical Services, LLC.



**ANALYTICAL RESULTS - RADIOCHEMISTRY**

Project: WMWGORLF\_1420  
 Pace Project No.: 30616376

**Sample: BD15772 MW-18**      **Lab ID: 30616376025**      Collected: 08/16/23 15:25      Received: 08/23/23 09:50      Matrix: Water  
 PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>0.300U ± 0.259 (0.481)</b> <b>C:99% T:NA</b>	pCi/L	09/21/23 10:12	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>-0.201U ± 0.346 (0.823)</b> <b>C:70% T:83%</b>	pCi/L	09/18/23 15:01	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>0.300U ± 0.605 (1.30)</b>	pCi/L	09/21/23 14:56	7440-14-4	

**REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, except in full,  
 without the written consent of Pace Analytical Services, LLC.



**QUALITY CONTROL - RADIOCHEMISTRY**

Project: WMWGORLF\_1420  
 Pace Project No.: 30616376

---

QC Batch: 614490 Analysis Method: EPA 9320  
 QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228  
 Laboratory: Pace Analytical Services - Greensburg  
 Associated Lab Samples: 30616376001, 30616376002, 30616376003, 30616376004, 30616376005, 30616376006, 30616376007,  
 30616376008, 30616376009, 30616376010, 30616376011, 30616376012, 30616376013, 30616376014,  
 30616376015, 30616376016, 30616376017, 30616376018, 30616376019, 30616376020

---

METHOD BLANK: 2991802 Matrix: Water  
 Associated Lab Samples: 30616376001, 30616376002, 30616376003, 30616376004, 30616376005, 30616376006, 30616376007,  
 30616376008, 30616376009, 30616376010, 30616376011, 30616376012, 30616376013, 30616376014,  
 30616376015, 30616376016, 30616376017, 30616376018, 30616376019, 30616376020

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.527 ± 0.320 (0.590) C:83% T:91%	pCi/L	09/18/23 11:53	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

**REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, except in full,  
 without the written consent of Pace Analytical Services, LLC.





**QUALITY CONTROL - RADIOCHEMISTRY**

Project: WMWGORLF\_1420  
 Pace Project No.: 30616376

---

QC Batch: 612796	Analysis Method: EPA 9315
QC Batch Method: EPA 9315	Analysis Description: 9315 Total Radium
	Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 30616376001, 30616376002, 30616376003, 30616376004, 30616376009, 30616376010

---

METHOD BLANK: 2982880 Matrix: Water

Associated Lab Samples: 30616376001, 30616376002, 30616376003, 30616376004, 30616376009, 30616376010

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0701 ± 0.115 (0.256) C:84% T:NA	pCi/L	09/15/23 15:10	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

**REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, except in full,  
 without the written consent of Pace Analytical Services, LLC.



**QUALITY CONTROL - RADIOCHEMISTRY**

Project: WMWGORLF\_1420  
 Pace Project No.: 30616376

---

QC Batch: 614497 Analysis Method: EPA 9320  
 QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228  
 Laboratory: Pace Analytical Services - Greensburg  
 Associated Lab Samples: 30616376021, 30616376022, 30616376023, 30616376024, 30616376025

---

METHOD BLANK: 2991829 Matrix: Water  
 Associated Lab Samples: 30616376021, 30616376022, 30616376023, 30616376024, 30616376025

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.345 ± 0.359 (0.727) C:66% T:82%	pCi/L	09/18/23 15:00	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

**REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, except in full,  
 without the written consent of Pace Analytical Services, LLC.



**QUALITY CONTROL - RADIOCHEMISTRY**

Project: WMWGORLF\_1420  
 Pace Project No.: 30616376

QC Batch:	612798	Analysis Method:	EPA 9315
QC Batch Method:	EPA 9315	Analysis Description:	9315 Total Radium
		Laboratory:	Pace Analytical Services - Greensburg

Associated Lab Samples: 30616376005, 30616376006, 30616376007, 30616376008, 30616376011, 30616376012, 30616376013, 30616376014, 30616376015, 30616376016, 30616376017, 30616376018, 30616376019, 30616376020, 30616376021, 30616376022, 30616376023, 30616376024, 30616376025

METHOD BLANK: 2982881 Matrix: Water

Associated Lab Samples: 30616376005, 30616376006, 30616376007, 30616376008, 30616376011, 30616376012, 30616376013, 30616376014, 30616376015, 30616376016, 30616376017, 30616376018, 30616376019, 30616376020, 30616376021, 30616376022, 30616376023, 30616376024, 30616376025

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0767 ± 0.0962 (0.203) C:95% T:NA	pCi/L	09/21/23 08:36	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

**REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, except in full,  
 without the written consent of Pace Analytical Services, LLC.



## QUALIFIERS

Project: WMWGORLF\_1420  
Pace Project No.: 30616376

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Act - Activity

Unc - Uncertainty: For Safe Drinking Water Act (SDWA) analyses, the reported Unc. is the calculated Count Uncertainty (95% confidence interval) using a coverage factor of 1.96. For all other matrices (non-SDWA), the reported Unc. is the calculated Expanded Uncertainty (aka Combined Standard Uncertainty, CSU), reported at the 95% confidence interval using a coverage factor of 1.96.

Gamma Spec: The Unc. reported for all gamma-spectroscopy analyses (EPA 901.1), is the calculated Expanded Uncertainty (CSU) at the 95.4% confidence interval, using a coverage factor of 2.0.

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.



**QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: WMWGORLF\_1420  
 Pace Project No.: 30616376

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30616376001	BD15752 MW-11	EPA 9315	612796		
30616376002	BD15753 FB-1	EPA 9315	612796		
30616376003	BD15754 MW-10	EPA 9315	612796		
30616376004	BD15755 MW-8	EPA 9315	612796		
30616376005	BD15756 MW-7	EPA 9315	612798		
30616376006	BD15756 MW-7 MS	EPA 9315	612798		
30616376007	BD15756 MW-7 MSD	EPA 9315	612798		
30616376008	BD15757 MW-12V	EPA 9315	612798		
30616376009	BD15758 MW-12	EPA 9315	612796		
30616376010	BD15759 MW-13	EPA 9315	612796		
30616376011	BD15760 MW-14	EPA 9315	612798		
30616376012	BD15760 MW-14 MS	EPA 9315	612798		
30616376013	BD15760 MW-14 MSD	EPA 9315	612798		
30616376014	BD15761 FB-2	EPA 9315	612798		
30616376015	BD15762 MW-15	EPA 9315	612798		
30616376016	BD15763 MW-15 DUP	EPA 9315	612798		
30616376017	BD15764 MW-16	EPA 9315	612798		
30616376018	BD15765 MW-17R	EPA 9315	612798		
30616376019	BD15766 EB-1	EPA 9315	612798		
30616376020	BD15767 MW-5	EPA 9315	612798		
30616376021	BD15768 MW-6	EPA 9315	612798		
30616376022	BD15769 MW-20	EPA 9315	612798		
30616376023	BD15770 MW-20 Dup	EPA 9315	612798		
30616376024	BD15771 MW-19	EPA 9315	612798		
30616376025	BD15772 MW-18	EPA 9315	612798		
30616376001	BD15752 MW-11	EPA 9320	614490		
30616376002	BD15753 FB-1	EPA 9320	614490		
30616376003	BD15754 MW-10	EPA 9320	614490		
30616376004	BD15755 MW-8	EPA 9320	614490		
30616376005	BD15756 MW-7	EPA 9320	614490		
30616376006	BD15756 MW-7 MS	EPA 9320	614490		
30616376007	BD15756 MW-7 MSD	EPA 9320	614490		
30616376008	BD15757 MW-12V	EPA 9320	614490		
30616376009	BD15758 MW-12	EPA 9320	614490		
30616376010	BD15759 MW-13	EPA 9320	614490		
30616376011	BD15760 MW-14	EPA 9320	614490		
30616376012	BD15760 MW-14 MS	EPA 9320	614490		
30616376013	BD15760 MW-14 MSD	EPA 9320	614490		
30616376014	BD15761 FB-2	EPA 9320	614490		
30616376015	BD15762 MW-15	EPA 9320	614490		
30616376016	BD15763 MW-15 DUP	EPA 9320	614490		
30616376017	BD15764 MW-16	EPA 9320	614490		
30616376018	BD15765 MW-17R	EPA 9320	614490		
30616376019	BD15766 EB-1	EPA 9320	614490		
30616376020	BD15767 MW-5	EPA 9320	614490		
30616376021	BD15768 MW-6	EPA 9320	614497		

**REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, except in full,  
 without the written consent of Pace Analytical Services, LLC.



**QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: WMWGORLF\_1420  
 Pace Project No.: 30616376

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30616376022	BD15769 MW-20	EPA 9320	614497		
30616376023	BD15770 MW-20 Dup	EPA 9320	614497		
30616376024	BD15771 MW-19	EPA 9320	614497		
30616376025	BD15772 MW-18	EPA 9320	614497		
30616376001	BD15752 MW-11	Total Radium Calculation	616844		
30616376002	BD15753 FB-1	Total Radium Calculation	616844		
30616376003	BD15754 MW-10	Total Radium Calculation	616844		
30616376004	BD15755 MW-8	Total Radium Calculation	616844		
30616376005	BD15756 MW-7	Total Radium Calculation	617206		
30616376008	BD15757 MW-12V	Total Radium Calculation	617206		
30616376009	BD15758 MW-12	Total Radium Calculation	616844		
30616376010	BD15759 MW-13	Total Radium Calculation	616844		
30616376011	BD15760 MW-14	Total Radium Calculation	617206		
30616376014	BD15761 FB-2	Total Radium Calculation	617206		
30616376015	BD15762 MW-15	Total Radium Calculation	617206		
30616376016	BD15763 MW-15 DUP	Total Radium Calculation	617206		
30616376017	BD15764 MW-16	Total Radium Calculation	617206		
30616376018	BD15765 MW-17R	Total Radium Calculation	617206		
30616376019	BD15766 EB-1	Total Radium Calculation	617206		
30616376020	BD15767 MW-5	Total Radium Calculation	617206		
30616376021	BD15768 MW-6	Total Radium Calculation	617206		
30616376022	BD15769 MW-20	Total Radium Calculation	617206		
30616376023	BD15770 MW-20 Dup	Total Radium Calculation	617206		
30616376024	BD15771 MW-19	Total Radium Calculation	617206		
30616376025	BD15772 MW-18	Total Radium Calculation	617206		

**REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, except in full,  
 without the written consent of Pace Analytical Services, LLC.

# CHAIN-OF-CUSTODY / Analytical Request Document


The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A		Section B		Section C	
Required Client Information:		Required Project Information:		Invoice Information:	
Company:	Alabama Power Company	Report To:	Brooke Catton	Attention:	Brooke Catton
Address:	744 Highway 87 GSC Bldg #8 Calera, AL 35040	Copy To:	Renee Jernigan & Blaine Denton	Company Name:	Alabama Power Co.
Email To:	tbwill@southernco.com	Purchase Order #:	AP087119-0001	Address:	744 Highway 87 GSC Bldg #8
Phone:	205-664-6101	Project Name:	Plant Gorgas CCB Landfills	Pace Quote:	CCR
Requested Due Date:	Normal	Project Number:	WMWGORLF_1420	Pace Project Manager:	Skylar Richmond
				Regulatory Agency:	AL
				State / Location:	AL

ITEM #	Description	Station Name Location Code	Site Name Facility ID	Sample Duplicate	Matrix Spike/Matrix Spike Duplicate	Field Filtered	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		Requested Analysis Filtered (Y/N)	Preservatives	Unpreserved	NaOH+ZnAcetate	HNO3	# OF CONTAINERS	DATE	TIME	TEMP in C	Received on	Custody	Sealed	Cooler	Intact
									START DATE	TIME														
1	BD15752	APCO-GS-CCB-MW-11	APCO_Gorgas_CCB_Landfills				GW	G	8/15/2023	11:14	X	X			1	8/23-23	9:50	N/A	N	Y	Y	Y	Y	
2	BD15753	APCO-GS-CCB-FB-01	APCO_Gorgas_CCB_Landfills				GW	G	8/15/2023	11:55	X	X			1									
3	BD15754	APCO-GS-CCB-MW-10	APCO_Gorgas_CCB_Landfills				GW	G	8/15/2023	13:23	X	X			1									
4	BD15755	APCO-GS-CCB-MW-8	APCO_Gorgas_CCB_Landfills				GW	G	8/15/2023	15:02	X	X			1									
5	BD15756	APCO-GS-CCB-MW-7	APCO_Gorgas_CCB_Landfills				GW	G	8/15/2023	16:06	X	X			3									
6	BD15757	APCO-GS-CCB-MW-12V	APCO_Gorgas_CCB_Landfills	X			GW	G	8/16/2023	7:57	X	X			1									
7	BD15758	APCO-GS-CCB-MW-12	APCO_Gorgas_CCB_Landfills				GW	G	8/16/2023	9:03	X	X			1									
8	BD15759	APCO-GS-CCB-MW-13	APCO_Gorgas_CCB_Landfills				GW	G	8/16/2023	10:22	X	X			1									
9	BD15760	APCO-GS-CCB-MW-14	APCO_Gorgas_CCB_Landfills				GW	G	8/16/2023	12:12	X	X			3									
10	BD15761	APCO-GS-CCB-FB-02	APCO_Gorgas_CCB_Landfills	X			GW	G	8/16/2023	12:40	X	X			1									
11	BD15762	APCO-GS-CCB-MW-15	APCO_Gorgas_CCB_Landfills				GW	G	8/16/2023	12:59	X	X			1									
12	BD15763	APCO-GS-CCB-MW-15	APCO_Gorgas_CCB_Landfills	X			GW	G	8/16/2023	12:59	X	X			1									

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	Brooke Catton/ APC GTL	8/18/2023	15:31	Jessy O'Quinn/ Brooke Catton	8-23-23	9:50

**WO# : 30616376**



30616376

SAMPLER NAME AND SIGNATURE  
 PRINT Name of SAMPLER:  
 SIGNATURE of SAMPLER:

DATE Signed:

# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

<b>Section A</b>		<b>Section B</b>		<b>Section C</b>	
<b>Required Client Information:</b>		<b>Required Project Information:</b>		<b>Invoice Information:</b>	
Company: Alabama Power Company	Report To: Brooke Caton	Company Name: Alabama Power Co.	Attention: Brooke Caton	Regulatory Agency: AL	
Address: 744 Highway 87 GSC Bldg #8	Copy To: Renee Jernigan & Blaine Denton	Address: 744 Highway 87 GSC Bldg #8	Address: 744 Highway 87 GSC Bldg #8	State / Location: AL	
Calera, AL 35040			Face Quote: CCR		
Email To: <a href="mailto:ibwill@southernco.com">ibwill@southernco.com</a>	Purchase Order #: APC87119-0001	Project Name: Plant Gorgas CCB Landfills	Face Project Manager: Skyler Richmond		
Phone: 205-664-6101	Project Number: VMWGORLF_1420	Requested Due Date: Normal	Face Profile #: 16788		

ITEM #	Description	Station Name Location_Code	Site Name Facility_ID	Sample Duplicate	Matrix Spike/Matrix Spike Duplicate	Field Filtered	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED	Requested Analysis Filtered (Y/N)		DATE	TIME	SAMPLE CONDITIONS	
										Preservatives	Y/N				
<b>SAMPLE ID</b> One Character per box. (A-Z, 0-9 / , -) Sample ids must be unique															
1	BD15764	MW-16	APCO_Gorgas_CCB-MW-16	APCO_Gorgas_CCB_Landfills			GW	G	8/16/2023	14:17					
2	BD15765	MW-17R	APCO_GS-CCB-MW-17R	APCO_Gorgas_CCB_Landfills			GW	G	8/16/2023	15:05					
3	BD15766	EB-1	APCO_GS-CCB-EB-01	APCO_Gorgas_CCB_Landfills			GW	G	8/16/2023	15:40					
4	BD15767	MW-5	APCO_GS-CCB-MW-5	APCO_Gorgas_CCB_Landfills			GW	G	8/16/2023	10:40					
5	BD15768	MW-6	APCO_GS-CCB-MW-6	APCO_Gorgas_CCB_Landfills			GW	G	8/16/2023	12:20					
6	BD15769	MW-20	APCO_GS-CCB-MW-20	APCO_Gorgas_CCB_Landfills			GW	G	8/16/2023	13:30					
7	BD15770	MW-20 Dup	APCO_GS-CCB-MW-20	APCO_Gorgas_CCB_Landfills	x		GW	G	8/16/2023	13:30					
8	BD15771	MW-19	APCO_GS-CCB-MW-19	APCO_Gorgas_CCB_Landfills			GW	G	8/16/2023	14:35					
9	BD15772	MW-18	APCO_GS-CCB-MW-18	APCO_Gorgas_CCB_Landfills			GW	G	8/16/2023	15:25					
10															
11															
12															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	Brooke Caton / APC GTL	8/18/2023	15:37	Jeff Wladimir Puzee	8/23/23	01:50

<b>TEMP in C</b>		Received on	Custody	Sealed	Cooler	(Y/N)	Intact

SAMPLER NAME AND SIGNATURE  
 PRINT NAME of SAMPLER:  
 SIGNATURE of SAMPLER:  
 DATE Signed:

**WO# : 30616376**

PMO SCR Due Date: 09/21/23  
 CLIENT: ALABAMA PWR





DC#\_ Title: ENV-FRM-GBUR-0088 v05\_Sample Condition Upon Receipt-

Pittsburgh

WO#: 30616376

Effective Date: 07/06/2023

PM: SCR

Due Date: 09/21/23

CLIENT: ALABAMA PWR

Client Name: Alabama Power Corp.

Courier:  Fed Ex  UPS  USPS  Client  Commercial  Pace  Other

Initial / Date

Tracking Number: 7012 3696 8584

Examined By: ps 8/24/23

Custody Seal on Cooler/Box Present:  Yes  No

Seals Intact:  Yes  No

Labeled By: ps 8/24/23

Thermometer Used: \_\_\_\_\_ Type of Ice: Wet Blue None

Temped By: \_\_\_\_\_

Cooler Temperature: Observed Temp \_\_\_\_\_ °C Correction Factor: \_\_\_\_\_ °C Final Temp: \_\_\_\_\_ °C

Temp should be above freezing to 6°C

Comments:	Yes	No	NA	pH paper Lot#	D.P.D. Residual Chlorine Lot #
				1003121	_____
Chain of Custody Present	/				
Chain of Custody Filled Out: -Were client corrections present on COC	/				
Chain of Custody Relinquished		/			
Sampler Name & Signature on COC:		/			
Sample Labels match COC: -Includes date/time/ID Matrix: _____	/				
Samples Arrived within Hold Time:	/				
Short Hold Time Analysis (<72hr remaining):		/			
Rush Turn Around Time Requested:		/			
Sufficient Volume:	/				
Correct Containers Used: -Pace Containers Used	/				
Containers Intact:	/				
Orthophosphate field filtered:			/		
Hex Cr Aqueous samples field filtered:			/		
Organic Samples checked for dechlorination			/		
Filtered volume received for dissolved tests:			/		
All containers checked for preservation: exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, non-aqueous matrix	/				
All containers meet method preservation requirements:	/			Initial when completed PS	Date/Time of Preservation
8260C/D: Headspace in VOA Vials (> 6mm)			/		
624.1: Headspace in VOA Vials (0mm)			/		
Trip Blank Present:			/		Trip blank custody seal present? YES or NO
Rad Samples Screened <0.5 mrem/hr.	X			Initial when completed LA	Date: 8-23-23 Survey Meter SN: 1563
Comments:					

Note: For NC compliance samples with discrepancies, a copy of this form must be sent to the DEHNR Certification office. PM Review is documented electronically in LIMS through the SRF Review schedule in the Workorder Edit Screen.

# Quality Control Sample Performance Assessment



Test: Ra-228  
 Analyst: ZPC  
 Date: 9/14/2023  
 Worklist: 75262  
 Matrix: WIT

**Analyst Must Manually Enter All Fields Highlighted in Yellow.**

Method Blank Assessment	
MB Sample ID	2991802
MB Concentration:	0.527
MB 2 Sigma CSU:	0.320
MB MDC:	0.590
MB Numerical Performance Indicator:	3.22
MB Status vs Numerical Indicator:	Fail
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment		LCSD (Y or N)?	N
Count Date:	9/18/2023	LCSD75262	LCSD75262
Spike I.D.:	23-043		
Decay Corrected Spike Concentration (pCi/mL):	39.775		
Volume Used (mL):	0.10		
Aliquot Volume (L, g, F):	0.816		
Target Conc. (pCi/L, g, F):	4.877		
Uncertainty (Calculated):	0.239		
Result (pCi/L, g, F):	4.947		
LCSD/CSU 2 Sigma CSU (pCi/L, g, F):	1.124		
Numerical Performance Indicator:	0.12		
Percent Recovery:	101.43%		
Status vs Numerical Indicator:	N/A		
Status vs Recovery:	Pass		
Upper % Recovery Limits:	135%		
Lower % Recovery Limits:	60%		

Duplicate Sample Assessment		Sample I.D.:	Enter Duplicate sample IDs if other than LCS/CSU in the space below.
Sample Result (pCi/L, g, F):	39.775	30616376005	
Sample Duplicate Result (pCi/L, g, F):	39.775	30616376006	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.570	30616376007	
Are sample and/or duplicate results below RL?	Yes		
Duplicate Numerical Performance Indicator:	1.893		
Duplicate Status vs Numerical Indicator:	Pass		
Duplicate Status vs RPD:	Pass		
% RPD Limit:	36%		

Sample Matrix Spike Control Assessment		MS/MSD 1	MS/MSD 2
Sample Collection Date:	8/15/2023		
Sample I.D.:	30616376005		
Sample MS I.D.:	30616376006		
Sample MS I.D.:	30616376007		
Spike I.D.:	23-043		
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	40.221		
Spike Volume Used in MS (mL):	0.20		
Spike Volume Used in MSD (mL):	0.20		
MS Aliquot (L, g, F):	0.807		
MS Target Conc. (pCi/L, g, F):	9.964		
MSD Aliquot (L, g, F):	0.807		
MSD Target Conc. (pCi/L, g, F):	9.965		
MS Spike Uncertainty (calculated):	0.488		
MSD Spike Uncertainty (calculated):	0.488		
Sample Result:	0.372		
Sample Result 2 Sigma CSU (pCi/L, g, F):	0.356		
Sample Matrix Spike Result:	7.489		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):	1.570		
Sample Matrix Spike Duplicate Result:	1.893		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):	9.396		
MS Numerical Performance Indicator:	-3.305		
MS Percent Recovery:	-0.929		
MSD Numerical Performance Indicator:	71.53%		
MSD Percent Recovery:	90.55%		
MS Status vs Numerical Indicator:	Fail****		
MS Status vs Numerical Indicator:	Pass		
MS Status vs Recovery:	Pass		
MS/MSD Upper % Recovery Limits:	135%		
MS/MSD Lower % Recovery Limits:	60%		

Matrix Spike/Matrix Spike Duplicate Sample Assessment		Sample I.D.	Sample MS I.D.
Sample I.D.:	30616376005		
Sample MS I.D.:	30616376006		
Sample MS I.D.:	30616376007		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):	7.499		
Sample Matrix Spike Duplicate Result:	9.396		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.893		
Duplicate Numerical Performance Indicator:	-1.511		
MS/MSD Duplicate Status vs Numerical Indicator:	23.47%		
MS/MSD Duplicate Status vs RPD:	Pass		
MS/MSD Duplicate Status vs RPD:	Pass		
% RPD Limit:	36%		

## Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.  
 Comments:  
 \*If the lowest activity sample in this batch is greater than ten times the blank value, the blank is acceptable; otherwise this batch must be re-prepped.

Handwritten: VATL 9/19/23

Handwritten signature

# Quality Control Sample Performance Assessment



Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test: Ra-226  
Analyst: SLC  
Date: 9/7/2023  
Worklist: 75120  
Matrix: WT

Method Blank Assessment	
MB Sample ID	2982880
MB concentration:	0.070
M/B 2 Sigma CSU:	0.115
MB MDC:	0.256
MB Numerical Performance Indicator:	1.20
MB Status vs Numerical Indicator:	Pass
MB Status vs. MDC:	N/A

Laboratory Control Sample Assessment	
LCS (Y or N)?	Y
LCS75120	9/15/2023
Count Date:	9/15/2023
Spike I.D.:	19-033
Decay Corrected Spike Concentration (pCi/mL):	24.013
Volume Used (mL):	0.10
Aliquot Volume (L, g, F):	0.504
Target Conc. (pCi/L, g, F):	4.767
Uncertainty (Calculated):	0.057
Result (pCi/L, g, F):	5.299
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	0.934
Numerical Performance Indicator:	1.67
Percent Recovery:	117.53%
Status vs Numerical Indicator:	Pass
Status vs Recovery:	N/A
Upper % Recovery Limits:	125%
Lower % Recovery Limits:	75%

Duplicate Sample Assessment	
Sample I.D.:	LCS75120
Duplicate Sample I.D.:	LCS75120
Sample Result (pCi/L, g, F):	5.530
Sample Duplicate Result (pCi/L, g, F):	0.969
Sample Result 2 Sigma CSU (pCi/L, g, F):	5.299
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	0.934
Are sample and/or duplicate results below RL?	NO
Duplicate Numerical Performance Indicator:	0.335
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	5.57%
Duplicate Status vs Numerical Indicator:	Pass
Duplicate Status vs RPD:	N/A
% RPD Limit:	25%

Sample Matrix Spike Control Assessment		MS/MSD 1	MS/MSD 2
Sample Collection Date:	Sample I.D.	8/7/2023	30616118034
Sample MS I.D.	Sample MS I.D.	30616118035	30616118035
Sample MSD I.D.:	Sample MSD I.D.:	30616118036	30616118036
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	Spike I.D.:	19-033	19-033
Spike Volume Used in MS (mL):	Spike Volume Used in MS (mL):	24.014	24.014
MS Aliquot (L, g, F):	MS Aliquot (L, g, F):	0.20	0.20
MS Target Conc. (pCi/L, g, F):	MS Target Conc. (pCi/L, g, F):	0.325	0.325
MSD Aliquot (L, g, F):	MSD Aliquot (L, g, F):	14.786	14.786
MSD Target Conc. (pCi/L, g, F):	MSD Target Conc. (pCi/L, g, F):	0.324	0.324
MS Spike Uncertainty (calculated):	MS Spike Uncertainty (calculated):	14.814	14.814
MSD Spike Uncertainty (calculated):	MSD Spike Uncertainty (calculated):	0.177	0.177
Sample Result 2 Sigma CSU (pCi/L, g, F):	Sample Result:	0.178	0.178
Sample Matrix Spike Result:	Sample Result 2 Sigma CSU (pCi/L, g, F):	0.263	0.263
Sample Matrix Spike Duplicate Result:	Sample Matrix Spike Duplicate Result:	0.207	0.207
Sample Matrix Spike Duplicate Result:	Sample Matrix Spike Duplicate Result:	17.009	17.009
MS Numerical Performance Indicator:	MS Numerical Performance Indicator:	2.760	2.760
MSD Numerical Performance Indicator:	MSD Numerical Performance Indicator:	18.385	18.385
MS Percent Recovery:	MS Percent Recovery:	2.966	2.966
MSD Percent Recovery:	MSD Percent Recovery:	1.386	1.386
MS Status vs Numerical Indicator:	MS Status vs Numerical Indicator:	2.177	2.177
MSD Status vs Numerical Indicator:	MSD Status vs Numerical Indicator:	113.26%	113.26%
MS Status vs Recovery:	MS Status vs Recovery:	122.33%	122.33%
MSD Status vs Recovery:	MSD Status vs Recovery:	Pass	Pass
MS/MSD Upper % Recovery Limits:	MS/MSD Upper % Recovery Limits:	Warning	Warning
MS/MSD Lower % Recovery Limits:	MS/MSD Lower % Recovery Limits:	N/A	N/A
		N/A	N/A
		125%	125%
		75%	75%

Matrix Spike/Matrix Spike Duplicate Sample Assessment	
Sample I.D.:	30616118034
Sample MS I.D.:	30616118035
Sample MSD I.D.:	30616118036
Sample Matrix Spike Result:	17.009
Sample Matrix Spike Duplicate Result:	2.760
Sample Result 2 Sigma CSU (pCi/L, g, F):	18.385
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	2.966
Duplicate Numerical Performance Indicator:	-0.666
(Based on the Percent Recoveries) MS/MSD Duplicate RPD:	7.70%
MS/MSD Duplicate Status vs Numerical Indicator:	Pass
MS/MSD Duplicate Status vs RPD:	N/A
% RPD Limit:	25%

## Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

*JFK-1803*  
*RAM9/18/23*

# Quality Control Sample Performance Assessment



*Analyst Must Manually Enter All Fields Highlighted in Yellow.*

Test: Ra-226  
Analyst: SLC  
Date: 9/7/2023  
Worklist: 75121  
Matrix: WT

Method Blank Assessment	
MB Sample ID	2982881
MB concentration:	0.077
MB 2 Sigma CSU:	0.096
MB MDC:	0.203
MB Numerical Performance Indicator:	1.56
MB Status vs. Numerical Indicator:	Pass
MB Status vs. MDC:	N/A

Laboratory Control Sample Assessment	
LCS(Y or N)?	N
LCS75121	LCS075121
Count Date:	9/21/2023
Spike I.D.:	19-033
Decay Corrected Spike Concentration (pCi/mL):	24.013
Volume Used (mL):	0.10
Aliquot Volume (L, g, F):	0.501
Target Conc. (pCi/L, g, F):	4.791
Uncertainty (Calculated):	0.057
Result (pCi/L, g, F):	6.226
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	1.060
Numerical Performance Indicator:	2.65
Percent Recovery:	129.94%
Status vs Numerical Indicator:	Warning
Status vs Recovery:	N/A
Upper % Recovery Limits:	125%
Lower % Recovery Limits:	75%

Duplicate Sample Assessment	
Sample I.D.:	Sample I.D.:
Duplicate Sample I.D.:	Duplicate Sample I.D.:
Sample Result (pCi/L, g, F):	Sample Result (pCi/L, g, F):
Sample Duplicate Result (pCi/L, g, F):	Sample Duplicate Result (pCi/L, g, F):
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):
Are sample and/or duplicate results below RL?	Are sample and/or duplicate results below RL?
Duplicate Numerical Performance Indicator:	Duplicate Numerical Performance Indicator:
Duplicate RPD:	Duplicate RPD:
Duplicate Status vs Numerical Indicator:	Duplicate Status vs Numerical Indicator:
Duplicate Status vs RPD:	Duplicate Status vs RPD:
% RPD Limit:	% RPD Limit:

See Below ##

## Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

Sample Matrix Spike Control Assessment	
Sample I.D.	Sample Collection Date:
30616376005	8/15/2023
30616376006	Sample MS I.D.:
30616376007	Sample MS I.D.:
MS/MSD I.D.:	MS/MSD I.D.:
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	MS/MSD Decay Corrected Spike Concentration (pCi/mL):
Spike Volume Used in MS (mL):	Spike Volume Used in MS (mL):
MS Aliquot (L, g, F):	MS Aliquot (L, g, F):
MS Target Conc. (pCi/L, g, F):	MS Target Conc. (pCi/L, g, F):
MSD Aliquot (L, g, F):	MSD Aliquot (L, g, F):
MSD Target Conc. (pCi/L, g, F):	MSD Target Conc. (pCi/L, g, F):
MS Spike Uncertainty (calculated):	MS Spike Uncertainty (calculated):
MS Numerical Performance Indicator:	MS Numerical Performance Indicator:
MS Percent Recovery:	MS Percent Recovery:
MS Status vs Numerical Indicator:	MS Status vs Numerical Indicator:
MS Status vs Recovery:	MS Status vs Recovery:
MS/MSD Upper % Recovery Limits:	MS/MSD Upper % Recovery Limits:
MS/MSD Lower % Recovery Limits:	MS/MSD Lower % Recovery Limits:

Matrix Spike/Matrix Spike Duplicate Sample Assessment	
Sample I.D.	Sample I.D.
30616376005	30616376005
30616376006	30616376006
30616376007	30616376007
Sample Matrix Spike Result:	Sample Matrix Spike Result:
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):	Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):
Sample Matrix Spike Duplicate Result:	Sample Matrix Spike Duplicate Result:
Sample Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):	Sample Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):
Duplicate Numerical Performance Indicator:	Duplicate Numerical Performance Indicator:
(Based on the Percent Recoveries) MS/MSD Duplicate RPD:	(Based on the Percent Recoveries) MS/MSD Duplicate RPD:
MS/MSD Duplicate Status vs Numerical Indicator:	MS/MSD Duplicate Status vs Numerical Indicator:
MS/MSD Duplicate Status vs RPD:	MS/MSD Duplicate Status vs RPD:
% RPD Limit:	% RPD Limit:

UAM 9/21/23

# Quality Control Sample Performance Assessment



Test: Ra-228  
Analyst: JJS1  
Date: 9/14/2023  
Worklist: 75264  
Matrix: WLT

**Analyst Must Manually Enter All Fields Highlighted in Yellow.**

Method Blank Assessment	
MB Sample ID	2991829
MB concentration:	0.345
M/B 2 Sigma CSU:	0.359
MB MDC:	0.727
MB Numerical Performance Indicator:	1.88
MB Status vs Numerical Indicator:	Pass
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment		LCS/D (Y or N)?	N
Count Date:	9/18/2023	LCSY5264	LCS/D75264
Spike I.D.:	23-043		
Decay Corrected Spike Concentration (pCi/ml):	39.773		
Volume Used (ml):	0.10		
Aliquot Volume (L, g, F):	0.816		
Target Conc. (pCi/L, g, F):	4.874		
Uncertainty (Calculated):	0.239		
Result (pCi/L, g, F):	4.803		
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	1.136		
Numerical Performance Indicator:	-0.12		
Percent Recovery:	98.55%		
Status vs Numerical Indicator:	N/A		
Status vs Recovery:	Pass		
Upper % Recovery Limits:	135%		
Lower % Recovery Limits:	60%		

Duplicate Sample Assessment		Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Sample I.D.:	Duplicate Sample I.D.:	
Sample Result (pCi/L, g, F):	Sample Result (pCi/L, g, F):	
Sample Result 2 Sigma CSU (pCi/L, g, F):	Sample Result 2 Sigma CSU (pCi/L, g, F):	
Sample Duplicate Result (pCi/L, g, F):	Sample Duplicate Result (pCi/L, g, F):	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	
Are sample and/or duplicate results below RL?		
Duplicate Numerical Performance Indicator:		
Duplicate RPD:		
Duplicate Status vs Numerical Indicator:		
Duplicate Status vs RPD:		
% RPD Limit:		

Sample Matrix Spike Control Assessment		MS/MSD 1	MS/MSD 2
Sample Collection Date:	8/15/2023		
Sample I.D.:	30616394003		
Sample MS I.D.:	30616394004		
Sample MSD I.D.:	30616394005		
Spike I.D.:	23-043		
MS/MSD Decay Corrected Spike Concentration (pCi/ml):	40.224		
Spike Volume Used in MS (ml):	0.20		
Spike Volume Used in MSD (ml):	0.20		
MS Aliquot (L, g, F):	0.803		
MS Target Conc. (pCi/L, g, F):	10.024		
MSD Aliquot (L, g, F):	0.802		
MSD Target Conc. (pCi/L, g, F):	10.025		
MS Spike Uncertainty (calculated):	0.491		
MSD Spike Uncertainty (calculated):	0.491		
Sample Result:	0.447		
Sample Result 2 Sigma CSU (pCi/L, g, F):	0.377		
Sample Matrix Spike Result:	7.948		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):	1.633		
Sample Matrix Spike Duplicate Result:	9.239		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.871		
MS Numerical Performance Indicator:	-1.227		
MSD Numerical Performance Indicator:	74.83%		
MS Percent Recovery:	87.69%		
MSD Percent Recovery:	Warning		
MS Status vs Numerical Indicator:	Pass		
MSD Status vs Numerical Indicator:	Pass		
MS Status vs Recovery:	Pass		
MSD Status vs Recovery:	Pass		
MS/MSD Upper % Recovery Limits:	135%		
MS/MSD Lower % Recovery Limits:	60%		

Matrix Spike/Matrix Spike Duplicate Sample Assessment		MS/MSD Duplicate Status vs RPD:	MS/MSD Duplicate Status vs RPD:
Sample I.D.:	30616394003	Pass	Pass
Sample MS I.D.:	30616394004	Pass	Pass
Sample MSD I.D.:	30616394005	Pass	Pass
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):	7.948	15.82%	36%
Sample Matrix Spike Result:	1.633		
Sample Matrix Spike Duplicate Result:	9.239		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.871		
Duplicate Numerical Performance Indicator:	-1.018		
(Based on the Percent Recovery) MS/MSD Duplicate RPD:	15.82%		
MS/MSD Duplicate Status vs Numerical Indicator:	Pass		
MS/MSD Duplicate Status vs RPD:	Pass		
% RPD Limit:	36%		

# Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

WAL

9/20/23

*[Handwritten signature]*

# Appendix D



**Appendix D. Horizontal Groundwater Flow Velocity Calculations**  
Plant Gorgas Landfills

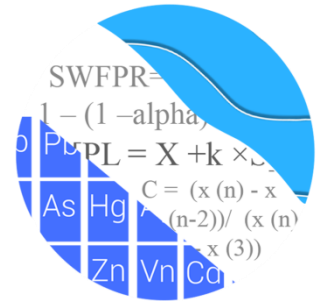
2023 First-Annual Monitoring Event								
Date of Measurement	MW-2	MW-20	Distance	Hydraulic Gradient	Hydraulic Conductivity	Effective Porosity	Calculated Groundwater Flow Velocity	Calculated Groundwater Flow Velocity
	<b>h<sub>1</sub> (ft)</b>	<b>h<sub>2</sub> (ft)</b>	<b>Δl (ft)</b>	<b>Δh/Δl (ft/ft)</b>	<b>K</b>	<b>n</b>	<b>(ft/d)</b>	<b>(ft/yr)</b>
2/20/2023	419.04	314.45	3507.0	0.030	8.01	0.15	1.59	581.28
2023 Second-Annual Monitoring Event								
Date of Measurement	MW-3	MW-6	Distance	Hydraulic Gradient	Hydraulic Conductivity	Effective Porosity	Calculated Groundwater Flow Velocity	Calculated Groundwater Flow Velocity
	<b>h<sub>1</sub> (ft)</b>	<b>h<sub>2</sub> (ft)</b>	<b>Δl (ft)</b>	<b>Δh/Δl (ft/ft)</b>	<b>K</b>	<b>n</b>	<b>(ft/d)</b>	<b>(ft/yr)</b>
2/20/2023	419.16	320.13	2970.0	0.033	8.01	0.15	1.78	649.90
Date of Measurement	MW-14	MW-19	Distance	Hydraulic Gradient	Hydraulic Conductivity	Effective Porosity	Calculated Groundwater Flow Velocity	Calculated Groundwater Flow Velocity
	<b>h<sub>1</sub> (ft)</b>	<b>h<sub>2</sub> (ft)</b>	<b>Δl (ft)</b>	<b>Δh/Δl (ft/ft)</b>	<b>K</b>	<b>n</b>	<b>(ft/d)</b>	<b>(ft/yr)</b>
2/20/2023	341.59	300.73	1890.0	0.022	8.01	0.15	1.15	421.38
2023 Second-Annual Monitoring Event								
Date of Measurement	MW-2	MW-20	Distance	Hydraulic Gradient	Hydraulic Conductivity	Effective Porosity	Calculated Groundwater Flow Velocity	Calculated Groundwater Flow Velocity
	<b>h<sub>1</sub> (ft)</b>	<b>h<sub>2</sub> (ft)</b>	<b>Δl (ft)</b>	<b>Δh/Δl (ft/ft)</b>	<b>K</b>	<b>n</b>	<b>(ft/d)</b>	<b>(ft/yr)</b>
8/15/2023	417.63	313.14	3507.0	0.030	8.01	0.15	1.59	580.73
Date of Measurement	MW-3	MW-6	Distance	Hydraulic Gradient	Hydraulic Conductivity	Effective Porosity	Calculated Groundwater Flow Velocity	Calculated Groundwater Flow Velocity
	<b>h<sub>1</sub> (ft)</b>	<b>h<sub>2</sub> (ft)</b>	<b>Δl (ft)</b>	<b>Δh/Δl (ft/ft)</b>	<b>K</b>	<b>n</b>	<b>(ft/d)</b>	<b>(ft/yr)</b>
8/15/2023	416.03	307.45	2970.0	0.037	8.01	0.15	1.95	712.57
Date of Measurement	MW-14	MW-19	Distance	Hydraulic Gradient	Hydraulic Conductivity	Effective Porosity	Calculated Groundwater Flow Velocity	Calculated Groundwater Flow Velocity
	<b>h<sub>1</sub> (ft)</b>	<b>h<sub>2</sub> (ft)</b>	<b>Δl (ft)</b>	<b>Δh/Δl (ft/ft)</b>	<b>K</b>	<b>n</b>	<b>(ft/d)</b>	<b>(ft/yr)</b>
8/15/2023	341.40	298.41	1890.0	0.023	8.01	0.15	1.21	443.34

Notes:  
ft=feet  
ft/d = feet/day  
ft/ft = feet per foot  
ft/yr = feet per year  
ft/yr = feet per year

# Appendix E



# GROUNDWATER STATS CONSULTING



May 24, 2023

Southern Company Services  
Attn: Mr. Greg Dyer  
3535 Colonnade Parkway  
Birmingham, AL 35243

Re: Plant Gorgas CCR Landfill  
1<sup>st</sup> Semi-Annual Statistical Analysis – February 2023

Dear Mr. Dyer,

Groundwater Stats Consulting, formerly the statistical consulting division of Sanitas Technologies, is pleased to provide the statistical analysis of groundwater data for the February 2023 1<sup>st</sup> semi-annual sample event for Alabama Power Company's Plant Gorgas CCR Landfill. The analysis complies with the federal rule for the Disposal of Coal Combustion Residuals (CCR) from Electric Utilities (CCR Rule, 2015) as well as with the United States Environmental Protection Agency (USEPA) Unified Guidance (2009).

Sampling began at this site for the CCR program in 2016. The monitoring well network, as provided by Southern Company Services, consists of the following:

- **Upgradient wells:** MW-1, MW-2, MW-3, and MW-4
- **Downgradient wells:** MW-5, MW-6, MW-7, and MW-8

Data were sent electronically to Groundwater Stats Consulting, and the statistical analysis was prepared according to the Statistical Analysis Plan approved by Dr. Kirk Cameron, PhD Statistician with MacStat Consulting, primary author of the USEPA Unified Guidance, and Senior Advisor to Groundwater Stats Consulting. The analysis was reviewed by Kristina Rayner, Founder and Senior Statistician to Groundwater Stats Consulting.

The CCR program consists of the constituents listed below. The terms "parameters" and "constituents" are used interchangeably.

**Appendix III** (Detection Monitoring) - boron, calcium, chloride, fluoride, pH, sulfate, and TDS

**Appendix IV** (Assessment Monitoring) - antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, combined radium 226 + 228, fluoride, lead, lithium, mercury, molybdenum, selenium, and thallium

Note that when there are no detections present in downgradient wells for a given constituent, statistical analyses are not required. A list of Appendix IV downgradient well/constituent pairs containing 100% non-detects follows this letter.

Time series plots for Appendix III and IV parameters at all wells are provided for the purpose of screening data at these wells (Figure A). A substitution of the most recent reporting limit is used for non-detect data. Additionally, a separate section of box plots is included for all constituents at upgradient and downgradient wells (Figure B). The time series plots are used to initially screen for suspected outliers and trends, while the box plots provide visual representation of variation within individual wells and between all wells.

In earlier analyses, data at all wells were evaluated for the following: 1) outliers; 2) trends; 3) most appropriate statistical method for Appendix III parameters based on analysis of the spatial variability of groundwater quality data among wells upgradient of the facility; and 4) eligibility of downgradient wells when intrawell statistical methods are recommended. Power curves are provided in this report to demonstrate that the selected statistical methods for Appendix III parameters comply with the USEPA Unified Guidance. The EPA suggests that the selected statistical method should provide at least 55% power at 3 standard deviations or at least 80% power at 4 standard deviations. Power curves are based on the following statistical methods and site/data characteristics:

- Semi-Annual Sampling
- Intrawell Prediction Limits with 1-of-2 resample plan
- Interwell Prediction Limits with 1-of-2 resample plan
- # Background Samples (Intrawell): 15
- # Background Samples (Interwell): 108
- # Constituents: 7
- # Downgradient wells: 4

## Summary of Statistical Methods – Appendix III Parameters

Based on the earlier evaluation described above, the following statistical methods were selected:

- Intrawell prediction limits, combined with a 1-of-2 resample plan for boron, calcium, fluoride, sulfate, and TDS
- Interwell prediction limits, combined with a 1-of-2 resample plan for chloride and pH

Parametric prediction limits are utilized when the screened historical data follow a normal or transformed-normal distribution. When data cannot be normalized or the majority of data are non-detects, a nonparametric test is utilized. While the annual false positive rate associated with parametric limits is fixed at 10% as recommended by the EPA Unified Guidance (2009), the false positive rate associated with nonparametric limits is not fixed and depends upon the available background sample size, number of future comparisons, and verification resample plan. The distribution of data is tested using the Shapiro-Wilk/Shapiro-Francia test for normality. After testing for normality and performing any adjustments as discussed below (USEPA, 2009), data are analyzed using either parametric or non-parametric prediction limits as appropriate. Non-detects are handled as follows:

- No statistical analyses are required on wells and analytes containing 100% non-detects (USEPA Unified Guidance, 2009, Chapter 6).
- When data contain <15% non-detects, simple substitution of one-half the reporting limit is utilized in the statistical analysis. The reporting limit utilized for non-detects is the most recent practical quantification limit (PQL) as reported by the laboratory.
- When data contain between 15-50% non-detects, the Kaplan-Meier non-detect adjustment is applied to the background data. This technique adjusts the mean and standard deviation of the historical concentrations to account for concentrations below the reporting limit.
- Nonparametric prediction limits are used on data containing greater than 50% non-detects.

Natural systems continuously evolve due to physical changes made to the environment. Examples include capping a landfill, paving areas near a well, or lining a drainage channel to prevent erosion. Periodic updating of background statistical limits is necessary to accommodate these types of changes. In the intrawell case, data for all wells and constituents may be re-evaluated when a minimum of 4 new data points are available to determine whether earlier concentrations are representative of present-day groundwater

quality. In the interwell case, prediction limits are updated with upgradient well data following each sampling event after screening for any new outliers. While not required for this report in some cases, deselecting the earlier portion of data may be necessary prior to construction of limits so that resulting statistical limits are conservative (lower) from a regulatory perspective and capable of rapidly detecting changes in groundwater quality. Even though the data are excluded from the calculation, the values will continue to be reported and shown in tables and graphs.

## **Background Update Summaries**

### **Fall 2019**

Intrawell prediction limits, which compare the most recent compliance sample from a given well to historical data from the same well, are periodically updated by testing for the appropriateness of consolidating new sampling observations with the screened background data. As discussed in the Statistical Analysis Plan (August 2020), intrawell prediction limits are used to evaluate boron, calcium, fluoride, sulfate, and TDS at all wells due to natural spatial variation for these parameters. In September 2019, historical data were evaluated for updating with newer data through May 2019 through the use of time series graphs and Tukey's outlier test to identify potential outliers, when necessary, as well as the Mann Whitney test for equality of medians. This process is described below for the 2021 update and requires a minimum of four new data points. During the 2019 screening, all background data sets for constituents using intrawell prediction limits were updated through May 2019 and a summary of these results was included with the Mann Whitney test section in that report.

Interwell prediction limits are used to compare the most recent sample from each downgradient well to statistical limits constructed from pooled upgradient well data for chloride and pH. As mentioned above, these limits are updated following each sampling event after screening for new outliers in upgradient wells. Data from upgradient wells are also periodically re-screened for newly developing trends, which may require adjustment of the background period to eliminate the trend. No adjustments were required in upgradient wells for constituents evaluated using interwell prediction limits.

### **Fall 2021**

#### Outlier Analysis

Prior to constructing prediction limits, proposed background data--through February 2021 for constituents evaluated with intrawell prediction limits and through July 2021 for

constituents evaluated with interwell prediction limits--were reviewed through visual screening to identify any newly suspected outliers at all wells for boron, calcium, fluoride, sulfate, and TDS and at upgradient wells for chloride and pH. When identified as outliers, values were flagged with "o" and excluded to reduce variation, better represent background conditions, and provide limits that are conservative from a regulatory perspective.

High non-detect values for boron in upgradient well MW-4 and downgradient well MW-5, as well as a low non-detect value for fluoride in downgradient well MW-6 were flagged as outliers. Additionally, a low detected value of pH in upgradient well MW-3, high detected values of sulfate at upgradient well MW-1 and downgradient wells MW-7 and MW-8, and a high detected value TDS in upgradient well MW-1 were also flagged as outliers. As mentioned above, flagged data are displayed in a lighter font and as a disconnected symbol on the time series reports, as well as in a lighter font on the accompanying data pages. A list of flagged outliers follows this report (Figure C).

#### Intrawell – Mann-Whitney Evaluation

For constituents requiring intrawell prediction limits, the Mann-Whitney (Wilcoxon Rank Sum) test was used to compare the medians of historical data through May 2019 to compliance data through February 2021. When no statistically significant difference in medians between the two groups is found at a 99% confidence level, background data may be updated with newer compliance data. Statistically significant differences (either an increase or decrease in median concentrations) were found between the two groups for the following well/constituent pairs:

##### Increasing

- Boron: MW-2 (upgradient)

##### Decreasing

- Fluoride: MW-8

Typically, when the test concludes that the medians of the two groups are statistically significantly different, particularly in the downgradient wells, the background data are not updated to include the newer data unless it can be reasonably justified that the change in concentrations reflects a naturally occurring shift unrelated to practices at the site. In studies such as the current one, in which at least one of the segments being compared is of short duration, the comparison is complicated by the fact that normal short-term variation may be mistaken for long-term change in medians.

While the Mann-Whitney test identified a statistically significant increase in median concentrations for boron in well MW-2, the difference resulted from reported non-detect or trace values in the most recent data. The test also identified a statistically significant decrease in the median concentration for fluoride in downgradient well MW-8; however, the magnitude of the decrease was marginal compared to the historical concentrations. Therefore, all background data sets for CCR Appendix III constituents that use intrawell methods were updated. All records will be re-evaluated during the next background update.

### Interwell – Trend Test Evaluation

The Sen's Slope/Mann Kendall trend test was used to evaluate the entire record of data through July 2021 from upgradient wells for parameters utilizing interwell prediction limits. When statistically significant increasing trends are identified in upgradient wells, the earlier portion of data may require deselection prior to construction of interwell statistical limits if the trending data would result in statistical limits that are not conservative from a regulatory perspective. No statistically significant trends were noted in upgradient wells; therefore, no adjustments were required.

### **Evaluation of Appendix III Parameters – February 2023**

#### Prediction Limits

Intrawell prediction limits, combined with a 1-of-2 resample plan, were constructed for boron, calcium, fluoride, sulfate, and TDS at each well using screened background data through February 2021 (Figure D). Intrawell limits constructed from screened background data from within each well serve to provide statistical limits that are representative of the background data population, and that will rapidly identify a change in more recent compliance data from within a given well. This statistical method removes the element of variation across wells and eliminates the chance of mistaking natural spatial variation for a release from the facility. The February 2023 observation is compared to its respective background from the same well to determine whether initial exceedances are present. Note that the reporting limit for boron at wells MW-1, MW-2, and MW-3 increased from 0.05075 mg/L to 0.1015 mg/L, which increased the intrawell prediction limit to the reporting limit. No significant changes occurred as a result of the reporting limit increase.

Interwell prediction limits, combined with a 1-of-2 resample plan, were constructed for chloride and pH (Figure E). Interwell prediction limits pool upgradient well data through February 2023 to establish a background limit for an individual constituent. The February

2023 sample from each downgradient well is compared to the background limit to determine whether initial exceedances are present.

In the event of an initial exceedance of compliance well data, the 1-of-2 resample plan allows for collection of one additional sample to determine whether the initial exceedance is confirmed. When the resample confirms the initial exceedance, a statistically significant increase (SSI) is identified, and further research is required to identify the cause of the exceedance (i.e., impact from the site, natural variation, or an off-site source). If a resample falls within the statistical limit, the initial exceedance is considered to be a false positive result; therefore, no further action is necessary.

Complete prediction limits results and a summary of exceedances follow this letter (pages 13-16). Exceedances were identified for the following well/constituent pairs:

Intrawell:

- Fluoride: MW-1, MW-2 (both upgradient), MW-6, and MW-7

Interwell:

- Chloride: MW-5, MW-7, and MW-8
- pH: MW-5, MW-7, and MW-8

### Trend Test Evaluation – Appendix III

When prediction limit exceedances are identified in downgradient wells, data are further evaluated using the Sen's Slope/Mann Kendall trend test to determine whether concentrations are statistically increasing, decreasing, or stable at the 99% confidence level (Figure F). Upgradient wells are included in the trend analyses for all parameters found to exceed their prediction limit in downgradient wells to identify whether similar patterns exist upgradient of the site. The existence of similar trends in both upgradient and downgradient wells is an indication of natural variability in groundwater that is unrelated to practices at the site. A summary of the trend test results follows this letter (pages 17-18). Statistically significant trends were identified for the following well/constituent pairs:

Increasing

- Fluoride: MW-2 (upgradient)
- pH: MW-2 (upgradient) and MW-8

Decreasing

- Chloride: MW-8
- pH: MW-1 (upgradient)

## **Evaluation of Appendix IV Parameters – February 2023**

Data from upgradient wells for Appendix IV parameters were assessed for outliers during previous analyses. No new outliers were flagged during this analysis.

During the previous update, high values for cobalt and lead in upgradient well MW-3 were flagged in order to construct statistical limits that are conservative (i.e., lower) from a regulatory perspective. Also, a previously flagged value of selenium (0.0209 mg/L) was unflagged in well MW-3. A summary of flagged outliers follows this report (Figure C).

In accordance with Alabama Department of Environmental Management, the Groundwater Protections Standards (GWPS) were updated during the 2021 2<sup>nd</sup> semi-annual statistical analysis. The GWPS will be updated again during the 2023 2<sup>nd</sup> semi-annual statistical analysis. The methodology used to create these GWPS is described below.

### Interwell Upper Tolerance Limits

First, background limits were determined using tolerance limits constructed from pooled upgradient well data through July 2021 (Figure G). The tolerance limits contain a known fraction (coverage) of the background population with a known level of confidence. The confidence and coverage levels for nonparametric tolerance limits are dependent upon the number of background samples. As requested by ADEM to eliminate variation among upgradient well data, nonparametric tolerance limits, which use the highest value in background as the statistical limit, were constructed. A summary of the upper tolerance limits follows this report (page 19).

### Groundwater Protection Standards

These background limits were then compared to the Maximum Contaminant Levels (MCLs) for each parameter, and the higher of the two was used as the GWPS (Figure H, page 20) in the confidence interval comparisons described below. Exceptions are noted in Figure H for beryllium and cadmium. For these two parameters, the MCL's were used as the GWPS rather than the higher background UTLs to maintain the more conservative standard.

### Confidence Intervals

Confidence intervals were then constructed on downgradient wells using a maximum of the most recent 8 samples through February 2023 for each of the Appendix IV parameters



(Figure I). These intervals were constructed as either parametric or nonparametric confidence intervals depending on the data distribution and percentage of non-detects. When data followed a normal or transformed-normal distribution, parametric confidence intervals were used for Appendix IV parameters. Nonparametric confidence intervals were constructed when data did not follow a normal or transformed-normal distribution or when there were greater than 50% non-detects. The lower confidence limit, which is constructed with 99% confidence for parametric confidence intervals, is compared to the GWPS prepared as described above. The confidence level associated with nonparametric confidence intervals is dependent upon the number samples available.

As mentioned above, well/constituent pairs containing 100% non-detects for the most recent 8 samples did not require statistics; therefore, they were deselected prior to construction of confidence intervals. A list of deselected well/constituent pairs follows this report. Each confidence interval was compared with the corresponding GWPS. Only when the entire confidence interval is above the GWPS is the well/constituent pair considered to exceed its respective standard. Both a tabular summary and graphical presentation of the confidence interval results follow this letter (page 21). No exceedances were noted for any of the well/constituent pairs.

Thank you for the opportunity to assist you in the statistical analysis of groundwater quality for Gorgas CCR Landfill. If you have any questions or comments, please feel free to contact us.

For Groundwater Stats Consulting,

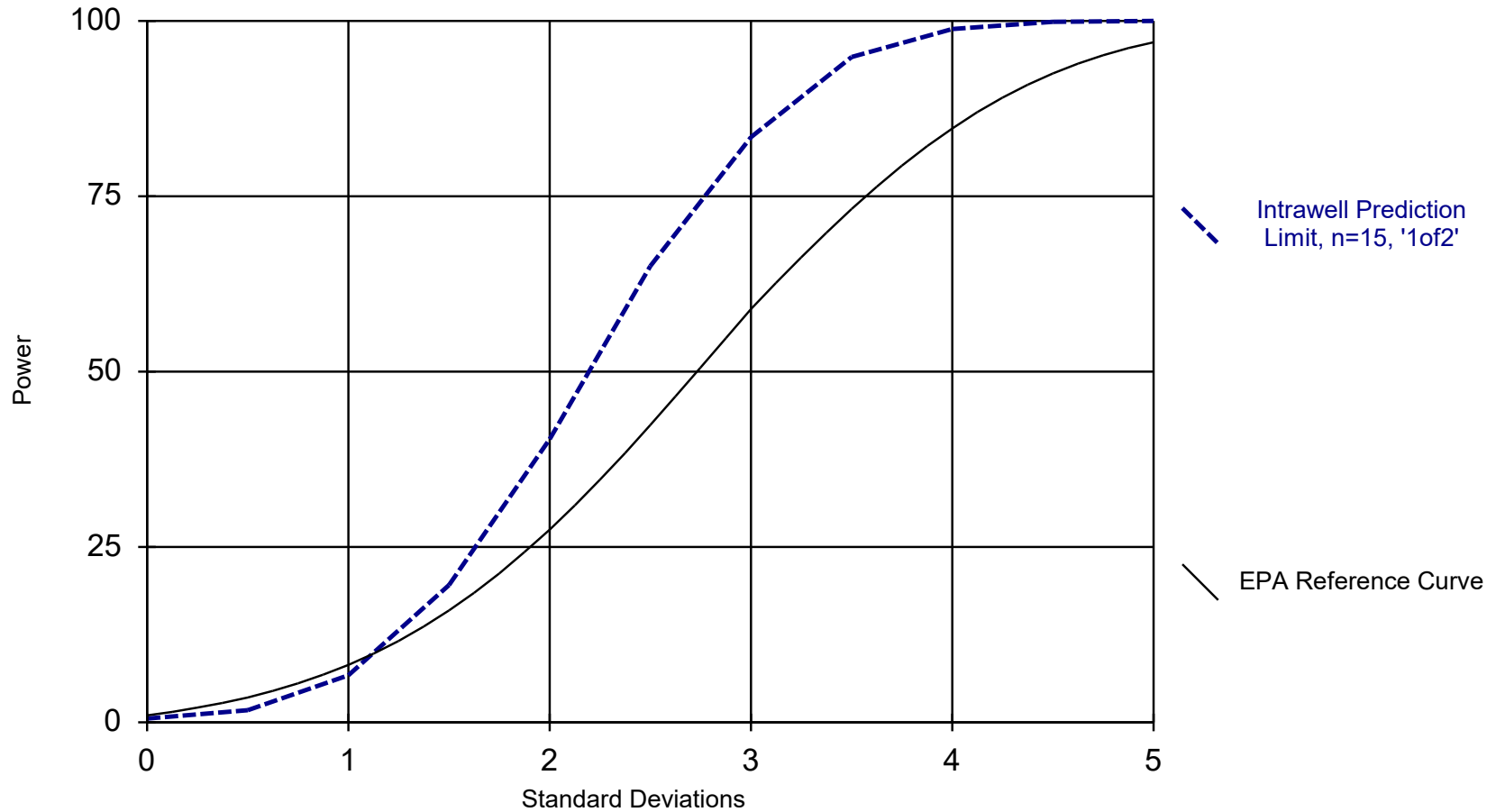


Andrew Collins  
Project Manager



Kristina Rayner  
Senior Statistician

### Intrawell Power Curve

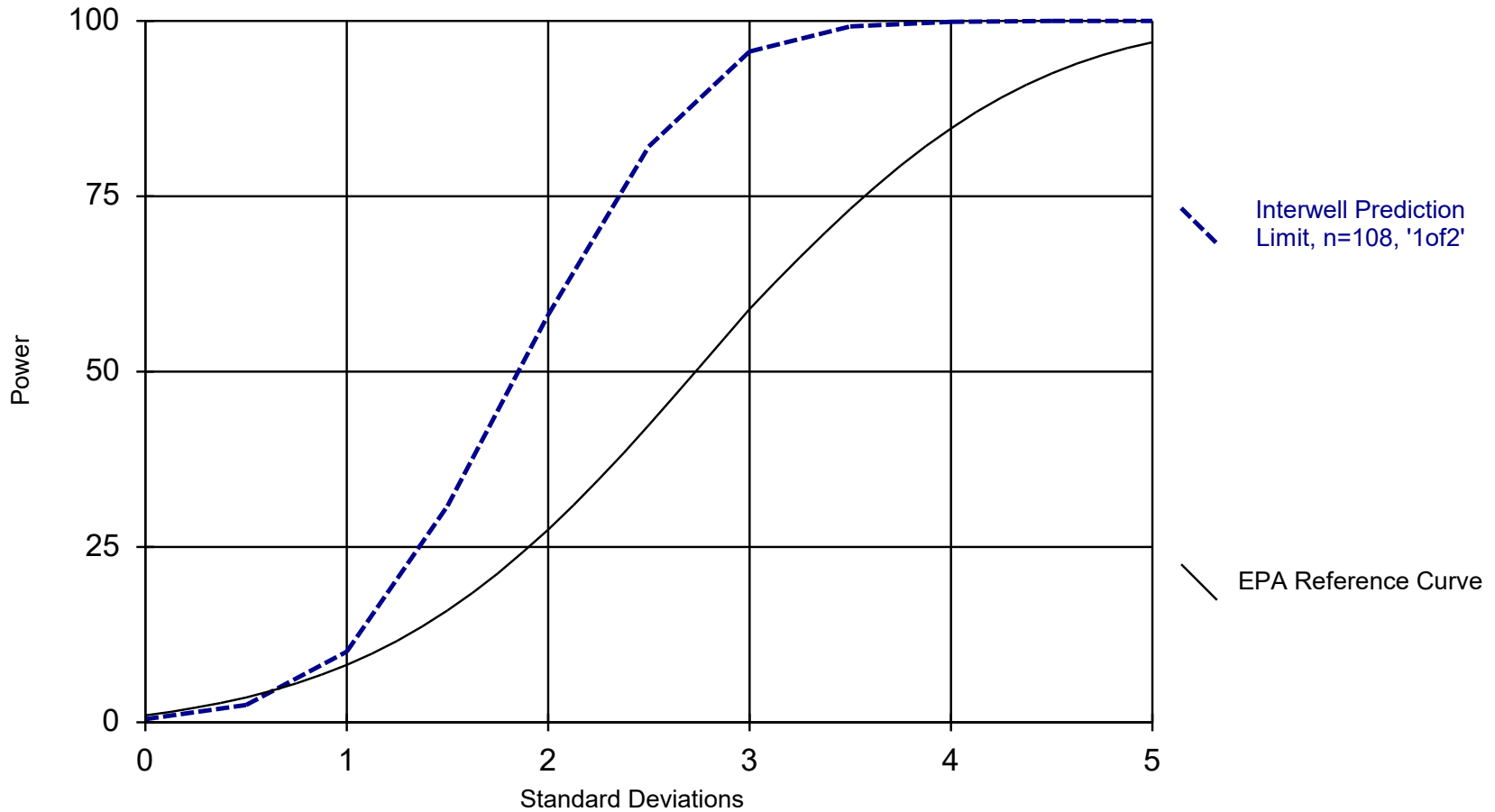


Kappa = 2.115, based on 4 compliance wells and 7 constituents, evaluated semi-annually (this report reflects annual total).

Analysis Run 5/18/2023 8:49 AM

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Interwell Power Curve



Kappa = 1.745, based on 4 compliance wells and 7 constituents, evaluated semi-annually (this report reflects annual total).

Analysis Run 5/18/2023 8:50 AM

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

# 100% Non-Detects: Appendix IV Downgradient

Analysis Run 5/17/2023 2:45 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

Antimony (mg/L)  
MW-5, MW-6, MW-7, MW-8

Beryllium (mg/L)  
MW-5, MW-7, MW-8

Cadmium (mg/L)  
MW-5, MW-7, MW-8

Lead (mg/L)  
MW-5, MW-7

Mercury (mg/L)  
MW-5, MW-6, MW-7, MW-8

Selenium (mg/L)  
MW-8

Thallium (mg/L)  
MW-7, MW-8

# Appendix III Intrawell Prediction Limits - Significant Results

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF Printed 5/17/2023, 2:40 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Fluoride, total (mg/L)	MW-1	0.1878	n/a	2/20/2023	0.221	Yes	24	0.1172	0.03644	0	None	No	0.00188	Param Intra 1 of 2
Fluoride, total (mg/L)	MW-2	0.2528	n/a	2/20/2023	0.267	Yes	24	0.1456	0.05538	0	None	No	0.00188	Param Intra 1 of 2
Fluoride, total (mg/L)	MW-6	0.1576	n/a	2/22/2023	0.173	Yes	16	0.1372	0.009847	0	None	No	0.00188	Param Intra 1 of 2
Fluoride, total (mg/L)	MW-7	0.2144	n/a	2/21/2023	0.216	Yes	17	0.1848	0.01443	0	None	No	0.00188	Param Intra 1 of 2

# Appendix III IntraWell Prediction Limits - All Results

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF Printed 5/17/2023, 2:40 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron, total (mg/L)	MW-1	0.1015	n/a	2/20/2023	0.1015ND	No	23	n/a	n/a	26.09	n/a	n/a	0.003415	NP Intra (normality) 1 of 2
Boron, total (mg/L)	MW-2	0.1015	n/a	2/20/2023	0.1015ND	No	23	n/a	n/a	21.74	n/a	n/a	0.003415	NP Intra (normality) 1 of 2
Boron, total (mg/L)	MW-3	0.1015	n/a	2/20/2023	0.1015ND	No	23	n/a	n/a	21.74	n/a	n/a	0.003415	NP Intra (normality) 1 of 2
Boron, total (mg/L)	MW-4	0.05253	n/a	2/21/2023	0.0408J	No	22	0.04512	0.003776	0	None	No	0.00188	Param Intra 1 of 2
Boron, total (mg/L)	MW-5	0.04034	n/a	2/21/2023	0.0315J	No	15	0.03281	0.003562	0	None	No	0.00188	Param Intra 1 of 2
Boron, total (mg/L)	MW-6	0.1015	n/a	2/22/2023	0.0356J	No	16	0.07909	0.01082	0	None	No	0.00188	Param Intra 1 of 2
Boron, total (mg/L)	MW-7	0.0854	n/a	2/21/2023	0.0645J	No	15	0.07347	0.005639	0	None	No	0.00188	Param Intra 1 of 2
Boron, total (mg/L)	MW-8	0.0831	n/a	2/21/2023	0.0609J	No	16	n/a	n/a	0	n/a	n/a	0.006456	NP Intra (normality) 1 of 2
Calcium, total (mg/L)	MW-1	243	n/a	2/20/2023	151	No	23	n/a	n/a	0	n/a	n/a	0.003415	NP Intra (normality) 1 of 2
Calcium, total (mg/L)	MW-2	214.8	n/a	2/20/2023	160	No	23	174.2	20.8	0	None	No	0.00188	Param Intra 1 of 2
Calcium, total (mg/L)	MW-3	416	n/a	2/20/2023	210	No	23	300	59.54	0	None	No	0.00188	Param Intra 1 of 2
Calcium, total (mg/L)	MW-4	386.1	n/a	2/21/2023	232	No	23	304.8	41.68	0	None	No	0.00188	Param Intra 1 of 2
Calcium, total (mg/L)	MW-5	459.6	n/a	2/21/2023	367	No	16	387	34.95	0	None	No	0.00188	Param Intra 1 of 2
Calcium, total (mg/L)	MW-6	500.3	n/a	2/22/2023	250	No	16	388.9	53.66	0	None	No	0.00188	Param Intra 1 of 2
Calcium, total (mg/L)	MW-7	343.5	n/a	2/21/2023	286	No	16	85434	15683	0	None	x^2	0.00188	Param Intra 1 of 2
Calcium, total (mg/L)	MW-8	340	n/a	2/21/2023	327	No	16	303.1	17.76	0	None	No	0.00188	Param Intra 1 of 2
<b>Fluoride, total (mg/L)</b>	<b>MW-1</b>	<b>0.1878</b>	<b>n/a</b>	<b>2/20/2023</b>	<b>0.221</b>	<b>Yes</b>	<b>24</b>	<b>0.1172</b>	<b>0.03644</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.00188</b>	<b>Param Intra 1 of 2</b>
<b>Fluoride, total (mg/L)</b>	<b>MW-2</b>	<b>0.2528</b>	<b>n/a</b>	<b>2/20/2023</b>	<b>0.267</b>	<b>Yes</b>	<b>24</b>	<b>0.1456</b>	<b>0.05538</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.00188</b>	<b>Param Intra 1 of 2</b>
Fluoride, total (mg/L)	MW-3	0.5886	n/a	2/20/2023	0.379	No	24	0.3299	0.1336	0	None	No	0.00188	Param Intra 1 of 2
Fluoride, total (mg/L)	MW-4	0.4215	n/a	2/21/2023	0.415	No	24	0.1114	0.03425	0	None	x^2	0.00188	Param Intra 1 of 2
Fluoride, total (mg/L)	MW-5	0.42	n/a	2/21/2023	0.319	No	17	0.3204	0.0485	0	None	No	0.00188	Param Intra 1 of 2
<b>Fluoride, total (mg/L)</b>	<b>MW-6</b>	<b>0.1576</b>	<b>n/a</b>	<b>2/22/2023</b>	<b>0.173</b>	<b>Yes</b>	<b>16</b>	<b>0.1372</b>	<b>0.009847</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.00188</b>	<b>Param Intra 1 of 2</b>
<b>Fluoride, total (mg/L)</b>	<b>MW-7</b>	<b>0.2144</b>	<b>n/a</b>	<b>2/21/2023</b>	<b>0.216</b>	<b>Yes</b>	<b>17</b>	<b>0.1848</b>	<b>0.01443</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.00188</b>	<b>Param Intra 1 of 2</b>
Fluoride, total (mg/L)	MW-8	0.2341	n/a	2/21/2023	0.212	No	17	0.21	0.01171	0	None	No	0.00188	Param Intra 1 of 2
Sulfate as SO4 (mg/L)	MW-1	1665	n/a	2/20/2023	1520	No	22	1461	104.1	0	None	No	0.00188	Param Intra 1 of 2
Sulfate as SO4 (mg/L)	MW-2	1274	n/a	2/20/2023	767	No	23	997.8	141.7	0	None	No	0.00188	Param Intra 1 of 2
Sulfate as SO4 (mg/L)	MW-3	3272	n/a	2/20/2023	2110	No	23	2451	421.1	0	None	No	0.00188	Param Intra 1 of 2
Sulfate as SO4 (mg/L)	MW-4	3143	n/a	2/21/2023	1930	No	23	2511	324	0	None	No	0.00188	Param Intra 1 of 2
Sulfate as SO4 (mg/L)	MW-5	2582	n/a	2/21/2023	2210	No	16	2304	133.9	0	None	No	0.00188	Param Intra 1 of 2
Sulfate as SO4 (mg/L)	MW-6	2274	n/a	2/22/2023	1870	No	16	2001	131.7	0	None	No	0.00188	Param Intra 1 of 2
Sulfate as SO4 (mg/L)	MW-7	1604	n/a	2/21/2023	1450	No	15	1324	132.3	0	None	No	0.00188	Param Intra 1 of 2
Sulfate as SO4 (mg/L)	MW-8	1640	n/a	2/21/2023	1510	No	15	n/a	n/a	0	n/a	n/a	0.007533	NP Intra (normality) 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-1	2519	n/a	2/20/2023	2280	No	22	2197	164	0	None	No	0.00188	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-2	2021	n/a	2/20/2023	1420	No	23	1643	193.7	0	None	No	0.00188	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-3	5051	n/a	2/20/2023	3230	No	23	3729	678.1	0	None	No	0.00188	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-4	4600	n/a	2/21/2023	3160	No	23	1.5e7	3201096	0	None	x^2	0.00188	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-5	4202	n/a	2/21/2023	3310	No	16	3794	196.6	0	None	No	0.00188	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-6	3466	n/a	2/22/2023	2790	No	16	1.1e7	676605	0	None	x^2	0.00188	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-7	2590	n/a	2/21/2023	2220	No	16	6.3e16	2.6e16	0	None	x^5	0.00188	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-8	2808	n/a	2/21/2023	2370	No	16	2573	113.3	0	None	No	0.00188	Param Intra 1 of 2

# Appendix III Interwell Prediction Limits - Significant Results

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF Printed 5/17/2023, 2:42 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Chloride, Total (mg/L)	MW-5	4.6	n/a	2/21/2023	5.25	Yes	108	n/a	n/a	2.778	n/a	n/a	0.0001702	NP Inter (normality) 1 of 2
Chloride, Total (mg/L)	MW-7	4.6	n/a	2/21/2023	6.12	Yes	108	n/a	n/a	2.778	n/a	n/a	0.0001702	NP Inter (normality) 1 of 2
Chloride, Total (mg/L)	MW-8	4.6	n/a	2/21/2023	4.86	Yes	108	n/a	n/a	2.778	n/a	n/a	0.0001702	NP Inter (normality) 1 of 2
pH, Field (SU)	MW-5	6.35	4.51	2/21/2023	6.5	Yes	109	n/a	n/a	0	n/a	n/a	0.0003345	NP Inter (normality) 1 of 2
pH, Field (SU)	MW-7	6.35	4.51	2/21/2023	6.72	Yes	109	n/a	n/a	0	n/a	n/a	0.0003345	NP Inter (normality) 1 of 2
pH, Field (SU)	MW-8	6.35	4.51	2/21/2023	6.75	Yes	109	n/a	n/a	0	n/a	n/a	0.0003345	NP Inter (normality) 1 of 2

# Appendix III Interwell Prediction Limits - All Results

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF Printed 5/17/2023, 2:42 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
<b>Chloride, Total (mg/L)</b>	<b>MW-5</b>	<b>4.6</b>	<b>n/a</b>	<b>2/21/2023</b>	<b>5.25</b>	<b>Yes</b>	<b>108</b>	<b>n/a</b>	<b>n/a</b>	<b>2.778</b>	<b>n/a</b>	<b>n/a</b>	<b>0.0001702</b>	<b>NP Inter (normality) 1 of 2</b>
Chloride, Total (mg/L)	MW-6	4.6	n/a	2/22/2023	4.37	No	108	n/a	n/a	2.778	n/a	n/a	0.0001702	NP Inter (normality) 1 of 2
<b>Chloride, Total (mg/L)</b>	<b>MW-7</b>	<b>4.6</b>	<b>n/a</b>	<b>2/21/2023</b>	<b>6.12</b>	<b>Yes</b>	<b>108</b>	<b>n/a</b>	<b>n/a</b>	<b>2.778</b>	<b>n/a</b>	<b>n/a</b>	<b>0.0001702</b>	<b>NP Inter (normality) 1 of 2</b>
<b>Chloride, Total (mg/L)</b>	<b>MW-8</b>	<b>4.6</b>	<b>n/a</b>	<b>2/21/2023</b>	<b>4.86</b>	<b>Yes</b>	<b>108</b>	<b>n/a</b>	<b>n/a</b>	<b>2.778</b>	<b>n/a</b>	<b>n/a</b>	<b>0.0001702</b>	<b>NP Inter (normality) 1 of 2</b>
<b>pH, Field (SU)</b>	<b>MW-5</b>	<b>6.35</b>	<b>4.51</b>	<b>2/21/2023</b>	<b>6.5</b>	<b>Yes</b>	<b>109</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.0003345</b>	<b>NP Inter (normality) 1 of 2</b>
pH, Field (SU)	MW-6	6.35	4.51	2/22/2023	4.98	No	109	n/a	n/a	0	n/a	n/a	0.0003345	NP Inter (normality) 1 of 2
<b>pH, Field (SU)</b>	<b>MW-7</b>	<b>6.35</b>	<b>4.51</b>	<b>2/21/2023</b>	<b>6.72</b>	<b>Yes</b>	<b>109</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.0003345</b>	<b>NP Inter (normality) 1 of 2</b>
<b>pH, Field (SU)</b>	<b>MW-8</b>	<b>6.35</b>	<b>4.51</b>	<b>2/21/2023</b>	<b>6.75</b>	<b>Yes</b>	<b>109</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.0003345</b>	<b>NP Inter (normality) 1 of 2</b>



# Trend Tests - Prediction Limit Exceedances - Significant Results

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF Printed 5/17/2023, 2:44 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Chloride, Total (mg/L)	MW-8	-23.35	-100	-81	Yes	20	0	n/a	n/a	0.01	NP
Fluoride, total (mg/L)	MW-2 (bg)	0.01459	183	131	Yes	28	0	n/a	n/a	0.01	NP
pH, Field (SU)	MW-1 (bg)	-0.01675	-154	-124	Yes	27	0	n/a	n/a	0.01	NP
pH, Field (SU)	MW-2 (bg)	0.04641	169	124	Yes	27	0	n/a	n/a	0.01	NP
pH, Field (SU)	MW-8	0.04545	156	87	Yes	21	0	n/a	n/a	0.01	NP

# Trend Tests - Prediction Limit Exceedances - All Results

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF Printed 5/17/2023, 2:44 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Chloride, Total (mg/L)	MW-1 (bg)	-0.03183	-67	-124	No	27	0	n/a	n/a	0.01	NP
Chloride, Total (mg/L)	MW-2 (bg)	-0.144	-72	-124	No	27	0	n/a	n/a	0.01	NP
Chloride, Total (mg/L)	MW-3 (bg)	0.07161	89	124	No	27	7.407	n/a	n/a	0.01	NP
Chloride, Total (mg/L)	MW-4 (bg)	-0.06041	-97	-124	No	27	3.704	n/a	n/a	0.01	NP
Chloride, Total (mg/L)	MW-5	-0.1261	-43	-81	No	20	0	n/a	n/a	0.01	NP
Chloride, Total (mg/L)	MW-7	-4.869	-73	-81	No	20	0	n/a	n/a	0.01	NP
<b>Chloride, Total (mg/L)</b>	<b>MW-8</b>	<b>-23.35</b>	<b>-100</b>	<b>-81</b>	<b>Yes</b>	<b>20</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Fluoride, total (mg/L)	MW-1 (bg)	-0.003095	-33	-131	No	28	0	n/a	n/a	0.01	NP
<b>Fluoride, total (mg/L)</b>	<b>MW-2 (bg)</b>	<b>0.01459</b>	<b>183</b>	<b>131</b>	<b>Yes</b>	<b>28</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Fluoride, total (mg/L)	MW-3 (bg)	0.002778	21	131	No	28	0	n/a	n/a	0.01	NP
Fluoride, total (mg/L)	MW-4 (bg)	0.007162	85	131	No	28	0	n/a	n/a	0.01	NP
Fluoride, total (mg/L)	MW-6	-0.00234	-54	-81	No	20	0	n/a	n/a	0.01	NP
Fluoride, total (mg/L)	MW-7	0.001693	32	87	No	21	0	n/a	n/a	0.01	NP
<b>pH, Field (SU)</b>	<b>MW-1 (bg)</b>	<b>-0.01675</b>	<b>-154</b>	<b>-124</b>	<b>Yes</b>	<b>27</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
<b>pH, Field (SU)</b>	<b>MW-2 (bg)</b>	<b>0.04641</b>	<b>169</b>	<b>124</b>	<b>Yes</b>	<b>27</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
pH, Field (SU)	MW-3 (bg)	0.03562	35	124	No	27	0	n/a	n/a	0.01	NP
pH, Field (SU)	MW-4 (bg)	0.01607	93	131	No	28	0	n/a	n/a	0.01	NP
pH, Field (SU)	MW-5	0.01884	86	87	No	21	0	n/a	n/a	0.01	NP
pH, Field (SU)	MW-7	-0.01489	-38	-87	No	21	0	n/a	n/a	0.01	NP
<b>pH, Field (SU)</b>	<b>MW-8</b>	<b>0.04545</b>	<b>156</b>	<b>87</b>	<b>Yes</b>	<b>21</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>

# Upper Tolerance Limits Summary Table

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF Printed 11/16/2021, 10:57 AM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Date</u>	<u>Observ.</u>	<u>Sig.</u>	<u>Bg N</u>	<u>Bg Mean</u>	<u>Std. Dev.</u>	<u>%NDs</u>	<u>ND Adj.</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Antimony (mg/L)	n/a	0.00143	n/a	n/a	n/a	96	n/a	n/a	93.75	n/a	n/a	0.007269	NP Inter
Arsenic (mg/L)	n/a	0.005	n/a	n/a	n/a	96	n/a	n/a	83.33	n/a	n/a	0.007269	NP Inter
Barium (mg/L)	n/a	0.0165	n/a	n/a	n/a	96	n/a	n/a	0	n/a	n/a	0.007269	NP Inter
Beryllium (mg/L)	n/a	0.0121	n/a	n/a	n/a	94	n/a	n/a	84.04	n/a	n/a	0.008054	NP Inter
Cadmium (mg/L)	n/a	0.00598	n/a	n/a	n/a	94	n/a	n/a	45.74	n/a	n/a	0.008054	NP Inter
Chromium (mg/L)	n/a	0.0105	n/a	n/a	n/a	96	n/a	n/a	89.58	n/a	n/a	0.007269	NP Inter
Cobalt (mg/L)	n/a	0.49	n/a	n/a	n/a	94	n/a	n/a	26.6	n/a	n/a	0.008054	NP Inter
Combined Radium 226 + 228 (pCi/L)	n/a	1.47	n/a	n/a	n/a	92	n/a	n/a	0	n/a	n/a	0.008924	NP Inter
Fluoride, total (mg/L)	n/a	0.63	n/a	n/a	n/a	100	n/a	n/a	0	n/a	n/a	0.005921	NP Inter
Lead (mg/L)	n/a	0.00108	n/a	n/a	n/a	95	n/a	n/a	95.79	n/a	n/a	0.007651	NP Inter
Lithium (mg/L)	n/a	0.419	n/a	n/a	n/a	96	n/a	n/a	0	n/a	n/a	0.007269	NP Inter
Mercury (mg/L)	n/a	0.0005	n/a	n/a	n/a	96	n/a	n/a	100	n/a	n/a	0.007269	NP Inter
Molybdenum (mg/L)	n/a	0.0002	n/a	n/a	n/a	96	n/a	n/a	97.92	n/a	n/a	0.007269	NP Inter
Selenium (mg/L)	n/a	0.0209	n/a	n/a	n/a	96	n/a	n/a	60.42	n/a	n/a	0.007269	NP Inter
Thallium (mg/L)	n/a	0.000226	n/a	n/a	n/a	96	n/a	n/a	96.88	n/a	n/a	0.007269	NP Inter

<b>GORGAS CCR LANDFILL GWPS</b>			
<b>Analyte</b>	<b>Units</b>	<b>Background</b>	<b>GWPS</b>
Antimony	mg/L	0.00143	0.006
Arsenic	mg/L	0.005	0.01
Barium	mg/L	0.0165	2
Beryllium	mg/L	0.0121	0.004
Cadmium	mg/L	0.00598	0.005
Chromium	mg/L	0.0105	0.1
Cobalt	mg/L	0.49	0.49
Combined Radium-226/228	pCi/L	1.47	5
Fluoride	mg/L	0.63	4
Lead	mg/L	0.00108	0.015
Lithium	mg/L	0.419	0.419
Mercury	mg/L	0.0005	0.002
Molybdenum	mg/L	0.0002	0.1
Selenium	mg/L	0.0209	0.05
Thallium	mg/L	0.000226	0.002

Notes:

1. mg/L - Milligrams per liter
2. pCi/L - Picocuries per liter
3. The background limits were used as the groundwater protection standard (GWPS) when appropriate under 40 CFR §257.95(h), ADEM Rule 335-13-15-.06(h), and the ADEM Variance.
4. GWPS established during second semi-annual sampling event in 2021.

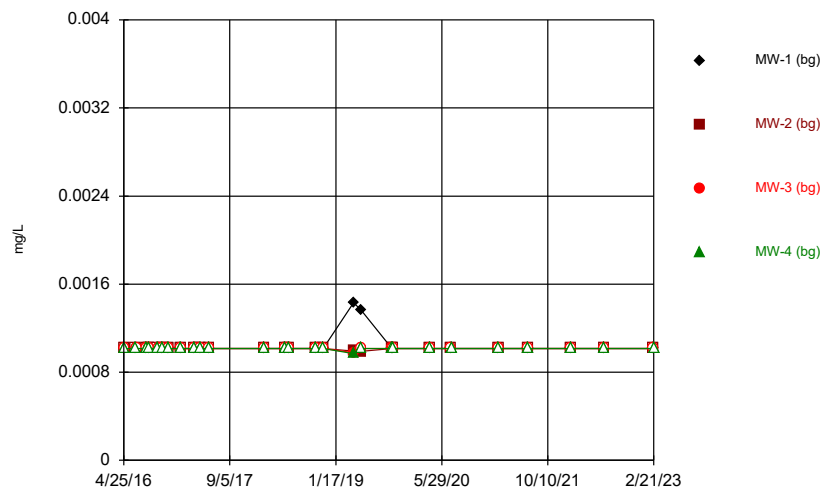
# Confidence Intervals - All Results (No Significant)

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF Printed 5/17/2023, 2:46 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Arsenic (mg/L)	MW-5	0.005	0.00019	0.01	No	8	0.00164	0.002126	25	None	No	0.004	NP (normality)
Arsenic (mg/L)	MW-6	0.005436	0.003264	0.01	No	8	0.00435	0.001025	0	None	No	0.01	Param.
Arsenic (mg/L)	MW-7	0.001617	0.001398	0.01	No	8	0.001508	0.0001031	0	None	No	0.01	Param.
Arsenic (mg/L)	MW-8	0.001656	0.00103	0.01	No	8	0.001338	0.0003428	0	None	ln(x)	0.01	Param.
Barium (mg/L)	MW-5	0.01287	0.01063	2	No	8	0.01175	0.001054	0	None	No	0.01	Param.
Barium (mg/L)	MW-6	0.01516	0.01296	2	No	8	0.01406	0.001039	0	None	No	0.01	Param.
Barium (mg/L)	MW-7	0.0147	0.01306	2	No	8	0.01389	0.0008043	0	None	x^3	0.01	Param.
Barium (mg/L)	MW-8	0.01457	0.0136	2	No	8	0.01409	0.0004581	0	None	No	0.01	Param.
Beryllium (mg/L)	MW-6	0.0009721	0.0002071	0.004	No	8	0.0008748	0.0002821	50	Kaplan-Meier	x^2	0.01	Param.
Cadmium (mg/L)	MW-6	0.001305	0.00004582	0.005	No	8	0.0007151	0.0007993	37.5	Kaplan-Meier	x^(1/3)	0.01	Param.
Chromium (mg/L)	MW-5	0.001015	0.00027	0.1	No	8	0.0009219	0.0002634	87.5	None	No	0.004	NP (NDs)
Chromium (mg/L)	MW-6	0.00102	0.00024	0.1	No	8	0.0007406	0.0003859	62.5	None	No	0.004	NP (NDs)
Chromium (mg/L)	MW-7	0.001015	0.00032	0.1	No	8	0.0009281	0.0002457	87.5	None	No	0.004	NP (NDs)
Chromium (mg/L)	MW-8	0.001015	0.00025	0.1	No	8	0.0009194	0.0002705	87.5	None	No	0.004	NP (NDs)
Cobalt (mg/L)	MW-5	0.005	0.000538	0.49	No	8	0.00246	0.002113	37.5	None	No	0.004	NP (normality)
Cobalt (mg/L)	MW-6	0.4074	0.04205	0.49	No	8	0.2143	0.2004	0	None	sqrt(x)	0.01	Param.
Cobalt (mg/L)	MW-7	0.006127	0.003563	0.49	No	8	0.004845	0.00121	0	None	No	0.01	Param.
Cobalt (mg/L)	MW-8	0.008278	0.006947	0.49	No	8	0.007613	0.000628	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-5	0.8369	0.2596	5	No	8	0.5483	0.2723	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-6	2.522	0.1331	5	No	8	1.328	1.127	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-7	0.7205	0.291	5	No	8	0.5058	0.2026	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-8	2.19	0.398	5	No	8	0.8184	0.6442	0	None	No	0.004	NP (normality)
Fluoride, total (mg/L)	MW-5	0.3348	0.2552	4	No	8	0.295	0.0375	0	None	No	0.01	Param.
Fluoride, total (mg/L)	MW-6	0.1548	0.116	4	No	8	0.1354	0.01828	0	None	No	0.01	Param.
Fluoride, total (mg/L)	MW-7	0.2435	0.1595	4	No	8	0.2015	0.03959	0	None	No	0.01	Param.
Fluoride, total (mg/L)	MW-8	0.2308	0.1714	4	No	8	0.2011	0.02803	0	None	No	0.01	Param.
Lead (mg/L)	MW-6	0.000457	0.0002	0.015	No	8	0.0002361	0.00008995	75	None	No	0.004	NP (NDs)
Lead (mg/L)	MW-8	0.000203	0.000088	0.015	No	8	0.0001486	0.00005849	50	None	No	0.004	NP (normality)
Lithium (mg/L)	MW-5	0.1267	0.09462	0.419	No	8	0.1107	0.01514	0	None	No	0.01	Param.
Lithium (mg/L)	MW-6	0.2487	0.09719	0.419	No	8	0.1707	0.0862	0	None	x^2	0.01	Param.
Lithium (mg/L)	MW-7	0.131	0.0907	0.419	No	8	0.1068	0.01712	0	None	No	0.004	NP (normality)
Lithium (mg/L)	MW-8	0.163	0.1263	0.419	No	8	0.1446	0.01732	0	None	No	0.01	Param.
Molybdenum (mg/L)	MW-5	0.01	0.000945	0.1	No	8	0.004488	0.004566	37.5	None	No	0.004	NP (normality)
Molybdenum (mg/L)	MW-6	0.0002823	0.00004206	0.1	No	8	0.0001941	0.00008803	50	Kaplan-Meier	No	0.01	Param.
Molybdenum (mg/L)	MW-7	0.01	0.000846	0.1	No	8	0.004342	0.004686	37.5	None	No	0.004	NP (normality)
Molybdenum (mg/L)	MW-8	0.0129	0.00031	0.1	No	8	0.005529	0.005636	37.5	None	No	0.004	NP (normality)
Selenium (mg/L)	MW-5	0.01	0.00124	0.05	No	8	0.004927	0.004216	37.5	None	No	0.004	NP (normality)
Selenium (mg/L)	MW-6	0.0019	0.001015	0.05	No	8	0.001126	0.0003129	87.5	None	No	0.004	NP (NDs)
Selenium (mg/L)	MW-7	0.001015	0.000677	0.05	No	8	0.0009728	0.0001195	87.5	None	No	0.004	NP (NDs)
Thallium (mg/L)	MW-5	0.000203	0.00007	0.002	No	8	0.0001864	0.00004702	87.5	None	No	0.004	NP (NDs)
Thallium (mg/L)	MW-6	0.000203	0.00011	0.002	No	8	0.0001839	0.00003649	75	None	No	0.004	NP (NDs)

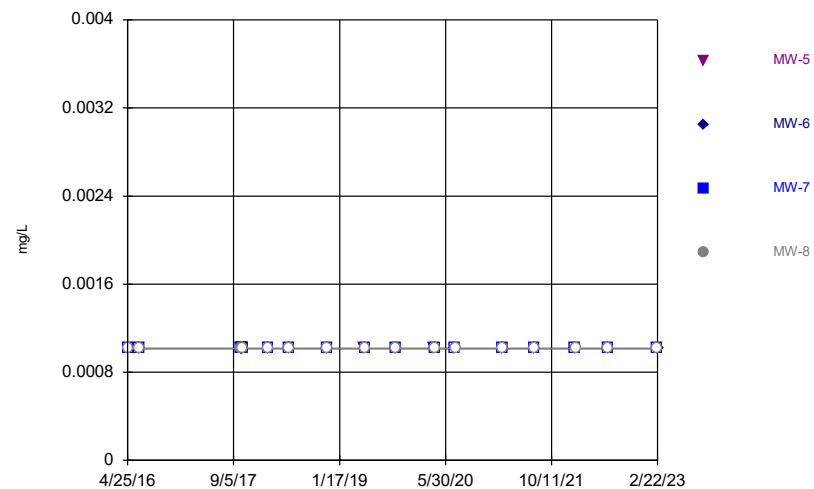
FIGURE A.

Time Series



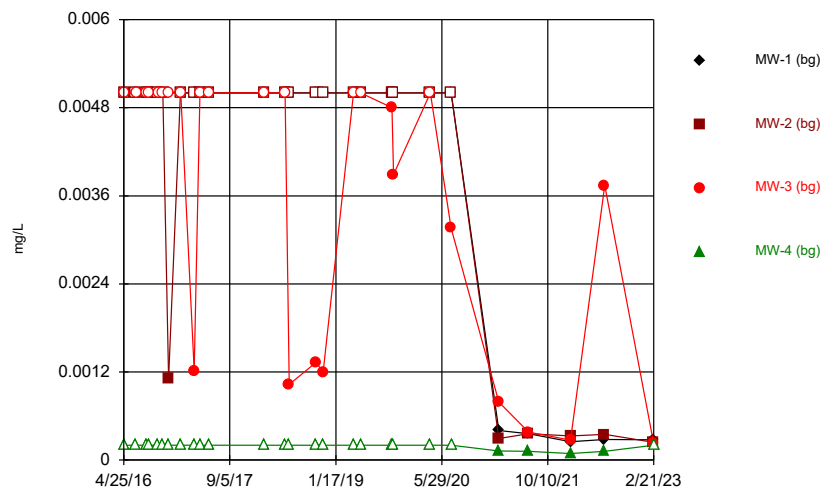
Constituent: Antimony Analysis Run 5/17/2023 2:18 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



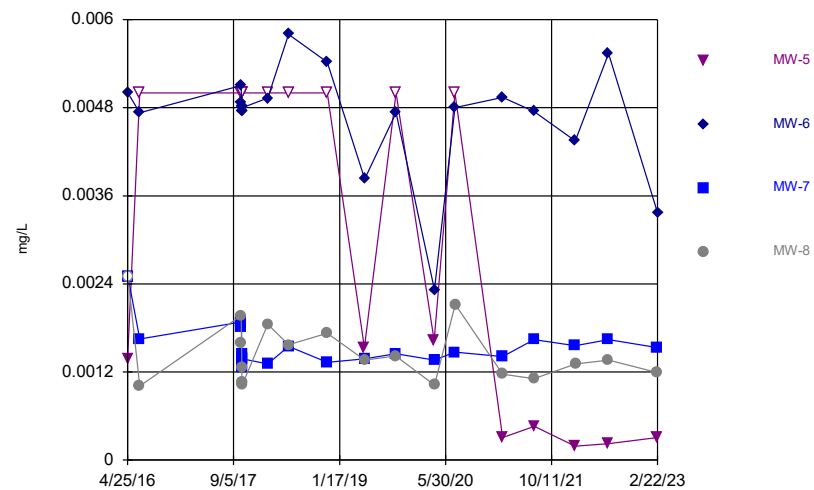
Constituent: Antimony Analysis Run 5/17/2023 2:18 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



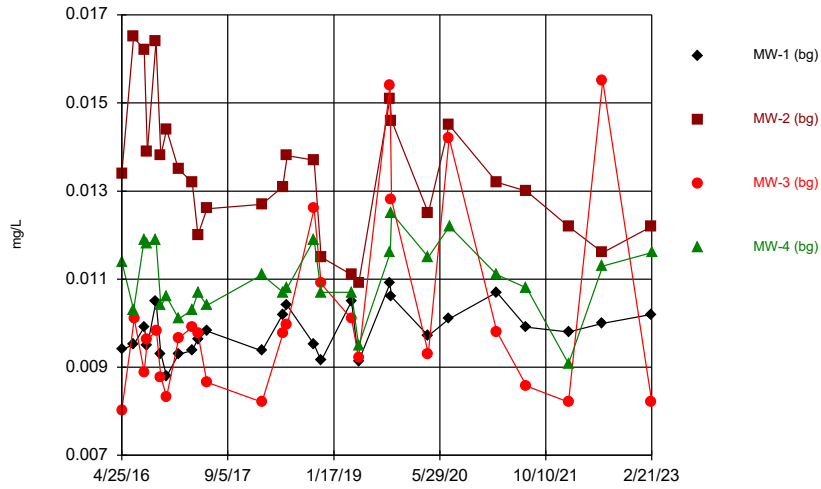
Constituent: Arsenic Analysis Run 5/17/2023 2:18 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



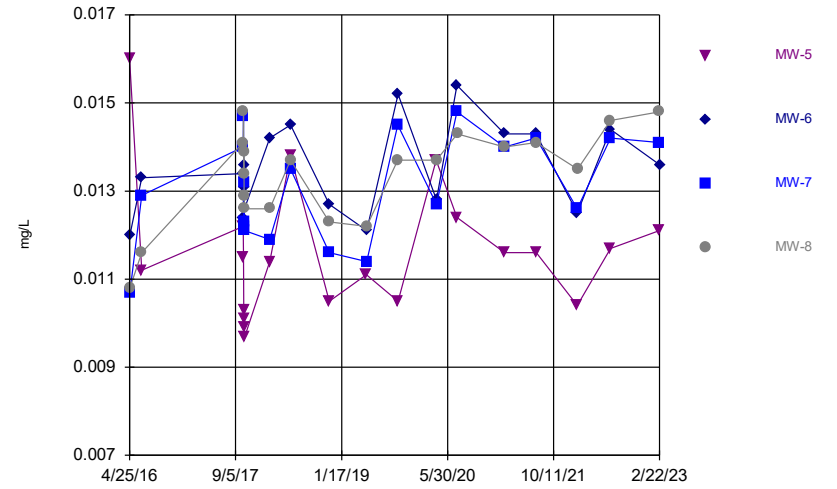
Constituent: Arsenic Analysis Run 5/17/2023 2:18 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



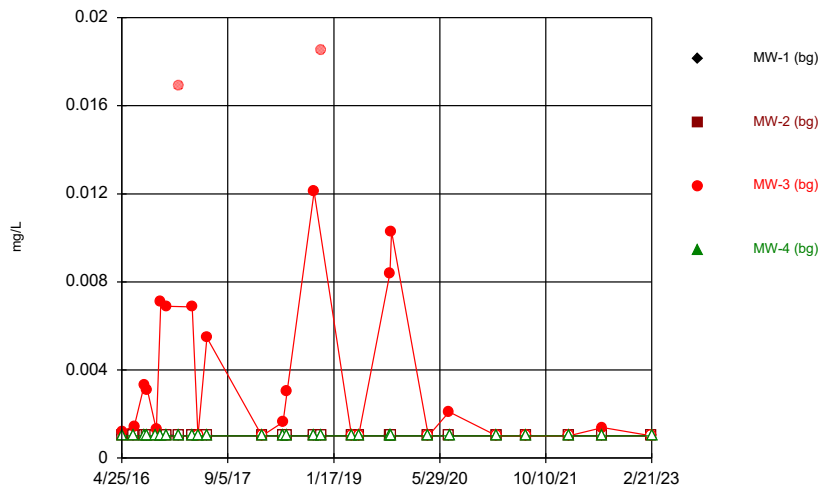
Constituent: Barium Analysis Run 5/17/2023 2:18 PM  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



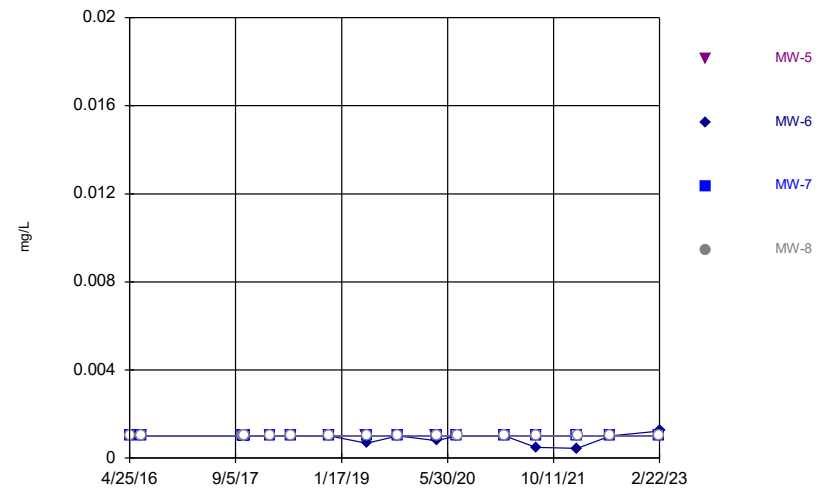
Constituent: Barium Analysis Run 5/17/2023 2:18 PM  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



Constituent: Beryllium Analysis Run 5/17/2023 2:18 PM  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

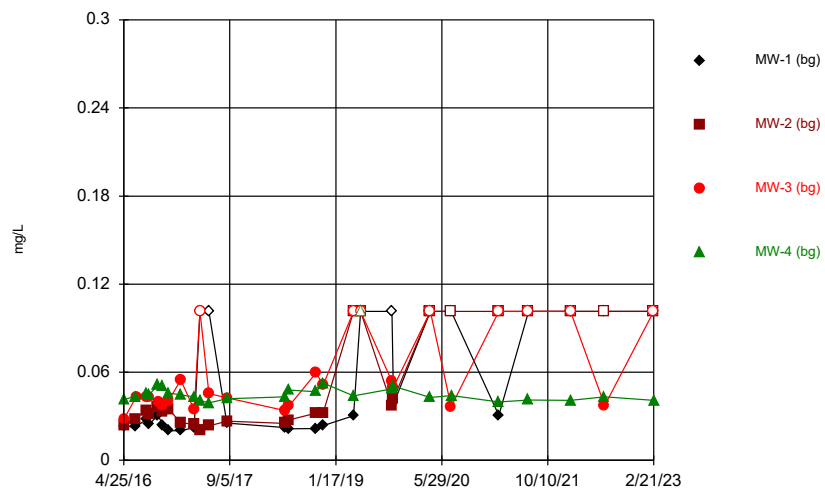
Time Series



Constituent: Beryllium Analysis Run 5/17/2023 2:18 PM  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

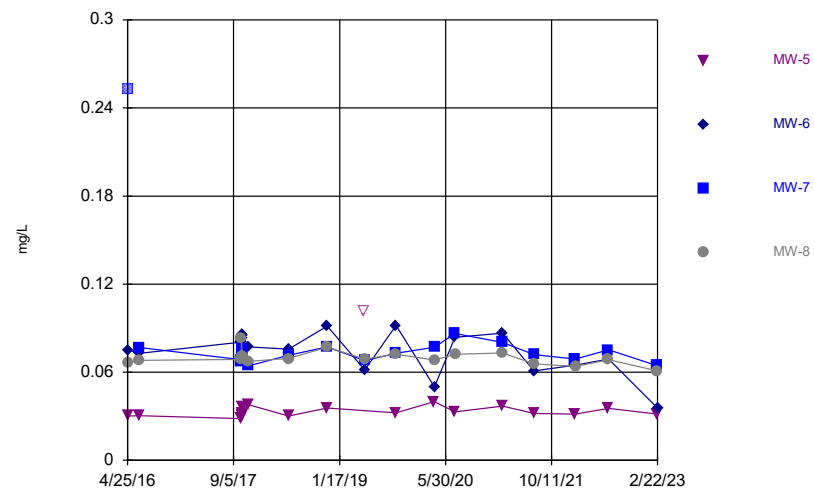


Time Series



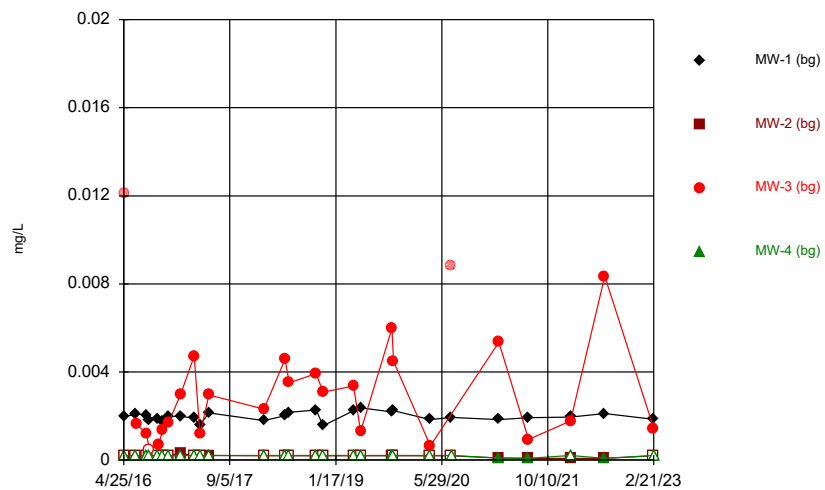
Constituent: Boron, total Analysis Run 5/17/2023 2:18 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



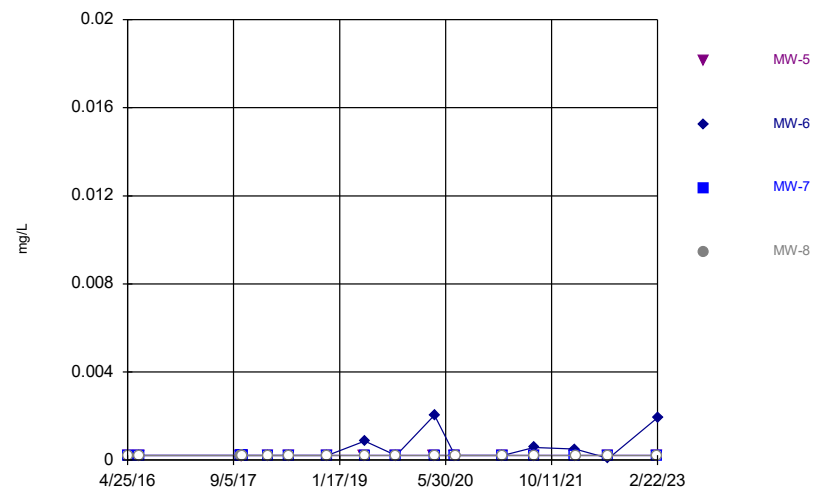
Constituent: Boron, total Analysis Run 5/17/2023 2:18 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



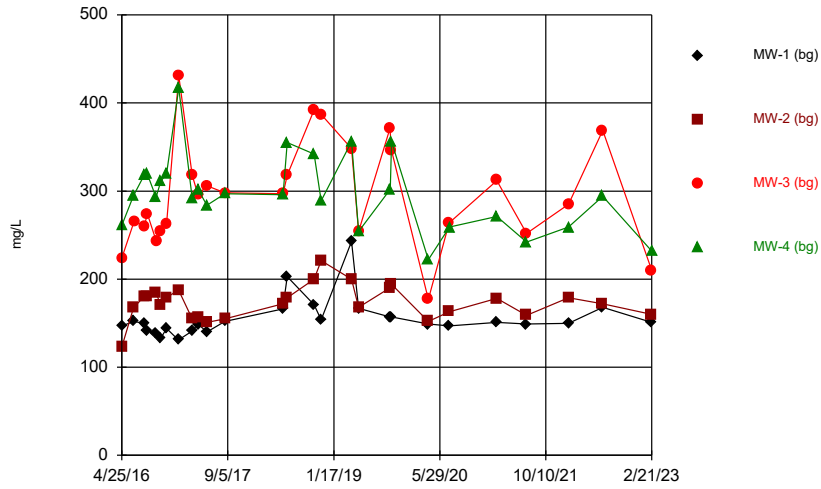
Constituent: Cadmium Analysis Run 5/17/2023 2:18 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



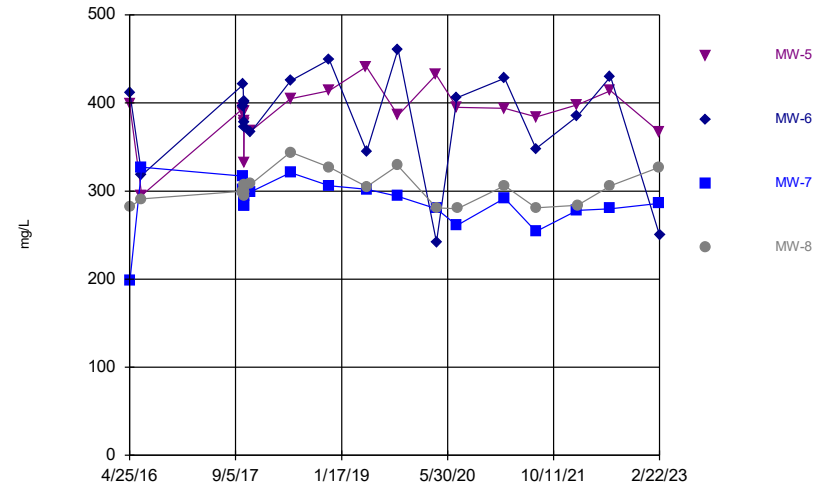
Constituent: Cadmium Analysis Run 5/17/2023 2:18 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



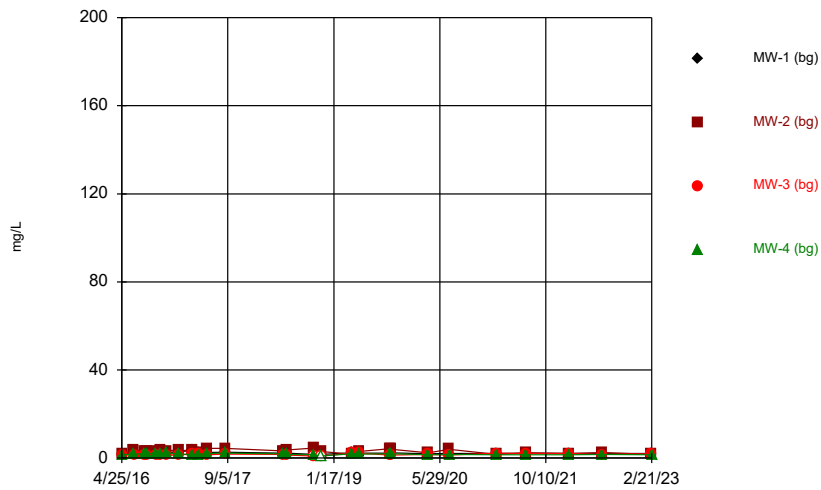
Constituent: Calcium, total Analysis Run 5/17/2023 2:18 PM  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



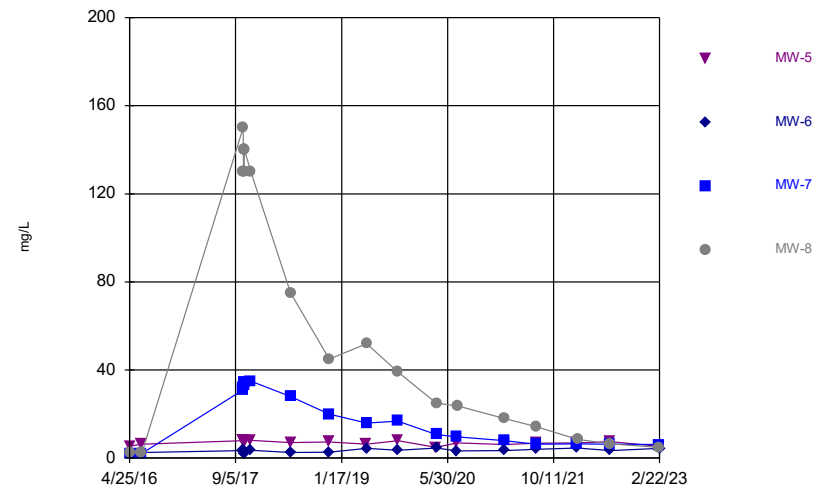
Constituent: Calcium, total Analysis Run 5/17/2023 2:18 PM  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



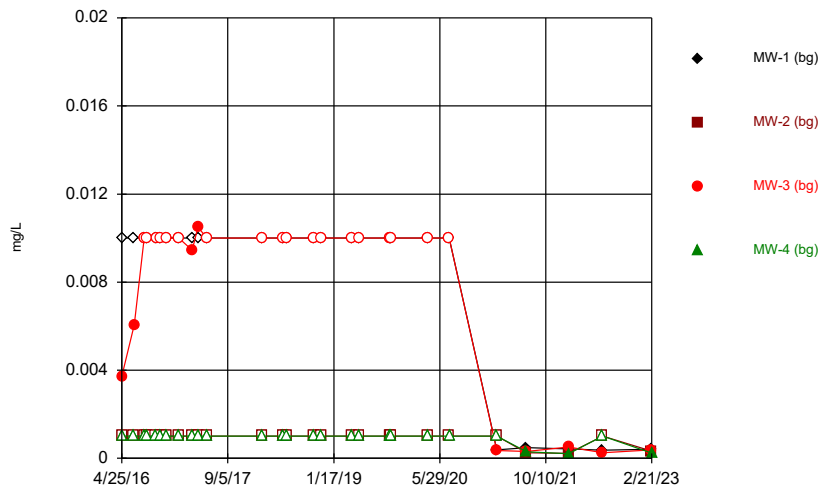
Constituent: Chloride, Total Analysis Run 5/17/2023 2:18 PM  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



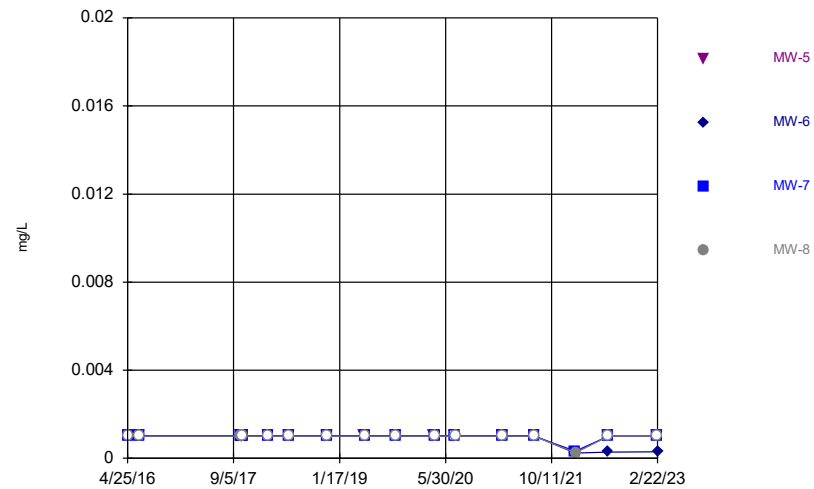
Constituent: Chloride, Total Analysis Run 5/17/2023 2:18 PM  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



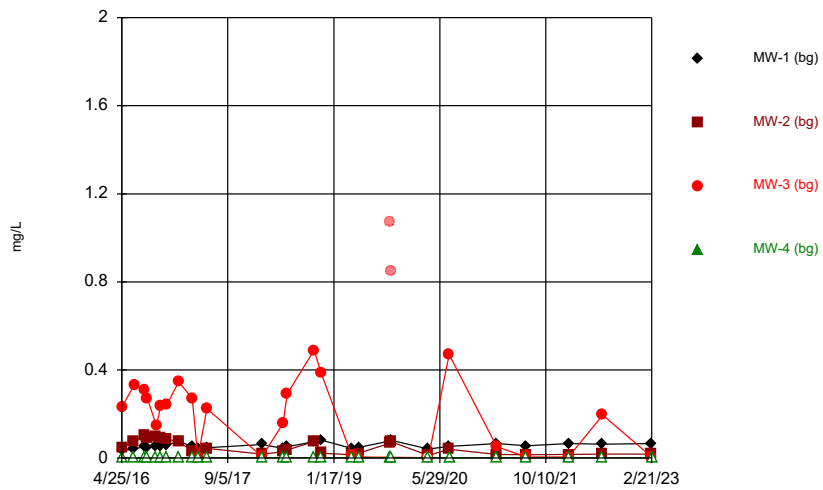
Constituent: Chromium Analysis Run 5/17/2023 2:18 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



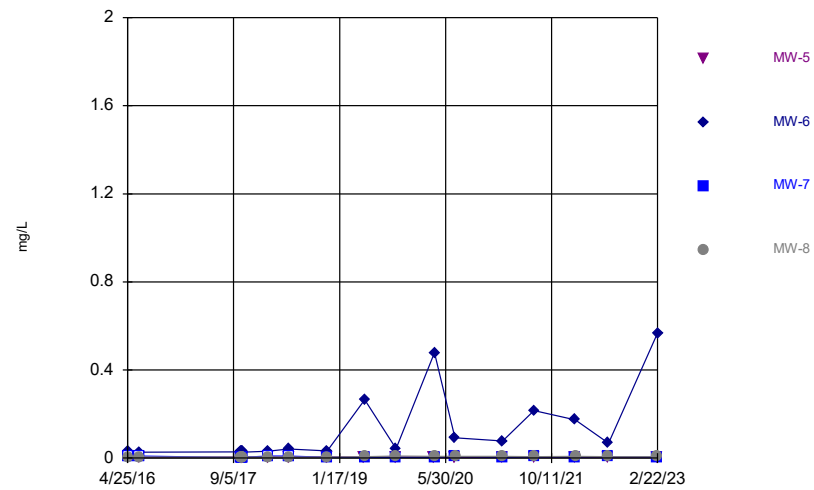
Constituent: Chromium Analysis Run 5/17/2023 2:18 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



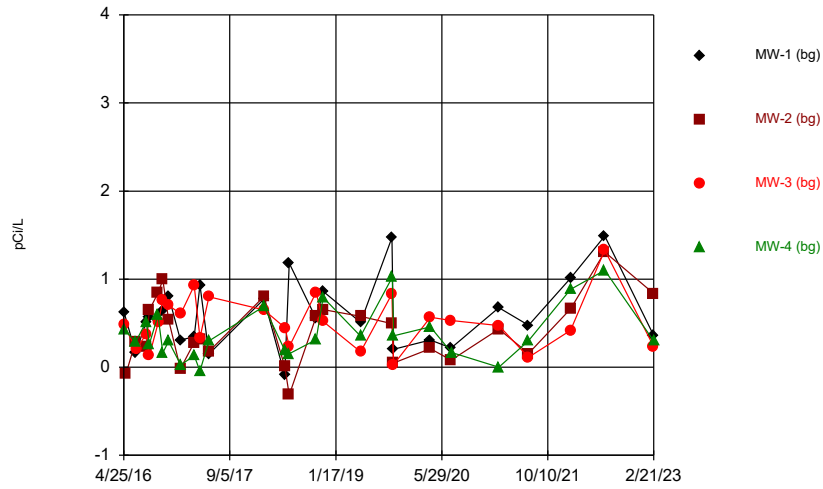
Constituent: Cobalt Analysis Run 5/17/2023 2:18 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



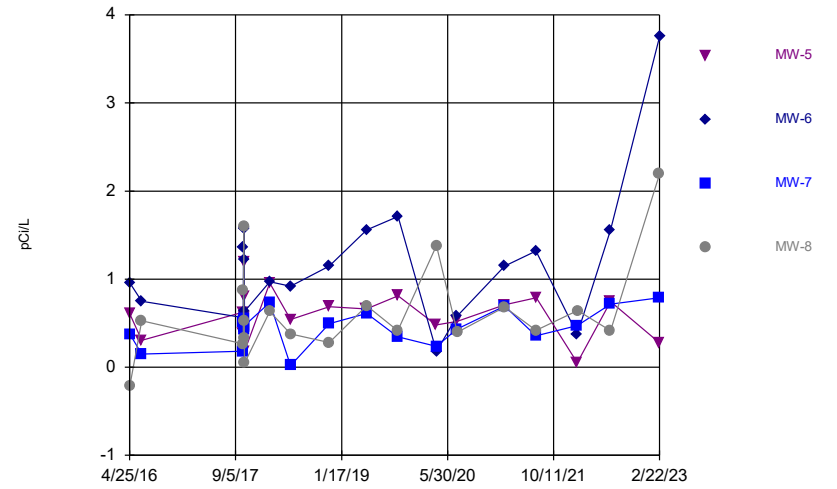
Constituent: Cobalt Analysis Run 5/17/2023 2:18 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



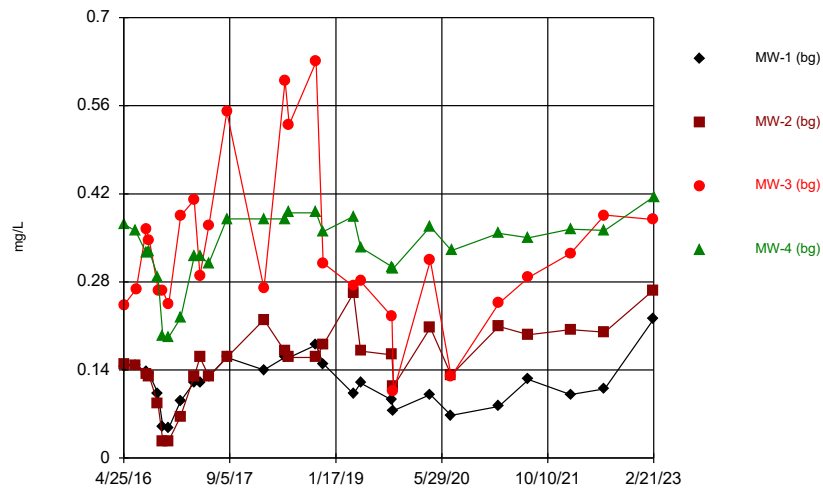
Constituent: Combined Radium 226 + 228 Analysis Run 5/17/2023 2:18 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



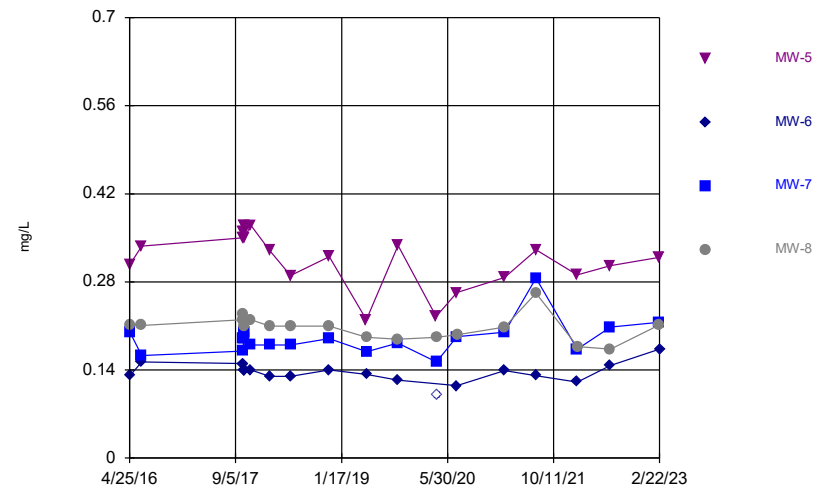
Constituent: Combined Radium 226 + 228 Analysis Run 5/17/2023 2:18 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



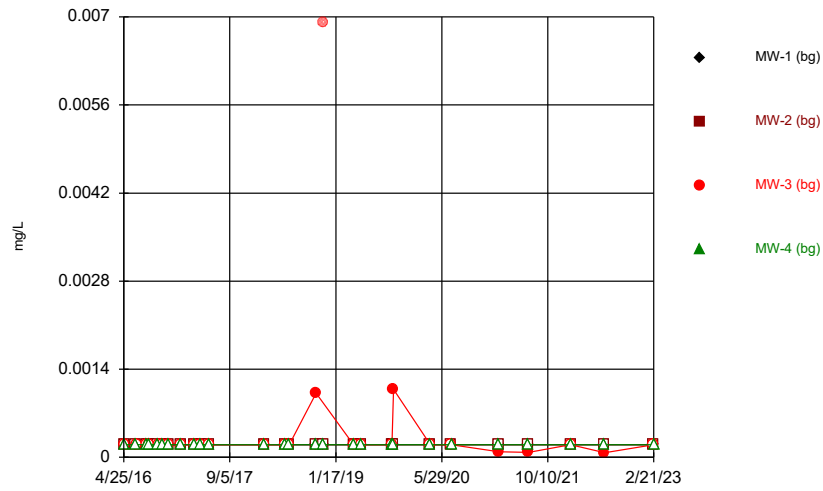
Constituent: Fluoride, total Analysis Run 5/17/2023 2:18 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



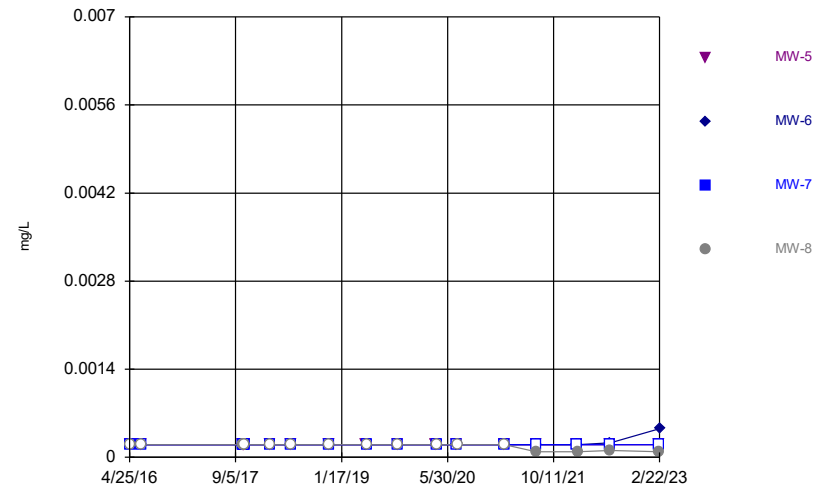
Constituent: Fluoride, total Analysis Run 5/17/2023 2:18 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Time Series



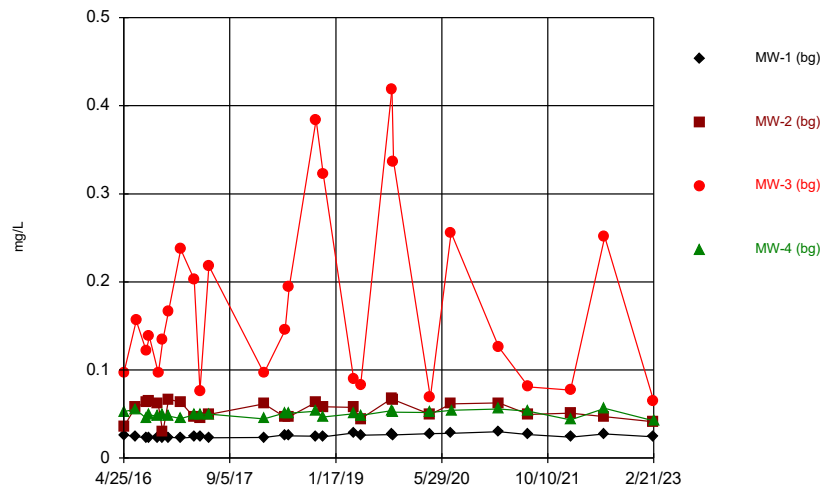
Constituent: Lead Analysis Run 5/17/2023 2:18 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Time Series



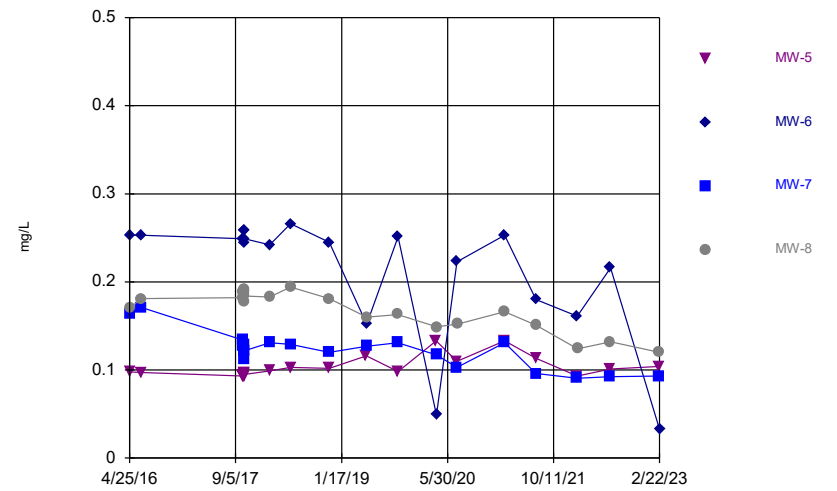
Constituent: Lead Analysis Run 5/17/2023 2:18 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Time Series



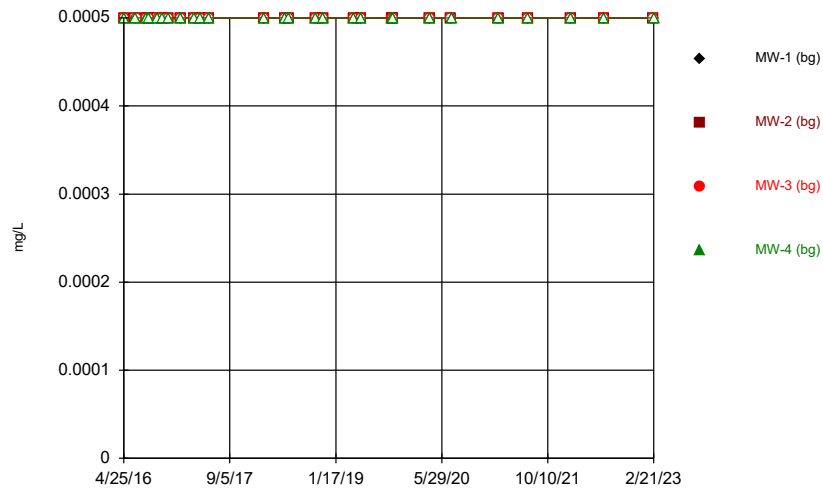
Constituent: Lithium Analysis Run 5/17/2023 2:18 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Time Series



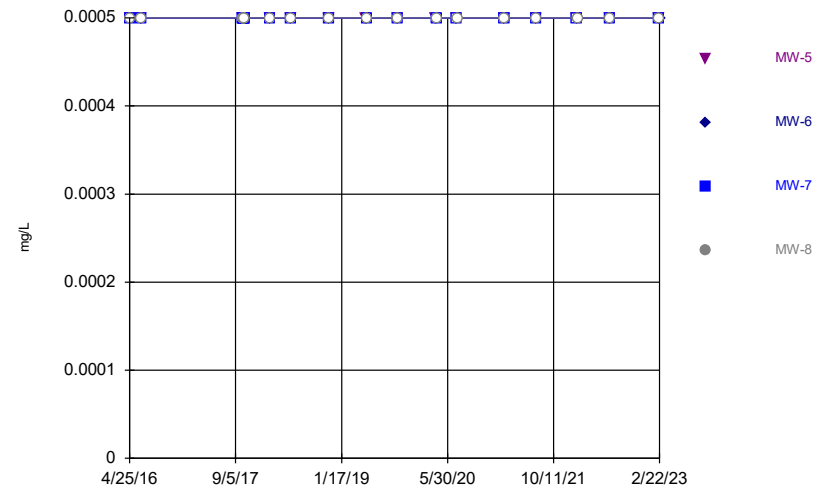
Constituent: Lithium Analysis Run 5/17/2023 2:18 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



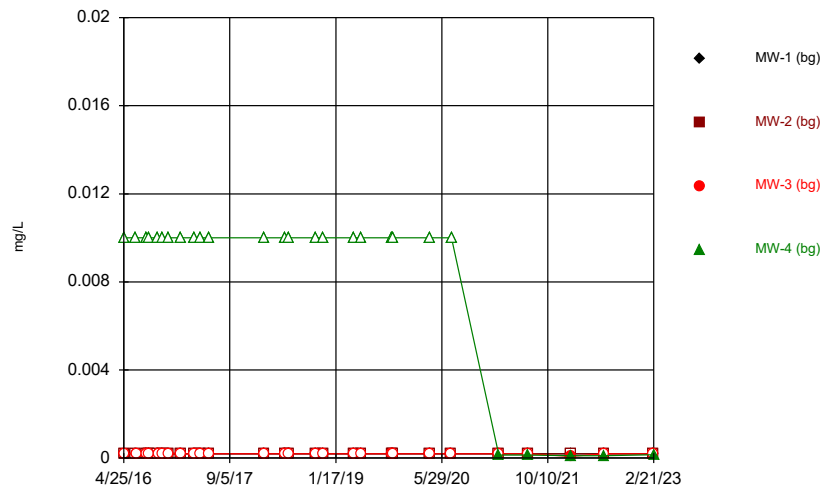
Constituent: Mercury Analysis Run 5/17/2023 2:18 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



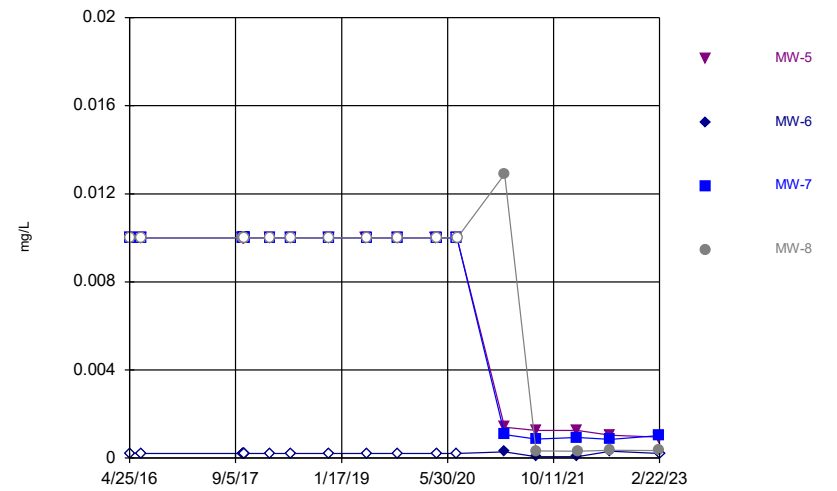
Constituent: Mercury Analysis Run 5/17/2023 2:18 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



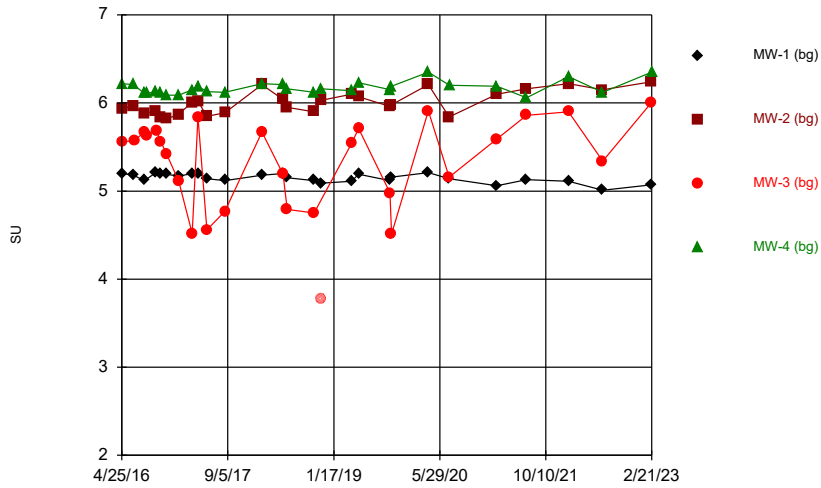
Constituent: Molybdenum Analysis Run 5/17/2023 2:18 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



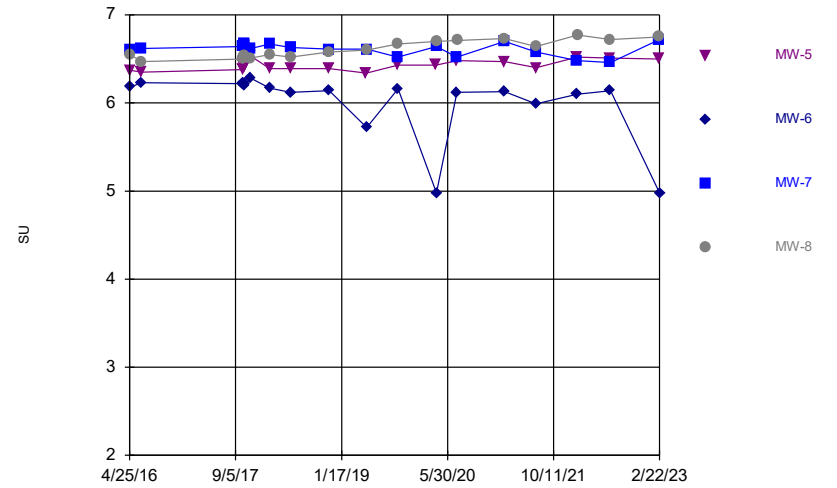
Constituent: Molybdenum Analysis Run 5/17/2023 2:18 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Time Series



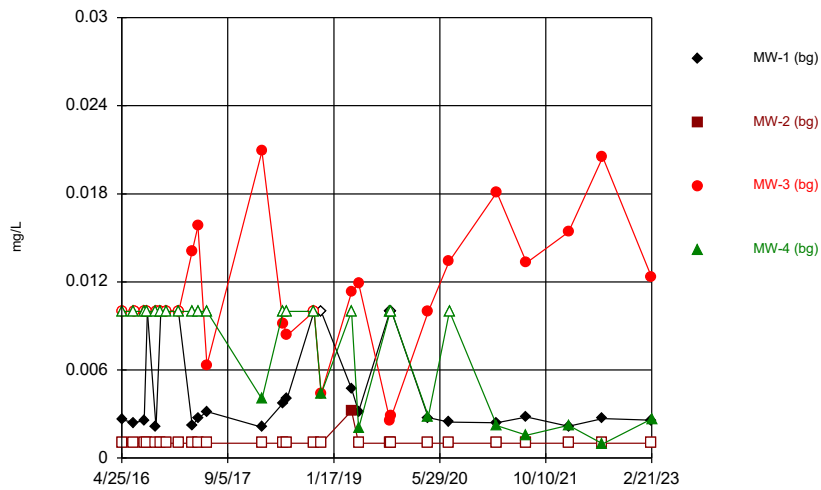
Constituent: pH, Field Analysis Run 5/17/2023 2:18 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Time Series



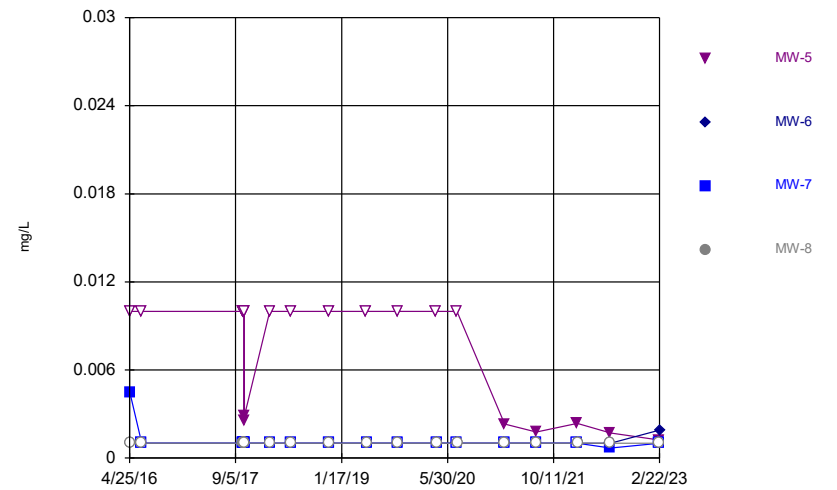
Constituent: pH, Field Analysis Run 5/17/2023 2:18 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Time Series



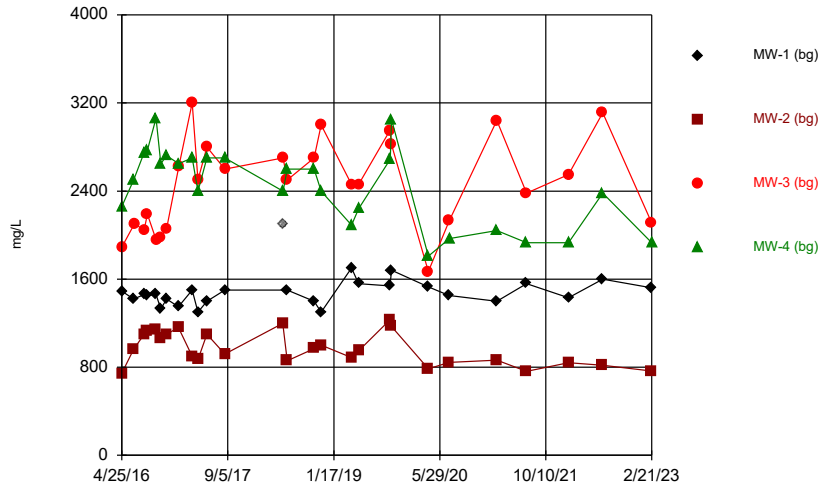
Constituent: Selenium Analysis Run 5/17/2023 2:18 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Time Series



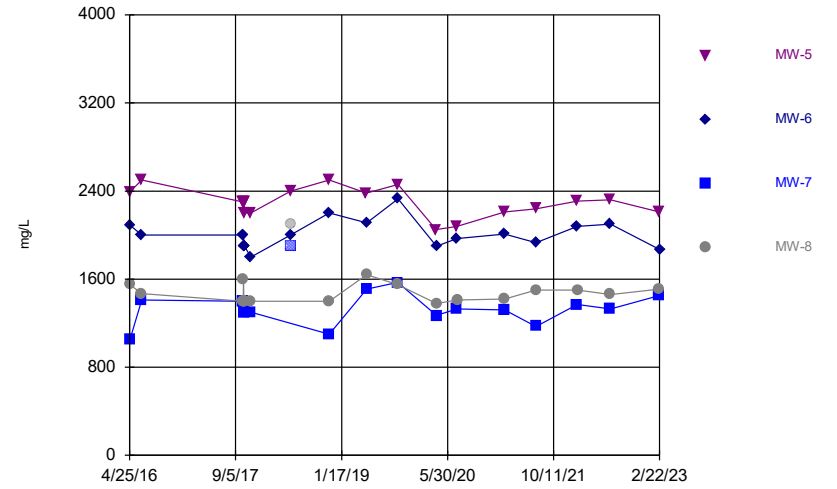
Constituent: Selenium Analysis Run 5/17/2023 2:18 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



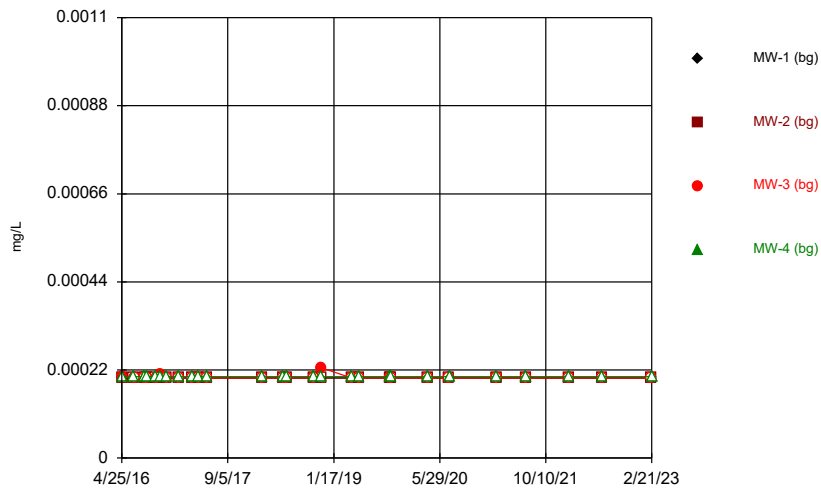
Constituent: Sulfate as SO4 Analysis Run 5/17/2023 2:18 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



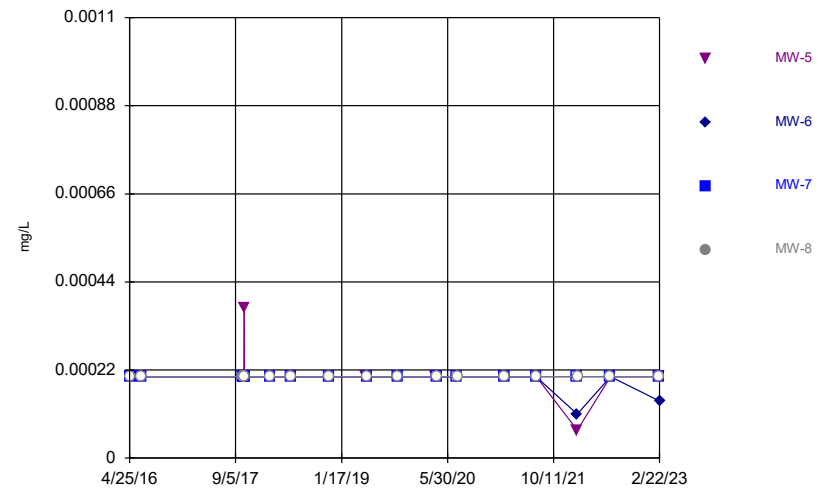
Constituent: Sulfate as SO4 Analysis Run 5/17/2023 2:18 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



Constituent: Thallium Analysis Run 5/17/2023 2:18 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

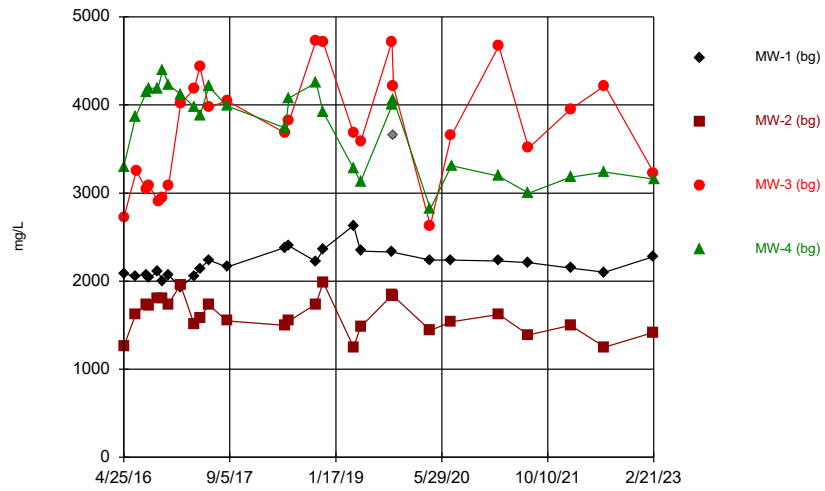
Time Series



Constituent: Thallium Analysis Run 5/17/2023 2:18 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

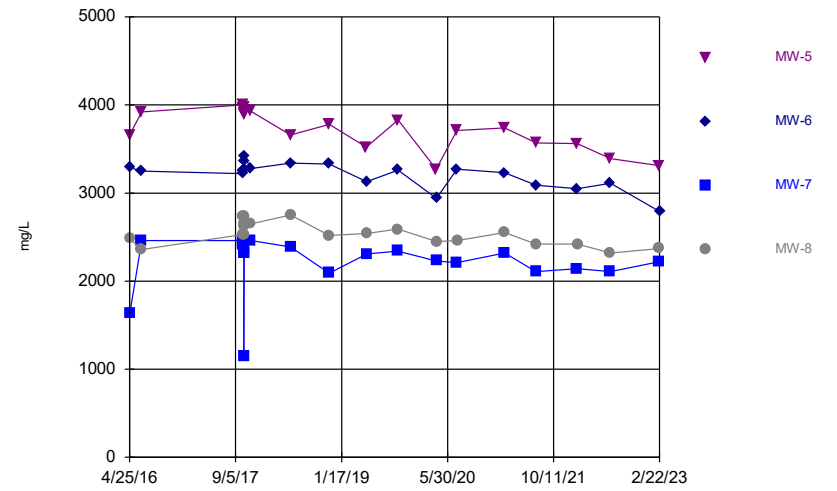


Time Series



Constituent: Total Dissolved Solids [TDS] Analysis Run 5/17/2023 2:18 PM  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



Constituent: Total Dissolved Solids [TDS] Analysis Run 5/17/2023 2:18 PM  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

# Time Series

Constituent: Antimony (mg/L) Analysis Run 5/17/2023 2:27 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016		<0.001015	<0.001015	<0.001015
4/26/2016	<0.001015			
6/20/2016	<0.001015	<0.001015		<0.001015
6/22/2016			<0.001015	
8/8/2016	<0.001015	<0.001015		
8/9/2016			<0.001015	<0.001015
8/24/2016	<0.001015	<0.001015	<0.001015	<0.001015
10/3/2016	<0.001015	<0.001015		<0.001015
10/4/2016			<0.001015	
10/26/2016	<0.001015	<0.001015	<0.001015	<0.001015
11/21/2016	<0.001015	<0.001015	<0.001015	<0.001015
1/17/2017	<0.001015	<0.001015		
1/18/2017			<0.001015	<0.001015
3/22/2017	<0.001015	<0.001015	<0.001015	<0.001015
4/18/2017	<0.001015	<0.001015	<0.001015	<0.001015
5/30/2017	<0.001015			
5/31/2017		<0.001015	<0.001015	<0.001015
2/13/2018	<0.001015	<0.001015	<0.001015	<0.001015
5/22/2018	<0.001015	<0.001015		
5/23/2018				<0.001015
5/24/2018			<0.001015	
6/12/2018	<0.001015	<0.001015	<0.001015	<0.001015
10/17/2018	<0.001015	<0.001015	<0.001015	<0.001015
11/19/2018	<0.001015	<0.001015	<0.001015	<0.001015
4/10/2019	0.00143 (J)	0.000993 (J)	0.000978 (J)	0.00097 (J)
5/14/2019	0.00137 (J)	0.000989 (J)	<0.001015	<0.001015
10/8/2019	<0.001015	<0.001015	<0.001015	
10/10/2019				<0.001015
10/16/2019	<0.001015	<0.001015	<0.001015	<0.001015
4/6/2020	<0.001015	<0.001015	<0.001015	<0.001015
7/13/2020	<0.001015	<0.001015	<0.001015	
7/14/2020				<0.001015
2/22/2021	<0.001015	<0.001015	<0.001015	<0.001015
7/12/2021	<0.001015	<0.001015	<0.001015	<0.001015
1/25/2022	<0.001015	<0.001015	<0.001015	<0.001015
7/5/2022	<0.001015	<0.001015	<0.001015	<0.001015
2/20/2023	<0.001015	<0.001015	<0.001015	
2/21/2023				<0.001015

# Time Series

Constituent: Antimony (mg/L) Analysis Run 5/17/2023 2:27 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
4/25/2016	<0.001015			
4/27/2016		<0.001015	<0.001015	<0.001015
6/21/2016	<0.001015	<0.001015	<0.001015	<0.001015
10/12/2017	<0.001015	<0.001015	<0.001015	<0.001015
10/13/2017	<0.001015	<0.001015	<0.001015	<0.001015
10/14/2017	<0.001015	<0.001015	<0.001015	<0.001015
10/15/2017	<0.001015	<0.001015	<0.001015	<0.001015
10/16/2017	<0.001015	<0.001015	<0.001015	<0.001015
10/17/2017	<0.001015	<0.001015	<0.001015	<0.001015
2/14/2018	<0.001015	<0.001015	<0.001015	<0.001015
5/23/2018	<0.001015	<0.001015	<0.001015	<0.001015
11/20/2018	<0.001015	<0.001015	<0.001015	<0.001015
5/14/2019	<0.001015			
5/15/2019		<0.001015	<0.001015	<0.001015
10/8/2019			<0.001015	
10/9/2019				<0.001015
10/10/2019	<0.001015	<0.001015		
4/7/2020	<0.001015			
4/8/2020		<0.001015	<0.001015	<0.001015
7/14/2020	<0.001015	<0.001015	<0.001015	
7/15/2020				<0.001015
2/23/2021	<0.001015	<0.001015	<0.001015	<0.001015
7/20/2021		<0.001015	<0.001015	<0.001015
7/21/2021	<0.001015			
1/31/2022	<0.001015	<0.001015	<0.001015	
2/1/2022				<0.001015
7/6/2022	<0.001015	<0.001015	<0.001015	<0.001015
2/21/2023	<0.001015		<0.001015	<0.001015
2/22/2023		<0.001015		

# Time Series

Constituent: Arsenic (mg/L) Analysis Run 5/17/2023 2:27 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016		<0.005	<0.005	<0.000203
4/26/2016	<0.005			
6/20/2016	<0.005	<0.005		<0.000203
6/22/2016			<0.005	
8/8/2016	<0.005	<0.005		
8/9/2016			<0.005	<0.000203
8/24/2016	<0.005	<0.005	<0.005	<0.000203
10/3/2016	<0.005	<0.005		<0.000203
10/4/2016			<0.005	
10/26/2016	<0.005	<0.005	<0.005	<0.000203
11/21/2016	<0.005	0.00111 (J)	<0.005	<0.000203
1/17/2017	<0.005	<0.005		
1/18/2017			<0.005	<0.000203
3/22/2017	<0.005	<0.005	0.00122 (J)	<0.000203
4/18/2017	<0.005	<0.005	<0.005	<0.000203
5/30/2017	<0.005			
5/31/2017		<0.005	<0.005	<0.000203
2/13/2018	<0.005	<0.005	<0.005	<0.000203
5/22/2018	<0.005	<0.005		
5/23/2018				<0.000203
5/24/2018			<0.005	
6/12/2018	<0.005	<0.005	0.00103 (J)	<0.000203
10/17/2018	<0.005	<0.005	0.00133 (J)	<0.000203
11/19/2018	<0.005	<0.005	0.0012 (J)	<0.000203
4/10/2019	<0.005	<0.005	<0.005	<0.000203
5/14/2019	<0.005	<0.005	<0.005	<0.000203
10/8/2019	<0.005	<0.005	0.0048 (J)	
10/10/2019				<0.000203
10/16/2019	<0.005	<0.005	0.00389 (J)	<0.000203
4/6/2020	<0.005	<0.005	<0.005	<0.000203
7/13/2020	<0.005	<0.005	0.00316 (J)	
7/14/2020				<0.000203
2/22/2021	0.000403	0.000295	0.000789	0.000125 (J)
7/12/2021	0.00036	0.00036	0.00038	0.00012 (J)
1/25/2022	0.00025	0.00033	0.00027	9E-05 (J)
7/5/2022	0.000281	0.00035	0.00374	0.000118 (J)
2/20/2023	0.000275	0.000243	0.000224	
2/21/2023				<0.000203

# Time Series

Constituent: Arsenic (mg/L) Analysis Run 5/17/2023 2:27 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
4/25/2016	0.00138 (J)			
4/27/2016		0.005	<0.005	<0.005
6/21/2016	<0.005	0.00473 (J)	0.00165 (J)	0.00101 (J)
10/12/2017	<0.005	0.0051	0.00188 (J)	0.00197 (J)
10/13/2017	<0.005	0.00487 (J)	0.00181 (J)	0.00159 (J)
10/14/2017	<0.005	0.00476 (J)	0.00127 (J)	0.00126 (J)
10/15/2017	<0.005	0.00475 (J)	0.00144 (J)	0.00106 (J)
10/16/2017	<0.005	0.00482 (J)	0.00139 (J)	0.00106 (J)
10/17/2017	<0.005	0.0048 (J)	0.00138 (J)	0.00103 (J)
2/14/2018	<0.005	0.00493 (J)	0.00131 (J)	0.00185 (J)
5/23/2018	<0.005	0.0058	0.00155 (J)	0.00157 (J)
11/20/2018	<0.005	0.00542	0.00133 (J)	0.00173 (J)
5/14/2019	0.00153 (J)			
5/15/2019		0.00383 (J)	0.00138 (J)	0.00136 (J)
10/8/2019			0.00145 (J)	
10/9/2019				0.00142 (J)
10/10/2019	<0.005	0.00473 (J)		
4/7/2020	0.00163 (J)			
4/8/2020		0.00232 (J)	0.00136 (J)	0.00102 (J)
7/14/2020	<0.005	0.0048 (J)	0.00147 (J)	
7/15/2020				0.00212 (J)
2/23/2021	0.000309	0.00494	0.00141	0.00117
7/20/2021		0.00475	0.00164	0.00111
7/21/2021	0.00046			
1/31/2022	0.00019 (J)	0.00435	0.00156	
2/1/2022				0.00131
7/6/2022	0.000225	0.00554	0.00164	0.00136
2/21/2023	0.000306		0.00153	0.00119
2/22/2023		0.00337		

# Time Series

Constituent: Barium (mg/L) Analysis Run 5/17/2023 2:27 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016		0.0134	0.00803 (J)	0.0114
4/26/2016	0.00941 (J)			
6/20/2016	0.00951 (J)	0.0165		0.0103
6/22/2016			0.0101	
8/8/2016	0.00991 (J)	0.0162		
8/9/2016			0.00889 (J)	0.0119
8/24/2016	0.00949 (J)	0.0139	0.00962 (J)	0.0118
10/3/2016	0.0105	0.0164		0.0119
10/4/2016			0.00984 (J)	
10/26/2016	0.00931 (J)	0.0138	0.00878 (J)	0.0104
11/21/2016	0.00879 (J)	0.0144	0.00833 (J)	0.0106
1/17/2017	0.00929 (J)	0.0135		
1/18/2017			0.00966 (J)	0.0101
3/22/2017	0.00938 (J)	0.0132	0.00991 (J)	0.0103
4/18/2017	0.00964 (J)	0.012	0.00976 (J)	0.0107
5/30/2017	0.00982 (J)			
5/31/2017		0.0126	0.00866 (J)	0.0104
2/13/2018	0.00937 (J)	0.0127	0.00821 (J)	0.0111
5/22/2018	0.0102	0.0131		
5/23/2018				0.0107
5/24/2018			0.00977 (J)	
6/12/2018	0.0104	0.0138	0.00997 (J)	0.0108
10/17/2018	0.00952 (J)	0.0137	0.0126	0.0119
11/19/2018	0.00915 (J)	0.0115	0.0109	0.0107
4/10/2019	0.0105	0.0111	0.0101	0.0107
5/14/2019	0.00913 (J)	0.0109	0.00922 (J)	0.00949 (J)
10/8/2019	0.0109	0.0151	0.0154	
10/10/2019				0.0116
10/16/2019	0.0106	0.0146	0.0128	0.0125
4/6/2020	0.00971 (J)	0.0125	0.00931 (J)	0.0115
7/13/2020	0.0101	0.0145	0.0142	
7/14/2020				0.0122
2/22/2021	0.0107	0.0132	0.00981	0.0111
7/12/2021	0.00991	0.013	0.00857	0.0108
1/25/2022	0.0098	0.0122	0.00821	0.00908
7/5/2022	0.01	0.0116	0.0155	0.0113
2/20/2023	0.0102	0.0122	0.00822	
2/21/2023				0.0116

# Time Series

Constituent: Barium (mg/L) Analysis Run 5/17/2023 2:27 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
4/25/2016	0.016			
4/27/2016		0.012	0.0107	0.0108
6/21/2016	0.0112	0.0133	0.0129	0.0116
10/12/2017	0.0122	0.0134	0.014	0.0141
10/13/2017	0.0115	0.0124	0.0147	0.0148
10/14/2017	0.0099 (J)	0.0129	0.0123	0.0134
10/15/2017	0.0103	0.0136	0.0132	0.0139
10/16/2017	0.0101	0.0131	0.0122	0.0129
10/17/2017	0.00968 (J)	0.0126	0.0121	0.0126
2/14/2018	0.0114	0.0142	0.0119	0.0126
5/23/2018	0.0138	0.0145	0.0135	0.0137
11/20/2018	0.0105	0.0127	0.0116	0.0123
5/14/2019	0.0111			
5/15/2019		0.0121	0.0114	0.0122
10/8/2019			0.0145	
10/9/2019				0.0137
10/10/2019	0.0105	0.0152		
4/7/2020	0.0137			
4/8/2020		0.0128	0.0127	0.0137
7/14/2020	0.0124	0.0154	0.0148	
7/15/2020				0.0143
2/23/2021	0.0116	0.0143	0.014	0.014
7/20/2021		0.0143	0.0142	0.0141
7/21/2021	0.0116			
1/31/2022	0.0104	0.0125	0.0126	
2/1/2022				0.0135
7/6/2022	0.0117	0.0144	0.0142	0.0146
2/21/2023	0.0121		0.0141	0.0148
2/22/2023		0.0136		

# Time Series

Constituent: Beryllium (mg/L) Analysis Run 5/17/2023 2:27 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016		<0.001015	0.00122 (J)	<0.001015
4/26/2016	<0.001015			
6/20/2016	<0.001015	<0.001015		<0.001015
6/22/2016			0.00144 (J)	
8/8/2016	<0.001015	<0.001015		
8/9/2016			0.00331	<0.001015
8/24/2016	<0.001015	<0.001015	0.00308	<0.001015
10/3/2016	<0.001015	<0.001015		<0.001015
10/4/2016			0.00129 (J)	
10/26/2016	<0.001015	<0.001015	0.0071	<0.001015
11/21/2016	<0.001015	<0.001015	0.00689	<0.001015
1/17/2017	<0.001015	<0.001015		
1/18/2017			0.0169 (O)	<0.001015
3/22/2017	<0.001015	<0.001015	0.00686	<0.001015
4/18/2017	<0.001015	<0.001015	<0.001015	<0.001015
5/30/2017	<0.001015			
5/31/2017		<0.001015	0.00547	<0.001015
2/13/2018	<0.001015	<0.001015	<0.001015	<0.001015
5/22/2018	<0.001015	<0.001015		
5/23/2018				<0.001015
5/24/2018			0.00164 (J)	
6/12/2018	<0.001015	<0.001015	0.00306	<0.001015
10/17/2018	<0.001015	<0.001015	0.0121	<0.001015
11/19/2018	<0.001015	<0.001015	0.0185 (O)	<0.001015
4/10/2019	<0.001015	<0.001015	<0.001015	<0.001015
5/14/2019	<0.001015	<0.001015	<0.001015	<0.001015
10/8/2019	<0.001015	<0.001015	0.0084	
10/10/2019				<0.001015
10/16/2019	<0.001015	<0.001015	0.0103	<0.001015
4/6/2020	<0.001015	<0.001015	<0.001015	<0.001015
7/13/2020	<0.001015	<0.001015	0.0021 (J)	
7/14/2020				<0.001015
2/22/2021	<0.001015	<0.001015	<0.001015	<0.001015
7/12/2021	<0.001015	<0.001015	<0.001015	<0.001015
1/25/2022	<0.001015	<0.001015	<0.001015	<0.001015
7/5/2022	<0.001015	<0.001015	0.00139	<0.001015
2/20/2023	<0.001015	<0.001015	<0.001015	
2/21/2023				<0.001015



# Time Series

Constituent: Beryllium (mg/L) Analysis Run 5/17/2023 2:27 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
4/25/2016	<0.001015			
4/27/2016		<0.001015	<0.001015	<0.001015
6/21/2016	<0.001015	<0.001015	<0.001015	<0.001015
10/12/2017	<0.001015	<0.001015	<0.001015	<0.001015
10/13/2017	<0.001015	<0.001015	<0.001015	<0.001015
10/14/2017	<0.001015	<0.001015	<0.001015	<0.001015
10/15/2017	<0.001015	<0.001015	<0.001015	<0.001015
10/16/2017	<0.001015	<0.001015	<0.001015	<0.001015
10/17/2017	<0.001015	<0.001015	<0.001015	<0.001015
2/14/2018	<0.001015	<0.001015	<0.001015	<0.001015
5/23/2018	<0.001015	<0.001015	<0.001015	<0.001015
11/20/2018	<0.001015	<0.001015	<0.001015	<0.001015
5/14/2019	<0.001015			
5/15/2019		0.000677 (J)	<0.001015	<0.001015
10/8/2019			<0.001015	
10/9/2019				<0.001015
10/10/2019	<0.001015	<0.001015		
4/7/2020	<0.001015			
4/8/2020		0.000788 (J)	<0.001015	<0.001015
7/14/2020	<0.001015	<0.001015	<0.001015	
7/15/2020				<0.001015
2/23/2021	<0.001015	<0.001015	<0.001015	<0.001015
7/20/2021		0.00048 (J)	<0.001015	<0.001015
7/21/2021	<0.001015			
1/31/2022	<0.001015	0.00044 (J)	<0.001015	
2/1/2022				<0.001015
7/6/2022	<0.001015	<0.001015	<0.001015	<0.001015
2/21/2023	<0.001015		<0.001015	<0.001015
2/22/2023		0.00123		

# Time Series

Constituent: Boron, total (mg/L) Analysis Run 5/17/2023 2:27 PM  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016		0.0241 (J)	0.028 (J)	0.0414 (J)
4/26/2016	0.0231 (J)			
6/20/2016	0.0227 (J)	0.0284 (J)		0.0434 (J)
6/22/2016			0.0433 (J)	
8/8/2016	0.0278 (J)	0.034 (J)		
8/9/2016			0.0429 (J)	0.0453 (J)
8/24/2016	0.0247 (J)	0.0316 (J)	0.0431 (J)	0.0451 (J)
10/3/2016	0.0307 (J)	0.0367 (J)		0.0511 (J)
10/4/2016			0.04 (J)	
10/26/2016	0.0241 (J)	0.0331 (J)	0.0375 (J)	0.0507 (J)
11/21/2016	0.0202 (J)	0.035 (J)	0.0406 (J)	0.0458 (J)
1/17/2017	0.0201 (J)	0.0259 (J)		
1/18/2017			0.0548 (J)	0.0445 (J)
3/22/2017	0.0224 (J)	0.0243 (J)	0.0344 (J)	0.0432 (J)
4/18/2017	<0.1015	0.0206 (J)	<0.1015	0.0409 (J)
5/30/2017	<0.1015			
5/31/2017		0.0234 (J)	0.0454 (J)	0.0392 (J)
8/23/2017	0.0253 (J)	0.0267 (J)	0.0425 (J)	0.042 (J)
5/22/2018	0.0224 (J)	0.0251 (J)		
5/23/2018				0.0433 (J)
5/24/2018			0.0339 (J)	
6/12/2018	0.0214 (J)	0.0275 (J)	0.0371 (J)	0.0478 (J)
10/17/2018	0.0216 (J)	0.0321 (J)	0.0596 (J)	0.0468 (J)
11/19/2018	0.0237 (J)	0.0324 (J)	0.0514 (J)	0.0526 (J)
4/10/2019	0.0304 (J)	<0.1015	<0.1015	0.0438 (J)
5/14/2019	<0.1015	<0.1015	<0.1015	<0.203 (o)
10/8/2019	<0.1015	0.0371 (J)	0.0537 (J)	
10/10/2019				0.0487 (J)
10/16/2019	0.0385 (J)	0.0419 (J)	0.05 (J)	0.0505 (J)
4/6/2020	<0.1015	<0.1015	<0.1015	0.0428 (J)
7/13/2020	<0.1015	<0.1015	0.0366 (J)	
7/14/2020				0.0441 (J)
2/22/2021	0.0307 (J)	<0.1015	<0.1015	0.0397 (J)
7/12/2021	<0.1015	<0.1015	<0.1015	0.0411 (J)
1/25/2022	<0.1015	<0.1015	<0.1015	0.0408 (J)
7/5/2022	<0.1015	<0.1015	0.0374 (J)	0.0433 (J)
2/20/2023	<0.1015	<0.1015	<0.1015	
2/21/2023				0.0408 (J)

# Time Series

Constituent: Boron, total (mg/L) Analysis Run 5/17/2023 2:27 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
4/25/2016	0.0301 (J)			
4/27/2016		0.075 (J)	0.253 (O)	0.0662 (J)
6/21/2016	0.0304 (J)	0.0729 (J)	0.0768 (J)	0.0681 (J)
10/12/2017	0.0285 (J)	0.0806 (J)	0.0685 (J)	0.0687 (J)
10/13/2017	0.0287 (J)	0.0803 (J)	0.0674 (J)	0.0831 (J)
10/14/2017	0.0305 (J)	0.0828 (J)	0.0756 (J)	0.0702 (J)
10/15/2017	0.0319 (J)	0.0852 (J)	0.0719 (J)	0.0702 (J)
10/16/2017	0.0304 (J)	0.0858 (J)	0.0726 (J)	0.0707 (J)
10/17/2017	0.036 (J)	0.0846 (J)	0.0716 (J)	0.0695 (J)
11/16/2017	0.0377 (J)	0.0772 (J)	0.0644 (J)	0.0675 (J)
5/23/2018	0.0301 (J)	0.0757 (J)	0.0715 (J)	0.0693 (J)
11/20/2018	0.0357 (J)	0.0915 (J)	0.0772 (J)	0.0771 (J)
5/14/2019	<0.203 (o)			
5/15/2019		0.0616 (J)	0.0678 (J)	0.0689 (J)
10/8/2019			0.073 (J)	
10/9/2019				0.0723 (J)
10/10/2019	0.0323 (J)	0.0919 (J)		
4/7/2020	0.0399 (J)			
4/8/2020		0.0499 (J)	0.077 (J)	0.0683 (J)
7/14/2020	0.033 (J)	0.0838 (J)	0.0865 (J)	
7/15/2020				0.0723 (J)
2/23/2021	0.0369 (J)	0.0866 (J)	0.0803 (J)	0.0731 (J)
7/20/2021		0.0608 (J)	0.0721 (J)	0.0656 (J)
7/21/2021	0.0319 (J)			
1/31/2022	0.0314 (J)	0.0648 (J)	0.0689 (J)	
2/1/2022				0.0639 (J)
7/6/2022	0.0355 (J)	0.069 (J)	0.0752 (J)	0.0686 (J)
2/21/2023	0.0315 (J)		0.0645 (J)	0.0609 (J)
2/22/2023		0.0356 (J)		

# Time Series

Constituent: Cadmium (mg/L) Analysis Run 5/17/2023 2:27 PM

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016		<0.0002	0.0121 (O)	<0.000203
4/26/2016	0.00196			
6/20/2016	0.0021	<0.0002		<0.000203
6/22/2016			0.00163	
8/8/2016	0.00206	<0.0002		
8/9/2016			0.00122	<0.000203
8/24/2016	0.00182	<0.0002	<0.001	<0.000203
10/3/2016	0.00188	<0.0002		<0.000203
10/4/2016			0.000689 (J)	
10/26/2016	0.00175	<0.0002	0.00136	<0.000203
11/21/2016	0.00197	<0.0002	0.00171	<0.000203
1/17/2017	0.002	0.000311 (J)		
1/18/2017			0.003	<0.000203
3/22/2017	0.0019	<0.0002	0.00473	<0.000203
4/18/2017	0.00159	<0.0002	0.00117	<0.000203
5/30/2017	0.00214			
5/31/2017		0.000212 (J)	0.00296	<0.000203
2/13/2018	0.0018	<0.0002	0.00232	<0.000203
5/22/2018	0.00201	<0.0002		
5/23/2018				<0.000203
5/24/2018			0.00459	
6/12/2018	0.00217	<0.0002	0.00351	<0.000203
10/17/2018	0.00228	<0.0002	0.00393	<0.000203
11/19/2018	0.00156	<0.0002	0.00309	<0.000203
4/10/2019	0.00224	<0.0002	0.00337	<0.000203
5/14/2019	0.00238	<0.0002	0.0013	<0.000203
10/8/2019	0.00218	<0.0002	0.00598	
10/10/2019				<0.000203
10/16/2019	0.00225	<0.0002	0.00448	<0.000203
4/6/2020	0.00184	<0.0002	0.000645 (J)	<0.000203
7/13/2020	0.00194	<0.0002	0.00885 (O)	
7/14/2020				<0.000203
2/22/2021	0.00184	8.96E-05 (J)	0.00536	8.96E-05 (J)
7/12/2021	0.00193	8E-05 (J)	0.00094	8E-05 (J)
1/25/2022	0.00196	8E-05 (J)	0.00178	<0.000203
7/5/2022	0.00211	8.4E-05 (J)	0.00835	7.5E-05 (J)
2/20/2023	0.00185	<0.0002	0.00144	
2/21/2023				<0.000203

# Time Series

Constituent: Cadmium (mg/L) Analysis Run 5/17/2023 2:27 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
4/25/2016	<0.000203			
4/27/2016		<0.000203	<0.000203	<0.000203
6/21/2016	<0.000203	<0.000203	<0.000203	<0.000203
10/12/2017	<0.000203	<0.000203	<0.000203	<0.000203
10/13/2017	<0.000203	<0.000203	<0.000203	<0.000203
10/14/2017	<0.000203	<0.000203	<0.000203	<0.000203
10/15/2017	<0.000203	<0.000203	<0.000203	<0.000203
10/16/2017	<0.000203	<0.000203	<0.000203	<0.000203
10/17/2017	<0.000203	<0.000203	<0.000203	<0.000203
2/14/2018	<0.000203	<0.000203	<0.000203	<0.000203
5/23/2018	<0.000203	<0.000203	<0.000203	<0.000203
11/20/2018	<0.000203	<0.000203	<0.000203	<0.000203
5/14/2019	<0.000203			
5/15/2019		0.000858 (J)	<0.000203	<0.000203
10/8/2019			<0.000203	
10/9/2019				<0.000203
10/10/2019	<0.000203	<0.000203		
4/7/2020	<0.000203			
4/8/2020		0.00204	<0.000203	<0.000203
7/14/2020	<0.000203	<0.000203	<0.000203	
7/15/2020				<0.000203
2/23/2021	<0.000203	<0.000203	<0.000203	<0.000203
7/20/2021		0.00058	<0.000203	<0.000203
7/21/2021	<0.000203			
1/31/2022	<0.000203	0.0005	<0.000203	
2/1/2022				<0.000203
7/6/2022	<0.000203	7.2E-05 (J)	<0.000203	<0.000203
2/21/2023	<0.000203		<0.000203	<0.000203
2/22/2023		0.00192		

# Time Series

Constituent: Calcium, total (mg/L) Analysis Run 5/17/2023 2:27 PM

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016		123	224	261
4/26/2016	147			
6/20/2016	152	168		295
6/22/2016			266	
8/8/2016	150	180		
8/9/2016			260	318
8/24/2016	142	180	274	319
10/3/2016	139	184		293
10/4/2016			243	
10/26/2016	133	171	254	311
11/21/2016	144	179	263	320
1/17/2017	131	188		
1/18/2017			431	417
3/22/2017	141	155	318	292
4/18/2017	149	156	296	302
5/30/2017	140			
5/31/2017		151	306	284
8/23/2017	152	155	298	297
5/22/2018	166	172		
5/23/2018				296
5/24/2018			297	
6/12/2018	203	179	318	355
10/17/2018	171	200	392	342
11/19/2018	154	221	387	289
4/10/2019	243	200	348	356
5/14/2019	167	168	254	254
10/8/2019	157	190	371	
10/10/2019				302
10/16/2019	157	194	346	356
4/6/2020	149	152	177	222
7/13/2020	147	163	264	
7/14/2020				259
2/22/2021	151	178	312	271
7/12/2021	149	159	252	242
1/25/2022	150	179	285	259
7/5/2022	168	172	369	294
2/20/2023	151	160	210	
2/21/2023				232

# Time Series

Constituent: Calcium, total (mg/L) Analysis Run 5/17/2023 2:27 PM

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-5	MW-6	MW-7	MW-8
4/25/2016	399			
4/27/2016		411	198	282
6/21/2016	295	318	327	291
10/12/2017	394	421	317	300
10/13/2017	389	396	302	298
10/14/2017	391	400	283	299
10/15/2017	332	378	294	307
10/16/2017	380	402	284	299
10/17/2017	377	373	294	294
11/16/2017	368	367	299	308
5/23/2018	405	425	321	344
11/20/2018	414	449	306	327
5/14/2019	441			
5/15/2019		345	302	305
10/8/2019			294	
10/9/2019				329
10/10/2019	386	461		
4/7/2020	432			
4/8/2020		242	280	281
7/14/2020	395	406	261	
7/15/2020				280
2/23/2021	394	428	292	306
7/20/2021		348	254	281
7/21/2021	384			
1/31/2022	398	385	278	
2/1/2022				284
7/6/2022	414	430	280	306
2/21/2023	367		286	327
2/22/2023		250		

# Time Series

Constituent: Chloride, Total (mg/L) Analysis Run 5/17/2023 2:27 PM

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016		1.9	1.32	1.53
4/26/2016	1.94			
6/20/2016	2.09	3.43		1.85
6/22/2016			1.46	
8/8/2016	2.18	3.31		
8/9/2016			1.35	1.95
8/24/2016	2.22	3.23	1.47	2.07
10/3/2016	2.34	3.21		2.02
10/4/2016			1.59	
10/26/2016	2.34	3.35	1.27	2.07
11/21/2016	2.5	3.34	1.38	2.39
1/17/2017	2.68	3.58		
1/18/2017			1.34	1.9
3/22/2017	3.7	3.4	2	1.5 (J)
4/18/2017	2.4	2.6	2.2	1.6 (J)
5/30/2017	2.6			
5/31/2017		4.4	1.5 (J)	2.1
8/23/2017	2.7	4.4	1.8 (J)	2.3
5/22/2018	2.3	3.2		
5/23/2018				2
5/24/2018			1.6 (J)	
6/12/2018	2.3	3.7	1.4 (J)	1.7 (J)
10/17/2018	1.7 (J)	4.6	<2	1.5 (J)
11/19/2018	1.7 (J)	3	<2	<2
4/10/2019	2.36	1.76	2.25	1.88
5/14/2019	2.28	2.98	2.28	1.82
10/8/2019	2.31	4.26	1.36	
10/10/2019				1.93
10/16/2019	2.42	4.04	1.4	1.92
4/6/2020	2.01	2.43	1.72	1.5
7/13/2020	2.1	4.05	1.34	
7/14/2020				1.61
2/22/2021	2.16	1.72	2.22	1.52
7/12/2021	2.19	2.36	2.13	1.56
1/25/2022	2.09	2.14	2.12	1.54
7/5/2022	2.07	2.53	1.59	1.63
2/20/2023	2.05	1.7	1.94	
2/21/2023				1.58



# Time Series

Constituent: Chloride, Total (mg/L) Analysis Run 5/17/2023 2:27 PM

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
4/25/2016	5.44			
4/27/2016		2.19	1.71	2.34
6/21/2016	6.32	2.56	2.04	2.29
10/12/2017	7.9	3.4	31	150
10/13/2017	8 (B)	3 (B)	32 (B)	130 (B)
10/14/2017	7.4	2.8	33	140
10/15/2017	7.2	1.9 (J)	34	130
10/16/2017	8.1	1.8 (J)	34	140
10/17/2017	7.9	3.1	34	140
11/16/2017	8.1	3.5	35	130
5/23/2018	7	2.6	28	75
11/20/2018	7.4	2.7	20	45
5/14/2019	6.24			
5/15/2019		4.45	15.9	52
10/8/2019			16.8	
10/9/2019				39.2
10/10/2019	7.88	3.61		
4/7/2020	4.83			
4/8/2020		4.63	10.6	24.9
7/14/2020	6.84	3.25	9.68	
7/15/2020				23.8
2/23/2021	6.19	3.47	7.85	17.9
7/20/2021		4.04	6.35	14.3
7/21/2021	6.73			
1/31/2022	6.87	4.53	6.4	
2/1/2022				8.56
7/6/2022	7.51	3.36	6.25	6.5
2/21/2023	5.25		6.12	4.86
2/22/2023		4.37		

# Time Series

Constituent: Chromium (mg/L) Analysis Run 5/17/2023 2:27 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016		<0.001015	0.00373 (J)	<0.001015
4/26/2016	<0.01			
6/20/2016	<0.01	<0.001015		<0.001015
6/22/2016			0.00606 (J)	
8/8/2016	<0.01	<0.001015		
8/9/2016			<0.01	<0.001015
8/24/2016	<0.01	<0.001015	<0.01	<0.001015
10/3/2016	<0.01	<0.001015		<0.001015
10/4/2016			<0.01	
10/26/2016	<0.01	<0.001015	<0.01	<0.001015
11/21/2016	<0.01	<0.001015	<0.01	<0.001015
1/17/2017	<0.01	<0.001015		
1/18/2017			<0.01	<0.001015
3/22/2017	<0.01	<0.001015	0.00945 (J)	<0.001015
4/18/2017	<0.01	<0.001015	0.0105	<0.001015
5/30/2017	<0.01			
5/31/2017		<0.001015	<0.01	<0.001015
2/13/2018	<0.01	<0.001015	<0.01	<0.001015
5/22/2018	<0.01	<0.001015		
5/23/2018				<0.001015
5/24/2018			<0.01	
6/12/2018	<0.01	<0.001015	<0.01	<0.001015
10/17/2018	<0.01	<0.001015	<0.01	<0.001015
11/19/2018	<0.01	<0.001015	<0.01	<0.001015
4/10/2019	<0.01	<0.001015	<0.01	<0.001015
5/14/2019	<0.01	<0.001015	<0.01	<0.001015
10/8/2019	<0.01	<0.001015	<0.01	
10/10/2019				<0.001015
10/16/2019	<0.01	<0.001015	<0.01	<0.001015
4/6/2020	<0.01	<0.001015	<0.01	<0.001015
7/13/2020	<0.01	<0.001015	<0.01	
7/14/2020				<0.001015
2/22/2021	0.000382 (J)	<0.001015	0.00035 (J)	<0.001015
7/12/2021	0.00049 (J)	0.00025 (J)	0.00031 (J)	0.0003 (J)
1/25/2022	0.00043 (J)	0.00022 (J)	0.00051 (J)	0.00021 (J)
7/5/2022	0.000364 (J)	<0.001015	0.00025 (J)	<0.001015
2/20/2023	0.000409 (J)	0.00033 (J)	0.000384 (J)	
2/21/2023				0.000244 (J)

# Time Series

Constituent: Chromium (mg/L) Analysis Run 5/17/2023 2:27 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
4/25/2016	<0.001015			
4/27/2016		<0.00102	<0.001015	<0.001015
6/21/2016	<0.001015	<0.00102	<0.001015	<0.001015
10/12/2017	<0.001015	<0.00102	<0.001015	<0.001015
10/13/2017	<0.001015	<0.00102	<0.001015	<0.001015
10/14/2017	<0.001015	<0.00102	<0.001015	<0.001015
10/15/2017	<0.001015	<0.00102	<0.001015	<0.001015
10/16/2017	<0.001015	<0.00102	<0.001015	<0.001015
10/17/2017	<0.001015	<0.00102	<0.001015	<0.001015
2/14/2018	<0.001015	<0.00102	<0.001015	<0.001015
5/23/2018	<0.001015	<0.00102	<0.001015	<0.001015
11/20/2018	<0.001015	<0.00102	<0.001015	<0.001015
5/14/2019	<0.001015			
5/15/2019		<0.00102	<0.001015	<0.001015
10/8/2019			<0.001015	
10/9/2019				<0.001015
10/10/2019	<0.001015	<0.00102		
4/7/2020	<0.001015			
4/8/2020		<0.00102	<0.001015	<0.001015
7/14/2020	<0.001015	<0.00102	<0.001015	
7/15/2020				<0.001015
2/23/2021	<0.001015	<0.00102	<0.001015	<0.001015
7/20/2021		<0.00102	<0.001015	<0.001015
7/21/2021	<0.001015			
1/31/2022	0.00027 (J)	0.00024 (J)	0.00032 (J)	
2/1/2022				0.00025 (J)
7/6/2022	<0.001015	0.000284 (J)	<0.001015	<0.001015
2/21/2023	<0.001015		<0.001015	<0.001015
2/22/2023		0.000301 (J)		

# Time Series

Constituent: Cobalt (mg/L) Analysis Run 5/17/2023 2:27 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016		0.0487	0.232	<0.000203
4/26/2016	0.0343			
6/20/2016	0.0413	0.0767		<0.000203
6/22/2016			0.332	
8/8/2016	0.0513	0.103		
8/9/2016			0.311	<0.000203
8/24/2016	0.0471	0.093	0.271	<0.000203
10/3/2016	0.0525	0.0964		<0.000203
10/4/2016			0.148	
10/26/2016	0.0527	0.0904	0.236	<0.000203
11/21/2016	0.0569	0.0857	0.241	<0.000203
1/17/2017	0.0768	0.0745		
1/18/2017			0.347	<0.000203
3/22/2017	0.0535	0.0328	0.271	<0.000203
4/18/2017	0.0442	0.0242	0.00324 (J)	<0.000203
5/30/2017	0.0465			
5/31/2017		0.0441	0.225	<0.000203
2/13/2018	0.062	0.0179	0.00661 (J)	<0.000203
5/22/2018	0.0443	0.028		
5/23/2018				<0.000203
5/24/2018			0.158	
6/12/2018	0.0512	0.0366	0.291	<0.000203
10/17/2018	0.0751	0.0745	0.49	<0.000203
11/19/2018	0.0825	0.0225	0.386	<0.000203
4/10/2019	0.0445	0.0152	0.0144	<0.000203
5/14/2019	0.0485	0.0222	0.00536	<0.000203
10/8/2019	0.0778	0.0674	1.07 (o)	
10/10/2019				<0.000203
10/16/2019	0.08	0.073	0.848 (o)	<0.000203
4/6/2020	0.0417	0.0116	<0.005	<0.000203
7/13/2020	0.0532	0.0405	0.47	
7/14/2020				<0.000203
2/22/2021	0.0657	0.0161	0.0515	<0.000203
7/12/2021	0.0556	0.0155	0.00567	<0.000203
1/25/2022	0.0654	0.0166	0.0051	<0.000203
7/5/2022	0.0627	0.0184	0.195	<0.000203
2/20/2023	0.0665	0.0187	0.00435	
2/21/2023				<0.000203

# Time Series

Constituent: Cobalt (mg/L) Analysis Run 5/17/2023 2:27 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
4/25/2016	0.00287 (J)			
4/27/2016		0.0287	<0.01	0.00436 (J)
6/21/2016	0.00228 (J)	0.0269	<0.01	0.00484 (J)
10/12/2017	<0.005	0.0279	0.00269 (J)	0.005 (J)
10/13/2017	<0.005	0.0271	0.00341 (J)	0.0052 (J)
10/14/2017	<0.005	0.0296	0.00451 (J)	0.00513 (J)
10/15/2017	0.00203 (J)	0.0303	0.00371 (J)	0.00518 (J)
10/16/2017	<0.005	0.0274	0.00371 (J)	0.00453 (J)
10/17/2017	<0.005	0.0274	0.0035 (J)	0.00463 (J)
2/14/2018	<0.005	0.0305	<0.01	0.00441 (J)
5/23/2018	<0.005	0.0409	<0.01	0.00466 (J)
11/20/2018	<0.005	0.0327	0.00306 (J)	0.00551
5/14/2019	<0.005			
5/15/2019		0.265	0.00234 (J)	0.00643
10/8/2019			0.00408 (J)	
10/9/2019				0.00864
10/10/2019	<0.005	0.0425		
4/7/2020	<0.005			
4/8/2020		0.479	0.00394 (J)	0.00762
7/14/2020	<0.005	0.0916	0.00653	
7/15/2020				0.00821
2/23/2021	0.00102	0.0771	0.00294	0.00796
7/20/2021		0.216	0.00561	0.00714
7/21/2021	0.00127			
1/31/2022	0.00094	0.174	0.00546	
2/1/2022				0.0075
7/6/2022	0.000538	0.0675	0.0059	0.00701
2/21/2023	0.00091		0.0043	0.00682
2/22/2023		0.567		

# Time Series

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 5/17/2023 2:27 PM

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016			0.484 (U)	0.434 (U)
4/26/2016	0.622			
5/5/2016		-0.0718 (U)		
6/20/2016	0.159 (U)	0.295 (U)		0.287 (U)
6/22/2016			0.2 (U)	
8/8/2016	0.511 (U)	0.231 (U)		
8/9/2016			0.378 (U)	0.516 (U)
8/24/2016	0.566 (U)	0.65	0.131 (U)	0.266 (U)
10/3/2016	0.537 (U)	0.845		0.59 (U)
10/4/2016			0.514 (U)	
10/26/2016	0.636	0.994	0.755	0.164 (U)
11/21/2016	0.807	0.537 (U)	0.7	0.296 (U)
1/17/2017	0.308 (U)	-0.0159 (U)		
1/18/2017			0.606	0.0267 (U)
3/22/2017	0.344 (U)	0.279 (U)	0.927	0.132 (U)
4/18/2017	0.934	0.32 (U)	0.334 (U)	-0.0439 (U)
5/30/2017	0.149 (U)			
5/31/2017		0.178 (U)	0.8	0.3 (U)
2/13/2018	0.774	0.804	0.649	0.69
5/22/2018	-0.091 (U)	0.0077 (U)		
5/23/2018				0.186 (U)
5/24/2018			0.448 (U)	
6/12/2018	1.18	-0.315 (U)	0.234 (U)	0.153 (U)
10/17/2018	0.553 (U)	0.574 (U)	0.852	0.313 (U)
11/19/2018	0.862	0.654	0.521	0.794
5/14/2019	0.509	0.579	0.176 (U)	0.352 (U)
10/8/2019	1.47	0.493 (U)	0.833 (U)	
10/10/2019				1.02 (U)
10/16/2019	0.204 (U)	0.046 (U)	0.0279 (U)	0.356 (U)
4/6/2020	0.309 (U)	0.212 (U)	0.569 (U)	0.459 (U)
7/13/2020	0.219 (U)	0.0814 (U)	0.53	
7/14/2020				0.169 (U)
2/22/2021	0.677 (U)	0.434 (U)	0.472 (U)	0 (U)
7/12/2021	0.476 (U)	0.155 (U)	0.114 (U)	0.301 (U)
1/25/2022	1.01 (U)	0.663 (U)	0.418 (U)	0.884 (U)
7/5/2022	1.49	1.31	1.33	1.1
2/20/2023	0.36 (U)	0.837 (U)	0.234 (U)	
2/21/2023				0.3 (U)

# Time Series

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 5/17/2023 2:27 PM

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
4/25/2016	0.611			
4/27/2016		0.956	0.374 (U)	-0.207 (U)
6/21/2016	0.304 (U)	0.748	0.151 (U)	0.529
10/12/2017	0.627 (U)	0.564 (U)	0.182 (U)	0.267 (U)
10/13/2017	0.391 (U)	1.36 (U)	0.517 (U)	0.873 (U)
10/14/2017	1.2 (U)	1.59 (U)	0.43 (U)	1.6 (U)
10/15/2017	0.806 (U)	1.22 (U)	0.45 (U)	0.327 (U)
10/16/2017	0.564 (U)	1.57 (U)	0.55 (U)	0.524 (U)
10/17/2017	0.178 (U)	0.631 (U)	0.474 (U)	0.0455 (U)
2/14/2018	0.955	0.969	0.736	0.633
5/23/2018	0.543	0.918	0.0192 (U)	0.377 (U)
11/20/2018	0.687	1.15	0.494	0.28 (U)
5/14/2019	0.663			
5/15/2019		1.56	0.61	0.697
10/8/2019			0.345 (U)	
10/9/2019				0.416 (U)
10/10/2019	0.811 (U)	1.71		
4/7/2020	0.48 (U)			
4/8/2020		0.179 (U)	0.237 (U)	1.38 (U)
7/14/2020	0.521	0.578	0.434	
7/15/2020				0.398 (U)
2/23/2021	0.71 (U)	1.15 (U)	0.696 (U)	0.685 (U)
7/20/2021		1.32	0.356 (U)	0.42 (U)
7/21/2021	0.79 (U)			
1/31/2022	0.0523 (U)	0.374 (U)	0.473 (U)	
2/1/2022				0.643 (U)
7/6/2022	0.747 (U)	1.56	0.716 (U)	0.415 (U)
2/21/2023	0.275 (U)		0.789 (U)	2.19
2/22/2023		3.75		

# Time Series

Constituent: Fluoride, total (mg/L) Analysis Run 5/17/2023 2:27 PM

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016		0.149 (J)	0.243 (J)	0.372
4/26/2016	0.146 (J)			
6/20/2016	0.148 (J)	0.148 (J)		0.361
6/22/2016			0.269 (J)	
8/8/2016	0.137 (J)	0.134 (J)		
8/9/2016			0.363	0.326
8/24/2016	0.133 (J)	0.129 (J)	0.346	0.329
10/3/2016	0.103 (J)	0.086 (J)		0.287 (J)
10/4/2016			0.266 (J)	
10/26/2016	0.05 (J)	0.027 (J)	0.266 (J)	0.194 (J)
11/21/2016	0.047 (J)	0.027 (J)	0.244 (J)	0.192 (J)
1/17/2017	0.09 (J)	0.066 (J)		
1/18/2017			0.385	0.223 (J)
3/22/2017	0.12	0.13	0.41	0.32
4/18/2017	0.12	0.16	0.29	0.32
5/30/2017	0.13			
5/31/2017		0.13	0.37	0.31
8/23/2017	0.16	0.16	0.55	0.38
2/13/2018	0.14	0.22	0.27	0.38
5/22/2018	0.16	0.17		
5/23/2018				0.38
5/24/2018			0.6	
6/12/2018	0.16	0.16	0.53	0.39
10/17/2018	0.18	0.16	0.63	0.39
11/19/2018	0.15	0.18	0.31	0.36
4/10/2019	0.102	0.262	0.273	0.384
5/14/2019	0.119	0.17	0.281	0.335
10/8/2019	0.0924 (J)	0.164	0.225	
10/10/2019				0.304
10/16/2019	0.0756 (J)	0.114	0.106	0.302
4/6/2020	0.101	0.207	0.314	0.368
7/13/2020	0.0678 (J)	0.132	0.13	
7/14/2020				0.33
2/22/2021	0.082 (J)	0.209	0.246	0.357
7/12/2021	0.125	0.196	0.287	0.35
1/25/2022	0.101	0.204	0.325	0.364
7/5/2022	0.11 (J)	0.2	0.386	0.362
2/20/2023	0.221	0.267	0.379	
2/21/2023				0.415



# Time Series

Constituent: Fluoride, total (mg/L) Analysis Run 5/17/2023 2:27 PM

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
4/25/2016	0.307			
4/27/2016		0.131 (J)	0.2 (J)	0.212 (J)
6/21/2016	0.337	0.153 (J)	0.163 (J)	0.211 (J)
10/12/2017	0.35	0.15	0.17	0.22
10/13/2017	0.36	0.15	0.19	0.23
10/14/2017	0.37	0.14	0.2	0.22
10/15/2017	0.37	0.14	0.2	0.22
10/16/2017	0.36	0.14	0.2	0.22
10/17/2017	0.35	0.14	0.19	0.21
11/16/2017	0.37	0.14	0.18	0.22
2/14/2018	0.33	0.13	0.18	0.21
5/23/2018	0.29	0.13	0.18	0.21
11/20/2018	0.32	0.14	0.19	0.21
5/14/2019	0.22			
5/15/2019		0.133	0.169	0.192
10/8/2019			0.183	
10/9/2019				0.189
10/10/2019	0.338	0.124		
4/7/2020	0.225			
4/8/2020		<0.1 (o)	0.153	0.192
7/14/2020	0.263	0.115	0.193	
7/15/2020				0.196
2/23/2021	0.287	0.139	0.2	0.208
7/20/2021		0.131	0.286	0.262
7/21/2021	0.331			
1/31/2022	0.291	0.121	0.173	
2/1/2022				0.177
7/6/2022	0.306	0.147	0.208	0.173
2/21/2023	0.319		0.216	0.212
2/22/2023		0.173		

# Time Series

Constituent: Lead (mg/L) Analysis Run 5/17/2023 2:27 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016		<0.0002	<0.0002	<0.000203
4/26/2016	<0.0002			
6/20/2016	<0.0002	<0.0002		<0.000203
6/22/2016			<0.0002	
8/8/2016	<0.0002	<0.0002		
8/9/2016			<0.0002	<0.000203
8/24/2016	<0.0002	<0.0002	<0.0002	<0.000203
10/3/2016	<0.0002	<0.0002		<0.000203
10/4/2016			<0.0002	
10/26/2016	<0.0002	<0.0002	<0.0002	<0.000203
11/21/2016	<0.0002	<0.0002	<0.0002	<0.000203
1/17/2017	<0.0002	<0.0002		
1/18/2017			<0.0002	<0.000203
3/22/2017	<0.0002	<0.0002	<0.0002	<0.000203
4/18/2017	<0.0002	<0.0002	<0.0002	<0.000203
5/30/2017	<0.0002			
5/31/2017		<0.0002	<0.0002	<0.000203
2/13/2018	<0.0002	<0.0002	<0.0002	<0.000203
5/22/2018	<0.0002	<0.0002		
5/23/2018				<0.000203
5/24/2018			<0.0002	
6/12/2018	<0.0002	<0.0002	<0.0002	<0.000203
10/17/2018	<0.0002	<0.0002	0.00102 (J)	<0.000203
11/19/2018	<0.0002	<0.0002	0.00692 (o)	<0.000203
4/10/2019	<0.0002	<0.0002	<0.0002	<0.000203
5/14/2019	<0.0002	<0.0002	<0.0002	<0.000203
10/8/2019	<0.0002	<0.0002	<0.0002	
10/10/2019				<0.000203
10/16/2019	<0.0002	<0.0002	0.00108 (J)	<0.000203
4/6/2020	<0.0002	<0.0002	<0.0002	<0.000203
7/13/2020	<0.0002	<0.0002	<0.0002	
7/14/2020				<0.000203
2/22/2021	<0.0002	<0.0002	8.8E-05 (J)	<0.000203
7/12/2021	<0.0002	<0.0002	8E-05 (J)	<0.000203
1/25/2022	<0.0002	<0.0002	<0.0002	<0.000203
7/5/2022	<0.0002	<0.0002	7.3E-05 (J)	<0.000203
2/20/2023	<0.0002	<0.0002	<0.0002	
2/21/2023				<0.000203

# Time Series

Constituent: Lead (mg/L) Analysis Run 5/17/2023 2:27 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
4/25/2016	<0.000203			
4/27/2016		<0.0002	<0.000203	<0.000203
6/21/2016	<0.000203	<0.0002	<0.000203	<0.000203
10/12/2017	<0.000203	<0.0002	<0.000203	<0.000203
10/13/2017	<0.000203	<0.0002	<0.000203	<0.000203
10/14/2017	<0.000203	<0.0002	<0.000203	<0.000203
10/15/2017	<0.000203	<0.0002	<0.000203	<0.000203
10/16/2017	<0.000203	<0.0002	<0.000203	<0.000203
10/17/2017	<0.000203	<0.0002	<0.000203	<0.000203
2/14/2018	<0.000203	<0.0002	<0.000203	<0.000203
5/23/2018	<0.000203	<0.0002	<0.000203	<0.000203
11/20/2018	<0.000203	<0.0002	<0.000203	<0.000203
5/14/2019	<0.000203			
5/15/2019		<0.0002	<0.000203	<0.000203
10/8/2019			<0.000203	
10/9/2019				<0.000203
10/10/2019	<0.000203	<0.0002		
4/7/2020	<0.000203			
4/8/2020		<0.0002	<0.000203	<0.000203
7/14/2020	<0.000203	<0.0002	<0.000203	
7/15/2020				<0.000203
2/23/2021	<0.000203	<0.0002	<0.000203	<0.000203
7/20/2021		<0.0002	<0.000203	9E-05 (J)
7/21/2021	<0.000203			
1/31/2022	<0.000203	<0.0002	<0.000203	
2/1/2022				9E-05 (J)
7/6/2022	<0.000203	0.000232	<0.000203	0.000109 (J)
2/21/2023	<0.000203		<0.000203	8.8E-05 (J)
2/22/2023		0.000457		

# Time Series

Constituent: Lithium (mg/L) Analysis Run 5/17/2023 2:27 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016		0.0353 (J)	0.0964	0.0528
4/26/2016	0.0264 (J)			
6/20/2016	0.0246 (J)	0.0583		0.0554
6/22/2016			0.156	
8/8/2016	0.0229 (J)	0.0627		
8/9/2016			0.122	0.0452 (J)
8/24/2016	0.0236 (J)	0.0651	0.138	0.0488 (J)
10/3/2016	0.0229 (J)	0.0622		0.0476 (J)
10/4/2016			0.0966	
10/26/2016	0.0227 (J)	0.0293 (J)	0.134	0.049 (J)
11/21/2016	0.0236 (J)	0.0667	0.167	0.0477 (J)
1/17/2017	0.0228 (J)	0.0636		
1/18/2017			0.237	0.045 (J)
3/22/2017	0.0238 (J)	0.0464 (J)	0.203	0.0493 (J)
4/18/2017	0.0242 (J)	0.0446 (J)	0.0764	0.0494 (J)
5/30/2017	0.0229 (J)			
5/31/2017		0.0496 (J)	0.218	0.0501
2/13/2018	0.0233 (J)	0.0615	0.0964	0.0446 (J)
5/22/2018	0.0263 (J)	0.0465 (J)		
5/23/2018				0.0513
5/24/2018			0.145	
6/12/2018	0.0251 (J)	0.0472 (J)	0.194	0.0511
10/17/2018	0.025 (J)	0.0633	0.384	0.0532
11/19/2018	0.0241	0.0584	0.323	0.0467
4/10/2019	0.0285	0.0574	0.0905	0.0504
5/14/2019	0.026 (J)	0.0445	0.0828	0.0485
10/8/2019	0.0268	0.0677	0.419	
10/10/2019				0.054
10/16/2019	0.0263	0.0661	0.337	0.052
4/6/2020	0.0278	0.0496	0.0689	0.0519
7/13/2020	0.028	0.0615	0.256	
7/14/2020				0.0543
2/22/2021	0.0301	0.0625	0.126	0.0558
7/12/2021	0.0266	0.0495	0.0808	0.0533
1/25/2022	0.0239	0.051	0.077	0.0433
7/5/2022	0.0274	0.0469	0.251	0.0566
2/20/2023	0.0241	0.0412	0.0649	
2/21/2023				0.0424

# Time Series

Constituent: Lithium (mg/L) Analysis Run 5/17/2023 2:27 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
4/25/2016	0.0977			
4/27/2016		0.253	0.163	0.171
6/21/2016	0.0972	0.253	0.171	0.181
10/12/2017	0.093	0.249	0.134	0.182
10/13/2017	0.0935	0.249	0.127	0.189
10/14/2017	0.0931	0.244	0.112	0.177
10/15/2017	0.0968	0.259	0.129	0.191
10/16/2017	0.0963	0.259	0.122	0.189
10/17/2017	0.0949	0.249	0.122	0.184
2/14/2018	0.0989	0.242	0.131	0.183
5/23/2018	0.103	0.266	0.129	0.194
11/20/2018	0.102	0.245	0.12	0.181
5/14/2019	0.116			
5/15/2019		0.152	0.127	0.16
10/8/2019			0.131	
10/9/2019				0.163
10/10/2019	0.0981	0.251		
4/7/2020	0.133			
4/8/2020		0.0489	0.117	0.149
7/14/2020	0.11	0.223	0.103	
7/15/2020				0.152
2/23/2021	0.133	0.253	0.131	0.166
7/20/2021		0.18	0.096	0.151
7/21/2021	0.113			
1/31/2022	0.0932	0.161	0.0907	
2/1/2022				0.124
7/6/2022	0.101	0.216	0.0926	0.132
2/21/2023	0.104		0.0932	0.12
2/22/2023		0.0329		

# Time Series

Constituent: Mercury (mg/L) Analysis Run 5/17/2023 2:27 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016		<0.0005	<0.0005	<0.0005
4/26/2016	<0.0005			
6/20/2016	<0.0005	<0.0005		<0.0005
6/22/2016			<0.0005	
8/8/2016	<0.0005	<0.0005		
8/9/2016			<0.0005	<0.0005
8/24/2016	<0.0005	<0.0005	<0.0005	<0.0005
10/3/2016	<0.0005	<0.0005		<0.0005
10/4/2016			<0.0005	
10/26/2016	<0.0005	<0.0005	<0.0005	<0.0005
11/21/2016	<0.0005	<0.0005	<0.0005	<0.0005
1/17/2017	<0.0005	<0.0005		
1/18/2017			<0.0005	<0.0005
3/22/2017	<0.0005	<0.0005	<0.0005	<0.0005
4/18/2017	<0.0005	<0.0005	<0.0005	<0.0005
5/30/2017	<0.0005			
5/31/2017		<0.0005	<0.0005	<0.0005
2/13/2018	<0.0005	<0.0005	<0.0005	<0.0005
5/22/2018	<0.0005	<0.0005		
5/23/2018				<0.0005
5/24/2018			<0.0005	
6/12/2018	<0.0005	<0.0005	<0.0005	<0.0005
10/17/2018	<0.0005	<0.0005	<0.0005	<0.0005
11/19/2018	<0.0005	<0.0005	<0.0005	<0.0005
4/10/2019	<0.0005	<0.0005	<0.0005	<0.0005
5/14/2019	<0.0005	<0.0005	<0.0005	<0.0005
10/8/2019	<0.0005	<0.0005	<0.0005	
10/10/2019				<0.0005
10/16/2019	<0.0005	<0.0005	<0.0005	<0.0005
4/6/2020	<0.0005	<0.0005	<0.0005	<0.0005
7/13/2020	<0.0005	<0.0005	<0.0005	
7/14/2020				<0.0005
2/22/2021	<0.0005	<0.0005	<0.0005	<0.0005
7/12/2021	<0.0005	<0.0005	<0.0005	<0.0005
1/25/2022	<0.0005	<0.0005	<0.0005	<0.0005
7/5/2022	<0.0005	<0.0005	<0.0005	<0.0005
2/20/2023	<0.0005	<0.0005	<0.0005	
2/21/2023				<0.0005

# Time Series

Constituent: Mercury (mg/L) Analysis Run 5/17/2023 2:27 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
4/25/2016	<0.0005			
4/27/2016		<0.0005	<0.0005	<0.0005
6/21/2016	<0.0005	<0.0005	<0.0005	<0.0005
10/12/2017	<0.0005	<0.0005	<0.0005	<0.0005
10/13/2017	<0.0005	<0.0005	<0.0005	<0.0005
10/14/2017	<0.0005	<0.0005	<0.0005	<0.0005
10/15/2017	<0.0005	<0.0005	<0.0005	<0.0005
10/16/2017	<0.0005	<0.0005	<0.0005	<0.0005
10/17/2017	<0.0005	<0.0005	<0.0005	<0.0005
2/14/2018	<0.0005	<0.0005	<0.0005	<0.0005
5/23/2018	<0.0005	<0.0005	<0.0005	<0.0005
11/20/2018	<0.0005	<0.0005	<0.0005	<0.0005
5/14/2019	<0.0005			
5/15/2019		<0.0005	<0.0005	<0.0005
10/8/2019			<0.0005	
10/9/2019				<0.0005
10/10/2019	<0.0005	<0.0005		
4/7/2020	<0.0005			
4/8/2020		<0.0005	<0.0005	<0.0005
7/14/2020	<0.0005	<0.0005	<0.0005	
7/15/2020				<0.0005
2/23/2021	<0.0005	<0.0005	<0.0005	<0.0005
7/20/2021		<0.0005	<0.0005	<0.0005
7/21/2021	<0.0005			
1/31/2022	<0.0005	<0.0005	<0.0005	
2/1/2022				<0.0005
7/6/2022	<0.0005	<0.0005	<0.0005	<0.0005
2/21/2023	<0.0005		<0.0005	<0.0005
2/22/2023		<0.0005		

# Time Series

Constituent: Molybdenum (mg/L) Analysis Run 5/17/2023 2:27 PM

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016		<0.0002	<0.0002	<0.01
4/26/2016	<0.0002			
6/20/2016	<0.0002	<0.0002		<0.01
6/22/2016			<0.0002	
8/8/2016	<0.0002	<0.0002		
8/9/2016			<0.0002	<0.01
8/24/2016	<0.0002	<0.0002	<0.0002	<0.01
10/3/2016	<0.0002	<0.0002		<0.01
10/4/2016			<0.0002	
10/26/2016	<0.0002	<0.0002	<0.0002	<0.01
11/21/2016	<0.0002	<0.0002	<0.0002	<0.01
1/17/2017	<0.0002	<0.0002		
1/18/2017			<0.0002	<0.01
3/22/2017	<0.0002	<0.0002	<0.0002	<0.01
4/18/2017	<0.0002	<0.0002	<0.0002	<0.01
5/30/2017	<0.0002			
5/31/2017		<0.0002	<0.0002	<0.01
2/13/2018	<0.0002	<0.0002	<0.0002	<0.01
5/22/2018	<0.0002	<0.0002		
5/23/2018				<0.01
5/24/2018			<0.0002	
6/12/2018	<0.0002	<0.0002	<0.0002	<0.01
10/17/2018	<0.0002	<0.0002	<0.0002	<0.01
11/19/2018	<0.0002	<0.0002	<0.0002	<0.01
4/10/2019	<0.0002	<0.0002	<0.0002	<0.01
5/14/2019	<0.0002	<0.0002	<0.0002	<0.01
10/8/2019	<0.0002	<0.0002	<0.0002	
10/10/2019				<0.01
10/16/2019	<0.0002	<0.0002	<0.0002	<0.01
4/6/2020	<0.0002	<0.0002	<0.0002	<0.01
7/13/2020	<0.0002	<0.0002	<0.0002	
7/14/2020				<0.01
2/22/2021	<0.0002	<0.0002	<0.0002	0.000131 (J)
7/12/2021	<0.0002	<0.0002	<0.0002	0.00014 (J)
1/25/2022	<0.0002	<0.0002	8E-05 (J)	0.00011 (J)
7/5/2022	<0.0002	<0.0002	<0.0002	0.000108 (J)
2/20/2023	<0.0002	<0.0002	<0.0002	
2/21/2023				0.00015 (J)



# Time Series

Constituent: Molybdenum (mg/L) Analysis Run 5/17/2023 2:27 PM

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
4/25/2016	<0.01			
4/27/2016		<0.000203	<0.01	<0.01
6/21/2016	<0.01	<0.000203	<0.01	<0.01
10/12/2017	<0.01	<0.000203	<0.01	<0.01
10/13/2017	<0.01	<0.000203	<0.01	<0.01
10/14/2017	<0.01	<0.000203	<0.01	<0.01
10/15/2017	<0.01	<0.000203	<0.01	<0.01
10/16/2017	<0.01	<0.000203	<0.01	<0.01
10/17/2017	<0.01	<0.000203	<0.01	<0.01
2/14/2018	<0.01	<0.000203	<0.01	<0.01
5/23/2018	<0.01	<0.000203	<0.01	<0.01
11/20/2018	<0.01	<0.000203	<0.01	<0.01
5/14/2019	<0.01			
5/15/2019		<0.000203	<0.01	<0.01
10/8/2019			<0.01	
10/9/2019				<0.01
10/10/2019	<0.01	<0.000203		
4/7/2020	<0.01			
4/8/2020		<0.000203	<0.01	<0.01
7/14/2020	<0.01	<0.000203	<0.01	
7/15/2020				<0.01
2/23/2021	0.0014	0.000285	0.00107	0.0129
7/20/2021		7E-05 (J)	0.00086	0.00033
7/21/2021	0.00126			
1/31/2022	0.00126	7E-05 (J)	0.00093	
2/1/2022				0.00031
7/6/2022	0.00104	0.000316	0.000846	0.000351
2/21/2023	0.000945		0.00103	0.000338
2/22/2023		<0.000203		

# Time Series

Constituent: pH, Field (SU) Analysis Run 5/17/2023 2:27 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016		5.94	5.56	6.22
4/26/2016	5.2			
6/20/2016	5.18	5.96		6.21
6/22/2016			5.57	
8/8/2016	5.12	5.88		
8/9/2016			5.67	6.11
8/24/2016			5.63	6.11
10/3/2016	5.21	5.91		6.13
10/4/2016			5.69	
10/26/2016	5.2	5.84	5.56	6.12
11/21/2016	5.19	5.82	5.42	6.09
1/17/2017	5.17	5.87		
1/18/2017			5.11	6.09
3/22/2017	5.2	6.01	4.52	6.15
4/18/2017	5.2	6.02	5.84	6.19
5/30/2017	5.14			
5/31/2017		5.85	4.56	6.13
8/23/2017	5.12	5.89	4.77	6.12
2/13/2018	5.18	6.21	5.67	6.22
5/22/2018	5.2	6.04		
5/23/2018				6.21
5/24/2018			5.19	
6/12/2018	5.15	5.95	4.79	6.16
10/17/2018	5.12	5.9	4.75	6.12
11/19/2018	5.09	6.03	3.77 (o)	6.16
4/10/2019	5.11	6.1	5.54	6.14
5/14/2019	5.19	6.07	5.71	6.23
10/8/2019	5.12	5.96	4.98	
10/10/2019				6.15
10/16/2019	5.16	5.98	4.51	6.19
4/6/2020	5.21	6.21	5.91	6.35
7/13/2020	5.14	5.84	5.16	
7/14/2020				6.2
2/22/2021	5.06	6.1	5.59	6.19
7/12/2021	5.13	6.16	5.86	6.06
1/25/2022	5.11	6.22	5.9	6.3
7/5/2022	5.01	6.15	5.34	6.12
2/20/2023	5.07	6.24	6.01	
2/21/2023				6.35

# Time Series

Constituent: pH, Field (SU) Analysis Run 5/17/2023 2:27 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
4/25/2016	6.37			
4/27/2016		6.18	6.6	6.55
6/21/2016	6.35	6.23	6.62	6.47
10/12/2017	6.38	6.22	6.64	6.5
10/13/2017	6.43	6.23	6.64	6.51
10/14/2017	6.41	6.22	6.66	6.53
10/15/2017	6.42	6.22	6.67	6.53
10/16/2017	6.42	6.21	6.67	6.54
10/17/2017	6.41	6.2	6.66	6.54
11/16/2017	6.53	6.28	6.62	6.51
2/14/2018	6.39	6.17	6.67	6.55
5/23/2018	6.39	6.12	6.63	6.52
11/20/2018	6.39	6.14	6.61	6.58
5/14/2019	6.34			
5/15/2019		5.72	6.61	6.6
10/8/2019			6.52	
10/9/2019				6.67
10/10/2019	6.43	6.16		
4/7/2020	6.43			
4/8/2020		4.98	6.64	6.7
7/14/2020	6.48	6.12	6.52	
7/15/2020				6.71
2/23/2021	6.47	6.13	6.7	6.73
7/20/2021		5.99	6.58	6.64
7/21/2021	6.4			
1/31/2022	6.52	6.1	6.48	
2/1/2022				6.77
7/6/2022	6.51	6.14	6.46	6.72
2/21/2023	6.5		6.72	6.75
2/22/2023		4.98		

# Time Series

Constituent: Selenium (mg/L) Analysis Run 5/17/2023 2:27 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016		<0.00102	<0.01	<0.01
4/26/2016	0.00261 (J)			
6/20/2016	0.00242 (J)	<0.00102		<0.01
6/22/2016			<0.01	
8/8/2016	0.00253 (J)	<0.00102		
8/9/2016			<0.01	<0.01
8/24/2016	<0.01	<0.00102	<0.01	<0.01
10/3/2016	0.00211 (J)	<0.00102		<0.01
10/4/2016			<0.01	
10/26/2016	<0.01	<0.00102	<0.01	<0.01
11/21/2016	<0.01	<0.00102	<0.01	<0.01
1/17/2017	<0.01	<0.00102		
1/18/2017			<0.01	<0.01
3/22/2017	0.0022 (J)	<0.00102	0.0141	<0.01
4/18/2017	0.0027 (J)	<0.00102	0.0158	<0.01
5/30/2017	0.00316 (J)			
5/31/2017		<0.00102	0.00632 (J)	<0.01
2/13/2018	0.00211 (J)	<0.00102	0.0209	0.00403 (J)
5/22/2018	0.00372 (J)	<0.00102		
5/23/2018				<0.01
5/24/2018			0.00918 (J)	
6/12/2018	0.00409 (J)	<0.00102	0.00836 (J)	<0.01
10/17/2018	<0.01	<0.00102	<0.01	<0.01
11/19/2018	<0.01	<0.00102	0.00439 (J)	0.00436 (J)
4/10/2019	0.00471 (J)	0.00322 (J)	0.0113	<0.01
5/14/2019	0.00316 (J)	<0.00102	0.0119	0.00201 (J)
10/8/2019	<0.01	<0.00102	0.00256 (J)	
10/10/2019				<0.01
10/16/2019	<0.01	<0.00102	0.00286 (J)	<0.01
4/6/2020	0.00275 (J)	<0.00102	0.01	0.00284 (J)
7/13/2020	0.00245 (J)	<0.00102	0.0134	
7/14/2020				<0.01
2/22/2021	0.00241	<0.00102	0.0181	0.00222
7/12/2021	0.0028	<0.00102	0.0133	0.00155
1/25/2022	0.00216	<0.00102	0.0154	0.00224
7/5/2022	0.00269	<0.00102	0.0205	0.000961 (J)
2/20/2023	0.00258	<0.00102	0.0123	
2/21/2023				0.00266

# Time Series

Constituent: Selenium (mg/L) Analysis Run 5/17/2023 2:27 PM

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
4/25/2016	<0.01			
4/27/2016		<0.001015	0.00445 (J)	<0.001015
6/21/2016	<0.01	<0.001015	<0.001015	<0.001015
10/12/2017	<0.01	<0.001015	<0.001015	<0.001015
10/13/2017	<0.01	<0.001015	<0.001015	<0.001015
10/14/2017	<0.01	<0.001015	<0.001015	<0.001015
10/15/2017	0.00254 (J)	<0.001015	<0.001015	<0.001015
10/16/2017	<0.01	<0.001015	<0.001015	<0.001015
10/17/2017	0.00288 (J)	<0.001015	<0.001015	<0.001015
2/14/2018	<0.01	<0.001015	<0.001015	<0.001015
5/23/2018	<0.01	<0.001015	<0.001015	<0.001015
11/20/2018	<0.01	<0.001015	<0.001015	<0.001015
5/14/2019	<0.01			
5/15/2019		<0.001015	<0.001015	<0.001015
10/8/2019			<0.001015	
10/9/2019				<0.001015
10/10/2019	<0.01	<0.001015		
4/7/2020	<0.01			
4/8/2020		<0.001015	<0.001015	<0.001015
7/14/2020	<0.01	<0.001015	<0.001015	
7/15/2020				<0.001015
2/23/2021	0.00233	<0.001015	<0.001015	<0.001015
7/20/2021		<0.001015	<0.001015	<0.001015
7/21/2021	0.00178			
1/31/2022	0.00237	<0.001015	<0.001015	
2/1/2022				<0.001015
7/6/2022	0.0017	<0.001015	0.000677 (J)	<0.001015
2/21/2023	0.00124		<0.001015	<0.001015
2/22/2023		0.0019		

# Time Series

Constituent: Sulfate as SO4 (mg/L) Analysis Run 5/17/2023 2:27 PM

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016		745	1890	2260
4/26/2016	1490			
6/20/2016	1420	964		2500
6/22/2016			2100	
8/8/2016	1460	1100		
8/9/2016			2050	2750
8/24/2016	1450	1130	2190	2770
10/3/2016	1460	1140		3060
10/4/2016			1950	
10/26/2016	1330	1060	1980	2650
11/21/2016	1420	1100	2060	2720
1/17/2017	1350	1160		
1/18/2017			2620	2650
3/22/2017	1500	900	3200	2700
4/18/2017	1300	870	2500	2400
5/30/2017	1400			
5/31/2017		1100	2800	2700
8/23/2017	1500	920	2600	2700
5/22/2018	2100 (o)	1200		
5/23/2018				2400
5/24/2018			2700	
6/12/2018	1500	860	2500	2600
10/17/2018	1400	970	2700	2600
11/19/2018	1300	1000	3000	2400
4/10/2019	1700	889	2460	2090
5/14/2019	1560	948	2460	2240
10/8/2019	1540	1230	2950	
10/10/2019				2690
10/16/2019	1680	1170	2820	3050
4/6/2020	1530	786	1670	1810
7/13/2020	1450	843	2130	
7/14/2020				1970
2/22/2021	1400	864	3040	2040
7/12/2021	1560	763	2380	1930
1/25/2022	1430	842	2550	1930
7/5/2022	1600	819	3110	2380
2/20/2023	1520	767	2110	
2/21/2023				1930

# Time Series

Constituent: Sulfate as SO4 (mg/L) Analysis Run 5/17/2023 2:27 PM

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
4/25/2016	2390			
4/27/2016		2090	1050	1550
6/21/2016	2500	2000	1410	1470
10/12/2017	2300	2000	1400	1400
10/13/2017	2300	2000	1400	1600
10/14/2017	2300	1900	1300	1400
10/15/2017	2300	1900	1300	1400
10/16/2017	2300	1900	1300	1400
10/17/2017	2200	1900	1300	1400
11/16/2017	2200	1800	1300	1400
5/23/2018	2400	2000	1900 (O)	2100 (o)
11/20/2018	2500	2200	1100	1400
5/14/2019	2380			
5/15/2019		2110	1510	1640
10/8/2019			1570	
10/9/2019				1550
10/10/2019	2460	2330		
4/7/2020	2050			
4/8/2020		1900	1270	1380
7/14/2020	2080	1970	1330	
7/15/2020				1410
2/23/2021	2210	2010	1320	1420
7/20/2021		1930	1170	1500
7/21/2021	2240			
1/31/2022	2310	2080	1370	
2/1/2022				1500
7/6/2022	2320	2100	1330	1460
2/21/2023	2210		1450	1510
2/22/2023		1870		

# Time Series

Constituent: Thallium (mg/L) Analysis Run 5/17/2023 2:27 PM

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016		<0.0002	0.000205 (J)	<0.000203
4/26/2016	<0.0002			
6/20/2016	<0.0002	<0.0002		<0.000203
6/22/2016			<0.0002	
8/8/2016	<0.0002	<0.0002		
8/9/2016			<0.0002	<0.000203
8/24/2016	<0.0002	<0.0002	<0.0002	<0.000203
10/3/2016	<0.0002	<0.0002		<0.000203
10/4/2016			<0.0002	
10/26/2016	<0.0002	<0.0002	0.000209 (J)	<0.000203
11/21/2016	<0.0002	<0.0002	<0.0002	<0.000203
1/17/2017	<0.0002	<0.0002		
1/18/2017			<0.0002	<0.000203
3/22/2017	<0.0002	<0.0002	<0.0002	<0.000203
4/18/2017	<0.0002	<0.0002	<0.0002	<0.000203
5/30/2017	<0.0002			
5/31/2017		<0.0002	<0.0002	<0.000203
2/13/2018	<0.0002	<0.0002	<0.0002	<0.000203
5/22/2018	<0.0002	<0.0002		
5/23/2018				<0.000203
5/24/2018			<0.0002	
6/12/2018	<0.0002	<0.0002	<0.0002	<0.000203
10/17/2018	<0.0002	<0.0002	<0.0002	<0.000203
11/19/2018	<0.0002	<0.0002	0.000226 (J)	<0.000203
4/10/2019	<0.0002	<0.0002	<0.0002	<0.000203
5/14/2019	<0.0002	<0.0002	<0.0002	<0.000203
10/8/2019	<0.0002	<0.0002	<0.0002	
10/10/2019				<0.000203
10/16/2019	<0.0002	<0.0002	<0.0002	<0.000203
4/6/2020	<0.0002	<0.0002	<0.0002	<0.000203
7/13/2020	<0.0002	<0.0002	<0.0002	
7/14/2020				<0.000203
2/22/2021	<0.0002	<0.0002	<0.0002	<0.000203
7/12/2021	<0.0002	<0.0002	<0.0002	<0.000203
1/25/2022	<0.0002	<0.0002	<0.0002	<0.000203
7/5/2022	<0.0002	<0.0002	<0.0002	<0.000203
2/20/2023	<0.0002	<0.0002	<0.0002	
2/21/2023				<0.000203



# Time Series

Constituent: Thallium (mg/L) Analysis Run 5/17/2023 2:27 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
4/25/2016	<0.000203			
4/27/2016		<0.000203	<0.000203	<0.000203
6/21/2016	<0.000203	<0.000203	<0.000203	<0.000203
10/12/2017	<0.000203	<0.000203	<0.000203	<0.000203
10/13/2017	<0.000203	<0.000203	<0.000203	<0.000203
10/14/2017	<0.000203	<0.000203	<0.000203	<0.000203
10/15/2017	<0.000203	<0.000203	<0.000203	<0.000203
10/16/2017	0.000375 (J)	<0.000203	<0.000203	<0.000203
10/17/2017	<0.000203	<0.000203	<0.000203	<0.000203
2/14/2018	<0.000203	<0.000203	<0.000203	<0.000203
5/23/2018	<0.000203	<0.000203	<0.000203	<0.000203
11/20/2018	<0.000203	<0.000203	<0.000203	<0.000203
5/14/2019	<0.000203			
5/15/2019		<0.000203	<0.000203	<0.000203
10/8/2019			<0.000203	
10/9/2019				<0.000203
10/10/2019	<0.000203	<0.000203		
4/7/2020	<0.000203			
4/8/2020		<0.000203	<0.000203	<0.000203
7/14/2020	<0.000203	<0.000203	<0.000203	
7/15/2020				<0.000203
2/23/2021	<0.000203	<0.000203	<0.000203	<0.000203
7/20/2021		<0.000203	<0.000203	<0.000203
7/21/2021	<0.000203			
1/31/2022	7E-05 (J)	0.00011 (J)	<0.000203	
2/1/2022				<0.000203
7/6/2022	<0.000203	<0.000203	<0.000203	<0.000203
2/21/2023	<0.000203		<0.000203	<0.000203
2/22/2023		0.000143 (J)		

# Time Series

Constituent: Total Dissolved Solids [TDS] (mg/L) Analysis Run 5/17/2023 2:27 PM

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016		1260	2720	3300
4/26/2016	2080			
6/20/2016	2060	1620		3870
6/22/2016			3250	
8/8/2016	2070	1740		
8/9/2016			3050	4140
8/24/2016	2040	1720	3080	4190
10/3/2016	2110	1800		4190
10/4/2016			2900	
10/26/2016	2000	1800	2940	4400
11/21/2016	2070	1740	3090	4230
1/17/2017	1930	1960		
1/18/2017			4020	4120
3/22/2017	2060	1510	4180	3980
4/18/2017	2140	1580	4440	3880
5/30/2017	2240			
5/31/2017		1730	3970	4210
8/23/2017	2160	1550	4050	3990
5/22/2018	2380	1500		
5/23/2018				3740
5/24/2018			3680	
6/12/2018	2400	1550	3820	4080
10/17/2018	2220	1740	4730	4250
11/19/2018	2360	1990	4710	3920
4/10/2019	2630	1250	3680	3280
5/14/2019	2340	1480	3580	3130 (D)
10/8/2019	2330	1840	4720	
10/10/2019				4000
10/16/2019	3650 (o)	1830	4210	4060
4/6/2020	2240	1440	2630	2820
7/13/2020	2240	1540	3650	
7/14/2020				3310
2/22/2021	2230	1620	4670	3190
7/12/2021	2210	1390	3510	3000
1/25/2022	2150	1500	3950	3180
7/5/2022	2100	1250	4220	3240
2/20/2023	2280	1420	3230	
2/21/2023				3160

# Time Series

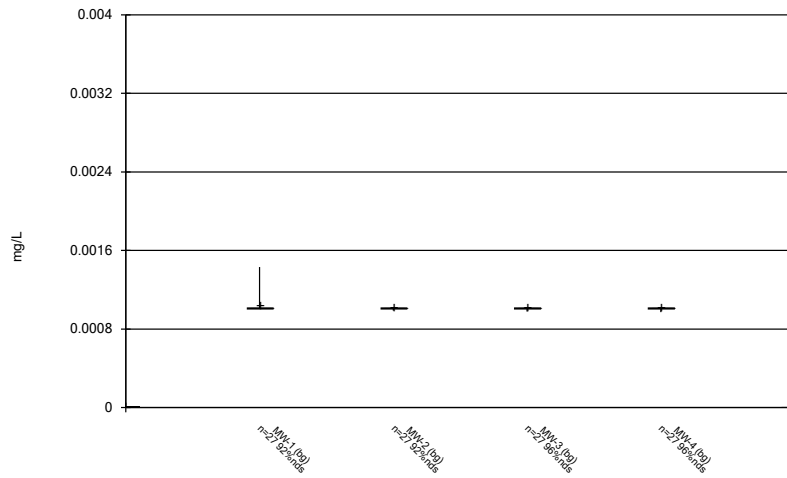
Constituent: Total Dissolved Solids [TDS] (mg/L) Analysis Run 5/17/2023 2:27 PM

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
4/25/2016	3660			
4/27/2016		3290	1640	2480
6/21/2016	3920	3250	2460	2360
10/12/2017	4000	3220	2460	2530
10/13/2017	3960	3250	2420	2740
10/14/2017	3910	3260	2320	2630
10/15/2017	3890	3260	1150	2530
10/16/2017	3980	3360	2320	2740
10/17/2017	3940	3420	2360	2650
11/16/2017	3930	3280	2460	2650
5/23/2018	3660	3340	2390	2750
11/20/2018	3780	3330	2090	2520
5/14/2019	3520			
5/15/2019		3130	2310	2540
10/8/2019			2340	
10/9/2019				2590
10/10/2019	3830	3260		
4/7/2020	3270			
4/8/2020		2940	2230	2450
7/14/2020	3710	3270	2210	
7/15/2020				2460
2/23/2021	3740	3230	2320	2550
7/20/2021		3090	2110	2420
7/21/2021	3570			
1/31/2022	3560	3050	2140	
2/1/2022				2420
7/6/2022	3390	3110	2110	2320
2/21/2023	3310		2220	2370
2/22/2023		2790		

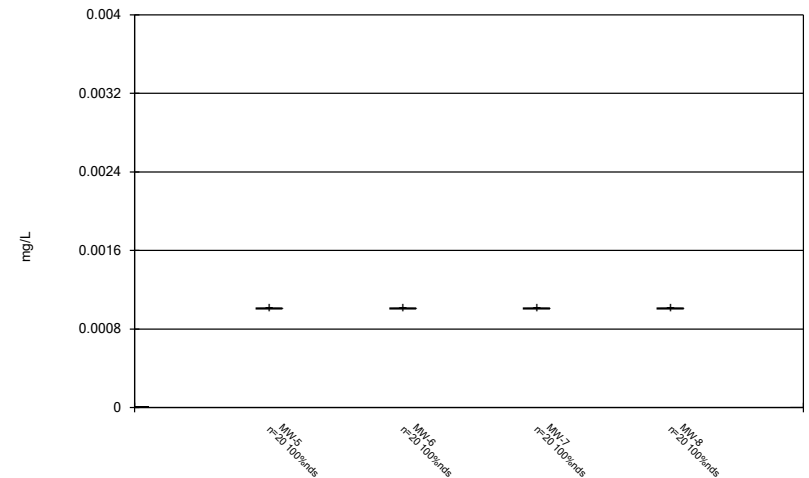
FIGURE B.

### Box & Whiskers Plot



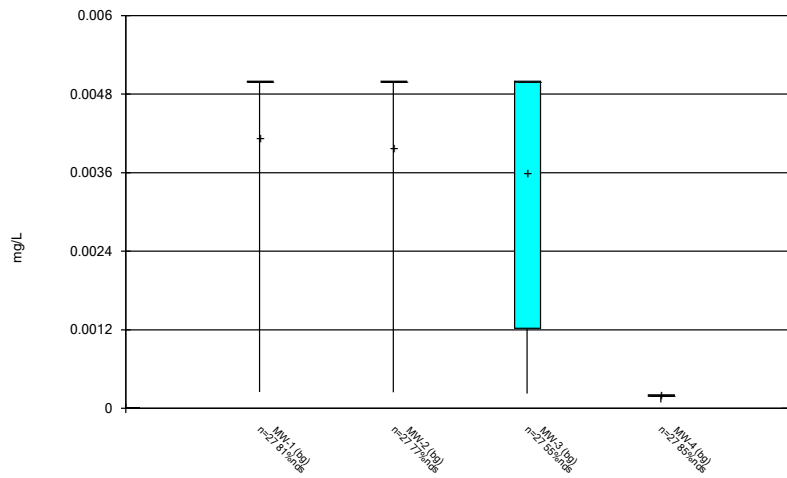
Constituent: Antimony Analysis Run 5/17/2023 2:29 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Box & Whiskers Plot



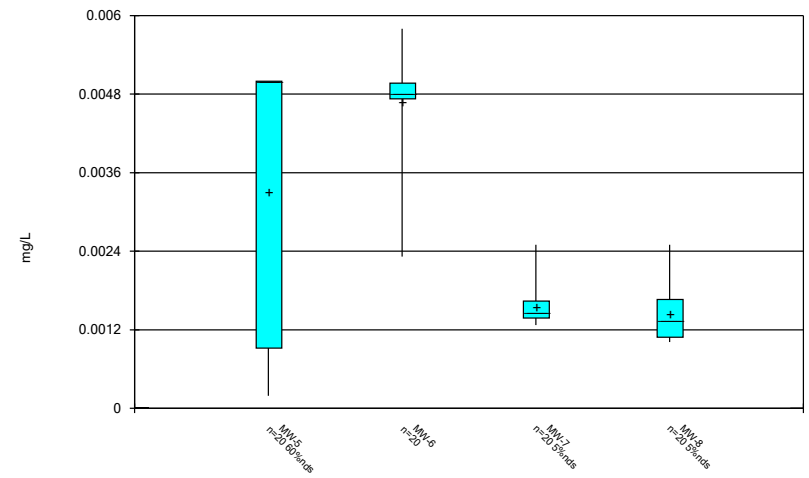
Constituent: Antimony Analysis Run 5/17/2023 2:29 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Box & Whiskers Plot



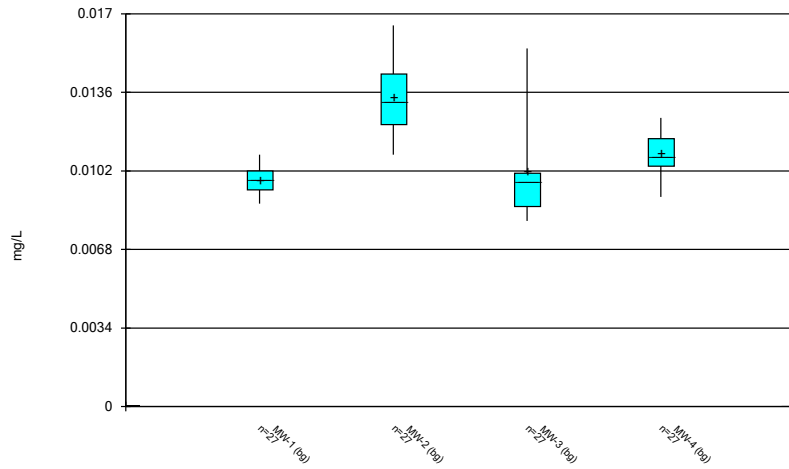
Constituent: Arsenic Analysis Run 5/17/2023 2:29 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Box & Whiskers Plot



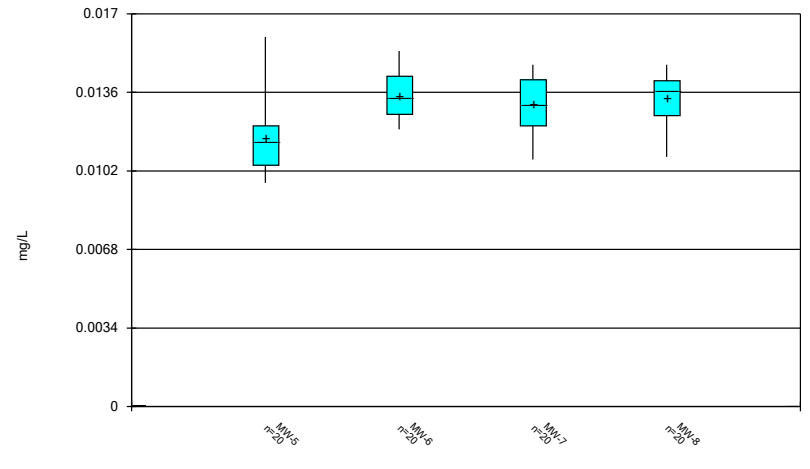
Constituent: Arsenic Analysis Run 5/17/2023 2:29 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Box & Whiskers Plot



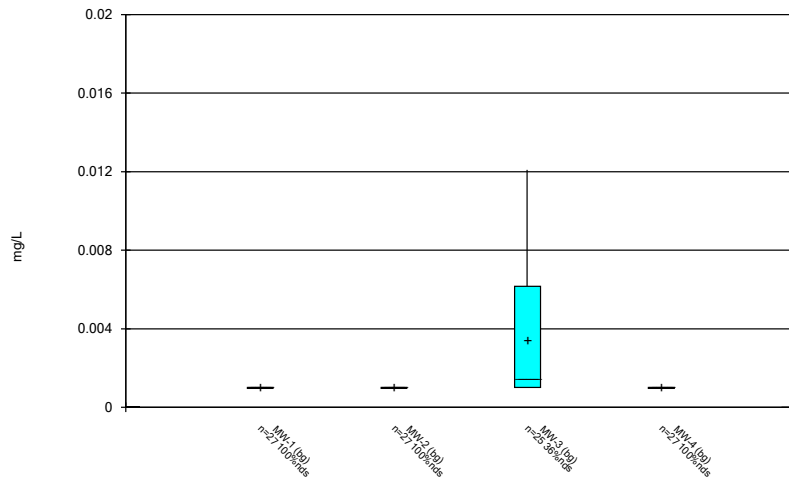
Constituent: Barium Analysis Run 5/17/2023 2:29 PM  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Box & Whiskers Plot



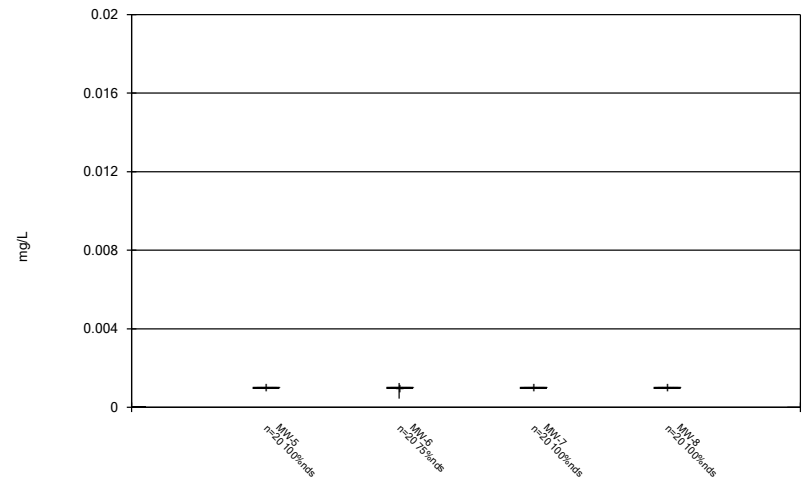
Constituent: Barium Analysis Run 5/17/2023 2:29 PM  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Box & Whiskers Plot



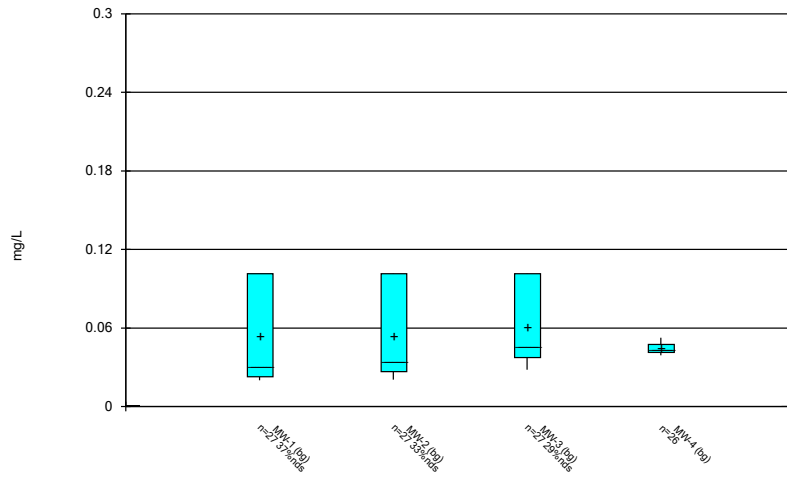
Constituent: Beryllium Analysis Run 5/17/2023 2:30 PM  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Box & Whiskers Plot



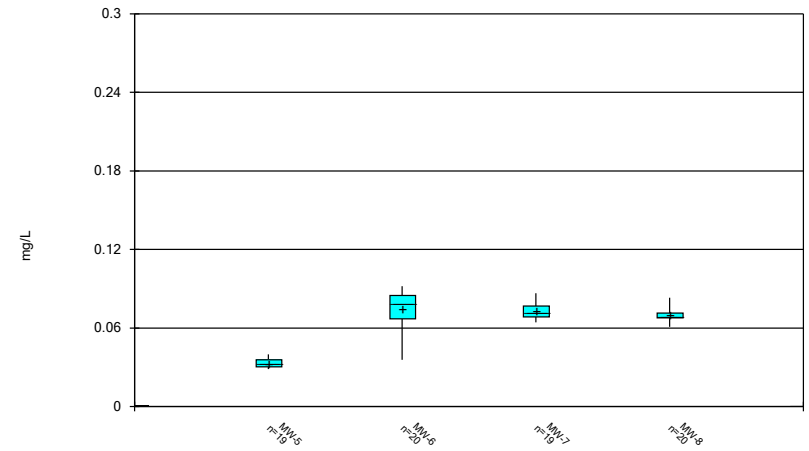
Constituent: Beryllium Analysis Run 5/17/2023 2:30 PM  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Box & Whiskers Plot



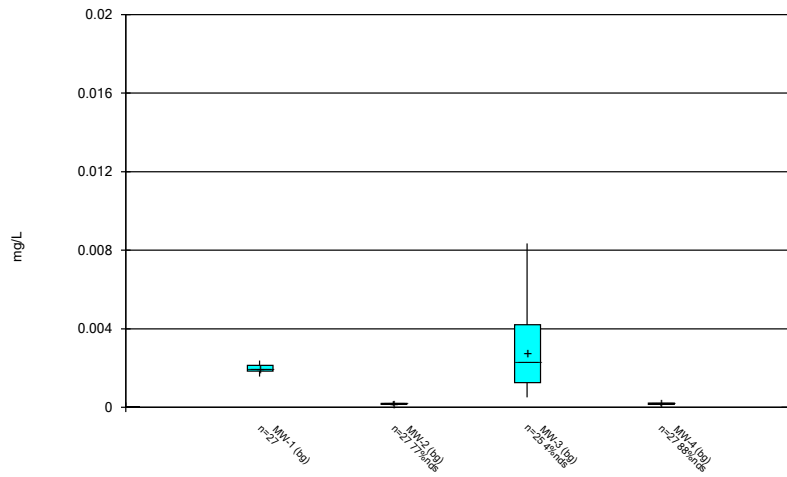
Constituent: Boron, total Analysis Run 5/17/2023 2:30 PM  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Box & Whiskers Plot



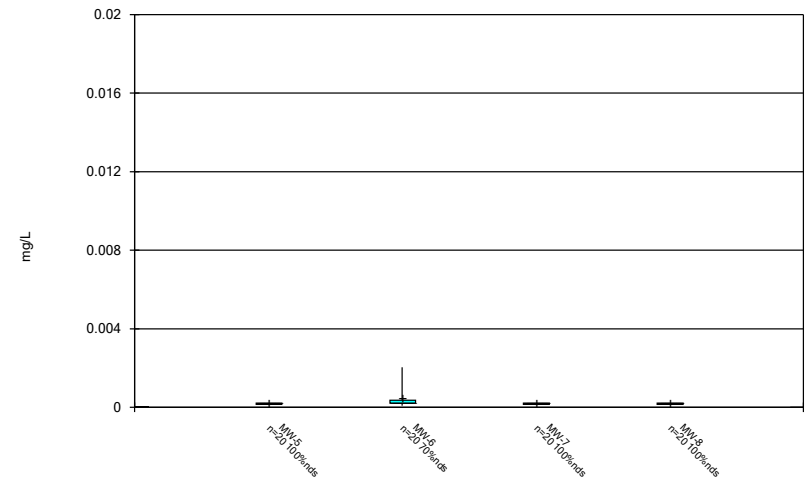
Constituent: Boron, total Analysis Run 5/17/2023 2:30 PM  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Box & Whiskers Plot



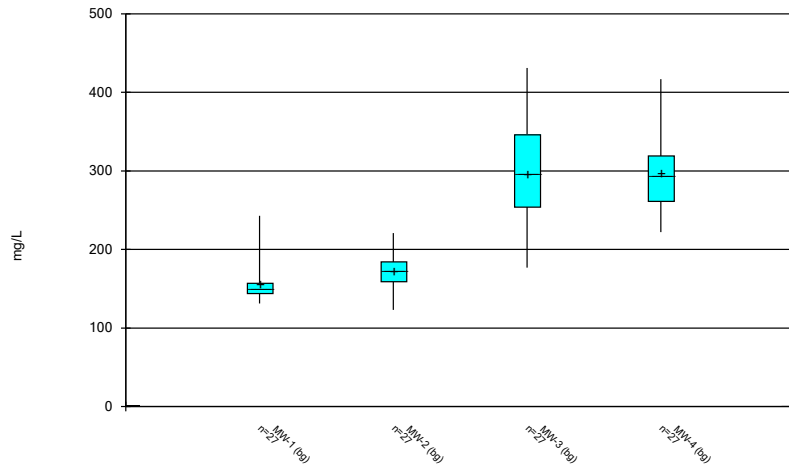
Constituent: Cadmium Analysis Run 5/17/2023 2:30 PM  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Box & Whiskers Plot



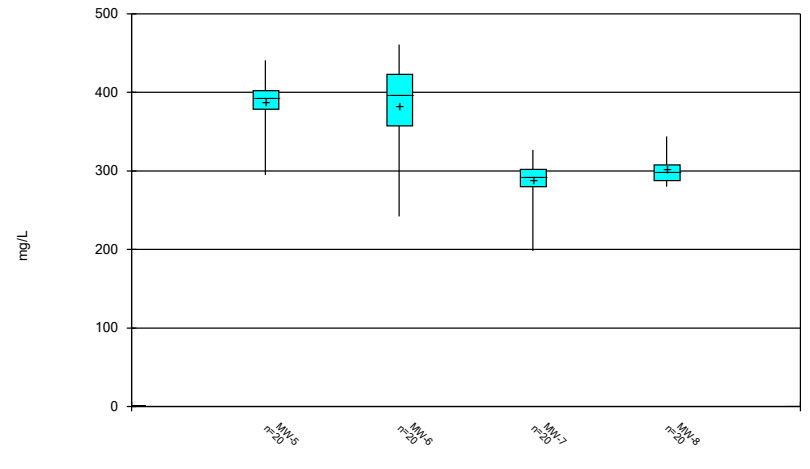
Constituent: Cadmium Analysis Run 5/17/2023 2:30 PM  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Box & Whiskers Plot



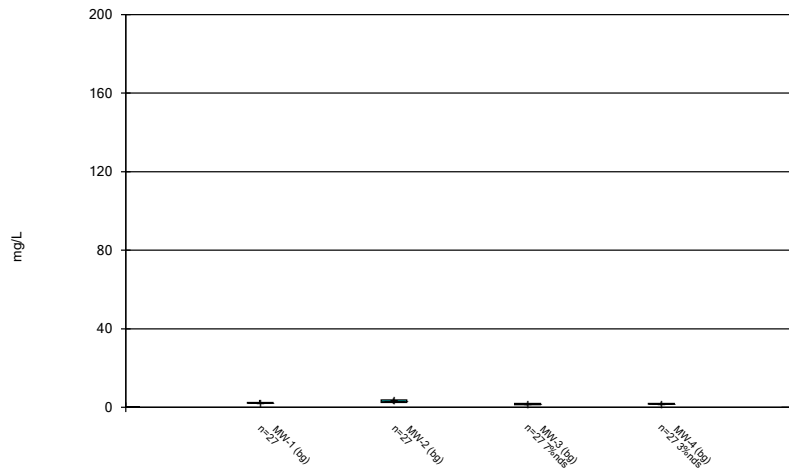
Constituent: Calcium, total Analysis Run 5/17/2023 2:30 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Box & Whiskers Plot



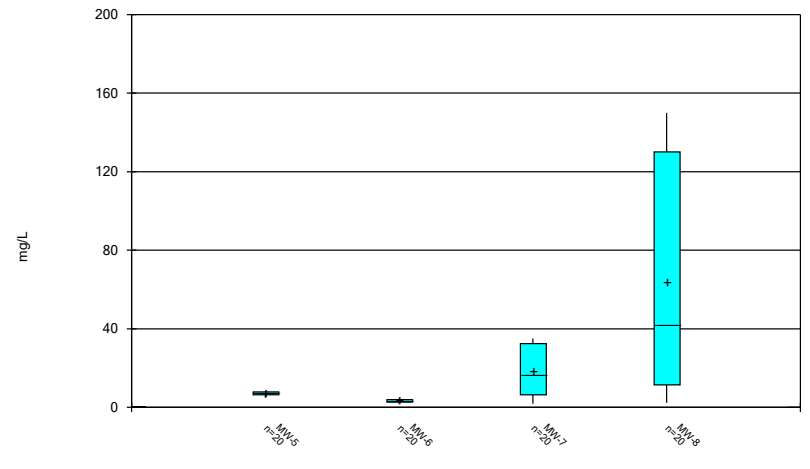
Constituent: Calcium, total Analysis Run 5/17/2023 2:30 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Box & Whiskers Plot



Constituent: Chloride, Total Analysis Run 5/17/2023 2:30 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

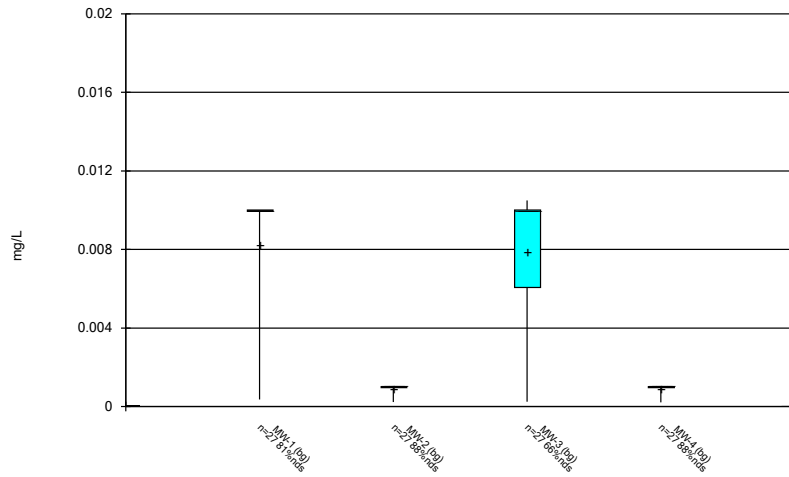
### Box & Whiskers Plot



Constituent: Chloride, Total Analysis Run 5/17/2023 2:30 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

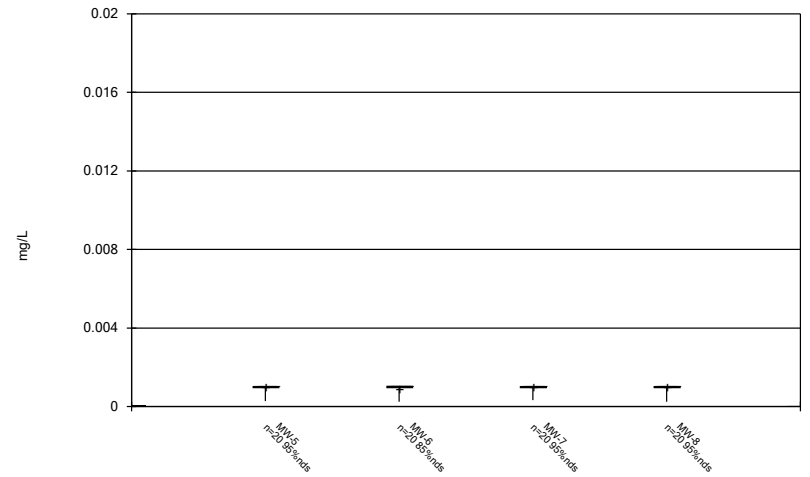


Box & Whiskers Plot



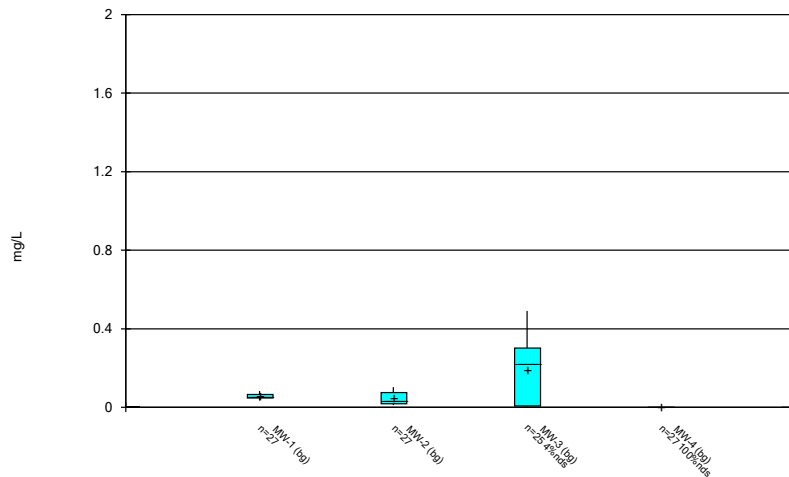
Constituent: Chromium Analysis Run 5/17/2023 2:30 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



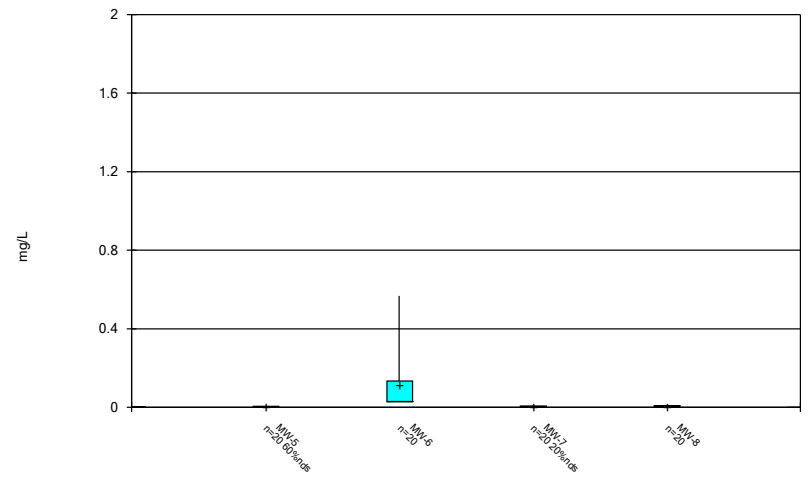
Constituent: Chromium Analysis Run 5/17/2023 2:30 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



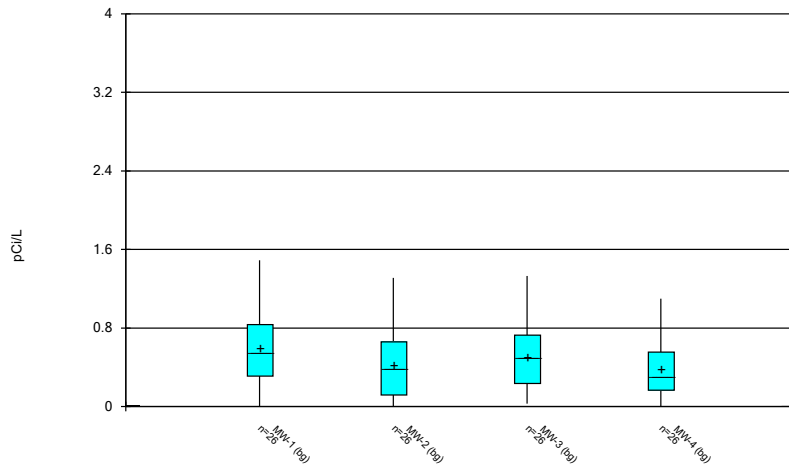
Constituent: Cobalt Analysis Run 5/17/2023 2:30 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



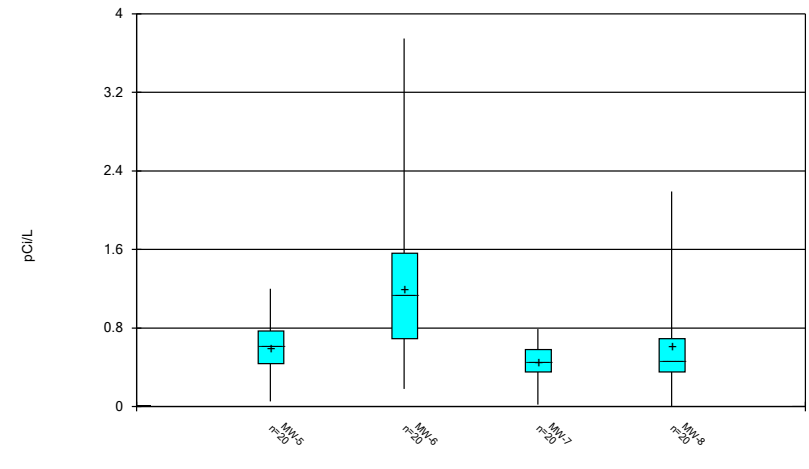
Constituent: Cobalt Analysis Run 5/17/2023 2:30 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Box & Whiskers Plot



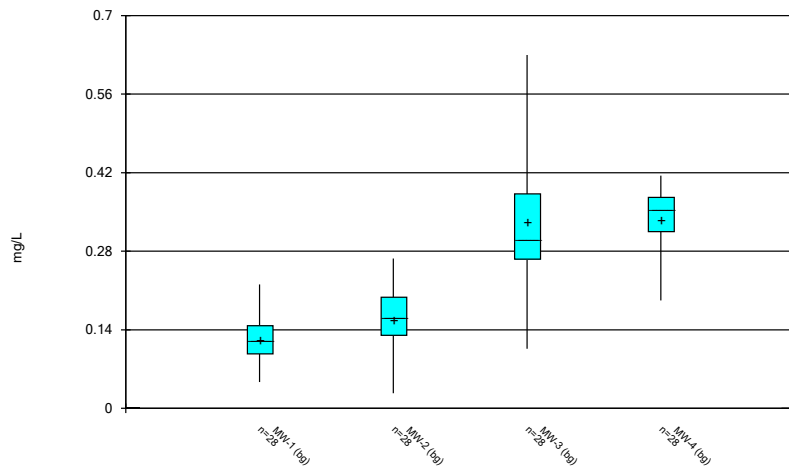
Constituent: Combined Radium 226 + 228 Analysis Run 5/17/2023 2:30 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Box & Whiskers Plot



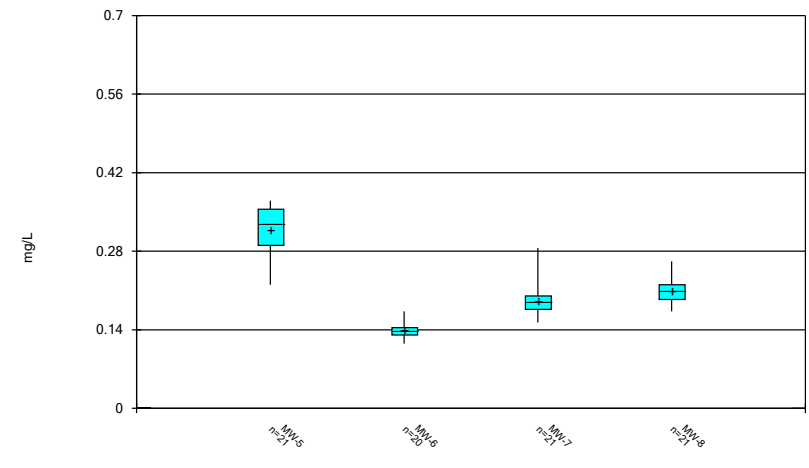
Constituent: Combined Radium 226 + 228 Analysis Run 5/17/2023 2:30 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Box & Whiskers Plot



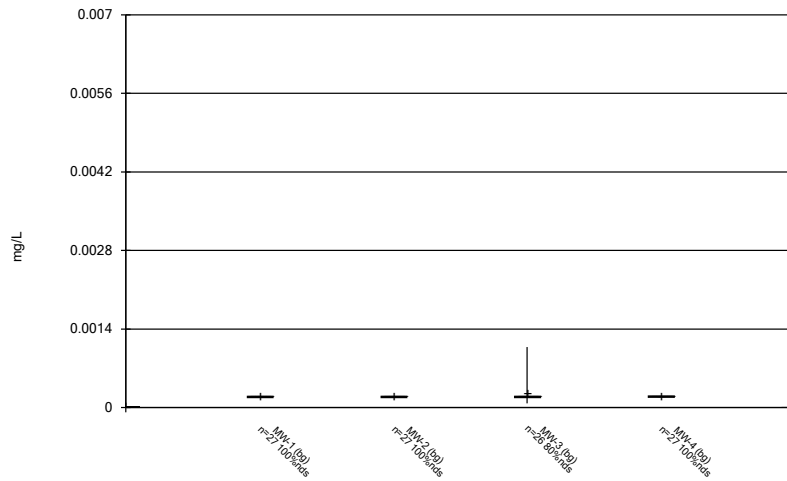
Constituent: Fluoride, total Analysis Run 5/17/2023 2:30 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Box & Whiskers Plot



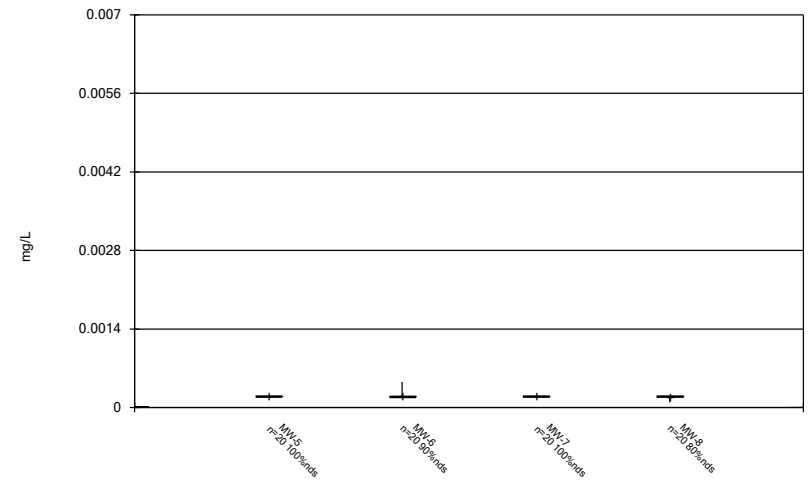
Constituent: Fluoride, total Analysis Run 5/17/2023 2:30 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Box & Whiskers Plot



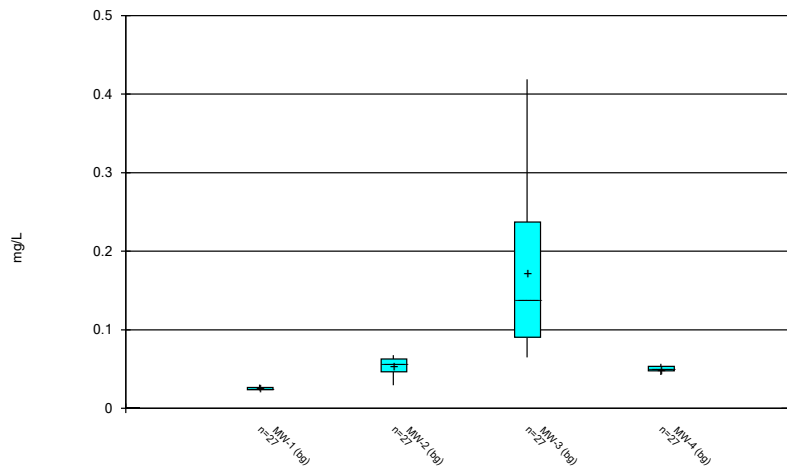
Constituent: Lead Analysis Run 5/17/2023 2:30 PM  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Box & Whiskers Plot



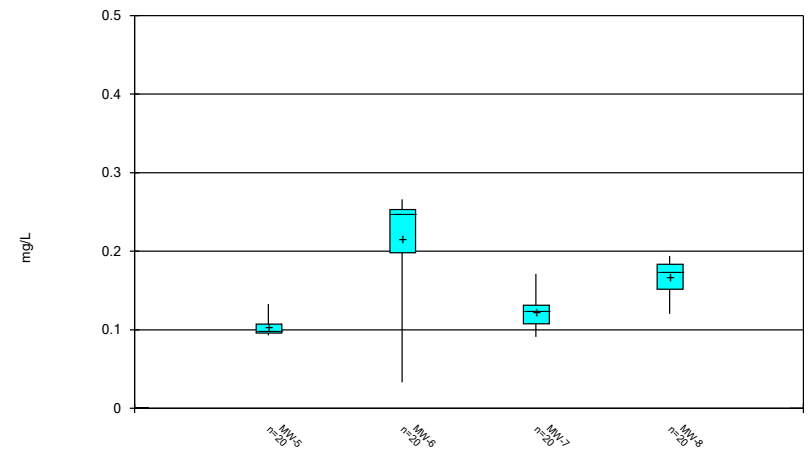
Constituent: Lead Analysis Run 5/17/2023 2:30 PM  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Box & Whiskers Plot



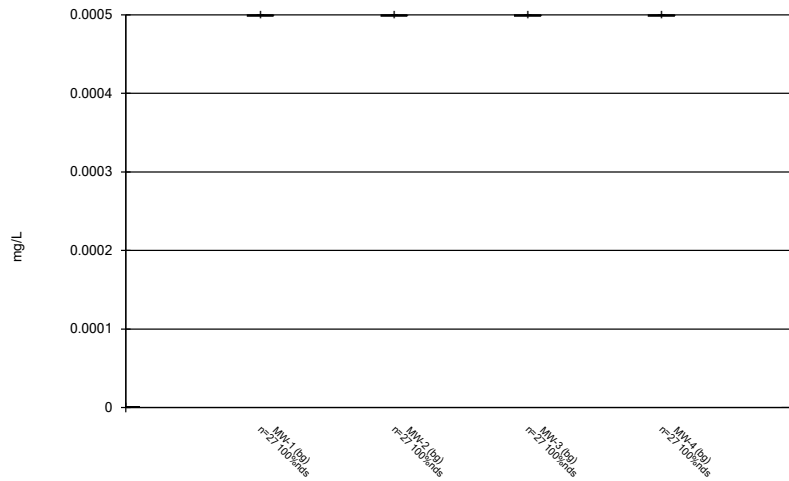
Constituent: Lithium Analysis Run 5/17/2023 2:30 PM  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Box & Whiskers Plot



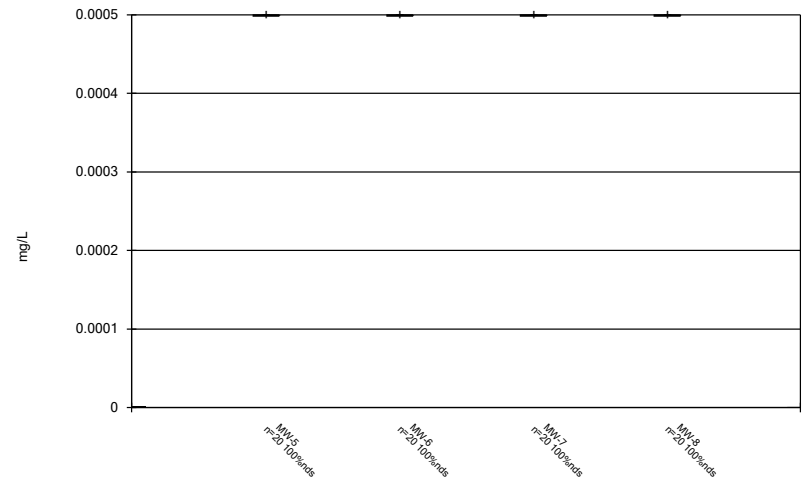
Constituent: Lithium Analysis Run 5/17/2023 2:30 PM  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



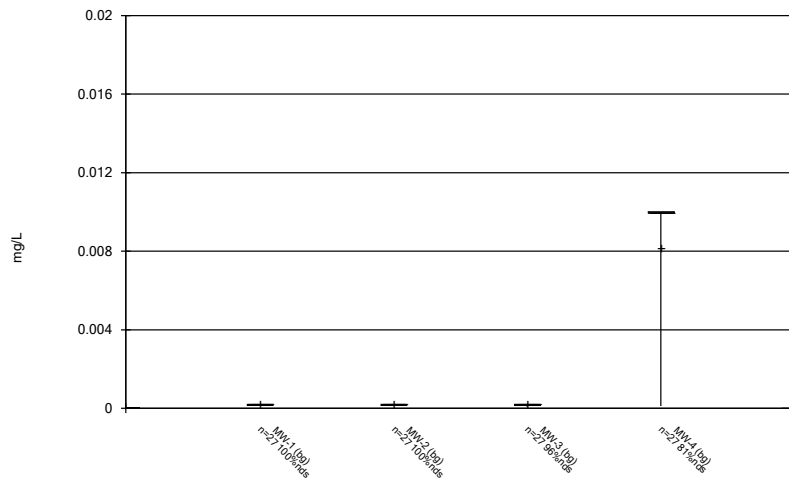
Constituent: Mercury Analysis Run 5/17/2023 2:30 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



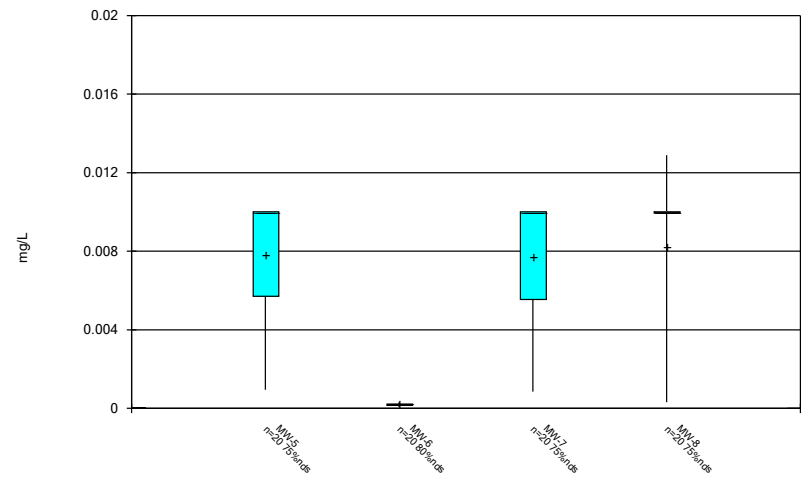
Constituent: Mercury Analysis Run 5/17/2023 2:30 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



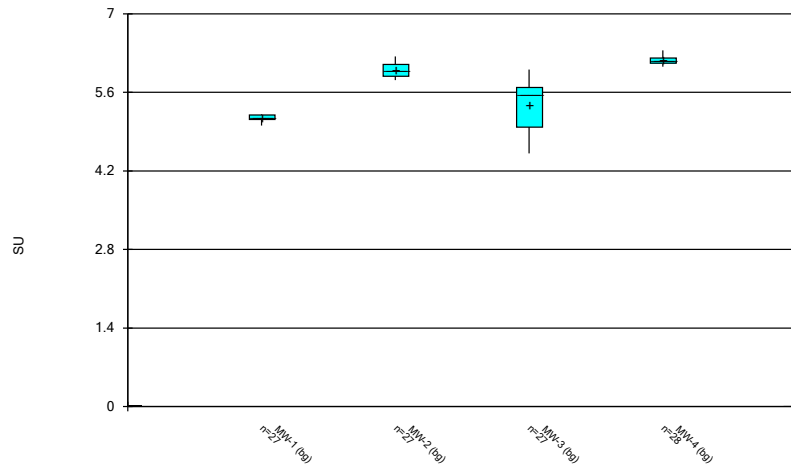
Constituent: Molybdenum Analysis Run 5/17/2023 2:30 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



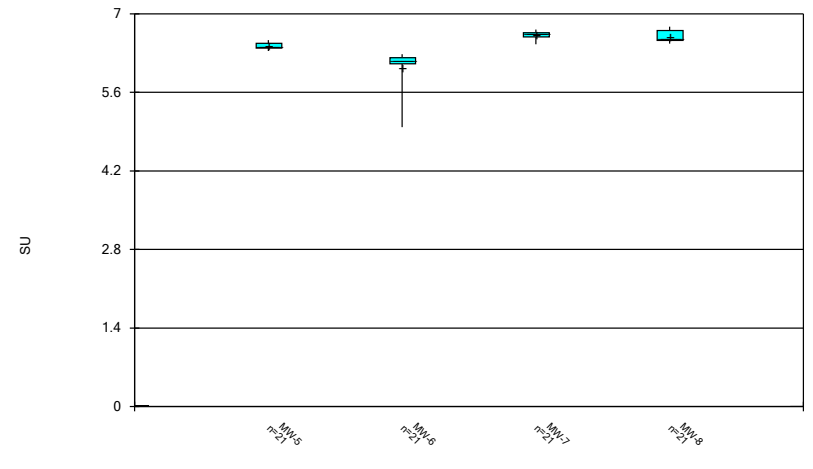
Constituent: Molybdenum Analysis Run 5/17/2023 2:30 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



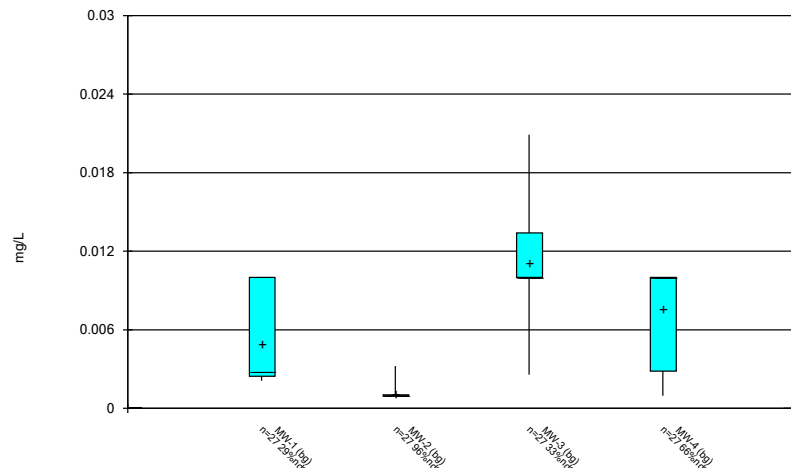
Constituent: pH, Field Analysis Run 5/17/2023 2:30 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



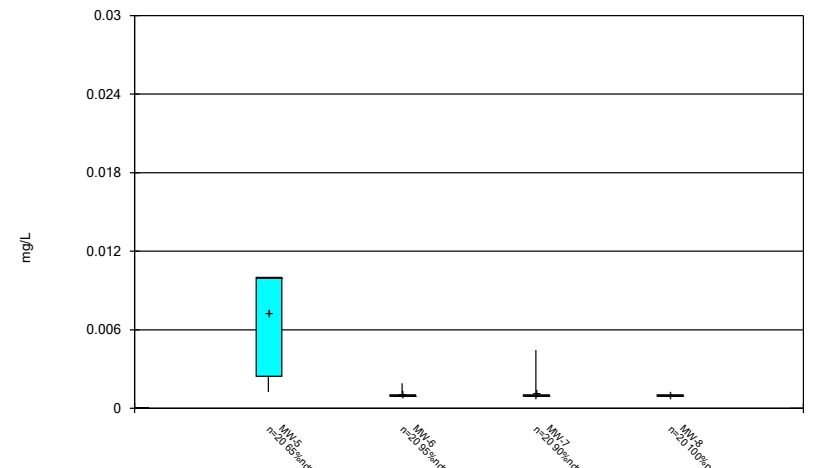
Constituent: pH, Field Analysis Run 5/17/2023 2:30 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



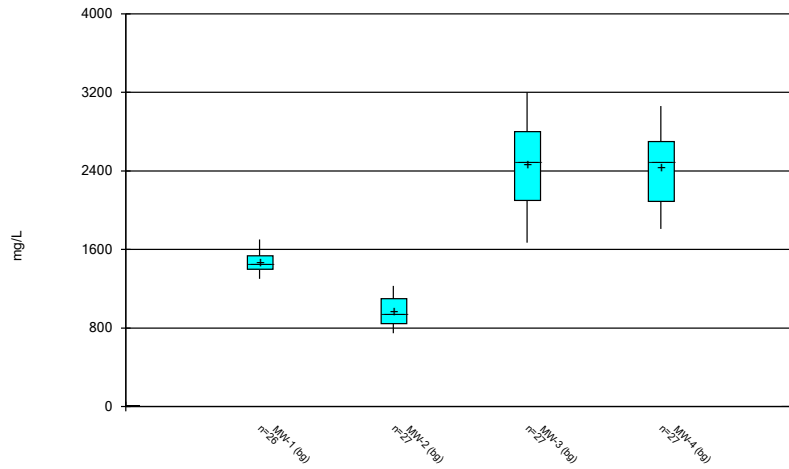
Constituent: Selenium Analysis Run 5/17/2023 2:30 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



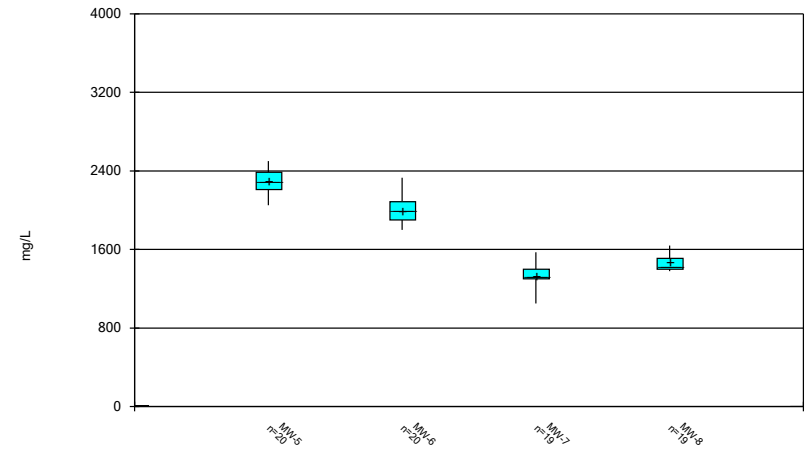
Constituent: Selenium Analysis Run 5/17/2023 2:30 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Box & Whiskers Plot



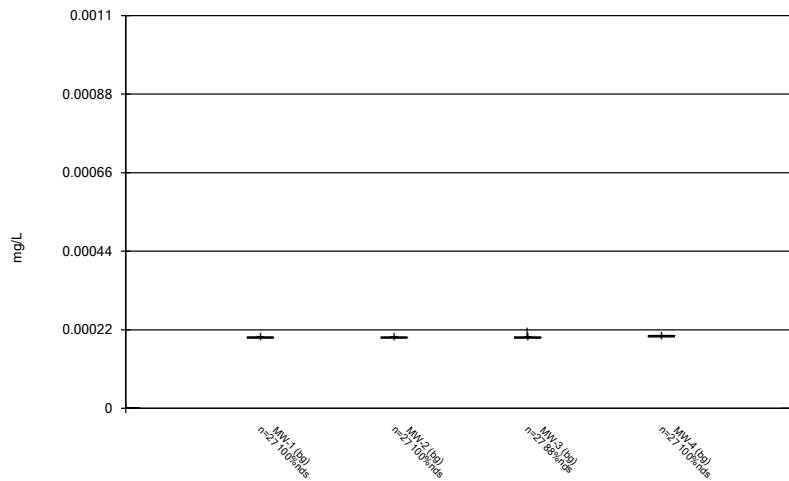
Constituent: Sulfate as SO4 Analysis Run 5/17/2023 2:30 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Box & Whiskers Plot



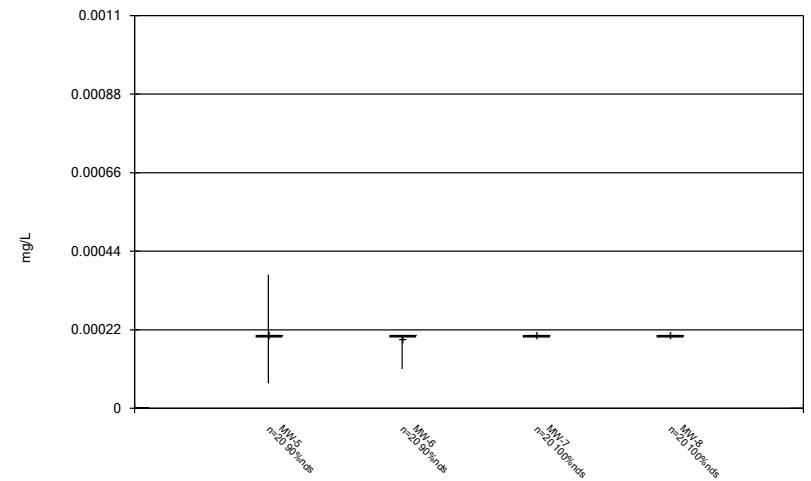
Constituent: Sulfate as SO4 Analysis Run 5/17/2023 2:30 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Box & Whiskers Plot



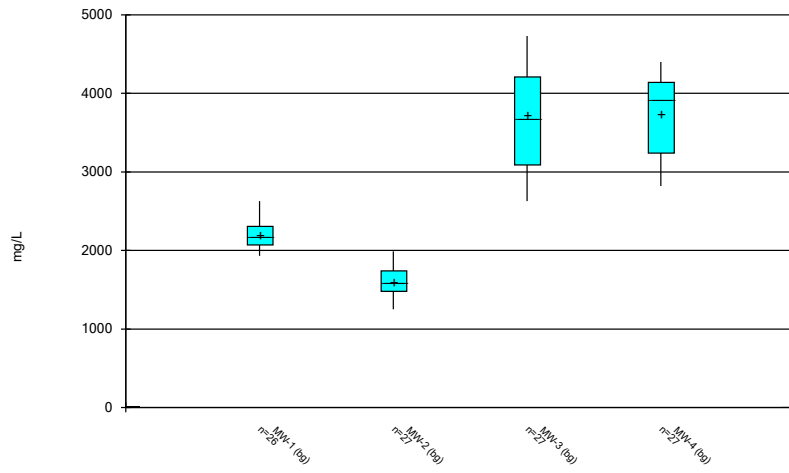
Constituent: Thallium Analysis Run 5/17/2023 2:30 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Box & Whiskers Plot



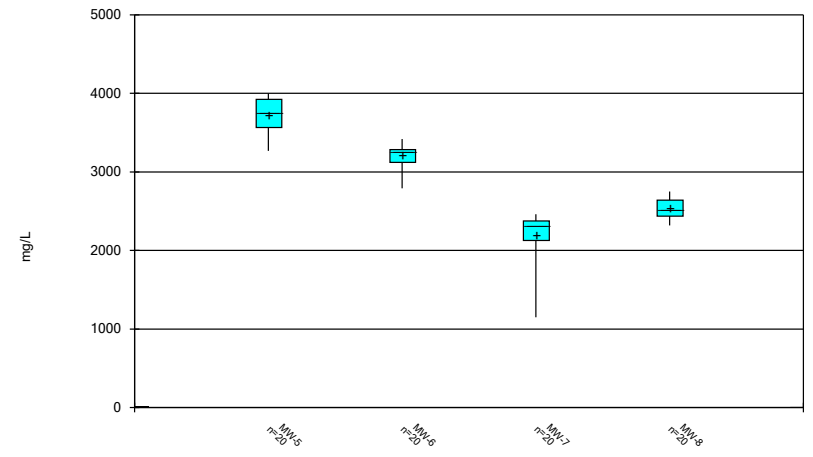
Constituent: Thallium Analysis Run 5/17/2023 2:30 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



Constituent: Total Dissolved Solids [TDS] Analysis Run 5/17/2023 2:30 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



Constituent: Total Dissolved Solids [TDS] Analysis Run 5/17/2023 2:30 PM  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

FIGURE C.



# Outlier Summary

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF Printed 5/17/2023, 2:31 PM

Date	MW-3 Beryllium (mg/L)	MW-4 Boron, total (mg/L)	MW-5 Boron, total (mg/L)	MW-7 Boron, total (mg/L)	MW-3 Cadmium (mg/L)	MW-3 Cobalt (mg/L)	MW-6 Fluoride, total (mg/L)	MW-3 Lead (mg/L)	MW-3 pH, Field (SU)	MW-1 Sulfate as SO4 (mg/L)
4/25/2016				0.0121 (O)						
4/27/2016			0.253 (O)							
1/18/2017	0.0169 (O)									
5/22/2018									2100 (o)	
5/23/2018										
11/19/2018	0.0185 (O)						0.00692 (o)	3.77 (o)		
5/14/2019		<0.203 (o)	<0.203 (o)							
10/8/2019					1.07 (o)					
10/16/2019					0.848 (o)					
4/8/2020								<0.1 (o)		
7/13/2020				0.00885 (O)						

Date	MW-7 Sulfate as SO4 (mg/L)	MW-8 Sulfate as SO4 (mg/L)	MW-1 Total Dissolved Solids [TDS] (mg/L)
4/25/2016			
4/27/2016			
1/18/2017			
5/22/2018			
5/23/2018	1900 (O)	2100 (o)	
11/19/2018			
5/14/2019			
10/8/2019			
10/16/2019		3650 (o)	
4/8/2020			
7/13/2020			

FIGURE D.

# Appendix III Intrawell Prediction Limits - Significant Results

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF Printed 5/17/2023, 2:40 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Fluoride, total (mg/L)	MW-1	0.1878	n/a	2/20/2023	0.221	Yes	24	0.1172	0.03644	0	None	No	0.00188	Param Intra 1 of 2
Fluoride, total (mg/L)	MW-2	0.2528	n/a	2/20/2023	0.267	Yes	24	0.1456	0.05538	0	None	No	0.00188	Param Intra 1 of 2
Fluoride, total (mg/L)	MW-6	0.1576	n/a	2/22/2023	0.173	Yes	16	0.1372	0.009847	0	None	No	0.00188	Param Intra 1 of 2
Fluoride, total (mg/L)	MW-7	0.2144	n/a	2/21/2023	0.216	Yes	17	0.1848	0.01443	0	None	No	0.00188	Param Intra 1 of 2

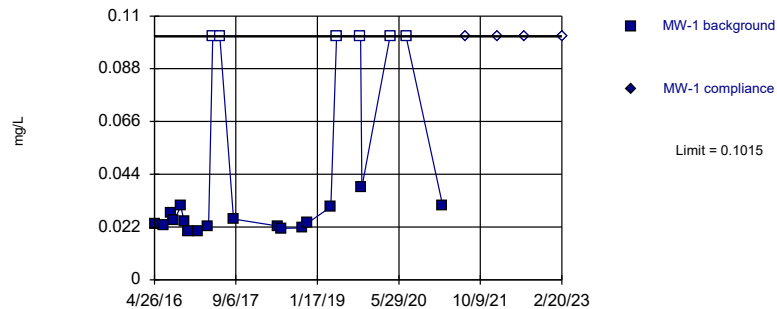
# Appendix III IntraWell Prediction Limits - All Results

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF Printed 5/17/2023, 2:40 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron, total (mg/L)	MW-1	0.1015	n/a	2/20/2023	0.1015ND	No	23	n/a	n/a	26.09	n/a	n/a	0.003415	NP Intra (normality) 1 of 2
Boron, total (mg/L)	MW-2	0.1015	n/a	2/20/2023	0.1015ND	No	23	n/a	n/a	21.74	n/a	n/a	0.003415	NP Intra (normality) 1 of 2
Boron, total (mg/L)	MW-3	0.1015	n/a	2/20/2023	0.1015ND	No	23	n/a	n/a	21.74	n/a	n/a	0.003415	NP Intra (normality) 1 of 2
Boron, total (mg/L)	MW-4	0.05253	n/a	2/21/2023	0.0408J	No	22	0.04512	0.003776	0	None	No	0.00188	Param Intra 1 of 2
Boron, total (mg/L)	MW-5	0.04034	n/a	2/21/2023	0.0315J	No	15	0.03281	0.003562	0	None	No	0.00188	Param Intra 1 of 2
Boron, total (mg/L)	MW-6	0.1015	n/a	2/22/2023	0.0356J	No	16	0.07909	0.01082	0	None	No	0.00188	Param Intra 1 of 2
Boron, total (mg/L)	MW-7	0.0854	n/a	2/21/2023	0.0645J	No	15	0.07347	0.005639	0	None	No	0.00188	Param Intra 1 of 2
Boron, total (mg/L)	MW-8	0.0831	n/a	2/21/2023	0.0609J	No	16	n/a	n/a	0	n/a	n/a	0.006456	NP Intra (normality) 1 of 2
Calcium, total (mg/L)	MW-1	243	n/a	2/20/2023	151	No	23	n/a	n/a	0	n/a	n/a	0.003415	NP Intra (normality) 1 of 2
Calcium, total (mg/L)	MW-2	214.8	n/a	2/20/2023	160	No	23	174.2	20.8	0	None	No	0.00188	Param Intra 1 of 2
Calcium, total (mg/L)	MW-3	416	n/a	2/20/2023	210	No	23	300	59.54	0	None	No	0.00188	Param Intra 1 of 2
Calcium, total (mg/L)	MW-4	386.1	n/a	2/21/2023	232	No	23	304.8	41.68	0	None	No	0.00188	Param Intra 1 of 2
Calcium, total (mg/L)	MW-5	459.6	n/a	2/21/2023	367	No	16	387	34.95	0	None	No	0.00188	Param Intra 1 of 2
Calcium, total (mg/L)	MW-6	500.3	n/a	2/22/2023	250	No	16	388.9	53.66	0	None	No	0.00188	Param Intra 1 of 2
Calcium, total (mg/L)	MW-7	343.5	n/a	2/21/2023	286	No	16	85434	15683	0	None	x^2	0.00188	Param Intra 1 of 2
Calcium, total (mg/L)	MW-8	340	n/a	2/21/2023	327	No	16	303.1	17.76	0	None	No	0.00188	Param Intra 1 of 2
<b>Fluoride, total (mg/L)</b>	<b>MW-1</b>	<b>0.1878</b>	<b>n/a</b>	<b>2/20/2023</b>	<b>0.221</b>	<b>Yes</b>	<b>24</b>	<b>0.1172</b>	<b>0.03644</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.00188</b>	<b>Param Intra 1 of 2</b>
<b>Fluoride, total (mg/L)</b>	<b>MW-2</b>	<b>0.2528</b>	<b>n/a</b>	<b>2/20/2023</b>	<b>0.267</b>	<b>Yes</b>	<b>24</b>	<b>0.1456</b>	<b>0.05538</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.00188</b>	<b>Param Intra 1 of 2</b>
Fluoride, total (mg/L)	MW-3	0.5886	n/a	2/20/2023	0.379	No	24	0.3299	0.1336	0	None	No	0.00188	Param Intra 1 of 2
Fluoride, total (mg/L)	MW-4	0.4215	n/a	2/21/2023	0.415	No	24	0.1114	0.03425	0	None	x^2	0.00188	Param Intra 1 of 2
Fluoride, total (mg/L)	MW-5	0.42	n/a	2/21/2023	0.319	No	17	0.3204	0.0485	0	None	No	0.00188	Param Intra 1 of 2
<b>Fluoride, total (mg/L)</b>	<b>MW-6</b>	<b>0.1576</b>	<b>n/a</b>	<b>2/22/2023</b>	<b>0.173</b>	<b>Yes</b>	<b>16</b>	<b>0.1372</b>	<b>0.009847</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.00188</b>	<b>Param Intra 1 of 2</b>
<b>Fluoride, total (mg/L)</b>	<b>MW-7</b>	<b>0.2144</b>	<b>n/a</b>	<b>2/21/2023</b>	<b>0.216</b>	<b>Yes</b>	<b>17</b>	<b>0.1848</b>	<b>0.01443</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.00188</b>	<b>Param Intra 1 of 2</b>
Fluoride, total (mg/L)	MW-8	0.2341	n/a	2/21/2023	0.212	No	17	0.21	0.01171	0	None	No	0.00188	Param Intra 1 of 2
Sulfate as SO4 (mg/L)	MW-1	1665	n/a	2/20/2023	1520	No	22	1461	104.1	0	None	No	0.00188	Param Intra 1 of 2
Sulfate as SO4 (mg/L)	MW-2	1274	n/a	2/20/2023	767	No	23	997.8	141.7	0	None	No	0.00188	Param Intra 1 of 2
Sulfate as SO4 (mg/L)	MW-3	3272	n/a	2/20/2023	2110	No	23	2451	421.1	0	None	No	0.00188	Param Intra 1 of 2
Sulfate as SO4 (mg/L)	MW-4	3143	n/a	2/21/2023	1930	No	23	2511	324	0	None	No	0.00188	Param Intra 1 of 2
Sulfate as SO4 (mg/L)	MW-5	2582	n/a	2/21/2023	2210	No	16	2304	133.9	0	None	No	0.00188	Param Intra 1 of 2
Sulfate as SO4 (mg/L)	MW-6	2274	n/a	2/22/2023	1870	No	16	2001	131.7	0	None	No	0.00188	Param Intra 1 of 2
Sulfate as SO4 (mg/L)	MW-7	1604	n/a	2/21/2023	1450	No	15	1324	132.3	0	None	No	0.00188	Param Intra 1 of 2
Sulfate as SO4 (mg/L)	MW-8	1640	n/a	2/21/2023	1510	No	15	n/a	n/a	0	n/a	n/a	0.007533	NP Intra (normality) 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-1	2519	n/a	2/20/2023	2280	No	22	2197	164	0	None	No	0.00188	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-2	2021	n/a	2/20/2023	1420	No	23	1643	193.7	0	None	No	0.00188	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-3	5051	n/a	2/20/2023	3230	No	23	3729	678.1	0	None	No	0.00188	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-4	4600	n/a	2/21/2023	3160	No	23	1.5e7	3201096	0	None	x^2	0.00188	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-5	4202	n/a	2/21/2023	3310	No	16	3794	196.6	0	None	No	0.00188	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-6	3466	n/a	2/22/2023	2790	No	16	1.1e7	676605	0	None	x^2	0.00188	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-7	2590	n/a	2/21/2023	2220	No	16	6.3e16	2.6e16	0	None	x^5	0.00188	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-8	2808	n/a	2/21/2023	2370	No	16	2573	113.3	0	None	No	0.00188	Param Intra 1 of 2

Within Limit

Prediction Limit  
 Intrawell Non-parametric

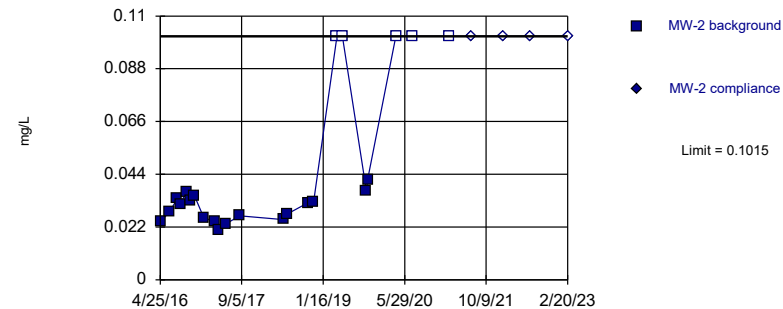


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 23 background values. 26.09% NDs. Well-constituent pair annual alpha = 0.006819. Individual comparison alpha = 0.003415 (1 of 2).

Constituent: Boron, total Analysis Run 5/17/2023 2:38 PM View: Appendix III - Intrawell  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit  
 Intrawell Non-parametric

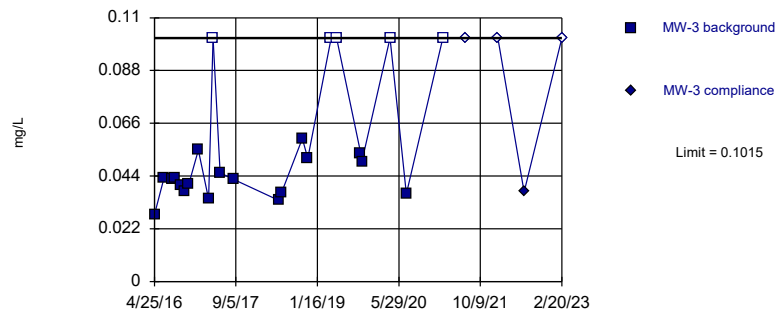


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 23 background values. 21.74% NDs. Well-constituent pair annual alpha = 0.006819. Individual comparison alpha = 0.003415 (1 of 2).

Constituent: Boron, total Analysis Run 5/17/2023 2:38 PM View: Appendix III - Intrawell  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit  
 Intrawell Non-parametric

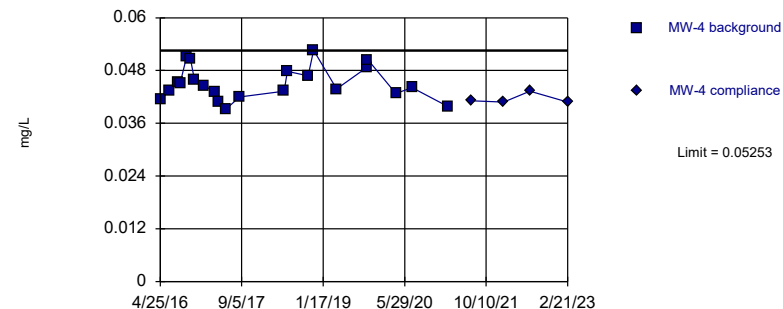


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 23 background values. 21.74% NDs. Well-constituent pair annual alpha = 0.006819. Individual comparison alpha = 0.003415 (1 of 2).

Constituent: Boron, total Analysis Run 5/17/2023 2:38 PM View: Appendix III - Intrawell  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit  
 Intrawell Parametric

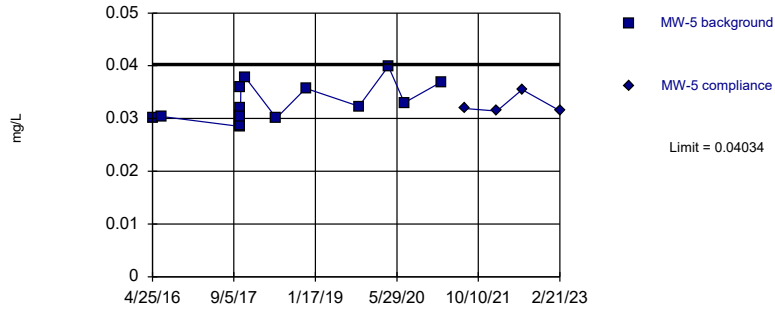


Background Data Summary: Mean=0.04512, Std. Dev.=0.003776, n=22. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9555, critical = 0.878. Kappa = 1.962 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Boron, total Analysis Run 5/17/2023 2:38 PM View: Appendix III - Intrawell  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit  
Intrawell Parametric

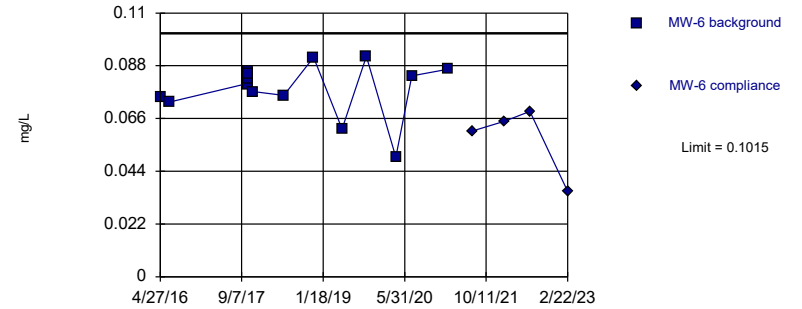


Background Data Summary: Mean=0.03281, Std. Dev.=0.003562, n=15. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9042, critical = 0.835. Kappa = 2.115 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Boron, total Analysis Run 5/17/2023 2:38 PM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit  
Intrawell Parametric

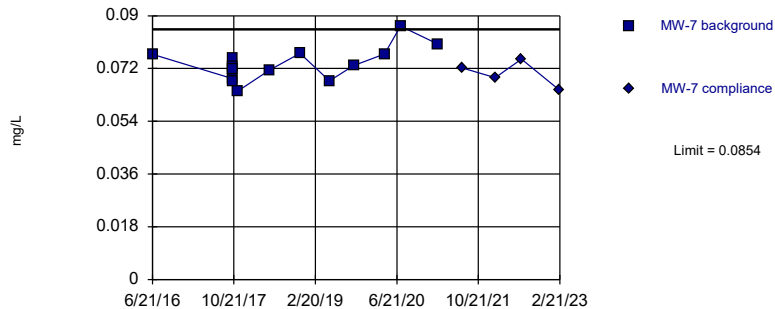


Background Data Summary: Mean=0.07909, Std. Dev.=0.01082, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8862, critical = 0.844. Kappa = 2.076 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Boron, total Analysis Run 5/17/2023 2:38 PM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit  
Intrawell Parametric

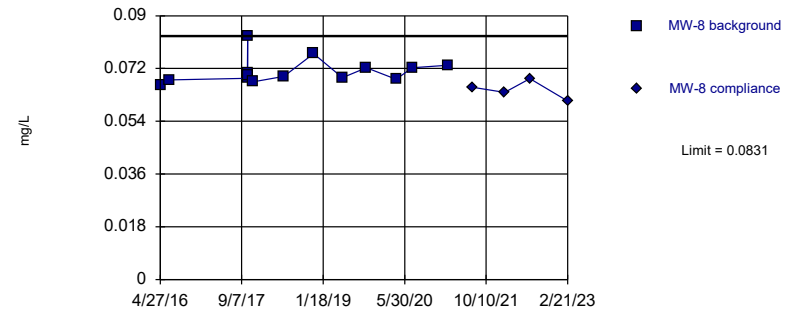


Background Data Summary: Mean=0.07347, Std. Dev.=0.005639, n=15. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9629, critical = 0.835. Kappa = 2.115 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Boron, total Analysis Run 5/17/2023 2:38 PM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit  
Intrawell Non-parametric

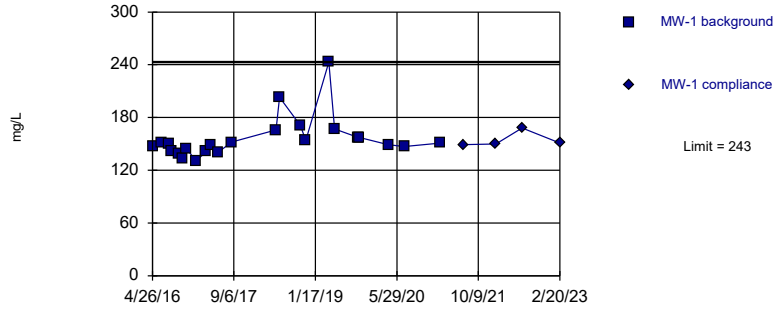


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 16 background values. Well-constituent pair annual alpha = 0.01287. Individual comparison alpha = 0.006456 (1 of 2).

Constituent: Boron, total Analysis Run 5/17/2023 2:38 PM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit  
Intrawell Non-parametric

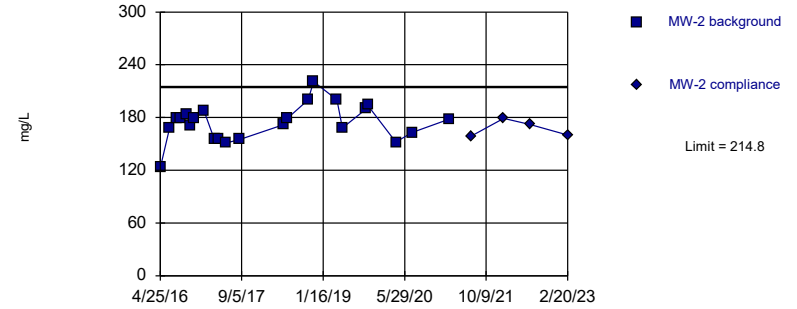


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 23 background values. Well-constituent pair annual alpha = 0.006819. Individual comparison alpha = 0.003415 (1 of 2).

Constituent: Calcium, total Analysis Run 5/17/2023 2:38 PM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit  
Intrawell Parametric

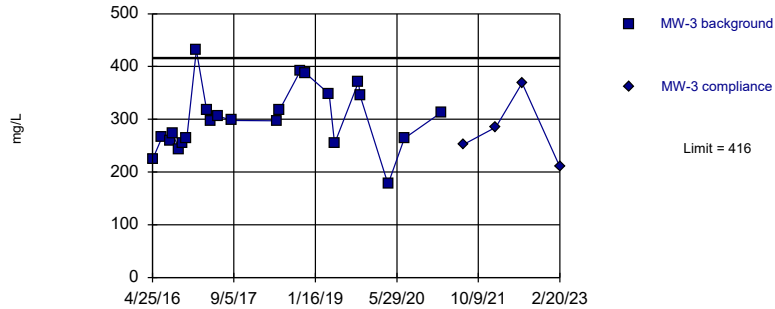


Background Data Summary: Mean=174.2, Std. Dev.=20.8, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9781, critical = 0.881. Kappa = 1.95 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Calcium, total Analysis Run 5/17/2023 2:38 PM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit  
Intrawell Parametric

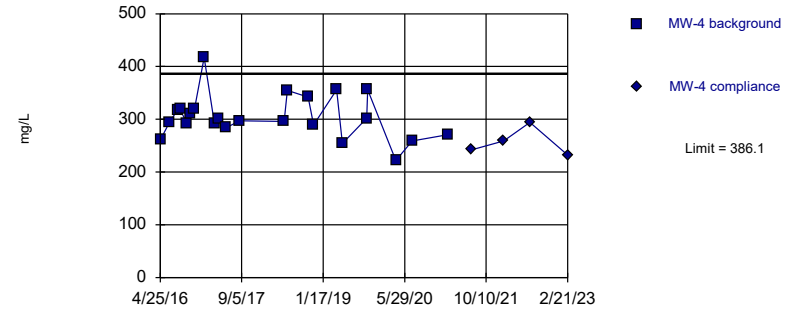


Background Data Summary: Mean=300, Std. Dev.=59.54, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9749, critical = 0.881. Kappa = 1.95 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Calcium, total Analysis Run 5/17/2023 2:38 PM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit  
Intrawell Parametric

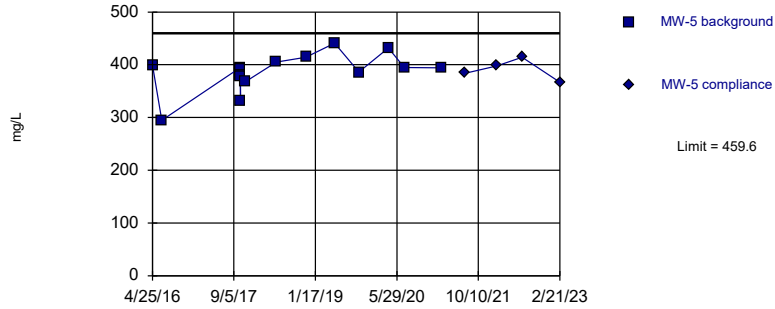


Background Data Summary: Mean=304.8, Std. Dev.=41.68, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9567, critical = 0.881. Kappa = 1.95 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Calcium, total Analysis Run 5/17/2023 2:38 PM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit  
Intrawell Parametric

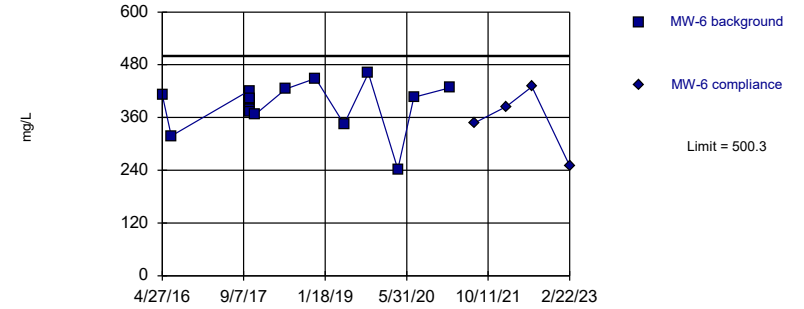


Background Data Summary: Mean=387, Std. Dev.=34.95, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8909, critical = 0.844. Kappa = 2.076 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Calcium, total Analysis Run 5/17/2023 2:38 PM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit  
Intrawell Parametric

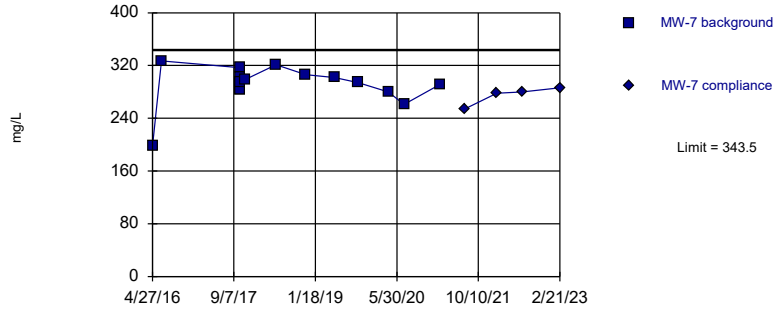


Background Data Summary: Mean=388.9, Std. Dev.=53.66, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8977, critical = 0.844. Kappa = 2.076 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Calcium, total Analysis Run 5/17/2023 2:38 PM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit  
Intrawell Parametric

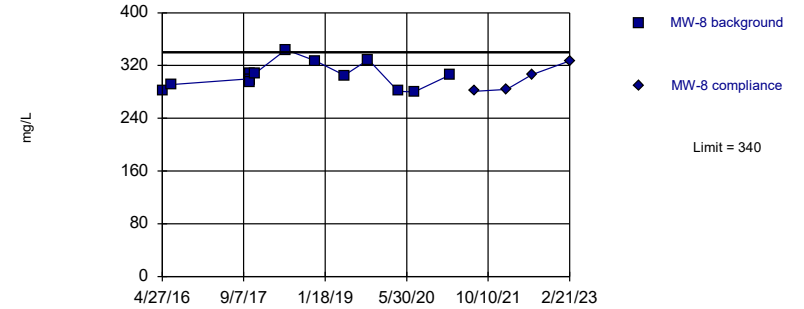


Background Data Summary (based on square transformation): Mean=85434, Std. Dev.=15683, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8569, critical = 0.844. Kappa = 2.076 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Calcium, total Analysis Run 5/17/2023 2:39 PM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit  
Intrawell Parametric



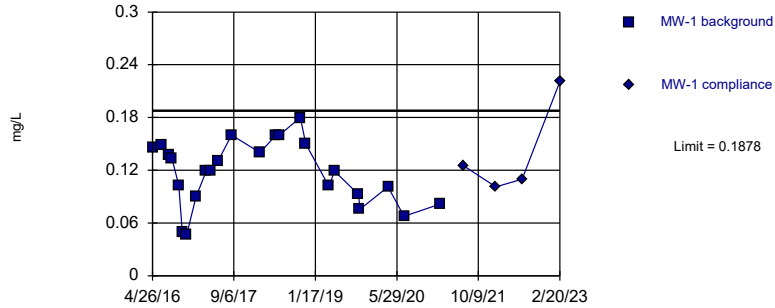
Background Data Summary: Mean=303.1, Std. Dev.=17.76, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9165, critical = 0.844. Kappa = 2.076 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Calcium, total Analysis Run 5/17/2023 2:39 PM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF



Exceeds Limit

### Prediction Limit Intrawell Parametric

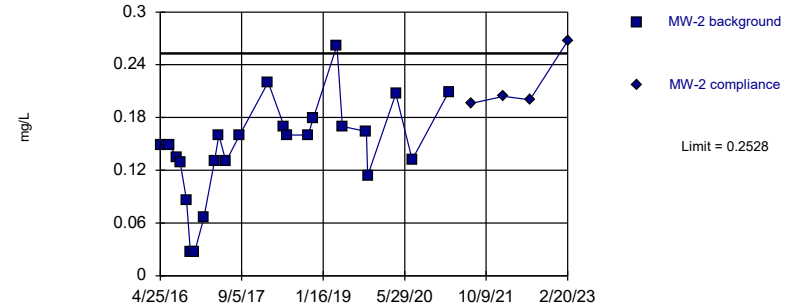


Background Data Summary: Mean=0.1172, Std. Dev.=0.03644, n=24. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9658, critical = 0.884. Kappa = 1.937 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Fluoride, total Analysis Run 5/17/2023 2:39 PM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Exceeds Limit

### Prediction Limit Intrawell Parametric

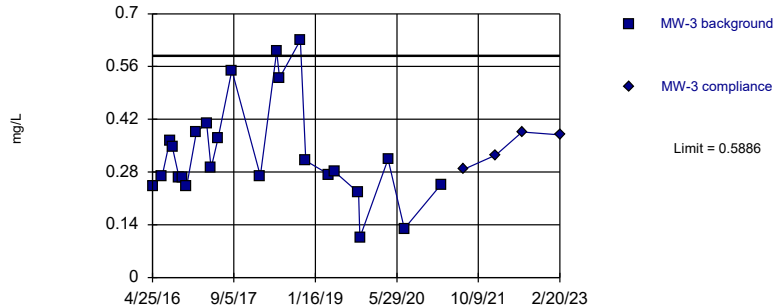


Background Data Summary: Mean=0.1456, Std. Dev.=0.05538, n=24. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9466, critical = 0.884. Kappa = 1.937 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Fluoride, total Analysis Run 5/17/2023 2:39 PM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

### Prediction Limit Intrawell Parametric

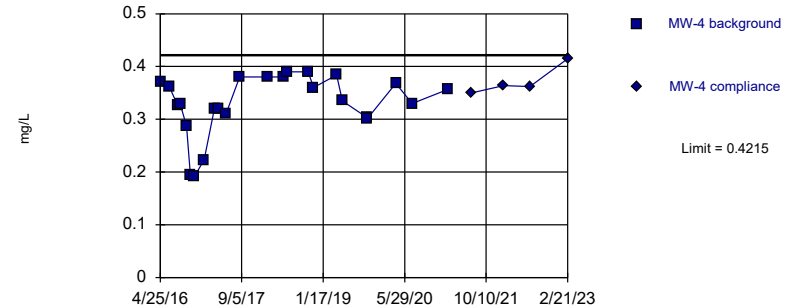


Background Data Summary: Mean=0.3299, Std. Dev.=0.1336, n=24. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9032, critical = 0.884. Kappa = 1.937 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Fluoride, total Analysis Run 5/17/2023 2:39 PM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

### Prediction Limit Intrawell Parametric

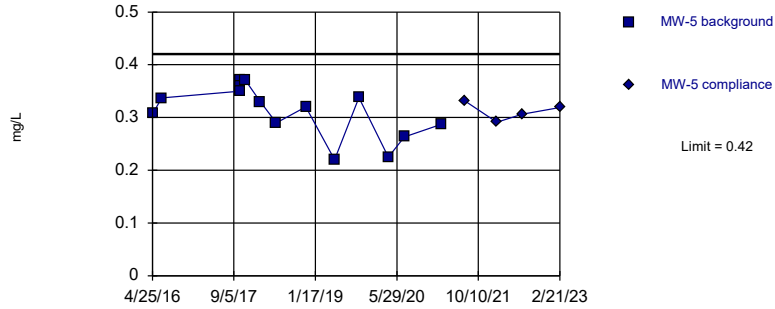


Background Data Summary (based on square transformation): Mean=0.1114, Std. Dev.=0.03425, n=24. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.897, critical = 0.884. Kappa = 1.937 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Fluoride, total Analysis Run 5/17/2023 2:39 PM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit  
Intrawell Parametric

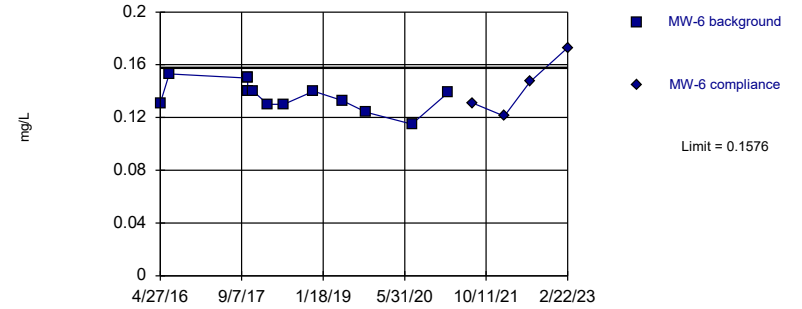


Background Data Summary: Mean=0.3204, Std. Dev.=0.0485, n=17. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8758, critical = 0.851. Kappa = 2.054 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Fluoride, total Analysis Run 5/17/2023 2:39 PM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Exceeds Limit

Prediction Limit  
Intrawell Parametric

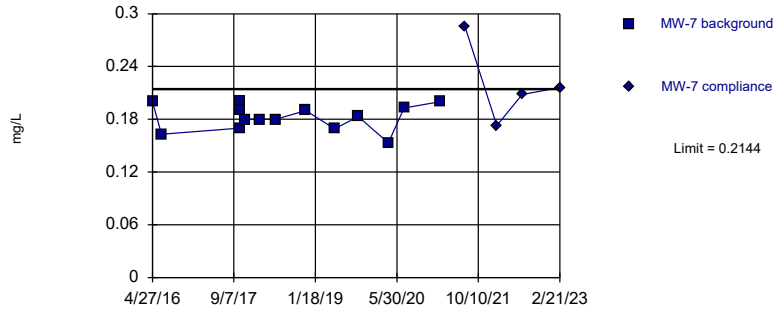


Background Data Summary: Mean=0.1372, Std. Dev.=0.009847, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9318, critical = 0.844. Kappa = 2.076 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Fluoride, total Analysis Run 5/17/2023 2:39 PM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Exceeds Limit

Prediction Limit  
Intrawell Parametric

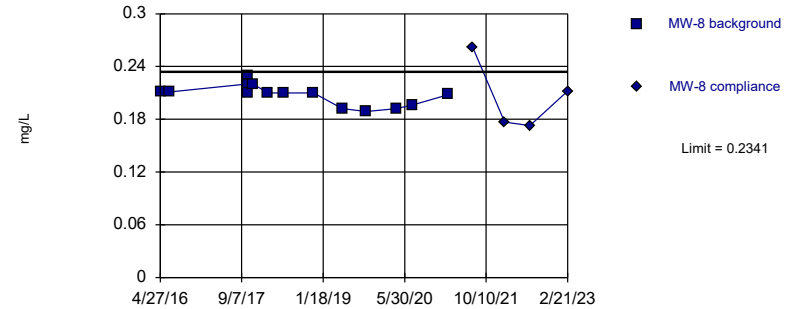


Background Data Summary: Mean=0.1848, Std. Dev.=0.01443, n=17. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9003, critical = 0.851. Kappa = 2.054 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Fluoride, total Analysis Run 5/17/2023 2:39 PM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

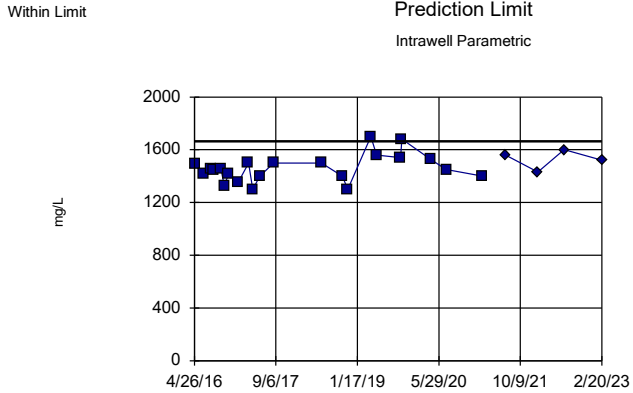
Within Limit

Prediction Limit  
Intrawell Parametric



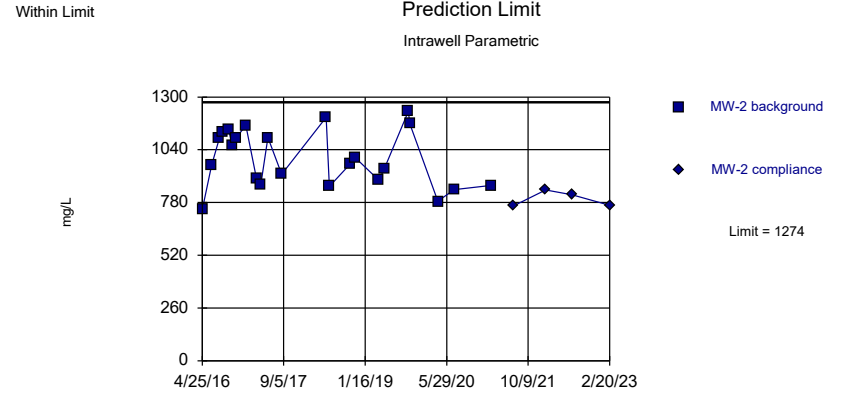
Background Data Summary: Mean=0.21, Std. Dev.=0.01171, n=17. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.904, critical = 0.851. Kappa = 2.054 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Fluoride, total Analysis Run 5/17/2023 2:39 PM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF



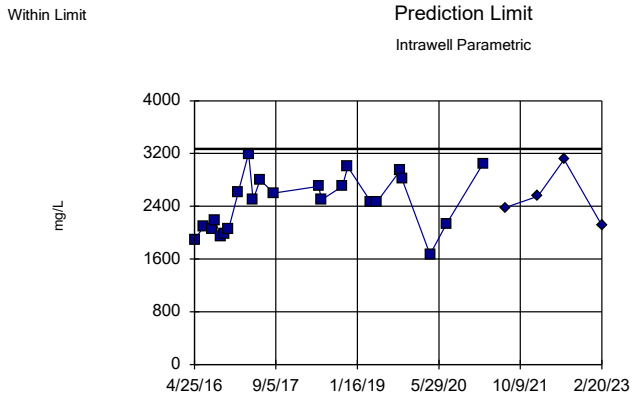
Background Data Summary: Mean=1461, Std. Dev.=104.1, n=22. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9462, critical = 0.878. Kappa = 1.962 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Sulfate as SO4 Analysis Run 5/17/2023 2:39 PM View: Appendix III - IntraWell Plant Gorgas Client: Southern Company Data: Gorgas CCR LF



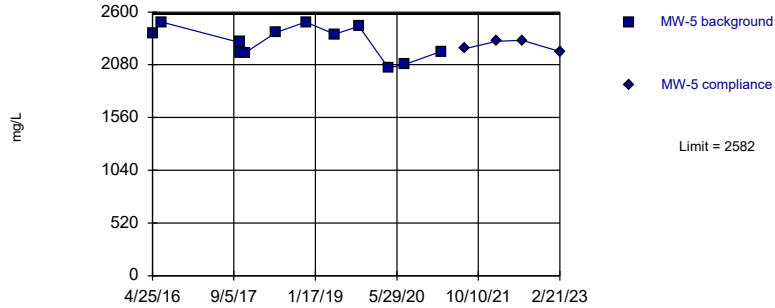
Background Data Summary: Mean=997.8, Std. Dev.=141.7, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9515, critical = 0.881. Kappa = 1.95 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Sulfate as SO4 Analysis Run 5/17/2023 2:39 PM View: Appendix III - IntraWell Plant Gorgas Client: Southern Company Data: Gorgas CCR LF



Within Limit

Prediction Limit  
Intrawell Parametric

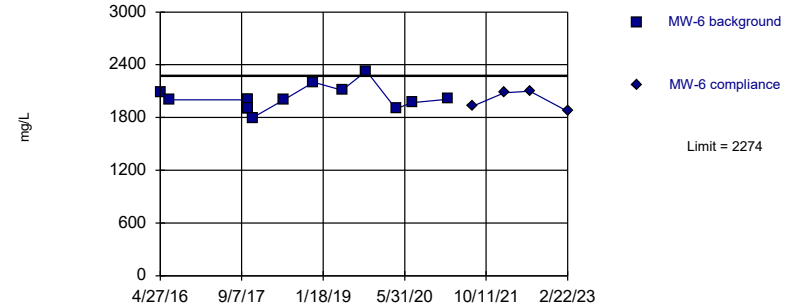


Background Data Summary: Mean=2304, Std. Dev.=133.9, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9454, critical = 0.844. Kappa = 2.076 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Sulfate as SO4 Analysis Run 5/17/2023 2:39 PM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit  
Intrawell Parametric

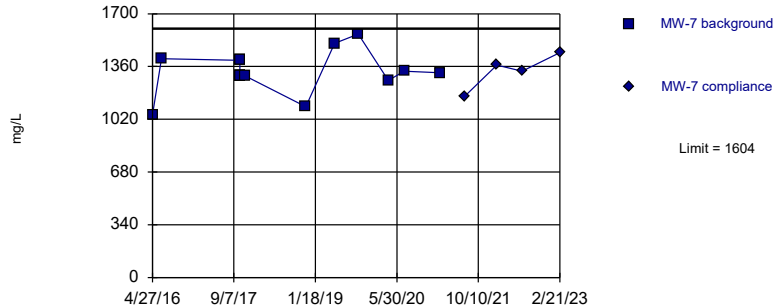


Background Data Summary: Mean=2001, Std. Dev.=131.7, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9014, critical = 0.844. Kappa = 2.076 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Sulfate as SO4 Analysis Run 5/17/2023 2:39 PM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit  
Intrawell Parametric

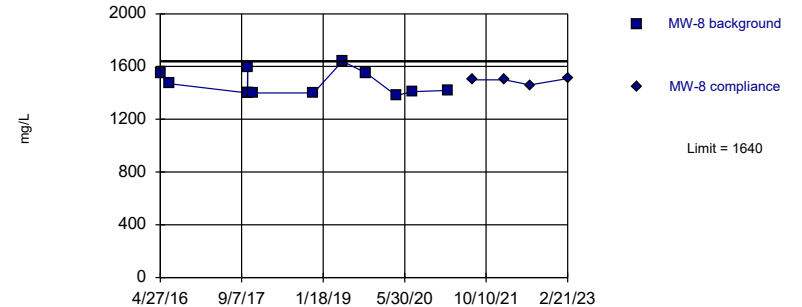


Background Data Summary: Mean=1324, Std. Dev.=132.3, n=15. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9168, critical = 0.835. Kappa = 2.115 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Sulfate as SO4 Analysis Run 5/17/2023 2:39 PM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit  
Intrawell Non-parametric



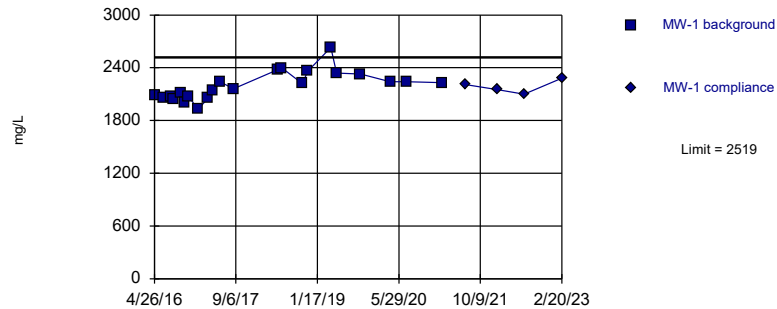
Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 15 background values. Well-constituent pair annual alpha = 0.01501. Individual comparison alpha = 0.007533 (1 of 2).

Constituent: Sulfate as SO4 Analysis Run 5/17/2023 2:39 PM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit

Intrawell Parametric



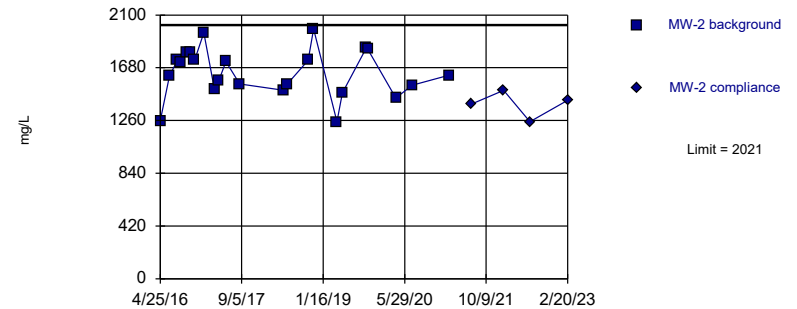
Background Data Summary: Mean=2197, Std. Dev.=164, n=22. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9479, critical = 0.878. Kappa = 1.962 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Total Dissolved Solids [TDS] Analysis Run 5/17/2023 2:39 PM View: Appendix III - Intrawell  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit

Intrawell Parametric



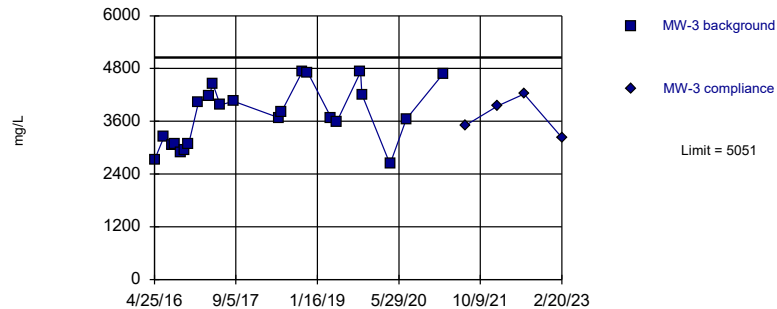
Background Data Summary: Mean=1643, Std. Dev.=193.7, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9661, critical = 0.881. Kappa = 1.95 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Total Dissolved Solids [TDS] Analysis Run 5/17/2023 2:39 PM View: Appendix III - Intrawell  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit

Intrawell Parametric



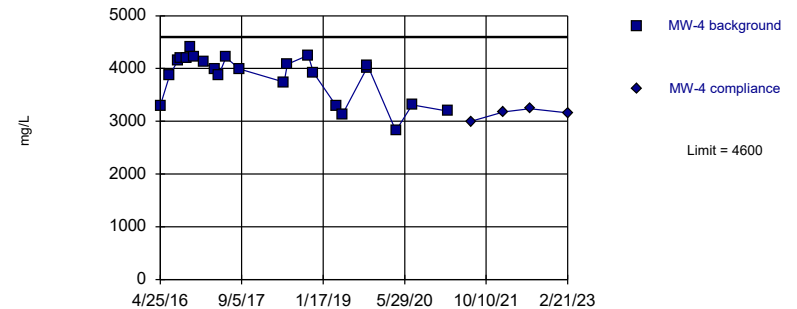
Background Data Summary: Mean=3729, Std. Dev.=678.1, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9398, critical = 0.881. Kappa = 1.95 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Total Dissolved Solids [TDS] Analysis Run 5/17/2023 2:39 PM View: Appendix III - Intrawell  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit

Intrawell Parametric

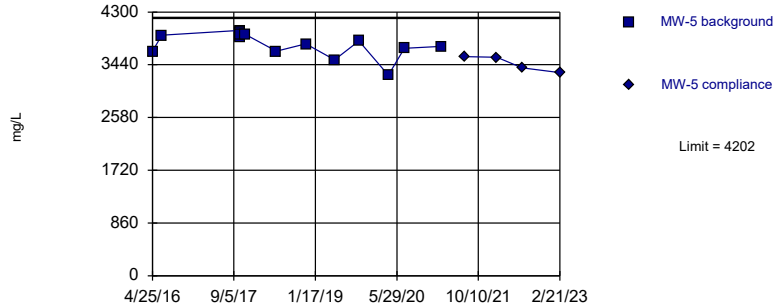


Background Data Summary (based on square transformation): Mean=1.5e7, Std. Dev.=3201096, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8861, critical = 0.881. Kappa = 1.95 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Total Dissolved Solids [TDS] Analysis Run 5/17/2023 2:39 PM View: Appendix III - Intrawell  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit  
Intrawell Parametric

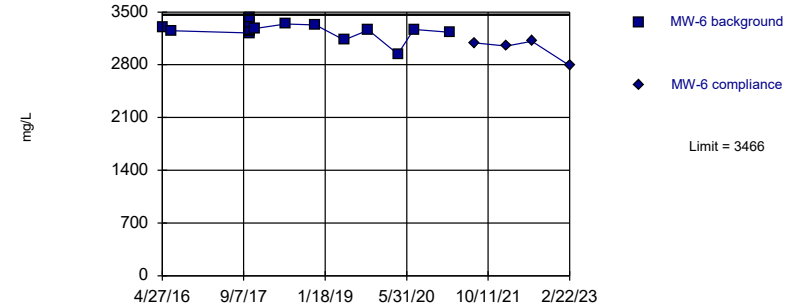


Background Data Summary: Mean=3794, Std. Dev.=196.6, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8671, critical = 0.844. Kappa = 2.076 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Total Dissolved Solids [TDS] Analysis Run 5/17/2023 2:39 PM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit  
Intrawell Parametric

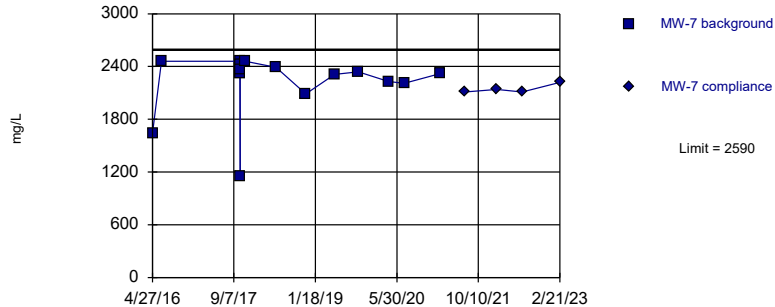


Background Data Summary (based on square transformation): Mean=1.1e7, Std. Dev.=676605, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.854, critical = 0.844. Kappa = 2.076 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Total Dissolved Solids [TDS] Analysis Run 5/17/2023 2:39 PM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit  
Intrawell Parametric

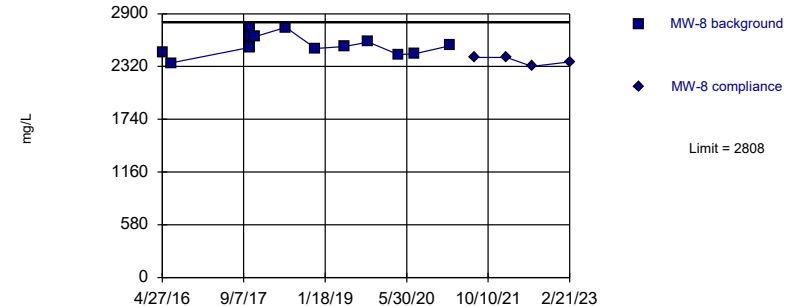


Background Data Summary (based on x^5 transformation): Mean=6.3e16, Std. Dev.=2.6e16, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8587, critical = 0.844. Kappa = 2.076 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Total Dissolved Solids [TDS] Analysis Run 5/17/2023 2:39 PM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=2573, Std. Dev.=113.3, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9548, critical = 0.844. Kappa = 2.076 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Total Dissolved Solids [TDS] Analysis Run 5/17/2023 2:39 PM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

# Prediction Limit

Constituent: Boron, total (mg/L) Analysis Run 5/17/2023 2:40 PM View: Appendix III - IntraWell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-1	MW-1
4/26/2016	0.0231 (J)	
6/20/2016	0.0227 (J)	
8/8/2016	0.0278 (J)	
8/24/2016	0.0247 (J)	
10/3/2016	0.0307 (J)	
10/26/2016	0.0241 (J)	
11/21/2016	0.0202 (J)	
1/17/2017	0.0201 (J)	
3/22/2017	0.0224 (J)	
4/18/2017	<0.1015	
5/30/2017	<0.1015	
8/23/2017	0.0253 (J)	
5/22/2018	0.0224 (J)	
6/12/2018	0.0214 (J)	
10/17/2018	0.0216 (J)	
11/19/2018	0.0237 (J)	
4/10/2019	0.0304 (J)	
5/14/2019	<0.1015	
10/8/2019	<0.1015	
10/16/2019	0.0385 (J)	
4/6/2020	<0.1015	
7/13/2020	<0.1015	
2/22/2021	0.0307 (J)	
7/12/2021		<0.1015
1/25/2022		<0.1015
7/5/2022		<0.1015
2/20/2023		<0.1015

# Prediction Limit

Constituent: Boron, total (mg/L) Analysis Run 5/17/2023 2:40 PM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-2	MW-2
4/25/2016	0.0241 (J)	
6/20/2016	0.0284 (J)	
8/8/2016	0.034 (J)	
8/24/2016	0.0316 (J)	
10/3/2016	0.0367 (J)	
10/26/2016	0.0331 (J)	
11/21/2016	0.035 (J)	
1/17/2017	0.0259 (J)	
3/22/2017	0.0243 (J)	
4/18/2017	0.0206 (J)	
5/31/2017	0.0234 (J)	
8/23/2017	0.0267 (J)	
5/22/2018	0.0251 (J)	
6/12/2018	0.0275 (J)	
10/17/2018	0.0321 (J)	
11/19/2018	0.0324 (J)	
4/10/2019	<0.1015	
5/14/2019	<0.1015	
10/8/2019	0.0371 (J)	
10/16/2019	0.0419 (J)	
4/6/2020	<0.1015	
7/13/2020	<0.1015	
2/22/2021	<0.1015	
7/12/2021		<0.1015
1/25/2022		<0.1015
7/5/2022		<0.1015
2/20/2023		<0.1015



# Prediction Limit

Constituent: Boron, total (mg/L) Analysis Run 5/17/2023 2:40 PM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-3	MW-3
4/25/2016	0.028 (J)	
6/22/2016	0.0433 (J)	
8/9/2016	0.0429 (J)	
8/24/2016	0.0431 (J)	
10/4/2016	0.04 (J)	
10/26/2016	0.0375 (J)	
11/21/2016	0.0406 (J)	
1/18/2017	0.0548 (J)	
3/22/2017	0.0344 (J)	
4/18/2017	<0.1015	
5/31/2017	0.0454 (J)	
8/23/2017	0.0425 (J)	
5/24/2018	0.0339 (J)	
6/12/2018	0.0371 (J)	
10/17/2018	0.0596 (J)	
11/19/2018	0.0514 (J)	
4/10/2019	<0.1015	
5/14/2019	<0.1015	
10/8/2019	0.0537 (J)	
10/16/2019	0.05 (J)	
4/6/2020	<0.1015	
7/13/2020	0.0366 (J)	
2/22/2021	<0.1015	
7/12/2021		<0.1015
1/25/2022		<0.1015
7/5/2022		0.0374 (J)
2/20/2023		<0.1015

# Prediction Limit

Constituent: Boron, total (mg/L) Analysis Run 5/17/2023 2:40 PM View: Appendix III - IntraWell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-4	MW-4
4/25/2016	0.0414 (J)	
6/20/2016	0.0434 (J)	
8/9/2016	0.0453 (J)	
8/24/2016	0.0451 (J)	
10/3/2016	0.0511 (J)	
10/26/2016	0.0507 (J)	
11/21/2016	0.0458 (J)	
1/18/2017	0.0445 (J)	
3/22/2017	0.0432 (J)	
4/18/2017	0.0409 (J)	
5/31/2017	0.0392 (J)	
8/23/2017	0.042 (J)	
5/23/2018	0.0433 (J)	
6/12/2018	0.0478 (J)	
10/17/2018	0.0468 (J)	
11/19/2018	0.0526 (J)	
4/10/2019	0.0438 (J)	
5/14/2019	<0.203 (o)	
10/10/2019	0.0487 (J)	
10/16/2019	0.0505 (J)	
4/6/2020	0.0428 (J)	
7/14/2020	0.0441 (J)	
2/22/2021	0.0397 (J)	
7/12/2021		0.0411 (J)
1/25/2022		0.0408 (J)
7/5/2022		0.0433 (J)
2/21/2023		0.0408 (J)

# Prediction Limit

Constituent: Boron, total (mg/L) Analysis Run 5/17/2023 2:40 PM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-5	MW-5
4/25/2016	0.0301 (J)	
6/21/2016	0.0304 (J)	
10/12/2017	0.0285 (J)	
10/13/2017	0.0287 (J)	
10/14/2017	0.0305 (J)	
10/15/2017	0.0319 (J)	
10/16/2017	0.0304 (J)	
10/17/2017	0.036 (J)	
11/16/2017	0.0377 (J)	
5/23/2018	0.0301 (J)	
11/20/2018	0.0357 (J)	
5/14/2019	<0.203 (o)	
10/10/2019	0.0323 (J)	
4/7/2020	0.0399 (J)	
7/14/2020	0.033 (J)	
2/23/2021	0.0369 (J)	
7/21/2021		0.0319 (J)
1/31/2022		0.0314 (J)
7/6/2022		0.0355 (J)
2/21/2023		0.0315 (J)

# Prediction Limit

Constituent: Boron, total (mg/L) Analysis Run 5/17/2023 2:40 PM View: Appendix III - IntraWell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-6	MW-6
4/27/2016	0.075 (J)	
6/21/2016	0.0729 (J)	
10/12/2017	0.0806 (J)	
10/13/2017	0.0803 (J)	
10/14/2017	0.0828 (J)	
10/15/2017	0.0852 (J)	
10/16/2017	0.0858 (J)	
10/17/2017	0.0846 (J)	
11/16/2017	0.0772 (J)	
5/23/2018	0.0757 (J)	
11/20/2018	0.0915 (J)	
5/15/2019	0.0616 (J)	
10/10/2019	0.0919 (J)	
4/8/2020	0.0499 (J)	
7/14/2020	0.0838 (J)	
2/23/2021	0.0866 (J)	
7/20/2021		0.0608 (J)
1/31/2022		0.0648 (J)
7/6/2022		0.069 (J)
2/22/2023		0.0356 (J)

# Prediction Limit

Constituent: Boron, total (mg/L) Analysis Run 5/17/2023 2:40 PM View: Appendix III - IntraWell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-7	MW-7
4/27/2016	0.253 (O)	
6/21/2016	0.0768 (J)	
10/12/2017	0.0685 (J)	
10/13/2017	0.0674 (J)	
10/14/2017	0.0756 (J)	
10/15/2017	0.0719 (J)	
10/16/2017	0.0726 (J)	
10/17/2017	0.0716 (J)	
11/16/2017	0.0644 (J)	
5/23/2018	0.0715 (J)	
11/20/2018	0.0772 (J)	
5/15/2019	0.0678 (J)	
10/8/2019	0.073 (J)	
4/8/2020	0.077 (J)	
7/14/2020	0.0865 (J)	
2/23/2021	0.0803 (J)	
7/20/2021		0.0721 (J)
1/31/2022		0.0689 (J)
7/6/2022		0.0752 (J)
2/21/2023		0.0645 (J)

# Prediction Limit

Constituent: Boron, total (mg/L) Analysis Run 5/17/2023 2:40 PM View: Appendix III - IntraWell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-8	MW-8
4/27/2016	0.0662 (J)	
6/21/2016	0.0681 (J)	
10/12/2017	0.0687 (J)	
10/13/2017	0.0831 (J)	
10/14/2017	0.0702 (J)	
10/15/2017	0.0702 (J)	
10/16/2017	0.0707 (J)	
10/17/2017	0.0695 (J)	
11/16/2017	0.0675 (J)	
5/23/2018	0.0693 (J)	
11/20/2018	0.0771 (J)	
5/15/2019	0.0689 (J)	
10/9/2019	0.0723 (J)	
4/8/2020	0.0683 (J)	
7/15/2020	0.0723 (J)	
2/23/2021	0.0731 (J)	
7/20/2021		0.0656 (J)
2/1/2022		0.0639 (J)
7/6/2022		0.0686 (J)
2/21/2023		0.0609 (J)

# Prediction Limit

Constituent: Calcium, total (mg/L) Analysis Run 5/17/2023 2:40 PM View: Appendix III - Intravel  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-1	MW-1
4/26/2016	147	
6/20/2016	152	
8/8/2016	150	
8/24/2016	142	
10/3/2016	139	
10/26/2016	133	
11/21/2016	144	
1/17/2017	131	
3/22/2017	141	
4/18/2017	149	
5/30/2017	140	
8/23/2017	152	
5/22/2018	166	
6/12/2018	203	
10/17/2018	171	
11/19/2018	154	
4/10/2019	243	
5/14/2019	167	
10/8/2019	157	
10/16/2019	157	
4/6/2020	149	
7/13/2020	147	
2/22/2021	151	
7/12/2021		149
1/25/2022		150
7/5/2022		168
2/20/2023		151

# Prediction Limit

Constituent: Calcium, total (mg/L) Analysis Run 5/17/2023 2:40 PM View: Appendix III - Intravel  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-2	MW-2
4/25/2016	123	
6/20/2016	168	
8/8/2016	180	
8/24/2016	180	
10/3/2016	184	
10/26/2016	171	
11/21/2016	179	
1/17/2017	188	
3/22/2017	155	
4/18/2017	156	
5/31/2017	151	
8/23/2017	155	
5/22/2018	172	
6/12/2018	179	
10/17/2018	200	
11/19/2018	221	
4/10/2019	200	
5/14/2019	168	
10/8/2019	190	
10/16/2019	194	
4/6/2020	152	
7/13/2020	163	
2/22/2021	178	
7/12/2021		159
1/25/2022		179
7/5/2022		172
2/20/2023		160



# Prediction Limit

Constituent: Calcium, total (mg/L) Analysis Run 5/17/2023 2:40 PM View: Appendix III - Intravel  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-3	MW-3
4/25/2016	224	
6/22/2016	266	
8/9/2016	260	
8/24/2016	274	
10/4/2016	243	
10/26/2016	254	
11/21/2016	263	
1/18/2017	431	
3/22/2017	318	
4/18/2017	296	
5/31/2017	306	
8/23/2017	298	
5/24/2018	297	
6/12/2018	318	
10/17/2018	392	
11/19/2018	387	
4/10/2019	348	
5/14/2019	254	
10/8/2019	371	
10/16/2019	346	
4/6/2020	177	
7/13/2020	264	
2/22/2021	312	
7/12/2021		252
1/25/2022		285
7/5/2022		369
2/20/2023		210

# Prediction Limit

Constituent: Calcium, total (mg/L) Analysis Run 5/17/2023 2:40 PM View: Appendix III - Intravel  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-4	MW-4
4/25/2016	261	
6/20/2016	295	
8/9/2016	318	
8/24/2016	319	
10/3/2016	293	
10/26/2016	311	
11/21/2016	320	
1/18/2017	417	
3/22/2017	292	
4/18/2017	302	
5/31/2017	284	
8/23/2017	297	
5/23/2018	296	
6/12/2018	355	
10/17/2018	342	
11/19/2018	289	
4/10/2019	356	
5/14/2019	254	
10/10/2019	302	
10/16/2019	356	
4/6/2020	222	
7/14/2020	259	
2/22/2021	271	
7/12/2021		242
1/25/2022		259
7/5/2022		294
2/21/2023		232

# Prediction Limit

Constituent: Calcium, total (mg/L) Analysis Run 5/17/2023 2:40 PM View: Appendix III - Intravel  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-5	MW-5
4/25/2016	399	
6/21/2016	295	
10/12/2017	394	
10/13/2017	389	
10/14/2017	391	
10/15/2017	332	
10/16/2017	380	
10/17/2017	377	
11/16/2017	368	
5/23/2018	405	
11/20/2018	414	
5/14/2019	441	
10/10/2019	386	
4/7/2020	432	
7/14/2020	395	
2/23/2021	394	
7/21/2021		384
1/31/2022		398
7/6/2022		414
2/21/2023		367

# Prediction Limit

Constituent: Calcium, total (mg/L) Analysis Run 5/17/2023 2:40 PM View: Appendix III - Intravel  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-6	MW-6
4/27/2016	411	
6/21/2016	318	
10/12/2017	421	
10/13/2017	396	
10/14/2017	400	
10/15/2017	378	
10/16/2017	402	
10/17/2017	373	
11/16/2017	367	
5/23/2018	425	
11/20/2018	449	
5/15/2019	345	
10/10/2019	461	
4/8/2020	242	
7/14/2020	406	
2/23/2021	428	
7/20/2021		348
1/31/2022		385
7/6/2022		430
2/22/2023		250

# Prediction Limit

Constituent: Calcium, total (mg/L) Analysis Run 5/17/2023 2:40 PM View: Appendix III - Intravel  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-7	MW-7
4/27/2016	198	
6/21/2016	327	
10/12/2017	317	
10/13/2017	302	
10/14/2017	283	
10/15/2017	294	
10/16/2017	284	
10/17/2017	294	
11/16/2017	299	
5/23/2018	321	
11/20/2018	306	
5/15/2019	302	
10/8/2019	294	
4/8/2020	280	
7/14/2020	261	
2/23/2021	292	
7/20/2021		254
1/31/2022		278
7/6/2022		280
2/21/2023		286

# Prediction Limit

Constituent: Calcium, total (mg/L) Analysis Run 5/17/2023 2:40 PM View: Appendix III - Intravel  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-8	MW-8
4/27/2016	282	
6/21/2016	291	
10/12/2017	300	
10/13/2017	298	
10/14/2017	299	
10/15/2017	307	
10/16/2017	299	
10/17/2017	294	
11/16/2017	308	
5/23/2018	344	
11/20/2018	327	
5/15/2019	305	
10/9/2019	329	
4/8/2020	281	
7/15/2020	280	
2/23/2021	306	
7/20/2021		281
2/1/2022		284
7/6/2022		306
2/21/2023		327

# Prediction Limit

Constituent: Fluoride, total (mg/L) Analysis Run 5/17/2023 2:40 PM View: Appendix III - Intravel  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-1	MW-1
4/26/2016	0.146 (J)	
6/20/2016	0.148 (J)	
8/8/2016	0.137 (J)	
8/24/2016	0.133 (J)	
10/3/2016	0.103 (J)	
10/26/2016	0.05 (J)	
11/21/2016	0.047 (J)	
1/17/2017	0.09 (J)	
3/22/2017	0.12	
4/18/2017	0.12	
5/30/2017	0.13	
8/23/2017	0.16	
2/13/2018	0.14	
5/22/2018	0.16	
6/12/2018	0.16	
10/17/2018	0.18	
11/19/2018	0.15	
4/10/2019	0.102	
5/14/2019	0.119	
10/8/2019	0.0924 (J)	
10/16/2019	0.0756 (J)	
4/6/2020	0.101	
7/13/2020	0.0678 (J)	
2/22/2021	0.082 (J)	
7/12/2021		0.125
1/25/2022		0.101
7/5/2022		0.11 (J)
2/20/2023		0.221

# Prediction Limit

Constituent: Fluoride, total (mg/L) Analysis Run 5/17/2023 2:40 PM View: Appendix III - Intravel  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-2	MW-2
4/25/2016	0.149 (J)	
6/20/2016	0.148 (J)	
8/8/2016	0.134 (J)	
8/24/2016	0.129 (J)	
10/3/2016	0.086 (J)	
10/26/2016	0.027 (J)	
11/21/2016	0.027 (J)	
1/17/2017	0.066 (J)	
3/22/2017	0.13	
4/18/2017	0.16	
5/31/2017	0.13	
8/23/2017	0.16	
2/13/2018	0.22	
5/22/2018	0.17	
6/12/2018	0.16	
10/17/2018	0.16	
11/19/2018	0.18	
4/10/2019	0.262	
5/14/2019	0.17	
10/8/2019	0.164	
10/16/2019	0.114	
4/6/2020	0.207	
7/13/2020	0.132	
2/22/2021	0.209	
7/12/2021		0.196
1/25/2022		0.204
7/5/2022		0.2
2/20/2023		0.267



# Prediction Limit

Constituent: Fluoride, total (mg/L) Analysis Run 5/17/2023 2:40 PM View: Appendix III - Intravel  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-3	MW-3
4/25/2016	0.243 (J)	
6/22/2016	0.269 (J)	
8/9/2016	0.363	
8/24/2016	0.346	
10/4/2016	0.266 (J)	
10/26/2016	0.266 (J)	
11/21/2016	0.244 (J)	
1/18/2017	0.385	
3/22/2017	0.41	
4/18/2017	0.29	
5/31/2017	0.37	
8/23/2017	0.55	
2/13/2018	0.27	
5/24/2018	0.6	
6/12/2018	0.53	
10/17/2018	0.63	
11/19/2018	0.31	
4/10/2019	0.273	
5/14/2019	0.281	
10/8/2019	0.225	
10/16/2019	0.106	
4/6/2020	0.314	
7/13/2020	0.13	
2/22/2021	0.246	
7/12/2021		0.287
1/25/2022		0.325
7/5/2022		0.386
2/20/2023		0.379

# Prediction Limit

Constituent: Fluoride, total (mg/L) Analysis Run 5/17/2023 2:40 PM View: Appendix III - Intravel  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-4	MW-4
4/25/2016	0.372	
6/20/2016	0.361	
8/9/2016	0.326	
8/24/2016	0.329	
10/3/2016	0.287 (J)	
10/26/2016	0.194 (J)	
11/21/2016	0.192 (J)	
1/18/2017	0.223 (J)	
3/22/2017	0.32	
4/18/2017	0.32	
5/31/2017	0.31	
8/23/2017	0.38	
2/13/2018	0.38	
5/23/2018	0.38	
6/12/2018	0.39	
10/17/2018	0.39	
11/19/2018	0.36	
4/10/2019	0.384	
5/14/2019	0.335	
10/10/2019	0.304	
10/16/2019	0.302	
4/6/2020	0.368	
7/14/2020	0.33	
2/22/2021	0.357	
7/12/2021		0.35
1/25/2022		0.364
7/5/2022		0.362
2/21/2023		0.415

# Prediction Limit

Constituent: Fluoride, total (mg/L) Analysis Run 5/17/2023 2:40 PM View: Appendix III - Intravel  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-5	MW-5
4/25/2016	0.307	
6/21/2016	0.337	
10/12/2017	0.35	
10/13/2017	0.36	
10/14/2017	0.37	
10/15/2017	0.37	
10/16/2017	0.36	
10/17/2017	0.35	
11/16/2017	0.37	
2/14/2018	0.33	
5/23/2018	0.29	
11/20/2018	0.32	
5/14/2019	0.22	
10/10/2019	0.338	
4/7/2020	0.225	
7/14/2020	0.263	
2/23/2021	0.287	
7/21/2021		0.331
1/31/2022		0.291
7/6/2022		0.306
2/21/2023		0.319

# Prediction Limit

Constituent: Fluoride, total (mg/L) Analysis Run 5/17/2023 2:40 PM View: Appendix III - Intravel  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-6	MW-6
4/27/2016	0.131 (J)	
6/21/2016	0.153 (J)	
10/12/2017	0.15	
10/13/2017	0.15	
10/14/2017	0.14	
10/15/2017	0.14	
10/16/2017	0.14	
10/17/2017	0.14	
11/16/2017	0.14	
2/14/2018	0.13	
5/23/2018	0.13	
11/20/2018	0.14	
5/15/2019	0.133	
10/10/2019	0.124	
4/8/2020	<0.1 (o)	
7/14/2020	0.115	
2/23/2021	0.139	
7/20/2021		0.131
1/31/2022		0.121
7/6/2022		0.147
2/22/2023		0.173

# Prediction Limit

Constituent: Fluoride, total (mg/L) Analysis Run 5/17/2023 2:40 PM View: Appendix III - Intravel  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-7	MW-7
4/27/2016	0.2 (J)	
6/21/2016	0.163 (J)	
10/12/2017	0.17	
10/13/2017	0.19	
10/14/2017	0.2	
10/15/2017	0.2	
10/16/2017	0.2	
10/17/2017	0.19	
11/16/2017	0.18	
2/14/2018	0.18	
5/23/2018	0.18	
11/20/2018	0.19	
5/15/2019	0.169	
10/8/2019	0.183	
4/8/2020	0.153	
7/14/2020	0.193	
2/23/2021	0.2	
7/20/2021		0.286
1/31/2022		0.173
7/6/2022		0.208
2/21/2023		0.216

# Prediction Limit

Constituent: Fluoride, total (mg/L) Analysis Run 5/17/2023 2:40 PM View: Appendix III - Intravel  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-8	MW-8
4/27/2016	0.212 (J)	
6/21/2016	0.211 (J)	
10/12/2017	0.22	
10/13/2017	0.23	
10/14/2017	0.22	
10/15/2017	0.22	
10/16/2017	0.22	
10/17/2017	0.21	
11/16/2017	0.22	
2/14/2018	0.21	
5/23/2018	0.21	
11/20/2018	0.21	
5/15/2019	0.192	
10/9/2019	0.189	
4/8/2020	0.192	
7/15/2020	0.196	
2/23/2021	0.208	
7/20/2021		0.262
2/1/2022		0.177
7/6/2022		0.173
2/21/2023		0.212

# Prediction Limit

Constituent: Sulfate as SO4 (mg/L) Analysis Run 5/17/2023 2:40 PM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-1	MW-1
4/26/2016	1490	
6/20/2016	1420	
8/8/2016	1460	
8/24/2016	1450	
10/3/2016	1460	
10/26/2016	1330	
11/21/2016	1420	
1/17/2017	1350	
3/22/2017	1500	
4/18/2017	1300	
5/30/2017	1400	
8/23/2017	1500	
5/22/2018	2100 (o)	
6/12/2018	1500	
10/17/2018	1400	
11/19/2018	1300	
4/10/2019	1700	
5/14/2019	1560	
10/8/2019	1540	
10/16/2019	1680	
4/6/2020	1530	
7/13/2020	1450	
2/22/2021	1400	
7/12/2021		1560
1/25/2022		1430
7/5/2022		1600
2/20/2023		1520

# Prediction Limit

Constituent: Sulfate as SO4 (mg/L) Analysis Run 5/17/2023 2:40 PM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-2	MW-2
4/25/2016	745	
6/20/2016	964	
8/8/2016	1100	
8/24/2016	1130	
10/3/2016	1140	
10/26/2016	1060	
11/21/2016	1100	
1/17/2017	1160	
3/22/2017	900	
4/18/2017	870	
5/31/2017	1100	
8/23/2017	920	
5/22/2018	1200	
6/12/2018	860	
10/17/2018	970	
11/19/2018	1000	
4/10/2019	889	
5/14/2019	948	
10/8/2019	1230	
10/16/2019	1170	
4/6/2020	786	
7/13/2020	843	
2/22/2021	864	
7/12/2021		763
1/25/2022		842
7/5/2022		819
2/20/2023		767



# Prediction Limit

Constituent: Sulfate as SO4 (mg/L) Analysis Run 5/17/2023 2:40 PM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-3	MW-3
4/25/2016	1890	
6/22/2016	2100	
8/9/2016	2050	
8/24/2016	2190	
10/4/2016	1950	
10/26/2016	1980	
11/21/2016	2060	
1/18/2017	2620	
3/22/2017	3200	
4/18/2017	2500	
5/31/2017	2800	
8/23/2017	2600	
5/24/2018	2700	
6/12/2018	2500	
10/17/2018	2700	
11/19/2018	3000	
4/10/2019	2460	
5/14/2019	2460	
10/8/2019	2950	
10/16/2019	2820	
4/6/2020	1670	
7/13/2020	2130	
2/22/2021	3040	
7/12/2021		2380
1/25/2022		2550
7/5/2022		3110
2/20/2023		2110

# Prediction Limit

Constituent: Sulfate as SO4 (mg/L) Analysis Run 5/17/2023 2:40 PM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-4	MW-4
4/25/2016	2260	
6/20/2016	2500	
8/9/2016	2750	
8/24/2016	2770	
10/3/2016	3060	
10/26/2016	2650	
11/21/2016	2720	
1/18/2017	2650	
3/22/2017	2700	
4/18/2017	2400	
5/31/2017	2700	
8/23/2017	2700	
5/23/2018	2400	
6/12/2018	2600	
10/17/2018	2600	
11/19/2018	2400	
4/10/2019	2090	
5/14/2019	2240	
10/10/2019	2690	
10/16/2019	3050	
4/6/2020	1810	
7/14/2020	1970	
2/22/2021	2040	
7/12/2021		1930
1/25/2022		1930
7/5/2022		2380
2/21/2023		1930

# Prediction Limit

Constituent: Sulfate as SO4 (mg/L) Analysis Run 5/17/2023 2:40 PM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-5	MW-5
4/25/2016	2390	
6/21/2016	2500	
10/12/2017	2300	
10/13/2017	2300	
10/14/2017	2300	
10/15/2017	2300	
10/16/2017	2300	
10/17/2017	2200	
11/16/2017	2200	
5/23/2018	2400	
11/20/2018	2500	
5/14/2019	2380	
10/10/2019	2460	
4/7/2020	2050	
7/14/2020	2080	
2/23/2021	2210	
7/21/2021		2240
1/31/2022		2310
7/6/2022		2320
2/21/2023		2210

# Prediction Limit

Constituent: Sulfate as SO4 (mg/L) Analysis Run 5/17/2023 2:40 PM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-6	MW-6
4/27/2016	2090	
6/21/2016	2000	
10/12/2017	2000	
10/13/2017	2000	
10/14/2017	1900	
10/15/2017	1900	
10/16/2017	1900	
10/17/2017	1900	
11/16/2017	1800	
5/23/2018	2000	
11/20/2018	2200	
5/15/2019	2110	
10/10/2019	2330	
4/8/2020	1900	
7/14/2020	1970	
2/23/2021	2010	
7/20/2021		1930
1/31/2022		2080
7/6/2022		2100
2/22/2023		1870

# Prediction Limit

Constituent: Sulfate as SO4 (mg/L) Analysis Run 5/17/2023 2:40 PM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-7	MW-7
4/27/2016	1050	
6/21/2016	1410	
10/12/2017	1400	
10/13/2017	1400	
10/14/2017	1300	
10/15/2017	1300	
10/16/2017	1300	
10/17/2017	1300	
11/16/2017	1300	
5/23/2018	1900 (O)	
11/20/2018	1100	
5/15/2019	1510	
10/8/2019	1570	
4/8/2020	1270	
7/14/2020	1330	
2/23/2021	1320	
7/20/2021		1170
1/31/2022		1370
7/6/2022		1330
2/21/2023		1450

# Prediction Limit

Constituent: Sulfate as SO4 (mg/L) Analysis Run 5/17/2023 2:40 PM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-8	MW-8
4/27/2016	1550	
6/21/2016	1470	
10/12/2017	1400	
10/13/2017	1600	
10/14/2017	1400	
10/15/2017	1400	
10/16/2017	1400	
10/17/2017	1400	
11/16/2017	1400	
5/23/2018	2100 (o)	
11/20/2018	1400	
5/15/2019	1640	
10/9/2019	1550	
4/8/2020	1380	
7/15/2020	1410	
2/23/2021	1420	
7/20/2021		1500
2/1/2022		1500
7/6/2022		1460
2/21/2023		1510

# Prediction Limit

Constituent: Total Dissolved Solids [TDS] (mg/L) Analysis Run 5/17/2023 2:40 PM View: Appendix III - IntraWell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-1	MW-1
4/26/2016	2080	
6/20/2016	2060	
8/8/2016	2070	
8/24/2016	2040	
10/3/2016	2110	
10/26/2016	2000	
11/21/2016	2070	
1/17/2017	1930	
3/22/2017	2060	
4/18/2017	2140	
5/30/2017	2240	
8/23/2017	2160	
5/22/2018	2380	
6/12/2018	2400	
10/17/2018	2220	
11/19/2018	2360	
4/10/2019	2630	
5/14/2019	2340	
10/8/2019	2330	
10/16/2019	3650 (o)	
4/6/2020	2240	
7/13/2020	2240	
2/22/2021	2230	
7/12/2021		2210
1/25/2022		2150
7/5/2022		2100
2/20/2023		2280

# Prediction Limit

Constituent: Total Dissolved Solids [TDS] (mg/L) Analysis Run 5/17/2023 2:40 PM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-2	MW-2
4/25/2016	1260	
6/20/2016	1620	
8/8/2016	1740	
8/24/2016	1720	
10/3/2016	1800	
10/26/2016	1800	
11/21/2016	1740	
1/17/2017	1960	
3/22/2017	1510	
4/18/2017	1580	
5/31/2017	1730	
8/23/2017	1550	
5/22/2018	1500	
6/12/2018	1550	
10/17/2018	1740	
11/19/2018	1990	
4/10/2019	1250	
5/14/2019	1480	
10/8/2019	1840	
10/16/2019	1830	
4/6/2020	1440	
7/13/2020	1540	
2/22/2021	1620	
7/12/2021		1390
1/25/2022		1500
7/5/2022		1250
2/20/2023		1420



# Prediction Limit

Constituent: Total Dissolved Solids [TDS] (mg/L) Analysis Run 5/17/2023 2:40 PM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-3	MW-3
4/25/2016	2720	
6/22/2016	3250	
8/9/2016	3050	
8/24/2016	3080	
10/4/2016	2900	
10/26/2016	2940	
11/21/2016	3090	
1/18/2017	4020	
3/22/2017	4180	
4/18/2017	4440	
5/31/2017	3970	
8/23/2017	4050	
5/24/2018	3680	
6/12/2018	3820	
10/17/2018	4730	
11/19/2018	4710	
4/10/2019	3680	
5/14/2019	3580	
10/8/2019	4720	
10/16/2019	4210	
4/6/2020	2630	
7/13/2020	3650	
2/22/2021	4670	
7/12/2021		3510
1/25/2022		3950
7/5/2022		4220
2/20/2023		3230

# Prediction Limit

Constituent: Total Dissolved Solids [TDS] (mg/L) Analysis Run 5/17/2023 2:40 PM View: Appendix III - IntraWell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-4	MW-4
4/25/2016	3300	
6/20/2016	3870	
8/9/2016	4140	
8/24/2016	4190	
10/3/2016	4190	
10/26/2016	4400	
11/21/2016	4230	
1/18/2017	4120	
3/22/2017	3980	
4/18/2017	3880	
5/31/2017	4210	
8/23/2017	3990	
5/23/2018	3740	
6/12/2018	4080	
10/17/2018	4250	
11/19/2018	3920	
4/10/2019	3280	
5/14/2019	3130 (D)	
10/10/2019	4000	
10/16/2019	4060	
4/6/2020	2820	
7/14/2020	3310	
2/22/2021	3190	
7/12/2021		3000
1/25/2022		3180
7/5/2022		3240
2/21/2023		3160

# Prediction Limit

Constituent: Total Dissolved Solids [TDS] (mg/L) Analysis Run 5/17/2023 2:40 PM View: Appendix III - IntraWell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-5	MW-5
4/25/2016	3660	
6/21/2016	3920	
10/12/2017	4000	
10/13/2017	3960	
10/14/2017	3910	
10/15/2017	3890	
10/16/2017	3980	
10/17/2017	3940	
11/16/2017	3930	
5/23/2018	3660	
11/20/2018	3780	
5/14/2019	3520	
10/10/2019	3830	
4/7/2020	3270	
7/14/2020	3710	
2/23/2021	3740	
7/21/2021		3570
1/31/2022		3560
7/6/2022		3390
2/21/2023		3310

# Prediction Limit

Constituent: Total Dissolved Solids [TDS] (mg/L) Analysis Run 5/17/2023 2:40 PM View: Appendix III - IntraWell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-6	MW-6
4/27/2016	3290	
6/21/2016	3250	
10/12/2017	3220	
10/13/2017	3250	
10/14/2017	3260	
10/15/2017	3260	
10/16/2017	3360	
10/17/2017	3420	
11/16/2017	3280	
5/23/2018	3340	
11/20/2018	3330	
5/15/2019	3130	
10/10/2019	3260	
4/8/2020	2940	
7/14/2020	3270	
2/23/2021	3230	
7/20/2021		3090
1/31/2022		3050
7/6/2022		3110
2/22/2023		2790

# Prediction Limit

Constituent: Total Dissolved Solids [TDS] (mg/L) Analysis Run 5/17/2023 2:40 PM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-7	MW-7
4/27/2016	1640	
6/21/2016	2460	
10/12/2017	2460	
10/13/2017	2420	
10/14/2017	2320	
10/15/2017	1150	
10/16/2017	2320	
10/17/2017	2360	
11/16/2017	2460	
5/23/2018	2390	
11/20/2018	2090	
5/15/2019	2310	
10/8/2019	2340	
4/8/2020	2230	
7/14/2020	2210	
2/23/2021	2320	
7/20/2021		2110
1/31/2022		2140
7/6/2022		2110
2/21/2023		2220

# Prediction Limit

Constituent: Total Dissolved Solids [TDS] (mg/L) Analysis Run 5/17/2023 2:40 PM View: Appendix III - IntraWell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-8	MW-8
4/27/2016	2480	
6/21/2016	2360	
10/12/2017	2530	
10/13/2017	2740	
10/14/2017	2630	
10/15/2017	2530	
10/16/2017	2740	
10/17/2017	2650	
11/16/2017	2650	
5/23/2018	2750	
11/20/2018	2520	
5/15/2019	2540	
10/9/2019	2590	
4/8/2020	2450	
7/15/2020	2460	
2/23/2021	2550	
7/20/2021		2420
2/1/2022		2420
7/6/2022		2320
2/21/2023		2370

FIGURE E.

# Appendix III Interwell Prediction Limits - Significant Results

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF Printed 5/17/2023, 2:42 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Chloride, Total (mg/L)	MW-5	4.6	n/a	2/21/2023	5.25	Yes	108	n/a	n/a	2.778	n/a	n/a	0.0001702	NP Inter (normality) 1 of 2
Chloride, Total (mg/L)	MW-7	4.6	n/a	2/21/2023	6.12	Yes	108	n/a	n/a	2.778	n/a	n/a	0.0001702	NP Inter (normality) 1 of 2
Chloride, Total (mg/L)	MW-8	4.6	n/a	2/21/2023	4.86	Yes	108	n/a	n/a	2.778	n/a	n/a	0.0001702	NP Inter (normality) 1 of 2
pH, Field (SU)	MW-5	6.35	4.51	2/21/2023	6.5	Yes	109	n/a	n/a	0	n/a	n/a	0.0003345	NP Inter (normality) 1 of 2
pH, Field (SU)	MW-7	6.35	4.51	2/21/2023	6.72	Yes	109	n/a	n/a	0	n/a	n/a	0.0003345	NP Inter (normality) 1 of 2
pH, Field (SU)	MW-8	6.35	4.51	2/21/2023	6.75	Yes	109	n/a	n/a	0	n/a	n/a	0.0003345	NP Inter (normality) 1 of 2



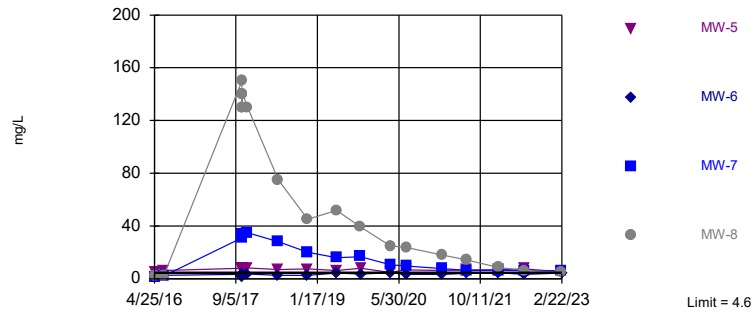
# Appendix III Interwell Prediction Limits - All Results

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF Printed 5/17/2023, 2:42 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
<b>Chloride, Total (mg/L)</b>	<b>MW-5</b>	<b>4.6</b>	<b>n/a</b>	<b>2/21/2023</b>	<b>5.25</b>	<b>Yes</b>	<b>108</b>	<b>n/a</b>	<b>n/a</b>	<b>2.778</b>	<b>n/a</b>	<b>n/a</b>	<b>0.0001702</b>	<b>NP Inter (normality) 1 of 2</b>
Chloride, Total (mg/L)	MW-6	4.6	n/a	2/22/2023	4.37	No	108	n/a	n/a	2.778	n/a	n/a	0.0001702	NP Inter (normality) 1 of 2
<b>Chloride, Total (mg/L)</b>	<b>MW-7</b>	<b>4.6</b>	<b>n/a</b>	<b>2/21/2023</b>	<b>6.12</b>	<b>Yes</b>	<b>108</b>	<b>n/a</b>	<b>n/a</b>	<b>2.778</b>	<b>n/a</b>	<b>n/a</b>	<b>0.0001702</b>	<b>NP Inter (normality) 1 of 2</b>
<b>Chloride, Total (mg/L)</b>	<b>MW-8</b>	<b>4.6</b>	<b>n/a</b>	<b>2/21/2023</b>	<b>4.86</b>	<b>Yes</b>	<b>108</b>	<b>n/a</b>	<b>n/a</b>	<b>2.778</b>	<b>n/a</b>	<b>n/a</b>	<b>0.0001702</b>	<b>NP Inter (normality) 1 of 2</b>
<b>pH, Field (SU)</b>	<b>MW-5</b>	<b>6.35</b>	<b>4.51</b>	<b>2/21/2023</b>	<b>6.5</b>	<b>Yes</b>	<b>109</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.0003345</b>	<b>NP Inter (normality) 1 of 2</b>
pH, Field (SU)	MW-6	6.35	4.51	2/22/2023	4.98	No	109	n/a	n/a	0	n/a	n/a	0.0003345	NP Inter (normality) 1 of 2
<b>pH, Field (SU)</b>	<b>MW-7</b>	<b>6.35</b>	<b>4.51</b>	<b>2/21/2023</b>	<b>6.72</b>	<b>Yes</b>	<b>109</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.0003345</b>	<b>NP Inter (normality) 1 of 2</b>
<b>pH, Field (SU)</b>	<b>MW-8</b>	<b>6.35</b>	<b>4.51</b>	<b>2/21/2023</b>	<b>6.75</b>	<b>Yes</b>	<b>109</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.0003345</b>	<b>NP Inter (normality) 1 of 2</b>

Exceeds Limit: MW-5, MW-7, MW-8

Prediction Limit  
Interwell Non-parametric

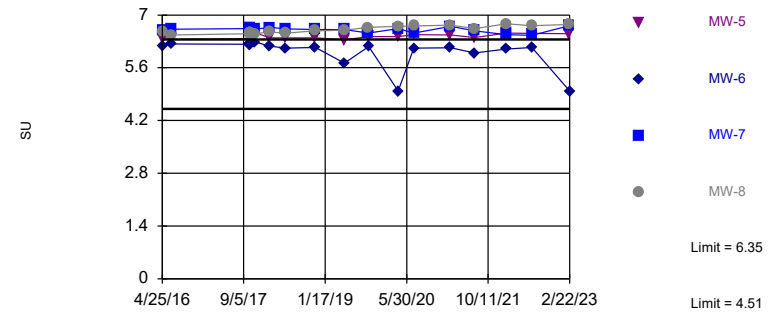


Non-parametric test used in lieu of parametric prediction limit because the Chi Squared normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 108 background values. 2.778% NDs. Annual per-constituent alpha = 0.001361. Individual comparison alpha = 0.0001702 (1 of 2). Comparing 4 points to limit.

Constituent: Chloride, Total    Analysis Run 5/17/2023 2:41 PM    View: Appendix III - Interwell  
Plant Gorgas    Client: Southern Company    Data: Gorgas CCR LF

Exceeds Limits: MW-5, MW-7, MW-8

Prediction Limit  
Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Chi Squared normality test showed the data to be non-normal at the 0.01 alpha level. Limits are highest and lowest of 109 background values. Annual per-constituent alpha = 0.002675. Individual comparison alpha = 0.0003345 (1 of 2). Comparing 4 points to limit.

Constituent: pH, Field    Analysis Run 5/17/2023 2:41 PM    View: Appendix III - Interwell  
Plant Gorgas    Client: Southern Company    Data: Gorgas CCR LF

# Prediction Limit

Constituent: Chloride, Total (mg/L) Analysis Run 5/17/2023 2:42 PM View: Appendix III - Interwell

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-4 (bg)	MW-5	MW-3 (bg)	MW-2 (bg)	MW-1 (bg)	MW-6	MW-7	MW-8
4/25/2016	1.53	5.44	1.32	1.9				
4/26/2016					1.94			
4/27/2016						2.19	1.71	2.34
6/20/2016	1.85			3.43	2.09			
6/21/2016		6.32				2.56	2.04	2.29
6/22/2016			1.46					
8/8/2016				3.31	2.18			
8/9/2016	1.95		1.35					
8/24/2016	2.07		1.47	3.23	2.22			
10/3/2016	2.02			3.21	2.34			
10/4/2016			1.59					
10/26/2016	2.07		1.27	3.35	2.34			
11/21/2016	2.39		1.38	3.34	2.5			
1/17/2017				3.58	2.68			
1/18/2017	1.9		1.34					
3/22/2017	1.5 (J)		2	3.4	3.7			
4/18/2017	1.6 (J)		2.2	2.6	2.4			
5/30/2017					2.6			
5/31/2017	2.1		1.5 (J)	4.4				
8/23/2017	2.3		1.8 (J)	4.4	2.7			
10/12/2017		7.9				3.4	31	150
10/13/2017		8 (B)				3 (B)	32 (B)	130 (B)
10/14/2017		7.4				2.8	33	140
10/15/2017		7.2				1.9 (J)	34	130
10/16/2017		8.1				1.8 (J)	34	140
10/17/2017		7.9				3.1	34	140
11/16/2017		8.1				3.5	35	130
5/22/2018				3.2	2.3			
5/23/2018	2	7				2.6	28	75
5/24/2018			1.6 (J)					
6/12/2018	1.7 (J)		1.4 (J)	3.7	2.3			
10/17/2018	1.5 (J)		<2	4.6	1.7 (J)			
11/19/2018	<2		<2	3	1.7 (J)			
11/20/2018		7.4				2.7	20	45
4/10/2019	1.88		2.25	1.76	2.36			
5/14/2019	1.82	6.24	2.28	2.98	2.28			
5/15/2019						4.45	15.9	52
10/8/2019			1.36	4.26	2.31		16.8	
10/9/2019								39.2
10/10/2019	1.93	7.88				3.61		
10/16/2019	1.92		1.4	4.04	2.42			
4/6/2020	1.5		1.72	2.43	2.01			
4/7/2020		4.83						
4/8/2020						4.63	10.6	24.9
7/13/2020			1.34	4.05	2.1			
7/14/2020	1.61	6.84				3.25	9.68	
7/15/2020								23.8
2/22/2021	1.52		2.22	1.72	2.16			
2/23/2021		6.19				3.47	7.85	17.9
7/12/2021	1.56		2.13	2.36	2.19			
7/20/2021						4.04	6.35	14.3
7/21/2021		6.73						

# Prediction Limit

Constituent: Chloride, Total (mg/L) Analysis Run 5/17/2023 2:42 PM View: Appendix III - Interwell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-4 (bg)	MW-5	MW-3 (bg)	MW-2 (bg)	MW-1 (bg)	MW-6	MW-7	MW-8
1/25/2022	1.54		2.12	2.14	2.09			
1/31/2022		6.87				4.53	6.4	
2/1/2022								8.56
7/5/2022	1.63		1.59	2.53	2.07			
7/6/2022		7.51				3.36	6.25	6.5
2/20/2023			1.94	1.7	2.05			
2/21/2023	1.58	5.25					6.12	4.86
2/22/2023						4.37		

# Prediction Limit

Constituent: pH, Field (SU) Analysis Run 5/17/2023 2:42 PM View: Appendix III - Interwell

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-5	MW-4 (bg)	MW-3 (bg)	MW-2 (bg)	MW-1 (bg)	MW-6	MW-8	MW-7
4/25/2016	6.37	6.22	5.56	5.94				
4/26/2016					5.2			
4/27/2016						6.18	6.55	6.6
6/20/2016		6.21		5.96	5.18			
6/21/2016	6.35					6.23	6.47	6.62
6/22/2016			5.57					
8/8/2016				5.88	5.12			
8/9/2016		6.11	5.67					
8/24/2016		6.11	5.63					
10/3/2016		6.13		5.91	5.21			
10/4/2016			5.69					
10/26/2016		6.12	5.56	5.84	5.2			
11/21/2016		6.09	5.42	5.82	5.19			
1/17/2017				5.87	5.17			
1/18/2017		6.09	5.11					
3/22/2017		6.15	4.52	6.01	5.2			
4/18/2017		6.19	5.84	6.02	5.2			
5/30/2017					5.14			
5/31/2017		6.13	4.56	5.85				
8/23/2017		6.12	4.77	5.89	5.12			
10/12/2017	6.38					6.22	6.5	6.64
10/13/2017	6.43					6.23	6.51	6.64
10/14/2017	6.41					6.22	6.53	6.66
10/15/2017	6.42					6.22	6.53	6.67
10/16/2017	6.42					6.21	6.54	6.67
10/17/2017	6.41					6.2	6.54	6.66
11/16/2017	6.53					6.28	6.51	6.62
2/13/2018		6.22	5.67	6.21	5.18			
2/14/2018	6.39					6.17	6.55	6.67
5/22/2018				6.04	5.2			
5/23/2018	6.39	6.21				6.12	6.52	6.63
5/24/2018			5.19					
6/12/2018		6.16	4.79	5.95	5.15			
10/17/2018		6.12	4.75	5.9	5.12			
11/19/2018		6.16	3.77 (o)	6.03	5.09			
11/20/2018	6.39					6.14	6.58	6.61
4/10/2019		6.14	5.54	6.1	5.11			
5/14/2019	6.34	6.23	5.71	6.07	5.19			
5/15/2019						5.72	6.6	6.61
10/8/2019			4.98	5.96	5.12			6.52
10/9/2019							6.67	
10/10/2019	6.43	6.15				6.16		
10/16/2019		6.19	4.51	5.98	5.16			
4/6/2020		6.35	5.91	6.21	5.21			
4/7/2020	6.43							
4/8/2020						4.98	6.7	6.64
7/13/2020			5.16	5.84	5.14			
7/14/2020	6.48	6.2				6.12		6.52
7/15/2020							6.71	
2/22/2021		6.19	5.59	6.1	5.06			
2/23/2021	6.47					6.13	6.73	6.7
7/12/2021		6.06	5.86	6.16	5.13			

# Prediction Limit

Constituent: pH, Field (SU) Analysis Run 5/17/2023 2:42 PM View: Appendix III - Interwell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-5	MW-4 (bg)	MW-3 (bg)	MW-2 (bg)	MW-1 (bg)	MW-6	MW-8	MW-7
7/20/2021						5.99	6.64	6.58
7/21/2021	6.4							
1/25/2022		6.3	5.9	6.22	5.11			
1/31/2022	6.52					6.1		6.48
2/1/2022							6.77	
7/5/2022		6.12	5.34	6.15	5.01			
7/6/2022	6.51					6.14	6.72	6.46
2/20/2023			6.01	6.24	5.07			
2/21/2023	6.5	6.35					6.75	6.72
2/22/2023						4.98		

FIGURE F.

# Trend Tests - Prediction Limit Exceedances - Significant Results

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF Printed 5/17/2023, 2:44 PM

<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
Chloride, Total (mg/L)	MW-8	-23.35	-100	-81	Yes	20	0	n/a	n/a	0.01	NP
Fluoride, total (mg/L)	MW-2 (bg)	0.01459	183	131	Yes	28	0	n/a	n/a	0.01	NP
pH, Field (SU)	MW-1 (bg)	-0.01675	-154	-124	Yes	27	0	n/a	n/a	0.01	NP
pH, Field (SU)	MW-2 (bg)	0.04641	169	124	Yes	27	0	n/a	n/a	0.01	NP
pH, Field (SU)	MW-8	0.04545	156	87	Yes	21	0	n/a	n/a	0.01	NP



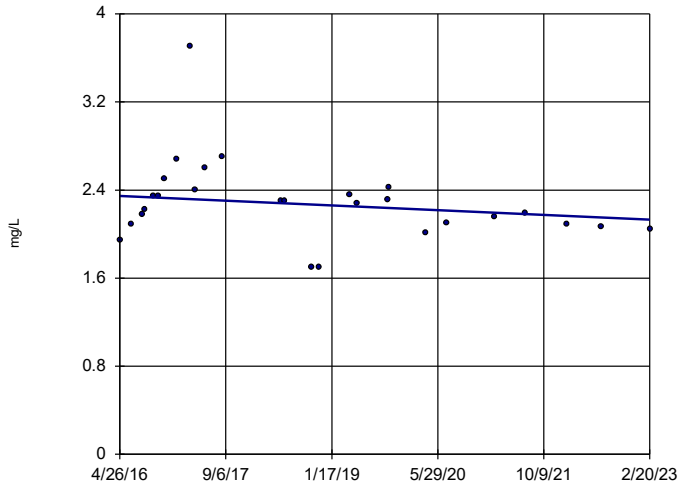
# Trend Tests - Prediction Limit Exceedances - All Results

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF Printed 5/17/2023, 2:44 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Chloride, Total (mg/L)	MW-1 (bg)	-0.03183	-67	-124	No	27	0	n/a	n/a	0.01	NP
Chloride, Total (mg/L)	MW-2 (bg)	-0.144	-72	-124	No	27	0	n/a	n/a	0.01	NP
Chloride, Total (mg/L)	MW-3 (bg)	0.07161	89	124	No	27	7.407	n/a	n/a	0.01	NP
Chloride, Total (mg/L)	MW-4 (bg)	-0.06041	-97	-124	No	27	3.704	n/a	n/a	0.01	NP
Chloride, Total (mg/L)	MW-5	-0.1261	-43	-81	No	20	0	n/a	n/a	0.01	NP
Chloride, Total (mg/L)	MW-7	-4.869	-73	-81	No	20	0	n/a	n/a	0.01	NP
<b>Chloride, Total (mg/L)</b>	<b>MW-8</b>	<b>-23.35</b>	<b>-100</b>	<b>-81</b>	<b>Yes</b>	<b>20</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Fluoride, total (mg/L)	MW-1 (bg)	-0.003095	-33	-131	No	28	0	n/a	n/a	0.01	NP
<b>Fluoride, total (mg/L)</b>	<b>MW-2 (bg)</b>	<b>0.01459</b>	<b>183</b>	<b>131</b>	<b>Yes</b>	<b>28</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Fluoride, total (mg/L)	MW-3 (bg)	0.002778	21	131	No	28	0	n/a	n/a	0.01	NP
Fluoride, total (mg/L)	MW-4 (bg)	0.007162	85	131	No	28	0	n/a	n/a	0.01	NP
Fluoride, total (mg/L)	MW-6	-0.00234	-54	-81	No	20	0	n/a	n/a	0.01	NP
Fluoride, total (mg/L)	MW-7	0.001693	32	87	No	21	0	n/a	n/a	0.01	NP
<b>pH, Field (SU)</b>	<b>MW-1 (bg)</b>	<b>-0.01675</b>	<b>-154</b>	<b>-124</b>	<b>Yes</b>	<b>27</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
<b>pH, Field (SU)</b>	<b>MW-2 (bg)</b>	<b>0.04641</b>	<b>169</b>	<b>124</b>	<b>Yes</b>	<b>27</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
pH, Field (SU)	MW-3 (bg)	0.03562	35	124	No	27	0	n/a	n/a	0.01	NP
pH, Field (SU)	MW-4 (bg)	0.01607	93	131	No	28	0	n/a	n/a	0.01	NP
pH, Field (SU)	MW-5	0.01884	86	87	No	21	0	n/a	n/a	0.01	NP
pH, Field (SU)	MW-7	-0.01489	-38	-87	No	21	0	n/a	n/a	0.01	NP
<b>pH, Field (SU)</b>	<b>MW-8</b>	<b>0.04545</b>	<b>156</b>	<b>87</b>	<b>Yes</b>	<b>21</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>

### Sen's Slope Estimator

MW-1 (bg)

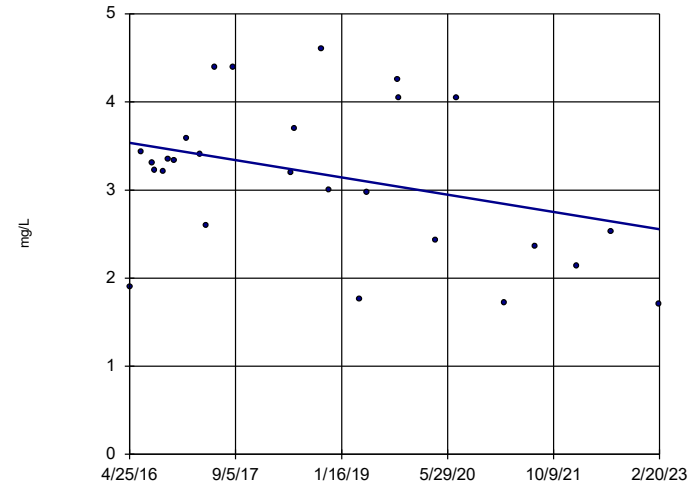


n = 27  
 Slope = -0.03183  
 units per year.  
 Mann-Kendall  
 statistic = -67  
 critical = -124  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 (α = 0.005 per  
 tail).

Constituent: Chloride, Total Analysis Run 5/17/2023 2:43 PM View: Appendix III - Trend Tests  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Sen's Slope Estimator

MW-2 (bg)

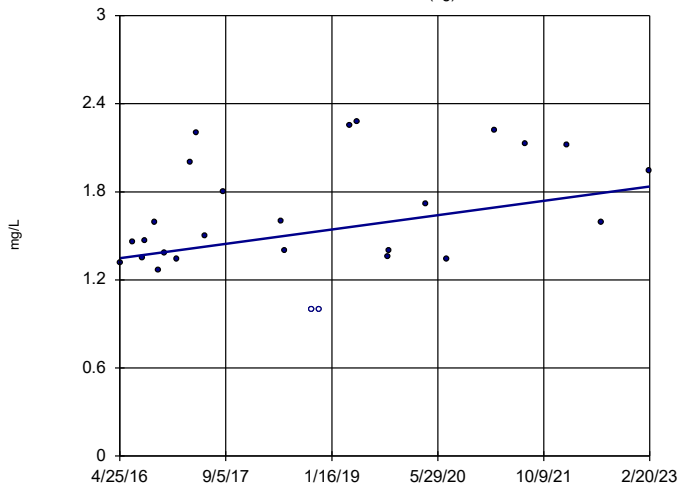


n = 27  
 Slope = -0.144  
 units per year.  
 Mann-Kendall  
 statistic = -72  
 critical = -124  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 (α = 0.005 per  
 tail).

Constituent: Chloride, Total Analysis Run 5/17/2023 2:43 PM View: Appendix III - Trend Tests  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Sen's Slope Estimator

MW-3 (bg)

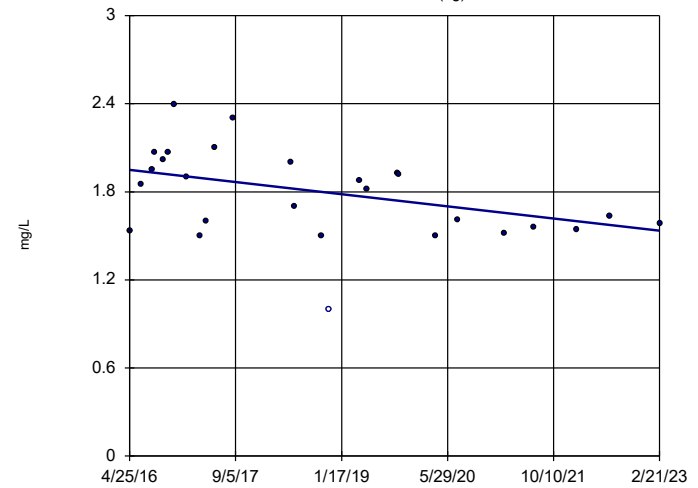


n = 27  
 Slope = 0.07161  
 units per year.  
 Mann-Kendall  
 statistic = 89  
 critical = 124  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 (α = 0.005 per  
 tail).

Constituent: Chloride, Total Analysis Run 5/17/2023 2:43 PM View: Appendix III - Trend Tests  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Sen's Slope Estimator

MW-4 (bg)

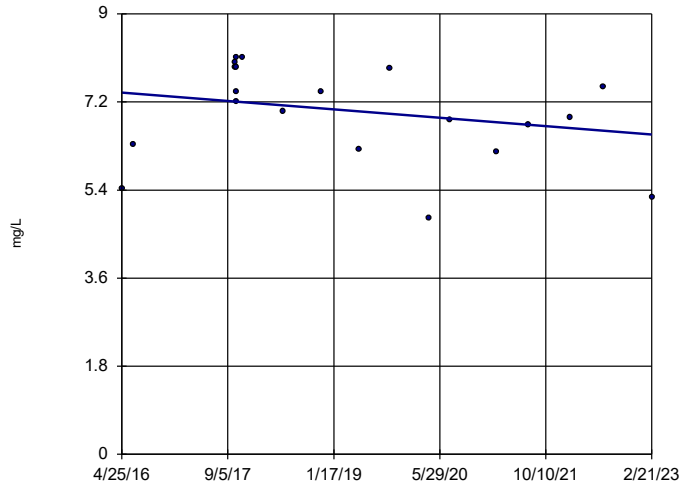


n = 27  
 Slope = -0.06041  
 units per year.  
 Mann-Kendall  
 statistic = -97  
 critical = -124  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 (α = 0.005 per  
 tail).

Constituent: Chloride, Total Analysis Run 5/17/2023 2:43 PM View: Appendix III - Trend Tests  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Sen's Slope Estimator

MW-5

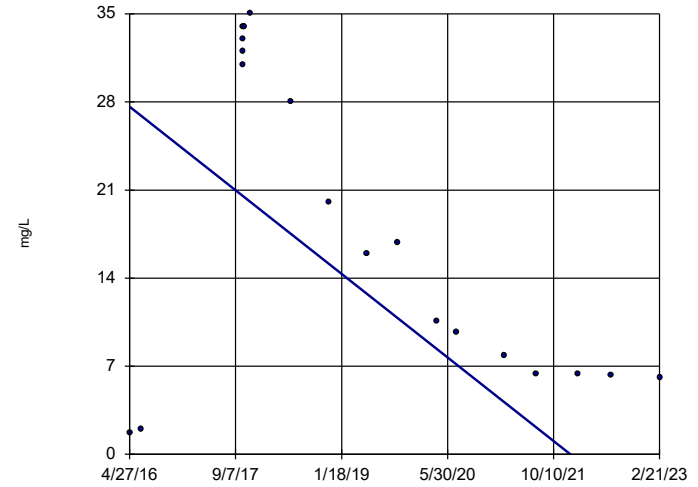


n = 20  
 Slope = -0.1261  
 units per year.  
 Mann-Kendall  
 statistic = -43  
 critical = -81  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Chloride, Total Analysis Run 5/17/2023 2:43 PM View: Appendix III - Trend Tests  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Sen's Slope Estimator

MW-7

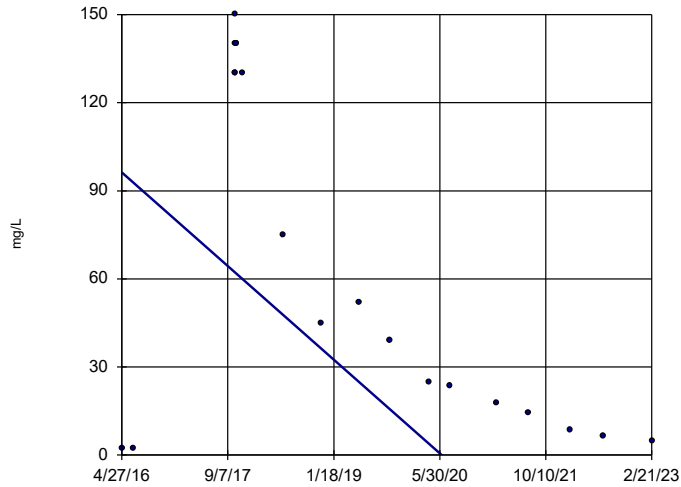


n = 20  
 Slope = -4.869  
 units per year.  
 Mann-Kendall  
 statistic = -73  
 critical = -81  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Chloride, Total Analysis Run 5/17/2023 2:43 PM View: Appendix III - Trend Tests  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Sen's Slope Estimator

MW-8

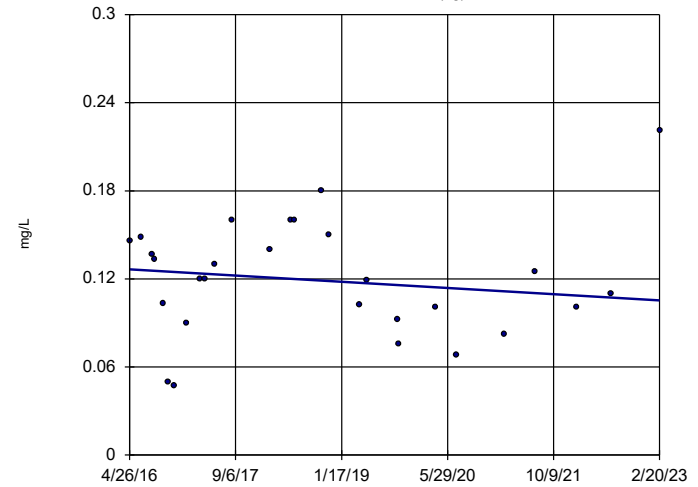


n = 20  
 Slope = -23.35  
 units per year.  
 Mann-Kendall  
 statistic = -100  
 critical = -81  
 Decreasing trend  
 significant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Chloride, Total Analysis Run 5/17/2023 2:43 PM View: Appendix III - Trend Tests  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Sen's Slope Estimator

MW-1 (bg)

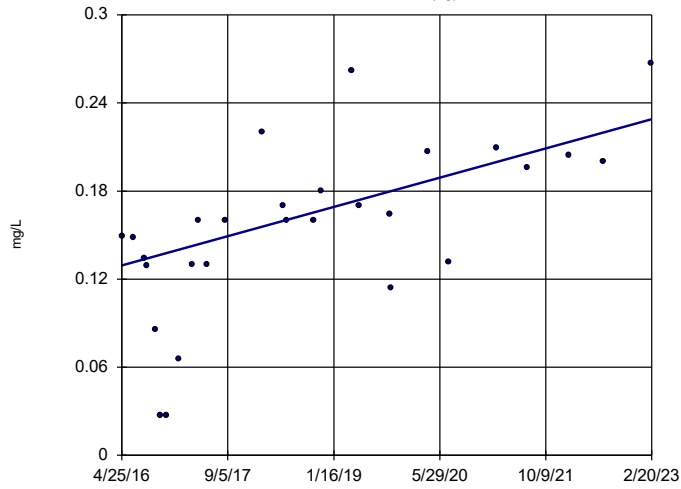


n = 28  
 Slope = -0.003095  
 units per year.  
 Mann-Kendall  
 statistic = -33  
 critical = -131  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Fluoride, total Analysis Run 5/17/2023 2:43 PM View: Appendix III - Trend Tests  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Sen's Slope Estimator

MW-2 (bg)

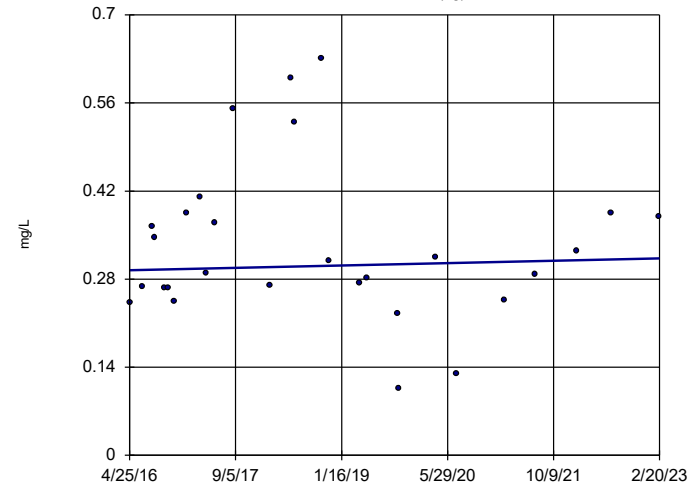


n = 28  
 Slope = 0.01459  
 units per year.  
 Mann-Kendall  
 statistic = 183  
 critical = 131  
 Increasing trend  
 significant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Fluoride, total Analysis Run 5/17/2023 2:43 PM View: Appendix III - Trend Tests  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Sen's Slope Estimator

MW-3 (bg)

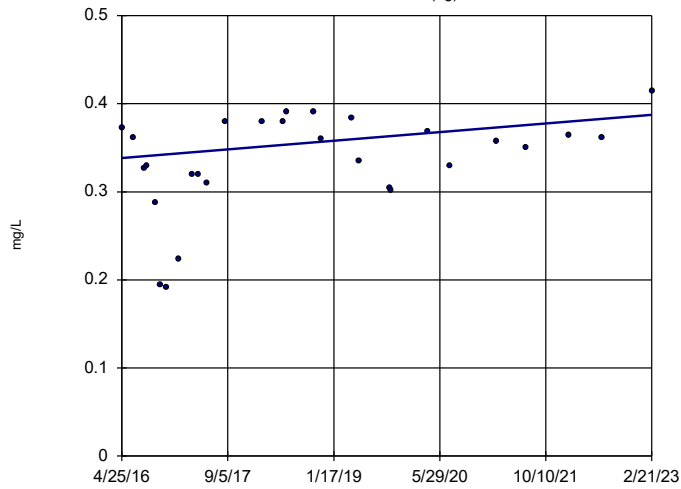


n = 28  
 Slope = 0.002778  
 units per year.  
 Mann-Kendall  
 statistic = 21  
 critical = 131  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Fluoride, total Analysis Run 5/17/2023 2:43 PM View: Appendix III - Trend Tests  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Sen's Slope Estimator

MW-4 (bg)

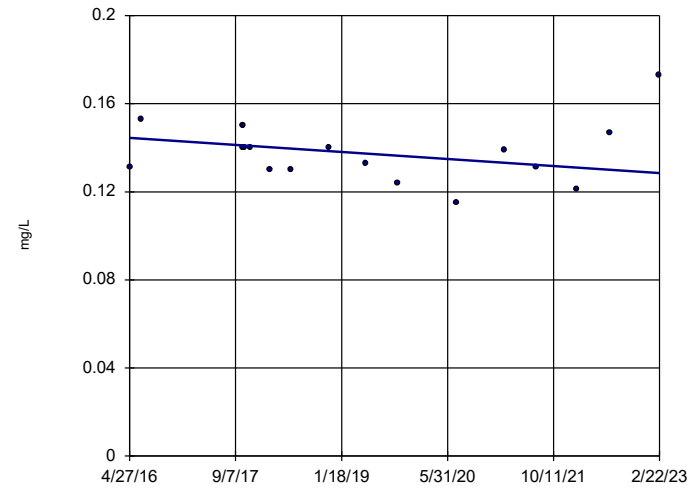


n = 28  
 Slope = 0.007162  
 units per year.  
 Mann-Kendall  
 statistic = 85  
 critical = 131  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Fluoride, total Analysis Run 5/17/2023 2:43 PM View: Appendix III - Trend Tests  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Sen's Slope Estimator

MW-6

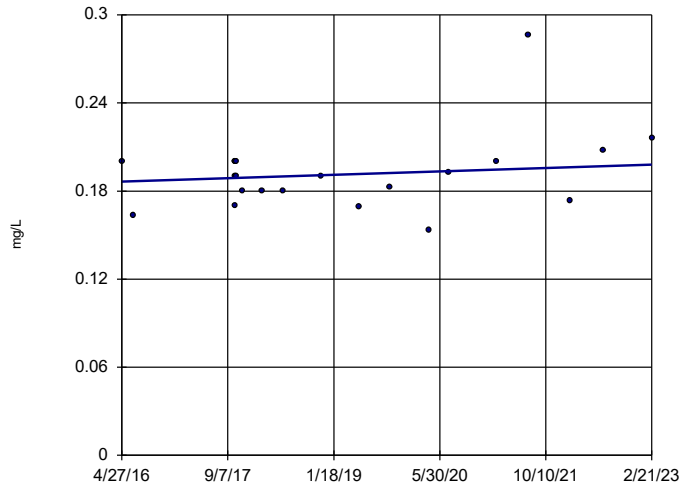


n = 20  
 Slope = -0.00234  
 units per year.  
 Mann-Kendall  
 statistic = -54  
 critical = -81  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Fluoride, total Analysis Run 5/17/2023 2:43 PM View: Appendix III - Trend Tests  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Sen's Slope Estimator

MW-7

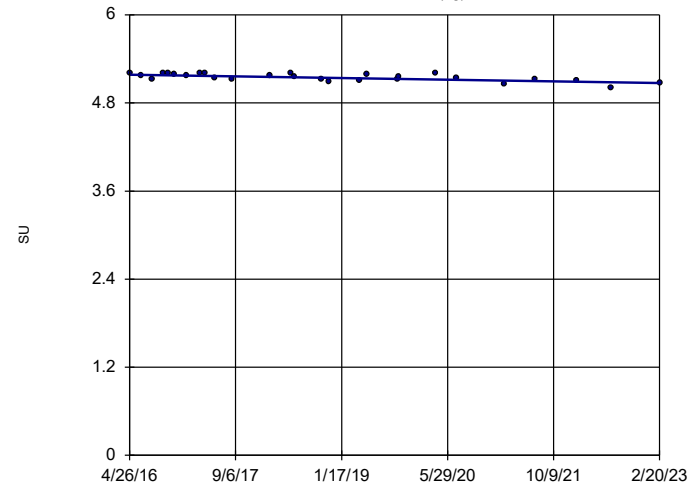


n = 21  
 Slope = 0.001693 units per year.  
 Mann-Kendall statistic = 32  
 critical = 87  
 Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Fluoride, total Analysis Run 5/17/2023 2:43 PM View: Appendix III - Trend Tests  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Sen's Slope Estimator

MW-1 (bg)

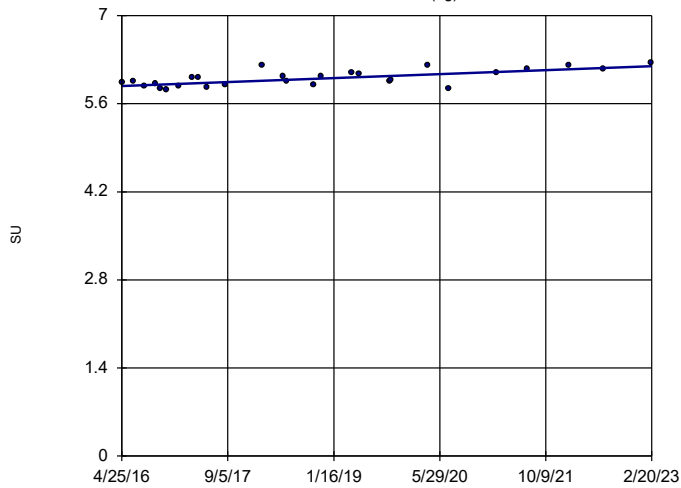


n = 27  
 Slope = -0.01675 units per year.  
 Mann-Kendall statistic = -154  
 critical = -124  
 Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: pH, Field Analysis Run 5/17/2023 2:43 PM View: Appendix III - Trend Tests  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Sen's Slope Estimator

MW-2 (bg)

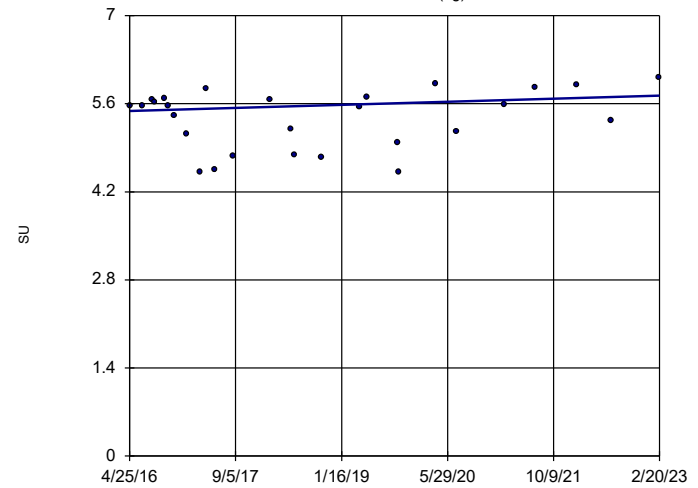


n = 27  
 Slope = 0.04641 units per year.  
 Mann-Kendall statistic = 169  
 critical = 124  
 Increasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: pH, Field Analysis Run 5/17/2023 2:43 PM View: Appendix III - Trend Tests  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Sen's Slope Estimator

MW-3 (bg)

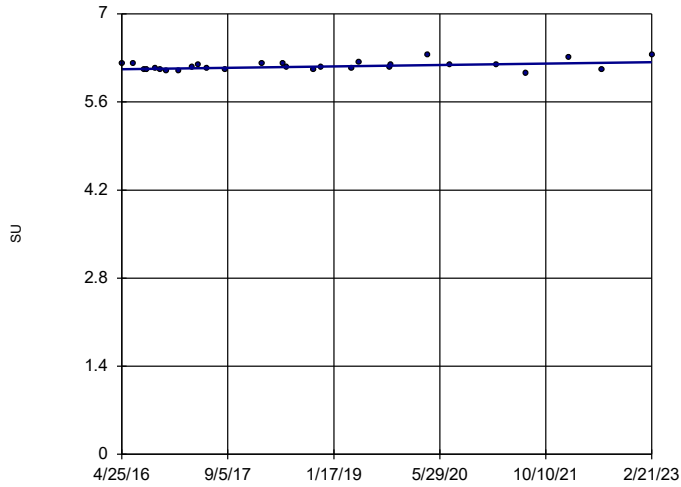


n = 27  
 Slope = 0.03562 units per year.  
 Mann-Kendall statistic = 35  
 critical = 124  
 Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: pH, Field Analysis Run 5/17/2023 2:43 PM View: Appendix III - Trend Tests  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Sen's Slope Estimator

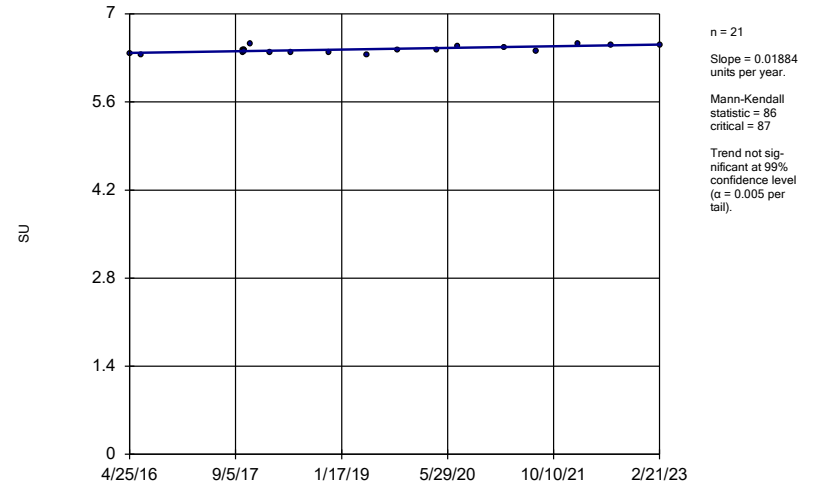
MW-4 (bg)



Constituent: pH, Field Analysis Run 5/17/2023 2:43 PM View: Appendix III - Trend Tests  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Sen's Slope Estimator

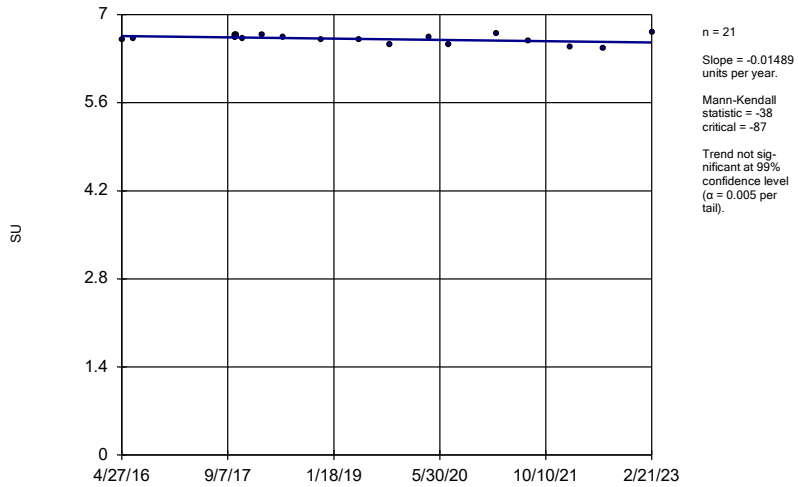
MW-5



Constituent: pH, Field Analysis Run 5/17/2023 2:43 PM View: Appendix III - Trend Tests  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Sen's Slope Estimator

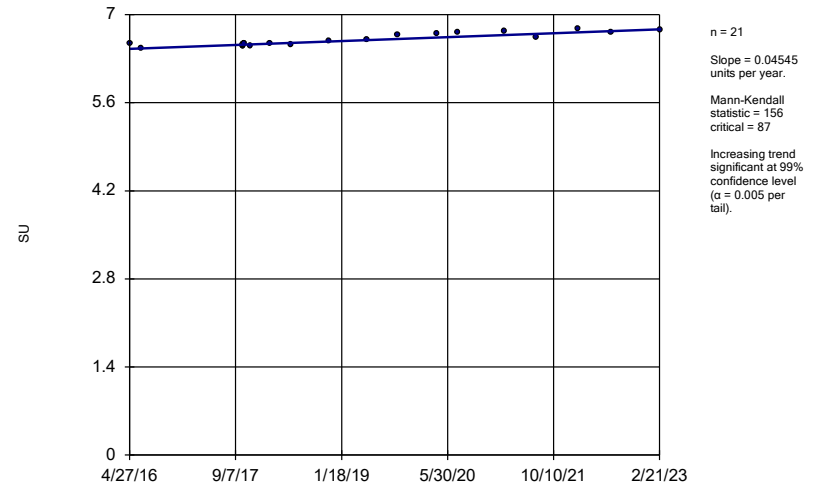
MW-7



Constituent: pH, Field Analysis Run 5/17/2023 2:43 PM View: Appendix III - Trend Tests  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Sen's Slope Estimator

MW-8



Constituent: pH, Field Analysis Run 5/17/2023 2:43 PM View: Appendix III - Trend Tests  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

FIGURE G.

# Upper Tolerance Limits Summary Table

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF Printed 11/16/2021, 10:57 AM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Date</u>	<u>Observ.</u>	<u>Sig.</u>	<u>Bg N</u>	<u>Bg Mean</u>	<u>Std. Dev.</u>	<u>%NDs</u>	<u>ND Adj.</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Antimony (mg/L)	n/a	0.00143	n/a	n/a	n/a	96	n/a	n/a	93.75	n/a	n/a	0.007269	NP Inter
Arsenic (mg/L)	n/a	0.005	n/a	n/a	n/a	96	n/a	n/a	83.33	n/a	n/a	0.007269	NP Inter
Barium (mg/L)	n/a	0.0165	n/a	n/a	n/a	96	n/a	n/a	0	n/a	n/a	0.007269	NP Inter
Beryllium (mg/L)	n/a	0.0121	n/a	n/a	n/a	94	n/a	n/a	84.04	n/a	n/a	0.008054	NP Inter
Cadmium (mg/L)	n/a	0.00598	n/a	n/a	n/a	94	n/a	n/a	45.74	n/a	n/a	0.008054	NP Inter
Chromium (mg/L)	n/a	0.0105	n/a	n/a	n/a	96	n/a	n/a	89.58	n/a	n/a	0.007269	NP Inter
Cobalt (mg/L)	n/a	0.49	n/a	n/a	n/a	94	n/a	n/a	26.6	n/a	n/a	0.008054	NP Inter
Combined Radium 226 + 228 (pCi/L)	n/a	1.47	n/a	n/a	n/a	92	n/a	n/a	0	n/a	n/a	0.008924	NP Inter
Fluoride, total (mg/L)	n/a	0.63	n/a	n/a	n/a	100	n/a	n/a	0	n/a	n/a	0.005921	NP Inter
Lead (mg/L)	n/a	0.00108	n/a	n/a	n/a	95	n/a	n/a	95.79	n/a	n/a	0.007651	NP Inter
Lithium (mg/L)	n/a	0.419	n/a	n/a	n/a	96	n/a	n/a	0	n/a	n/a	0.007269	NP Inter
Mercury (mg/L)	n/a	0.0005	n/a	n/a	n/a	96	n/a	n/a	100	n/a	n/a	0.007269	NP Inter
Molybdenum (mg/L)	n/a	0.0002	n/a	n/a	n/a	96	n/a	n/a	97.92	n/a	n/a	0.007269	NP Inter
Selenium (mg/L)	n/a	0.0209	n/a	n/a	n/a	96	n/a	n/a	60.42	n/a	n/a	0.007269	NP Inter
Thallium (mg/L)	n/a	0.000226	n/a	n/a	n/a	96	n/a	n/a	96.88	n/a	n/a	0.007269	NP Inter



FIGURE H.

<b>GORGAS CCR LANDFILL GWPS</b>			
<b>Analyte</b>	<b>Units</b>	<b>Background</b>	<b>GWPS</b>
Antimony	mg/L	0.00143	0.006
Arsenic	mg/L	0.005	0.01
Barium	mg/L	0.0165	2
Beryllium	mg/L	0.0121	0.004
Cadmium	mg/L	0.00598	0.005
Chromium	mg/L	0.0105	0.1
Cobalt	mg/L	0.49	0.49
Combined Radium-226/228	pCi/L	1.47	5
Fluoride	mg/L	0.63	4
Lead	mg/L	0.00108	0.015
Lithium	mg/L	0.419	0.419
Mercury	mg/L	0.0005	0.002
Molybdenum	mg/L	0.0002	0.1
Selenium	mg/L	0.0209	0.05
Thallium	mg/L	0.000226	0.002

Notes:

1. mg/L - Milligrams per liter
2. pCi/L - Picocuries per liter
3. The background limits were used as the groundwater protection standard (GWPS) when appropriate under 40 CFR §257.95(h), ADEM Rule 335-13-15-.06(h), and the ADEM Variance.
4. GWPS established during second semi-annual sampling event in 2021.

FIGURE I.

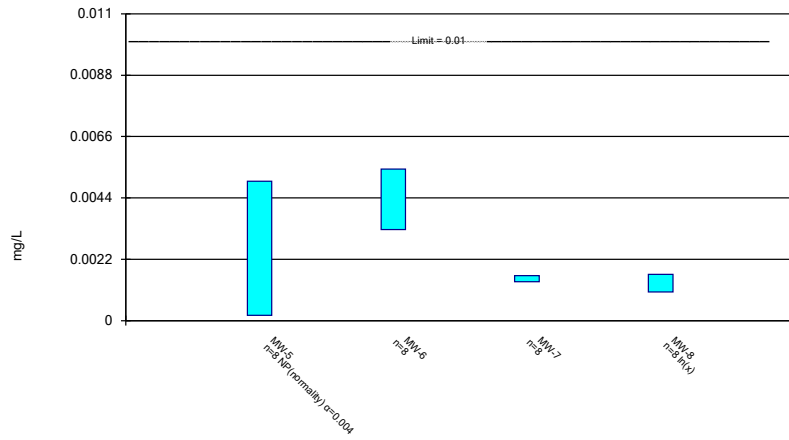
# Confidence Intervals - All Results (No Significant)

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF Printed 5/17/2023, 2:46 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Arsenic (mg/L)	MW-5	0.005	0.00019	0.01	No	8	0.00164	0.002126	25	None	No	0.004	NP (normality)
Arsenic (mg/L)	MW-6	0.005436	0.003264	0.01	No	8	0.00435	0.001025	0	None	No	0.01	Param.
Arsenic (mg/L)	MW-7	0.001617	0.001398	0.01	No	8	0.001508	0.0001031	0	None	No	0.01	Param.
Arsenic (mg/L)	MW-8	0.001656	0.00103	0.01	No	8	0.001338	0.0003428	0	None	ln(x)	0.01	Param.
Barium (mg/L)	MW-5	0.01287	0.01063	2	No	8	0.01175	0.001054	0	None	No	0.01	Param.
Barium (mg/L)	MW-6	0.01516	0.01296	2	No	8	0.01406	0.001039	0	None	No	0.01	Param.
Barium (mg/L)	MW-7	0.0147	0.01306	2	No	8	0.01389	0.0008043	0	None	x^3	0.01	Param.
Barium (mg/L)	MW-8	0.01457	0.0136	2	No	8	0.01409	0.0004581	0	None	No	0.01	Param.
Beryllium (mg/L)	MW-6	0.0009721	0.0002071	0.004	No	8	0.0008748	0.0002821	50	Kaplan-Meier	x^2	0.01	Param.
Cadmium (mg/L)	MW-6	0.001305	0.00004582	0.005	No	8	0.0007151	0.0007993	37.5	Kaplan-Meier	x^(1/3)	0.01	Param.
Chromium (mg/L)	MW-5	0.001015	0.00027	0.1	No	8	0.0009219	0.0002634	87.5	None	No	0.004	NP (NDs)
Chromium (mg/L)	MW-6	0.00102	0.00024	0.1	No	8	0.0007406	0.0003859	62.5	None	No	0.004	NP (NDs)
Chromium (mg/L)	MW-7	0.001015	0.00032	0.1	No	8	0.0009281	0.0002457	87.5	None	No	0.004	NP (NDs)
Chromium (mg/L)	MW-8	0.001015	0.00025	0.1	No	8	0.0009194	0.0002705	87.5	None	No	0.004	NP (NDs)
Cobalt (mg/L)	MW-5	0.005	0.000538	0.49	No	8	0.00246	0.002113	37.5	None	No	0.004	NP (normality)
Cobalt (mg/L)	MW-6	0.4074	0.04205	0.49	No	8	0.2143	0.2004	0	None	sqrt(x)	0.01	Param.
Cobalt (mg/L)	MW-7	0.006127	0.003563	0.49	No	8	0.004845	0.00121	0	None	No	0.01	Param.
Cobalt (mg/L)	MW-8	0.008278	0.006947	0.49	No	8	0.007613	0.000628	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-5	0.8369	0.2596	5	No	8	0.5483	0.2723	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-6	2.522	0.1331	5	No	8	1.328	1.127	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-7	0.7205	0.291	5	No	8	0.5058	0.2026	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-8	2.19	0.398	5	No	8	0.8184	0.6442	0	None	No	0.004	NP (normality)
Fluoride, total (mg/L)	MW-5	0.3348	0.2552	4	No	8	0.295	0.0375	0	None	No	0.01	Param.
Fluoride, total (mg/L)	MW-6	0.1548	0.116	4	No	8	0.1354	0.01828	0	None	No	0.01	Param.
Fluoride, total (mg/L)	MW-7	0.2435	0.1595	4	No	8	0.2015	0.03959	0	None	No	0.01	Param.
Fluoride, total (mg/L)	MW-8	0.2308	0.1714	4	No	8	0.2011	0.02803	0	None	No	0.01	Param.
Lead (mg/L)	MW-6	0.000457	0.0002	0.015	No	8	0.0002361	0.00008995	75	None	No	0.004	NP (NDs)
Lead (mg/L)	MW-8	0.000203	0.000088	0.015	No	8	0.0001486	0.00005849	50	None	No	0.004	NP (normality)
Lithium (mg/L)	MW-5	0.1267	0.09462	0.419	No	8	0.1107	0.01514	0	None	No	0.01	Param.
Lithium (mg/L)	MW-6	0.2487	0.09719	0.419	No	8	0.1707	0.0862	0	None	x^2	0.01	Param.
Lithium (mg/L)	MW-7	0.131	0.0907	0.419	No	8	0.1068	0.01712	0	None	No	0.004	NP (normality)
Lithium (mg/L)	MW-8	0.163	0.1263	0.419	No	8	0.1446	0.01732	0	None	No	0.01	Param.
Molybdenum (mg/L)	MW-5	0.01	0.000945	0.1	No	8	0.004488	0.004566	37.5	None	No	0.004	NP (normality)
Molybdenum (mg/L)	MW-6	0.0002823	0.00004206	0.1	No	8	0.0001941	0.00008803	50	Kaplan-Meier	No	0.01	Param.
Molybdenum (mg/L)	MW-7	0.01	0.000846	0.1	No	8	0.004342	0.004686	37.5	None	No	0.004	NP (normality)
Molybdenum (mg/L)	MW-8	0.0129	0.00031	0.1	No	8	0.005529	0.005636	37.5	None	No	0.004	NP (normality)
Selenium (mg/L)	MW-5	0.01	0.00124	0.05	No	8	0.004927	0.004216	37.5	None	No	0.004	NP (normality)
Selenium (mg/L)	MW-6	0.0019	0.001015	0.05	No	8	0.001126	0.0003129	87.5	None	No	0.004	NP (NDs)
Selenium (mg/L)	MW-7	0.001015	0.000677	0.05	No	8	0.0009728	0.0001195	87.5	None	No	0.004	NP (NDs)
Thallium (mg/L)	MW-5	0.000203	0.00007	0.002	No	8	0.0001864	0.00004702	87.5	None	No	0.004	NP (NDs)
Thallium (mg/L)	MW-6	0.000203	0.00011	0.002	No	8	0.0001839	0.00003649	75	None	No	0.004	NP (NDs)

### Parametric and Non-Parametric (NP) Confidence Interval

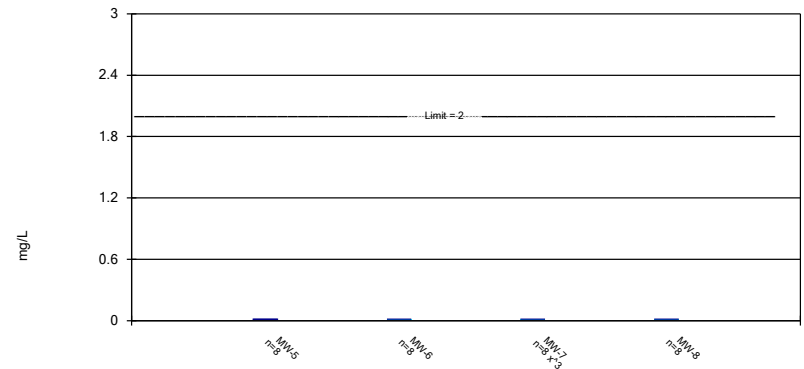
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Arsenic Analysis Run 5/17/2023 2:45 PM View: Appendix IV  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Parametric Confidence Interval

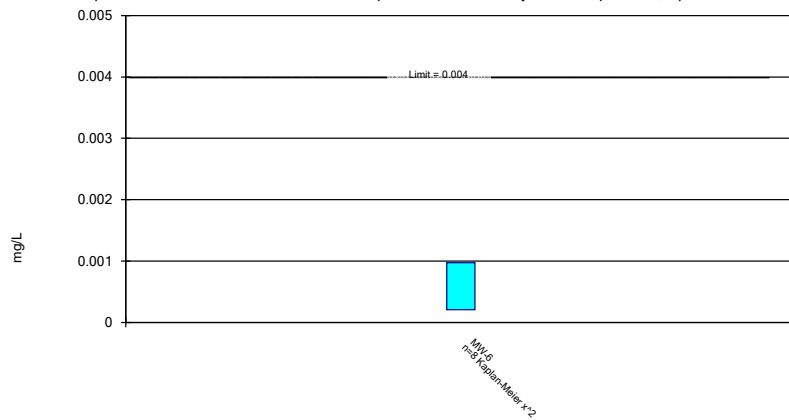
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Barium Analysis Run 5/17/2023 2:45 PM View: Appendix IV  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Parametric Confidence Interval

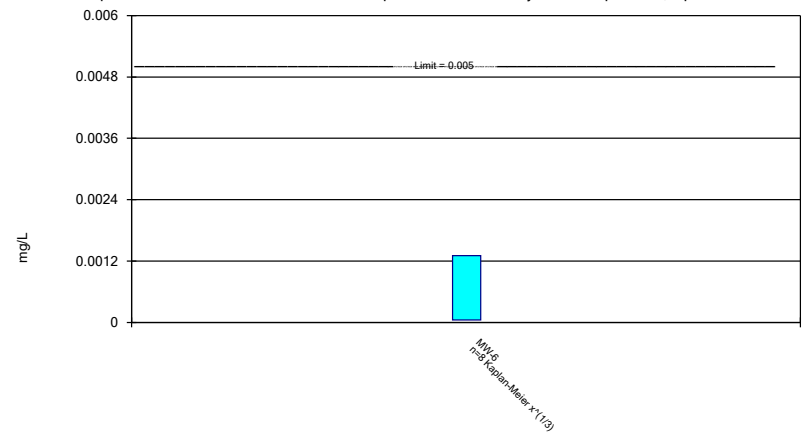
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Beryllium Analysis Run 5/17/2023 2:45 PM View: Appendix IV  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Parametric Confidence Interval

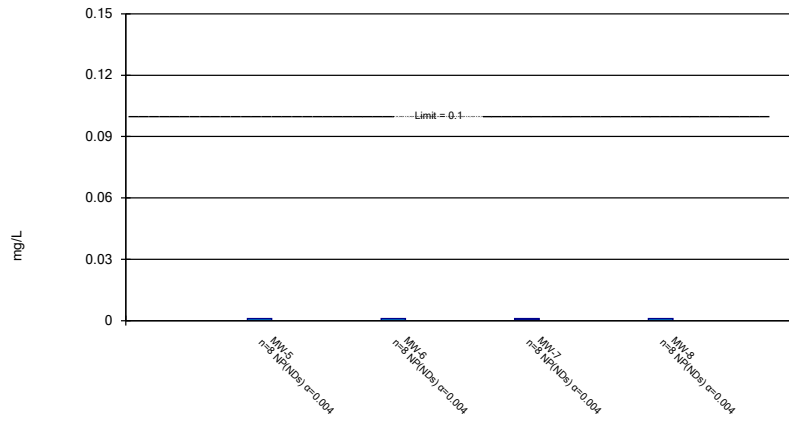
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cadmium Analysis Run 5/17/2023 2:45 PM View: Appendix IV  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Non-Parametric Confidence Interval

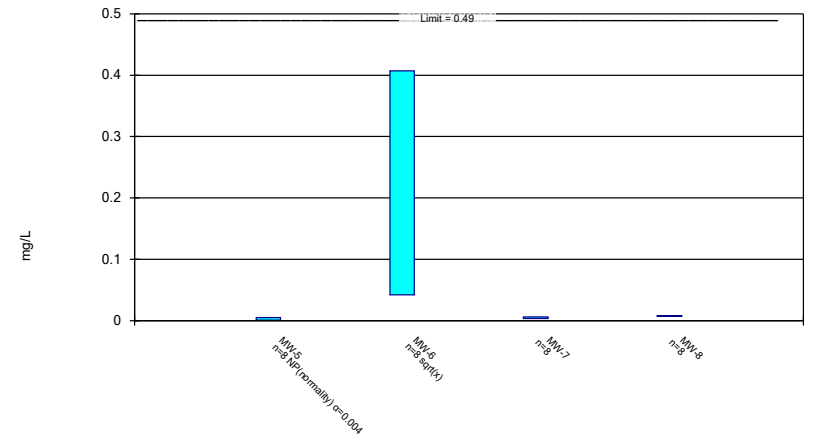
Compliance Limit is not exceeded.



Constituent: Chromium Analysis Run 5/17/2023 2:45 PM View: Appendix IV  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Parametric and Non-Parametric (NP) Confidence Interval

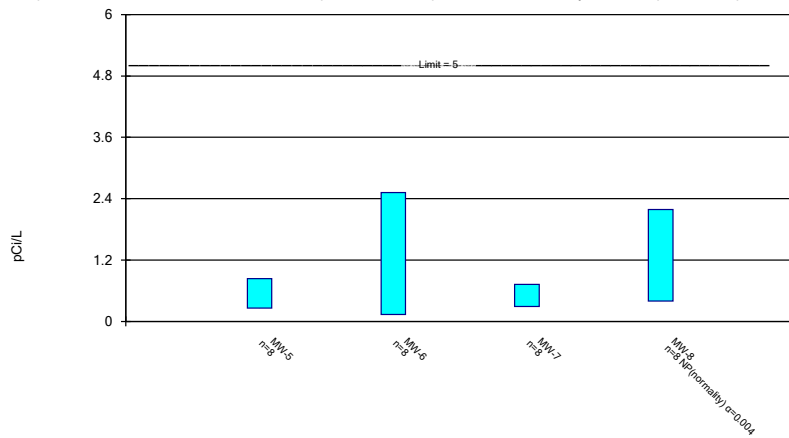
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cobalt Analysis Run 5/17/2023 2:45 PM View: Appendix IV  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Parametric and Non-Parametric (NP) Confidence Interval

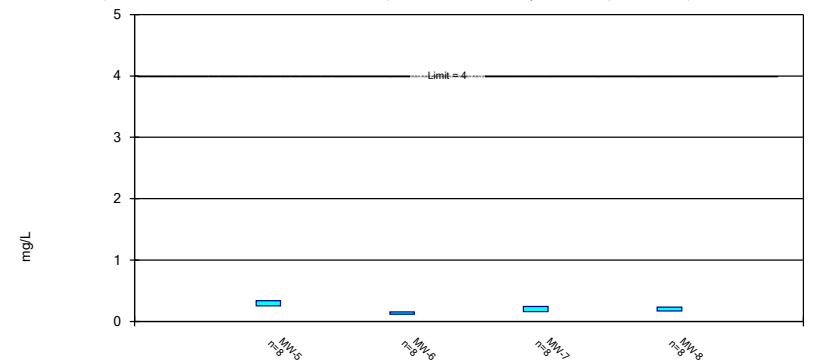
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Combined Radium 226 + 228 Analysis Run 5/17/2023 2:45 PM View: Appendix IV  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Parametric Confidence Interval

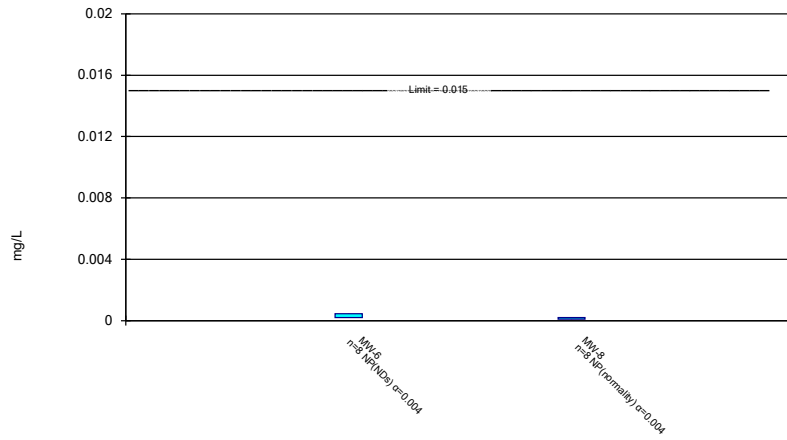
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Fluoride, total Analysis Run 5/17/2023 2:45 PM View: Appendix IV  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Non-Parametric Confidence Interval

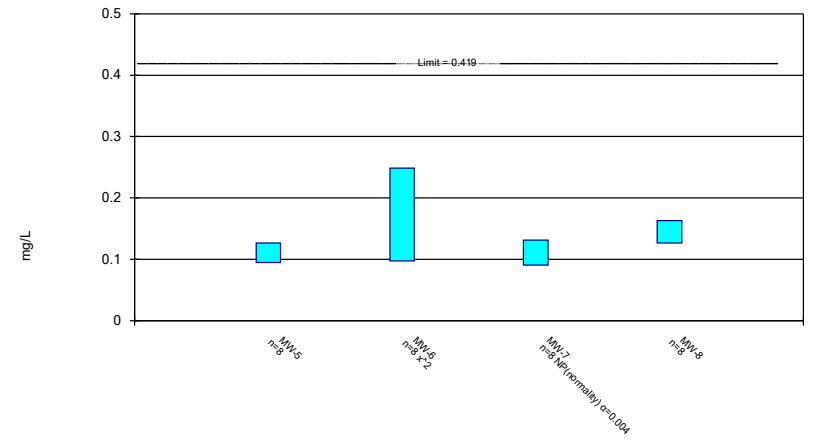
Compliance Limit is not exceeded.



Constituent: Lead Analysis Run 5/17/2023 2:46 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Parametric and Non-Parametric (NP) Confidence Interval

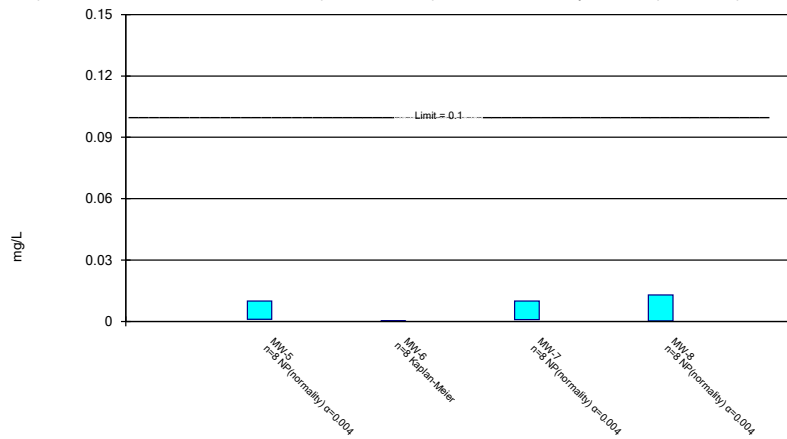
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lithium Analysis Run 5/17/2023 2:46 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Parametric and Non-Parametric (NP) Confidence Interval

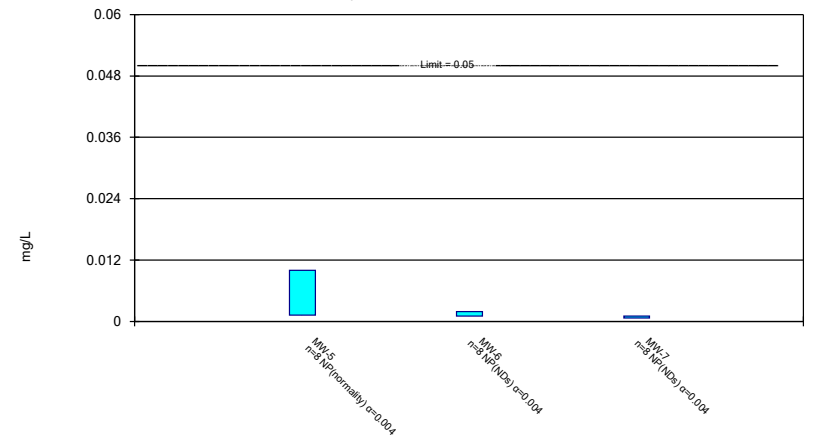
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Molybdenum Analysis Run 5/17/2023 2:46 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Non-Parametric Confidence Interval

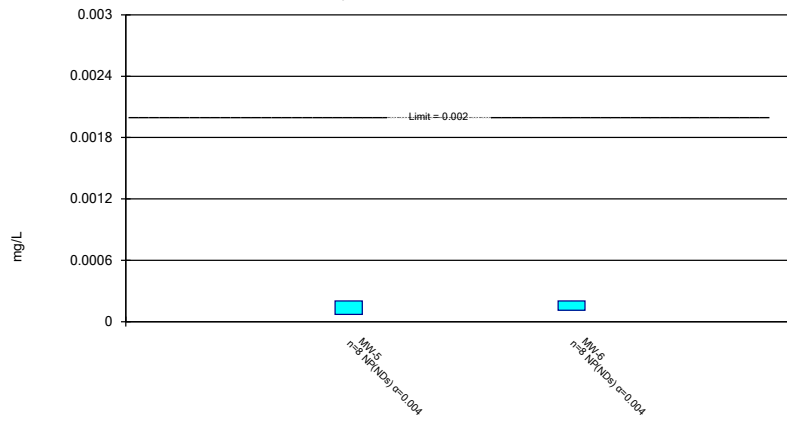
Compliance Limit is not exceeded.



Constituent: Selenium Analysis Run 5/17/2023 2:46 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



Constituent: Thallium Analysis Run 5/17/2023 2:46 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF



# Confidence Interval

Constituent: Arsenic (mg/L) Analysis Run 5/17/2023 2:46 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
10/8/2019			0.00145 (J)	
10/9/2019				0.00142 (J)
10/10/2019	<0.005	0.00473 (J)		
4/7/2020	0.00163 (J)			
4/8/2020		0.00232 (J)	0.00136 (J)	0.00102 (J)
7/14/2020	<0.005	0.0048 (J)	0.00147 (J)	
7/15/2020				0.00212 (J)
2/23/2021	0.000309	0.00494	0.00141	0.00117
7/20/2021		0.00475	0.00164	0.00111
7/21/2021	0.00046			
1/31/2022	0.00019 (J)	0.00435	0.00156	
2/1/2022				0.00131
7/6/2022	0.000225	0.00554	0.00164	0.00136
2/21/2023	0.000306		0.00153	0.00119
2/22/2023		0.00337		
Mean	0.00164	0.00435	0.001508	0.001338
Std. Dev.	0.002126	0.001025	0.0001031	0.0003428
Upper Lim.	0.005	0.005436	0.001617	0.001656
Lower Lim.	0.00019	0.003264	0.001398	0.00103

# Confidence Interval

Constituent: Barium (mg/L) Analysis Run 5/17/2023 2:46 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-5	MW-6	MW-7	MW-8
10/8/2019			0.0145	
10/9/2019				0.0137
10/10/2019	0.0105	0.0152		
4/7/2020	0.0137			
4/8/2020		0.0128	0.0127	0.0137
7/14/2020	0.0124	0.0154	0.0148	
7/15/2020				0.0143
2/23/2021	0.0116	0.0143	0.014	0.014
7/20/2021		0.0143	0.0142	0.0141
7/21/2021	0.0116			
1/31/2022	0.0104	0.0125	0.0126	
2/1/2022				0.0135
7/6/2022	0.0117	0.0144	0.0142	0.0146
2/21/2023	0.0121		0.0141	0.0148
2/22/2023		0.0136		
Mean	0.01175	0.01406	0.01389	0.01409
Std. Dev.	0.001054	0.001039	0.0008043	0.0004581
Upper Lim.	0.01287	0.01516	0.0147	0.01457
Lower Lim.	0.01063	0.01296	0.01306	0.0136

# Confidence Interval

Constituent: Beryllium (mg/L) Analysis Run 5/17/2023 2:46 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-6
10/10/2019	<0.001015
4/8/2020	0.000788 (J)
7/14/2020	<0.001015
2/23/2021	<0.001015
7/20/2021	0.00048 (J)
1/31/2022	0.00044 (J)
7/6/2022	<0.001015
2/22/2023	0.00123
Mean	0.0008748
Std. Dev.	0.0002821
Upper Lim.	0.0009721
Lower Lim.	0.0002071

# Confidence Interval

Constituent: Cadmium (mg/L) Analysis Run 5/17/2023 2:46 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-6
10/10/2019	<0.000203
4/8/2020	0.00204
7/14/2020	<0.000203
2/23/2021	<0.000203
7/20/2021	0.00058
1/31/2022	0.0005
7/6/2022	7.2E-05 (J)
2/22/2023	0.00192
Mean	0.0007151
Std. Dev.	0.0007993
Upper Lim.	0.001305
Lower Lim.	4.582E-05

# Confidence Interval

Constituent: Chromium (mg/L) Analysis Run 5/17/2023 2:46 PM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
10/8/2019			<0.001015	
10/9/2019				<0.001015
10/10/2019	<0.001015	<0.00102		
4/7/2020	<0.001015			
4/8/2020		<0.00102	<0.001015	<0.001015
7/14/2020	<0.001015	<0.00102	<0.001015	
7/15/2020				<0.001015
2/23/2021	<0.001015	<0.00102	<0.001015	<0.001015
7/20/2021		<0.00102	<0.001015	<0.001015
7/21/2021	<0.001015			
1/31/2022	0.00027 (J)	0.00024 (J)	0.00032 (J)	
2/1/2022				0.00025 (J)
7/6/2022	<0.001015	0.000284 (J)	<0.001015	<0.001015
2/21/2023	<0.001015		<0.001015	<0.001015
2/22/2023		0.000301 (J)		
Mean	0.0009219	0.0007406	0.0009281	0.0009194
Std. Dev.	0.0002634	0.0003859	0.0002457	0.0002705
Upper Lim.	0.001015	0.00102	0.001015	0.001015
Lower Lim.	0.00027	0.00024	0.00032	0.00025

# Confidence Interval

Constituent: Cobalt (mg/L) Analysis Run 5/17/2023 2:46 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
10/8/2019			0.00408 (J)	
10/9/2019				0.00864
10/10/2019	<0.005	0.0425		
4/7/2020	<0.005			
4/8/2020		0.479	0.00394 (J)	0.00762
7/14/2020	<0.005	0.0916	0.00653	
7/15/2020				0.00821
2/23/2021	0.00102	0.0771	0.00294	0.00796
7/20/2021		0.216	0.00561	0.00714
7/21/2021	0.00127			
1/31/2022	0.00094	0.174	0.00546	
2/1/2022				0.0075
7/6/2022	0.000538	0.0675	0.0059	0.00701
2/21/2023	0.00091		0.0043	0.00682
2/22/2023		0.567		
Mean	0.00246	0.2143	0.004845	0.007613
Std. Dev.	0.002113	0.2004	0.00121	0.000628
Upper Lim.	0.005	0.4074	0.006127	0.008278
Lower Lim.	0.000538	0.04205	0.003563	0.006947

# Confidence Interval

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 5/17/2023 2:46 PM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-5	MW-6	MW-7	MW-8
10/8/2019			0.345 (U)	
10/9/2019				0.416 (U)
10/10/2019	0.811 (U)	1.71		
4/7/2020	0.48 (U)			
4/8/2020		0.179 (U)	0.237 (U)	1.38 (U)
7/14/2020	0.521	0.578	0.434	
7/15/2020				0.398 (U)
2/23/2021	0.71 (U)	1.15 (U)	0.696 (U)	0.685 (U)
7/20/2021		1.32	0.356 (U)	0.42 (U)
7/21/2021	0.79 (U)			
1/31/2022	0.0523 (U)	0.374 (U)	0.473 (U)	
2/1/2022				0.643 (U)
7/6/2022	0.747 (U)	1.56	0.716 (U)	0.415 (U)
2/21/2023	0.275 (U)		0.789 (U)	2.19
2/22/2023		3.75		
Mean	0.5483	1.328	0.5058	0.8184
Std. Dev.	0.2723	1.127	0.2026	0.6442
Upper Lim.	0.8369	2.522	0.7205	2.19
Lower Lim.	0.2596	0.1331	0.291	0.398

# Confidence Interval

Constituent: Fluoride, total (mg/L) Analysis Run 5/17/2023 2:46 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-5	MW-6	MW-7	MW-8
5/15/2019		0.133		
10/8/2019			0.183	
10/9/2019				0.189
10/10/2019	0.338	0.124		
4/7/2020	0.225			
4/8/2020		<0.1 (o)	0.153	0.192
7/14/2020	0.263	0.115	0.193	
7/15/2020				0.196
2/23/2021	0.287	0.139	0.2	0.208
7/20/2021		0.131	0.286	0.262
7/21/2021	0.331			
1/31/2022	0.291	0.121	0.173	
2/1/2022				0.177
7/6/2022	0.306	0.147	0.208	0.173
2/21/2023	0.319		0.216	0.212
2/22/2023		0.173		
Mean	0.295	0.1354	0.2015	0.2011
Std. Dev.	0.0375	0.01828	0.03959	0.02803
Upper Lim.	0.3348	0.1548	0.2435	0.2308
Lower Lim.	0.2552	0.116	0.1595	0.1714



# Confidence Interval

Constituent: Lead (mg/L) Analysis Run 5/17/2023 2:46 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-6	MW-8
10/9/2019		<0.000203
10/10/2019	<0.0002	
4/8/2020	<0.0002	<0.000203
7/14/2020	<0.0002	
7/15/2020		<0.000203
2/23/2021	<0.0002	<0.000203
7/20/2021	<0.0002	9E-05 (J)
1/31/2022	<0.0002	
2/1/2022		9E-05 (J)
7/6/2022	0.000232	0.000109 (J)
2/21/2023		8.8E-05 (J)
2/22/2023	0.000457	
Mean	0.0002361	0.0001486
Std. Dev.	8.995E-05	5.849E-05
Upper Lim.	0.000457	0.000203
Lower Lim.	0.0002	8.8E-05

# Confidence Interval

Constituent: Lithium (mg/L) Analysis Run 5/17/2023 2:46 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-5	MW-6	MW-7	MW-8
10/8/2019			0.131	
10/9/2019				0.163
10/10/2019	0.0981	0.251		
4/7/2020	0.133			
4/8/2020		0.0489	0.117	0.149
7/14/2020	0.11	0.223	0.103	
7/15/2020				0.152
2/23/2021	0.133	0.253	0.131	0.166
7/20/2021		0.18	0.096	0.151
7/21/2021	0.113			
1/31/2022	0.0932	0.161	0.0907	
2/1/2022				0.124
7/6/2022	0.101	0.216	0.0926	0.132
2/21/2023	0.104		0.0932	0.12
2/22/2023		0.0329		
Mean	0.1107	0.1707	0.1068	0.1446
Std. Dev.	0.01514	0.0862	0.01712	0.01732
Upper Lim.	0.1267	0.2487	0.131	0.163
Lower Lim.	0.09462	0.09719	0.0907	0.1263

# Confidence Interval

Constituent: Molybdenum (mg/L)    Analysis Run 5/17/2023 2:46 PM    View: Appendix IV  
 Plant Gorgas    Client: Southern Company    Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
10/8/2019			<0.01	
10/9/2019				<0.01
10/10/2019	<0.01	<0.000203		
4/7/2020	<0.01			
4/8/2020		<0.000203	<0.01	<0.01
7/14/2020	<0.01	<0.000203	<0.01	
7/15/2020				<0.01
2/23/2021	0.0014	0.000285	0.00107	0.0129
7/20/2021		7E-05 (J)	0.00086	0.00033
7/21/2021	0.00126			
1/31/2022	0.00126	7E-05 (J)	0.00093	
2/1/2022				0.00031
7/6/2022	0.00104	0.000316	0.000846	0.000351
2/21/2023	0.000945		0.00103	0.000338
2/22/2023		<0.000203		
Mean	0.004488	0.0001941	0.004342	0.005529
Std. Dev.	0.004566	8.803E-05	0.004686	0.005636
Upper Lim.	0.01	0.0002823	0.01	0.0129
Lower Lim.	0.000945	4.206E-05	0.000846	0.00031

# Confidence Interval

Constituent: Selenium (mg/L) Analysis Run 5/17/2023 2:46 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-5	MW-6	MW-7
10/8/2019			<0.001015
10/10/2019	<0.01	<0.001015	
4/7/2020	<0.01		
4/8/2020		<0.001015	<0.001015
7/14/2020	<0.01	<0.001015	<0.001015
2/23/2021	0.00233	<0.001015	<0.001015
7/20/2021		<0.001015	<0.001015
7/21/2021	0.00178		
1/31/2022	0.00237	<0.001015	<0.001015
7/6/2022	0.0017	<0.001015	0.000677 (J)
2/21/2023	0.00124		<0.001015
2/22/2023		0.0019	
Mean	0.004927	0.001126	0.0009728
Std. Dev.	0.004216	0.0003129	0.0001195
Upper Lim.	0.01	0.0019	0.001015
Lower Lim.	0.00124	0.001015	0.000677

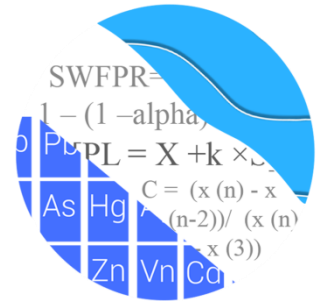
# Confidence Interval

Constituent: Thallium (mg/L) Analysis Run 5/17/2023 2:46 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-5	MW-6
10/10/2019	<0.000203	<0.000203
4/7/2020	<0.000203	
4/8/2020		<0.000203
7/14/2020	<0.000203	<0.000203
2/23/2021	<0.000203	<0.000203
7/20/2021		<0.000203
7/21/2021	<0.000203	
1/31/2022	7E-05 (J)	0.00011 (J)
7/6/2022	<0.000203	<0.000203
2/21/2023	<0.000203	
2/22/2023		0.000143 (J)
Mean	0.0001864	0.0001839
Std. Dev.	4.702E-05	3.649E-05
Upper Lim.	0.000203	0.000203
Lower Lim.	7E-05	0.00011

# GROUNDWATER STATS CONSULTING



October 12, 2023

Southern Company Services  
Attn: Mr. Greg Budd  
3535 Colonnade Parkway  
Birmingham, AL 35243

Re: Plant Gorgas CCR Landfill  
2<sup>nd</sup> Semi-Annual Background Update and Analysis – August 2023

Dear Mr. Budd,

Groundwater Stats Consulting, formerly the statistical consulting division of Sanitas Technologies, is pleased to provide the statistical background update and analysis of groundwater data for the August 2023 2<sup>nd</sup> semi-annual sample event for Alabama Power Company's Plant Gorgas CCR Landfill. The analysis complies with the federal rule for the Disposal of Coal Combustion Residuals (CCR) from Electric Utilities (CCR Rule, 2015) as well as with the United States Environmental Protection Agency (USEPA) Unified Guidance (2009).

Sampling began at this site for the CCR program in 2016. The monitoring well network, as provided by Southern Company Services, consists of the following:

- **Upgradient wells:** MW-1, MW-2, MW-3, and MW-4
- **Downgradient wells:** MW-5, MW-6, MW-7, and MW-8

Data were sent electronically to Groundwater Stats Consulting, and the statistical analysis was prepared according to the Statistical Analysis Plan approved by Dr. Kirk Cameron, PhD Statistician with MacStat Consulting, primary author of the USEPA Unified Guidance, and Senior Advisor to Groundwater Stats Consulting. The analysis was reviewed by Kristina Rayner, Founder and Senior Statistician to Groundwater Stats Consulting.

The CCR program consists of the constituents listed below. The terms "parameters" and "constituents" are used interchangeably.

**Appendix III** (Detection Monitoring) - boron, calcium, chloride, fluoride, pH, sulfate, and TDS

**Appendix IV** (Assessment Monitoring) - antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, combined radium 226 + 228, fluoride, lead, lithium, mercury, molybdenum, selenium, and thallium

Note that when there are no detections present in downgradient wells for a given constituent, statistical analyses are not required. A list of Appendix IV downgradient well/constituent pairs containing 100% non-detects follows this letter.

Time series plots for Appendix III and IV parameters at all wells are provided for the purpose of screening data at these wells (Figure A). A substitution of the most recent reporting limit is used for non-detect data. Additionally, a separate section of box plots is included for all constituents at upgradient and downgradient wells (Figure B). The time series plots are used to initially screen for suspected outliers and trends, while the box plots provide visual representation of variation within individual wells and between all wells.

In earlier analyses, data at all wells were evaluated for the following: 1) outliers; 2) trends; 3) most appropriate statistical method for Appendix III parameters based on analysis of the spatial variability of groundwater quality data among wells upgradient of the facility; and 4) eligibility of downgradient wells when intrawell statistical methods are recommended. Power curves are provided in this report to demonstrate that the selected statistical methods for Appendix III parameters comply with the USEPA Unified Guidance. The EPA suggests that the selected statistical method should provide at least 55% power at 3 standard deviations or at least 80% power at 4 standard deviations. Power curves are based on the following statistical methods and site/data characteristics:

- Semi-Annual Sampling
- Intrawell Prediction Limits with 1-of-2 resample plan
- Interwell Prediction Limits with 1-of-2 resample plan
- # Background Samples (Intrawell): 19
- # Background Samples (Interwell): 112
- # Constituents: 7
- # Downgradient wells: 4

## Summary of Statistical Methods – Appendix III Parameters

Based on the earlier evaluation described above, the following statistical methods were selected:

- Intrawell prediction limits, combined with a 1-of-2 resample plan for boron, calcium, fluoride, sulfate, and TDS
- Interwell prediction limits, combined with a 1-of-2 resample plan for chloride and pH

Parametric prediction limits are utilized when the screened historical data follow a normal or transformed-normal distribution. When data cannot be normalized or the majority of data are non-detects, a nonparametric test is utilized. While the annual false positive rate associated with parametric limits is fixed at 10% as recommended by the EPA Unified Guidance (2009), the false positive rate associated with nonparametric limits is not fixed and depends upon the available background sample size, number of future comparisons, and verification resample plan. The distribution of data is tested using the Shapiro-Wilk/Shapiro-Francia test for normality. After testing for normality and performing any adjustments as discussed below (USEPA, 2009), data are analyzed using either parametric or non-parametric prediction limits as appropriate. Non-detects are handled as follows:

- No statistical analyses are required on wells and analytes containing 100% non-detects (USEPA Unified Guidance, 2009, Chapter 6).
- When data contain <15% non-detects, simple substitution of one-half the reporting limit is utilized in the statistical analysis. The reporting limit utilized for non-detects is the most recent practical quantification limit (PQL) as reported by the laboratory.
- When data contain between 15-50% non-detects, the Kaplan-Meier non-detect adjustment is applied to the background data for parametric limits. This technique adjusts the mean and standard deviation of the historical concentrations to account for concentrations below the reporting limit.
- Nonparametric prediction limits are used on data containing greater than 50% non-detects.

Natural systems continuously evolve due to physical changes made to the environment. Examples include capping a landfill, paving areas near a well, or lining a drainage channel to prevent erosion. Periodic updating of background statistical limits is necessary to accommodate these types of changes. In the intrawell case, data for all wells and constituents may be re-evaluated when a minimum of 4 new data points are available to determine whether earlier concentrations are representative of present-day groundwater



quality. In the interwell case, prediction limits are updated with upgradient well data following each sampling event after screening for any new outliers. While not required for this report in some cases, deselecting the earlier portion of data may be necessary prior to construction of limits so that resulting statistical limits are conservative (lower) from a regulatory perspective and capable of rapidly detecting changes in groundwater quality. Even though the data are excluded from the calculation, the values will continue to be reported and shown in tables and graphs.

### **Background Update Summary – Conducted in Fall 2023**

Intrawell prediction limits, which compare the most recent compliance sample from a given well to historical data from the same well, are periodically updated by testing for the appropriateness of consolidating new sampling observations with the screened background data. As discussed in the Statistical Analysis Plan (August 2020), intrawell prediction limits are used to evaluate boron, calcium, fluoride, sulfate, and TDS at all wells due to spatial variation for these parameters. Interwell prediction limits are used to compare the most recent sample from each downgradient well to statistical limits constructed from pooled upgradient well data for chloride and pH.

#### Outlier Analysis

Prior to constructing prediction limits, proposed background data--through February 2023 for constituents evaluated with intrawell prediction limits and through August 2023 for constituents evaluated with interwell constituents--were reviewed through the use of time series graphs and Tukey's outlier test to identify any newly suspected outliers at all wells for boron, calcium, fluoride, sulfate, and TDS, and at upgradient wells for chloride and pH.

Tukey's outlier tests identified outliers for calcium, chloride, fluoride, sulfate, and TDS. Some identified values were not flagged because the measurements appeared to be representative of spatial variation. Previously flagged values were confirmed by visual screening and Tukey's outlier tests. No changes to previously flagged outliers among Appendix III parameters were made and no additional values were flagged as outliers.

Outliers are flagged with "o" and excluded to reduce variation, better represent background conditions, and provide limits that are conservative (i.e., lower) from a regulatory perspective. As mentioned above, flagged data are displayed in a lighter font and as a disconnected symbol on the time series reports, as well as in a lighter font on the accompanying data pages. A summary Tukey's test results along with a list of flagged outliers follows this report (Figure C).

## Intrawell – Mann-Whitney Evaluation

For constituents requiring intrawell prediction limits, the Mann-Whitney (Wilcoxon Rank Sum) test was used to compare the medians of historical data through February 2021 to compliance data through February 2023 (Figure D). When no statistically significant difference in medians between the two groups is found at a 99% confidence level, background data may be updated with newer compliance data. Statistically significant differences (either an increase or decrease in median concentrations) were found between the two groups for the following well/constituent pairs:

### Increase

- None

### Decrease

- Boron: MW-6 and MW-8
- Sulfate: MW-2 (upgradient)
- TDS: MW-4 (upgradient), MW-6, and MW-8

Typically, when the test concludes that the medians of the two groups are statistically significantly different, particularly in the downgradient wells, the background data are not updated to include the newer data unless it can be reasonably justified that the change in concentrations reflects a shift unrelated to practices at the site. In studies such as the current one, in which at least one of the segments being compared is of short duration, the comparison is complicated by the fact that normal short-term variation may be mistaken for long-term change in medians.

For well/constituent pairs with statistically significant decreases in medians, the compliance measurements were either within the range of historic concentrations or marginally outside of that range. Therefore, the background datasets were updated with new measurements at lower concentrations in order to construct statistical limits that are conservative (i.e., lower) from a regulatory perspective and be representative of present-day groundwater quality.

Although no significant difference in median concentrations at the 99% confidence level was identified for fluoride at upgradient well MW-2, in order to construct statistical limits that are representative of present-day groundwater quality that are still of low magnitude relative to the Maximum Containment Level (MCL), this record had earlier data truncated to eliminate the influence of the trend and was updated with more recent measurements.

All background data sets for CCR Appendix III constituents that use intrawell methods were updated. A list of any well/constituent pairs using a truncated portion of their

records follows this report. All records will be re-evaluated during the next background update.

### Interwell – Trend Test Evaluation

The Sen's Slope/Mann Kendall trend test was used to evaluate the entire record of data through August 2023 from upgradient wells for parameters utilizing interwell prediction limits to quantify if concentrations are increasing, decreasing, or stable at the 99% confidence level (Figure E). When statistically significant increasing trends are identified in upgradient wells, the earlier portion of data may require deselection prior to construction of interwell statistical limits if the trending data would result in statistical limits that are not conservative from a regulatory perspective. Statistically significant trends were noted in upgradient wells for the following well/constituent pairs:

Increasing

- pH: MW-2

Decreasing

- pH: MW-1

The magnitudes of the slopes are small relative to the average concentrations for pH. Therefore, no adjustments were required.

### **Evaluation of Appendix III Parameters – August 2023**

#### Prediction Limits

Intrawell prediction limits, combined with a 1-of-2 resample plan, were constructed for boron, calcium, fluoride, sulfate, and TDS at each well using screened background data through February 2023 (Figure F). Intrawell limits constructed from screened background data from within each well serve to provide statistical limits that are representative of the background data population, and that will rapidly identify a change in more recent compliance data from within a given well. This statistical method removes the element of variation across wells and eliminates the chance of mistaking spatial variation for a release from the facility. The August 2023 observation is compared to its respective background from the same well to determine whether initial exceedances are present.

Interwell prediction limits, combined with a 1-of-2 resample plan, were constructed for chloride and pH (Figure G). Interwell prediction limits pool upgradient well data through August 2023 to establish a background limit for an individual constituent. The August

2023 sample from each downgradient well is compared to the background limit to determine whether initial exceedances are present.

In the event of an initial exceedance of compliance well data, the 1-of-2 resample plan allows for collection of one additional sample to determine whether the initial exceedance is confirmed. When the resample confirms the initial exceedance, a statistically significant increase (SSI) is identified, and further research is required to identify the cause of the exceedance (i.e., impact from the site, natural variation, or an off-site source). If a resample falls within the statistical limit, the initial exceedance is considered to be a false positive result; therefore, no further action is necessary.

Complete prediction limits results and a summary of exceedances follow this letter. Exceedances were identified for the following well/constituent pairs:

Intrawell:

- Calcium: MW-7

Interwell:

- Chloride: MW-5, MW-7, and MW-8
- pH: MW-5, MW-7, and MW-8

### Trend Test Evaluation – Appendix III

When prediction limit exceedances are identified in downgradient wells, data are further evaluated using the Sen's Slope/Mann Kendall trend test at the 99% confidence level to determine whether concentrations are statistically increasing, decreasing, or stable (Figure H). Upgradient wells are included in the trend analyses for all parameters found to exceed their prediction limit in downgradient wells to identify whether similar patterns exist upgradient of the site. The existence of similar trends in both upgradient and downgradient wells is an indication of variability in groundwater that is unrelated to practices at the site. A summary of the trend test results follows this letter. Statistically significant trends were identified for the following well/constituent pairs:

Increasing

- pH: MW-2 (upgradient), MW-5, and MW-8

Decreasing

- Chloride: MW-8
- pH: MW-1 (upgradient)

## **Evaluation of Appendix IV Parameters – August 2023**

Prior to evaluating Appendix IV parameters, upgradient well data were screened through visual screening and Tukey's outlier test for potential outliers and extreme trending patterns that would lead to artificially elevated statistical limits. A discussion of those findings is provided below.

Tukey's outlier test on pooled upgradient well data for Appendix IV parameters through August 2023 identified values for barium, cobalt, combined radium 226 + 228, fluoride, and lithium. However, no new outliers were flagged for barium, cobalt, combined radium, or lithium as all measurements appeared to be representative of spatial variation or were similar to remaining concentrations among upgradient well data. Previously flagged values were confirmed by visual screening and Tukey's outlier test, except for a previously flagged measurement of 0.00885 mg/L for cadmium in upgradient well MW-3. This measurement was unflagged due to repeated concentrations of similar magnitude as the value was no longer considered spurious.

Additionally, downgradient well data through August 2023 were screened through visual screening using time series graphs. Since the downgradient well data are used to construct confidence intervals, a regulatory conservative approach is taken in that values that are marginally high relative to the rest of the data are retained unless there is particular justification for excluding them. No changes were to previously flagged data were made among downgradient wells for Appendix IV parameters. A summary of flagged outliers follows this report (Figure C).

### Interwell Upper Tolerance Limits

Background limits were determined using tolerance limits constructed from pooled upgradient well data through August 2023 (Figure I). The tolerance limits contain a known fraction (coverage) of the background population with a known level of confidence. The confidence and coverage levels for nonparametric tolerance limits are dependent upon the number of background samples. As requested by ADEM to eliminate variation among upgradient well data, nonparametric tolerance limits, which use the highest value in screened background as the statistical limit, were constructed. A summary of the upper tolerance limits follows this report.

## Groundwater Protection Standards

These background limits were then compared to the Maximum Contaminant Levels (MCLs) for each parameter, and the higher of the two was used as the GWPS (Figure J) in the confidence interval comparisons described below.

In accordance with Alabama Department of Environmental Management, the Groundwater Protections Standards (GWPS) were updated during this 2023 2<sup>nd</sup> semi-annual statistical analysis. The GWPS will be updated again during the 2025 2<sup>nd</sup> semi-annual statistical analysis.

## Confidence Intervals

Confidence intervals were then constructed on downgradient wells using a maximum of the most recent 8 samples through August 2023 for each of the Appendix IV parameters (Figure K). These intervals were either parametric or nonparametric confidence intervals depending on the data distribution and percentage of non-detects. When data followed a normal or transformed-normal distribution, parametric confidence intervals were used for Appendix IV parameters. Nonparametric confidence intervals, which use the highest and lowest values as interval limits when  $n=8$ , were constructed when data did not follow a normal or transformed-normal distribution or when there were greater than 50% non-detects. The lower confidence limit, which is constructed with 99% confidence for parametric confidence intervals, is compared to the GWPS prepared as described above. The confidence level associated with nonparametric confidence intervals is dependent upon the number samples available.

As mentioned above, well/constituent pairs containing 100% non-detects for the most recent 8 samples did not require statistics; therefore, they were deselected prior to construction of confidence intervals. A list of deselected well/constituent pairs follows this report. Each confidence interval was compared with the corresponding GWPS. Only when the entire confidence interval is above the GWPS is the well/constituent pair considered to exceed its respective standard. Both a tabular summary and graphical presentation of the confidence interval results follow this letter. No exceedances were noted for any of the well/constituent pairs.

## Trend Test Evaluation – Appendix IV

When confidence interval exceedances are identified in downgradient wells, data are further evaluated using the Sen's Slope/Mann Kendall trend test to determine whether concentrations are statistically increasing, decreasing, or stable at the 95% confidence

level. Utilizing the 95% confidence level for trend tests readily identifies significant trends and is more sensitive than the 99% confidence level without drastically increasing the false negative rate. Upgradient wells are included in the trend analyses for all parameters found to exceed their confidence interval in downgradient wells. When similar patterns exist upgradient of the site, it is an indication of variability in groundwater which may be unrelated to practices at the site. Since no exceedances were identified, no trend tests were required.

Thank you for the opportunity to assist you in the statistical analysis of groundwater quality for Gorgas CCR Landfill. If you have any questions or comments, please feel free to contact us.

For Groundwater Stats Consulting,



Andrew Collins  
Project Manager



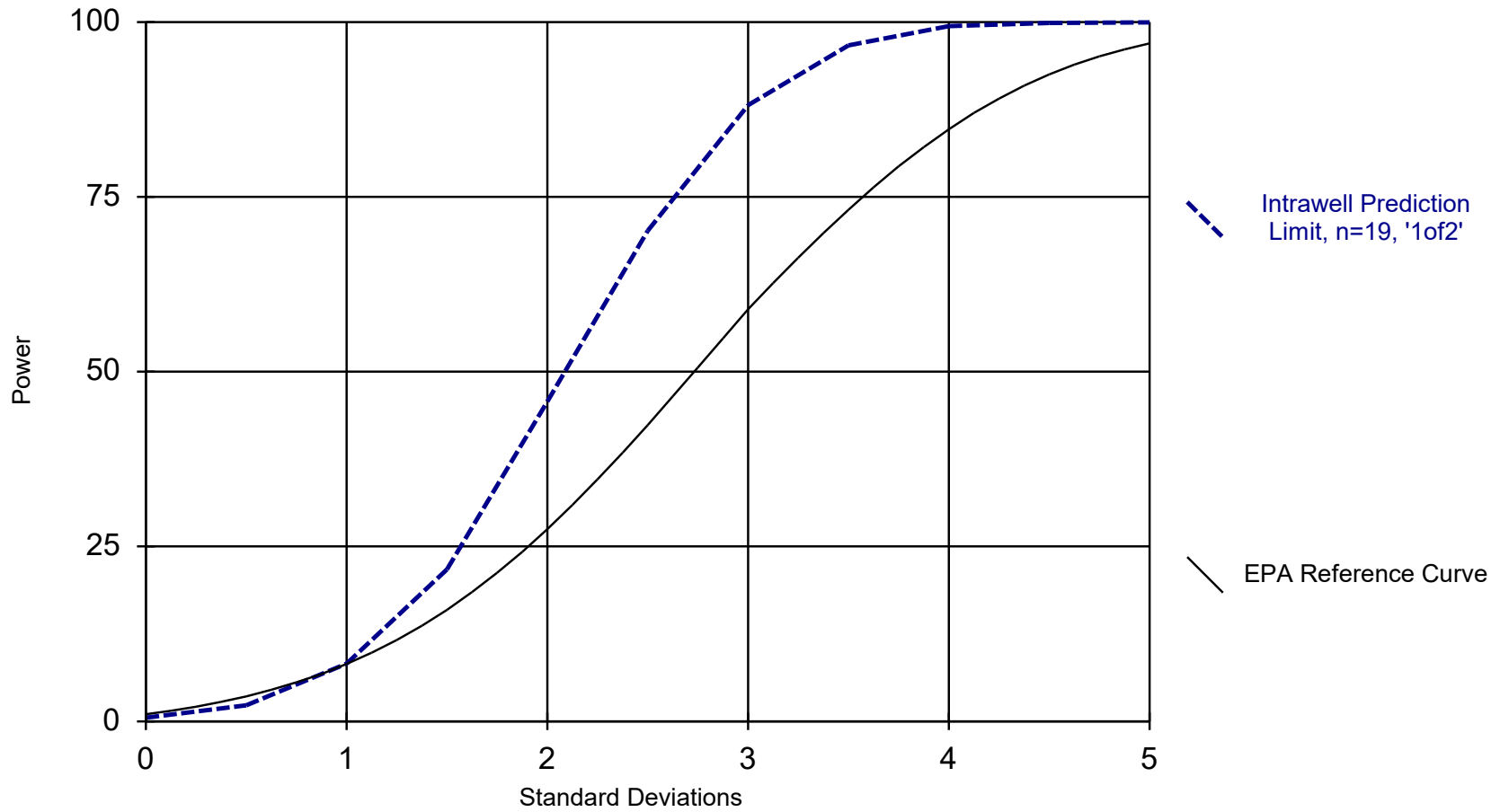
Kristina Rayner  
Senior Statistician

# Table of Contents

Figure A. Time Series	29
Figure B. Box Plots	83
Figure C. Outlier Summary & Tukey's Outlier Tests	95
Figure D. Mann-Whitney	116
Figure E. Upgradient Wells Trend Tests	169
Figure F. Appendix III Intrawell Prediction Limits	174
Figure G. Appendix III Interwell Prediction Limits	227
Figure H. Appendix III Trend Tests	235
Figure I. Upper Tolerance Limits	243
Figure J. Groundwater Protection Standards	249
Figure K. Appendix IV Confidence Intervals	251

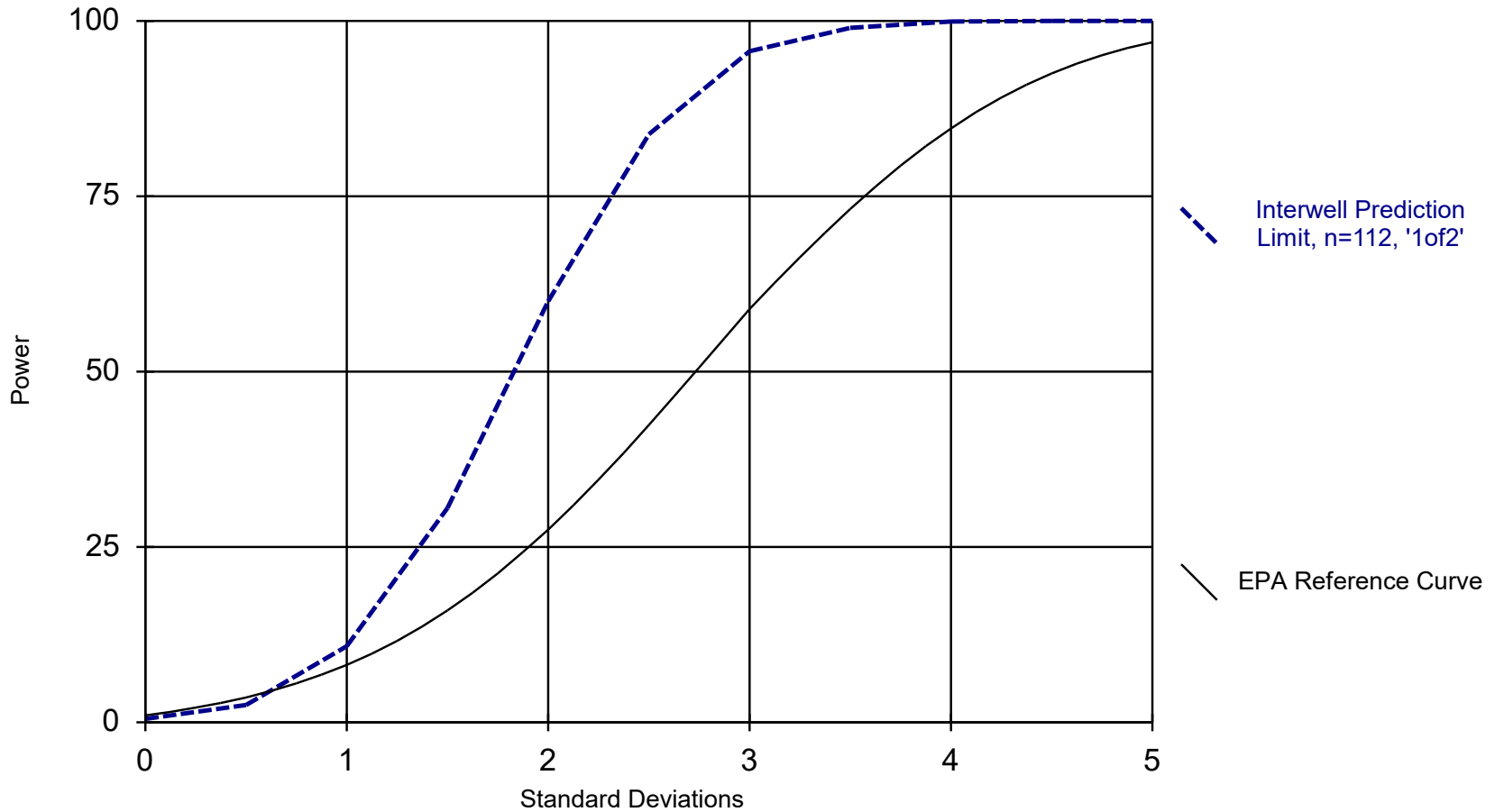


### Intrawell Power Curve



Kappa = 2.01, based on 4 compliance wells and 7 constituents, evaluated semi-annually (this report reflects annual total).

### Interwell Power Curve



Kappa = 1.743, based on 4 compliance wells and 7 constituents, evaluated semi-annually (this report reflects annual total).

# Date Ranges

Date: 10/12/2023 11:43 AM

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

Fluoride, total (mg/L)

MW-2 background:3/22/2017-2/20/2023

# 100% Non-Detects: Appendix IV Downgradient

Analysis Run 10/6/2023 5:14 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

Antimony (mg/L)  
MW-5, MW-6, MW-7, MW-8

Beryllium (mg/L)  
MW-5, MW-7, MW-8

Cadmium (mg/L)  
MW-5, MW-7, MW-8

Lead (mg/L)  
MW-5, MW-7

Mercury (mg/L)  
MW-5, MW-6, MW-7, MW-8

Selenium (mg/L)  
MW-8

Thallium (mg/L)  
MW-7, MW-8

# Welch's t-test/Mann-Whitney - Significant Results

Plant Gorgas Data: Gorgas CCR LF Printed 10/6/2023, 3:35 PM

<u>Constituent</u>	<u>Well</u>	<u>Calc.</u>	<u>0.01</u>	<u>Alpha</u>	<u>Sig.</u>	<u>Method</u>
Boron, total (mg/L)	MW-6	-2.599	Yes	0.01	Yes	Mann-W
Boron, total (mg/L)	MW-8	-2.695	Yes	0.01	Yes	Mann-W
Sulfate as SO4 (mg/L)	MW-2 (bg)	-2.766	Yes	0.01	Yes	Mann-W
Total Dissolved Solids [TDS] (mg/L)	MW-4 (bg)	-2.628	Yes	0.01	Yes	Mann-W
Total Dissolved Solids [TDS] (mg/L)	MW-6	-2.793	Yes	0.01	Yes	Mann-W
Total Dissolved Solids [TDS] (mg/L)	MW-8	-2.792	Yes	0.01	Yes	Mann-W

# Welch's t-test/Mann-Whitney - All Results

Plant Gorgas Data: Gorgas CCR LF Printed 10/6/2023, 3:35 PM

<u>Constituent</u>	<u>Well</u>	<u>Calc.</u>	<u>0.01</u>	<u>Alpha</u>	<u>Sig.</u>	<u>Method</u>
Boron, total (mg/L)	MW-1 (bg)	2.347	No	0.01	No	Mann-W
Boron, total (mg/L)	MW-2 (bg)	2.469	No	0.01	No	Mann-W
Boron, total (mg/L)	MW-3 (bg)	1.383	No	0.01	No	Mann-W
Boron, total (mg/L)	MW-4 (bg)	-2.133	No	0.01	No	Mann-W
Boron, total (mg/L)	MW-5	0.1001	No	0.01	No	Mann-W
<b>Boron, total (mg/L)</b>	<b>MW-6</b>	<b>-2.599</b>	<b>Yes</b>	<b>0.01</b>	<b>Yes</b>	<b>Mann-W</b>
Boron, total (mg/L)	MW-7	-0.95	No	0.01	No	Mann-W
<b>Boron, total (mg/L)</b>	<b>MW-8</b>	<b>-2.695</b>	<b>Yes</b>	<b>0.01</b>	<b>Yes</b>	<b>Mann-W</b>
Calcium, total (mg/L)	MW-1 (bg)	0.5126	No	0.01	No	Mann-W
Calcium, total (mg/L)	MW-2 (bg)	-0.7518	No	0.01	No	Mann-W
Calcium, total (mg/L)	MW-3 (bg)	-0.9217	No	0.01	No	Mann-W
Calcium, total (mg/L)	MW-4 (bg)	-2.253	No	0.01	No	Mann-W
Calcium, total (mg/L)	MW-5	-0.09456	No	0.01	No	Mann-W
Calcium, total (mg/L)	MW-6	-0.8032	No	0.01	No	Mann-W
Calcium, total (mg/L)	MW-7	-2.084	No	0.01	No	Mann-W
Calcium, total (mg/L)	MW-8	-0.3785	No	0.01	No	Mann-W
Fluoride, total (mg/L)	MW-1 (bg)	0.3942	No	0.01	No	Mann-W
Fluoride, total (mg/L)	MW-2 (bg)	2.335	No	0.01	No	Mann-W
Fluoride, total (mg/L)	MW-3 (bg)	1.018	No	0.01	No	Mann-W
Fluoride, total (mg/L)	MW-4 (bg)	1.347	No	0.01	No	Mann-W
Fluoride, total (mg/L)	MW-5	-0.9422	No	0.01	No	Mann-W
Fluoride, total (mg/L)	MW-6	0.1917	No	0.01	No	Mann-W
Fluoride, total (mg/L)	MW-7	1.853	No	0.01	No	Mann-W
Fluoride, total (mg/L)	MW-8	-0.6336	No	0.01	No	Mann-W
Sulfate as SO4 (mg/L)	MW-1 (bg)	1.496	No	0.01	No	Mann-W
<b>Sulfate as SO4 (mg/L)</b>	<b>MW-2 (bg)</b>	<b>-2.766</b>	<b>Yes</b>	<b>0.01</b>	<b>Yes</b>	<b>Mann-W</b>
Sulfate as SO4 (mg/L)	MW-3 (bg)	0.3073	No	0.01	No	Mann-W
Sulfate as SO4 (mg/L)	MW-4 (bg)	-2.565	No	0.01	No	Mann-W
Sulfate as SO4 (mg/L)	MW-5	-0.286	No	0.01	No	Mann-W
Sulfate as SO4 (mg/L)	MW-6	-0.04779	No	0.01	No	Mann-W
Sulfate as SO4 (mg/L)	MW-7	0.4039	No	0.01	No	Mann-W
Sulfate as SO4 (mg/L)	MW-8	1.283	No	0.01	No	Mann-W
Total Dissolved Solids [TDS] (mg/L)	MW-1 (bg)	0.03557	No	0.01	No	Mann-W
Total Dissolved Solids [TDS] (mg/L)	MW-2 (bg)	-2.563	No	0.01	No	Mann-W
Total Dissolved Solids [TDS] (mg/L)	MW-3 (bg)	-0.03413	No	0.01	No	Mann-W
<b>Total Dissolved Solids [TDS] (mg/L)</b>	<b>MW-4 (bg)</b>	<b>-2.628</b>	<b>Yes</b>	<b>0.01</b>	<b>Yes</b>	<b>Mann-W</b>
Total Dissolved Solids [TDS] (mg/L)	MW-5	-2.505	No	0.01	No	Mann-W
<b>Total Dissolved Solids [TDS] (mg/L)</b>	<b>MW-6</b>	<b>-2.793</b>	<b>Yes</b>	<b>0.01</b>	<b>Yes</b>	<b>Mann-W</b>
Total Dissolved Solids [TDS] (mg/L)	MW-7	-1.849	No	0.01	No	Mann-W
<b>Total Dissolved Solids [TDS] (mg/L)</b>	<b>MW-8</b>	<b>-2.792</b>	<b>Yes</b>	<b>0.01</b>	<b>Yes</b>	<b>Mann-W</b>

# Upgradient Wells Trend Tests - Significant Results

Plant Gorgas Data: Gorgas CCR LF Printed 10/6/2023, 3:55 PM

<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Alpha</u>	<u>Method</u>
pH, Field (SU)	MW-1 (bg)	-0.01854	-181	-131	Yes	28	0	n/a	0.01	NP
pH, Field (SU)	MW-2 (bg)	0.04189	142	131	Yes	28	0	n/a	0.01	NP

# Upgradient Wells Trend Tests - All Results

Plant Gorgas Data: Gorgas CCR LF Printed 10/6/2023, 3:55 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Alpha	Method
Chloride, Total (mg/L)	MW-1 (bg)	-0.02423	-54	-131	No	28	0	n/a	0.01	NP
Chloride, Total (mg/L)	MW-2 (bg)	-0.1196	-77	-131	No	28	0	n/a	0.01	NP
Chloride, Total (mg/L)	MW-3 (bg)	0.04365	68	131	No	28	7.143	n/a	0.01	NP
Chloride, Total (mg/L)	MW-4 (bg)	-0.04985	-94	-131	No	28	3.571	n/a	0.01	NP
<b>pH, Field (SU)</b>	<b>MW-1 (bg)</b>	<b>-0.01854</b>	<b>-181</b>	<b>-131</b>	<b>Yes</b>	<b>28</b>	<b>0</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
<b>pH, Field (SU)</b>	<b>MW-2 (bg)</b>	<b>0.04189</b>	<b>142</b>	<b>131</b>	<b>Yes</b>	<b>28</b>	<b>0</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
pH, Field (SU)	MW-3 (bg)	0.02424	22	131	No	28	0	n/a	0.01	NP
pH, Field (SU)	MW-4 (bg)	0.01768	115	139	No	29	0	n/a	0.01	NP



# Appendix III Intrawell Prediction Limits - Significant Results

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF Printed 10/9/2023, 10:10 AM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Date</u>	<u>Observ.</u>	<u>Sig.</u>	<u>Bg N</u>	<u>%NDs</u>	<u>ND Adj.</u>	<u>Transform Alpha</u>	<u>Method</u>
Calcium, total (mg/L)	MW-7	336	n/a	8/15/2023	339	Yes	20	0	None	x^2 0.00188	Param Intra 1 of 2

# Appendix III Intrawell Prediction Limits - All Results

Plant Gorgas    Client: Southern Company    Data: Gorgas CCR LF    Printed 10/9/2023, 10:10 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	ND Adj.	Transform	Alpha	Method
Boron, total (mg/L)	MW-1	0.1015	n/a	8/22/2023	0.1015ND	No	27	37.04	n/a	n/a	0.002502	NP Intra (normality) 1 of 2
Boron, total (mg/L)	MW-2	0.1015	n/a	8/22/2023	0.1015ND	No	27	33.33	n/a	n/a	0.002502	NP Intra (normality) 1 of 2
Boron, total (mg/L)	MW-3	0.1015	n/a	8/22/2023	0.0373J	No	27	29.63	n/a	n/a	0.002502	NP Intra (normality) 1 of 2
Boron, total (mg/L)	MW-4	0.05171	n/a	8/22/2023	0.0448J	No	26	0	None	No	0.00188	Param Intra 1 of 2
Boron, total (mg/L)	MW-5	0.03928	n/a	8/16/2023	0.032J	No	19	0	None	No	0.00188	Param Intra 1 of 2
Boron, total (mg/L)	MW-6	0.1033	n/a	8/16/2023	0.0686J	No	20	0	None	No	0.00188	Param Intra 1 of 2
Boron, total (mg/L)	MW-7	0.08381	n/a	8/15/2023	0.0663J	No	19	0	None	No	0.00188	Param Intra 1 of 2
Boron, total (mg/L)	MW-8	0.079	n/a	8/15/2023	0.0654J	No	20	0	None	No	0.00188	Param Intra 1 of 2
Calcium, total (mg/L)	MW-1	243	n/a	8/22/2023	183	No	27	0	n/a	n/a	0.002502	NP Intra (normality) 1 of 2
Calcium, total (mg/L)	MW-2	210.5	n/a	8/22/2023	168	No	27	0	None	No	0.00188	Param Intra 1 of 2
Calcium, total (mg/L)	MW-3	410.9	n/a	8/22/2023	359	No	27	0	None	No	0.00188	Param Intra 1 of 2
Calcium, total (mg/L)	MW-4	379.9	n/a	8/22/2023	287	No	27	0	None	No	0.00188	Param Intra 1 of 2
Calcium, total (mg/L)	MW-5	451.5	n/a	8/16/2023	361	No	20	0	None	No	0.00188	Param Intra 1 of 2
Calcium, total (mg/L)	MW-6	497.9	n/a	8/16/2023	383	No	20	0	None	No	0.00188	Param Intra 1 of 2
<b>Calcium, total (mg/L)</b>	<b>MW-7</b>	<b>336</b>	<b>n/a</b>	<b>8/15/2023</b>	<b>339</b>	<b>Yes</b>	<b>20</b>	<b>0</b>	<b>None</b>	<b>x^2</b>	<b>0.00188</b>	<b>Param Intra 1 of 2</b>
Calcium, total (mg/L)	MW-8	338.2	n/a	8/15/2023	328	No	20	0	None	No	0.00188	Param Intra 1 of 2
Fluoride, total (mg/L)	MW-1	0.1947	n/a	8/22/2023	0.159	No	28	0	None	No	0.00188	Param Intra 1 of 2
Fluoride, total (mg/L)	MW-2	0.2619	n/a	8/22/2023	0.184	No	20	0	None	No	0.00188	Param Intra 1 of 2
Fluoride, total (mg/L)	MW-3	0.5679	n/a	8/22/2023	0.283	No	28	0	None	No	0.00188	Param Intra 1 of 2
Fluoride, total (mg/L)	MW-4	0.4241	n/a	8/22/2023	0.358	No	28	0	None	x^2	0.00188	Param Intra 1 of 2
Fluoride, total (mg/L)	MW-5	0.4057	n/a	8/16/2023	0.266	No	21	0	None	No	0.00188	Param Intra 1 of 2
Fluoride, total (mg/L)	MW-6	0.1638	n/a	8/16/2023	0.0931J	No	20	0	None	No	0.00188	Param Intra 1 of 2
Fluoride, total (mg/L)	MW-7	0.2441	n/a	8/15/2023	0.154	No	21	0	None	ln(x)	0.00188	Param Intra 1 of 2
Fluoride, total (mg/L)	MW-8	0.2471	n/a	8/15/2023	0.174	No	21	0	None	No	0.00188	Param Intra 1 of 2
Sulfate as SO4 (mg/L)	MW-1	1666	n/a	8/22/2023	1560	No	26	0	None	No	0.00188	Param Intra 1 of 2
Sulfate as SO4 (mg/L)	MW-2	1253	n/a	8/22/2023	912	No	27	0	None	No	0.00188	Param Intra 1 of 2
Sulfate as SO4 (mg/L)	MW-3	3254	n/a	8/22/2023	3140	No	27	0	None	No	0.00188	Param Intra 1 of 2
Sulfate as SO4 (mg/L)	MW-4	3111	n/a	8/22/2023	2390	No	27	0	None	No	0.00188	Param Intra 1 of 2
Sulfate as SO4 (mg/L)	MW-5	2539	n/a	8/16/2023	2310	No	20	0	None	No	0.00188	Param Intra 1 of 2
Sulfate as SO4 (mg/L)	MW-6	2249	n/a	8/16/2023	2060	No	20	0	None	No	0.00188	Param Intra 1 of 2
Sulfate as SO4 (mg/L)	MW-7	1579	n/a	8/15/2023	1360	No	19	0	None	No	0.00188	Param Intra 1 of 2
Sulfate as SO4 (mg/L)	MW-8	1640	n/a	8/15/2023	1480	No	19	0	n/a	n/a	0.004832	NP Intra (normality) 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-1	2487	n/a	8/22/2023	2160	No	26	0	None	No	0.00188	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-2	1993	n/a	8/22/2023	1520	No	27	0	None	No	0.00188	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-3	4952	n/a	8/22/2023	4820	No	27	0	None	No	0.00188	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-4	4498	n/a	8/22/2023	3780	No	27	0	None	x^3	0.00188	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-5	4181	n/a	8/16/2023	3640	No	20	0	None	No	0.00188	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-6	3505	n/a	8/16/2023	3140	No	20	0	None	No	0.00188	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-7	2577	n/a	8/15/2023	2270	No	20	0	None	x^4	0.00188	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-8	2791	n/a	8/15/2023	2410	No	20	0	None	No	0.00188	Param Intra 1 of 2

# Appendix III Interwell Prediction Limits - Significant Results

Plant Gorgas Data: Gorgas CCR LF Printed 10/6/2023, 4:32 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	ND Adj.	Transform	Alpha	Method
Chloride, Total (mg/L)	MW-5	4.6	n/a	8/16/2023	7.19	Yes	112	2.679	n/a	n/a	0.0001585	NP Inter (normality) 1 of 2
Chloride, Total (mg/L)	MW-7	4.6	n/a	8/15/2023	6.51	Yes	112	2.679	n/a	n/a	0.0001585	NP Inter (normality) 1 of 2
Chloride, Total (mg/L)	MW-8	4.6	n/a	8/15/2023	4.92	Yes	112	2.679	n/a	n/a	0.0001585	NP Inter (normality) 1 of 2
pH, Field (SU)	MW-5	6.35	4.51	8/16/2023	6.5	Yes	113	0	n/a	n/a	0.0003112	NP Inter (normality) 1 of 2
pH, Field (SU)	MW-7	6.35	4.51	8/15/2023	7.47	Yes	113	0	n/a	n/a	0.0003112	NP Inter (normality) 1 of 2
pH, Field (SU)	MW-8	6.35	4.51	8/15/2023	7.58	Yes	113	0	n/a	n/a	0.0003112	NP Inter (normality) 1 of 2

# Appendix III Interwell Prediction Limits - All Results

Plant Gorgas Data: Gorgas CCR LF Printed 10/6/2023, 4:32 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	ND Adj.	Transform Alpha	Method
<b>Chloride, Total (mg/L)</b>	<b>MW-5</b>	<b>4.6</b>	<b>n/a</b>	<b>8/16/2023</b>	<b>7.19</b>	<b>Yes</b>	<b>112</b>	<b>2.679</b>	<b>n/a</b>	<b>n/a</b>	<b>0.0001585 NP Inter (normality) 1 of 2</b>
Chloride, Total (mg/L)	MW-6	4.6	n/a	8/16/2023	3.36	No	112	2.679	n/a	n/a	0.0001585 NP Inter (normality) 1 of 2
<b>Chloride, Total (mg/L)</b>	<b>MW-7</b>	<b>4.6</b>	<b>n/a</b>	<b>8/15/2023</b>	<b>6.51</b>	<b>Yes</b>	<b>112</b>	<b>2.679</b>	<b>n/a</b>	<b>n/a</b>	<b>0.0001585 NP Inter (normality) 1 of 2</b>
<b>Chloride, Total (mg/L)</b>	<b>MW-8</b>	<b>4.6</b>	<b>n/a</b>	<b>8/15/2023</b>	<b>4.92</b>	<b>Yes</b>	<b>112</b>	<b>2.679</b>	<b>n/a</b>	<b>n/a</b>	<b>0.0001585 NP Inter (normality) 1 of 2</b>
<b>pH, Field (SU)</b>	<b>MW-5</b>	<b>6.35</b>	<b>4.51</b>	<b>8/16/2023</b>	<b>6.5</b>	<b>Yes</b>	<b>113</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.0003112 NP Inter (normality) 1 of 2</b>
pH, Field (SU)	MW-6	6.35	4.51	8/16/2023	6.01	No	113	0	n/a	n/a	0.0003112 NP Inter (normality) 1 of 2
<b>pH, Field (SU)</b>	<b>MW-7</b>	<b>6.35</b>	<b>4.51</b>	<b>8/15/2023</b>	<b>7.47</b>	<b>Yes</b>	<b>113</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.0003112 NP Inter (normality) 1 of 2</b>
<b>pH, Field (SU)</b>	<b>MW-8</b>	<b>6.35</b>	<b>4.51</b>	<b>8/15/2023</b>	<b>7.58</b>	<b>Yes</b>	<b>113</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.0003112 NP Inter (normality) 1 of 2</b>

# Appendix III Trend Tests - Prediction Limit Exceedances - Significant Results

Plant Gorgas Data: Gorgas CCR LF Printed 10/6/2023, 4:35 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Alpha	Method
Chloride, Total (mg/L)	MW-8	-19.64	-114	-87	Yes	21	0	n/a	0.01	NP
pH, Field (SU)	MW-1 (bg)	-0.01854	-181	-131	Yes	28	0	n/a	0.01	NP
pH, Field (SU)	MW-2 (bg)	0.04189	142	131	Yes	28	0	n/a	0.01	NP
pH, Field (SU)	MW-5	0.01816	100	92	Yes	22	0	n/a	0.01	NP
pH, Field (SU)	MW-8	0.0485	177	92	Yes	22	0	n/a	0.01	NP

# Appendix III Trend Tests - Prediction Limit Exceedances - All Results

Plant Gorgas Data: Gorgas CCR LF Printed 10/6/2023, 4:35 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Alpha	Method
Calcium, total (mg/L)	MW-1 (bg)	2.226	116	131	No	28	0	n/a	0.01	NP
Calcium, total (mg/L)	MW-2 (bg)	0	4	131	No	28	0	n/a	0.01	NP
Calcium, total (mg/L)	MW-3 (bg)	9.024	58	131	No	28	0	n/a	0.01	NP
Calcium, total (mg/L)	MW-4 (bg)	-6.626	-101	-131	No	28	0	n/a	0.01	NP
Calcium, total (mg/L)	MW-7	-2.964	-39	-87	No	21	0	n/a	0.01	NP
Chloride, Total (mg/L)	MW-1 (bg)	-0.02423	-54	-131	No	28	0	n/a	0.01	NP
Chloride, Total (mg/L)	MW-2 (bg)	-0.1196	-77	-131	No	28	0	n/a	0.01	NP
Chloride, Total (mg/L)	MW-3 (bg)	0.04365	68	131	No	28	7.143	n/a	0.01	NP
Chloride, Total (mg/L)	MW-4 (bg)	-0.04985	-94	-131	No	28	3.571	n/a	0.01	NP
Chloride, Total (mg/L)	MW-5	-0.1187	-43	-87	No	21	0	n/a	0.01	NP
Chloride, Total (mg/L)	MW-7	-4.43	-81	-87	No	21	0	n/a	0.01	NP
<b>Chloride, Total (mg/L)</b>	<b>MW-8</b>	<b>-19.64</b>	<b>-114</b>	<b>-87</b>	<b>Yes</b>	<b>21</b>	<b>0</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
<b>pH, Field (SU)</b>	<b>MW-1 (bg)</b>	<b>-0.01854</b>	<b>-181</b>	<b>-131</b>	<b>Yes</b>	<b>28</b>	<b>0</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
<b>pH, Field (SU)</b>	<b>MW-2 (bg)</b>	<b>0.04189</b>	<b>142</b>	<b>131</b>	<b>Yes</b>	<b>28</b>	<b>0</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
pH, Field (SU)	MW-3 (bg)	0.02424	22	131	No	28	0	n/a	0.01	NP
pH, Field (SU)	MW-4 (bg)	0.01768	115	139	No	29	0	n/a	0.01	NP
<b>pH, Field (SU)</b>	<b>MW-5</b>	<b>0.01816</b>	<b>100</b>	<b>92</b>	<b>Yes</b>	<b>22</b>	<b>0</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
pH, Field (SU)	MW-7	-0.006697	-17	-92	No	22	0	n/a	0.01	NP
<b>pH, Field (SU)</b>	<b>MW-8</b>	<b>0.0485</b>	<b>177</b>	<b>92</b>	<b>Yes</b>	<b>22</b>	<b>0</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>

# Upper Tolerance Limits - Summary Table

Plant Gorgas Data: Gorgas CCR LF Printed 10/6/2023, 4:39 PM

Constituent	Well	Upper Lim.	Date	Observ.	Sig.	Bg N	%NDs	ND Adj.	Transform Alpha	Method
Antimony (mg/L)	n/a	0.00143	n/a	n/a	n/a	112	94.64	n/a	n/a	0.003199 NP Inter
Arsenic (mg/L)	n/a	0.0048	n/a	n/a	n/a	112	72.32	n/a	n/a	0.003199 NP Inter
Barium (mg/L)	n/a	0.0165	n/a	n/a	n/a	112	0	n/a	n/a	0.003199 NP Inter
Beryllium (mg/L)	n/a	0.0121	n/a	n/a	n/a	110	84.55	n/a	n/a	0.003545 NP Inter
Cadmium (mg/L)	n/a	0.00885	n/a	n/a	n/a	111	41.44	n/a	n/a	0.003368 NP Inter
Chromium (mg/L)	n/a	0.0105	n/a	n/a	n/a	112	81.25	n/a	n/a	0.003199 NP Inter
Cobalt (mg/L)	n/a	0.529	n/a	n/a	n/a	110	25.45	n/a	n/a	0.003545 NP Inter
Combined Radium 226 + 228 (pCi/L)	n/a	1.49	n/a	n/a	n/a	108	0	n/a	n/a	0.003928 NP Inter
Fluoride, total (mg/L)	n/a	0.63	n/a	n/a	n/a	116	0	n/a	n/a	0.002606 NP Inter
Lead (mg/L)	n/a	0.00108	n/a	n/a	n/a	111	93.69	n/a	n/a	0.003368 NP Inter
Lithium (mg/L)	n/a	0.419	n/a	n/a	n/a	112	0	n/a	n/a	0.003199 NP Inter
Mercury (mg/L)	n/a	0.0005	n/a	n/a	n/a	112	100	n/a	n/a	0.003199 NP Inter
Molybdenum (mg/L)	n/a	0.01015	n/a	n/a	n/a	112	94.64	n/a	n/a	0.003199 NP Inter
Selenium (mg/L)	n/a	0.0209	n/a	n/a	n/a	112	55.36	n/a	n/a	0.003199 NP Inter
Thallium (mg/L)	n/a	0.000226	n/a	n/a	n/a	112	97.32	n/a	n/a	0.003199 NP Inter

<b>GORGAS CCR LANDFILL GWPS</b>			
<b>Analyte</b>	<b>Units</b>	<b>Background</b>	<b>GWPS</b>
Antimony	mg/L	0.00143	0.006
Arsenic	mg/L	0.0048	0.01
Barium	mg/L	0.0165	2
Beryllium	mg/L	0.0121	0.004
Cadmium	mg/L	0.00885	0.00885
Chromium	mg/L	0.0105	0.1
Cobalt	mg/L	0.529	0.529
Combined Radium-226/228	pCi/L	1.49	5
Fluoride	mg/L	0.63	4
Lead	mg/L	0.00108	0.015
Lithium	mg/L	0.419	0.419
Mercury	mg/L	0.0005	0.002
Molybdenum	mg/L	0.01015	0.1
Selenium	mg/L	0.0209	0.05
Thallium	mg/L	0.000226	0.002

Notes:

1. mg/L - Milligrams per liter
2. pCi/L - Picocuries per liter
3. The background limits were used as the groundwater protection standard (GWPS) when appropriate under 40 CFR §257.95(h), ADEM Rule 335-13-15-.06(h), and the ADEM Variance.
4. GWPS established during second semi-annual sampling event in 2023.



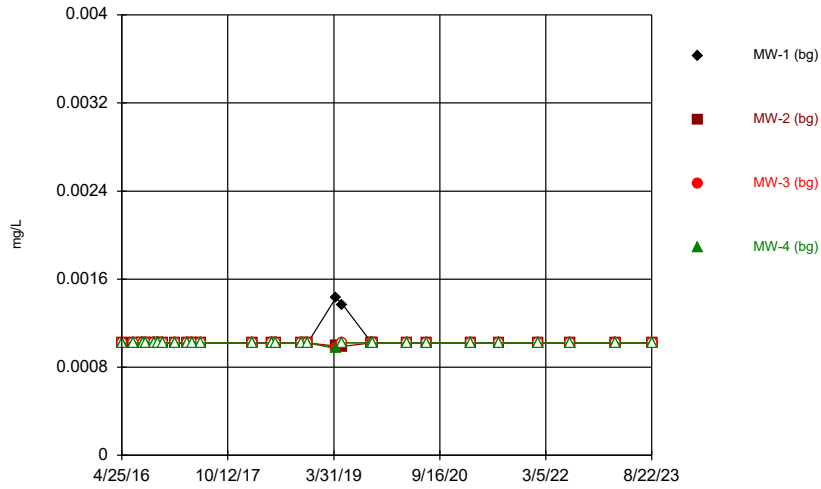
# Appendix IV Confidence Intervals - All Results (No Significant)

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF Printed 10/6/2023, 5:15 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	ND Adj.	Transform	Alpha	Method
Arsenic (mg/L)	MW-5	0.0025	0.00019	0.01	No	8	12.5	None	No	0.004	NP (normality)
Arsenic (mg/L)	MW-6	0.005485	0.003277	0.01	No	8	0	None	No	0.01	Param.
Arsenic (mg/L)	MW-7	0.001647	0.001415	0.01	No	8	0	None	No	0.01	Param.
Arsenic (mg/L)	MW-8	0.001724	0.001013	0.01	No	8	0	None	sqrt(x)	0.01	Param.
Barium (mg/L)	MW-5	0.01285	0.0108	2	No	8	0	None	No	0.01	Param.
Barium (mg/L)	MW-6	0.01483	0.01272	2	No	8	0	None	No	0.01	Param.
Barium (mg/L)	MW-7	0.01457	0.01288	2	No	8	0	None	No	0.01	Param.
Barium (mg/L)	MW-8	0.01464	0.01334	2	No	8	0	None	No	0.01	Param.
Beryllium (mg/L)	MW-6	0.0009932	0.0002071	0.004	No	8	50	Kaplan-Meier	x^2	0.01	Param.
Cadmium (mg/L)	MW-6	0.001351	0.00005711	0.00885	No	8	37.5	Kaplan-Meier	x^(1/3)	0.01	Param.
Chromium (mg/L)	MW-5	0.001015	0.00027	0.1	No	8	75	None	No	0.004	NP (NDs)
Chromium (mg/L)	MW-6	0.00102	0.00024	0.1	No	8	62.5	None	No	0.004	NP (NDs)
Chromium (mg/L)	MW-7	0.001015	0.00026	0.1	No	8	75	None	No	0.004	NP (NDs)
Chromium (mg/L)	MW-8	0.001015	0.000211	0.1	No	8	75	None	No	0.004	NP (NDs)
Cobalt (mg/L)	MW-5	0.005	0.000538	0.529	No	8	25	None	No	0.004	NP (normality)
Cobalt (mg/L)	MW-6	0.4066	0.04459	0.529	No	8	0	None	sqrt(x)	0.01	Param.
Cobalt (mg/L)	MW-7	0.006124	0.003524	0.529	No	8	0	None	No	0.01	Param.
Cobalt (mg/L)	MW-8	0.008031	0.006524	0.529	No	8	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-5	0.7624	0.2132	5	No	8	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-6	2.62	0.1555	5	No	8	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-7	0.7246	0.3137	5	No	8	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-8	1.379	0.2685	5	No	8	0	None	x^(1/3)	0.01	Param.
Fluoride, total (mg/L)	MW-5	0.3223	0.2497	4	No	8	0	None	No	0.01	Param.
Fluoride, total (mg/L)	MW-6	0.1615	0.1011	4	No	7	0	None	No	0.01	Param.
Fluoride, total (mg/L)	MW-7	0.2432	0.1526	4	No	8	0	None	No	0.01	Param.
Fluoride, total (mg/L)	MW-8	0.2296	0.1694	4	No	8	0	None	sqrt(x)	0.01	Param.
Lead (mg/L)	MW-6	0.000457	0.000191	0.015	No	8	62.5	None	No	0.004	NP (NDs)
Lead (mg/L)	MW-8	0.000203	0.000088	0.015	No	8	37.5	None	No	0.004	NP (normality)
Lithium (mg/L)	MW-5	0.1272	0.0912	0.419	No	8	0	None	No	0.01	Param.
Lithium (mg/L)	MW-6	0.25	0.07821	0.419	No	8	0	None	No	0.01	Param.
Lithium (mg/L)	MW-7	0.131	0.0907	0.419	No	8	0	None	No	0.004	NP (normality)
Lithium (mg/L)	MW-8	0.1579	0.1198	0.419	No	8	0	None	No	0.01	Param.
Molybdenum (mg/L)	MW-5	0.01015	0.000945	0.1	No	8	37.5	None	No	0.004	NP (normality)
Molybdenum (mg/L)	MW-6	0.01015	0.00007	0.1	No	8	50	None	No	0.004	NP (normality)
Molybdenum (mg/L)	MW-7	0.01015	0.000846	0.1	No	8	37.5	None	No	0.004	NP (normality)
Molybdenum (mg/L)	MW-8	0.0129	0.00031	0.1	No	8	37.5	None	No	0.004	NP (normality)
Selenium (mg/L)	MW-5	0.01	0.00124	0.05	No	8	25	None	No	0.004	NP (normality)
Selenium (mg/L)	MW-6	0.0019	0.00102	0.05	No	8	87.5	None	No	0.004	NP (NDs)
Selenium (mg/L)	MW-7	0.00102	0.000677	0.05	No	8	87.5	None	No	0.004	NP (NDs)
Thallium (mg/L)	MW-5	0.0002	0.00007	0.002	No	8	87.5	None	No	0.004	NP (NDs)
Thallium (mg/L)	MW-6	0.000203	0.000094	0.002	No	8	62.5	None	No	0.004	NP (NDs)

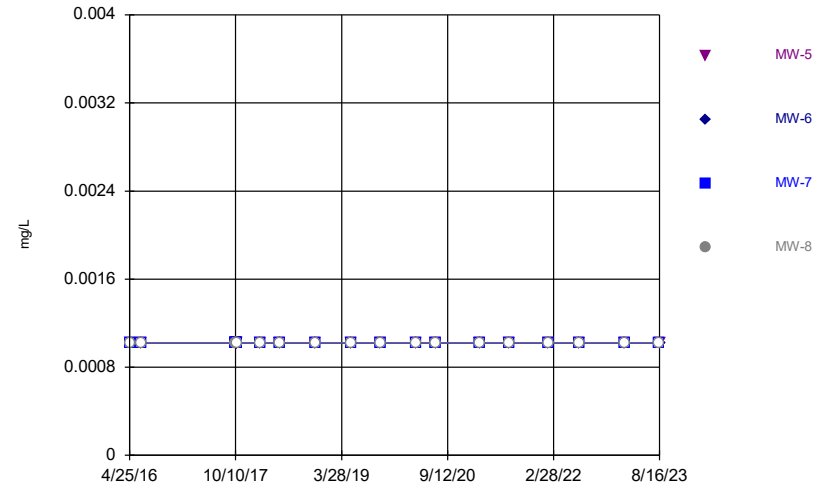
FIGURE A.

### Time Series



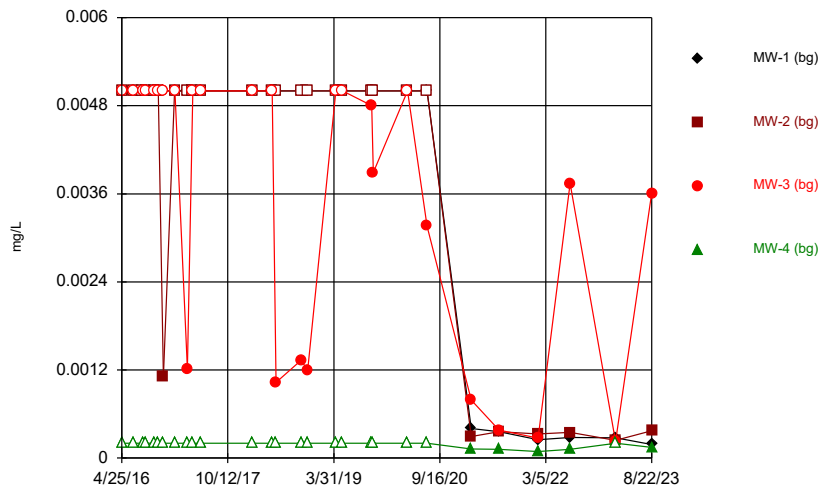
Constituent: Antimony Analysis Run 10/6/2023 3:25 PM  
Plant Gorgas Data: Gorgas CCR LF

### Time Series



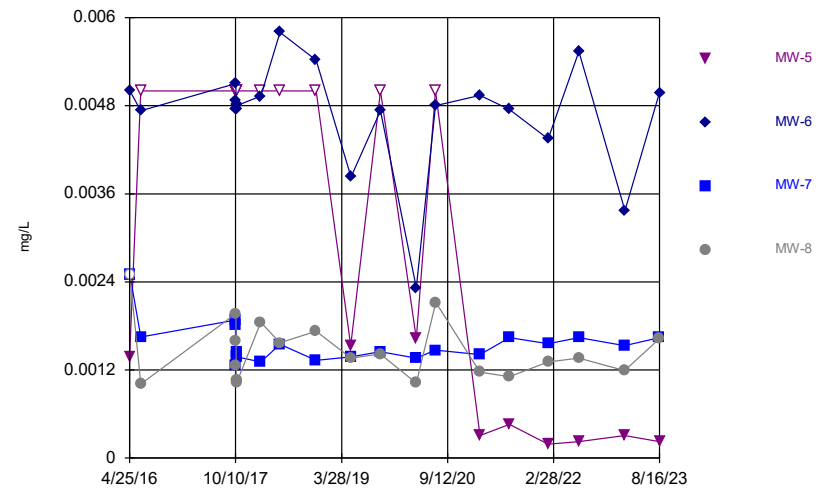
Constituent: Antimony Analysis Run 10/6/2023 3:25 PM  
Plant Gorgas Data: Gorgas CCR LF

### Time Series



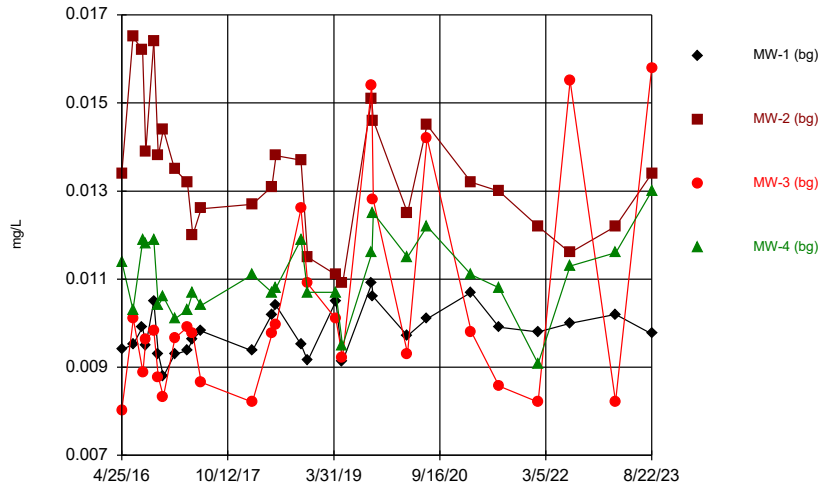
Constituent: Arsenic Analysis Run 10/6/2023 3:25 PM  
Plant Gorgas Data: Gorgas CCR LF

### Time Series



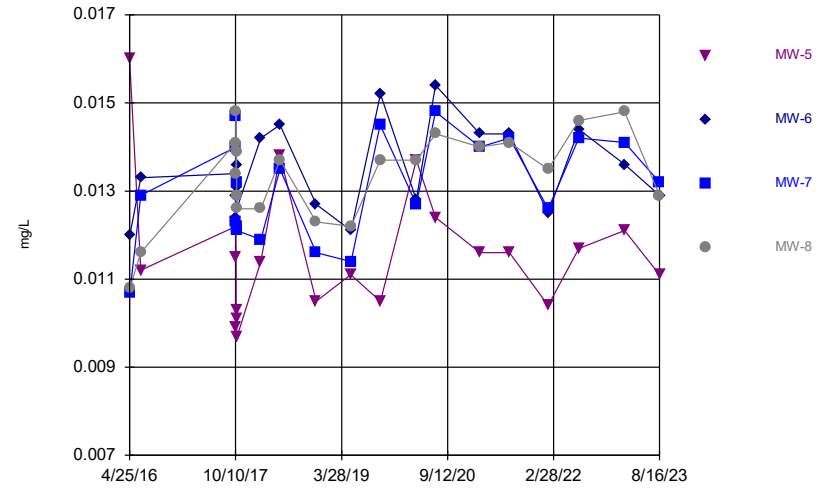
Constituent: Arsenic Analysis Run 10/6/2023 3:25 PM  
Plant Gorgas Data: Gorgas CCR LF

### Time Series



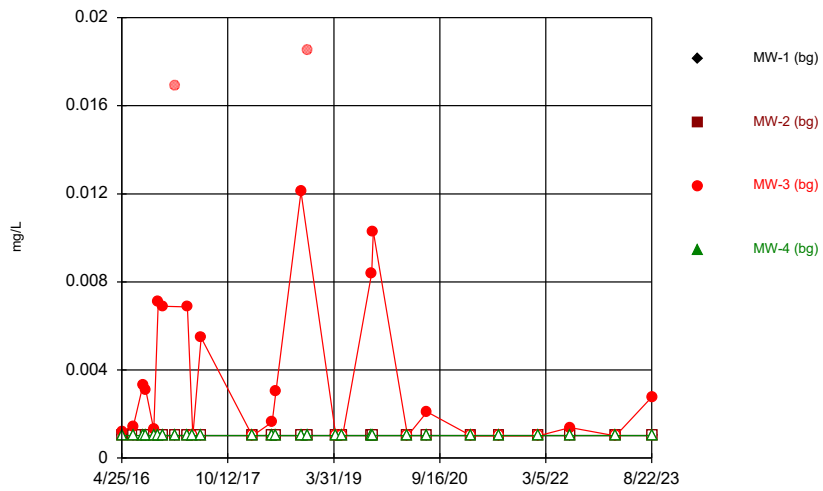
Constituent: Barium Analysis Run 10/6/2023 3:25 PM  
 Plant Gorgas Data: Gorgas CCR LF

### Time Series



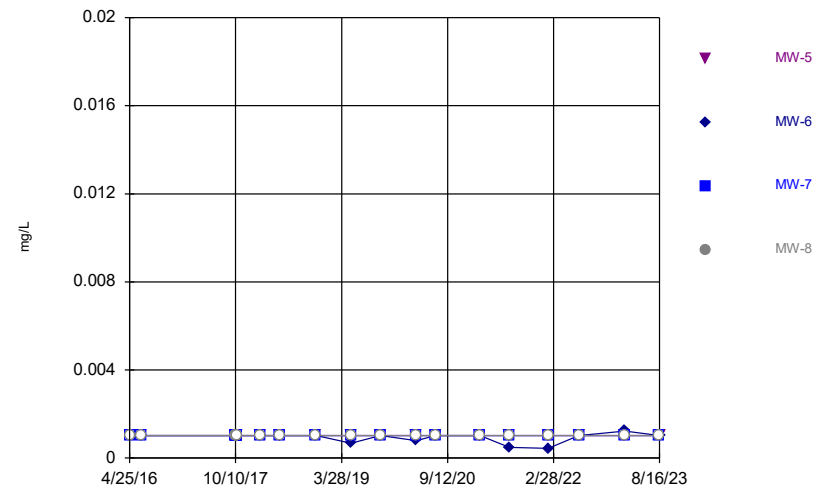
Constituent: Barium Analysis Run 10/6/2023 3:25 PM  
 Plant Gorgas Data: Gorgas CCR LF

### Time Series



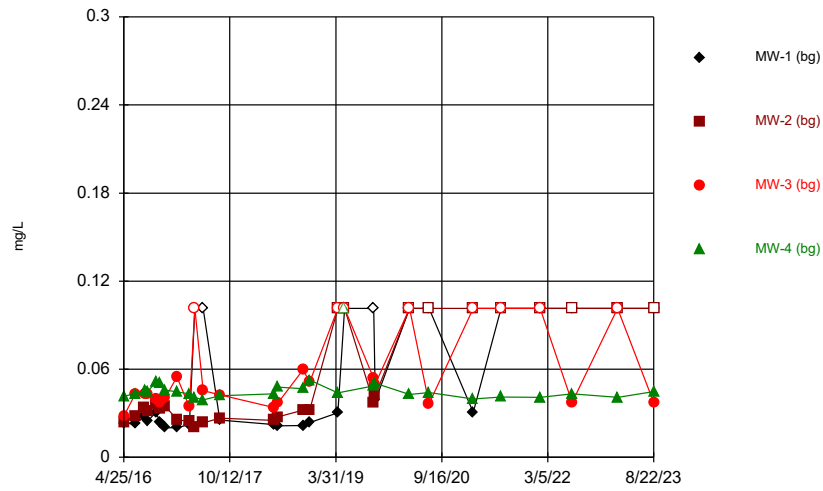
Constituent: Beryllium Analysis Run 10/6/2023 3:25 PM  
 Plant Gorgas Data: Gorgas CCR LF

### Time Series



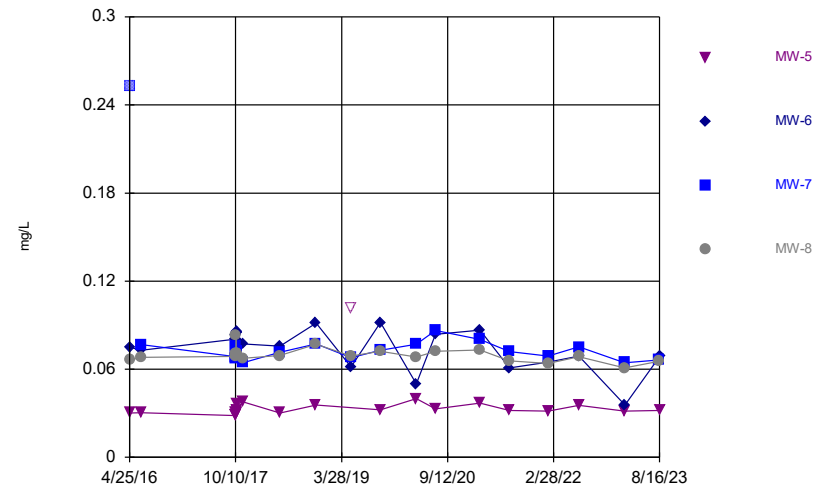
Constituent: Beryllium Analysis Run 10/6/2023 3:25 PM  
 Plant Gorgas Data: Gorgas CCR LF

### Time Series



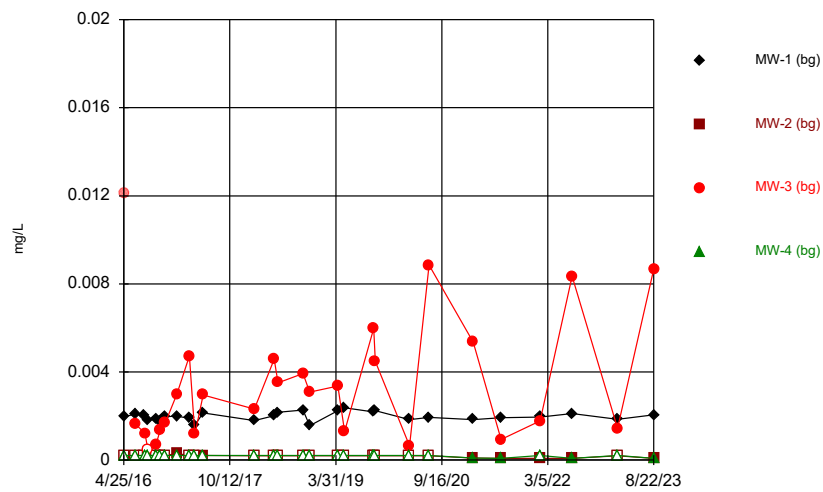
Constituent: Boron, total Analysis Run 10/6/2023 3:25 PM  
Plant Gorgas Data: Gorgas CCR LF

### Time Series



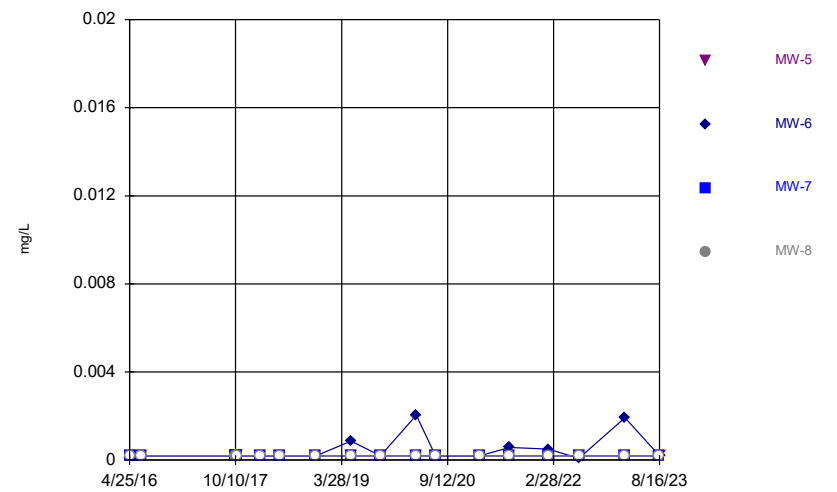
Constituent: Boron, total Analysis Run 10/6/2023 3:25 PM  
Plant Gorgas Data: Gorgas CCR LF

### Time Series



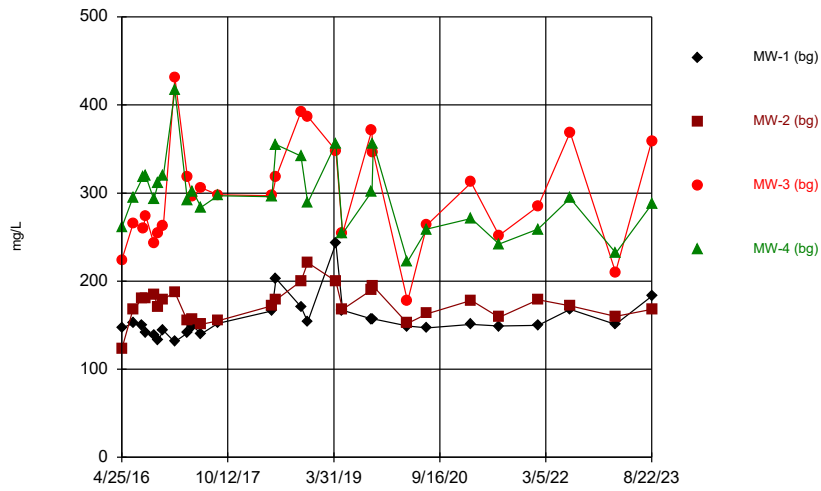
Constituent: Cadmium Analysis Run 10/6/2023 3:25 PM  
Plant Gorgas Data: Gorgas CCR LF

### Time Series



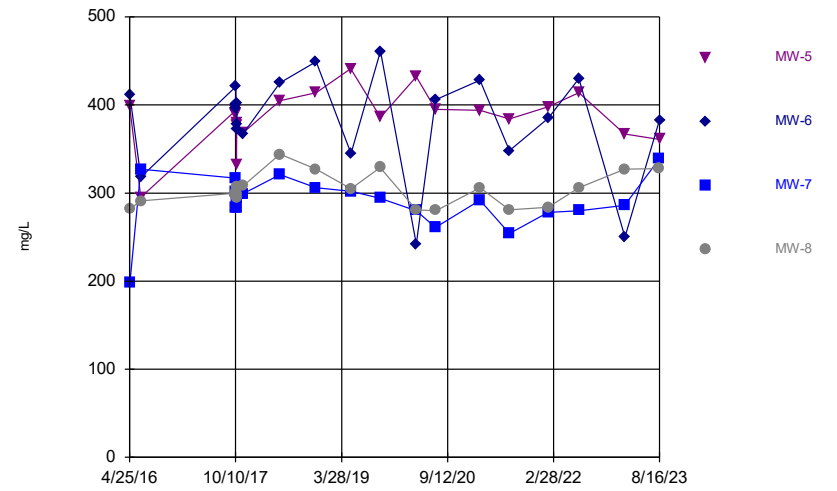
Constituent: Cadmium Analysis Run 10/6/2023 3:25 PM  
Plant Gorgas Data: Gorgas CCR LF

### Time Series



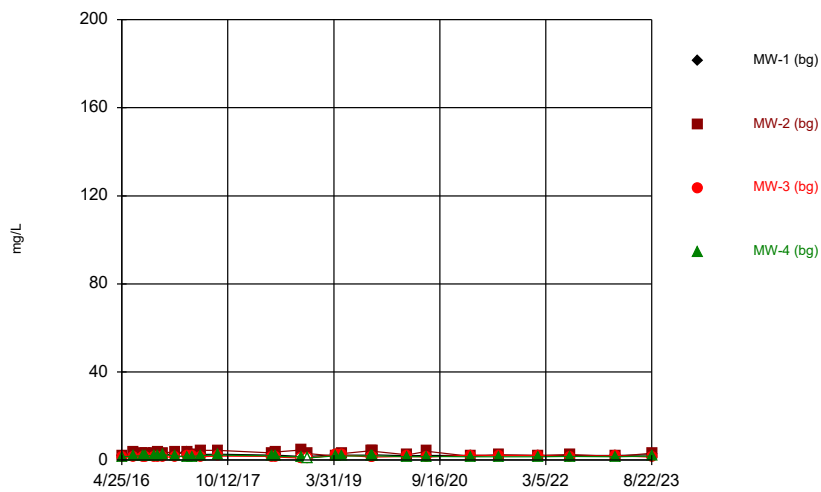
Constituent: Calcium, total Analysis Run 10/6/2023 3:25 PM  
Plant Gorgas Data: Gorgas CCR LF

### Time Series



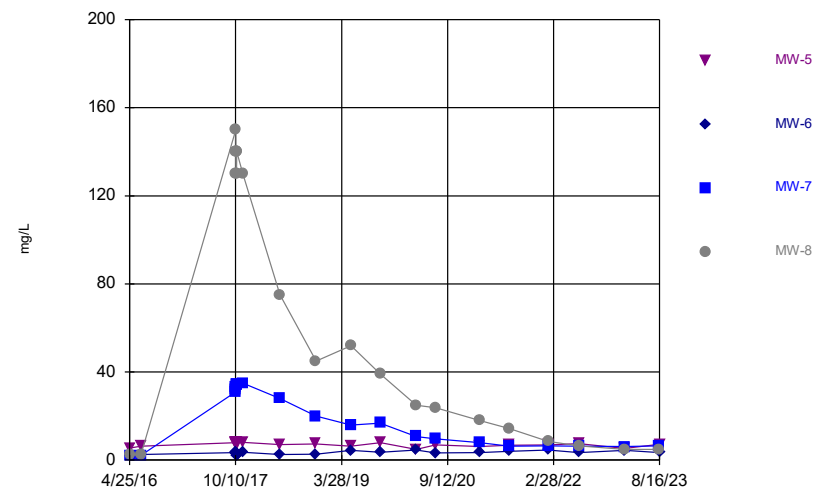
Constituent: Calcium, total Analysis Run 10/6/2023 3:25 PM  
Plant Gorgas Data: Gorgas CCR LF

### Time Series



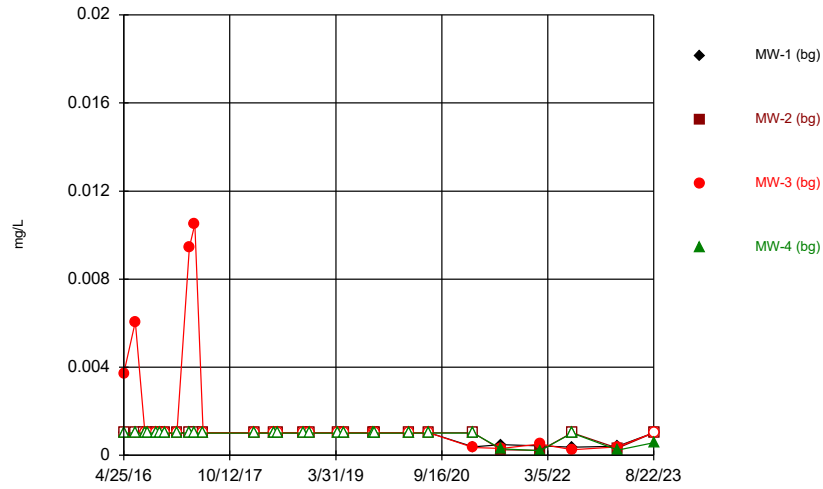
Constituent: Chloride, Total Analysis Run 10/6/2023 3:25 PM  
Plant Gorgas Data: Gorgas CCR LF

### Time Series



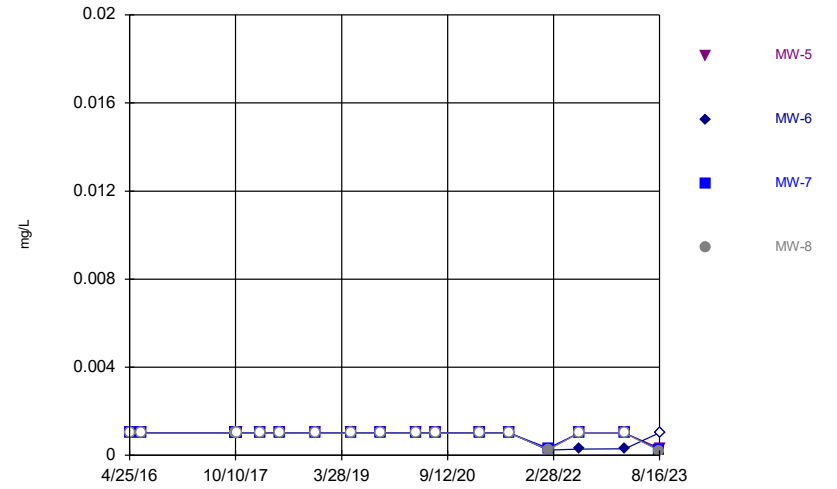
Constituent: Chloride, Total Analysis Run 10/6/2023 3:25 PM  
Plant Gorgas Data: Gorgas CCR LF

### Time Series



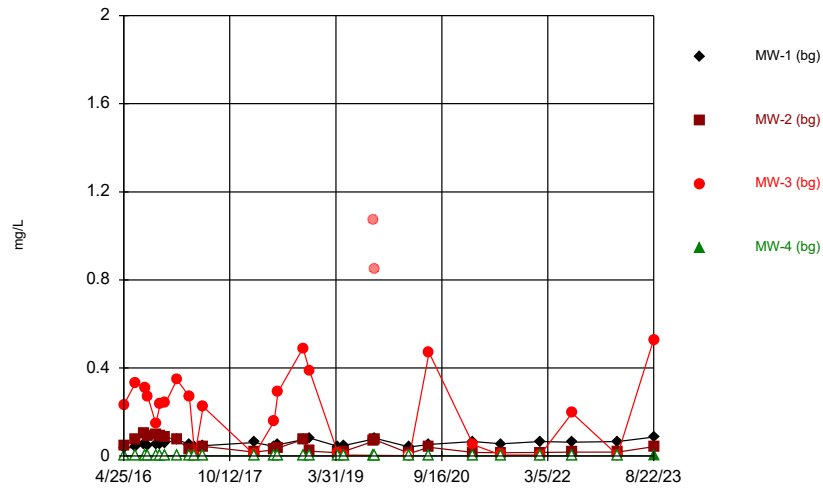
Constituent: Chromium Analysis Run 10/6/2023 3:25 PM  
Plant Gorgas Data: Gorgas CCR LF

### Time Series



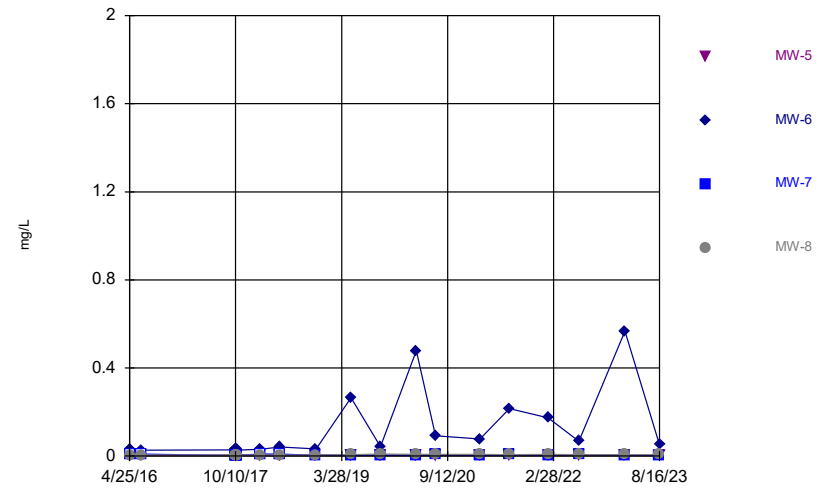
Constituent: Chromium Analysis Run 10/6/2023 3:25 PM  
Plant Gorgas Data: Gorgas CCR LF

### Time Series



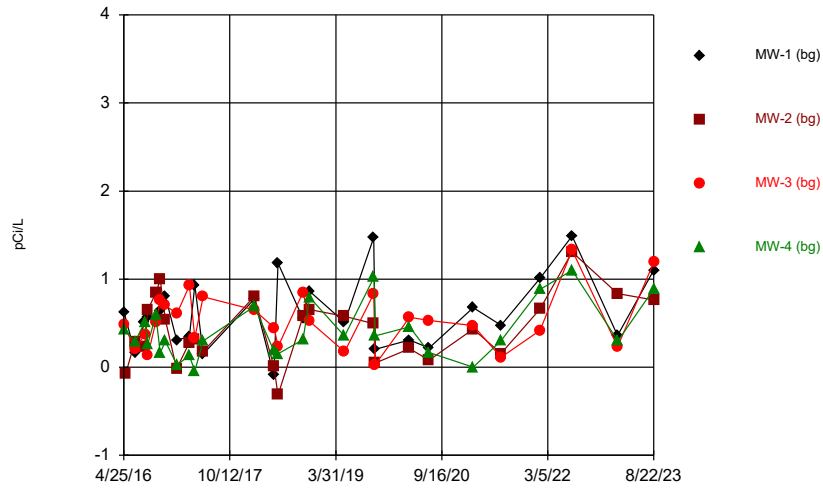
Constituent: Cobalt Analysis Run 10/6/2023 3:25 PM  
Plant Gorgas Data: Gorgas CCR LF

### Time Series



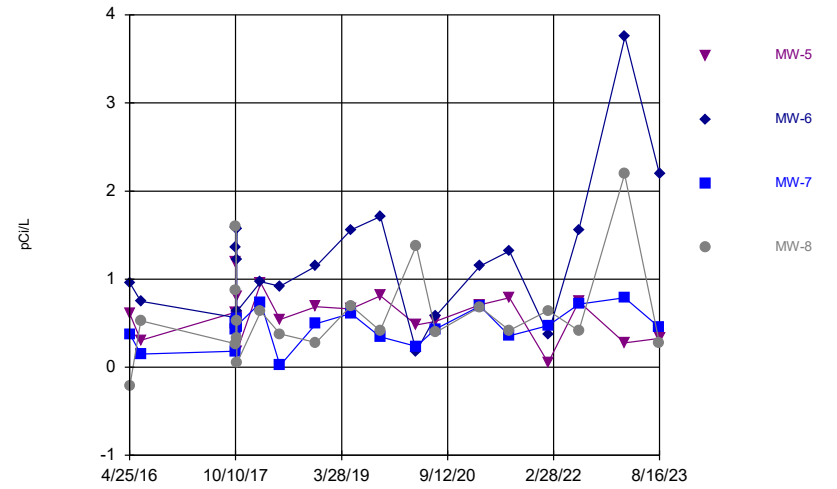
Constituent: Cobalt Analysis Run 10/6/2023 3:25 PM  
Plant Gorgas Data: Gorgas CCR LF

### Time Series



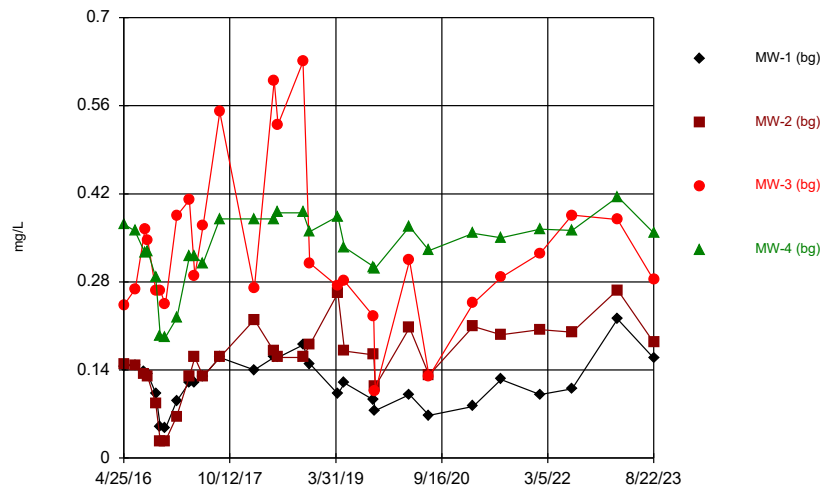
Constituent: Combined Radium 226 + 228 Analysis Run 10/6/2023 3:25 PM  
Plant Gorgas Data: Gorgas CCR LF

### Time Series



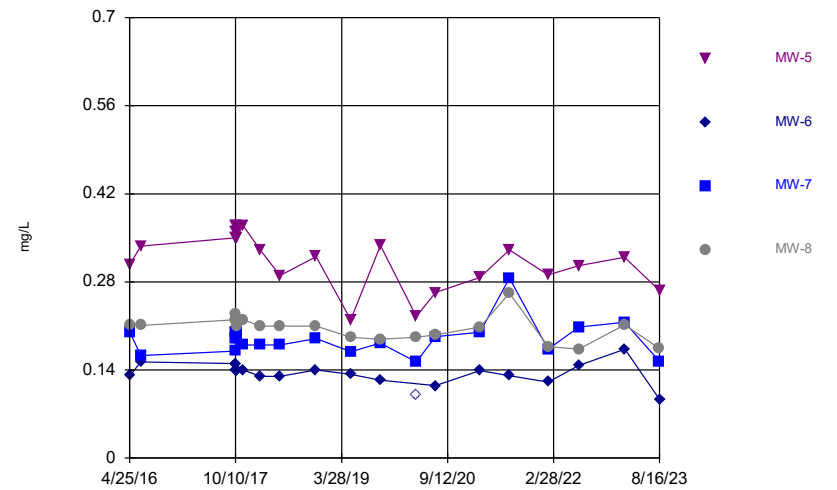
Constituent: Combined Radium 226 + 228 Analysis Run 10/6/2023 3:25 PM  
Plant Gorgas Data: Gorgas CCR LF

### Time Series



Constituent: Fluoride, total Analysis Run 10/6/2023 3:25 PM  
Plant Gorgas Data: Gorgas CCR LF

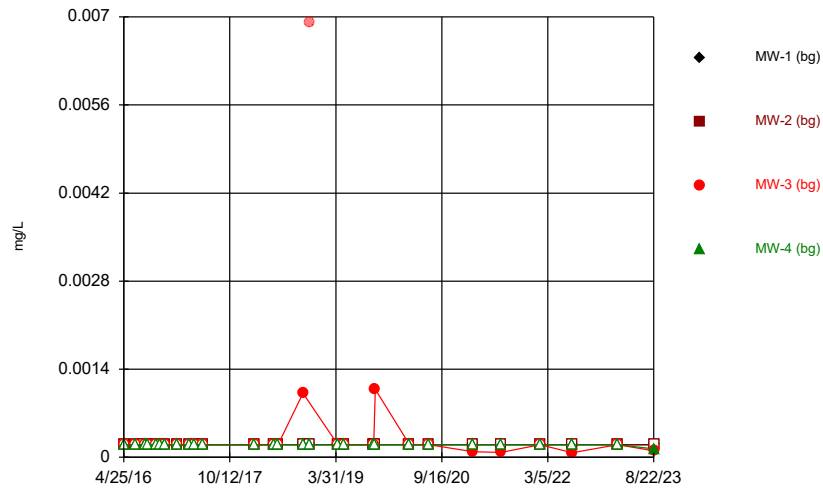
### Time Series



Constituent: Fluoride, total Analysis Run 10/6/2023 3:25 PM  
Plant Gorgas Data: Gorgas CCR LF

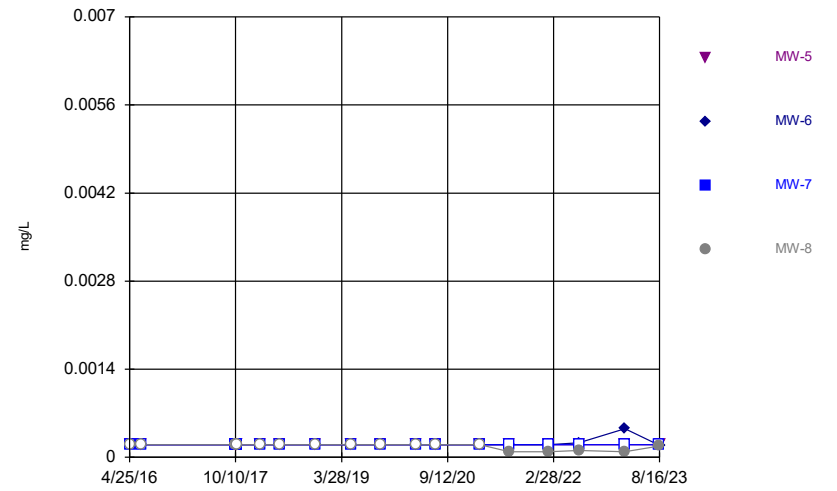


### Time Series



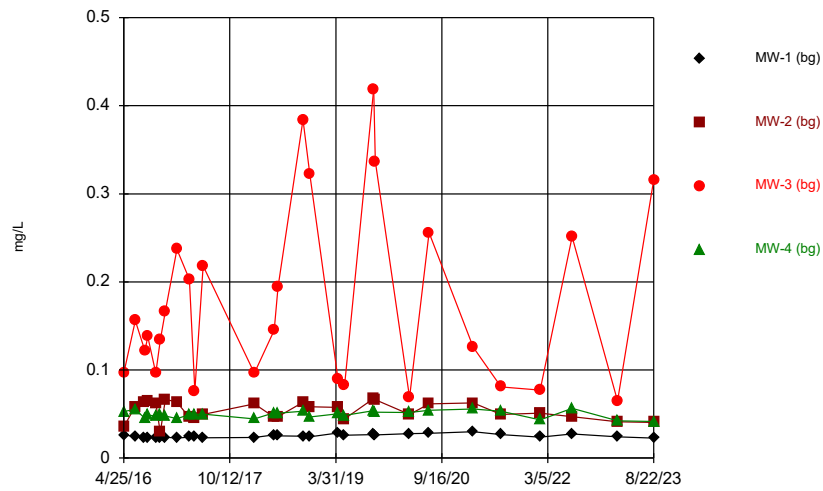
Constituent: Lead Analysis Run 10/6/2023 3:25 PM  
Plant Gorgas Data: Gorgas CCR LF

### Time Series



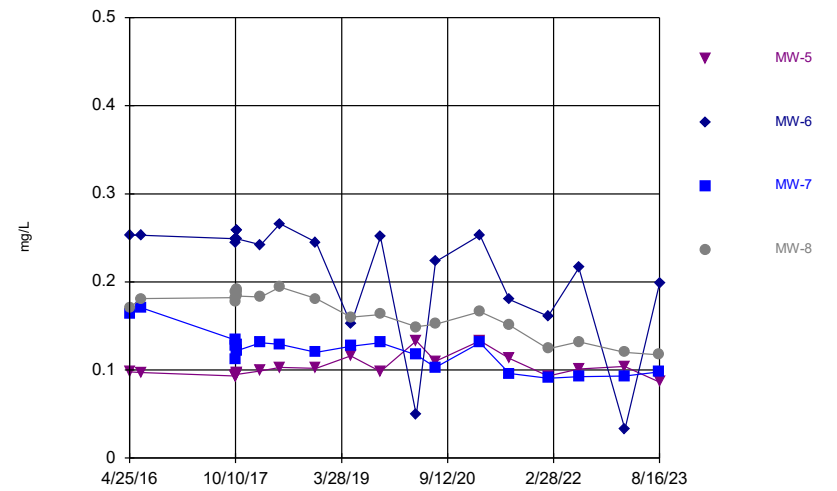
Constituent: Lead Analysis Run 10/6/2023 3:25 PM  
Plant Gorgas Data: Gorgas CCR LF

### Time Series



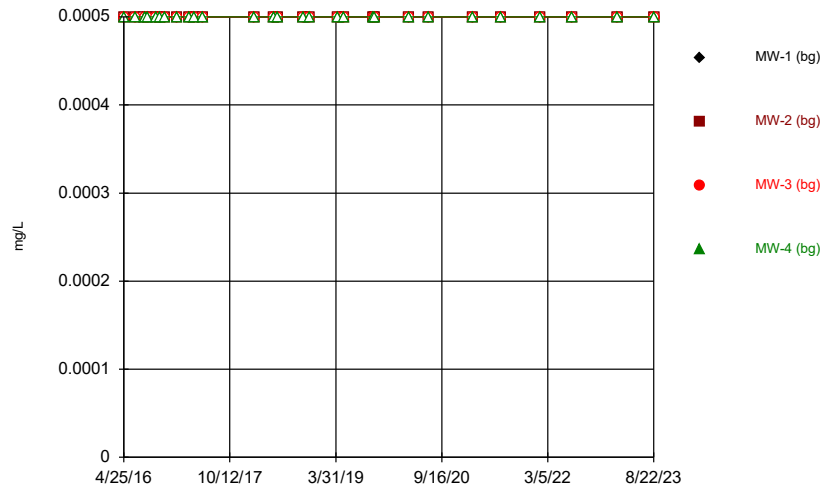
Constituent: Lithium Analysis Run 10/6/2023 3:25 PM  
Plant Gorgas Data: Gorgas CCR LF

### Time Series



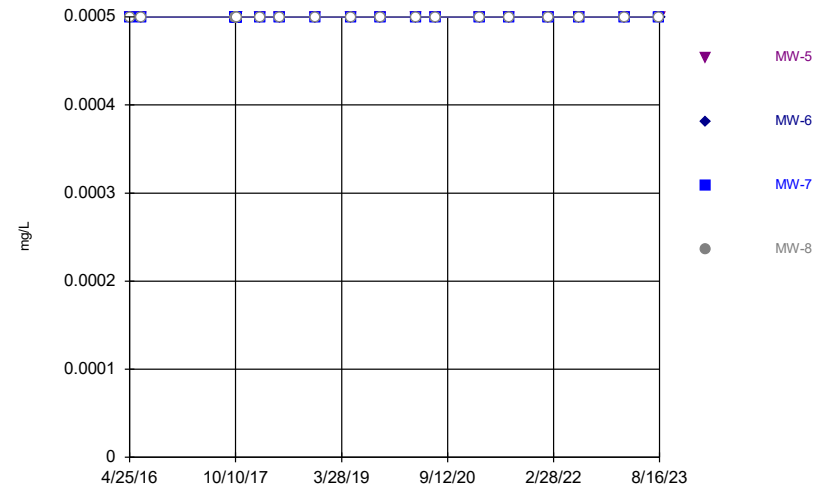
Constituent: Lithium Analysis Run 10/6/2023 3:25 PM  
Plant Gorgas Data: Gorgas CCR LF

### Time Series



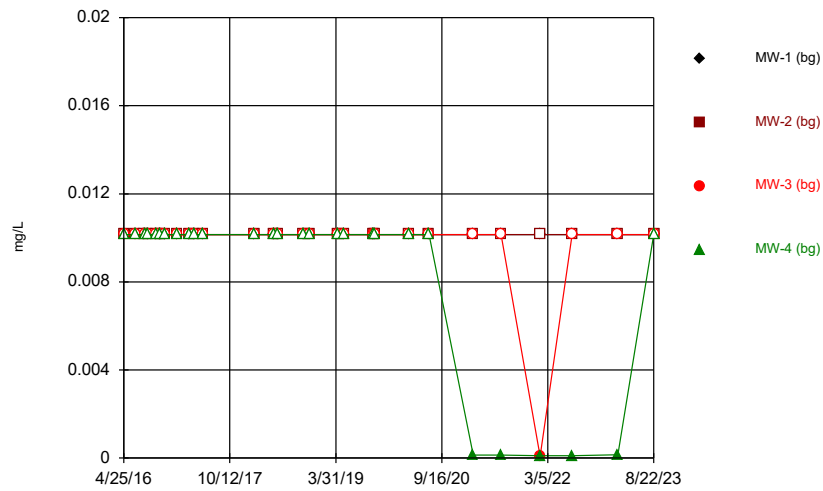
Constituent: Mercury Analysis Run 10/6/2023 3:25 PM  
Plant Gorgas Data: Gorgas CCR LF

### Time Series



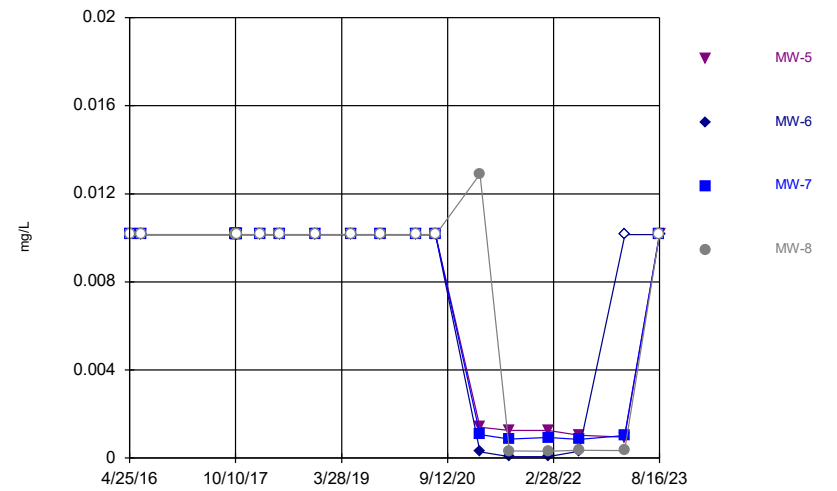
Constituent: Mercury Analysis Run 10/6/2023 3:26 PM  
Plant Gorgas Data: Gorgas CCR LF

### Time Series



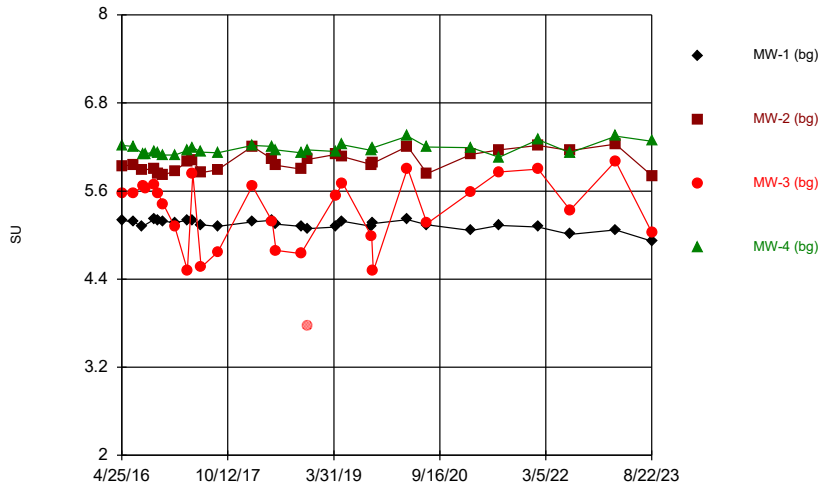
Constituent: Molybdenum Analysis Run 10/6/2023 3:26 PM  
Plant Gorgas Data: Gorgas CCR LF

### Time Series



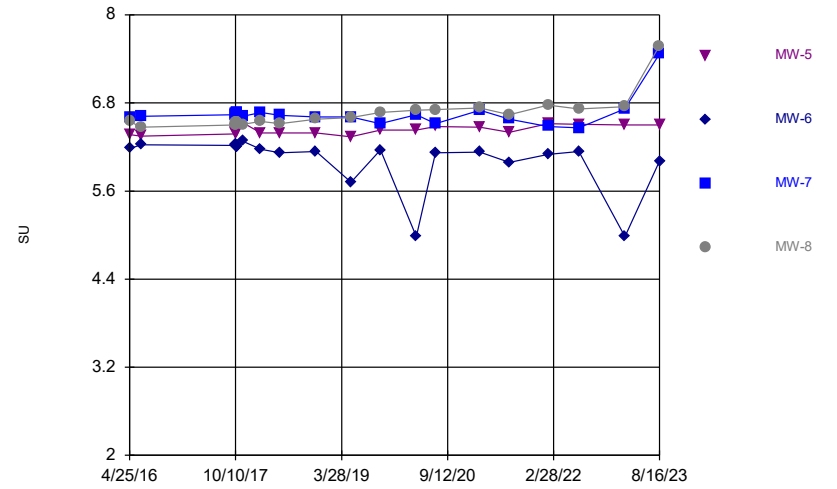
Constituent: Molybdenum Analysis Run 10/6/2023 3:26 PM  
Plant Gorgas Data: Gorgas CCR LF

Time Series



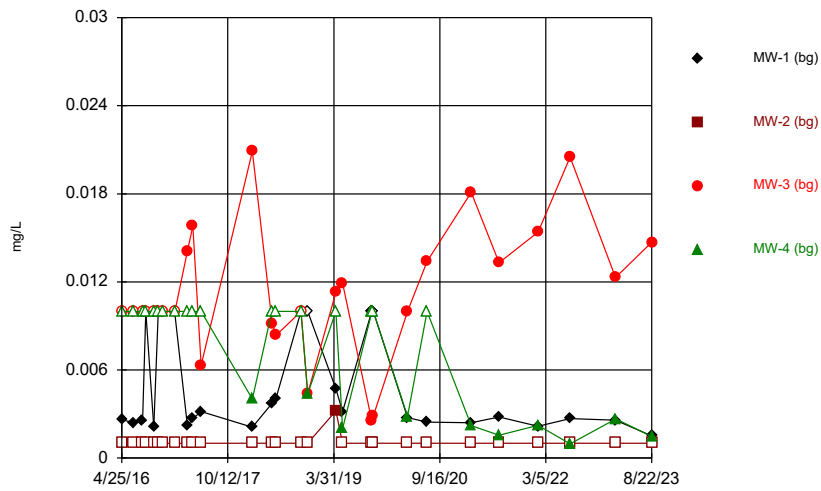
Constituent: pH, Field Analysis Run 10/6/2023 3:26 PM  
Plant Gorgas Data: Gorgas CCR LF

Time Series



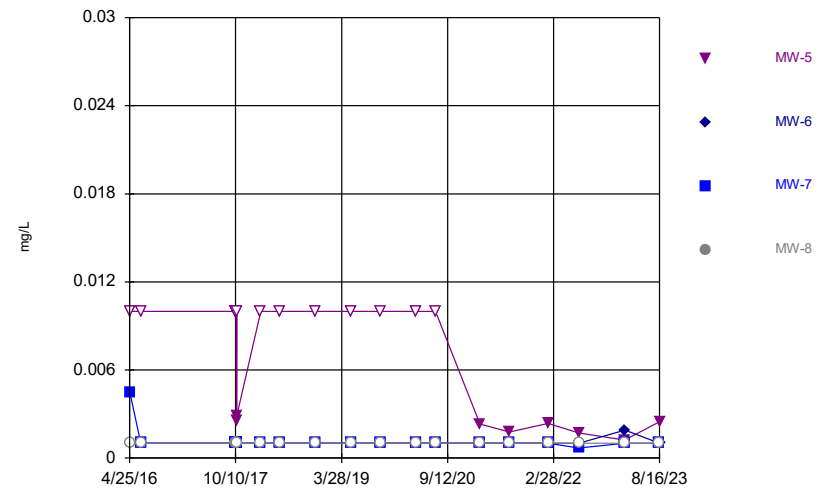
Constituent: pH, Field Analysis Run 10/6/2023 3:26 PM  
Plant Gorgas Data: Gorgas CCR LF

Time Series



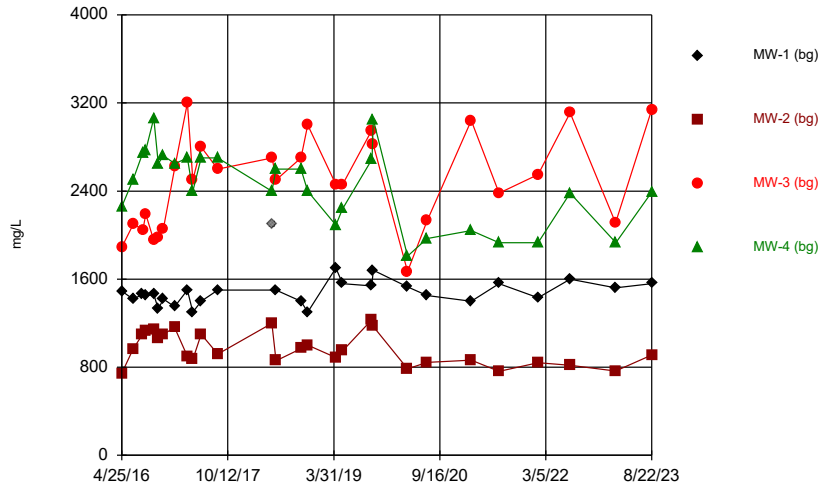
Constituent: Selenium Analysis Run 10/6/2023 3:26 PM  
Plant Gorgas Data: Gorgas CCR LF

Time Series



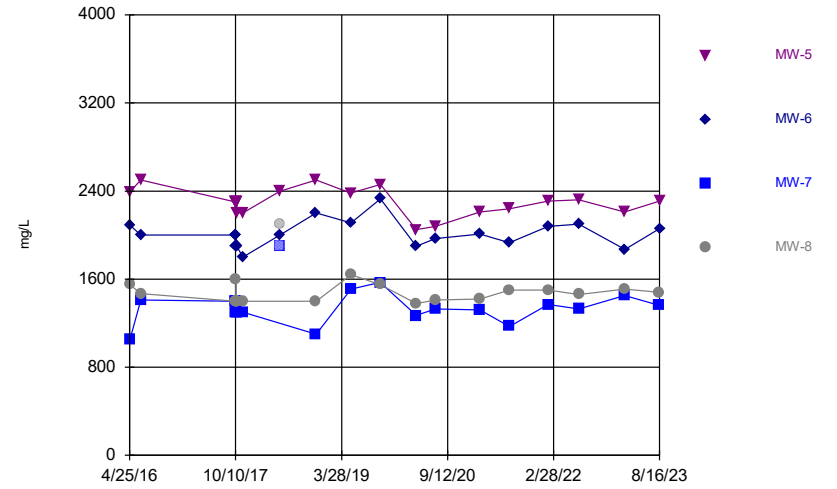
Constituent: Selenium Analysis Run 10/6/2023 3:26 PM  
Plant Gorgas Data: Gorgas CCR LF

### Time Series



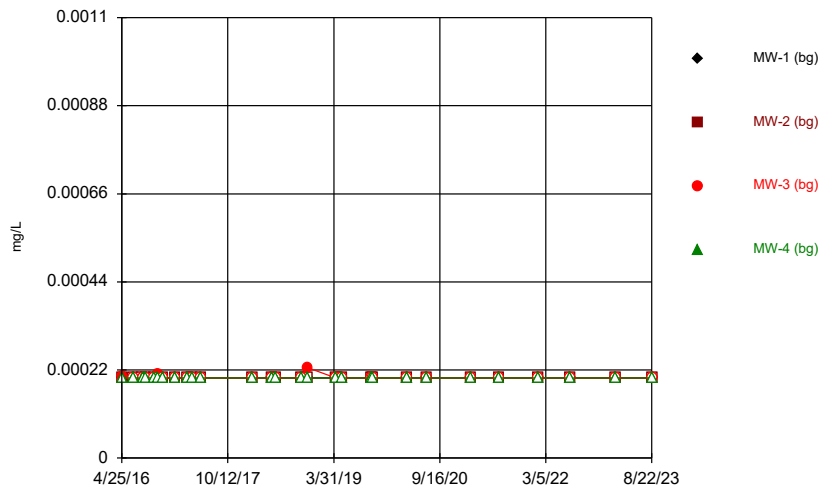
Constituent: Sulfate as SO4 Analysis Run 10/6/2023 3:26 PM  
Plant Gorgas Data: Gorgas CCR LF

### Time Series



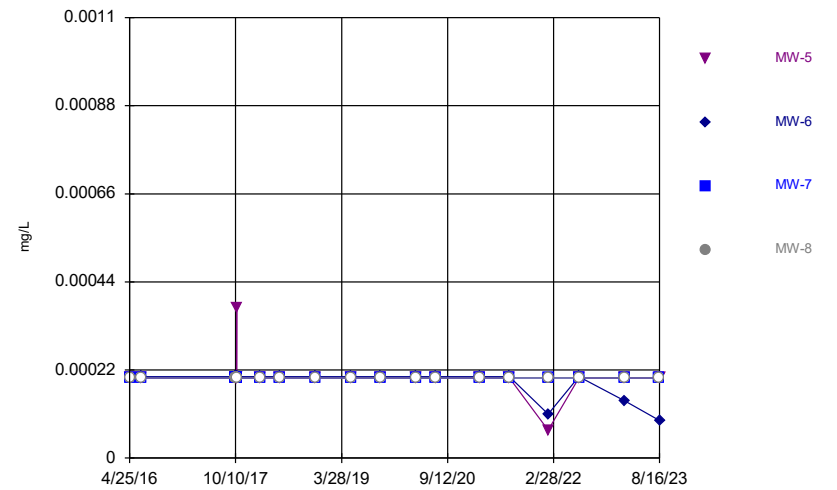
Constituent: Sulfate as SO4 Analysis Run 10/6/2023 3:26 PM  
Plant Gorgas Data: Gorgas CCR LF

### Time Series



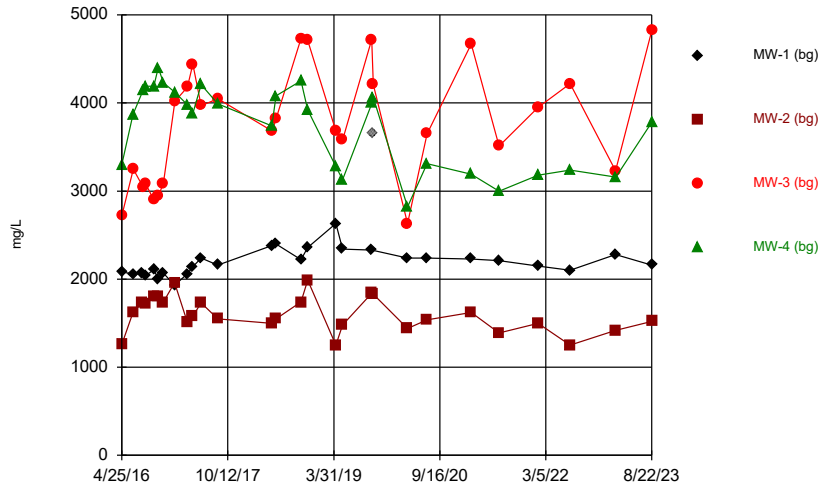
Constituent: Thallium Analysis Run 10/6/2023 3:26 PM  
Plant Gorgas Data: Gorgas CCR LF

### Time Series



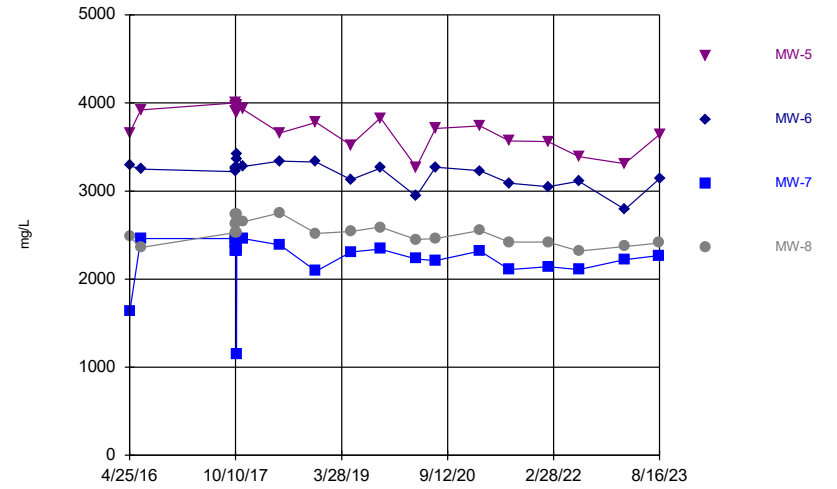
Constituent: Thallium Analysis Run 10/6/2023 3:26 PM  
Plant Gorgas Data: Gorgas CCR LF

Time Series



Constituent: Total Dissolved Solids [TDS] Analysis Run 10/6/2023 3:26 PM  
 Plant Gorgas Data: Gorgas CCR LF

Time Series



Constituent: Total Dissolved Solids [TDS] Analysis Run 10/6/2023 3:26 PM  
 Plant Gorgas Data: Gorgas CCR LF

# Time Series

Constituent: Antimony (mg/L) Analysis Run 10/6/2023 3:26 PM

Plant Gorgas Data: Gorgas CCR LF

	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016		<0.00102	<0.00102	<0.00102
4/26/2016	<0.00102			
6/20/2016	<0.00102	<0.00102		<0.00102
6/22/2016			<0.00102	
8/8/2016	<0.00102	<0.00102		
8/9/2016			<0.00102	<0.00102
8/24/2016	<0.00102	<0.00102	<0.00102	<0.00102
10/3/2016	<0.00102	<0.00102		<0.00102
10/4/2016			<0.00102	
10/26/2016	<0.00102	<0.00102	<0.00102	<0.00102
11/21/2016	<0.00102	<0.00102	<0.00102	<0.00102
1/17/2017	<0.00102	<0.00102		
1/18/2017			<0.00102	<0.00102
3/22/2017	<0.00102	<0.00102	<0.00102	<0.00102
4/18/2017	<0.00102	<0.00102	<0.00102	<0.00102
5/30/2017	<0.00102			
5/31/2017		<0.00102	<0.00102	<0.00102
2/13/2018	<0.00102	<0.00102	<0.00102	<0.00102
5/22/2018	<0.00102	<0.00102		
5/23/2018				<0.00102
5/24/2018			<0.00102	
6/12/2018	<0.00102	<0.00102	<0.00102	<0.00102
10/17/2018	<0.00102	<0.00102	<0.00102	<0.00102
11/19/2018	<0.00102	<0.00102	<0.00102	<0.00102
4/10/2019	0.00143 (J)	0.000993 (J)	0.000978 (J)	0.00097 (J)
5/14/2019	0.00137 (J)	0.000989 (J)	<0.00102	<0.00102
10/8/2019	<0.00102	<0.00102	<0.00102	
10/10/2019				<0.00102
10/16/2019	<0.00102	<0.00102	<0.00102	<0.00102
4/6/2020	<0.00102	<0.00102	<0.00102	<0.00102
7/13/2020	<0.00102	<0.00102	<0.00102	
7/14/2020				<0.00102
2/22/2021	<0.00102	<0.00102	<0.00102	<0.00102
7/12/2021	<0.00102	<0.00102	<0.00102	<0.00102
1/25/2022	<0.00102	<0.00102	<0.00102	<0.00102
7/5/2022	<0.00102	<0.00102	<0.00102	<0.00102
2/20/2023	<0.00102	<0.00102	<0.00102	
2/21/2023				<0.00102
8/22/2023	<0.00102	<0.00102	<0.00102	<0.00102

# Time Series

Constituent: Antimony (mg/L) Analysis Run 10/6/2023 3:26 PM

Plant Gorgas Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
4/25/2016	<0.00102			
4/27/2016		<0.00102	<0.00102	<0.00102
6/21/2016	<0.00102	<0.00102	<0.00102	<0.00102
10/12/2017	<0.00102	<0.00102	<0.00102	<0.00102
10/13/2017	<0.00102	<0.00102	<0.00102	<0.00102
10/14/2017	<0.00102	<0.00102	<0.00102	<0.00102
10/15/2017	<0.00102	<0.00102	<0.00102	<0.00102
10/16/2017	<0.00102	<0.00102	<0.00102	<0.00102
10/17/2017	<0.00102	<0.00102	<0.00102	<0.00102
2/14/2018	<0.00102	<0.00102	<0.00102	<0.00102
5/23/2018	<0.00102	<0.00102	<0.00102	<0.00102
11/20/2018	<0.00102	<0.00102	<0.00102	<0.00102
5/14/2019	<0.00102			
5/15/2019		<0.00102	<0.00102	<0.00102
10/8/2019			<0.00102	
10/9/2019				<0.00102
10/10/2019	<0.00102	<0.00102		
4/7/2020	<0.00102			
4/8/2020		<0.00102	<0.00102	<0.00102
7/14/2020	<0.00102	<0.00102	<0.00102	
7/15/2020				<0.00102
2/23/2021	<0.00102	<0.00102	<0.00102	<0.00102
7/20/2021		<0.00102	<0.00102	<0.00102
7/21/2021	<0.00102			
1/31/2022	<0.00102	<0.00102	<0.00102	
2/1/2022				<0.00102
7/6/2022	<0.00102	<0.00102	<0.00102	<0.00102
2/21/2023	<0.00102		<0.00102	<0.00102
2/22/2023		<0.00102		
8/15/2023			<0.00102	<0.00102
8/16/2023	<0.00102	<0.00102		

# Time Series

Constituent: Arsenic (mg/L) Analysis Run 10/6/2023 3:26 PM

Plant Gorgas Data: Gorgas CCR LF

	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016		<0.005	<0.005	<0.000203
4/26/2016	<0.005			
6/20/2016	<0.005	<0.005		<0.000203
6/22/2016			<0.005	
8/8/2016	<0.005	<0.005		
8/9/2016			<0.005	<0.000203
8/24/2016	<0.005	<0.005	<0.005	<0.000203
10/3/2016	<0.005	<0.005		<0.000203
10/4/2016			<0.005	
10/26/2016	<0.005	<0.005	<0.005	<0.000203
11/21/2016	<0.005	0.00111 (J)	<0.005	<0.000203
1/17/2017	<0.005	<0.005		
1/18/2017			<0.005	<0.000203
3/22/2017	<0.005	<0.005	0.00122 (J)	<0.000203
4/18/2017	<0.005	<0.005	<0.005	<0.000203
5/30/2017	<0.005			
5/31/2017		<0.005	<0.005	<0.000203
2/13/2018	<0.005	<0.005	<0.005	<0.000203
5/22/2018	<0.005	<0.005		
5/23/2018				<0.000203
5/24/2018			<0.005	
6/12/2018	<0.005	<0.005	0.00103 (J)	<0.000203
10/17/2018	<0.005	<0.005	0.00133 (J)	<0.000203
11/19/2018	<0.005	<0.005	0.0012 (J)	<0.000203
4/10/2019	<0.005	<0.005	<0.005	<0.000203
5/14/2019	<0.005	<0.005	<0.005	<0.000203
10/8/2019	<0.005	<0.005	0.0048 (J)	
10/10/2019				<0.000203
10/16/2019	<0.005	<0.005	0.00389 (J)	<0.000203
4/6/2020	<0.005	<0.005	<0.005	<0.000203
7/13/2020	<0.005	<0.005	0.00316 (J)	
7/14/2020				<0.000203
2/22/2021	0.000403	0.000295	0.000789	0.000125 (J)
7/12/2021	0.00036	0.00036	0.00038	0.00012 (J)
1/25/2022	0.00025	0.00033	0.00027	9E-05 (J)
7/5/2022	0.000281	0.00035	0.00374	0.000118 (J)
2/20/2023	0.000275	0.000243	0.000224	
2/21/2023				<0.000203
8/22/2023	0.000187 (J)	0.000371	0.00361	0.000145 (J)



# Time Series

Constituent: Arsenic (mg/L) Analysis Run 10/6/2023 3:26 PM

Plant Gorgas Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
4/25/2016	0.00138 (J)			
4/27/2016		0.005	<0.005	<0.005
6/21/2016	<0.005	0.00473 (J)	0.00165 (J)	0.00101 (J)
10/12/2017	<0.005	0.0051	0.00188 (J)	0.00197 (J)
10/13/2017	<0.005	0.00487 (J)	0.00181 (J)	0.00159 (J)
10/14/2017	<0.005	0.00476 (J)	0.00127 (J)	0.00126 (J)
10/15/2017	<0.005	0.00475 (J)	0.00144 (J)	0.00106 (J)
10/16/2017	<0.005	0.00482 (J)	0.00139 (J)	0.00106 (J)
10/17/2017	<0.005	0.0048 (J)	0.00138 (J)	0.00103 (J)
2/14/2018	<0.005	0.00493 (J)	0.00131 (J)	0.00185 (J)
5/23/2018	<0.005	0.0058	0.00155 (J)	0.00157 (J)
11/20/2018	<0.005	0.00542	0.00133 (J)	0.00173 (J)
5/14/2019	0.00153 (J)			
5/15/2019		0.00383 (J)	0.00138 (J)	0.00136 (J)
10/8/2019			0.00145 (J)	
10/9/2019				0.00142 (J)
10/10/2019	<0.005	0.00473 (J)		
4/7/2020	0.00163 (J)			
4/8/2020		0.00232 (J)	0.00136 (J)	0.00102 (J)
7/14/2020	<0.005	0.0048 (J)	0.00147 (J)	
7/15/2020				0.00212 (J)
2/23/2021	0.000309	0.00494	0.00141	0.00117
7/20/2021		0.00475	0.00164	0.00111
7/21/2021	0.00046			
1/31/2022	0.00019 (J)	0.00435	0.00156	
2/1/2022				0.00131
7/6/2022	0.000225	0.00554	0.00164	0.00136
2/21/2023	0.000306		0.00153	0.00119
2/22/2023		0.00337		
8/15/2023			0.00164	0.00163
8/16/2023	0.000224	0.00498		

# Time Series

Constituent: Barium (mg/L) Analysis Run 10/6/2023 3:26 PM

Plant Gorgas Data: Gorgas CCR LF

	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016		0.0134	0.00803 (J)	0.0114
4/26/2016	0.00941 (J)			
6/20/2016	0.00951 (J)	0.0165		0.0103
6/22/2016			0.0101	
8/8/2016	0.00991 (J)	0.0162		
8/9/2016			0.00889 (J)	0.0119
8/24/2016	0.00949 (J)	0.0139	0.00962 (J)	0.0118
10/3/2016	0.0105	0.0164		0.0119
10/4/2016			0.00984 (J)	
10/26/2016	0.00931 (J)	0.0138	0.00878 (J)	0.0104
11/21/2016	0.00879 (J)	0.0144	0.00833 (J)	0.0106
1/17/2017	0.00929 (J)	0.0135		
1/18/2017			0.00966 (J)	0.0101
3/22/2017	0.00938 (J)	0.0132	0.00991 (J)	0.0103
4/18/2017	0.00964 (J)	0.012	0.00976 (J)	0.0107
5/30/2017	0.00982 (J)			
5/31/2017		0.0126	0.00866 (J)	0.0104
2/13/2018	0.00937 (J)	0.0127	0.00821 (J)	0.0111
5/22/2018	0.0102	0.0131		
5/23/2018				0.0107
5/24/2018			0.00977 (J)	
6/12/2018	0.0104	0.0138	0.00997 (J)	0.0108
10/17/2018	0.00952 (J)	0.0137	0.0126	0.0119
11/19/2018	0.00915 (J)	0.0115	0.0109	0.0107
4/10/2019	0.0105	0.0111	0.0101	0.0107
5/14/2019	0.00913 (J)	0.0109	0.00922 (J)	0.00949 (J)
10/8/2019	0.0109	0.0151	0.0154	
10/10/2019				0.0116
10/16/2019	0.0106	0.0146	0.0128	0.0125
4/6/2020	0.00971 (J)	0.0125	0.00931 (J)	0.0115
7/13/2020	0.0101	0.0145	0.0142	
7/14/2020				0.0122
2/22/2021	0.0107	0.0132	0.00981	0.0111
7/12/2021	0.00991	0.013	0.00857	0.0108
1/25/2022	0.0098	0.0122	0.00821	0.00908
7/5/2022	0.01	0.0116	0.0155	0.0113
2/20/2023	0.0102	0.0122	0.00822	
2/21/2023				0.0116
8/22/2023	0.00976	0.0134	0.0158	0.013

# Time Series

Constituent: Barium (mg/L) Analysis Run 10/6/2023 3:26 PM

Plant Gorgas Data: Gorgas CCR LF

---

	MW-5	MW-6	MW-7	MW-8
4/25/2016	0.016			
4/27/2016		0.012	0.0107	0.0108
6/21/2016	0.0112	0.0133	0.0129	0.0116
10/12/2017	0.0122	0.0134	0.014	0.0141
10/13/2017	0.0115	0.0124	0.0147	0.0148
10/14/2017	0.0099 (J)	0.0129	0.0123	0.0134
10/15/2017	0.0103	0.0136	0.0132	0.0139
10/16/2017	0.0101	0.0131	0.0122	0.0129
10/17/2017	0.00968 (J)	0.0126	0.0121	0.0126
2/14/2018	0.0114	0.0142	0.0119	0.0126
5/23/2018	0.0138	0.0145	0.0135	0.0137
11/20/2018	0.0105	0.0127	0.0116	0.0123
5/14/2019	0.0111			
5/15/2019		0.0121	0.0114	0.0122
10/8/2019			0.0145	
10/9/2019				0.0137
10/10/2019	0.0105	0.0152		
4/7/2020	0.0137			
4/8/2020		0.0128	0.0127	0.0137
7/14/2020	0.0124	0.0154	0.0148	
7/15/2020				0.0143
2/23/2021	0.0116	0.0143	0.014	0.014
7/20/2021		0.0143	0.0142	0.0141
7/21/2021	0.0116			
1/31/2022	0.0104	0.0125	0.0126	
2/1/2022				0.0135
7/6/2022	0.0117	0.0144	0.0142	0.0146
2/21/2023	0.0121		0.0141	0.0148
2/22/2023		0.0136		
8/15/2023			0.0132	0.0129
8/16/2023	0.0111	0.0129		

# Time Series

Constituent: Beryllium (mg/L) Analysis Run 10/6/2023 3:26 PM

Plant Gorgas Data: Gorgas CCR LF

	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016		<0.00102	0.00122 (J)	<0.00102
4/26/2016	<0.00102			
6/20/2016	<0.00102	<0.00102		<0.00102
6/22/2016			0.00144 (J)	
8/8/2016	<0.00102	<0.00102		
8/9/2016			0.00331	<0.00102
8/24/2016	<0.00102	<0.00102	0.00308	<0.00102
10/3/2016	<0.00102	<0.00102		<0.00102
10/4/2016			0.00129 (J)	
10/26/2016	<0.00102	<0.00102	0.0071	<0.00102
11/21/2016	<0.00102	<0.00102	0.00689	<0.00102
1/17/2017	<0.00102	<0.00102		
1/18/2017			0.0169 (O)	<0.00102
3/22/2017	<0.00102	<0.00102	0.00686	<0.00102
4/18/2017	<0.00102	<0.00102	<0.001015	<0.00102
5/30/2017	<0.00102			
5/31/2017		<0.00102	0.00547	<0.00102
2/13/2018	<0.00102	<0.00102	<0.001015	<0.00102
5/22/2018	<0.00102	<0.00102		
5/23/2018				<0.00102
5/24/2018			0.00164 (J)	
6/12/2018	<0.00102	<0.00102	0.00306	<0.00102
10/17/2018	<0.00102	<0.00102	0.0121	<0.00102
11/19/2018	<0.00102	<0.00102	0.0185 (O)	<0.00102
4/10/2019	<0.00102	<0.00102	<0.001015	<0.00102
5/14/2019	<0.00102	<0.00102	<0.001015	<0.00102
10/8/2019	<0.00102	<0.00102	0.0084	
10/10/2019				<0.00102
10/16/2019	<0.00102	<0.00102	0.0103	<0.00102
4/6/2020	<0.00102	<0.00102	<0.001015	<0.00102
7/13/2020	<0.00102	<0.00102	0.0021 (J)	
7/14/2020				<0.00102
2/22/2021	<0.00102	<0.00102	<0.001015	<0.00102
7/12/2021	<0.00102	<0.00102	<0.001015	<0.00102
1/25/2022	<0.00102	<0.00102	<0.001015	<0.00102
7/5/2022	<0.00102	<0.00102	0.00139	<0.00102
2/20/2023	<0.00102	<0.00102	<0.001015	
2/21/2023				<0.00102
8/22/2023	<0.00102	<0.00102	0.00277	<0.00102

# Time Series

Constituent: Beryllium (mg/L) Analysis Run 10/6/2023 3:26 PM

Plant Gorgas Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
4/25/2016	<0.00102			
4/27/2016		<0.00102	<0.00102	<0.00102
6/21/2016	<0.00102	<0.00102	<0.00102	<0.00102
10/12/2017	<0.00102	<0.00102	<0.00102	<0.00102
10/13/2017	<0.00102	<0.00102	<0.00102	<0.00102
10/14/2017	<0.00102	<0.00102	<0.00102	<0.00102
10/15/2017	<0.00102	<0.00102	<0.00102	<0.00102
10/16/2017	<0.00102	<0.00102	<0.00102	<0.00102
10/17/2017	<0.00102	<0.00102	<0.00102	<0.00102
2/14/2018	<0.00102	<0.00102	<0.00102	<0.00102
5/23/2018	<0.00102	<0.00102	<0.00102	<0.00102
11/20/2018	<0.00102	<0.00102	<0.00102	<0.00102
5/14/2019	<0.00102			
5/15/2019		0.000677 (J)	<0.00102	<0.00102
10/8/2019			<0.00102	
10/9/2019				<0.00102
10/10/2019	<0.00102	<0.00102		
4/7/2020	<0.00102			
4/8/2020		0.000788 (J)	<0.00102	<0.00102
7/14/2020	<0.00102	<0.00102	<0.00102	
7/15/2020				<0.00102
2/23/2021	<0.00102	<0.00102	<0.00102	<0.00102
7/20/2021		0.00048 (J)	<0.00102	<0.00102
7/21/2021	<0.00102			
1/31/2022	<0.00102	0.00044 (J)	<0.00102	
2/1/2022				<0.00102
7/6/2022	<0.00102	<0.00102	<0.00102	<0.00102
2/21/2023	<0.00102		<0.00102	<0.00102
2/22/2023		0.00123		
8/15/2023			<0.00102	<0.00102
8/16/2023	<0.00102	<0.00102		

# Time Series

Constituent: Boron, total (mg/L) Analysis Run 10/6/2023 3:26 PM

Plant Gorgas Data: Gorgas CCR LF

	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016		0.0241 (J)	0.028 (J)	0.0414 (J)
4/26/2016	0.0231 (J)			
6/20/2016	0.0227 (J)	0.0284 (J)		0.0434 (J)
6/22/2016			0.0433 (J)	
8/8/2016	0.0278 (J)	0.034 (J)		
8/9/2016			0.0429 (J)	0.0453 (J)
8/24/2016	0.0247 (J)	0.0316 (J)	0.0431 (J)	0.0451 (J)
10/3/2016	0.0307 (J)	0.0367 (J)		0.0511 (J)
10/4/2016			0.04 (J)	
10/26/2016	0.0241 (J)	0.0331 (J)	0.0375 (J)	0.0507 (J)
11/21/2016	0.0202 (J)	0.035 (J)	0.0406 (J)	0.0458 (J)
1/17/2017	0.0201 (J)	0.0259 (J)		
1/18/2017			0.0548 (J)	0.0445 (J)
3/22/2017	0.0224 (J)	0.0243 (J)	0.0344 (J)	0.0432 (J)
4/18/2017	<0.1015	0.0206 (J)	<0.1015	0.0409 (J)
5/30/2017	<0.1015			
5/31/2017		0.0234 (J)	0.0454 (J)	0.0392 (J)
8/23/2017	0.0253 (J)	0.0267 (J)	0.0425 (J)	0.042 (J)
5/22/2018	0.0224 (J)	0.0251 (J)		
5/23/2018				0.0433 (J)
5/24/2018			0.0339 (J)	
6/12/2018	0.0214 (J)	0.0275 (J)	0.0371 (J)	0.0478 (J)
10/17/2018	0.0216 (J)	0.0321 (J)	0.0596 (J)	0.0468 (J)
11/19/2018	0.0237 (J)	0.0324 (J)	0.0514 (J)	0.0526 (J)
4/10/2019	0.0304 (J)	<0.1015	<0.1015	0.0438 (J)
5/14/2019	<0.1015	<0.1015	<0.1015	<0.203 (o)
10/8/2019	<0.1015	0.0371 (J)	0.0537 (J)	
10/10/2019				0.0487 (J)
10/16/2019	0.0385 (J)	0.0419 (J)	0.05 (J)	0.0505 (J)
4/6/2020	<0.1015	<0.1015	<0.1015	0.0428 (J)
7/13/2020	<0.1015	<0.1015	0.0366 (J)	
7/14/2020				0.0441 (J)
2/22/2021	0.0307 (J)	<0.1015	<0.1015	0.0397 (J)
7/12/2021	<0.1015	<0.1015	<0.1015	0.0411 (J)
1/25/2022	<0.1015	<0.1015	<0.1015	0.0408 (J)
7/5/2022	<0.1015	<0.1015	0.0374 (J)	0.0433 (J)
2/20/2023	<0.1015	<0.1015	<0.1015	
2/21/2023				0.0408 (J)
8/22/2023	<0.1015	<0.1015	0.0373 (J)	0.0448 (J)

# Time Series

Constituent: Boron, total (mg/L) Analysis Run 10/6/2023 3:26 PM

Plant Gorgas Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
4/25/2016	0.0301 (J)			
4/27/2016		0.075 (J)	0.253 (O)	0.0662 (J)
6/21/2016	0.0304 (J)	0.0729 (J)	0.0768 (J)	0.0681 (J)
10/12/2017	0.0285 (J)	0.0806 (J)	0.0685 (J)	0.0687 (J)
10/13/2017	0.0287 (J)	0.0803 (J)	0.0674 (J)	0.0831 (J)
10/14/2017	0.0305 (J)	0.0828 (J)	0.0756 (J)	0.0702 (J)
10/15/2017	0.0319 (J)	0.0852 (J)	0.0719 (J)	0.0702 (J)
10/16/2017	0.0304 (J)	0.0858 (J)	0.0726 (J)	0.0707 (J)
10/17/2017	0.036 (J)	0.0846 (J)	0.0716 (J)	0.0695 (J)
11/16/2017	0.0377 (J)	0.0772 (J)	0.0644 (J)	0.0675 (J)
5/23/2018	0.0301 (J)	0.0757 (J)	0.0715 (J)	0.0693 (J)
11/20/2018	0.0357 (J)	0.0915 (J)	0.0772 (J)	0.0771 (J)
5/14/2019	<0.203 (o)			
5/15/2019		0.0616 (J)	0.0678 (J)	0.0689 (J)
10/8/2019			0.073 (J)	
10/9/2019				0.0723 (J)
10/10/2019	0.0323 (J)	0.0919 (J)		
4/7/2020	0.0399 (J)			
4/8/2020		0.0499 (J)	0.077 (J)	0.0683 (J)
7/14/2020	0.033 (J)	0.0838 (J)	0.0865 (J)	
7/15/2020				0.0723 (J)
2/23/2021	0.0369 (J)	0.0866 (J)	0.0803 (J)	0.0731 (J)
7/20/2021		0.0608 (J)	0.0721 (J)	0.0656 (J)
7/21/2021	0.0319 (J)			
1/31/2022	0.0314 (J)	0.0648 (J)	0.0689 (J)	
2/1/2022				0.0639 (J)
7/6/2022	0.0355 (J)	0.069 (J)	0.0752 (J)	0.0686 (J)
2/21/2023	0.0315 (J)		0.0645 (J)	0.0609 (J)
2/22/2023		0.0356 (J)		
8/15/2023			0.0663 (J)	0.0654 (J)
8/16/2023	0.032 (J)	0.0686 (J)		

# Time Series

Constituent: Cadmium (mg/L) Analysis Run 10/6/2023 3:26 PM

Plant Gorgas Data: Gorgas CCR LF

	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016		<0.0002	0.0121 (O)	<0.000203
4/26/2016	0.00196			
6/20/2016	0.0021	<0.0002		<0.000203
6/22/2016			0.00163	
8/8/2016	0.00206	<0.0002		
8/9/2016			0.00122	<0.000203
8/24/2016	0.00182	<0.0002	<0.001	<0.000203
10/3/2016	0.00188	<0.0002		<0.000203
10/4/2016			0.000689 (J)	
10/26/2016	0.00175	<0.0002	0.00136	<0.000203
11/21/2016	0.00197	<0.0002	0.00171	<0.000203
1/17/2017	0.002	0.000311 (J)		
1/18/2017			0.003	<0.000203
3/22/2017	0.0019	<0.0002	0.00473	<0.000203
4/18/2017	0.00159	<0.0002	0.00117	<0.000203
5/30/2017	0.00214			
5/31/2017		0.000212 (J)	0.00296	<0.000203
2/13/2018	0.0018	<0.0002	0.00232	<0.000203
5/22/2018	0.00201	<0.0002		
5/23/2018				<0.000203
5/24/2018			0.00459	
6/12/2018	0.00217	<0.0002	0.00351	<0.000203
10/17/2018	0.00228	<0.0002	0.00393	<0.000203
11/19/2018	0.00156	<0.0002	0.00309	<0.000203
4/10/2019	0.00224	<0.0002	0.00337	<0.000203
5/14/2019	0.00238	<0.0002	0.0013	<0.000203
10/8/2019	0.00218	<0.0002	0.00598	
10/10/2019				<0.000203
10/16/2019	0.00225	<0.0002	0.00448	<0.000203
4/6/2020	0.00184	<0.0002	0.000645 (J)	<0.000203
7/13/2020	0.00194	<0.0002	0.00885	
7/14/2020				<0.000203
2/22/2021	0.00184	8.96E-05 (J)	0.00536	8.96E-05 (J)
7/12/2021	0.00193	8E-05 (J)	0.00094	8E-05 (J)
1/25/2022	0.00196	8E-05 (J)	0.00178	<0.000203
7/5/2022	0.00211	8.4E-05 (J)	0.00835	7.5E-05 (J)
2/20/2023	0.00185	<0.0002	0.00144	
2/21/2023				<0.000203
8/22/2023	0.00205	8.5E-05 (J)	0.00867	8.5E-05 (J)



# Time Series

Constituent: Cadmium (mg/L) Analysis Run 10/6/2023 3:26 PM

Plant Gorgas Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
4/25/2016	<0.0002			
4/27/2016		<0.0002	<0.0002	<0.0002
6/21/2016	<0.0002	<0.0002	<0.0002	<0.0002
10/12/2017	<0.0002	<0.0002	<0.0002	<0.0002
10/13/2017	<0.0002	<0.0002	<0.0002	<0.0002
10/14/2017	<0.0002	<0.0002	<0.0002	<0.0002
10/15/2017	<0.0002	<0.0002	<0.0002	<0.0002
10/16/2017	<0.0002	<0.0002	<0.0002	<0.0002
10/17/2017	<0.0002	<0.0002	<0.0002	<0.0002
2/14/2018	<0.0002	<0.0002	<0.0002	<0.0002
5/23/2018	<0.0002	<0.0002	<0.0002	<0.0002
11/20/2018	<0.0002	<0.0002	<0.0002	<0.0002
5/14/2019	<0.0002			
5/15/2019		0.000858 (J)	<0.0002	<0.0002
10/8/2019			<0.0002	
10/9/2019				<0.0002
10/10/2019	<0.0002	<0.0002		
4/7/2020	<0.0002			
4/8/2020		0.00204	<0.0002	<0.0002
7/14/2020	<0.0002	<0.0002	<0.0002	
7/15/2020				<0.0002
2/23/2021	<0.0002	<0.0002	<0.0002	<0.0002
7/20/2021		0.00058	<0.0002	<0.0002
7/21/2021	<0.0002			
1/31/2022	<0.0002	0.0005	<0.0002	
2/1/2022				<0.0002
7/6/2022	<0.0002	7.2E-05 (J)	<0.0002	<0.0002
2/21/2023	<0.0002		<0.0002	<0.0002
2/22/2023		0.00192		
8/15/2023			<0.0002	<0.0002
8/16/2023	<0.0002	<0.0002		

# Time Series

Constituent: Calcium, total (mg/L) Analysis Run 10/6/2023 3:26 PM

Plant Gorgas Data: Gorgas CCR LF

---

	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016		123	224	261
4/26/2016	147			
6/20/2016	152	168		295
6/22/2016			266	
8/8/2016	150	180		
8/9/2016			260	318
8/24/2016	142	180	274	319
10/3/2016	139	184		293
10/4/2016			243	
10/26/2016	133	171	254	311
11/21/2016	144	179	263	320
1/17/2017	131	188		
1/18/2017			431	417
3/22/2017	141	155	318	292
4/18/2017	149	156	296	302
5/30/2017	140			
5/31/2017		151	306	284
8/23/2017	152	155	298	297
5/22/2018	166	172		
5/23/2018				296
5/24/2018			297	
6/12/2018	203	179	318	355
10/17/2018	171	200	392	342
11/19/2018	154	221	387	289
4/10/2019	243	200	348	356
5/14/2019	167	168	254	254
10/8/2019	157	190	371	
10/10/2019				302
10/16/2019	157	194	346	356
4/6/2020	149	152	177	222
7/13/2020	147	163	264	
7/14/2020				259
2/22/2021	151	178	312	271
7/12/2021	149	159	252	242
1/25/2022	150	179	285	259
7/5/2022	168	172	369	294
2/20/2023	151	160	210	
2/21/2023				232
8/22/2023	183	168	359	287

# Time Series

Constituent: Calcium, total (mg/L) Analysis Run 10/6/2023 3:26 PM

Plant Gorgas Data: Gorgas CCR LF

---

	MW-5	MW-6	MW-7	MW-8
4/25/2016	399			
4/27/2016		411	198	282
6/21/2016	295	318	327	291
10/12/2017	394	421	317	300
10/13/2017	389	396	302	298
10/14/2017	391	400	283	299
10/15/2017	332	378	294	307
10/16/2017	380	402	284	299
10/17/2017	377	373	294	294
11/16/2017	368	367	299	308
5/23/2018	405	425	321	344
11/20/2018	414	449	306	327
5/14/2019	441			
5/15/2019		345	302	305
10/8/2019			294	
10/9/2019				329
10/10/2019	386	461		
4/7/2020	432			
4/8/2020		242	280	281
7/14/2020	395	406	261	
7/15/2020				280
2/23/2021	394	428	292	306
7/20/2021		348	254	281
7/21/2021	384			
1/31/2022	398	385	278	
2/1/2022				284
7/6/2022	414	430	280	306
2/21/2023	367		286	327
2/22/2023		250		
8/15/2023			339	328
8/16/2023	361	383		

# Time Series

Constituent: Chloride, Total (mg/L) Analysis Run 10/6/2023 3:26 PM

Plant Gorgas Data: Gorgas CCR LF

	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016		1.9	1.32	1.53
4/26/2016	1.94			
6/20/2016	2.09	3.43		1.85
6/22/2016			1.46	
8/8/2016	2.18	3.31		
8/9/2016			1.35	1.95
8/24/2016	2.22	3.23	1.47	2.07
10/3/2016	2.34	3.21		2.02
10/4/2016			1.59	
10/26/2016	2.34	3.35	1.27	2.07
11/21/2016	2.5	3.34	1.38	2.39
1/17/2017	2.68	3.58		
1/18/2017			1.34	1.9
3/22/2017	3.7	3.4	2	1.5 (J)
4/18/2017	2.4	2.6	2.2	1.6 (J)
5/30/2017	2.6			
5/31/2017		4.4	1.5 (J)	2.1
8/23/2017	2.7	4.4	1.8 (J)	2.3
5/22/2018	2.3	3.2		
5/23/2018				2
5/24/2018			1.6 (J)	
6/12/2018	2.3	3.7	1.4 (J)	1.7 (J)
10/17/2018	1.7 (J)	4.6	<2	1.5 (J)
11/19/2018	1.7 (J)	3	<2	<2
4/10/2019	2.36	1.76	2.25	1.88
5/14/2019	2.28	2.98	2.28	1.82
10/8/2019	2.31	4.26	1.36	
10/10/2019				1.93
10/16/2019	2.42	4.04	1.4	1.92
4/6/2020	2.01	2.43	1.72	1.5
7/13/2020	2.1	4.05	1.34	
7/14/2020				1.61
2/22/2021	2.16	1.72	2.22	1.52
7/12/2021	2.19	2.36	2.13	1.56
1/25/2022	2.09	2.14	2.12	1.54
7/5/2022	2.07	2.53	1.59	1.63
2/20/2023	2.05	1.7	1.94	
2/21/2023				1.58
8/22/2023	2.38	3.13	1.31	1.86

# Time Series

Constituent: Chloride, Total (mg/L) Analysis Run 10/6/2023 3:26 PM

Plant Gorgas Data: Gorgas CCR LF

---

	MW-5	MW-6	MW-7	MW-8
4/25/2016	5.44			
4/27/2016		2.19	1.71	2.34
6/21/2016	6.32	2.56	2.04	2.29
10/12/2017	7.9	3.4	31	150
10/13/2017	8 (B)	3 (B)	32 (B)	130 (B)
10/14/2017	7.4	2.8	33	140
10/15/2017	7.2	1.9 (J)	34	130
10/16/2017	8.1	1.8 (J)	34	140
10/17/2017	7.9	3.1	34	140
11/16/2017	8.1	3.5	35	130
5/23/2018	7	2.6	28	75
11/20/2018	7.4	2.7	20	45
5/14/2019	6.24			
5/15/2019		4.45	15.9	52
10/8/2019			16.8	
10/9/2019				39.2
10/10/2019	7.88	3.61		
4/7/2020	4.83			
4/8/2020		4.63	10.6	24.9
7/14/2020	6.84	3.25	9.68	
7/15/2020				23.8
2/23/2021	6.19	3.47	7.85	17.9
7/20/2021		4.04	6.35	14.3
7/21/2021	6.73			
1/31/2022	6.87	4.53	6.4	
2/1/2022				8.56
7/6/2022	7.51	3.36	6.25	6.5
2/21/2023	5.25		6.12	4.86
2/22/2023		4.37		
8/15/2023			6.51	4.92
8/16/2023	7.19	3.36		

# Time Series

Constituent: Chromium (mg/L) Analysis Run 10/6/2023 3:26 PM

Plant Gorgas Data: Gorgas CCR LF

	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016		<0.00102	0.00373 (J)	<0.001015
4/26/2016	<0.00102			
6/20/2016	<0.00102	<0.00102		<0.001015
6/22/2016			0.00606 (J)	
8/8/2016	<0.00102	<0.00102		
8/9/2016			<0.00102	<0.001015
8/24/2016	<0.00102	<0.00102	<0.00102	<0.001015
10/3/2016	<0.00102	<0.00102		<0.001015
10/4/2016			<0.00102	
10/26/2016	<0.00102	<0.00102	<0.00102	<0.001015
11/21/2016	<0.00102	<0.00102	<0.00102	<0.001015
1/17/2017	<0.00102	<0.00102		
1/18/2017			<0.00102	<0.001015
3/22/2017	<0.00102	<0.00102	0.00945 (J)	<0.001015
4/18/2017	<0.00102	<0.00102	0.0105	<0.001015
5/30/2017	<0.00102			
5/31/2017		<0.00102	<0.00102	<0.001015
2/13/2018	<0.00102	<0.00102	<0.00102	<0.001015
5/22/2018	<0.00102	<0.00102		
5/23/2018				<0.001015
5/24/2018			<0.00102	
6/12/2018	<0.00102	<0.00102	<0.00102	<0.001015
10/17/2018	<0.00102	<0.00102	<0.00102	<0.001015
11/19/2018	<0.00102	<0.00102	<0.00102	<0.001015
4/10/2019	<0.00102	<0.00102	<0.00102	<0.001015
5/14/2019	<0.00102	<0.00102	<0.00102	<0.001015
10/8/2019	<0.00102	<0.00102	<0.00102	
10/10/2019				<0.001015
10/16/2019	<0.00102	<0.00102	<0.00102	<0.001015
4/6/2020	<0.00102	<0.00102	<0.00102	<0.001015
7/13/2020	<0.00102	<0.00102	<0.00102	
7/14/2020				<0.001015
2/22/2021	0.000382 (J)	<0.00102	0.00035 (J)	<0.001015
7/12/2021	0.00049 (J)	0.00025 (J)	0.00031 (J)	0.0003 (J)
1/25/2022	0.00043 (J)	0.00022 (J)	0.00051 (J)	0.00021 (J)
7/5/2022	0.000364 (J)	<0.00102	0.00025 (J)	<0.001015
2/20/2023	0.000409 (J)	0.00033 (J)	0.000384 (J)	
2/21/2023				0.000244 (J)
8/22/2023	<0.00102	<0.00102	<0.00102	0.000571 (J)

# Time Series

Constituent: Chromium (mg/L) Analysis Run 10/6/2023 3:26 PM

Plant Gorgas Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
4/25/2016	<0.001015			
4/27/2016		<0.00102	<0.001015	<0.001015
6/21/2016	<0.001015	<0.00102	<0.001015	<0.001015
10/12/2017	<0.001015	<0.00102	<0.001015	<0.001015
10/13/2017	<0.001015	<0.00102	<0.001015	<0.001015
10/14/2017	<0.001015	<0.00102	<0.001015	<0.001015
10/15/2017	<0.001015	<0.00102	<0.001015	<0.001015
10/16/2017	<0.001015	<0.00102	<0.001015	<0.001015
10/17/2017	<0.001015	<0.00102	<0.001015	<0.001015
2/14/2018	<0.001015	<0.00102	<0.001015	<0.001015
5/23/2018	<0.001015	<0.00102	<0.001015	<0.001015
11/20/2018	<0.001015	<0.00102	<0.001015	<0.001015
5/14/2019	<0.001015			
5/15/2019		<0.00102	<0.001015	<0.001015
10/8/2019			<0.001015	
10/9/2019				<0.001015
10/10/2019	<0.001015	<0.00102		
4/7/2020	<0.001015			
4/8/2020		<0.00102	<0.001015	<0.001015
7/14/2020	<0.001015	<0.00102	<0.001015	
7/15/2020				<0.001015
2/23/2021	<0.001015	<0.00102	<0.001015	<0.001015
7/20/2021		<0.00102	<0.001015	<0.001015
7/21/2021	<0.001015			
1/31/2022	0.00027 (J)	0.00024 (J)	0.00032 (J)	
2/1/2022				0.00025 (J)
7/6/2022	<0.001015	0.000284 (J)	<0.001015	<0.001015
2/21/2023	<0.001015		<0.001015	<0.001015
2/22/2023		0.000301 (J)		
8/15/2023			0.00026 (J)	0.000211 (J)
8/16/2023	0.000324 (J)	<0.00102		

# Time Series

Constituent: Cobalt (mg/L) Analysis Run 10/6/2023 3:26 PM

Plant Gorgas Data: Gorgas CCR LF

	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016		0.0487	0.232	<0.000203
4/26/2016	0.0343			
6/20/2016	0.0413	0.0767		<0.000203
6/22/2016			0.332	
8/8/2016	0.0513	0.103		
8/9/2016			0.311	<0.000203
8/24/2016	0.0471	0.093	0.271	<0.000203
10/3/2016	0.0525	0.0964		<0.000203
10/4/2016			0.148	
10/26/2016	0.0527	0.0904	0.236	<0.000203
11/21/2016	0.0569	0.0857	0.241	<0.000203
1/17/2017	0.0768	0.0745		
1/18/2017			0.347	<0.000203
3/22/2017	0.0535	0.0328	0.271	<0.000203
4/18/2017	0.0442	0.0242	0.00324 (J)	<0.000203
5/30/2017	0.0465			
5/31/2017		0.0441	0.225	<0.000203
2/13/2018	0.062	0.0179	0.00661 (J)	<0.000203
5/22/2018	0.0443	0.028		
5/23/2018				<0.000203
5/24/2018			0.158	
6/12/2018	0.0512	0.0366	0.291	<0.000203
10/17/2018	0.0751	0.0745	0.49	<0.000203
11/19/2018	0.0825	0.0225	0.386	<0.000203
4/10/2019	0.0445	0.0152	0.0144	<0.000203
5/14/2019	0.0485	0.0222	0.00536	<0.000203
10/8/2019	0.0778	0.0674	1.07 (o)	
10/10/2019				<0.000203
10/16/2019	0.08	0.073	0.848 (o)	<0.000203
4/6/2020	0.0417	0.0116	<0.005	<0.000203
7/13/2020	0.0532	0.0405	0.47	
7/14/2020				<0.000203
2/22/2021	0.0657	0.0161	0.0515	<0.000203
7/12/2021	0.0556	0.0155	0.00567	<0.000203
1/25/2022	0.0654	0.0166	0.0051	<0.000203
7/5/2022	0.0627	0.0184	0.195	<0.000203
2/20/2023	0.0665	0.0187	0.00435	
2/21/2023				<0.000203
8/22/2023	0.086	0.0434	0.529	0.000142 (J)



# Time Series

Constituent: Cobalt (mg/L) Analysis Run 10/6/2023 3:26 PM

Plant Gorgas Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
4/25/2016	0.00287 (J)			
4/27/2016		0.0287	<0.01	0.00436 (J)
6/21/2016	0.00228 (J)	0.0269	<0.01	0.00484 (J)
10/12/2017	<0.005	0.0279	0.00269 (J)	0.005 (J)
10/13/2017	<0.005	0.0271	0.00341 (J)	0.0052 (J)
10/14/2017	<0.005	0.0296	0.00451 (J)	0.00513 (J)
10/15/2017	0.00203 (J)	0.0303	0.00371 (J)	0.00518 (J)
10/16/2017	<0.005	0.0274	0.00371 (J)	0.00453 (J)
10/17/2017	<0.005	0.0274	0.0035 (J)	0.00463 (J)
2/14/2018	<0.005	0.0305	<0.01	0.00441 (J)
5/23/2018	<0.005	0.0409	<0.01	0.00466 (J)
11/20/2018	<0.005	0.0327	0.00306 (J)	0.00551
5/14/2019	<0.005			
5/15/2019		0.265	0.00234 (J)	0.00643
10/8/2019			0.00408 (J)	
10/9/2019				0.00864
10/10/2019	<0.005	0.0425		
4/7/2020	<0.005			
4/8/2020		0.479	0.00394 (J)	0.00762
7/14/2020	<0.005	0.0916	0.00653	
7/15/2020				0.00821
2/23/2021	0.00102	0.0771	0.00294	0.00796
7/20/2021		0.216	0.00561	0.00714
7/21/2021	0.00127			
1/31/2022	0.00094	0.174	0.00546	
2/1/2022				0.0075
7/6/2022	0.000538	0.0675	0.0059	0.00701
2/21/2023	0.00091		0.0043	0.00682
2/22/2023		0.567		
8/15/2023			0.00391	0.00596
8/16/2023	0.000931	0.052		

# Time Series

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 10/6/2023 3:26 PM

Plant Gorgas Data: Gorgas CCR LF

	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016			0.484 (U)	0.434 (U)
4/26/2016	0.622			
5/5/2016		-0.0718 (U)		
6/20/2016	0.159 (U)	0.295 (U)		0.287 (U)
6/22/2016			0.2 (U)	
8/8/2016	0.511 (U)	0.231 (U)		
8/9/2016			0.378 (U)	0.516 (U)
8/24/2016	0.566 (U)	0.65	0.131 (U)	0.266 (U)
10/3/2016	0.537 (U)	0.845		0.59 (U)
10/4/2016			0.514 (U)	
10/26/2016	0.636	0.994	0.755	0.164 (U)
11/21/2016	0.807	0.537 (U)	0.7	0.296 (U)
1/17/2017	0.308 (U)	-0.0159 (U)		
1/18/2017			0.606	0.0267 (U)
3/22/2017	0.344 (U)	0.279 (U)	0.927	0.132 (U)
4/18/2017	0.934	0.32 (U)	0.334 (U)	-0.0439 (U)
5/30/2017	0.149 (U)			
5/31/2017		0.178 (U)	0.8	0.3 (U)
2/13/2018	0.774	0.804	0.649	0.69
5/22/2018	-0.091 (U)	0.0077 (U)		
5/23/2018				0.186 (U)
5/24/2018			0.448 (U)	
6/12/2018	1.18	-0.315 (U)	0.234 (U)	0.153 (U)
10/17/2018	0.553 (U)	0.574 (U)	0.852	0.313 (U)
11/19/2018	0.862	0.654	0.521	0.794
5/14/2019	0.509	0.579	0.176 (U)	0.352 (U)
10/8/2019	1.47	0.493 (U)	0.833 (U)	
10/10/2019				1.02 (U)
10/16/2019	0.204 (U)	0.046 (U)	0.0279 (U)	0.356 (U)
4/6/2020	0.309 (U)	0.212 (U)	0.569 (U)	0.459 (U)
7/13/2020	0.219 (U)	0.0814 (U)	0.53	
7/14/2020				0.169 (U)
2/22/2021	0.677 (U)	0.434 (U)	0.472 (U)	0 (U)
7/12/2021	0.476 (U)	0.155 (U)	0.114 (U)	0.301 (U)
1/25/2022	1.01 (U)	0.663 (U)	0.418 (U)	0.884 (U)
7/5/2022	1.49	1.31	1.33	1.1
2/20/2023	0.36 (U)	0.837 (U)	0.234 (U)	
2/21/2023				0.3 (U)
8/22/2023	1.1 (U)	0.763 (U)	1.19 (U)	0.887 (U)

# Time Series

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 10/6/2023 3:26 PM

Plant Gorgas Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
4/25/2016	0.611			
4/27/2016		0.956	0.374 (U)	-0.207 (U)
6/21/2016	0.304 (U)	0.748	0.151 (U)	0.529
10/12/2017	0.627 (U)	0.564 (U)	0.182 (U)	0.267 (U)
10/13/2017	0.391 (U)	1.36 (U)	0.517 (U)	0.873 (U)
10/14/2017	1.2 (U)	1.59 (U)	0.43 (U)	1.6 (U)
10/15/2017	0.806 (U)	1.22 (U)	0.45 (U)	0.327 (U)
10/16/2017	0.564 (U)	1.57 (U)	0.55 (U)	0.524 (U)
10/17/2017	0.178 (U)	0.631 (U)	0.474 (U)	0.0455 (U)
2/14/2018	0.955	0.969	0.736	0.633
5/23/2018	0.543	0.918	0.0192 (U)	0.377 (U)
11/20/2018	0.687	1.15	0.494	0.28 (U)
5/14/2019	0.663			
5/15/2019		1.56	0.61	0.697
10/8/2019			0.345 (U)	
10/9/2019				0.416 (U)
10/10/2019	0.811 (U)	1.71		
4/7/2020	0.48 (U)			
4/8/2020		0.179 (U)	0.237 (U)	1.38 (U)
7/14/2020	0.521	0.578	0.434	
7/15/2020				0.398 (U)
2/23/2021	0.71 (U)	1.15 (U)	0.696 (U)	0.685 (U)
7/20/2021		1.32	0.356 (U)	0.42 (U)
7/21/2021	0.79 (U)			
1/31/2022	0.0523 (U)	0.374 (U)	0.473 (U)	
2/1/2022				0.643 (U)
7/6/2022	0.747 (U)	1.56	0.716 (U)	0.415 (U)
2/21/2023	0.275 (U)		0.789 (U)	2.19
2/22/2023		3.75		
8/15/2023			0.452 (U)	0.269 (U)
8/16/2023	0.327 (U)	2.19		

# Time Series

Constituent: Fluoride, total (mg/L) Analysis Run 10/6/2023 3:26 PM

Plant Gorgas Data: Gorgas CCR LF

	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016		0.149 (J)	0.243 (J)	0.372
4/26/2016	0.146 (J)			
6/20/2016	0.148 (J)	0.148 (J)		0.361
6/22/2016			0.269 (J)	
8/8/2016	0.137 (J)	0.134 (J)		
8/9/2016			0.363	0.326
8/24/2016	0.133 (J)	0.129 (J)	0.346	0.329
10/3/2016	0.103 (J)	0.086 (J)		0.287 (J)
10/4/2016			0.266 (J)	
10/26/2016	0.05 (J)	0.027 (J)	0.266 (J)	0.194 (J)
11/21/2016	0.047 (J)	0.027 (J)	0.244 (J)	0.192 (J)
1/17/2017	0.09 (J)	0.066 (J)		
1/18/2017			0.385	0.223 (J)
3/22/2017	0.12	0.13	0.41	0.32
4/18/2017	0.12	0.16	0.29	0.32
5/30/2017	0.13			
5/31/2017		0.13	0.37	0.31
8/23/2017	0.16	0.16	0.55	0.38
2/13/2018	0.14	0.22	0.27	0.38
5/22/2018	0.16	0.17		
5/23/2018				0.38
5/24/2018			0.6	
6/12/2018	0.16	0.16	0.53	0.39
10/17/2018	0.18	0.16	0.63	0.39
11/19/2018	0.15	0.18	0.31	0.36
4/10/2019	0.102	0.262	0.273	0.384
5/14/2019	0.119	0.17	0.281	0.335
10/8/2019	0.0924 (J)	0.164	0.225	
10/10/2019				0.304
10/16/2019	0.0756 (J)	0.114	0.106	0.302
4/6/2020	0.101	0.207	0.314	0.368
7/13/2020	0.0678 (J)	0.132	0.13	
7/14/2020				0.33
2/22/2021	0.082 (J)	0.209	0.246	0.357
7/12/2021	0.125	0.196	0.287	0.35
1/25/2022	0.101	0.204	0.325	0.364
7/5/2022	0.11 (J)	0.2	0.386	0.362
2/20/2023	0.221	0.267	0.379	
2/21/2023				0.415
8/22/2023	0.159	0.184	0.283	0.358

# Time Series

Constituent: Fluoride, total (mg/L) Analysis Run 10/6/2023 3:26 PM

Plant Gorgas Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
4/25/2016	0.307			
4/27/2016		0.131 (J)	0.2 (J)	0.212 (J)
6/21/2016	0.337	0.153 (J)	0.163 (J)	0.211 (J)
10/12/2017	0.35	0.15	0.17	0.22
10/13/2017	0.36	0.15	0.19	0.23
10/14/2017	0.37	0.14	0.2	0.22
10/15/2017	0.37	0.14	0.2	0.22
10/16/2017	0.36	0.14	0.2	0.22
10/17/2017	0.35	0.14	0.19	0.21
11/16/2017	0.37	0.14	0.18	0.22
2/14/2018	0.33	0.13	0.18	0.21
5/23/2018	0.29	0.13	0.18	0.21
11/20/2018	0.32	0.14	0.19	0.21
5/14/2019	0.22			
5/15/2019		0.133	0.169	0.192
10/8/2019			0.183	
10/9/2019				0.189
10/10/2019	0.338	0.124		
4/7/2020	0.225			
4/8/2020		<0.1 (o)	0.153	0.192
7/14/2020	0.263	0.115	0.193	
7/15/2020				0.196
2/23/2021	0.287	0.139	0.2	0.208
7/20/2021		0.131	0.286	0.262
7/21/2021	0.331			
1/31/2022	0.291	0.121	0.173	
2/1/2022				0.177
7/6/2022	0.306	0.147	0.208	0.173
2/21/2023	0.319		0.216	0.212
2/22/2023		0.173		
8/15/2023			0.154	0.174
8/16/2023	0.266	0.0931 (J)		

# Time Series

Constituent: Lead (mg/L) Analysis Run 10/6/2023 3:26 PM

Plant Gorgas Data: Gorgas CCR LF

	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016		<0.0002	<0.0002	<0.000203
4/26/2016	<0.0002			
6/20/2016	<0.0002	<0.0002		<0.000203
6/22/2016			<0.0002	
8/8/2016	<0.0002	<0.0002		
8/9/2016			<0.0002	<0.000203
8/24/2016	<0.0002	<0.0002	<0.0002	<0.000203
10/3/2016	<0.0002	<0.0002		<0.000203
10/4/2016			<0.0002	
10/26/2016	<0.0002	<0.0002	<0.0002	<0.000203
11/21/2016	<0.0002	<0.0002	<0.0002	<0.000203
1/17/2017	<0.0002	<0.0002		
1/18/2017			<0.0002	<0.000203
3/22/2017	<0.0002	<0.0002	<0.0002	<0.000203
4/18/2017	<0.0002	<0.0002	<0.0002	<0.000203
5/30/2017	<0.0002			
5/31/2017		<0.0002	<0.0002	<0.000203
2/13/2018	<0.0002	<0.0002	<0.0002	<0.000203
5/22/2018	<0.0002	<0.0002		
5/23/2018				<0.000203
5/24/2018			<0.0002	
6/12/2018	<0.0002	<0.0002	<0.0002	<0.000203
10/17/2018	<0.0002	<0.0002	0.00102 (J)	<0.000203
11/19/2018	<0.0002	<0.0002	0.00692 (o)	<0.000203
4/10/2019	<0.0002	<0.0002	<0.0002	<0.000203
5/14/2019	<0.0002	<0.0002	<0.0002	<0.000203
10/8/2019	<0.0002	<0.0002	<0.0002	
10/10/2019				<0.000203
10/16/2019	<0.0002	<0.0002	0.00108 (J)	<0.000203
4/6/2020	<0.0002	<0.0002	<0.0002	<0.000203
7/13/2020	<0.0002	<0.0002	<0.0002	
7/14/2020				<0.000203
2/22/2021	<0.0002	<0.0002	8.8E-05 (J)	<0.000203
7/12/2021	<0.0002	<0.0002	8E-05 (J)	<0.000203
1/25/2022	<0.0002	<0.0002	<0.0002	<0.000203
7/5/2022	<0.0002	<0.0002	7.3E-05 (J)	<0.000203
2/20/2023	<0.0002	<0.0002	<0.0002	
2/21/2023				<0.000203
8/22/2023	<0.0002	<0.0002	0.000105 (J)	0.000136 (J)

# Time Series

Constituent: Lead (mg/L) Analysis Run 10/6/2023 3:26 PM

Plant Gorgas Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
4/25/2016	<0.0002			
4/27/2016		<0.0002	<0.0002	<0.000203
6/21/2016	<0.0002	<0.0002	<0.0002	<0.000203
10/12/2017	<0.0002	<0.0002	<0.0002	<0.000203
10/13/2017	<0.0002	<0.0002	<0.0002	<0.000203
10/14/2017	<0.0002	<0.0002	<0.0002	<0.000203
10/15/2017	<0.0002	<0.0002	<0.0002	<0.000203
10/16/2017	<0.0002	<0.0002	<0.0002	<0.000203
10/17/2017	<0.0002	<0.0002	<0.0002	<0.000203
2/14/2018	<0.0002	<0.0002	<0.0002	<0.000203
5/23/2018	<0.0002	<0.0002	<0.0002	<0.000203
11/20/2018	<0.0002	<0.0002	<0.0002	<0.000203
5/14/2019	<0.0002			
5/15/2019		<0.0002	<0.0002	<0.000203
10/8/2019			<0.0002	
10/9/2019				<0.000203
10/10/2019	<0.0002	<0.0002		
4/7/2020	<0.0002			
4/8/2020		<0.0002	<0.0002	<0.000203
7/14/2020	<0.0002	<0.0002	<0.0002	
7/15/2020				<0.000203
2/23/2021	<0.0002	<0.0002	<0.0002	<0.000203
7/20/2021		<0.0002	<0.0002	9E-05 (J)
7/21/2021	<0.0002			
1/31/2022	<0.0002	<0.0002	<0.0002	
2/1/2022				9E-05 (J)
7/6/2022	<0.0002	0.000232	<0.0002	0.000109 (J)
2/21/2023	<0.0002		<0.0002	8.8E-05 (J)
2/22/2023		0.000457		
8/15/2023			<0.0002	0.000178 (J)
8/16/2023	<0.0002	0.000191 (J)		

# Time Series

Constituent: Lithium (mg/L) Analysis Run 10/6/2023 3:26 PM

Plant Gorgas Data: Gorgas CCR LF

	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016		0.0353 (J)	0.0964	0.0528
4/26/2016	0.0264 (J)			
6/20/2016	0.0246 (J)	0.0583		0.0554
6/22/2016			0.156	
8/8/2016	0.0229 (J)	0.0627		
8/9/2016			0.122	0.0452 (J)
8/24/2016	0.0236 (J)	0.0651	0.138	0.0488 (J)
10/3/2016	0.0229 (J)	0.0622		0.0476 (J)
10/4/2016			0.0966	
10/26/2016	0.0227 (J)	0.0293 (J)	0.134	0.049 (J)
11/21/2016	0.0236 (J)	0.0667	0.167	0.0477 (J)
1/17/2017	0.0228 (J)	0.0636		
1/18/2017			0.237	0.045 (J)
3/22/2017	0.0238 (J)	0.0464 (J)	0.203	0.0493 (J)
4/18/2017	0.0242 (J)	0.0446 (J)	0.0764	0.0494 (J)
5/30/2017	0.0229 (J)			
5/31/2017		0.0496 (J)	0.218	0.0501
2/13/2018	0.0233 (J)	0.0615	0.0964	0.0446 (J)
5/22/2018	0.0263 (J)	0.0465 (J)		
5/23/2018				0.0513
5/24/2018			0.145	
6/12/2018	0.0251 (J)	0.0472 (J)	0.194	0.0511
10/17/2018	0.025 (J)	0.0633	0.384	0.0532
11/19/2018	0.0241	0.0584	0.323	0.0467
4/10/2019	0.0285	0.0574	0.0905	0.0504
5/14/2019	0.026 (J)	0.0445	0.0828	0.0485
10/8/2019	0.0268	0.0677	0.419	
10/10/2019				0.054
10/16/2019	0.0263	0.0661	0.337	0.052
4/6/2020	0.0278	0.0496	0.0689	0.0519
7/13/2020	0.028	0.0615	0.256	
7/14/2020				0.0543
2/22/2021	0.0301	0.0625	0.126	0.0558
7/12/2021	0.0266	0.0495	0.0808	0.0533
1/25/2022	0.0239	0.051	0.077	0.0433
7/5/2022	0.0274	0.0469	0.251	0.0566
2/20/2023	0.0241	0.0412	0.0649	
2/21/2023				0.0424
8/22/2023	0.0225	0.0404	0.316	0.0416



# Time Series

Constituent: Lithium (mg/L) Analysis Run 10/6/2023 3:26 PM

Plant Gorgas Data: Gorgas CCR LF

---

	MW-5	MW-6	MW-7	MW-8
4/25/2016	0.0977			
4/27/2016		0.253	0.163	0.171
6/21/2016	0.0972	0.253	0.171	0.181
10/12/2017	0.093	0.249	0.134	0.182
10/13/2017	0.0935	0.249	0.127	0.189
10/14/2017	0.0931	0.244	0.112	0.177
10/15/2017	0.0968	0.259	0.129	0.191
10/16/2017	0.0963	0.259	0.122	0.189
10/17/2017	0.0949	0.249	0.122	0.184
2/14/2018	0.0989	0.242	0.131	0.183
5/23/2018	0.103	0.266	0.129	0.194
11/20/2018	0.102	0.245	0.12	0.181
5/14/2019	0.116			
5/15/2019		0.152	0.127	0.16
10/8/2019			0.131	
10/9/2019				0.163
10/10/2019	0.0981	0.251		
4/7/2020	0.133			
4/8/2020		0.0489	0.117	0.149
7/14/2020	0.11	0.223	0.103	
7/15/2020				0.152
2/23/2021	0.133	0.253	0.131	0.166
7/20/2021		0.18	0.096	0.151
7/21/2021	0.113			
1/31/2022	0.0932	0.161	0.0907	
2/1/2022				0.124
7/6/2022	0.101	0.216	0.0926	0.132
2/21/2023	0.104		0.0932	0.12
2/22/2023		0.0329		
8/15/2023			0.0977	0.117
8/16/2023	0.0864	0.198		

# Time Series

Constituent: Mercury (mg/L) Analysis Run 10/6/2023 3:26 PM

Plant Gorgas Data: Gorgas CCR LF

	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016		<0.0005	<0.0005	<0.0005
4/26/2016	<0.0005			
6/20/2016	<0.0005	<0.0005		<0.0005
6/22/2016			<0.0005	
8/8/2016	<0.0005	<0.0005		
8/9/2016			<0.0005	<0.0005
8/24/2016	<0.0005	<0.0005	<0.0005	<0.0005
10/3/2016	<0.0005	<0.0005		<0.0005
10/4/2016			<0.0005	
10/26/2016	<0.0005	<0.0005	<0.0005	<0.0005
11/21/2016	<0.0005	<0.0005	<0.0005	<0.0005
1/17/2017	<0.0005	<0.0005		
1/18/2017			<0.0005	<0.0005
3/22/2017	<0.0005	<0.0005	<0.0005	<0.0005
4/18/2017	<0.0005	<0.0005	<0.0005	<0.0005
5/30/2017	<0.0005			
5/31/2017		<0.0005	<0.0005	<0.0005
2/13/2018	<0.0005	<0.0005	<0.0005	<0.0005
5/22/2018	<0.0005	<0.0005		
5/23/2018				<0.0005
5/24/2018			<0.0005	
6/12/2018	<0.0005	<0.0005	<0.0005	<0.0005
10/17/2018	<0.0005	<0.0005	<0.0005	<0.0005
11/19/2018	<0.0005	<0.0005	<0.0005	<0.0005
4/10/2019	<0.0005	<0.0005	<0.0005	<0.0005
5/14/2019	<0.0005	<0.0005	<0.0005	<0.0005
10/8/2019	<0.0005	<0.0005	<0.0005	
10/10/2019				<0.0005
10/16/2019	<0.0005	<0.0005	<0.0005	<0.0005
4/6/2020	<0.0005	<0.0005	<0.0005	<0.0005
7/13/2020	<0.0005	<0.0005	<0.0005	
7/14/2020				<0.0005
2/22/2021	<0.0005	<0.0005	<0.0005	<0.0005
7/12/2021	<0.0005	<0.0005	<0.0005	<0.0005
1/25/2022	<0.0005	<0.0005	<0.0005	<0.0005
7/5/2022	<0.0005	<0.0005	<0.0005	<0.0005
2/20/2023	<0.0005	<0.0005	<0.0005	
2/21/2023				<0.0005
8/22/2023	<0.0005	<0.0005	<0.0005	<0.0005

# Time Series

Constituent: Mercury (mg/L) Analysis Run 10/6/2023 3:26 PM

Plant Gorgas Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
4/25/2016	<0.0005			
4/27/2016		<0.0005	<0.0005	<0.0005
6/21/2016	<0.0005	<0.0005	<0.0005	<0.0005
10/12/2017	<0.0005	<0.0005	<0.0005	<0.0005
10/13/2017	<0.0005	<0.0005	<0.0005	<0.0005
10/14/2017	<0.0005	<0.0005	<0.0005	<0.0005
10/15/2017	<0.0005	<0.0005	<0.0005	<0.0005
10/16/2017	<0.0005	<0.0005	<0.0005	<0.0005
10/17/2017	<0.0005	<0.0005	<0.0005	<0.0005
2/14/2018	<0.0005	<0.0005	<0.0005	<0.0005
5/23/2018	<0.0005	<0.0005	<0.0005	<0.0005
11/20/2018	<0.0005	<0.0005	<0.0005	<0.0005
5/14/2019	<0.0005			
5/15/2019		<0.0005	<0.0005	<0.0005
10/8/2019			<0.0005	
10/9/2019				<0.0005
10/10/2019	<0.0005	<0.0005		
4/7/2020	<0.0005			
4/8/2020		<0.0005	<0.0005	<0.0005
7/14/2020	<0.0005	<0.0005	<0.0005	
7/15/2020				<0.0005
2/23/2021	<0.0005	<0.0005	<0.0005	<0.0005
7/20/2021		<0.0005	<0.0005	<0.0005
7/21/2021	<0.0005			
1/31/2022	<0.0005	<0.0005	<0.0005	
2/1/2022				<0.0005
7/6/2022	<0.0005	<0.0005	<0.0005	<0.0005
2/21/2023	<0.0005		<0.0005	<0.0005
2/22/2023		<0.0005		
8/15/2023			<0.0005	<0.0005
8/16/2023	<0.0005	<0.0005		

# Time Series

Constituent: Molybdenum (mg/L) Analysis Run 10/6/2023 3:26 PM

Plant Gorgas Data: Gorgas CCR LF

	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016		<0.01015	<0.01015	<0.01015
4/26/2016	<0.01015			
6/20/2016	<0.01015	<0.01015		<0.01015
6/22/2016			<0.01015	
8/8/2016	<0.01015	<0.01015		
8/9/2016			<0.01015	<0.01015
8/24/2016	<0.01015	<0.01015	<0.01015	<0.01015
10/3/2016	<0.01015	<0.01015		<0.01015
10/4/2016			<0.01015	
10/26/2016	<0.01015	<0.01015	<0.01015	<0.01015
11/21/2016	<0.01015	<0.01015	<0.01015	<0.01015
1/17/2017	<0.01015	<0.01015		
1/18/2017			<0.01015	<0.01015
3/22/2017	<0.01015	<0.01015	<0.01015	<0.01015
4/18/2017	<0.01015	<0.01015	<0.01015	<0.01015
5/30/2017	<0.01015			
5/31/2017		<0.01015	<0.01015	<0.01015
2/13/2018	<0.01015	<0.01015	<0.01015	<0.01015
5/22/2018	<0.01015	<0.01015		
5/23/2018				<0.01015
5/24/2018			<0.01015	
6/12/2018	<0.01015	<0.01015	<0.01015	<0.01015
10/17/2018	<0.01015	<0.01015	<0.01015	<0.01015
11/19/2018	<0.01015	<0.01015	<0.01015	<0.01015
4/10/2019	<0.01015	<0.01015	<0.01015	<0.01015
5/14/2019	<0.01015	<0.01015	<0.01015	<0.01015
10/8/2019	<0.01015	<0.01015	<0.01015	
10/10/2019				<0.01015
10/16/2019	<0.01015	<0.01015	<0.01015	<0.01015
4/6/2020	<0.01015	<0.01015	<0.01015	<0.01015
7/13/2020	<0.01015	<0.01015	<0.01015	
7/14/2020				<0.01015
2/22/2021	<0.01015	<0.01015	<0.01015	0.000131 (J)
7/12/2021	<0.01015	<0.01015	<0.01015	0.00014 (J)
1/25/2022	<0.01015	<0.01015	8E-05 (J)	0.00011 (J)
7/5/2022	<0.01015	<0.01015	<0.01015	0.000108 (J)
2/20/2023	<0.01015	<0.01015	<0.01015	
2/21/2023				0.00015 (J)
8/22/2023	<0.01015	<0.01015	<0.01015	<0.01015

# Time Series

Constituent: Molybdenum (mg/L) Analysis Run 10/6/2023 3:26 PM

Plant Gorgas Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
4/25/2016	<0.01015			
4/27/2016		<0.01015	<0.01015	<0.01015
6/21/2016	<0.01015	<0.01015	<0.01015	<0.01015
10/12/2017	<0.01015	<0.01015	<0.01015	<0.01015
10/13/2017	<0.01015	<0.01015	<0.01015	<0.01015
10/14/2017	<0.01015	<0.01015	<0.01015	<0.01015
10/15/2017	<0.01015	<0.01015	<0.01015	<0.01015
10/16/2017	<0.01015	<0.01015	<0.01015	<0.01015
10/17/2017	<0.01015	<0.01015	<0.01015	<0.01015
2/14/2018	<0.01015	<0.01015	<0.01015	<0.01015
5/23/2018	<0.01015	<0.01015	<0.01015	<0.01015
11/20/2018	<0.01015	<0.01015	<0.01015	<0.01015
5/14/2019	<0.01015			
5/15/2019		<0.01015	<0.01015	<0.01015
10/8/2019			<0.01015	
10/9/2019				<0.01015
10/10/2019	<0.01015	<0.01015		
4/7/2020	<0.01015			
4/8/2020		<0.01015	<0.01015	<0.01015
7/14/2020	<0.01015	<0.01015	<0.01015	
7/15/2020				<0.01015
2/23/2021	0.0014	0.000285	0.00107	0.0129
7/20/2021		7E-05 (J)	0.00086	0.00033
7/21/2021	0.00126			
1/31/2022	0.00126	7E-05 (J)	0.00093	
2/1/2022				0.00031
7/6/2022	0.00104	0.000316	0.000846	0.000351
2/21/2023	0.000945		0.00103	0.000338
2/22/2023		<0.01015		
8/15/2023			<0.01015	<0.01015
8/16/2023	<0.01015	<0.01015		

# Time Series

Constituent: pH, Field (SU) Analysis Run 10/6/2023 3:26 PM

Plant Gorgas Data: Gorgas CCR LF

	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016		5.94	5.56	6.22
4/26/2016	5.2			
6/20/2016	5.18	5.96		6.21
6/22/2016			5.57	
8/8/2016	5.12	5.88		
8/9/2016			5.67	6.11
8/24/2016			5.63	6.11
10/3/2016	5.21	5.91		6.13
10/4/2016			5.69	
10/26/2016	5.2	5.84	5.56	6.12
11/21/2016	5.19	5.82	5.42	6.09
1/17/2017	5.17	5.87		
1/18/2017			5.11	6.09
3/22/2017	5.2	6.01	4.52	6.15
4/18/2017	5.2	6.02	5.84	6.19
5/30/2017	5.14			
5/31/2017		5.85	4.56	6.13
8/23/2017	5.12	5.89	4.77	6.12
2/13/2018	5.18	6.21	5.67	6.22
5/22/2018	5.2	6.04		
5/23/2018				6.21
5/24/2018			5.19	
6/12/2018	5.15	5.95	4.79	6.16
10/17/2018	5.12	5.9	4.75	6.12
11/19/2018	5.09	6.03	3.77 (o)	6.16
4/10/2019	5.11	6.1	5.54	6.14
5/14/2019	5.19	6.07	5.71	6.23
10/8/2019	5.12	5.96	4.98	
10/10/2019				6.15
10/16/2019	5.16	5.98	4.51	6.19
4/6/2020	5.21	6.21	5.91	6.35
7/13/2020	5.14	5.84	5.16	
7/14/2020				6.2
2/22/2021	5.06	6.1	5.59	6.19
7/12/2021	5.13	6.16	5.86	6.06
1/25/2022	5.11	6.22	5.9	6.3
7/5/2022	5.01	6.15	5.34	6.12
2/20/2023	5.07	6.24	6.01	
2/21/2023				6.35
8/22/2023	4.92	5.81	5.04	6.28

# Time Series

Constituent: pH, Field (SU) Analysis Run 10/6/2023 3:26 PM

Plant Gorgas Data: Gorgas CCR LF

---

	MW-5	MW-6	MW-7	MW-8
4/25/2016	6.37			
4/27/2016		6.18	6.6	6.55
6/21/2016	6.35	6.23	6.62	6.47
10/12/2017	6.38	6.22	6.64	6.5
10/13/2017	6.43	6.23	6.64	6.51
10/14/2017	6.41	6.22	6.66	6.53
10/15/2017	6.42	6.22	6.67	6.53
10/16/2017	6.42	6.21	6.67	6.54
10/17/2017	6.41	6.2	6.66	6.54
11/16/2017	6.53	6.28	6.62	6.51
2/14/2018	6.39	6.17	6.67	6.55
5/23/2018	6.39	6.12	6.63	6.52
11/20/2018	6.39	6.14	6.61	6.58
5/14/2019	6.34			
5/15/2019		5.72	6.61	6.6
10/8/2019			6.52	
10/9/2019				6.67
10/10/2019	6.43	6.16		
4/7/2020	6.43			
4/8/2020		4.98	6.64	6.7
7/14/2020	6.48	6.12	6.52	
7/15/2020				6.71
2/23/2021	6.47	6.13	6.7	6.73
7/20/2021		5.99	6.58	6.64
7/21/2021	6.4			
1/31/2022	6.52	6.1	6.48	
2/1/2022				6.77
7/6/2022	6.51	6.14	6.46	6.72
2/21/2023	6.5		6.72	6.75
2/22/2023		4.98		
8/15/2023			7.47	7.58
8/16/2023	6.5	6.01		

# Time Series

Constituent: Selenium (mg/L) Analysis Run 10/6/2023 3:26 PM

Plant Gorgas Data: Gorgas CCR LF

	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016		<0.00102	<0.01	<0.01
4/26/2016	0.00261 (J)			
6/20/2016	0.00242 (J)	<0.00102		<0.01
6/22/2016			<0.01	
8/8/2016	0.00253 (J)	<0.00102		
8/9/2016			<0.01	<0.01
8/24/2016	<0.01	<0.00102	<0.01	<0.01
10/3/2016	0.00211 (J)	<0.00102		<0.01
10/4/2016			<0.01	
10/26/2016	<0.01	<0.00102	<0.01	<0.01
11/21/2016	<0.01	<0.00102	<0.01	<0.01
1/17/2017	<0.01	<0.00102		
1/18/2017			<0.01	<0.01
3/22/2017	0.0022 (J)	<0.00102	0.0141	<0.01
4/18/2017	0.0027 (J)	<0.00102	0.0158	<0.01
5/30/2017	0.00316 (J)			
5/31/2017		<0.00102	0.00632 (J)	<0.01
2/13/2018	0.00211 (J)	<0.00102	0.0209	0.00403 (J)
5/22/2018	0.00372 (J)	<0.00102		
5/23/2018				<0.01
5/24/2018			0.00918 (J)	
6/12/2018	0.00409 (J)	<0.00102	0.00836 (J)	<0.01
10/17/2018	<0.01	<0.00102	<0.01	<0.01
11/19/2018	<0.01	<0.00102	0.00439 (J)	0.00436 (J)
4/10/2019	0.00471 (J)	0.00322 (J)	0.0113	<0.01
5/14/2019	0.00316 (J)	<0.00102	0.0119	0.00201 (J)
10/8/2019	<0.01	<0.00102	0.00256 (J)	
10/10/2019				<0.01
10/16/2019	<0.01	<0.00102	0.00286 (J)	<0.01
4/6/2020	0.00275 (J)	<0.00102	0.01	0.00284 (J)
7/13/2020	0.00245 (J)	<0.00102	0.0134	
7/14/2020				<0.01
2/22/2021	0.00241	<0.00102	0.0181	0.00222
7/12/2021	0.0028	<0.00102	0.0133	0.00155
1/25/2022	0.00216	<0.00102	0.0154	0.00224
7/5/2022	0.00269	<0.00102	0.0205	0.000961 (J)
2/20/2023	0.00258	<0.00102	0.0123	
2/21/2023				0.00266
8/22/2023	0.00151	<0.00102	0.0147	0.00148



# Time Series

Constituent: Selenium (mg/L) Analysis Run 10/6/2023 3:26 PM

Plant Gorgas Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
4/25/2016	<0.01			
4/27/2016		<0.00102	0.00445 (J)	<0.00102
6/21/2016	<0.01	<0.00102	<0.00102	<0.00102
10/12/2017	<0.01	<0.00102	<0.00102	<0.00102
10/13/2017	<0.01	<0.00102	<0.00102	<0.00102
10/14/2017	<0.01	<0.00102	<0.00102	<0.00102
10/15/2017	0.00254 (J)	<0.00102	<0.00102	<0.00102
10/16/2017	<0.01	<0.00102	<0.00102	<0.00102
10/17/2017	0.00288 (J)	<0.00102	<0.00102	<0.00102
2/14/2018	<0.01	<0.00102	<0.00102	<0.00102
5/23/2018	<0.01	<0.00102	<0.00102	<0.00102
11/20/2018	<0.01	<0.00102	<0.00102	<0.00102
5/14/2019	<0.01			
5/15/2019		<0.00102	<0.00102	<0.00102
10/8/2019			<0.00102	
10/9/2019				<0.00102
10/10/2019	<0.01	<0.00102		
4/7/2020	<0.01			
4/8/2020		<0.00102	<0.00102	<0.00102
7/14/2020	<0.01	<0.00102	<0.00102	
7/15/2020				<0.00102
2/23/2021	0.00233	<0.00102	<0.00102	<0.00102
7/20/2021		<0.00102	<0.00102	<0.00102
7/21/2021	0.00178			
1/31/2022	0.00237	<0.00102	<0.00102	
2/1/2022				<0.00102
7/6/2022	0.0017	<0.00102	0.000677 (J)	<0.00102
2/21/2023	0.00124		<0.00102	<0.00102
2/22/2023		0.0019		
8/15/2023			<0.00102	<0.00102
8/16/2023	0.00247	<0.00102		

# Time Series

Constituent: Sulfate as SO4 (mg/L) Analysis Run 10/6/2023 3:26 PM

Plant Gorgas Data: Gorgas CCR LF

	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016		745	1890	2260
4/26/2016	1490			
6/20/2016	1420	964		2500
6/22/2016			2100	
8/8/2016	1460	1100		
8/9/2016			2050	2750
8/24/2016	1450	1130	2190	2770
10/3/2016	1460	1140		3060
10/4/2016			1950	
10/26/2016	1330	1060	1980	2650
11/21/2016	1420	1100	2060	2720
1/17/2017	1350	1160		
1/18/2017			2620	2650
3/22/2017	1500	900	3200	2700
4/18/2017	1300	870	2500	2400
5/30/2017	1400			
5/31/2017		1100	2800	2700
8/23/2017	1500	920	2600	2700
5/22/2018	2100 (o)	1200		
5/23/2018				2400
5/24/2018			2700	
6/12/2018	1500	860	2500	2600
10/17/2018	1400	970	2700	2600
11/19/2018	1300	1000	3000	2400
4/10/2019	1700	889	2460	2090
5/14/2019	1560	948	2460	2240
10/8/2019	1540	1230	2950	
10/10/2019				2690
10/16/2019	1680	1170	2820	3050
4/6/2020	1530	786	1670	1810
7/13/2020	1450	843	2130	
7/14/2020				1970
2/22/2021	1400	864	3040	2040
7/12/2021	1560	763	2380	1930
1/25/2022	1430	842	2550	1930
7/5/2022	1600	819	3110	2380
2/20/2023	1520	767	2110	
2/21/2023				1930
8/22/2023	1560	912	3140	2390

# Time Series

Constituent: Sulfate as SO4 (mg/L) Analysis Run 10/6/2023 3:26 PM

Plant Gorgas Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
4/25/2016	2390			
4/27/2016		2090	1050	1550
6/21/2016	2500	2000	1410	1470
10/12/2017	2300	2000	1400	1400
10/13/2017	2300	2000	1400	1600
10/14/2017	2300	1900	1300	1400
10/15/2017	2300	1900	1300	1400
10/16/2017	2300	1900	1300	1400
10/17/2017	2200	1900	1300	1400
11/16/2017	2200	1800	1300	1400
5/23/2018	2400	2000	1900 (O)	2100 (o)
11/20/2018	2500	2200	1100	1400
5/14/2019	2380			
5/15/2019		2110	1510	1640
10/8/2019			1570	
10/9/2019				1550
10/10/2019	2460	2330		
4/7/2020	2050			
4/8/2020		1900	1270	1380
7/14/2020	2080	1970	1330	
7/15/2020				1410
2/23/2021	2210	2010	1320	1420
7/20/2021		1930	1170	1500
7/21/2021	2240			
1/31/2022	2310	2080	1370	
2/1/2022				1500
7/6/2022	2320	2100	1330	1460
2/21/2023	2210		1450	1510
2/22/2023		1870		
8/15/2023			1360	1480
8/16/2023	2310	2060		

# Time Series

Constituent: Thallium (mg/L) Analysis Run 10/6/2023 3:26 PM

Plant Gorgas Data: Gorgas CCR LF

	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016		<0.0002	0.000205 (J)	<0.0002
4/26/2016	<0.0002			
6/20/2016	<0.0002	<0.0002		<0.0002
6/22/2016			<0.0002	
8/8/2016	<0.0002	<0.0002		
8/9/2016			<0.0002	<0.0002
8/24/2016	<0.0002	<0.0002	<0.0002	<0.0002
10/3/2016	<0.0002	<0.0002		<0.0002
10/4/2016			<0.0002	
10/26/2016	<0.0002	<0.0002	0.000209 (J)	<0.0002
11/21/2016	<0.0002	<0.0002	<0.0002	<0.0002
1/17/2017	<0.0002	<0.0002		
1/18/2017			<0.0002	<0.0002
3/22/2017	<0.0002	<0.0002	<0.0002	<0.0002
4/18/2017	<0.0002	<0.0002	<0.0002	<0.0002
5/30/2017	<0.0002			
5/31/2017		<0.0002	<0.0002	<0.0002
2/13/2018	<0.0002	<0.0002	<0.0002	<0.0002
5/22/2018	<0.0002	<0.0002		
5/23/2018				<0.0002
5/24/2018			<0.0002	
6/12/2018	<0.0002	<0.0002	<0.0002	<0.0002
10/17/2018	<0.0002	<0.0002	<0.0002	<0.0002
11/19/2018	<0.0002	<0.0002	0.000226 (J)	<0.0002
4/10/2019	<0.0002	<0.0002	<0.0002	<0.0002
5/14/2019	<0.0002	<0.0002	<0.0002	<0.0002
10/8/2019	<0.0002	<0.0002	<0.0002	
10/10/2019				<0.0002
10/16/2019	<0.0002	<0.0002	<0.0002	<0.0002
4/6/2020	<0.0002	<0.0002	<0.0002	<0.0002
7/13/2020	<0.0002	<0.0002	<0.0002	
7/14/2020				<0.0002
2/22/2021	<0.0002	<0.0002	<0.0002	<0.0002
7/12/2021	<0.0002	<0.0002	<0.0002	<0.0002
1/25/2022	<0.0002	<0.0002	<0.0002	<0.0002
7/5/2022	<0.0002	<0.0002	<0.0002	<0.0002
2/20/2023	<0.0002	<0.0002	<0.0002	
2/21/2023				<0.0002
8/22/2023	<0.0002	<0.0002	<0.0002	<0.0002

# Time Series

Constituent: Thallium (mg/L) Analysis Run 10/6/2023 3:26 PM

Plant Gorgas Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
4/25/2016	<0.0002			
4/27/2016		<0.000203	<0.0002	<0.0002
6/21/2016	<0.0002	<0.000203	<0.0002	<0.0002
10/12/2017	<0.0002	<0.000203	<0.0002	<0.0002
10/13/2017	<0.0002	<0.000203	<0.0002	<0.0002
10/14/2017	<0.0002	<0.000203	<0.0002	<0.0002
10/15/2017	<0.0002	<0.000203	<0.0002	<0.0002
10/16/2017	0.000375 (J)	<0.000203	<0.0002	<0.0002
10/17/2017	<0.0002	<0.000203	<0.0002	<0.0002
2/14/2018	<0.0002	<0.000203	<0.0002	<0.0002
5/23/2018	<0.0002	<0.000203	<0.0002	<0.0002
11/20/2018	<0.0002	<0.000203	<0.0002	<0.0002
5/14/2019	<0.0002			
5/15/2019		<0.000203	<0.0002	<0.0002
10/8/2019			<0.0002	
10/9/2019				<0.0002
10/10/2019	<0.0002	<0.000203		
4/7/2020	<0.0002			
4/8/2020		<0.000203	<0.0002	<0.0002
7/14/2020	<0.0002	<0.000203	<0.0002	
7/15/2020				<0.0002
2/23/2021	<0.0002	<0.000203	<0.0002	<0.0002
7/20/2021		<0.000203	<0.0002	<0.0002
7/21/2021	<0.0002			
1/31/2022	7E-05 (J)	0.00011 (J)	<0.0002	
2/1/2022				<0.0002
7/6/2022	<0.0002	<0.000203	<0.0002	<0.0002
2/21/2023	<0.0002		<0.0002	<0.0002
2/22/2023		0.000143 (J)		
8/15/2023			<0.0002	<0.0002
8/16/2023	<0.0002	9.4E-05 (J)		

# Time Series

Constituent: Total Dissolved Solids [TDS] (mg/L) Analysis Run 10/6/2023 3:26 PM

Plant Gorgas Data: Gorgas CCR LF

	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016		1260	2720	3300
4/26/2016	2080			
6/20/2016	2060	1620		3870
6/22/2016			3250	
8/8/2016	2070	1740		
8/9/2016			3050	4140
8/24/2016	2040	1720	3080	4190
10/3/2016	2110	1800		4190
10/4/2016			2900	
10/26/2016	2000	1800	2940	4400
11/21/2016	2070	1740	3090	4230
1/17/2017	1930	1960		
1/18/2017			4020	4120
3/22/2017	2060	1510	4180	3980
4/18/2017	2140	1580	4440	3880
5/30/2017	2240			
5/31/2017		1730	3970	4210
8/23/2017	2160	1550	4050	3990
5/22/2018	2380	1500		
5/23/2018				3740
5/24/2018			3680	
6/12/2018	2400	1550	3820	4080
10/17/2018	2220	1740	4730	4250
11/19/2018	2360	1990	4710	3920
4/10/2019	2630	1250	3680	3280
5/14/2019	2340	1480	3580	3130 (D)
10/8/2019	2330	1840	4720	
10/10/2019				4000
10/16/2019	3650 (o)	1830	4210	4060
4/6/2020	2240	1440	2630	2820
7/13/2020	2240	1540	3650	
7/14/2020				3310
2/22/2021	2230	1620	4670	3190
7/12/2021	2210	1390	3510	3000
1/25/2022	2150	1500	3950	3180
7/5/2022	2100	1250	4220	3240
2/20/2023	2280	1420	3230	
2/21/2023				3160
8/22/2023	2160	1520	4820	3780

# Time Series

Constituent: Total Dissolved Solids [TDS] (mg/L) Analysis Run 10/6/2023 3:26 PM

Plant Gorgas Data: Gorgas CCR LF

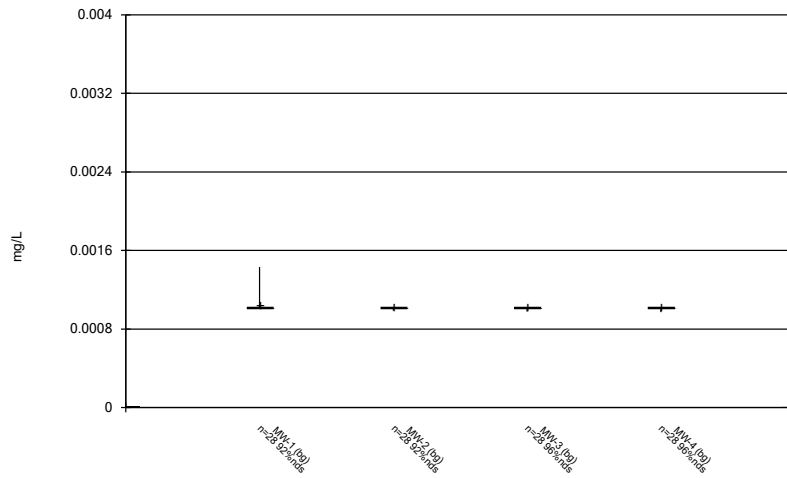
---

	MW-5	MW-6	MW-7	MW-8
4/25/2016	3660			
4/27/2016		3290	1640	2480
6/21/2016	3920	3250	2460	2360
10/12/2017	4000	3220	2460	2530
10/13/2017	3960	3250	2420	2740
10/14/2017	3910	3260	2320	2630
10/15/2017	3890	3260	1150	2530
10/16/2017	3980	3360	2320	2740
10/17/2017	3940	3420	2360	2650
11/16/2017	3930	3280	2460	2650
5/23/2018	3660	3340	2390	2750
11/20/2018	3780	3330	2090	2520
5/14/2019	3520			
5/15/2019		3130	2310	2540
10/8/2019			2340	
10/9/2019				2590
10/10/2019	3830	3260		
4/7/2020	3270			
4/8/2020		2940	2230	2450
7/14/2020	3710	3270	2210	
7/15/2020				2460
2/23/2021	3740	3230	2320	2550
7/20/2021		3090	2110	2420
7/21/2021	3570			
1/31/2022	3560	3050	2140	
2/1/2022				2420
7/6/2022	3390	3110	2110	2320
2/21/2023	3310		2220	2370
2/22/2023		2790		
8/15/2023			2270	2410
8/16/2023	3640	3140		

FIGURE B.

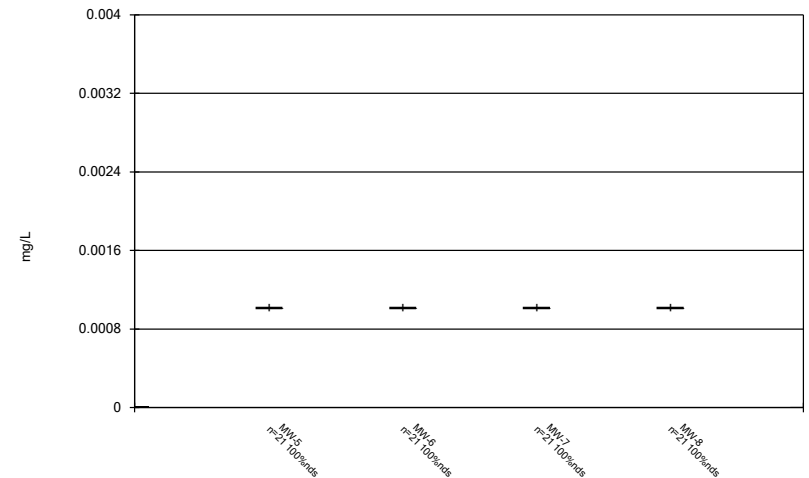


### Box & Whiskers Plot



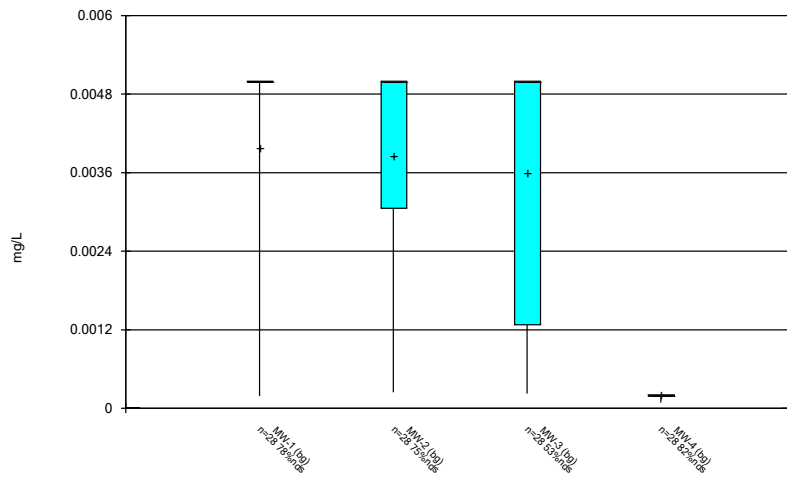
Constituent: Antimony Analysis Run 10/6/2023 3:28 PM  
Plant Gorgas Data: Gorgas CCR LF

### Box & Whiskers Plot



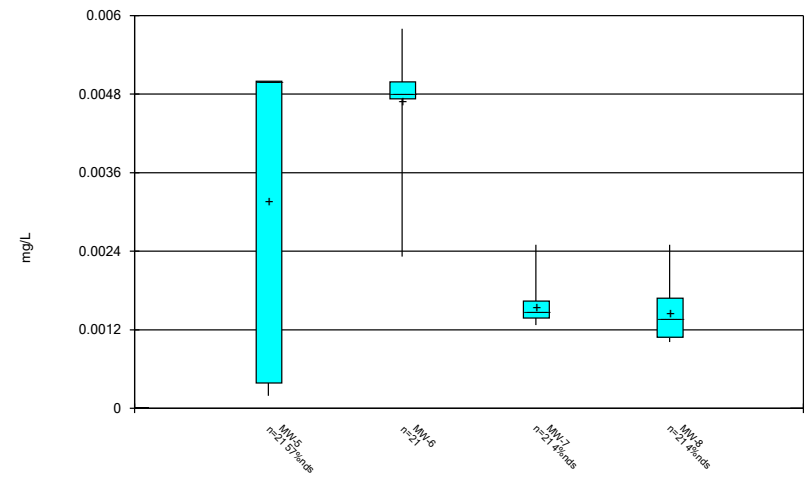
Constituent: Antimony Analysis Run 10/6/2023 3:28 PM  
Plant Gorgas Data: Gorgas CCR LF

### Box & Whiskers Plot



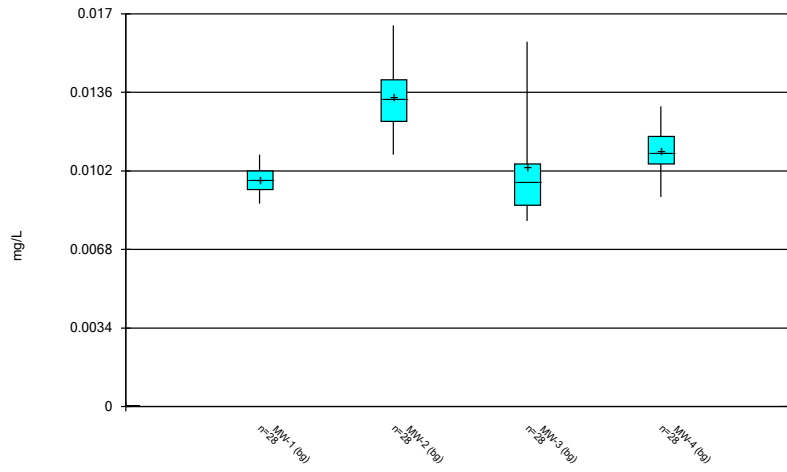
Constituent: Arsenic Analysis Run 10/6/2023 3:28 PM  
Plant Gorgas Data: Gorgas CCR LF

### Box & Whiskers Plot



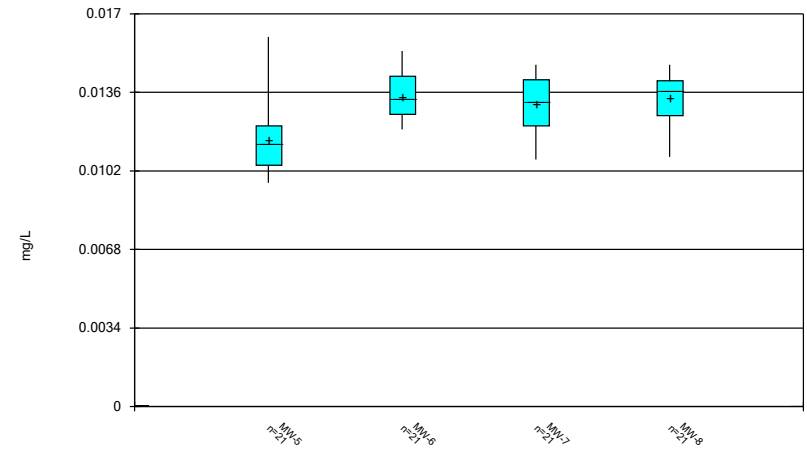
Constituent: Arsenic Analysis Run 10/6/2023 3:28 PM  
Plant Gorgas Data: Gorgas CCR LF

Box & Whiskers Plot



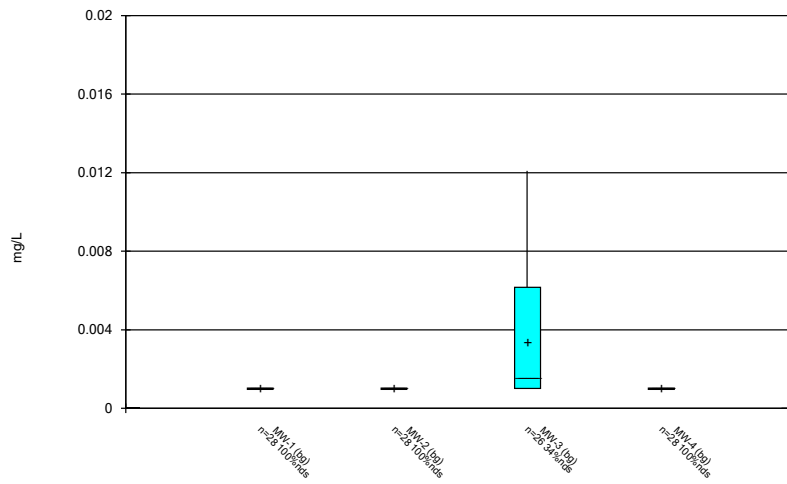
Constituent: Barium Analysis Run 10/6/2023 3:28 PM  
Plant Gorgas Data: Gorgas CCR LF

Box & Whiskers Plot



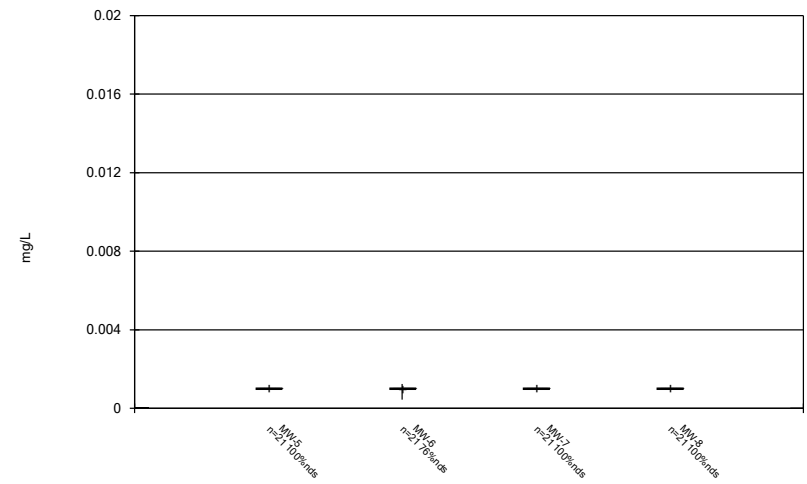
Constituent: Barium Analysis Run 10/6/2023 3:28 PM  
Plant Gorgas Data: Gorgas CCR LF

Box & Whiskers Plot



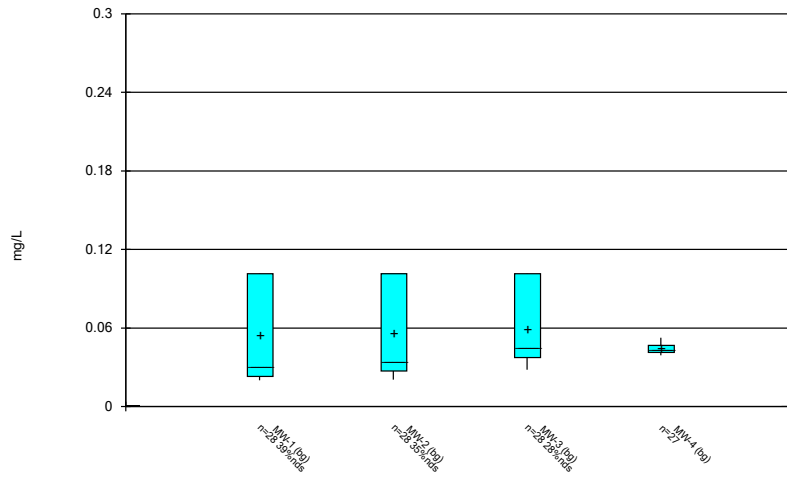
Constituent: Beryllium Analysis Run 10/6/2023 3:28 PM  
Plant Gorgas Data: Gorgas CCR LF

Box & Whiskers Plot



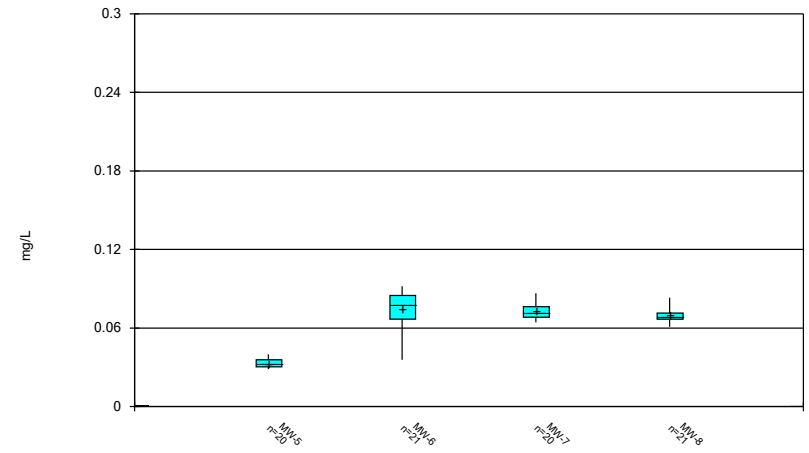
Constituent: Beryllium Analysis Run 10/6/2023 3:28 PM  
Plant Gorgas Data: Gorgas CCR LF

Box & Whiskers Plot



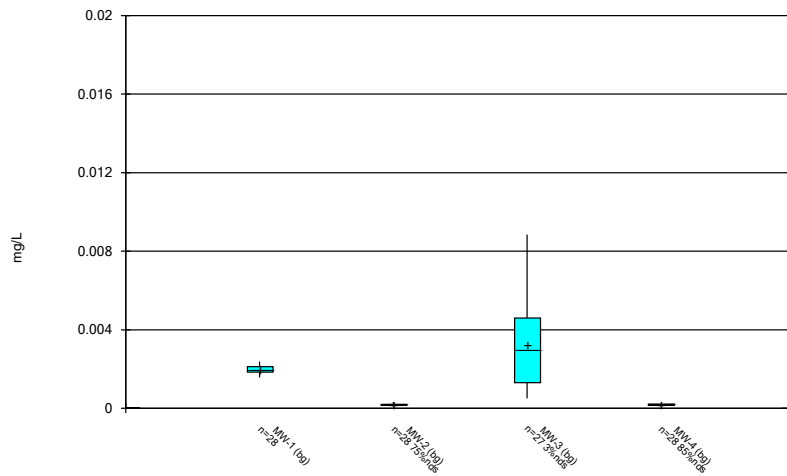
Constituent: Boron, total Analysis Run 10/6/2023 3:28 PM  
Plant Gorgas Data: Gorgas CCR LF

Box & Whiskers Plot



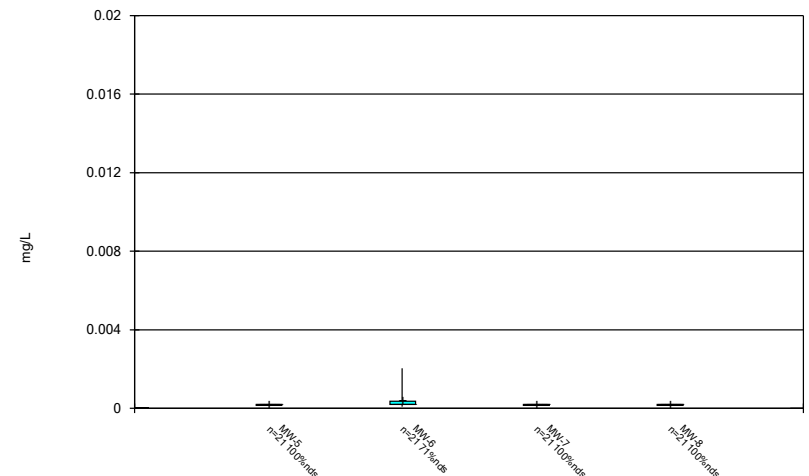
Constituent: Boron, total Analysis Run 10/6/2023 3:28 PM  
Plant Gorgas Data: Gorgas CCR LF

Box & Whiskers Plot



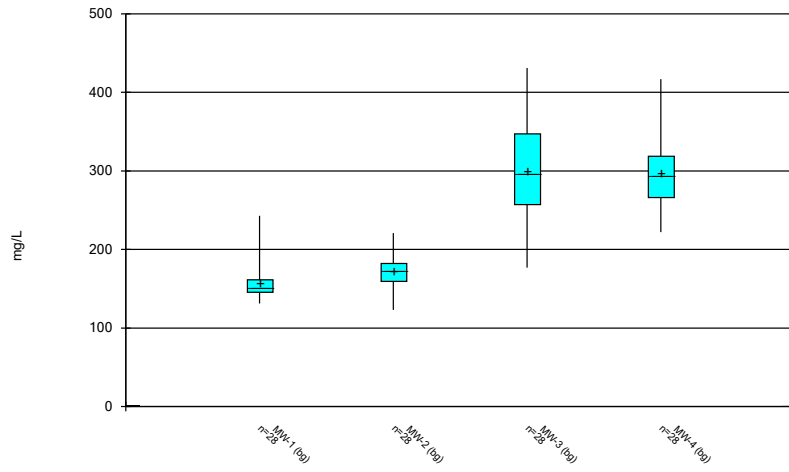
Constituent: Cadmium Analysis Run 10/6/2023 3:28 PM  
Plant Gorgas Data: Gorgas CCR LF

Box & Whiskers Plot



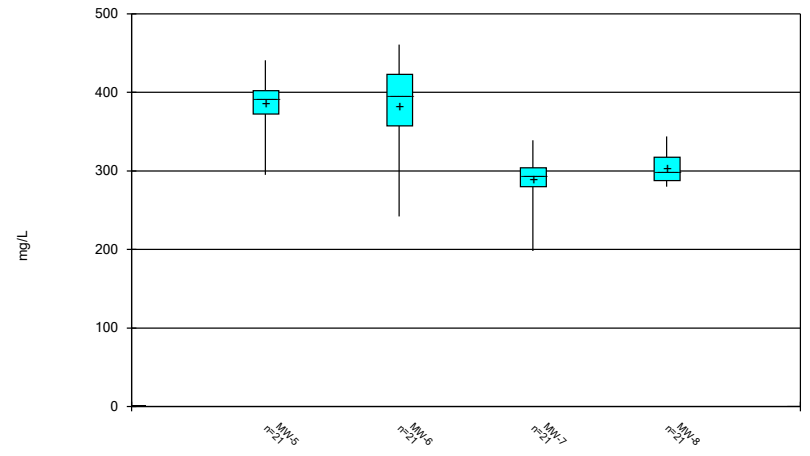
Constituent: Cadmium Analysis Run 10/6/2023 3:28 PM  
Plant Gorgas Data: Gorgas CCR LF

### Box & Whiskers Plot



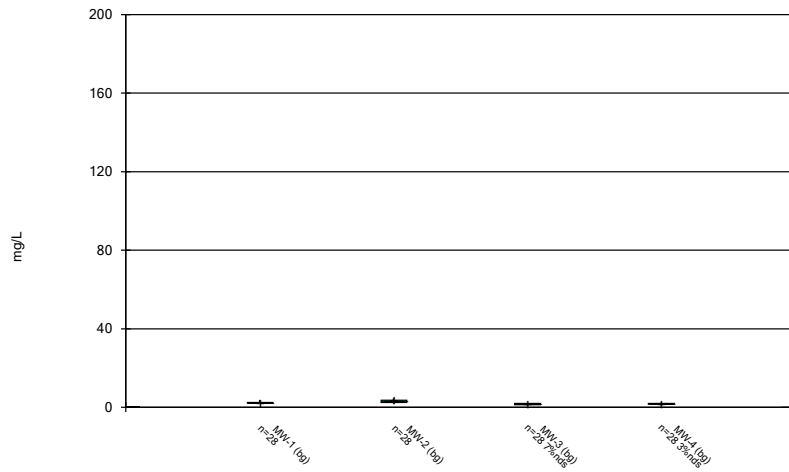
Constituent: Calcium, total Analysis Run 10/6/2023 3:28 PM  
Plant Gorgas Data: Gorgas CCR LF

### Box & Whiskers Plot



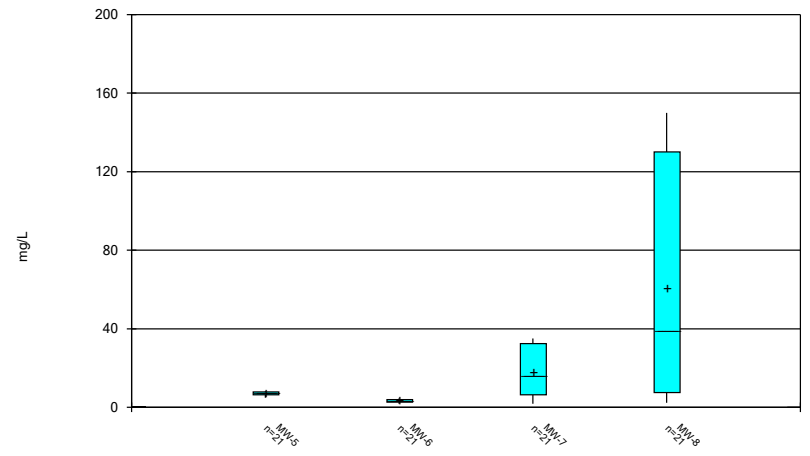
Constituent: Calcium, total Analysis Run 10/6/2023 3:28 PM  
Plant Gorgas Data: Gorgas CCR LF

### Box & Whiskers Plot



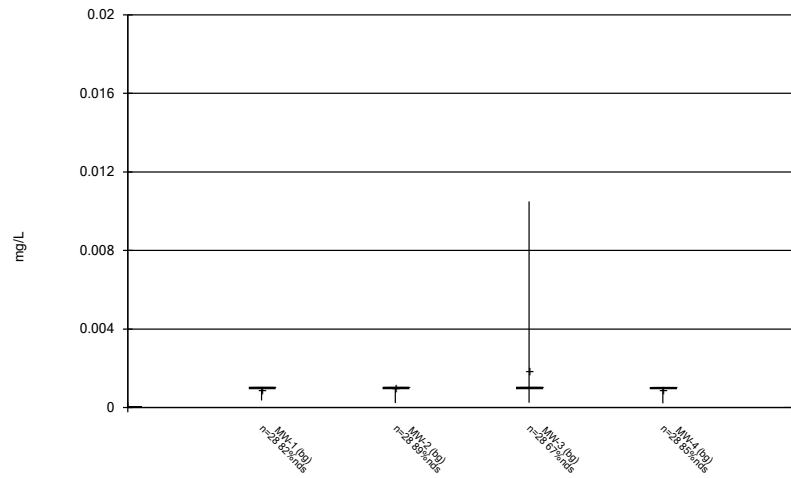
Constituent: Chloride, Total Analysis Run 10/6/2023 3:28 PM  
Plant Gorgas Data: Gorgas CCR LF

### Box & Whiskers Plot



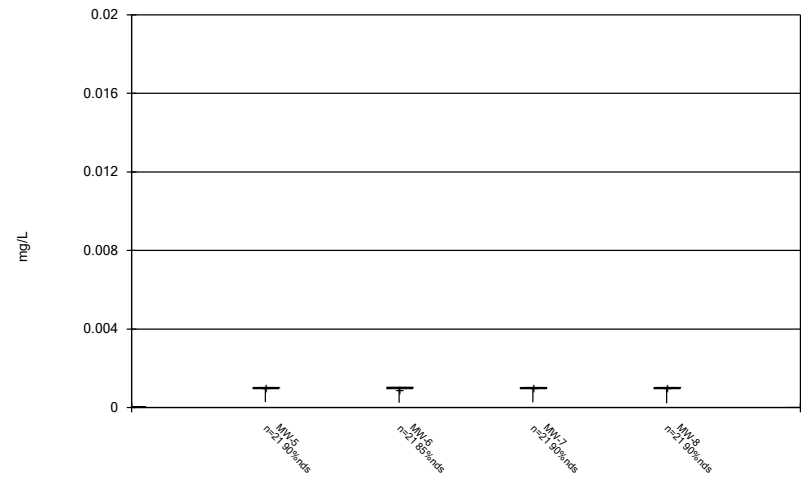
Constituent: Chloride, Total Analysis Run 10/6/2023 3:28 PM  
Plant Gorgas Data: Gorgas CCR LF

Box & Whiskers Plot



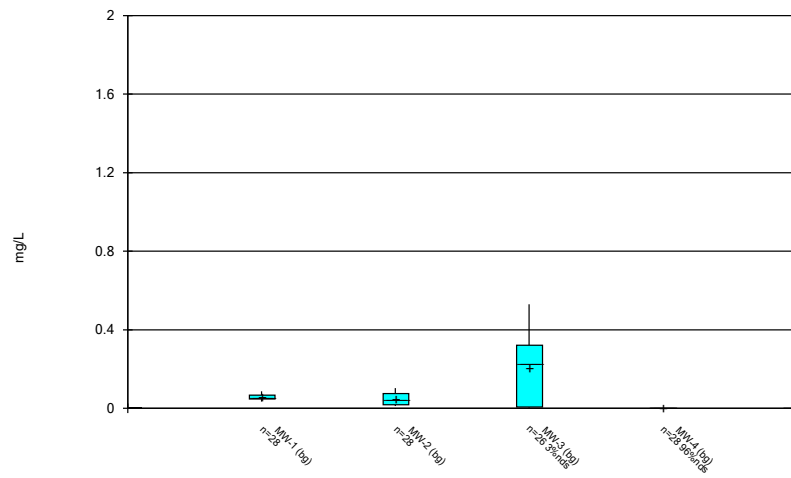
Constituent: Chromium Analysis Run 10/6/2023 3:28 PM  
Plant Gorgas Data: Gorgas CCR LF

Box & Whiskers Plot



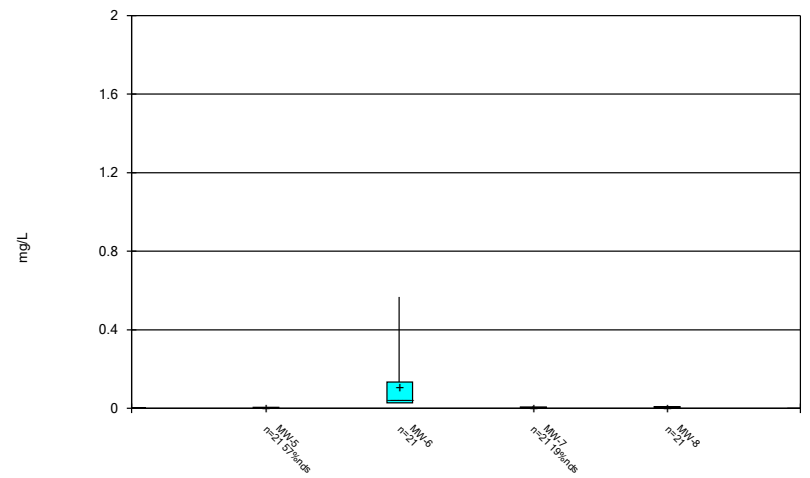
Constituent: Chromium Analysis Run 10/6/2023 3:28 PM  
Plant Gorgas Data: Gorgas CCR LF

Box & Whiskers Plot



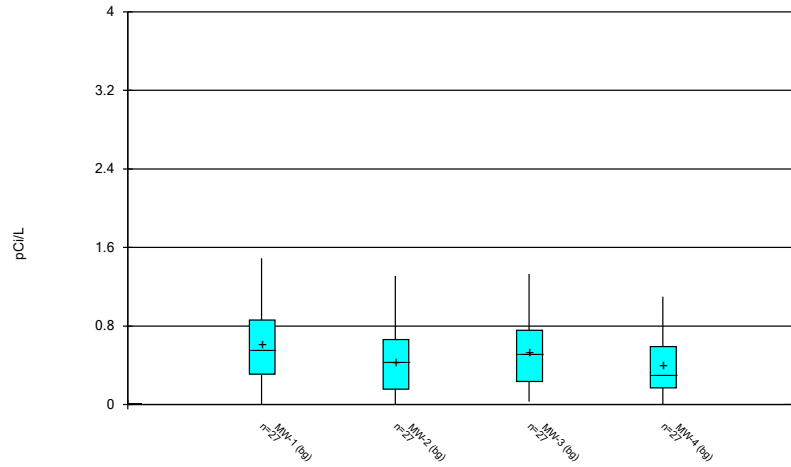
Constituent: Cobalt Analysis Run 10/6/2023 3:28 PM  
Plant Gorgas Data: Gorgas CCR LF

Box & Whiskers Plot



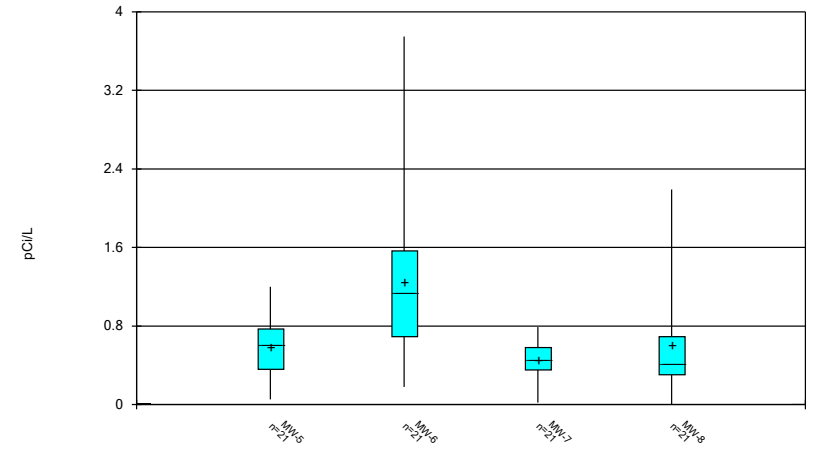
Constituent: Cobalt Analysis Run 10/6/2023 3:28 PM  
Plant Gorgas Data: Gorgas CCR LF

Box & Whiskers Plot



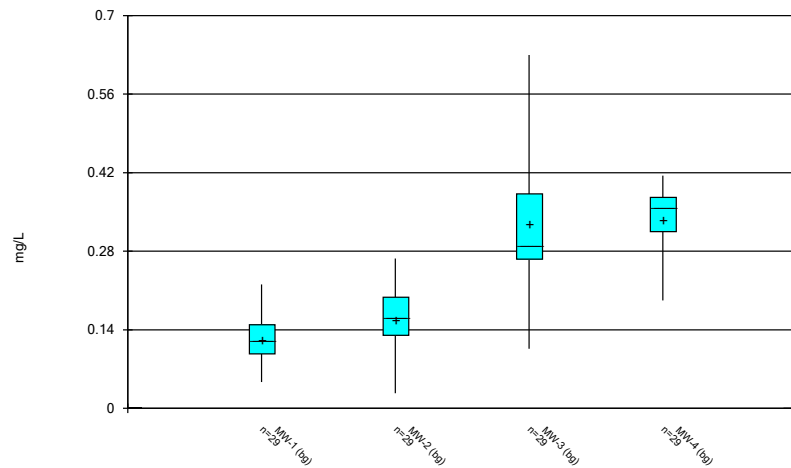
Constituent: Combined Radium 226 + 228 Analysis Run 10/6/2023 3:28 PM  
Plant Gorgas Data: Gorgas CCR LF

Box & Whiskers Plot



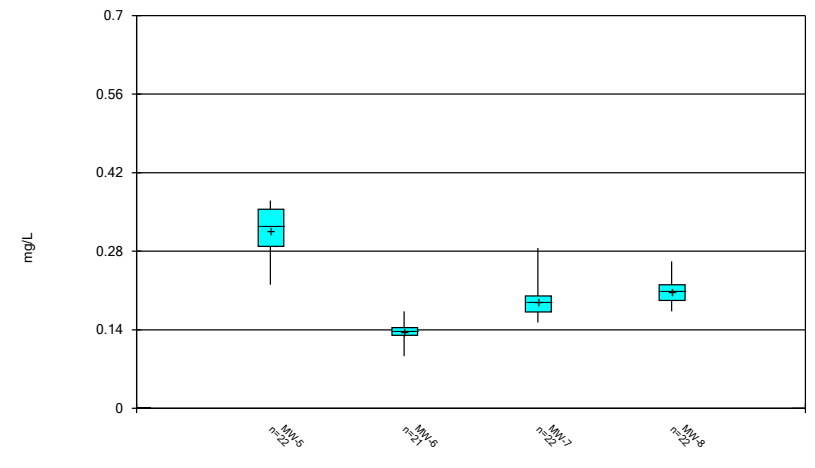
Constituent: Combined Radium 226 + 228 Analysis Run 10/6/2023 3:28 PM  
Plant Gorgas Data: Gorgas CCR LF

Box & Whiskers Plot



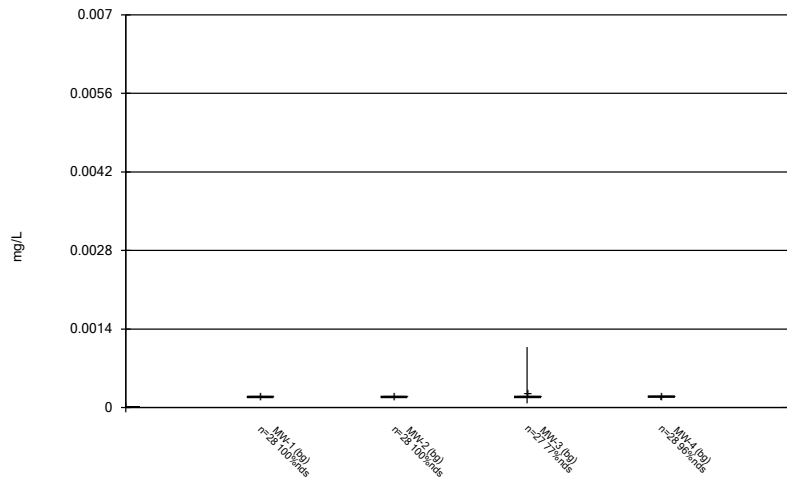
Constituent: Fluoride, total Analysis Run 10/6/2023 3:28 PM  
Plant Gorgas Data: Gorgas CCR LF

Box & Whiskers Plot



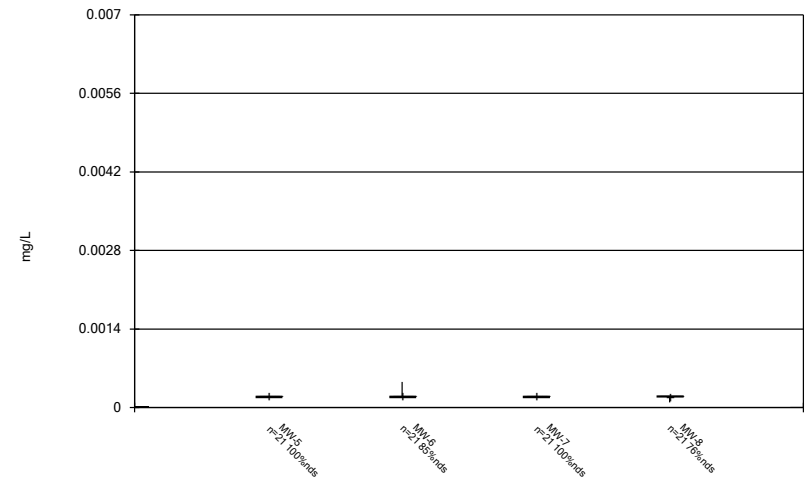
Constituent: Fluoride, total Analysis Run 10/6/2023 3:28 PM  
Plant Gorgas Data: Gorgas CCR LF

### Box & Whiskers Plot



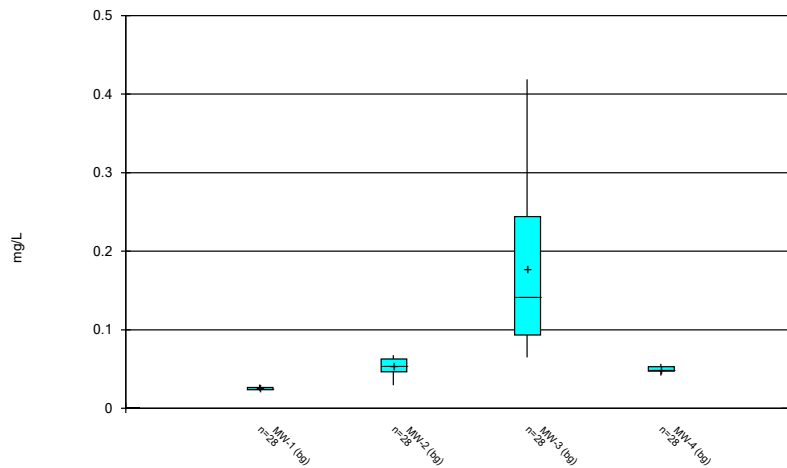
Constituent: Lead Analysis Run 10/6/2023 3:28 PM  
Plant Gorgas Data: Gorgas CCR LF

### Box & Whiskers Plot



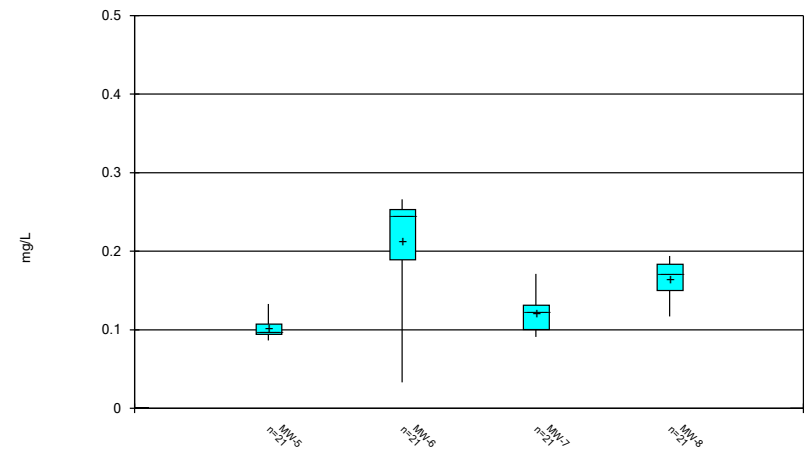
Constituent: Lead Analysis Run 10/6/2023 3:28 PM  
Plant Gorgas Data: Gorgas CCR LF

### Box & Whiskers Plot



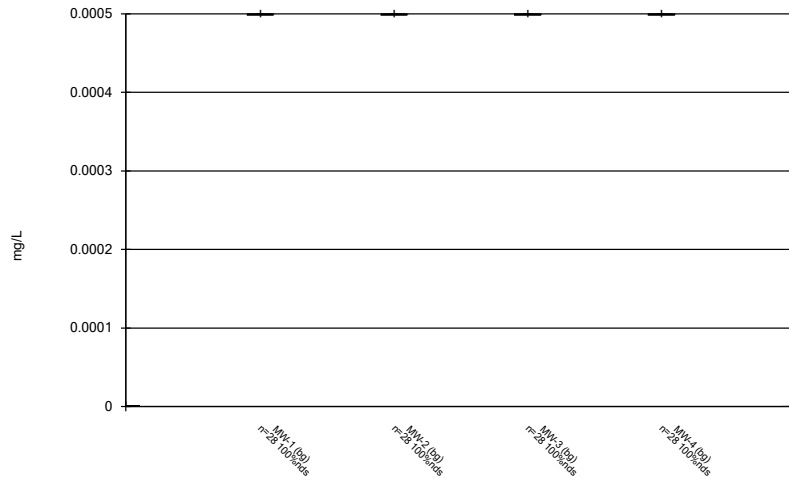
Constituent: Lithium Analysis Run 10/6/2023 3:28 PM  
Plant Gorgas Data: Gorgas CCR LF

### Box & Whiskers Plot



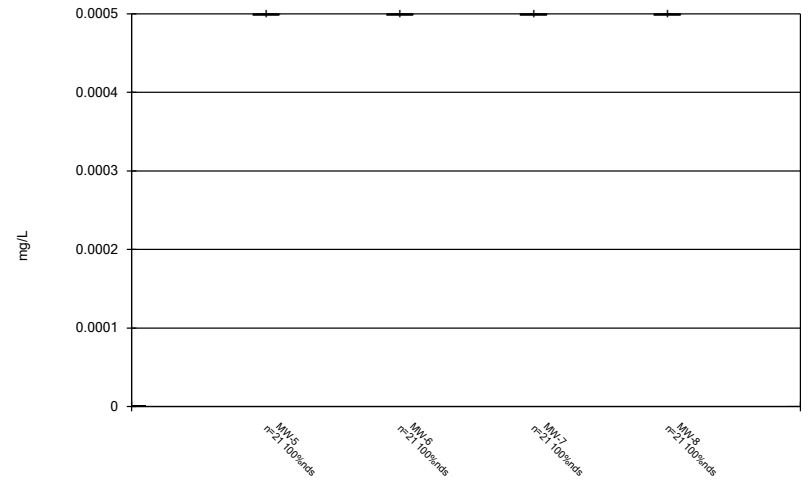
Constituent: Lithium Analysis Run 10/6/2023 3:28 PM  
Plant Gorgas Data: Gorgas CCR LF

Box & Whiskers Plot



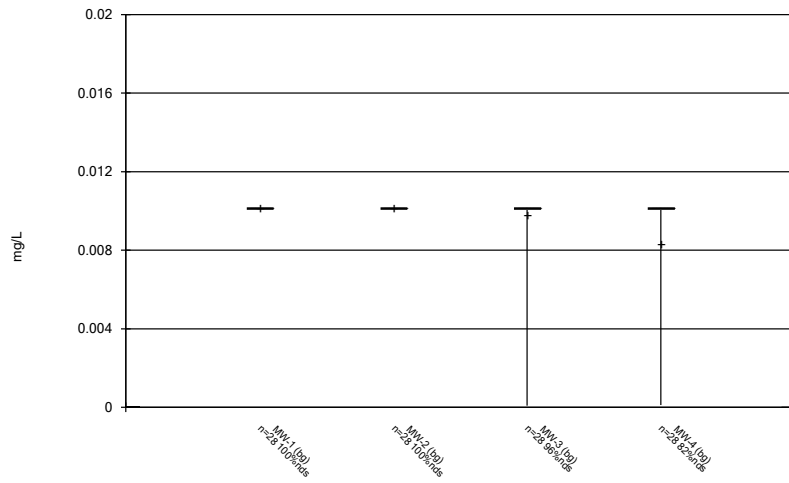
Constituent: Mercury Analysis Run 10/6/2023 3:28 PM  
Plant Gorgas Data: Gorgas CCR LF

Box & Whiskers Plot



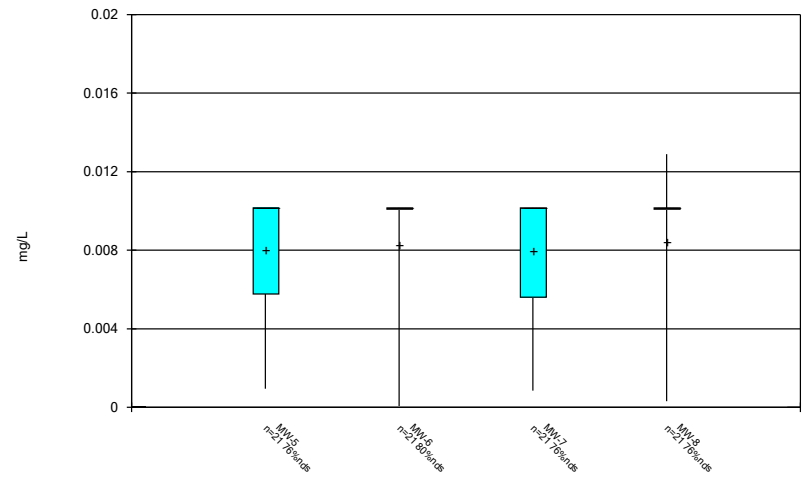
Constituent: Mercury Analysis Run 10/6/2023 3:28 PM  
Plant Gorgas Data: Gorgas CCR LF

Box & Whiskers Plot



Constituent: Molybdenum Analysis Run 10/6/2023 3:28 PM  
Plant Gorgas Data: Gorgas CCR LF

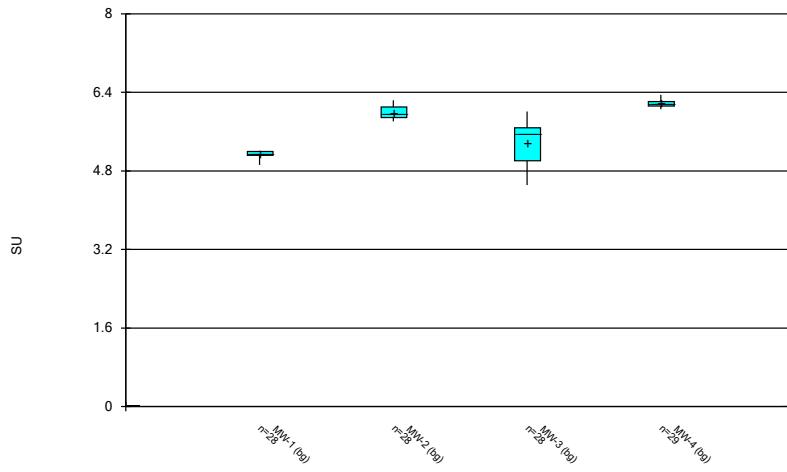
Box & Whiskers Plot



Constituent: Molybdenum Analysis Run 10/6/2023 3:28 PM  
Plant Gorgas Data: Gorgas CCR LF

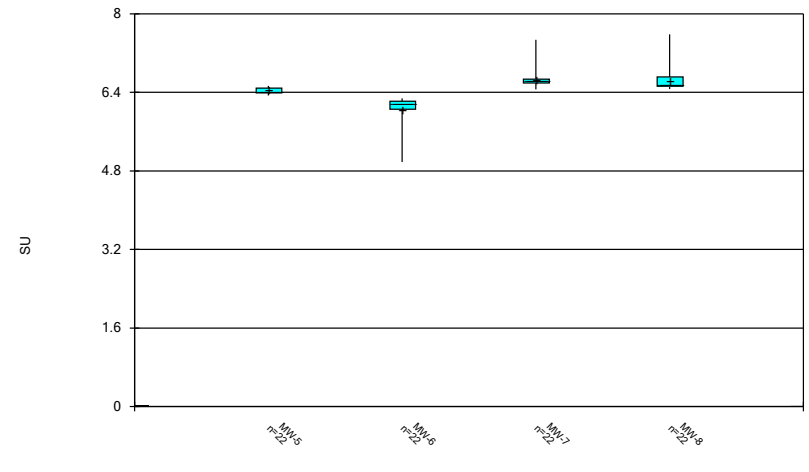


Box & Whiskers Plot



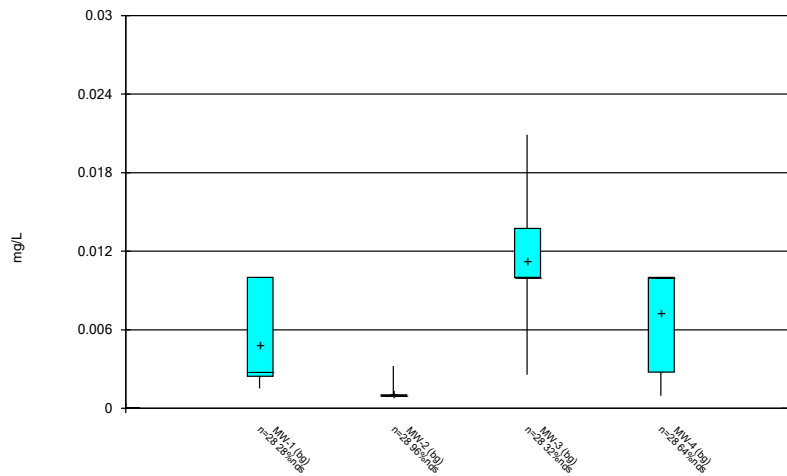
Constituent: pH, Field Analysis Run 10/6/2023 3:28 PM  
Plant Gorgas Data: Gorgas CCR LF

Box & Whiskers Plot



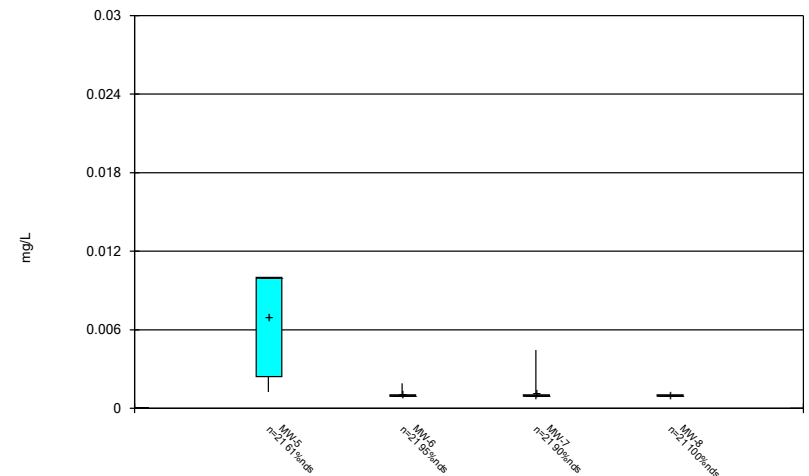
Constituent: pH, Field Analysis Run 10/6/2023 3:28 PM  
Plant Gorgas Data: Gorgas CCR LF

Box & Whiskers Plot



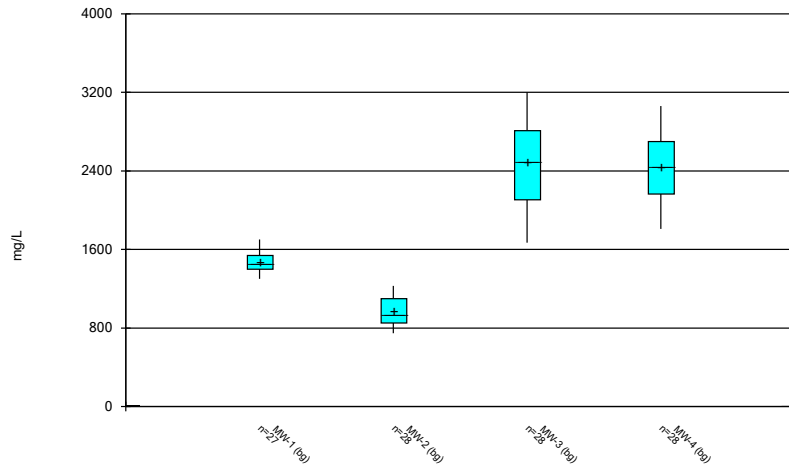
Constituent: Selenium Analysis Run 10/6/2023 3:28 PM  
Plant Gorgas Data: Gorgas CCR LF

Box & Whiskers Plot



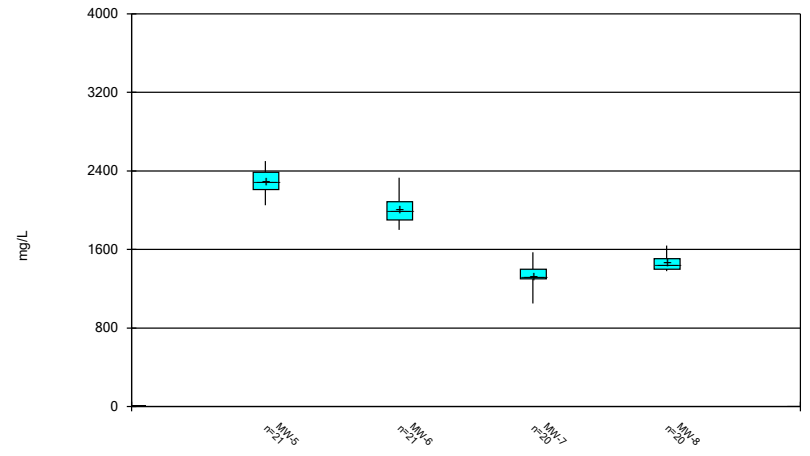
Constituent: Selenium Analysis Run 10/6/2023 3:28 PM  
Plant Gorgas Data: Gorgas CCR LF

Box & Whiskers Plot



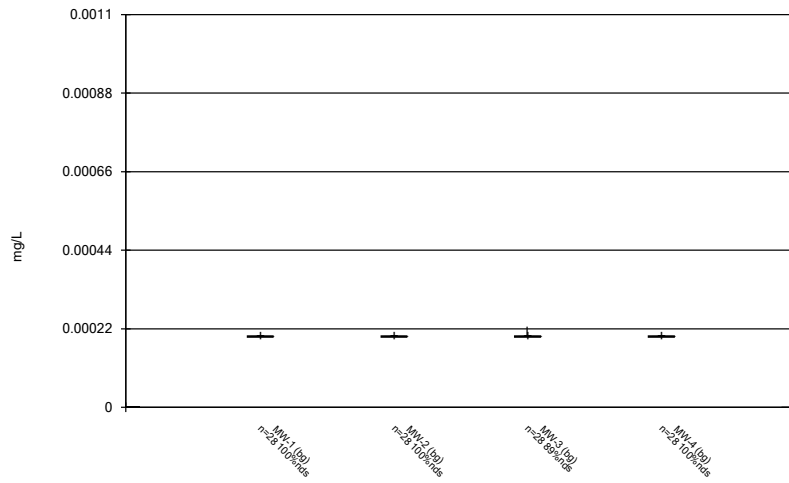
Constituent: Sulfate as SO4 Analysis Run 10/6/2023 3:28 PM  
Plant Gorgas Data: Gorgas CCR LF

Box & Whiskers Plot



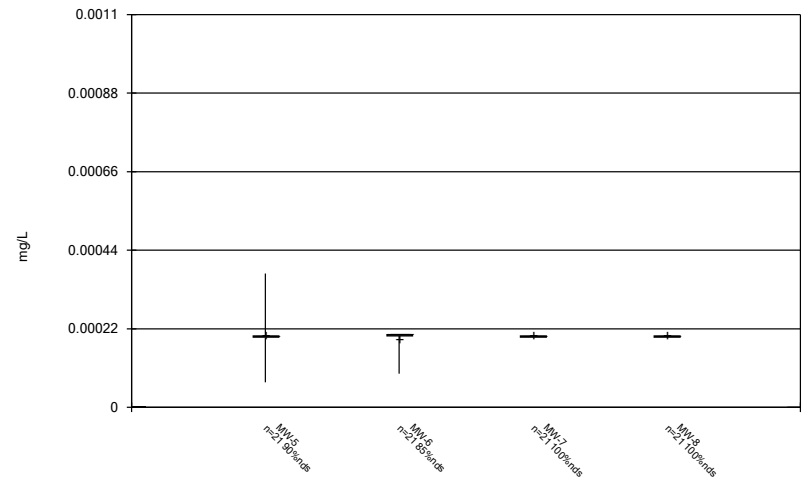
Constituent: Sulfate as SO4 Analysis Run 10/6/2023 3:28 PM  
Plant Gorgas Data: Gorgas CCR LF

Box & Whiskers Plot



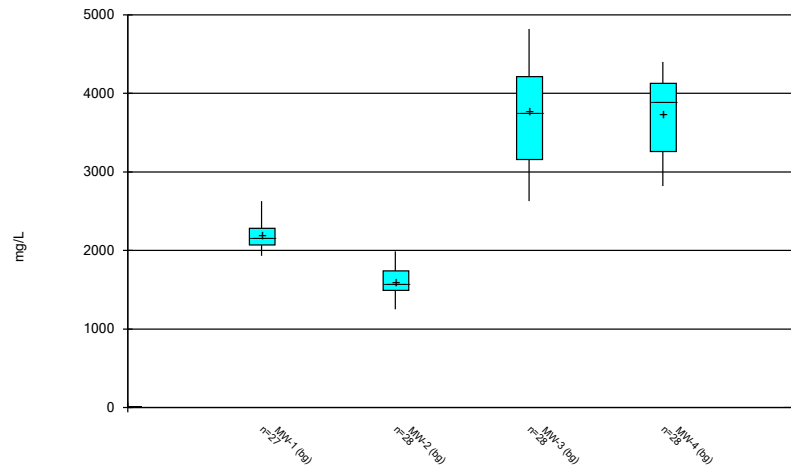
Constituent: Thallium Analysis Run 10/6/2023 3:28 PM  
Plant Gorgas Data: Gorgas CCR LF

Box & Whiskers Plot



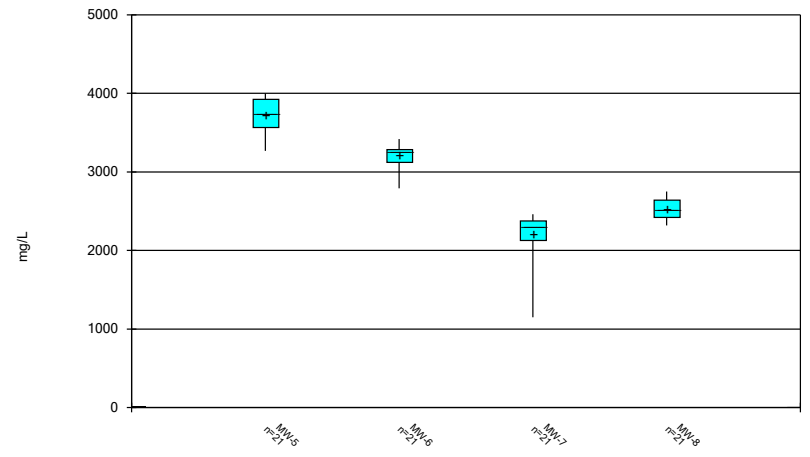
Constituent: Thallium Analysis Run 10/6/2023 3:28 PM  
Plant Gorgas Data: Gorgas CCR LF

### Box & Whiskers Plot



Constituent: Total Dissolved Solids [TDS] Analysis Run 10/6/2023 3:28 PM  
Plant Gorgas Data: Gorgas CCR LF

### Box & Whiskers Plot



Constituent: Total Dissolved Solids [TDS] Analysis Run 10/6/2023 3:28 PM  
Plant Gorgas Data: Gorgas CCR LF

FIGURE C.

# Outlier Summary

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF Printed 10/9/2023, 10:15 AM

Date	MW-3 Beryllium (mg/L)	MW-4 Boron, total (mg/L)	MW-5 Boron, total (mg/L)	MW-7 Boron, total (mg/L)	MW-3 Cadmium (mg/L)	MW-3 Cobalt (mg/L)	MW-6 Fluoride, total (mg/L)	MW-3 Lead (mg/L)	MW-3 pH, Field (SU)	MW-1 Sulfate as SO4 (mg/L)
4/25/2016				0.0121 (O)						
4/27/2016			0.253 (O)							
1/18/2017	0.0169 (O)									
5/22/2018										2100 (o)
5/23/2018										
11/19/2018	0.0185 (O)						0.00692 (o)	3.77 (o)		
5/14/2019		<0.203 (o)	<0.203 (o)							
10/8/2019					1.07 (o)					
10/16/2019					0.848 (o)					
4/8/2020										<0.1 (o)

Date	MW-7 Sulfate as SO4 (mg/L)	MW-8 Sulfate as SO4 (mg/L)	MW-1 Total Dissolved Solids [TDS] (mg/L)
4/25/2016			
4/27/2016			
1/18/2017			
5/22/2018			
5/23/2018	1900 (O)	2100 (o)	
11/19/2018			
5/14/2019			
10/8/2019			
10/16/2019			3650 (o)
4/8/2020			

# Tukey's Outlier Test - Significant Results

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF Printed 10/6/2023, 9:53 AM

Constituent	Well	Outlier	Value(s)	Date(s)	Method	Alpha	N	Mean	Std. Dev.	Distribution	Normality Test
Boron, total (mg/L)	MW-4 (bg)	Yes	0.1015	5/14/2019	NP	NaN	27	0.04667	0.01155	In(x)	ShapiroWilk
Boron, total (mg/L)	MW-5	Yes	0.1015	5/14/2019	NP	NaN	20	0.03619	0.01569	In(x)	ShapiroWilk
Boron, total (mg/L)	MW-7	Yes	0.253	4/27/2016	NP	NaN	20	0.08179	0.04065	In(x)	ShapiroWilk
Calcium, total (mg/L)	MW-1 (bg)	Yes	243	4/10/2019	NP	NaN	27	155.7	22.44	In(x)	ShapiroWilk
Sulfate as SO4 (mg/L)	MW-1 (bg)	Yes	2100	5/22/2018	NP	NaN	27	1494	156.8	In(x)	ShapiroWilk
Sulfate as SO4 (mg/L)	MW-7	Yes	1900	5/23/2018	NP	NaN	20	1354	177.8	In(x)	ShapiroWilk
Sulfate as SO4 (mg/L)	MW-8	Yes	2100	5/23/2018	NP	NaN	20	1495	161.5	In(x)	ShapiroWilk
Total Dissolved Solids [TDS] (mg/L)	MW-1 (bg)	Yes	3650	10/16/2019	NP	NaN	27	2249	317.5	In(x)	ShapiroWilk

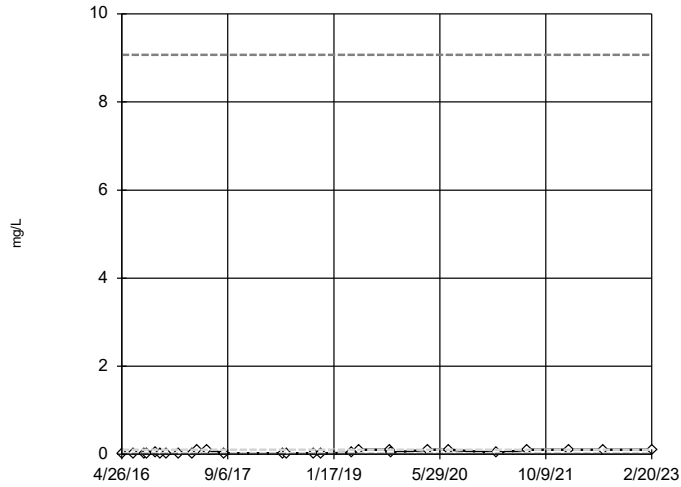
# Tukey's Outlier Test - All Results

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF Printed 10/6/2023, 9:53 AM

Constituent	Well	Outlier	Value(s)	Date(s)	Method	Alpha	N	Mean	Std. Dev.	Distribution	Normality Test
Boron, total (mg/L)	MW-1 (bg)	No	n/a	n/a	NP	NaN	27	0.05351	0.0377	ln(x)	ShapiroWilk
Boron, total (mg/L)	MW-2 (bg)	No	n/a	n/a	NP	NaN	27	0.05383	0.03466	ln(x)	ShapiroWilk
Boron, total (mg/L)	MW-3 (bg)	No	n/a	n/a	NP	NaN	27	0.06016	0.02816	ln(x)	ShapiroWilk
<b>Boron, total (mg/L)</b>	<b>MW-4 (bg)</b>	<b>Yes</b>	<b>0.1015</b>	<b>5/14/2019</b>	<b>NP</b>	<b>NaN</b>	<b>27</b>	<b>0.04667</b>	<b>0.01155</b>	<b>ln(x)</b>	<b>ShapiroWilk</b>
<b>Boron, total (mg/L)</b>	<b>MW-5</b>	<b>Yes</b>	<b>0.1015</b>	<b>5/14/2019</b>	<b>NP</b>	<b>NaN</b>	<b>20</b>	<b>0.03619</b>	<b>0.01569</b>	<b>ln(x)</b>	<b>ShapiroWilk</b>
Boron, total (mg/L)	MW-6	No	n/a	n/a	NP	NaN	20	0.07478	0.01436	x^4	ShapiroWilk
<b>Boron, total (mg/L)</b>	<b>MW-7</b>	<b>Yes</b>	<b>0.253</b>	<b>4/27/2016</b>	<b>NP</b>	<b>NaN</b>	<b>20</b>	<b>0.08179</b>	<b>0.04065</b>	<b>ln(x)</b>	<b>ShapiroWilk</b>
Boron, total (mg/L)	MW-8	No	n/a	n/a	NP	NaN	20	0.06973	0.004665	ln(x)	ShapiroWilk
<b>Calcium, total (mg/L)</b>	<b>MW-1 (bg)</b>	<b>Yes</b>	<b>243</b>	<b>4/10/2019</b>	<b>NP</b>	<b>NaN</b>	<b>27</b>	<b>155.7</b>	<b>22.44</b>	<b>ln(x)</b>	<b>ShapiroWilk</b>
Calcium, total (mg/L)	MW-2 (bg)	No	n/a	n/a	NP	NaN	27	173.2	19.56	normal	ShapiroWilk
Calcium, total (mg/L)	MW-3 (bg)	No	n/a	n/a	NP	NaN	27	296.9	59.85	x^(1/3)	ShapiroWilk
Calcium, total (mg/L)	MW-4 (bg)	No	n/a	n/a	NP	NaN	27	297.7	43.11	ln(x)	ShapiroWilk
Calcium, total (mg/L)	MW-5	No	n/a	n/a	NP	NaN	20	387.8	32.09	x^5	ShapiroWilk
Calcium, total (mg/L)	MW-6	No	n/a	n/a	NP	NaN	20	381.8	58.41	x^4	ShapiroWilk
Calcium, total (mg/L)	MW-7	No	n/a	n/a	NP	NaN	20	287.6	27.78	x^5	ShapiroWilk
Calcium, total (mg/L)	MW-8	No	n/a	n/a	NP	NaN	20	302.4	18	ln(x)	ShapiroWilk
Fluoride, total (mg/L)	MW-1 (bg)	No	n/a	n/a	NP	NaN	28	0.1204	0.03916	normal	ShapiroWilk
Fluoride, total (mg/L)	MW-2 (bg)	No	n/a	n/a	NP	NaN	28	0.1558	0.05815	normal	ShapiroWilk
Fluoride, total (mg/L)	MW-3 (bg)	No	n/a	n/a	NP	NaN	28	0.3319	0.1244	x^(1/3)	ShapiroWilk
Fluoride, total (mg/L)	MW-4 (bg)	No	n/a	n/a	NP	NaN	28	0.3352	0.05624	x^4	ShapiroWilk
Fluoride, total (mg/L)	MW-5	No	n/a	n/a	NP	NaN	21	0.3188	0.04403	x^4	ShapiroWilk
Fluoride, total (mg/L)	MW-6	No	n/a	n/a	NP	NaN	21	0.1341	0.02296	x^3	ShapiroWilk
Fluoride, total (mg/L)	MW-7	No	n/a	n/a	NP	NaN	21	0.1916	0.02669	ln(x)	ShapiroWilk
Fluoride, total (mg/L)	MW-8	No	n/a	n/a	NP	NaN	21	0.2092	0.01917	ln(x)	ShapiroWilk
<b>Sulfate as SO4 (mg/L)</b>	<b>MW-1 (bg)</b>	<b>Yes</b>	<b>2100</b>	<b>5/22/2018</b>	<b>NP</b>	<b>NaN</b>	<b>27</b>	<b>1494</b>	<b>156.8</b>	<b>ln(x)</b>	<b>ShapiroWilk</b>
Sulfate as SO4 (mg/L)	MW-2 (bg)	No	n/a	n/a	NP	NaN	27	968.1	149.7	ln(x)	ShapiroWilk
Sulfate as SO4 (mg/L)	MW-3 (bg)	No	n/a	n/a	NP	NaN	27	2464	414.3	normal	ShapiroWilk
Sulfate as SO4 (mg/L)	MW-4 (bg)	No	n/a	n/a	NP	NaN	27	2441	351.3	x^2	ShapiroWilk
Sulfate as SO4 (mg/L)	MW-5	No	n/a	n/a	NP	NaN	20	2298	121.6	x^2	ShapiroWilk
Sulfate as SO4 (mg/L)	MW-6	No	n/a	n/a	NP	NaN	20	2000	125.3	ln(x)	ShapiroWilk
<b>Sulfate as SO4 (mg/L)</b>	<b>MW-7</b>	<b>Yes</b>	<b>1900</b>	<b>5/23/2018</b>	<b>NP</b>	<b>NaN</b>	<b>20</b>	<b>1354</b>	<b>177.8</b>	<b>ln(x)</b>	<b>ShapiroWilk</b>
<b>Sulfate as SO4 (mg/L)</b>	<b>MW-8</b>	<b>Yes</b>	<b>2100</b>	<b>5/23/2018</b>	<b>NP</b>	<b>NaN</b>	<b>20</b>	<b>1495</b>	<b>161.5</b>	<b>ln(x)</b>	<b>ShapiroWilk</b>
<b>Total Dissolved Solids [TDS] (mg/L)</b>	<b>MW-1 (bg)</b>	<b>Yes</b>	<b>3650</b>	<b>10/16/2019</b>	<b>NP</b>	<b>NaN</b>	<b>27</b>	<b>2249</b>	<b>317.5</b>	<b>ln(x)</b>	<b>ShapiroWilk</b>
Total Dissolved Solids [TDS] (mg/L)	MW-2 (bg)	No	n/a	n/a	NP	NaN	27	1606	203.5	normal	ShapiroWilk
Total Dissolved Solids [TDS] (mg/L)	MW-3 (bg)	No	n/a	n/a	NP	NaN	27	3729	641.6	sqrt(x)	ShapiroWilk
Total Dissolved Solids [TDS] (mg/L)	MW-4 (bg)	No	n/a	n/a	NP	NaN	27	3736	476.3	x^6	ShapiroWilk
Total Dissolved Solids [TDS] (mg/L)	MW-5	No	n/a	n/a	NP	NaN	20	3727	228.4	x^6	ShapiroWilk
Total Dissolved Solids [TDS] (mg/L)	MW-6	No	n/a	n/a	NP	NaN	20	3207	150.3	x^6	ShapiroWilk
Total Dissolved Solids [TDS] (mg/L)	MW-7	No	n/a	n/a	NP	NaN	20	2203	310.9	x^6	ShapiroWilk
Total Dissolved Solids [TDS] (mg/L)	MW-8	No	n/a	n/a	NP	NaN	20	2535	128.9	ln(x)	ShapiroWilk

### Tukey's Outlier Screening

MW-1 (bg)

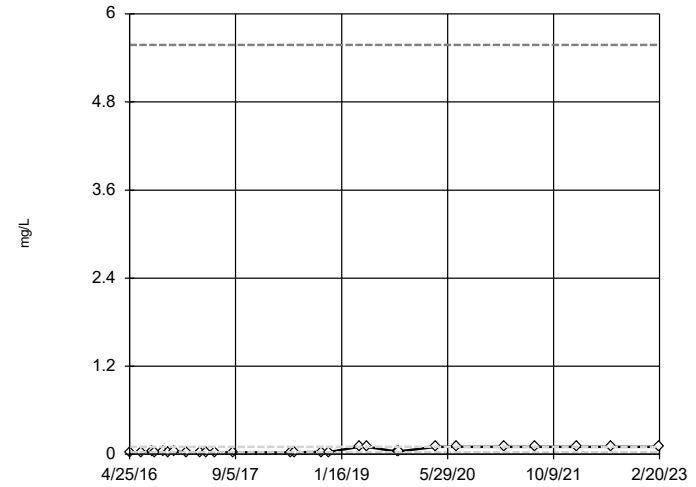


n = 27  
 No outliers found.  
 Tukey's method selected by user.  
 Data were natural log transformed to achieve best W statistic (graph shown in original units).  
 High cutoff = 9.074, low cutoff = 0.0002539, based on IQR multiplier of 3.

Constituent: Boron, total Analysis Run 10/6/2023 9:51 AM View: Outliers  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening

MW-2 (bg)

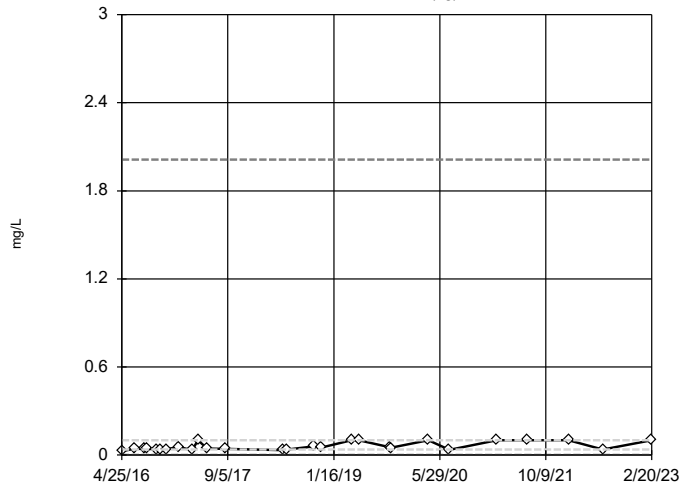


n = 27  
 No outliers found.  
 Tukey's method selected by user.  
 Data were natural log transformed to achieve best W statistic (graph shown in original units).  
 High cutoff = 5.576, low cutoff = 0.000486, based on IQR multiplier of 3.

Constituent: Boron, total Analysis Run 10/6/2023 9:51 AM View: Outliers  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening

MW-3 (bg)

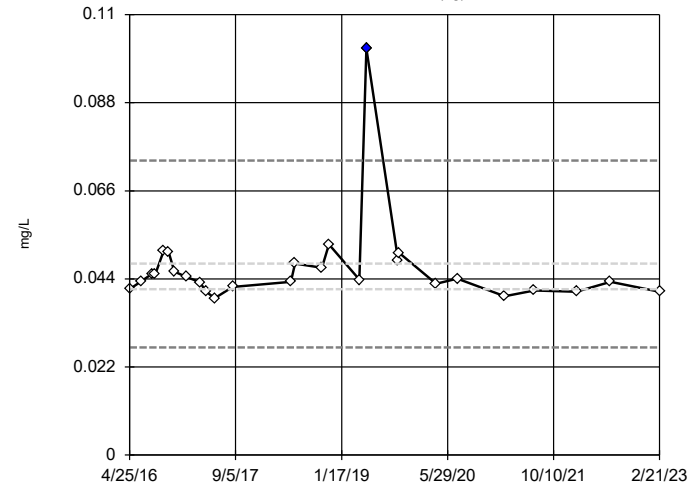


n = 27  
 No outliers found.  
 Tukey's method selected by user.  
 Data were natural log transformed to achieve best W statistic (graph shown in original units).  
 High cutoff = 2.013, low cutoff = 0.001891, based on IQR multiplier of 3.

Constituent: Boron, total Analysis Run 10/6/2023 9:51 AM View: Outliers  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening

MW-4 (bg)



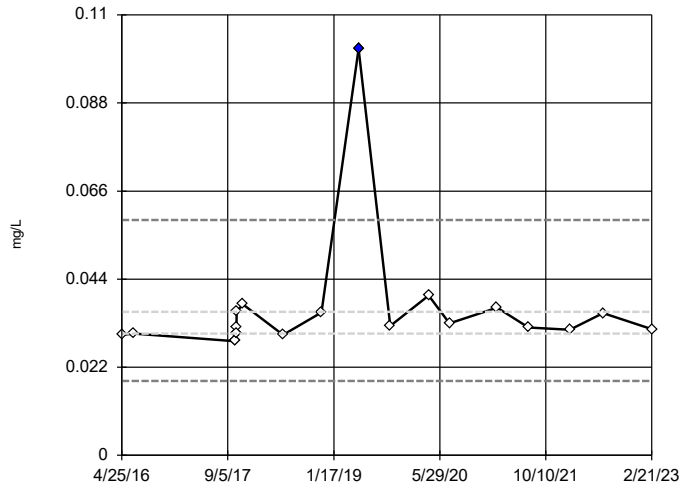
n = 27  
 Outlier is drawn as solid.  
 Tukey's method selected by user.  
 Data were natural log transformed to achieve best W statistic (graph shown in original units).  
 High cutoff = 0.07357, low cutoff = 0.0269, based on IQR multiplier of 3.

Constituent: Boron, total Analysis Run 10/6/2023 9:51 AM View: Outliers  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF



### Tukey's Outlier Screening

MW-5

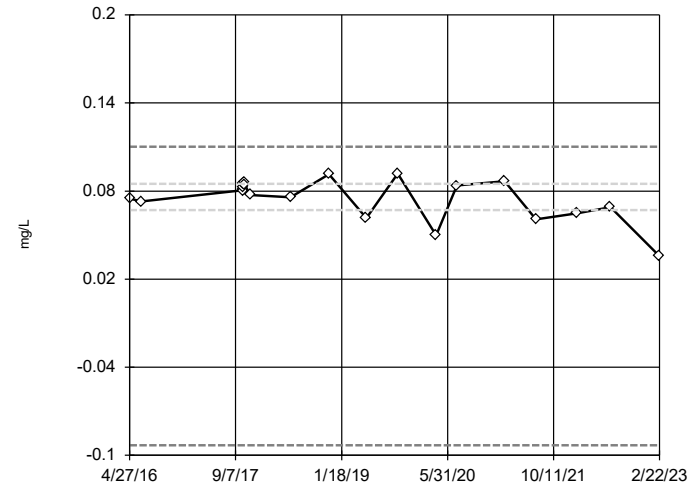


n = 20  
 Outlier is drawn as solid. Tukey's method selected by user.  
 Data were natural log transformed to achieve best W statistic (graph shown in original units).  
 High cutoff = 0.05879, low cutoff = 0.01854, based on IQR multiplier of 3.

Constituent: Boron, total Analysis Run 10/6/2023 9:51 AM View: Outliers  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening

MW-6

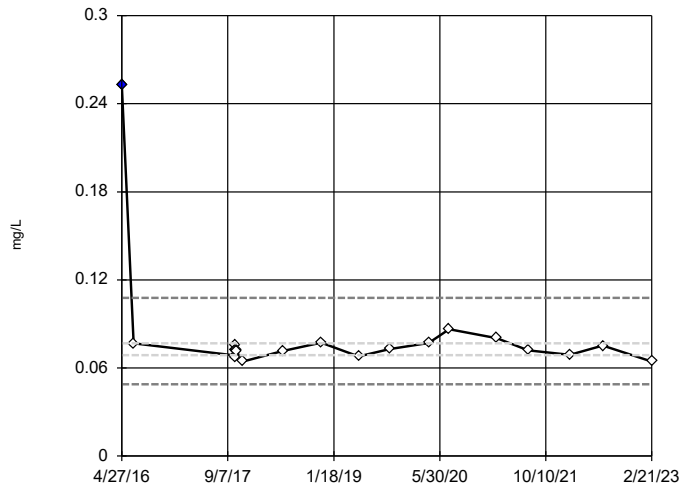


n = 20  
 No outliers found. Tukey's method selected by user.  
 Data were x<sup>4</sup> transformed to achieve best W statistic (graph shown in original units).  
 High cutoff = 0.1102, low cutoff = -0.09315, based on IQR multiplier of 3.

Constituent: Boron, total Analysis Run 10/6/2023 9:51 AM View: Outliers  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening

MW-7

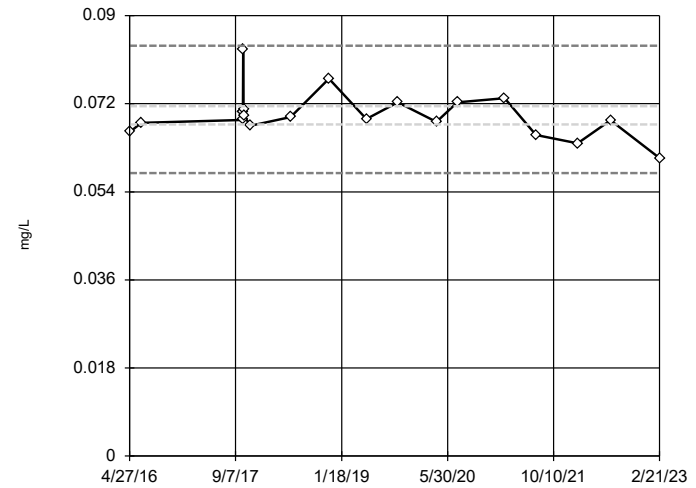


n = 20  
 Outlier is drawn as solid. Tukey's method selected by user.  
 Data were natural log transformed to achieve best W statistic (graph shown in original units).  
 High cutoff = 0.1079, low cutoff = 0.04898, based on IQR multiplier of 3.

Constituent: Boron, total Analysis Run 10/6/2023 9:51 AM View: Outliers  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening

MW-8

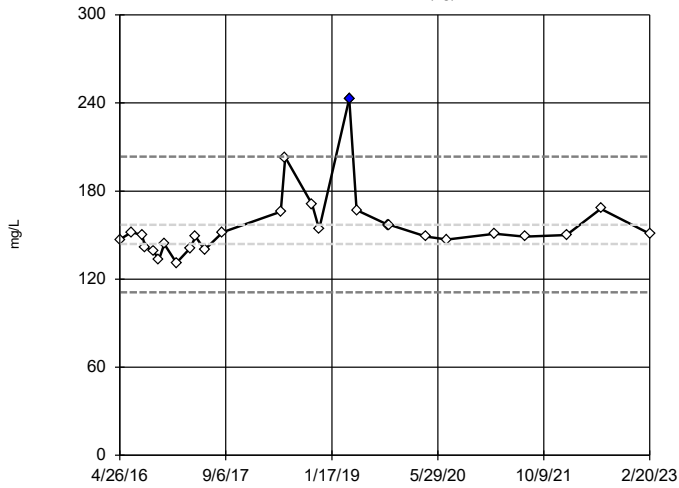


n = 20  
 No outliers found. Tukey's method selected by user.  
 Data were natural log transformed to achieve best W statistic (graph shown in original units).  
 High cutoff = 0.08384, low cutoff = 0.05782, based on IQR multiplier of 3.

Constituent: Boron, total Analysis Run 10/6/2023 9:51 AM View: Outliers  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening

MW-1 (bg)

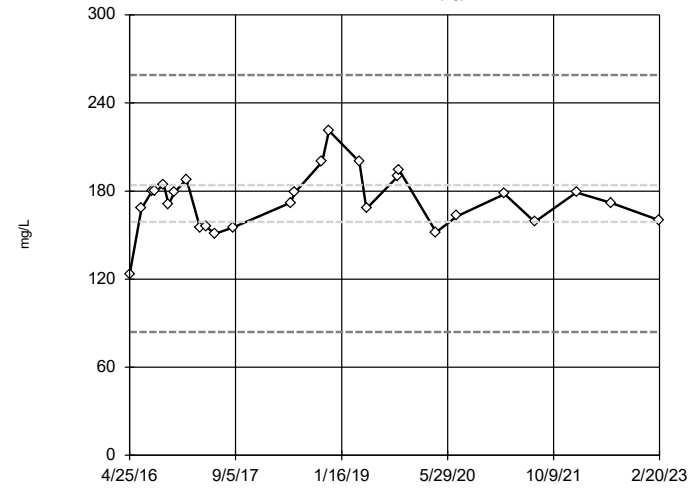


n = 27  
 Outlier is drawn as solid. Tukey's method selected by user.  
 Data were natural log transformed to achieve best W statistic (graph shown in original units).  
 High cutoff = 203.5, low cutoff = 111.1, based on IQR multiplier of 3.

Constituent: Calcium, total Analysis Run 10/6/2023 9:51 AM View: Outliers  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening

MW-2 (bg)

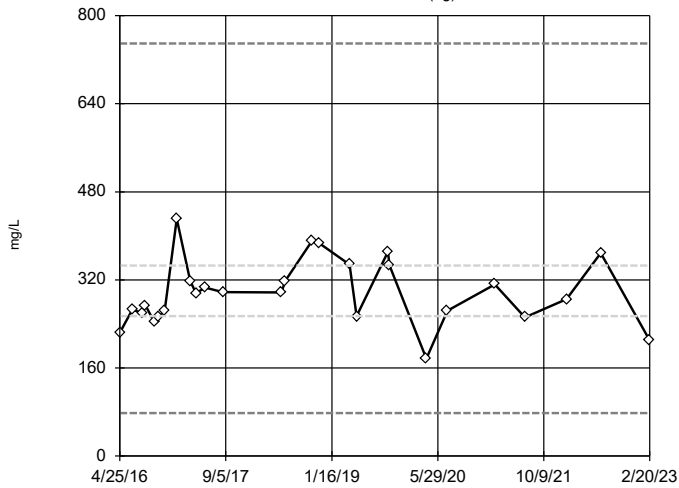


n = 27  
 No outliers found. Tukey's method selected by user.  
 Ladder of Powers transformations did not improve normality; analysis run on raw data.  
 High cutoff = 259, low cutoff = 84, based on IQR multiplier of 3.

Constituent: Calcium, total Analysis Run 10/6/2023 9:51 AM View: Outliers  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening

MW-3 (bg)

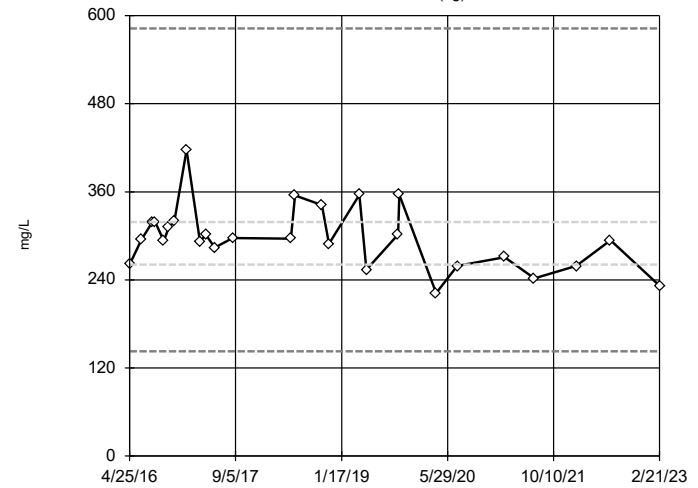


n = 27  
 No outliers found. Tukey's method selected by user.  
 Data were cube root transformed to achieve best W statistic (graph shown in original units).  
 High cutoff = 749.2, low cutoff = 77.91, based on IQR multiplier of 3.

Constituent: Calcium, total Analysis Run 10/6/2023 9:51 AM View: Outliers  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening

MW-4 (bg)

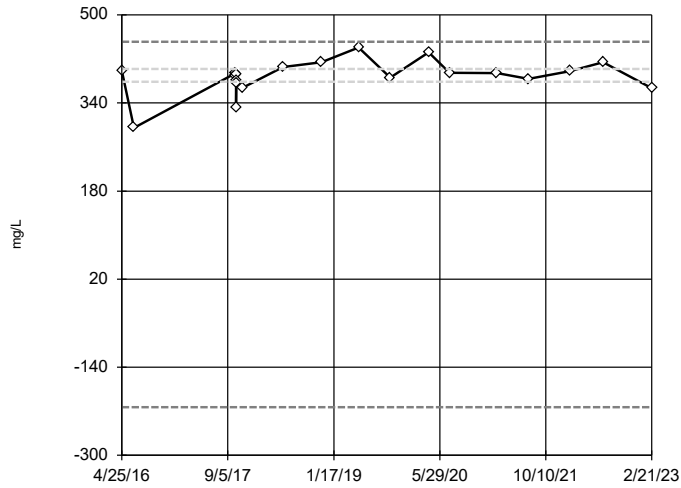


n = 27  
 No outliers found. Tukey's method selected by user.  
 Data were natural log transformed to achieve best W statistic (graph shown in original units).  
 High cutoff = 582.4, low cutoff = 143, based on IQR multiplier of 3.

Constituent: Calcium, total Analysis Run 10/6/2023 9:51 AM View: Outliers  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening

MW-5



n = 20

No outliers found. Tukey's method selected by user.

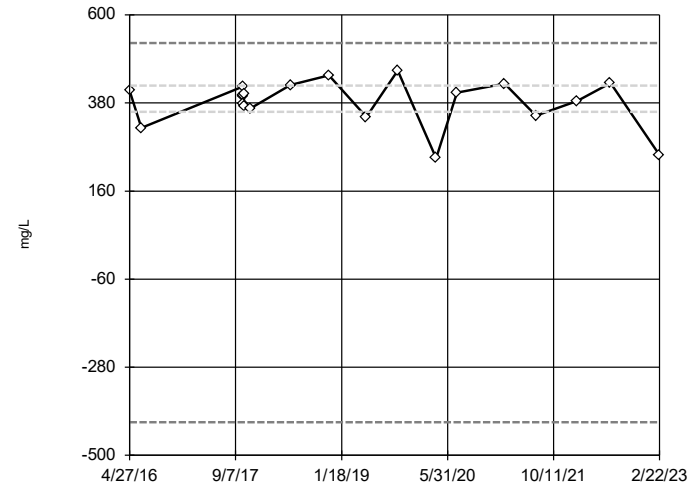
Data were x<sup>5</sup> transformed to achieve best W statistic (graph shown in original units).

High cutoff = 451.2, low cutoff = -212.7, based on IQR multiplier of 3.

Constituent: Calcium, total Analysis Run 10/6/2023 9:51 AM View: Outliers  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening

MW-6



n = 20

No outliers found. Tukey's method selected by user.

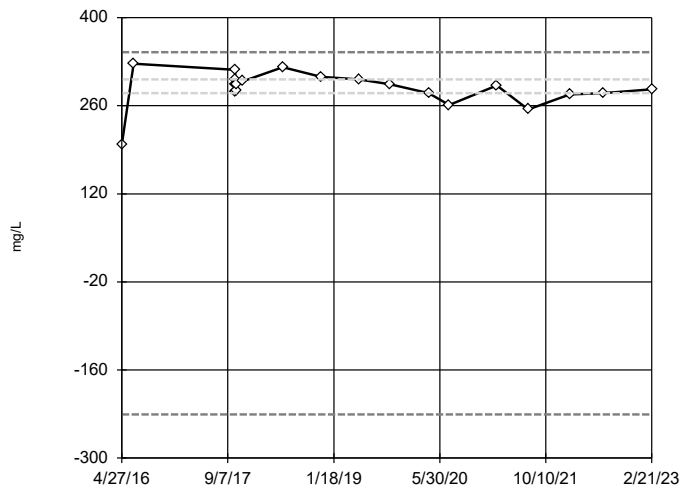
Data were x<sup>4</sup> transformed to achieve best W statistic (graph shown in original units).

High cutoff = 529.9, low cutoff = -417.7, based on IQR multiplier of 3.

Constituent: Calcium, total Analysis Run 10/6/2023 9:51 AM View: Outliers  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening

MW-7



n = 20

No outliers found. Tukey's method selected by user.

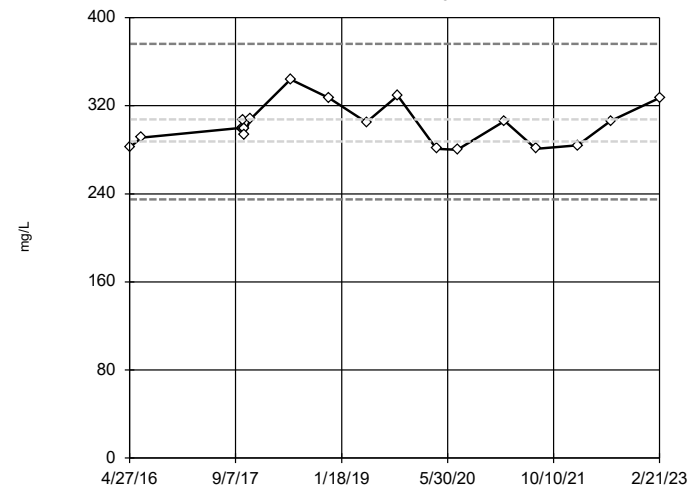
Data were x<sup>5</sup> transformed to achieve best W statistic (graph shown in original units).

High cutoff = 345, low cutoff = -230.6, based on IQR multiplier of 3.

Constituent: Calcium, total Analysis Run 10/6/2023 9:51 AM View: Outliers  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening

MW-8



n = 20

No outliers found. Tukey's method selected by user.

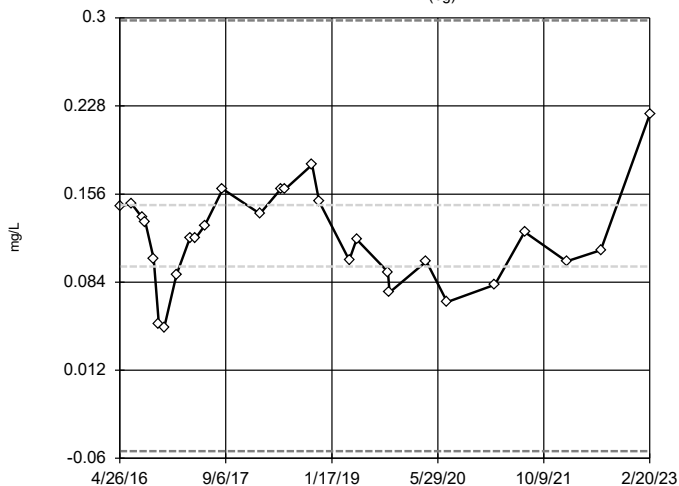
Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 376.3, low cutoff = 234.9, based on IQR multiplier of 3.

Constituent: Calcium, total Analysis Run 10/6/2023 9:51 AM View: Outliers  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening

MW-1 (bg)

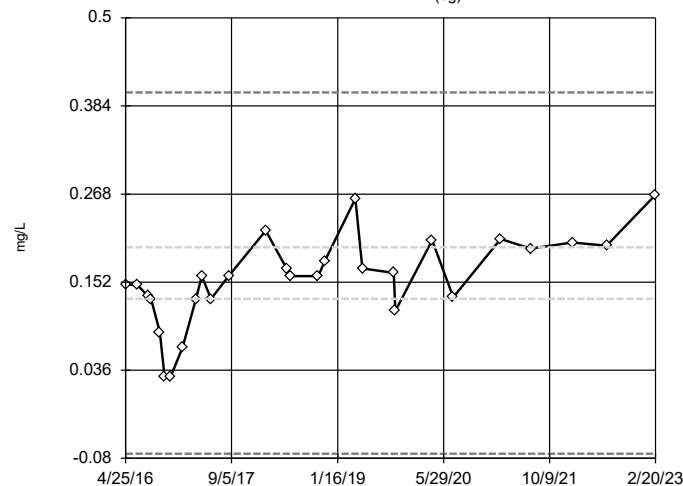


n = 28  
No outliers found.  
Tukey's method selected by user.  
  
Ladder of Powers transformations did not improve normality; analysis run on raw data.  
  
High cutoff = 0.2979, low cutoff = -0.0542, based on IQR multiplier of 3.

Constituent: Fluoride, total Analysis Run 10/6/2023 9:51 AM View: Outliers  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening

MW-2 (bg)

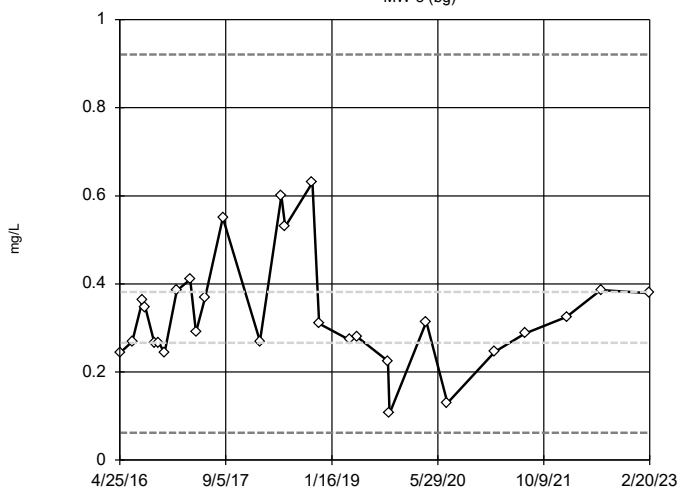


n = 28  
No outliers found.  
Tukey's method selected by user.  
  
Ladder of Powers transformations did not improve normality; analysis run on raw data.  
  
High cutoff = 0.402, low cutoff = -0.074, based on IQR multiplier of 3.

Constituent: Fluoride, total Analysis Run 10/6/2023 9:51 AM View: Outliers  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening

MW-3 (bg)

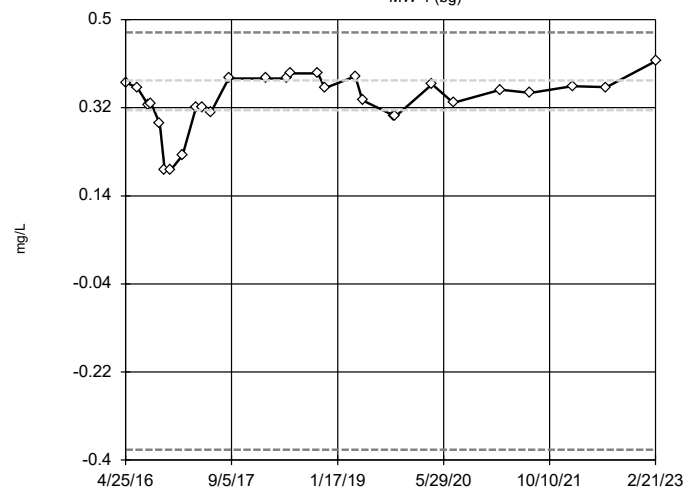


n = 28  
No outliers found.  
Tukey's method selected by user.  
  
Data were cube root transformed to achieve best W statistic (graph shown in original units).  
  
High cutoff = 0.921, low cutoff = 0.06198, based on IQR multiplier of 3.

Constituent: Fluoride, total Analysis Run 10/6/2023 9:51 AM View: Outliers  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening

MW-4 (bg)

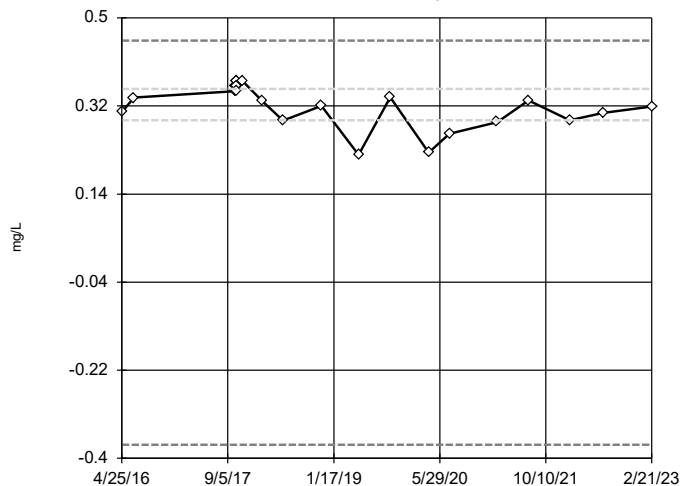


n = 28  
No outliers found.  
Tukey's method selected by user.  
  
Data were x<sup>4</sup> transformed to achieve best W statistic (graph shown in original units).  
  
High cutoff = 0.4739, low cutoff = -0.3787, based on IQR multiplier of 3.

Constituent: Fluoride, total Analysis Run 10/6/2023 9:51 AM View: Outliers  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening

MW-5

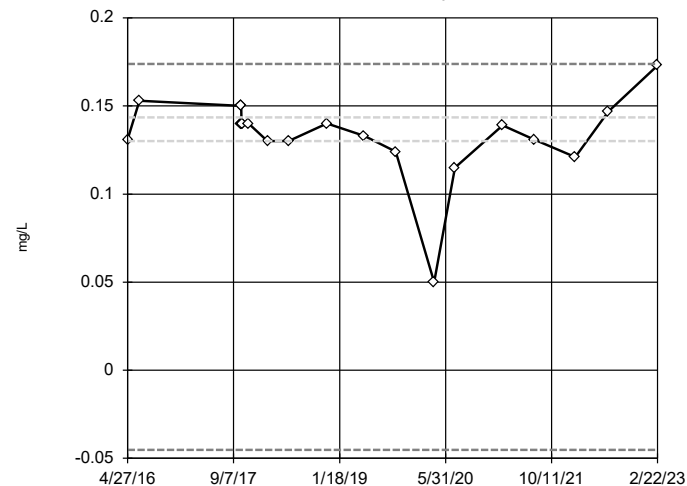


n = 21  
 No outliers found.  
 Tukey's method selected by user.  
 Data were x<sup>4</sup> transformed to achieve best W statistic (graph shown in original units).  
 High cutoff = 0.4533,  
 low cutoff = -0.3723,  
 based on IQR multiplier of 3.

Constituent: Fluoride, total Analysis Run 10/6/2023 9:52 AM View: Outliers  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening

MW-6

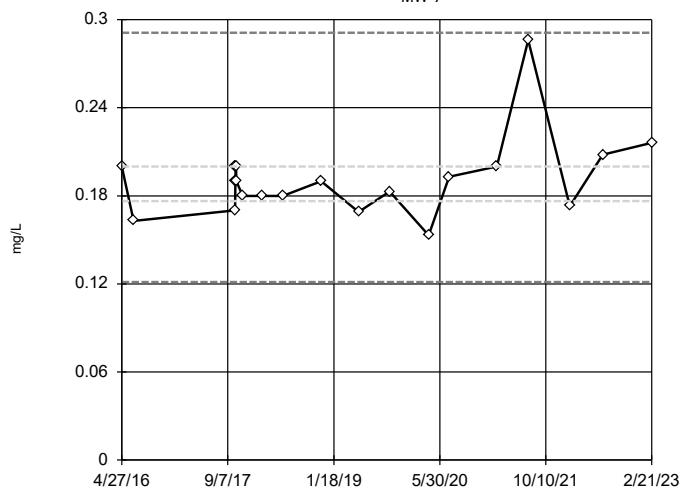


n = 21  
 No outliers found.  
 Tukey's method selected by user.  
 Data were cube transformed to achieve best W statistic (graph shown in original units).  
 High cutoff = 0.1738,  
 low cutoff = -0.04527,  
 based on IQR multiplier of 3.

Constituent: Fluoride, total Analysis Run 10/6/2023 9:52 AM View: Outliers  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening

MW-7

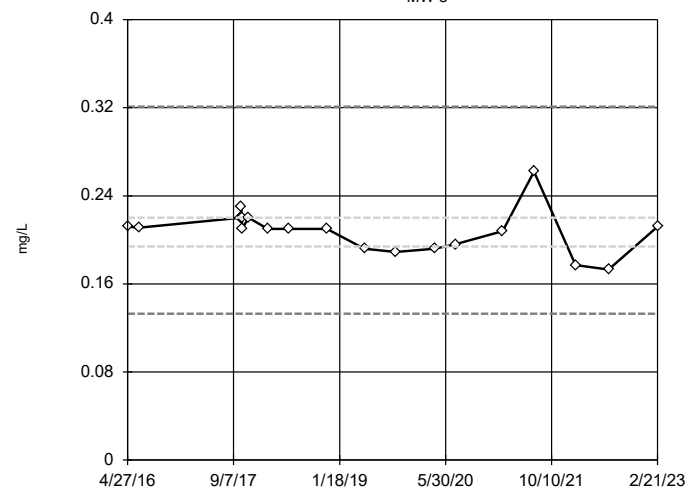


n = 21  
 No outliers found.  
 Tukey's method selected by user.  
 Data were natural log transformed to achieve best W statistic (graph shown in original units).  
 High cutoff = 0.2912,  
 low cutoff = 0.1212,  
 based on IQR multiplier of 3.

Constituent: Fluoride, total Analysis Run 10/6/2023 9:52 AM View: Outliers  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening

MW-8

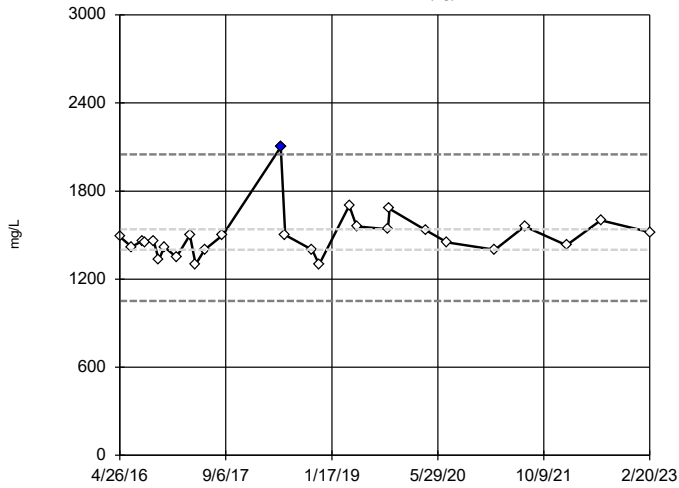


n = 21  
 No outliers found.  
 Tukey's method selected by user.  
 Data were natural log transformed to achieve best W statistic (graph shown in original units).  
 High cutoff = 0.3209,  
 low cutoff = 0.133,  
 based on IQR multiplier of 3.

Constituent: Fluoride, total Analysis Run 10/6/2023 9:52 AM View: Outliers  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening

MW-1 (bg)



n = 27

Outlier is drawn as solid. Tukey's method selected by user.

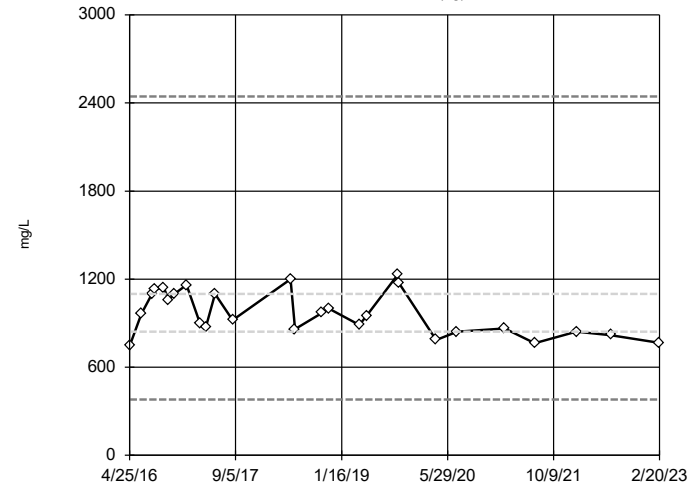
Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 2050, low cutoff = 1052, based on IQR multiplier of 3.

Constituent: Sulfate as SO4 Analysis Run 10/6/2023 9:52 AM View: Outliers  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening

MW-2 (bg)



n = 27

No outliers found. Tukey's method selected by user.

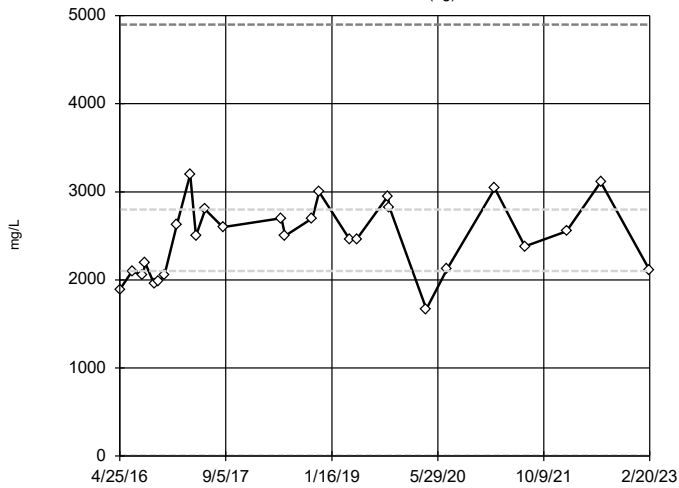
Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 2444, low cutoff = 379.4, based on IQR multiplier of 3.

Constituent: Sulfate as SO4 Analysis Run 10/6/2023 9:52 AM View: Outliers  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening

MW-3 (bg)



n = 27

No outliers found. Tukey's method selected by user.

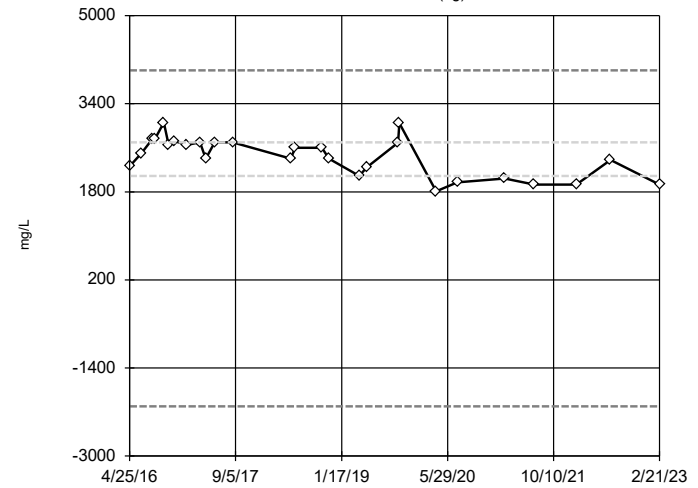
Ladder of Powers transformations did not improve normality; analysis run on raw data.

High cutoff = 4900, low cutoff = 0, based on IQR multiplier of 3.

Constituent: Sulfate as SO4 Analysis Run 10/6/2023 9:52 AM View: Outliers  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening

MW-4 (bg)



n = 27

No outliers found. Tukey's method selected by user.

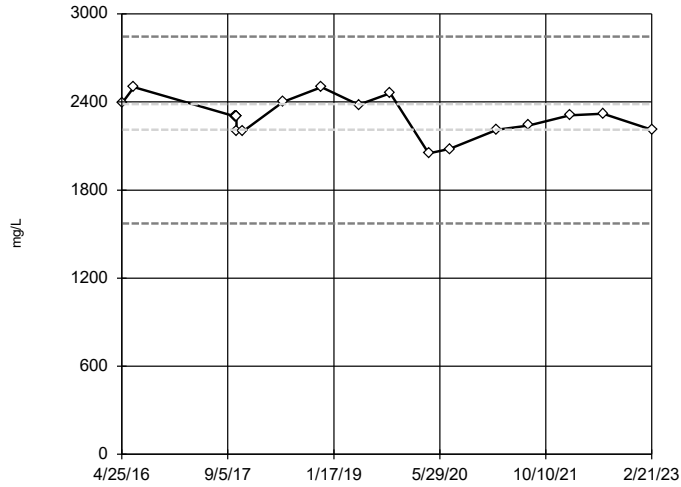
Data were square transformed to achieve best W statistic (graph shown in original units).

High cutoff = 4007, low cutoff = -2097, based on IQR multiplier of 3.

Constituent: Sulfate as SO4 Analysis Run 10/6/2023 9:52 AM View: Outliers  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening

MW-5

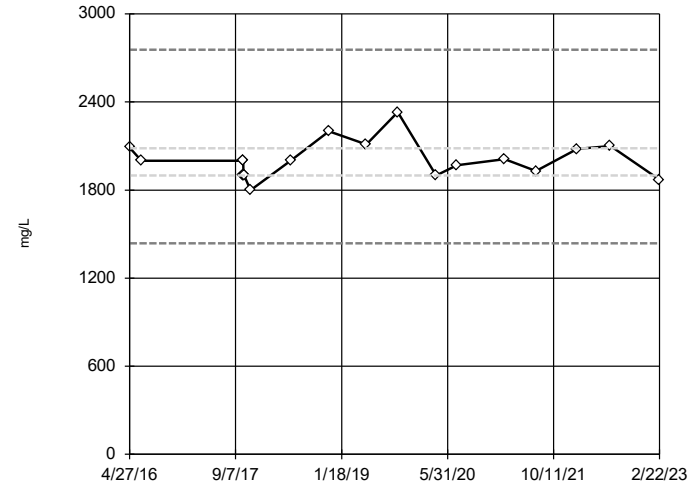


n = 20  
 No outliers found.  
 Tukey's method selected by user.  
 Data were square transformed to achieve best W statistic (graph shown in original units).  
 High cutoff = 2846, low cutoff = 1572, based on IQR multiplier of 3.

Constituent: Sulfate as SO4 Analysis Run 10/6/2023 9:52 AM View: Outliers  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening

MW-6

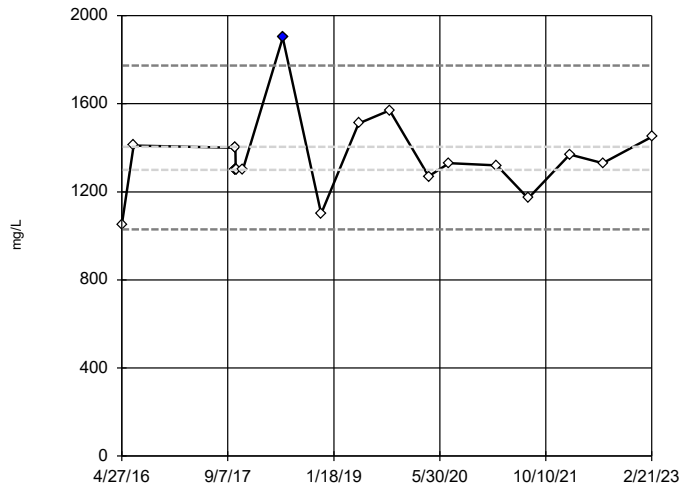


n = 20  
 No outliers found.  
 Tukey's method selected by user.  
 Data were natural log transformed to achieve best W statistic (graph shown in original units).  
 High cutoff = 2755, low cutoff = 1438, based on IQR multiplier of 3.

Constituent: Sulfate as SO4 Analysis Run 10/6/2023 9:52 AM View: Outliers  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening

MW-7

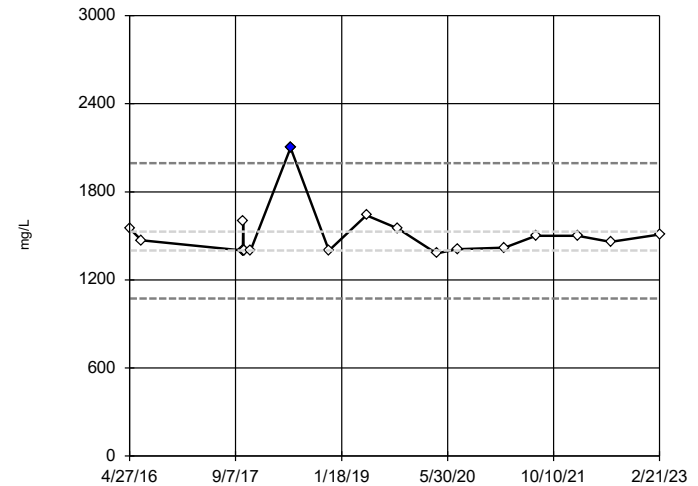


n = 20  
 Outlier is drawn as solid.  
 Tukey's method selected by user.  
 Data were natural log transformed to achieve best W statistic (graph shown in original units).  
 High cutoff = 1774, low cutoff = 1030, based on IQR multiplier of 3.

Constituent: Sulfate as SO4 Analysis Run 10/6/2023 9:52 AM View: Outliers  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening

MW-8

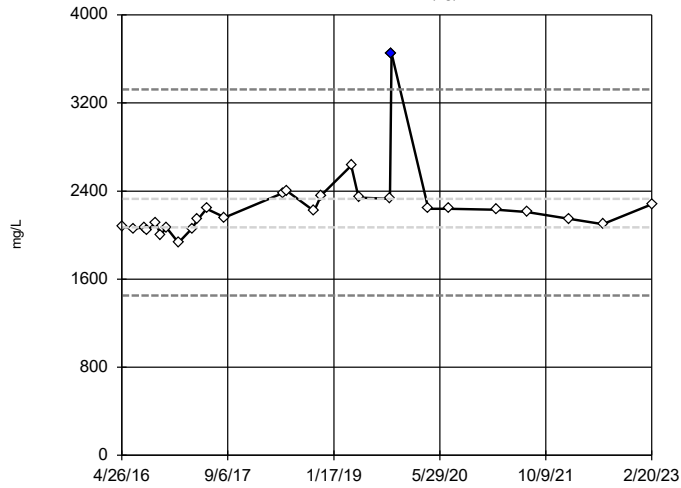


n = 20  
 Outlier is drawn as solid.  
 Tukey's method selected by user.  
 Data were natural log transformed to achieve best W statistic (graph shown in original units).  
 High cutoff = 1996, low cutoff = 1073, based on IQR multiplier of 3.

Constituent: Sulfate as SO4 Analysis Run 10/6/2023 9:52 AM View: Outliers  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening

MW-1 (bg)

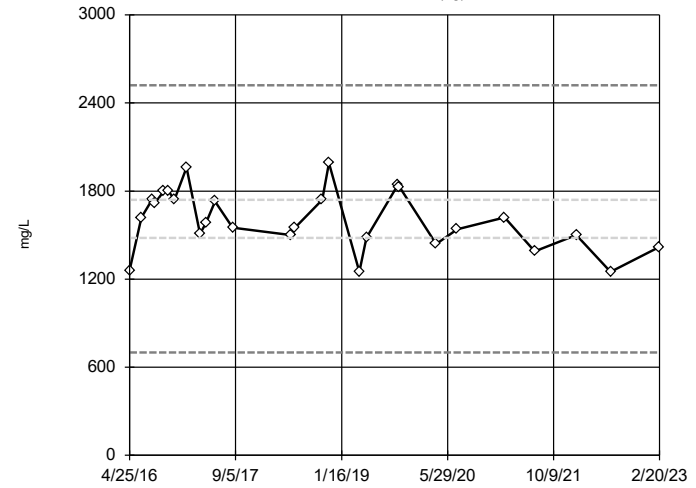


n = 27  
 Outlier is drawn as solid. Tukey's method selected by user.  
 Data were natural log transformed to achieve best W statistic (graph shown in original units).  
 High cutoff = 3323, low cutoff = 1451, based on IQR multiplier of 3.

Constituent: Total Dissolved Solids [TDS] Analysis Run 10/6/2023 9:52 AM View: Outliers  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening

MW-2 (bg)

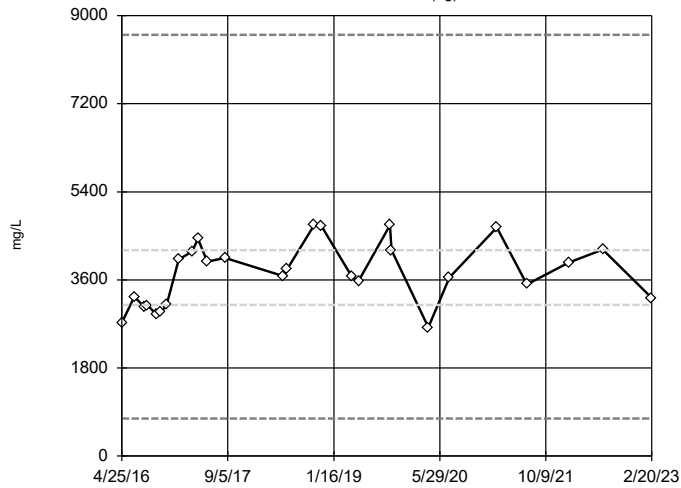


n = 27  
 No outliers found. Tukey's method selected by user.  
 Ladder of Powers transformations did not improve normality; analysis run on raw data.  
 High cutoff = 2520, low cutoff = 700, based on IQR multiplier of 3.

Constituent: Total Dissolved Solids [TDS] Analysis Run 10/6/2023 9:52 AM View: Outliers  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening

MW-3 (bg)

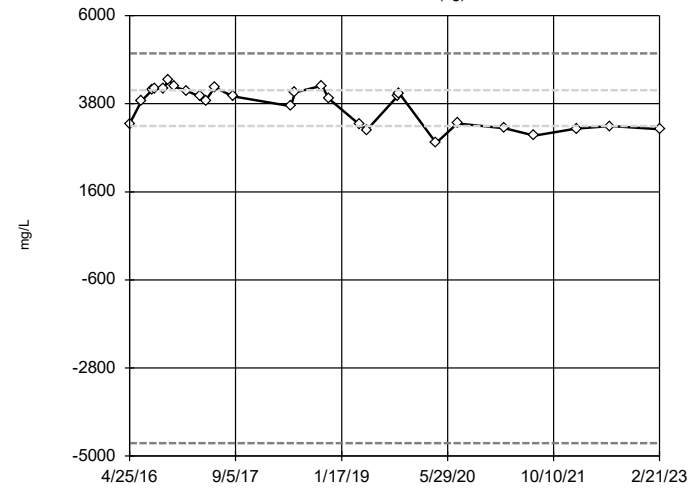


n = 27  
 No outliers found. Tukey's method selected by user.  
 Data were square root transformed to achieve best W statistic (graph shown in original units).  
 High cutoff = 8607, low cutoff = 767.2, based on IQR multiplier of 3.

Constituent: Total Dissolved Solids [TDS] Analysis Run 10/6/2023 9:52 AM View: Outliers  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening

MW-4 (bg)



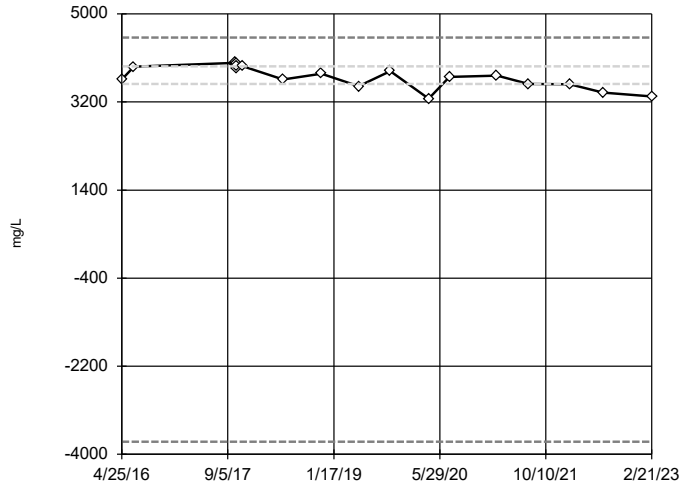
n = 27  
 No outliers found. Tukey's method selected by user.  
 Data were x^6 transformed to achieve best W statistic (graph shown in original units).  
 High cutoff = 5054, low cutoff = -4678, based on IQR multiplier of 3.

Constituent: Total Dissolved Solids [TDS] Analysis Run 10/6/2023 9:52 AM View: Outliers  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF



### Tukey's Outlier Screening

MW-5

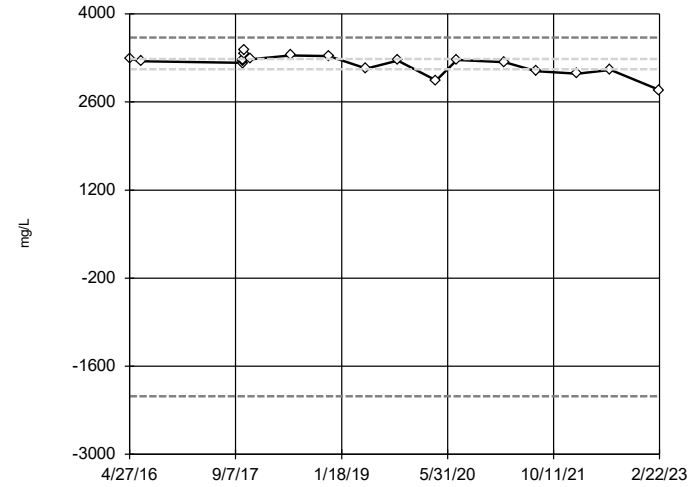


n = 20  
 No outliers found.  
 Tukey's method selected by user.  
 Data were x\*6 transformed to achieve best W statistic (graph shown in original units).  
 High cutoff = 4515, low cutoff = -3745, based on IQR multiplier of 3.

Constituent: Total Dissolved Solids [TDS] Analysis Run 10/6/2023 9:52 AM View: Outliers  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening

MW-6

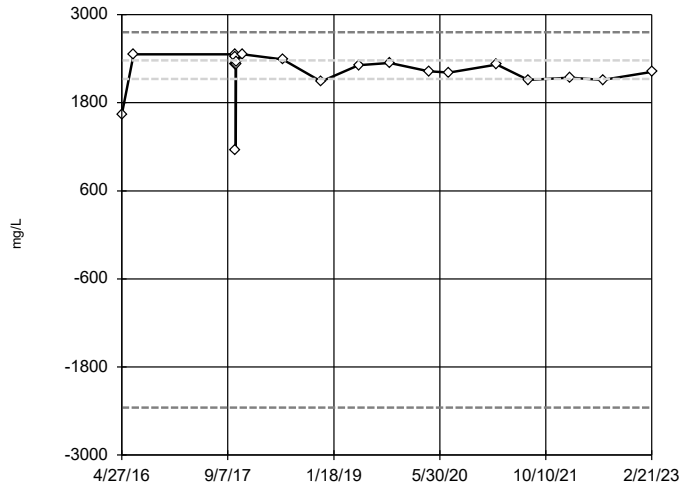


n = 20  
 No outliers found.  
 Tukey's method selected by user.  
 Data were x\*6 transformed to achieve best W statistic (graph shown in original units).  
 High cutoff = 3622, low cutoff = -2075, based on IQR multiplier of 3.

Constituent: Total Dissolved Solids [TDS] Analysis Run 10/6/2023 9:52 AM View: Outliers  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening

MW-7

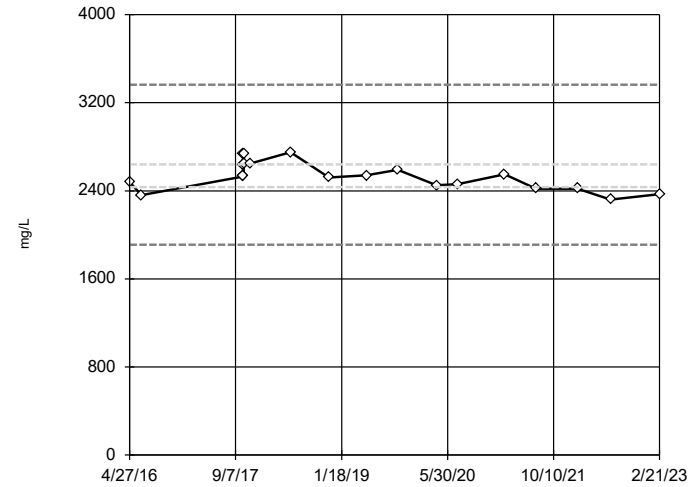


n = 20  
 No outliers found.  
 Tukey's method selected by user.  
 Data were x\*6 transformed to achieve best W statistic (graph shown in original units).  
 High cutoff = 2760, low cutoff = -2354, based on IQR multiplier of 3.

Constituent: Total Dissolved Solids [TDS] Analysis Run 10/6/2023 9:52 AM View: Outliers  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening

MW-8



n = 20  
 No outliers found.  
 Tukey's method selected by user.  
 Data were natural log transformed to achieve best W statistic (graph shown in original units).  
 High cutoff = 3365, low cutoff = 1911, based on IQR multiplier of 3.

Constituent: Total Dissolved Solids [TDS] Analysis Run 10/6/2023 9:52 AM View: Outliers  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

# Tukey's Outlier Test - Upgradient Wells - Significant Results

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF Printed 10/6/2023, 11:01 AM

Constituent	Well	Outlier	Value(s)	Method	Alpha	N	Mean	Std. Dev.	Distribution	Normality Test
Barium (mg/L)	MW-1,MW-2,MW-3,MW-4	Yes	0.0165,0.0162,0.0164,0.0158	NP	NaN	112	0.01116	0.001996	x^5	ChiSquared
Chloride, Total (mg/L)	MW-1,MW-2,MW-3,MW-4	Yes	3.7,3.7,3.43,3.31,3.23,3.21,3.35,3.34,3.58,4.4,4.	NP	NaN	112	2.206	0.7844	x^6	ChiSquared
Cobalt (mg/L)	MW-1,MW-2,MW-3,MW-4	Yes	0.103,0.232,0.332,0.311,0.271,0.271,0.148,0.236,0	NP	NaN	112	0.09	0.1615	x^6	ChiSquared
Combined Radium 226 + 228 (pCi/L)	MW-1,MW-2,MW-3,MW-4	Yes	0.934,1.18,1.47,1.01,1.49,1.1,0.994,1.31,0.927,1.	NP	NaN	108	0.496	0.3574	x^6	ChiSquared
Fluoride, total (mg/L)	MW-1,MW-2,MW-3,MW-4	Yes	0.55,0.6,0.53,0.63,0.415	NP	NaN	116	0.2362	0.1233	x^6	ChiSquared
Lithium (mg/L)	MW-1,MW-2,MW-3,MW-4	Yes	0.0964,0.0964,0.156,0.122,0.138,0.0966,0.134,0.16	NP	NaN	112	0.07633	0.07833	x^6	ChiSquared

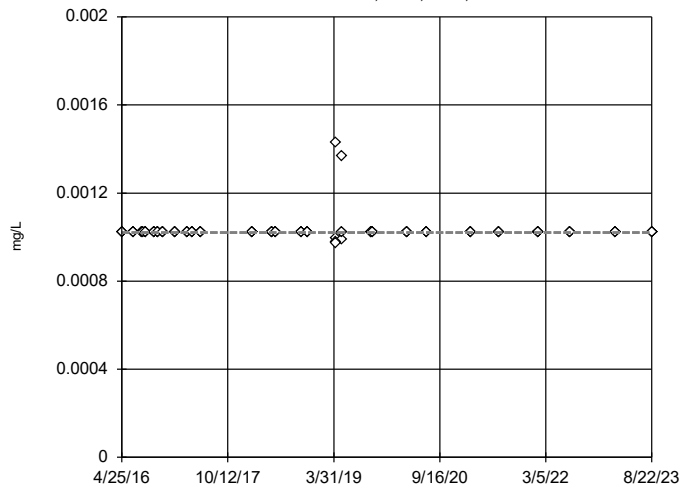
# Tukey's Outlier Test - Upgradient Wells - All Results

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF Printed 10/6/2023, 11:01 AM

Constituent	Well	Outlier	Value(s)	Method	Alpha	N	Mean	Std. Dev.	Distribution	Normality Test
Antimony (mg/L)	MW-1,MW-2,MW-3,MW-4	n/a	n/a	NP	NaN	112	0.001025	0.0000514	unknown	ChiSquared
Arsenic (mg/L)	MW-1,MW-2,MW-3,MW-4	n/a	n/a	NP	NaN	112	0.0004241	0.0007799	unknown	ChiSquared
<b>Barium (mg/L)</b>	<b>MW-1,MW-2,MW-3,MW-4</b>	<b>Yes</b>	<b>0.0165,0.0162,0.0164,0.0158</b>	<b>NP</b>	<b>NaN</b>	<b>112</b>	<b>0.01116</b>	<b>0.001996</b>	<b>x^5</b>	<b>ChiSquared</b>
Beryllium (mg/L)	MW-1,MW-2,MW-3,MW-4	n/a	n/a	NP	NaN	112	0.001863	0.002824	unknown	ChiSquared
Cadmium (mg/L)	MW-1,MW-2,MW-3,MW-4	n/a	n/a	NP	NaN	112	0.001476	0.002031	unknown	ChiSquared
<b>Chloride, Total (mg/L)</b>	<b>MW-1,MW-2,MW-3,MW-4</b>	<b>Yes</b>	<b>3.7,3.7,3.43,3.31,3.23,3.21,3.35,3.34,3.58,4.4,4.</b>	<b>NP</b>	<b>NaN</b>	<b>112</b>	<b>2.206</b>	<b>0.7844</b>	<b>x^6</b>	<b>ChiSquared</b>
Chromium (mg/L)	MW-1,MW-2,MW-3,MW-4	n/a	n/a	NP	NaN	112	0.001148	0.001341	unknown	ChiSquared
<b>Cobalt (mg/L)</b>	<b>MW-1,MW-2,MW-3,MW-4</b>	<b>Yes</b>	<b>0.103,0.232,0.332,0.311,0.271,0.271,0.148,0.236,0</b>	<b>NP</b>	<b>NaN</b>	<b>112</b>	<b>0.09</b>	<b>0.1615</b>	<b>x^6</b>	<b>ChiSquared</b>
<b>Combined Radium 226 + 228 (pCi/L)</b>	<b>MW-1,MW-2,MW-3,MW-4</b>	<b>Yes</b>	<b>0.934,1.18,1.47,1.01,1.49,1.1,0.994,1.31,0.927,1.</b>	<b>NP</b>	<b>NaN</b>	<b>108</b>	<b>0.496</b>	<b>0.3574</b>	<b>x^6</b>	<b>ChiSquared</b>
<b>Fluoride, total (mg/L)</b>	<b>MW-1,MW-2,MW-3,MW-4</b>	<b>Yes</b>	<b>0.55,0.6,0.53,0.63,0.415</b>	<b>NP</b>	<b>NaN</b>	<b>116</b>	<b>0.2362</b>	<b>0.1233</b>	<b>x^6</b>	<b>ChiSquared</b>
Lead (mg/L)	MW-1,MW-2,MW-3,MW-4	n/a	n/a	NP	NaN	112	0.0002706	0.0006445	unknown	ChiSquared
<b>Lithium (mg/L)</b>	<b>MW-1,MW-2,MW-3,MW-4</b>	<b>Yes</b>	<b>0.0964,0.0964,0.156,0.122,0.138,0.0966,0.134,0.16</b>	<b>NP</b>	<b>NaN</b>	<b>112</b>	<b>0.07633</b>	<b>0.07833</b>	<b>x^6</b>	<b>ChiSquared</b>
Mercury (mg/L)	MW-1,MW-2,MW-3,MW-4	n/a	n/a	NP	NaN	112	0.0005	0	unknown	ChiSquared
Molybdenum (mg/L)	MW-1,MW-2,MW-3,MW-4	n/a	n/a	NP	NaN	112	0.009613	0.002269	unknown	ChiSquared
pH, Field (SU)	MW-1,MW-2,MW-3,MW-4	No	n/a	NP	NaN	114	5.654	0.5255	x^2	ChiSquared
Selenium (mg/L)	MW-1,MW-2,MW-3,MW-4	n/a	n/a	NP	NaN	112	0.003313	0.00452	unknown	ChiSquared
Thallium (mg/L)	MW-1,MW-2,MW-3,MW-4	n/a	n/a	NP	NaN	112	0.0002004	0.00000263	unknown	ChiSquared

### Tukey's Outlier Screening, Pooled Background

MW-1,MW-2,MW-3,MW-4

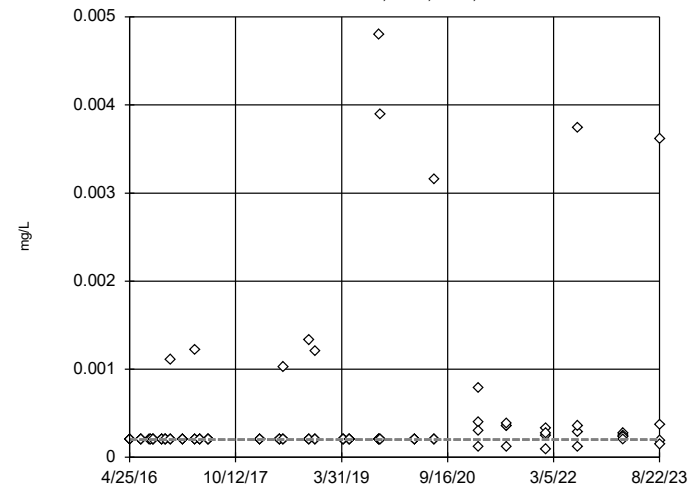


n = 112  
 No outliers found.  
 Tukey's method selected by user.  
 Data were x\*6 transformed to achieve best W statistic (graph shown in original units).  
 The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Antimony Analysis Run 10/6/2023 10:59 AM View: Outliers - Upgradient Wells  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening, Pooled Background

MW-1,MW-2,MW-3,MW-4

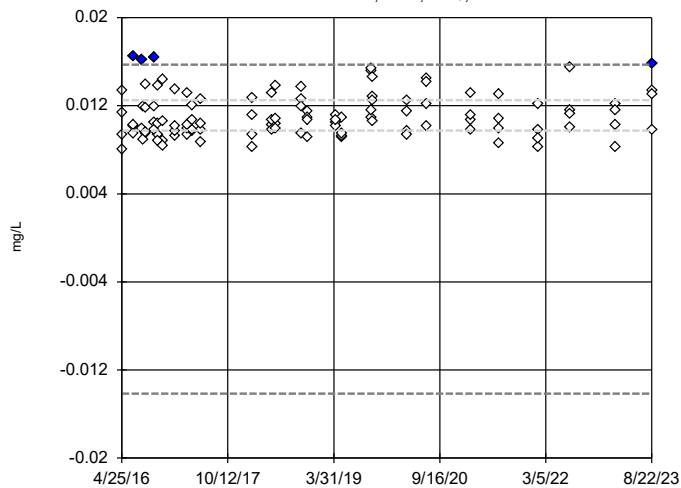


n = 112  
 No outliers found.  
 Tukey's method selected by user.  
 Data were cube transformed to achieve best W statistic (graph shown in original units).  
 The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Arsenic Analysis Run 10/6/2023 10:59 AM View: Outliers - Upgradient Wells  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening, Pooled Background

MW-1,MW-2,MW-3,MW-4

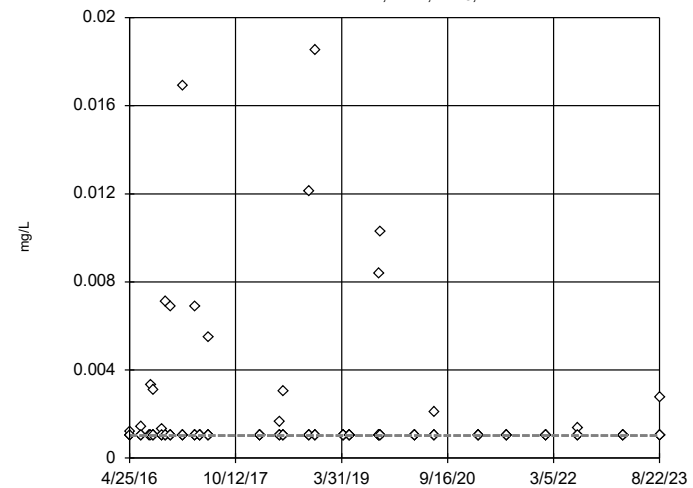


n = 112  
 Outliers are drawn as solid.  
 Tukey's method selected by user.  
 Data were x\*5 transformed to achieve best W statistic (graph shown in original units).  
 High cutoff = 0.01571, low cutoff = -0.01414, based on IQR multiplier of 3.

Constituent: Barium Analysis Run 10/6/2023 10:59 AM View: Outliers - Upgradient Wells  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening, Pooled Background

MW-1,MW-2,MW-3,MW-4

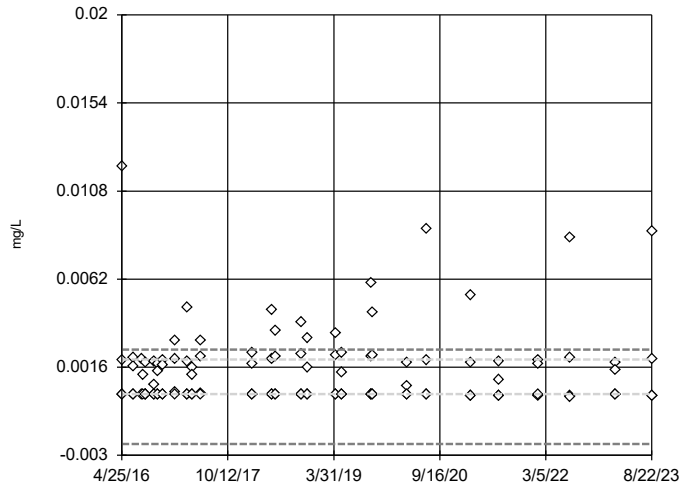


n = 112  
 No outliers found.  
 Tukey's method selected by user.  
 Data were x\*6 transformed to achieve best W statistic (graph shown in original units).  
 The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Beryllium Analysis Run 10/6/2023 11:00 AM View: Outliers - Upgradient Wells  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening, Pooled Background

MW-1,MW-2,MW-3,MW-4

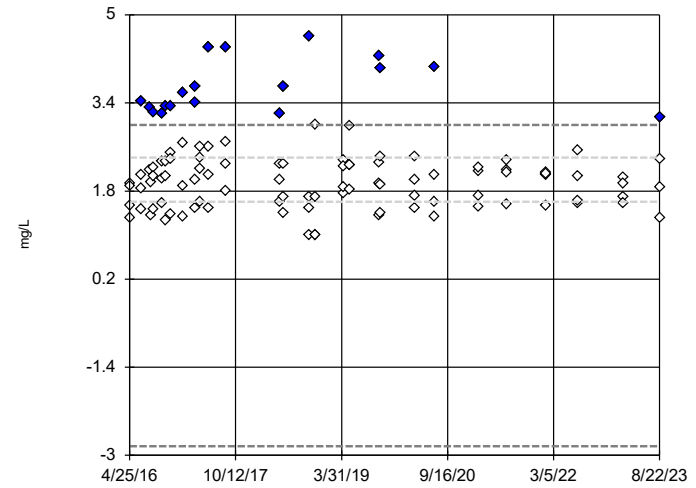


n = 112  
 No outliers found.  
 Tukey's method selected by user.  
 Data were x\*6 transformed to achieve best W statistic (graph shown in original units).  
 The results were invalidated, because both the lower and upper quartiles represent reporting limits.

Constituent: Cadmium Analysis Run 10/6/2023 11:00 AM View: Outliers - Upgradient Wells  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening, Pooled Background

MW-1,MW-2,MW-3,MW-4

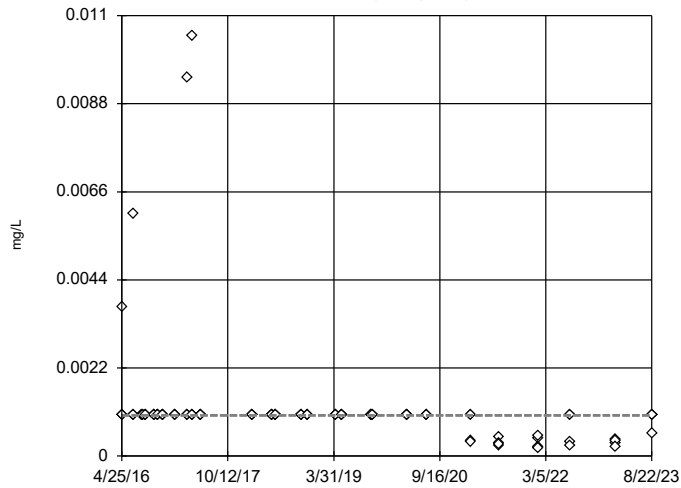


n = 112  
 Outliers are drawn as solid.  
 Tukey's method selected by user.  
 Data were x\*6 transformed to achieve best W statistic (graph shown in original units).  
 High cutoff = 3.002, low cutoff = -2.835, based on IQR multiplier of 3.

Constituent: Chloride, Total Analysis Run 10/6/2023 11:00 AM View: Outliers - Upgradient Wells  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening, Pooled Background

MW-1,MW-2,MW-3,MW-4

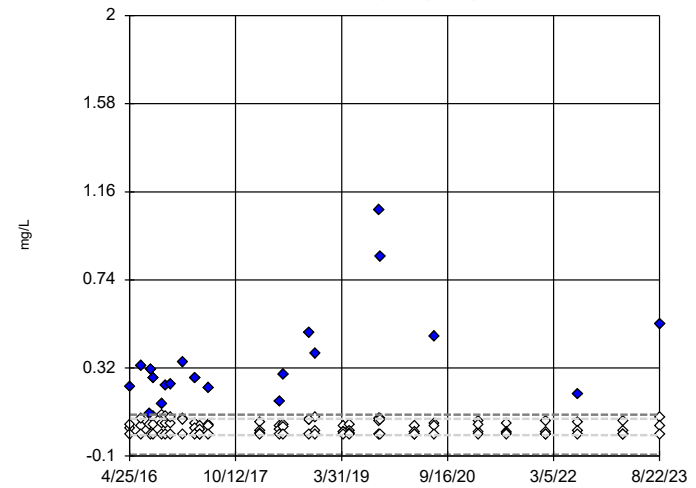


n = 112  
 No outliers found.  
 Tukey's method selected by user.  
 Data were x\*4 transformed to achieve best W statistic (graph shown in original units).  
 The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Chromium Analysis Run 10/6/2023 11:00 AM View: Outliers - Upgradient Wells  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening, Pooled Background

MW-1,MW-2,MW-3,MW-4

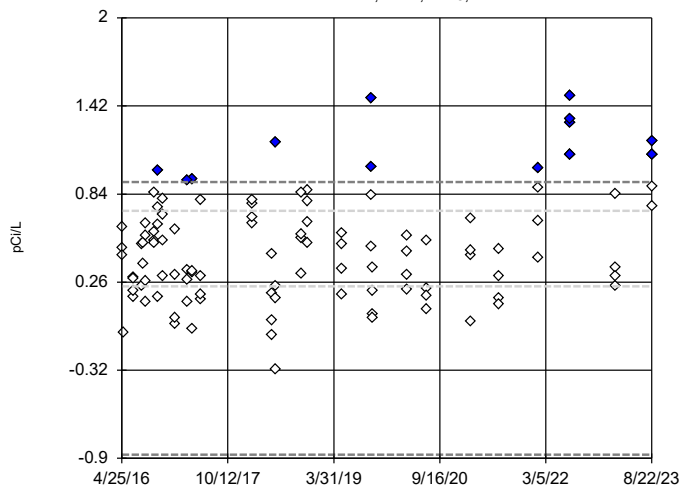


n = 112  
 Outliers are drawn as solid.  
 Tukey's method selected by user.  
 Data were x\*6 transformed to achieve best W statistic (graph shown in original units).  
 High cutoff = 0.0974, low cutoff = -0.09284, based on IQR multiplier of 3.

Constituent: Cobalt Analysis Run 10/6/2023 11:00 AM View: Outliers - Upgradient Wells  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening, Pooled Background

MW-1,MW-2,MW-3,MW-4

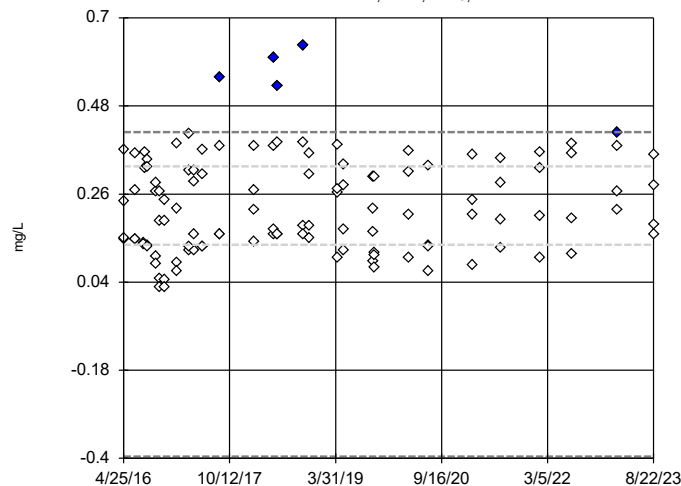


n = 108  
 Outliers are drawn as solid. Tukey's method selected by user.  
 Data were x\*6 transformed to achieve best W statistic (graph shown in original units).  
 High cutoff = 0.9197, low cutoff = -0.8766, based on IQR multiplier of 3.

Constituent: Combined Radium 226 + 228 Analysis Run 10/6/2023 11:00 AM View: Outliers - Upgradient  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening, Pooled Background

MW-1,MW-2,MW-3,MW-4

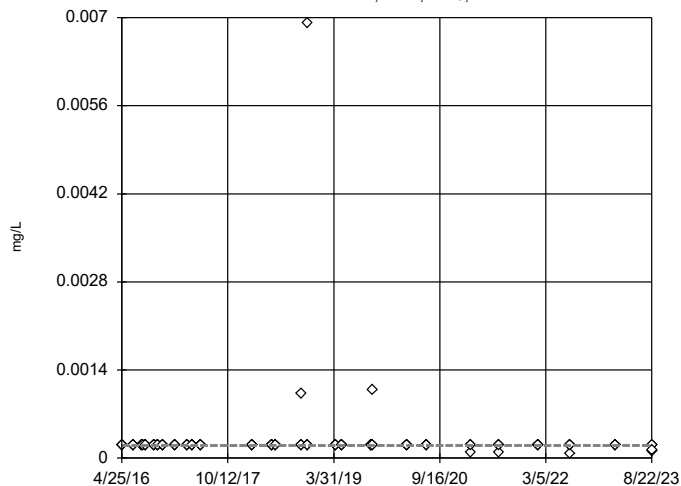


n = 116  
 Outliers are drawn as solid. Tukey's method selected by user.  
 Data were x\*6 transformed to achieve best W statistic (graph shown in original units).  
 High cutoff = 0.4149, low cutoff = -0.3953, based on IQR multiplier of 3.

Constituent: Fluoride, total Analysis Run 10/6/2023 11:00 AM View: Outliers - Upgradient Wells  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening, Pooled Background

MW-1,MW-2,MW-3,MW-4

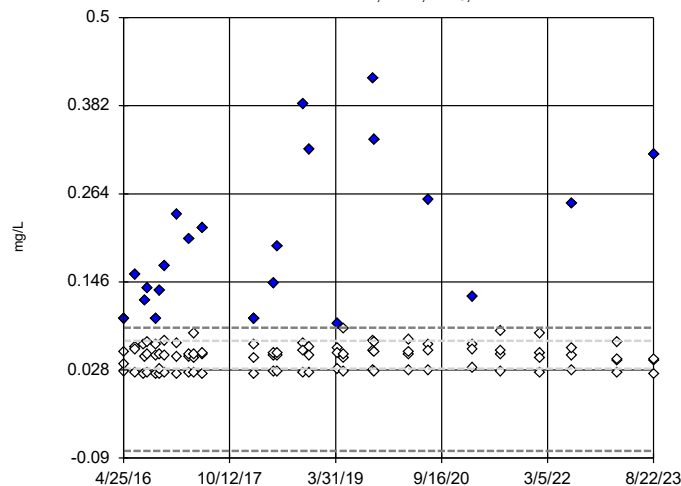


n = 112  
 No outliers found. Tukey's method selected by user.  
 Data were cube transformed to achieve best W statistic (graph shown in original units).  
 The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Lead Analysis Run 10/6/2023 11:00 AM View: Outliers - Upgradient Wells  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening, Pooled Background

MW-1,MW-2,MW-3,MW-4

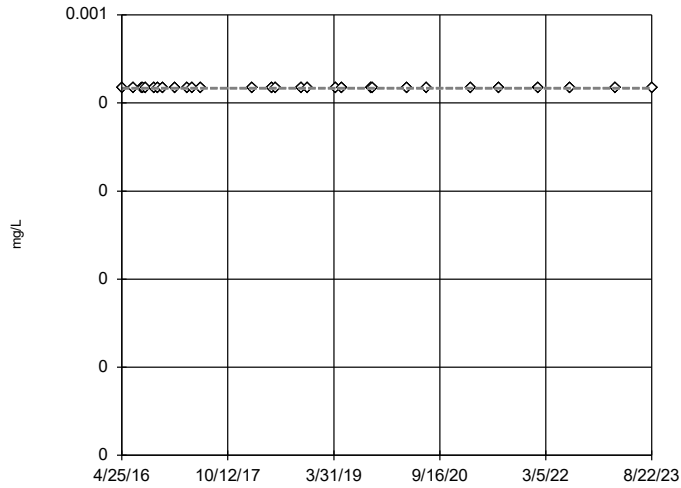


n = 112  
 Outliers are drawn as solid. Tukey's method selected by user.  
 Data were x\*6 transformed to achieve best W statistic (graph shown in original units).  
 High cutoff = 0.0846, low cutoff = -0.08058, based on IQR multiplier of 3.

Constituent: Lithium Analysis Run 10/6/2023 11:00 AM View: Outliers - Upgradient Wells  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening, Pooled Background

MW-1,MW-2,MW-3,MW-4

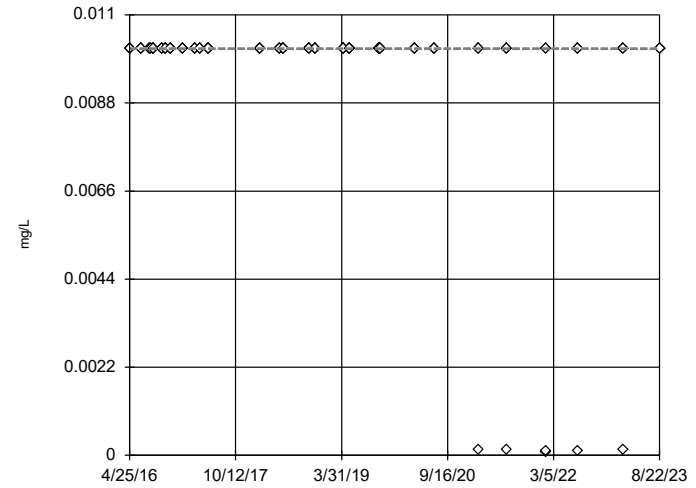


n = 112  
 No outliers found. Tukey's method selected by user.  
 Data were cube root transformed to achieve best W statistic (graph shown in original units).  
 The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Mercury Analysis Run 10/6/2023 11:00 AM View: Outliers - Upgradient Wells  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening, Pooled Background

MW-1,MW-2,MW-3,MW-4

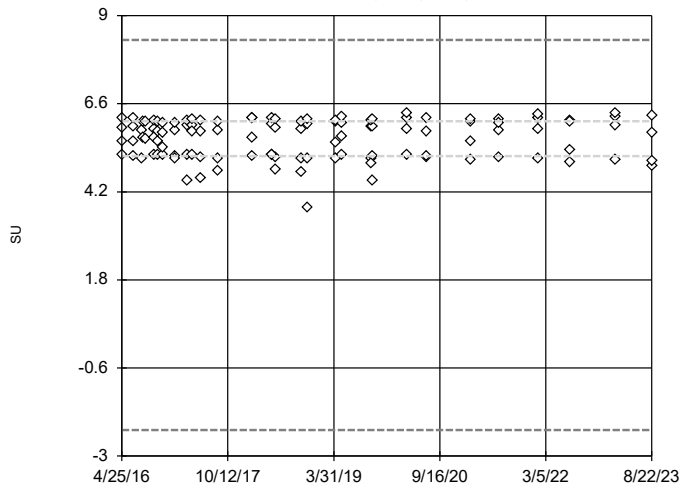


n = 112  
 No outliers found. Tukey's method selected by user.  
 Ladder of Powers transformations did not improve normality; analysis run on raw data.  
 The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Molybdenum Analysis Run 10/6/2023 11:00 AM View: Outliers - Upgradient Wells  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening, Pooled Background

MW-1,MW-2,MW-3,MW-4

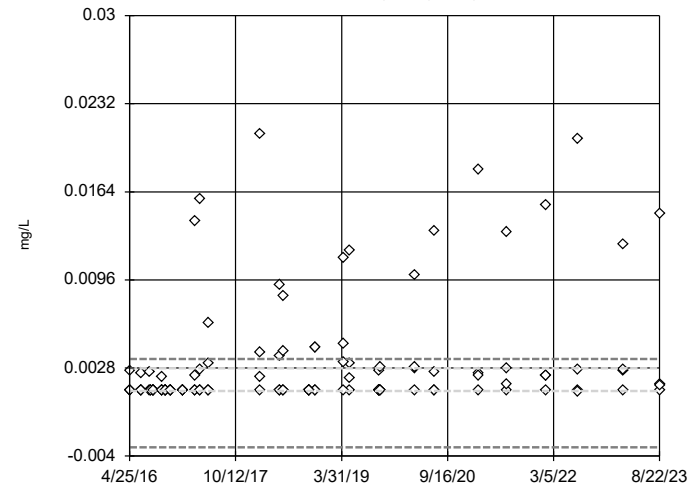


n = 114  
 No outliers found. Tukey's method selected by user.  
 Data were square transformed to achieve best W statistic (graph shown in original units).  
 High cutoff = 8.335, low cutoff = -2.289, based on IQR multiplier of 3.

Constituent: pH, Field Analysis Run 10/6/2023 11:00 AM View: Outliers - Upgradient Wells  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening, Pooled Background

MW-1,MW-2,MW-3,MW-4

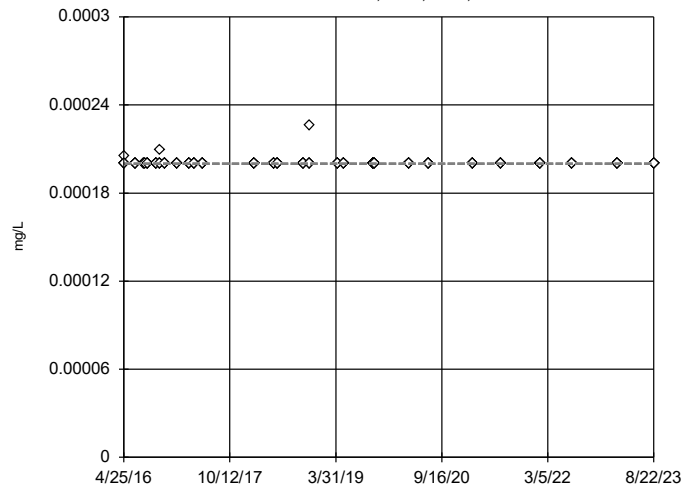


n = 112  
 No outliers found. Tukey's method selected by user.  
 Data were x^6 transformed to achieve best W statistic (graph shown in original units).  
 The results were invalidated, because both the lower and upper quartiles represent reporting limits.

Constituent: Selenium Analysis Run 10/6/2023 11:00 AM View: Outliers - Upgradient Wells  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Tukey's Outlier Screening, Pooled Background

MW-1,MW-2,MW-3,MW-4



n = 112

No outliers found.  
Tukey's method selected by user.

Ladder of Powers transformations did not improve normality; analysis run on raw data.

The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Thallium    Analysis Run 10/6/2023 11:00 AM    View: Outliers - Upgradient Wells  
Plant Gorgas    Client: Southern Company    Data: Gorgas CCR LF



FIGURE D.

# Welch's t-test/Mann-Whitney - Significant Results

Plant Gorgas Data: Gorgas CCR LF Printed 10/6/2023, 3:35 PM

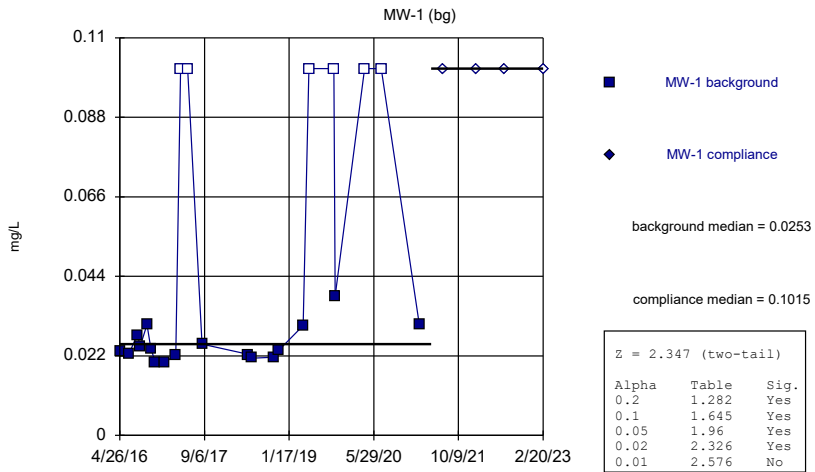
<u>Constituent</u>	<u>Well</u>	<u>Calc.</u>	<u>0.01</u>	<u>Alpha</u>	<u>Sig.</u>	<u>Method</u>
Boron, total (mg/L)	MW-6	-2.599	Yes	0.01	Yes	Mann-W
Boron, total (mg/L)	MW-8	-2.695	Yes	0.01	Yes	Mann-W
Sulfate as SO4 (mg/L)	MW-2 (bg)	-2.766	Yes	0.01	Yes	Mann-W
Total Dissolved Solids [TDS] (mg/L)	MW-4 (bg)	-2.628	Yes	0.01	Yes	Mann-W
Total Dissolved Solids [TDS] (mg/L)	MW-6	-2.793	Yes	0.01	Yes	Mann-W
Total Dissolved Solids [TDS] (mg/L)	MW-8	-2.792	Yes	0.01	Yes	Mann-W

# Welch's t-test/Mann-Whitney - All Results

Plant Gorgas Data: Gorgas CCR LF Printed 10/6/2023, 3:35 PM

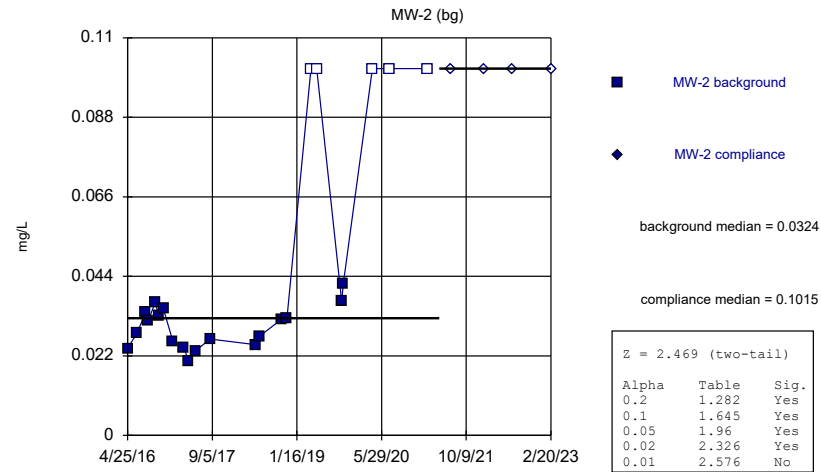
<u>Constituent</u>	<u>Well</u>	<u>Calc.</u>	<u>0.01</u>	<u>Alpha</u>	<u>Sig.</u>	<u>Method</u>
Boron, total (mg/L)	MW-1 (bg)	2.347	No	0.01	No	Mann-W
Boron, total (mg/L)	MW-2 (bg)	2.469	No	0.01	No	Mann-W
Boron, total (mg/L)	MW-3 (bg)	1.383	No	0.01	No	Mann-W
Boron, total (mg/L)	MW-4 (bg)	-2.133	No	0.01	No	Mann-W
Boron, total (mg/L)	MW-5	0.1001	No	0.01	No	Mann-W
<b>Boron, total (mg/L)</b>	<b>MW-6</b>	<b>-2.599</b>	<b>Yes</b>	<b>0.01</b>	<b>Yes</b>	<b>Mann-W</b>
Boron, total (mg/L)	MW-7	-0.95	No	0.01	No	Mann-W
<b>Boron, total (mg/L)</b>	<b>MW-8</b>	<b>-2.695</b>	<b>Yes</b>	<b>0.01</b>	<b>Yes</b>	<b>Mann-W</b>
Calcium, total (mg/L)	MW-1 (bg)	0.5126	No	0.01	No	Mann-W
Calcium, total (mg/L)	MW-2 (bg)	-0.7518	No	0.01	No	Mann-W
Calcium, total (mg/L)	MW-3 (bg)	-0.9217	No	0.01	No	Mann-W
Calcium, total (mg/L)	MW-4 (bg)	-2.253	No	0.01	No	Mann-W
Calcium, total (mg/L)	MW-5	-0.09456	No	0.01	No	Mann-W
Calcium, total (mg/L)	MW-6	-0.8032	No	0.01	No	Mann-W
Calcium, total (mg/L)	MW-7	-2.084	No	0.01	No	Mann-W
Calcium, total (mg/L)	MW-8	-0.3785	No	0.01	No	Mann-W
Fluoride, total (mg/L)	MW-1 (bg)	0.3942	No	0.01	No	Mann-W
Fluoride, total (mg/L)	MW-2 (bg)	2.335	No	0.01	No	Mann-W
Fluoride, total (mg/L)	MW-3 (bg)	1.018	No	0.01	No	Mann-W
Fluoride, total (mg/L)	MW-4 (bg)	1.347	No	0.01	No	Mann-W
Fluoride, total (mg/L)	MW-5	-0.9422	No	0.01	No	Mann-W
Fluoride, total (mg/L)	MW-6	0.1917	No	0.01	No	Mann-W
Fluoride, total (mg/L)	MW-7	1.853	No	0.01	No	Mann-W
Fluoride, total (mg/L)	MW-8	-0.6336	No	0.01	No	Mann-W
Sulfate as SO4 (mg/L)	MW-1 (bg)	1.496	No	0.01	No	Mann-W
<b>Sulfate as SO4 (mg/L)</b>	<b>MW-2 (bg)</b>	<b>-2.766</b>	<b>Yes</b>	<b>0.01</b>	<b>Yes</b>	<b>Mann-W</b>
Sulfate as SO4 (mg/L)	MW-3 (bg)	0.3073	No	0.01	No	Mann-W
Sulfate as SO4 (mg/L)	MW-4 (bg)	-2.565	No	0.01	No	Mann-W
Sulfate as SO4 (mg/L)	MW-5	-0.286	No	0.01	No	Mann-W
Sulfate as SO4 (mg/L)	MW-6	-0.04779	No	0.01	No	Mann-W
Sulfate as SO4 (mg/L)	MW-7	0.4039	No	0.01	No	Mann-W
Sulfate as SO4 (mg/L)	MW-8	1.283	No	0.01	No	Mann-W
Total Dissolved Solids [TDS] (mg/L)	MW-1 (bg)	0.03557	No	0.01	No	Mann-W
Total Dissolved Solids [TDS] (mg/L)	MW-2 (bg)	-2.563	No	0.01	No	Mann-W
Total Dissolved Solids [TDS] (mg/L)	MW-3 (bg)	-0.03413	No	0.01	No	Mann-W
<b>Total Dissolved Solids [TDS] (mg/L)</b>	<b>MW-4 (bg)</b>	<b>-2.628</b>	<b>Yes</b>	<b>0.01</b>	<b>Yes</b>	<b>Mann-W</b>
Total Dissolved Solids [TDS] (mg/L)	MW-5	-2.505	No	0.01	No	Mann-W
<b>Total Dissolved Solids [TDS] (mg/L)</b>	<b>MW-6</b>	<b>-2.793</b>	<b>Yes</b>	<b>0.01</b>	<b>Yes</b>	<b>Mann-W</b>
Total Dissolved Solids [TDS] (mg/L)	MW-7	-1.849	No	0.01	No	Mann-W
<b>Total Dissolved Solids [TDS] (mg/L)</b>	<b>MW-8</b>	<b>-2.792</b>	<b>Yes</b>	<b>0.01</b>	<b>Yes</b>	<b>Mann-W</b>

### Mann-Whitney (Wilcoxon Rank Sum)



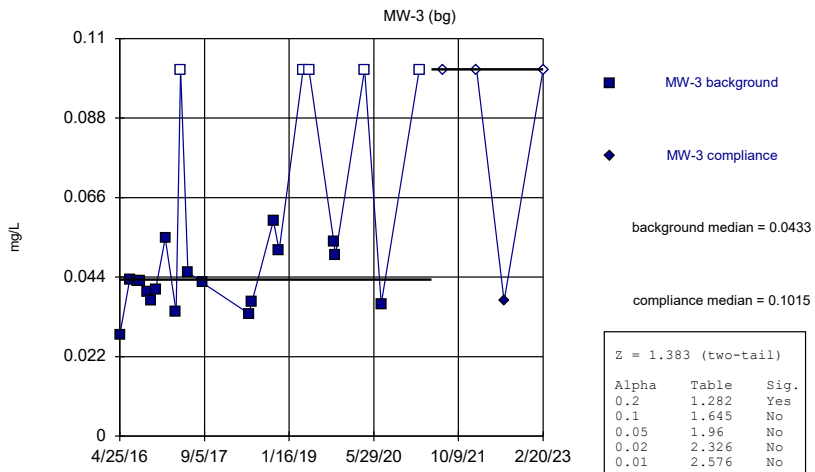
Constituent: Boron, total Analysis Run 10/6/2023 3:31 PM View: Mann-Whitney  
Plant Gorgas Data: Gorgas CCR LF

### Mann-Whitney (Wilcoxon Rank Sum)



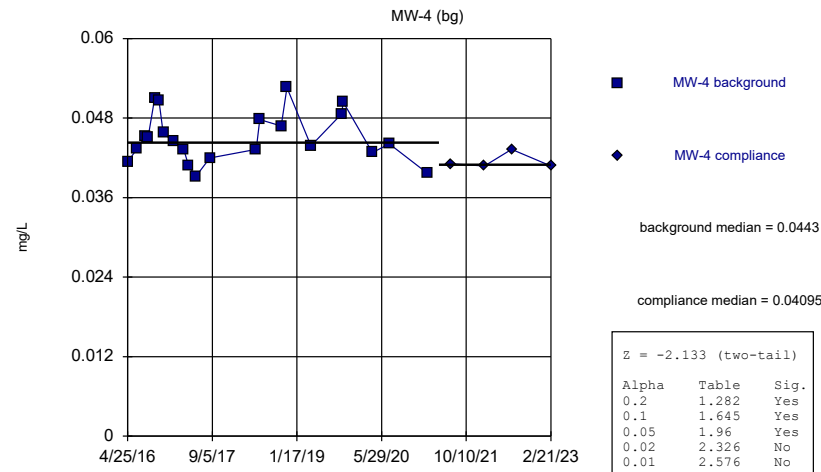
Constituent: Boron, total Analysis Run 10/6/2023 3:31 PM View: Mann-Whitney  
Plant Gorgas Data: Gorgas CCR LF

### Mann-Whitney (Wilcoxon Rank Sum)



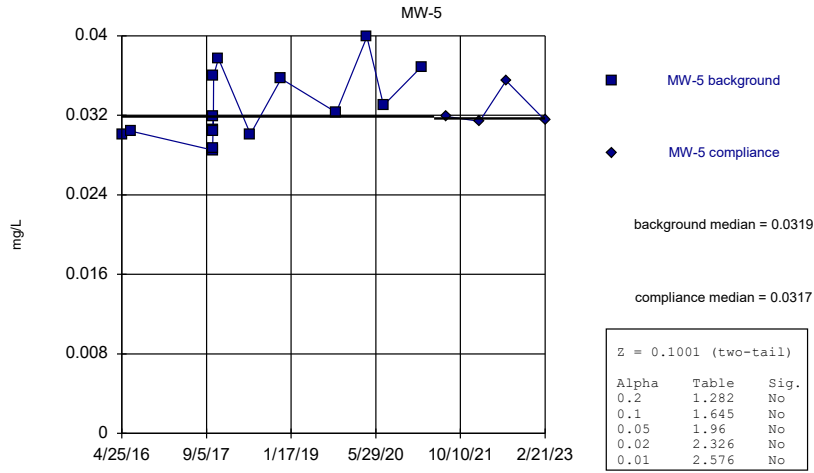
Constituent: Boron, total Analysis Run 10/6/2023 3:31 PM View: Mann-Whitney  
Plant Gorgas Data: Gorgas CCR LF

### Mann-Whitney (Wilcoxon Rank Sum)



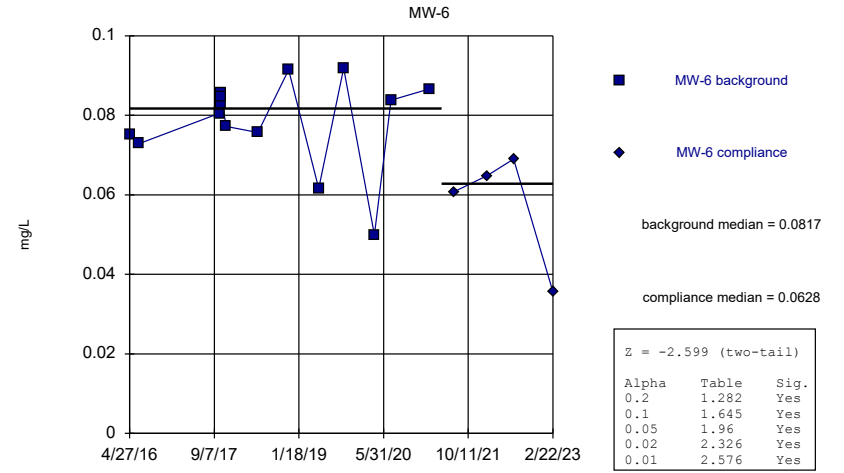
Constituent: Boron, total Analysis Run 10/6/2023 3:31 PM View: Mann-Whitney  
Plant Gorgas Data: Gorgas CCR LF

### Mann-Whitney (Wilcoxon Rank Sum)



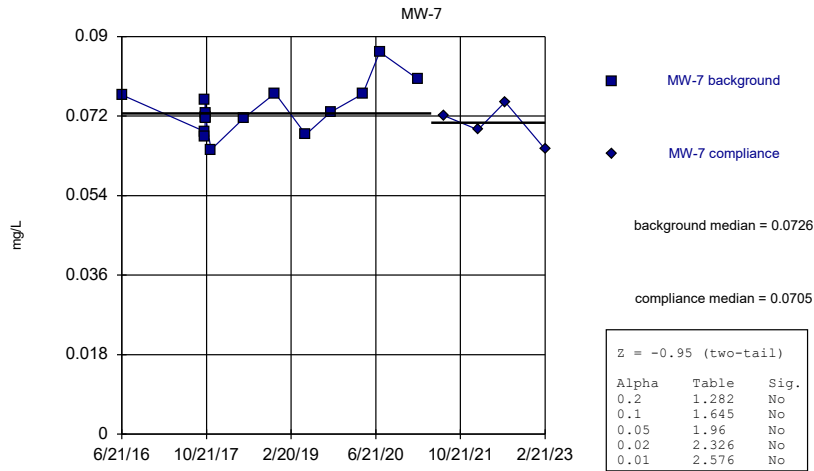
Constituent: Boron, total Analysis Run 10/6/2023 3:31 PM View: Mann-Whitney  
Plant Gorgas Data: Gorgas CCR LF

### Mann-Whitney (Wilcoxon Rank Sum)



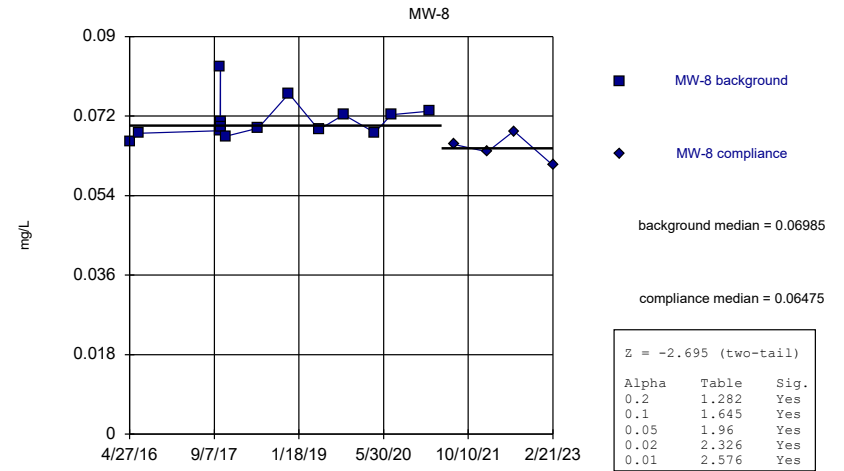
Constituent: Boron, total Analysis Run 10/6/2023 3:31 PM View: Mann-Whitney  
Plant Gorgas Data: Gorgas CCR LF

### Mann-Whitney (Wilcoxon Rank Sum)



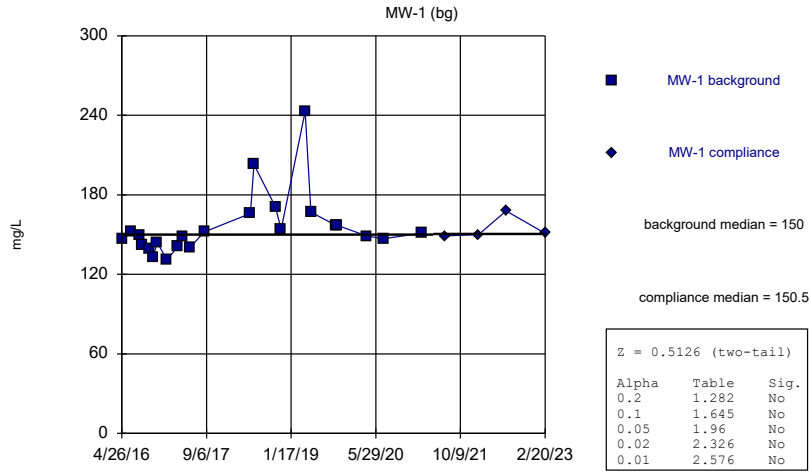
Constituent: Boron, total Analysis Run 10/6/2023 3:31 PM View: Mann-Whitney  
Plant Gorgas Data: Gorgas CCR LF

### Mann-Whitney (Wilcoxon Rank Sum)



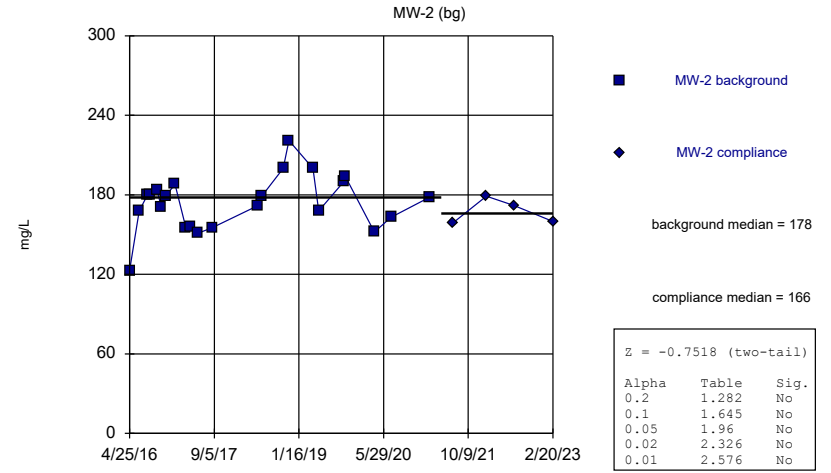
Constituent: Boron, total Analysis Run 10/6/2023 3:31 PM View: Mann-Whitney  
Plant Gorgas Data: Gorgas CCR LF

### Mann-Whitney (Wilcoxon Rank Sum)



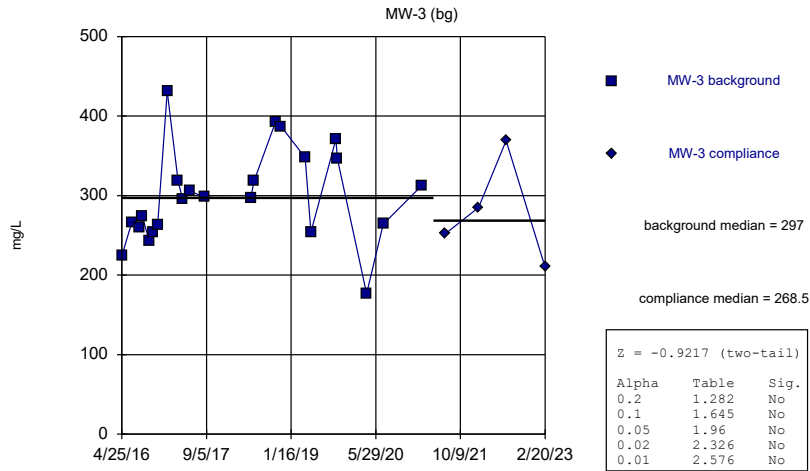
Constituent: Calcium, total Analysis Run 10/6/2023 3:31 PM View: Mann-Whitney  
 Plant Gorgas Data: Gorgas CCR LF

### Mann-Whitney (Wilcoxon Rank Sum)



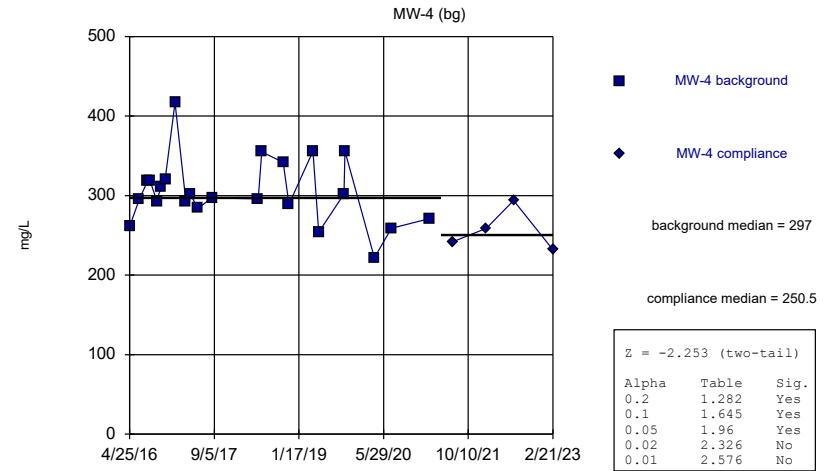
Constituent: Calcium, total Analysis Run 10/6/2023 3:31 PM View: Mann-Whitney  
 Plant Gorgas Data: Gorgas CCR LF

### Mann-Whitney (Wilcoxon Rank Sum)



Constituent: Calcium, total Analysis Run 10/6/2023 3:31 PM View: Mann-Whitney  
 Plant Gorgas Data: Gorgas CCR LF

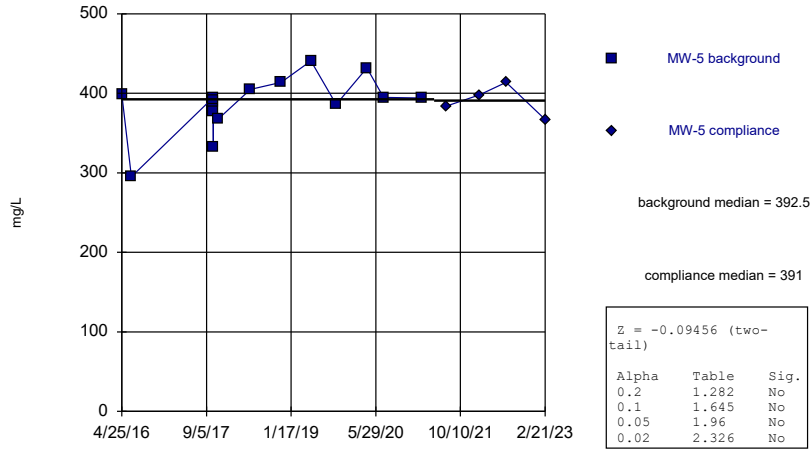
### Mann-Whitney (Wilcoxon Rank Sum)



Constituent: Calcium, total Analysis Run 10/6/2023 3:31 PM View: Mann-Whitney  
 Plant Gorgas Data: Gorgas CCR LF

### Mann-Whitney (Wilcoxon Rank Sum)

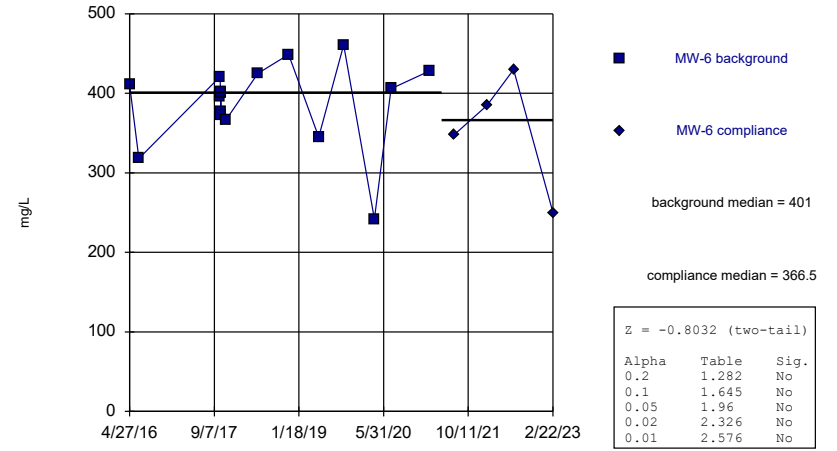
MW-5



Constituent: Calcium, total Analysis Run 10/6/2023 3:31 PM View: Mann-Whitney  
Plant Gorgas Data: Gorgas CCR LF

### Mann-Whitney (Wilcoxon Rank Sum)

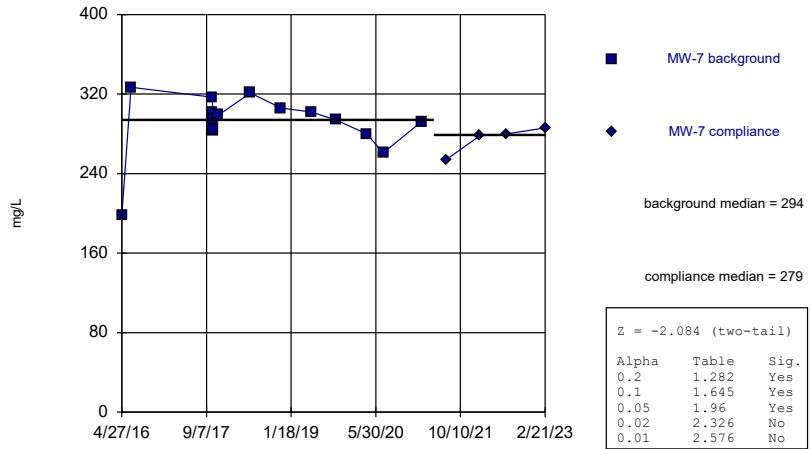
MW-6



Constituent: Calcium, total Analysis Run 10/6/2023 3:31 PM View: Mann-Whitney  
Plant Gorgas Data: Gorgas CCR LF

### Mann-Whitney (Wilcoxon Rank Sum)

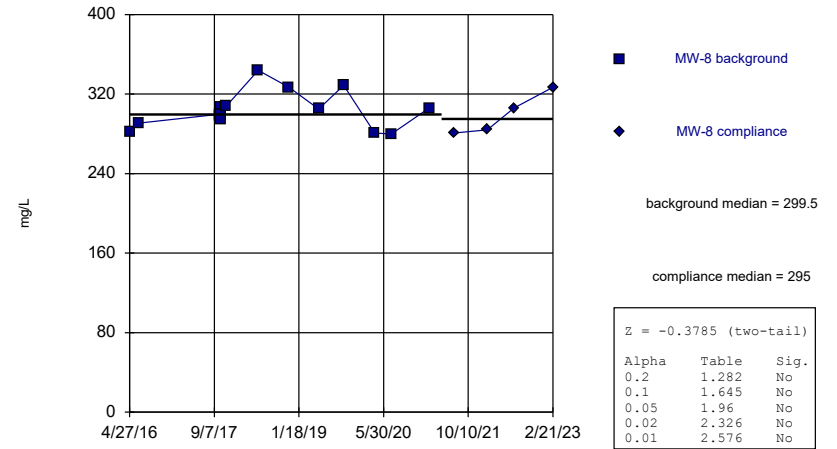
MW-7



Constituent: Calcium, total Analysis Run 10/6/2023 3:31 PM View: Mann-Whitney  
Plant Gorgas Data: Gorgas CCR LF

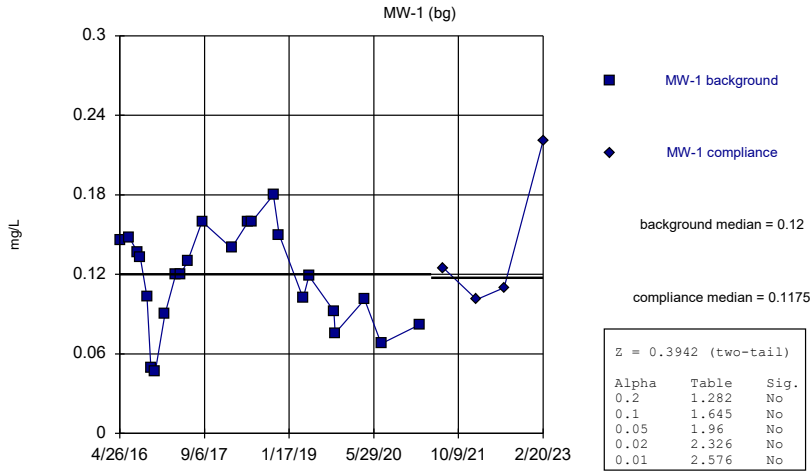
### Mann-Whitney (Wilcoxon Rank Sum)

MW-8



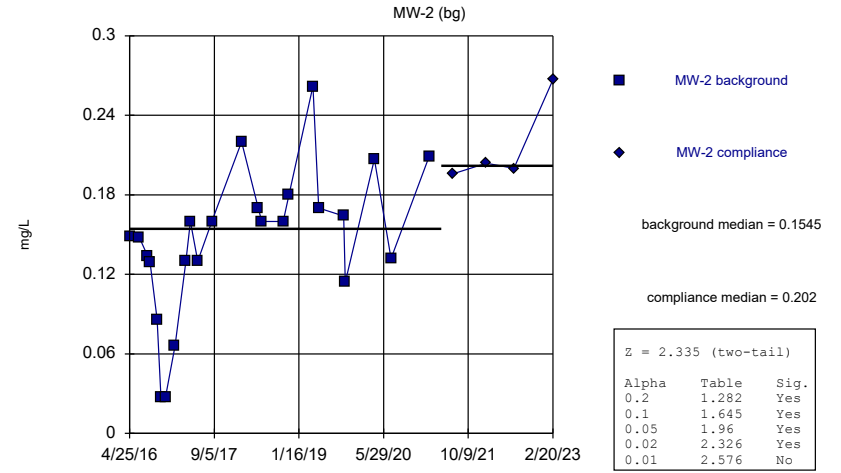
Constituent: Calcium, total Analysis Run 10/6/2023 3:31 PM View: Mann-Whitney  
Plant Gorgas Data: Gorgas CCR LF

Mann-Whitney (Wilcoxon Rank Sum)



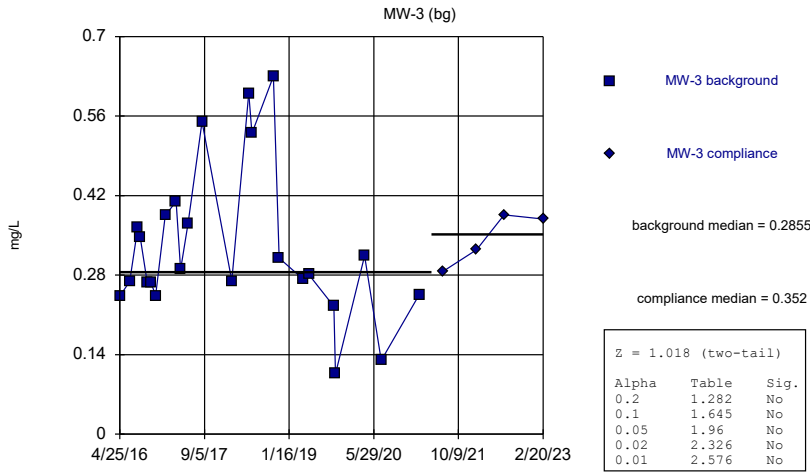
Constituent: Fluoride, total Analysis Run 10/6/2023 3:31 PM View: Mann-Whitney  
 Plant Gorgas Data: Gorgas CCR LF

Mann-Whitney (Wilcoxon Rank Sum)



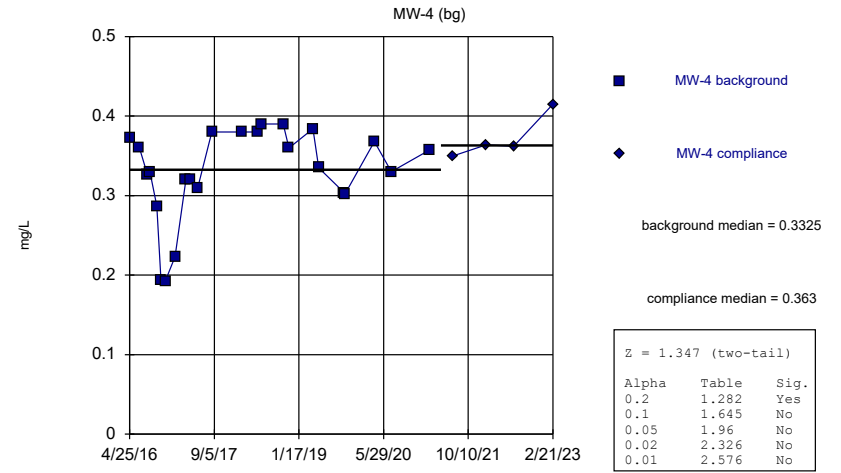
Constituent: Fluoride, total Analysis Run 10/6/2023 3:31 PM View: Mann-Whitney  
 Plant Gorgas Data: Gorgas CCR LF

Mann-Whitney (Wilcoxon Rank Sum)



Constituent: Fluoride, total Analysis Run 10/6/2023 3:31 PM View: Mann-Whitney  
 Plant Gorgas Data: Gorgas CCR LF

Mann-Whitney (Wilcoxon Rank Sum)

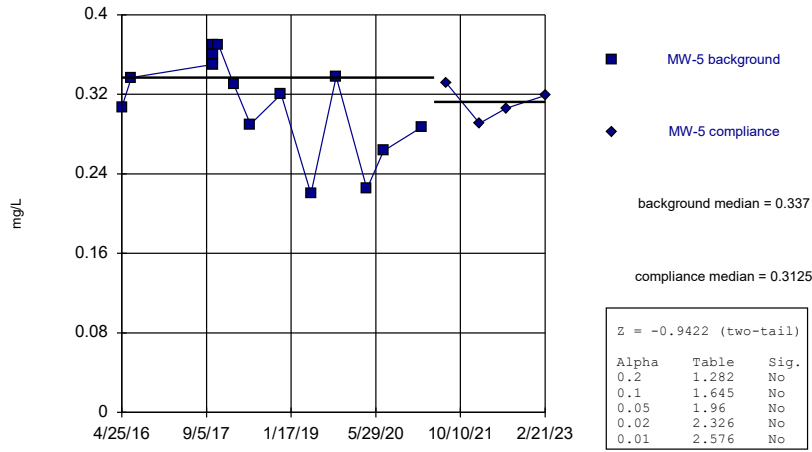


Constituent: Fluoride, total Analysis Run 10/6/2023 3:31 PM View: Mann-Whitney  
 Plant Gorgas Data: Gorgas CCR LF



### Mann-Whitney (Wilcoxon Rank Sum)

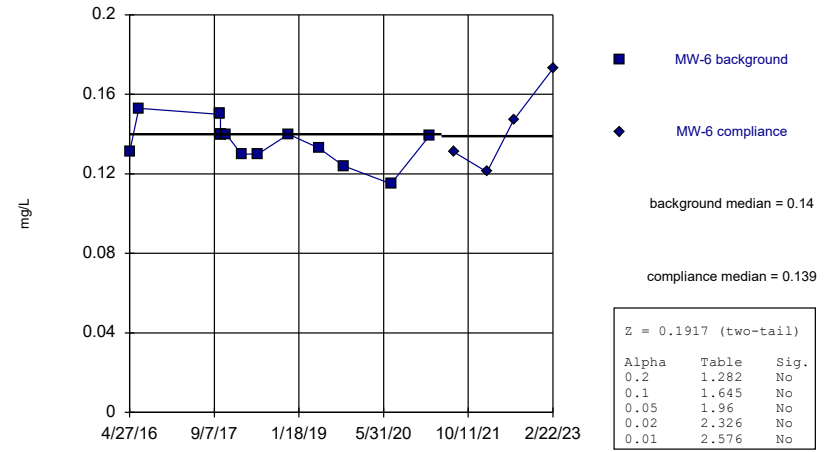
MW-5



Constituent: Fluoride, total Analysis Run 10/6/2023 3:31 PM View: Mann-Whitney  
Plant Gorgas Data: Gorgas CCR LF

### Mann-Whitney (Wilcoxon Rank Sum)

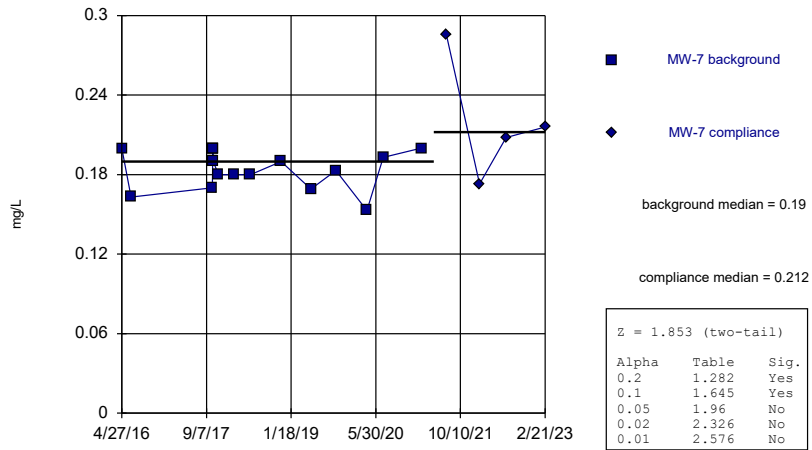
MW-6



Constituent: Fluoride, total Analysis Run 10/6/2023 3:31 PM View: Mann-Whitney  
Plant Gorgas Data: Gorgas CCR LF

### Mann-Whitney (Wilcoxon Rank Sum)

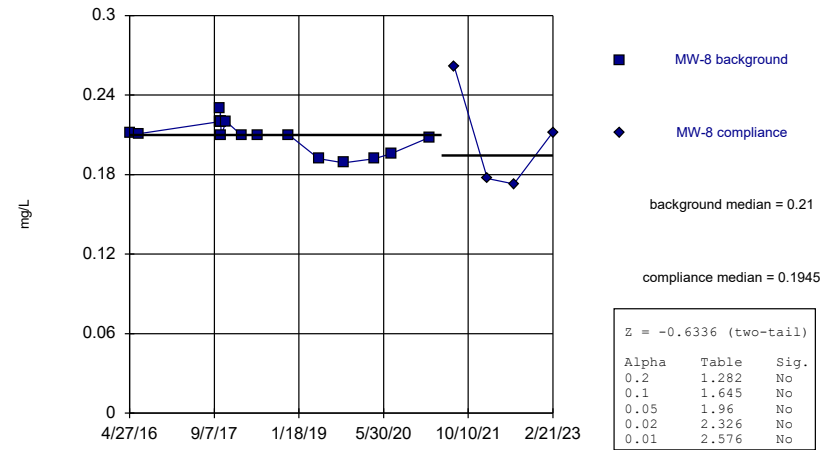
MW-7



Constituent: Fluoride, total Analysis Run 10/6/2023 3:31 PM View: Mann-Whitney  
Plant Gorgas Data: Gorgas CCR LF

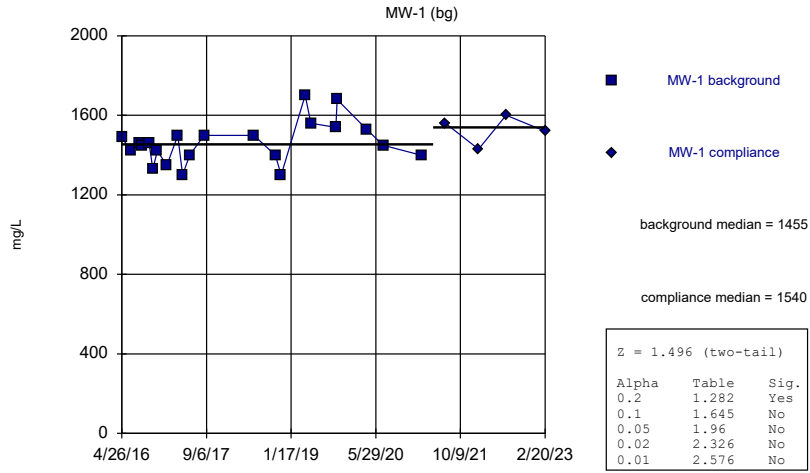
### Mann-Whitney (Wilcoxon Rank Sum)

MW-8



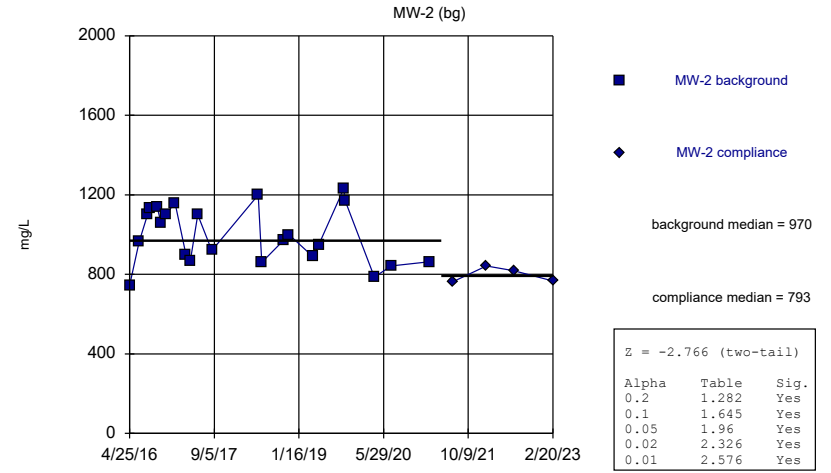
Constituent: Fluoride, total Analysis Run 10/6/2023 3:31 PM View: Mann-Whitney  
Plant Gorgas Data: Gorgas CCR LF

### Mann-Whitney (Wilcoxon Rank Sum)



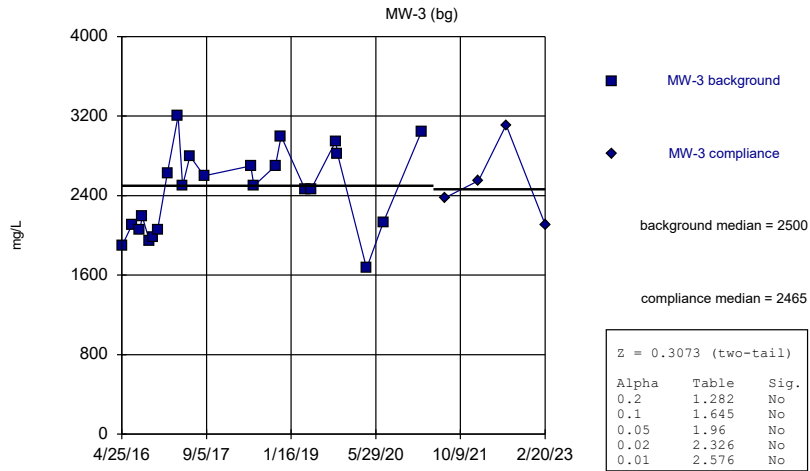
Constituent: Sulfate as SO4 Analysis Run 10/6/2023 3:31 PM View: Mann-Whitney  
 Plant Gorgas Data: Gorgas CCR LF

### Mann-Whitney (Wilcoxon Rank Sum)



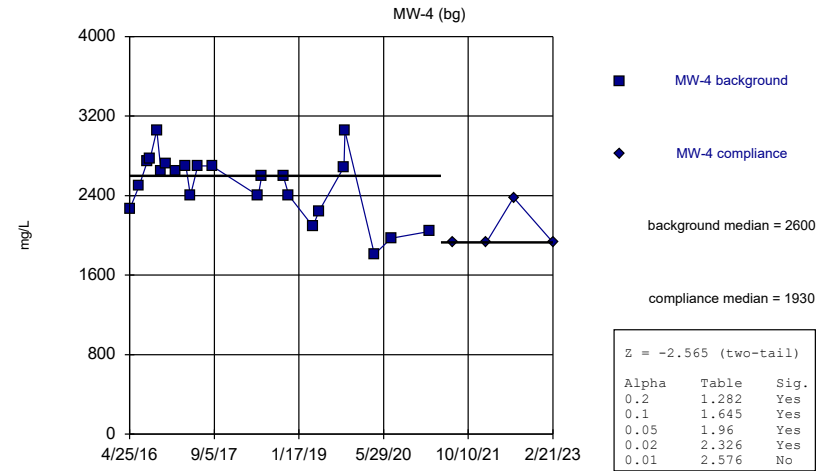
Constituent: Sulfate as SO4 Analysis Run 10/6/2023 3:31 PM View: Mann-Whitney  
 Plant Gorgas Data: Gorgas CCR LF

### Mann-Whitney (Wilcoxon Rank Sum)



Constituent: Sulfate as SO4 Analysis Run 10/6/2023 3:31 PM View: Mann-Whitney  
 Plant Gorgas Data: Gorgas CCR LF

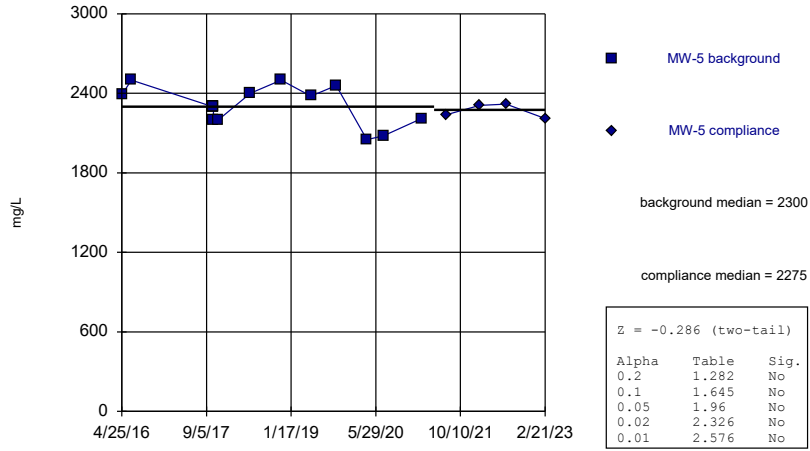
### Mann-Whitney (Wilcoxon Rank Sum)



Constituent: Sulfate as SO4 Analysis Run 10/6/2023 3:31 PM View: Mann-Whitney  
 Plant Gorgas Data: Gorgas CCR LF

Mann-Whitney (Wilcoxon Rank Sum)

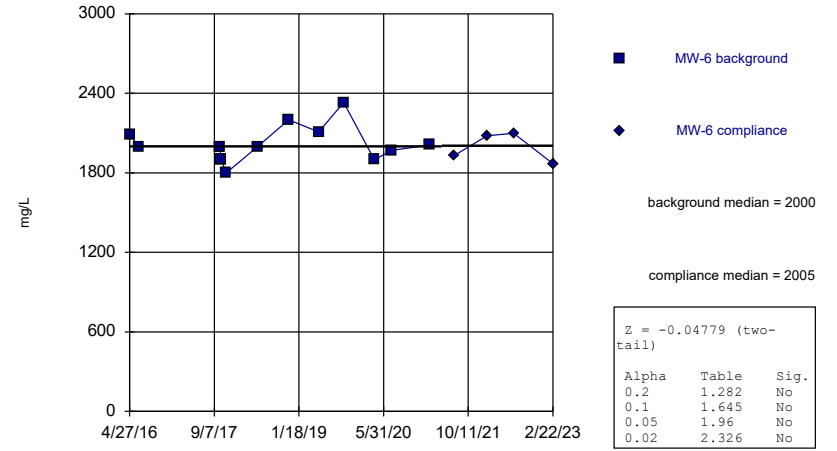
MW-5



Constituent: Sulfate as SO4 Analysis Run 10/6/2023 3:31 PM View: Mann-Whitney  
Plant Gorgas Data: Gorgas CCR LF

Mann-Whitney (Wilcoxon Rank Sum)

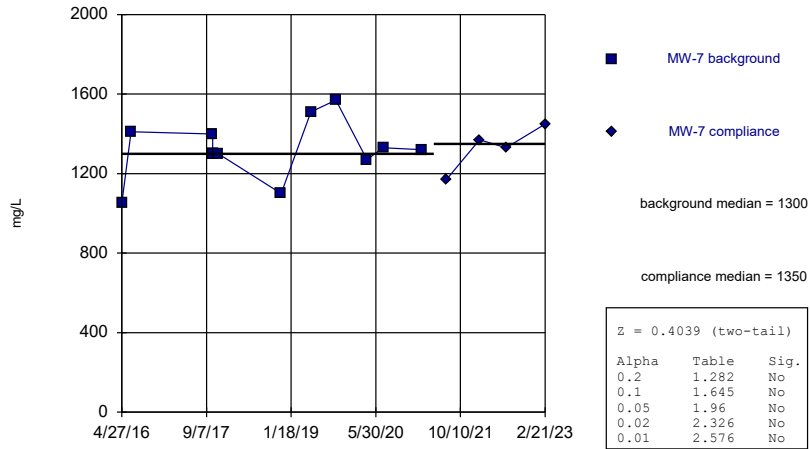
MW-6



Constituent: Sulfate as SO4 Analysis Run 10/6/2023 3:31 PM View: Mann-Whitney  
Plant Gorgas Data: Gorgas CCR LF

Mann-Whitney (Wilcoxon Rank Sum)

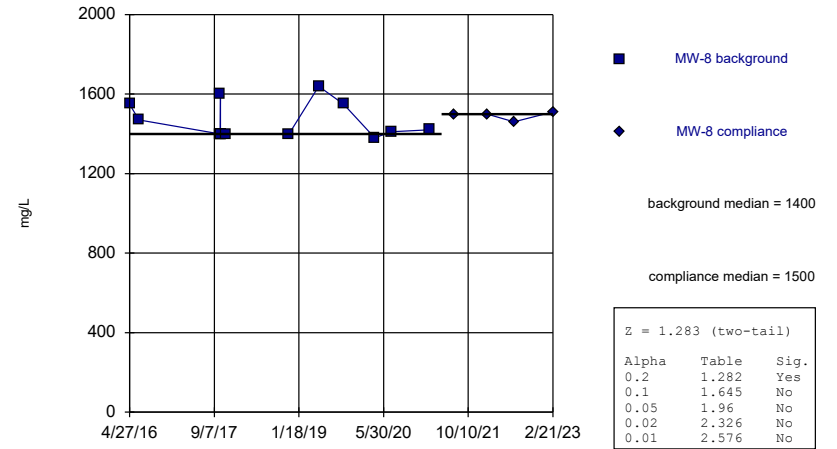
MW-7



Constituent: Sulfate as SO4 Analysis Run 10/6/2023 3:31 PM View: Mann-Whitney  
Plant Gorgas Data: Gorgas CCR LF

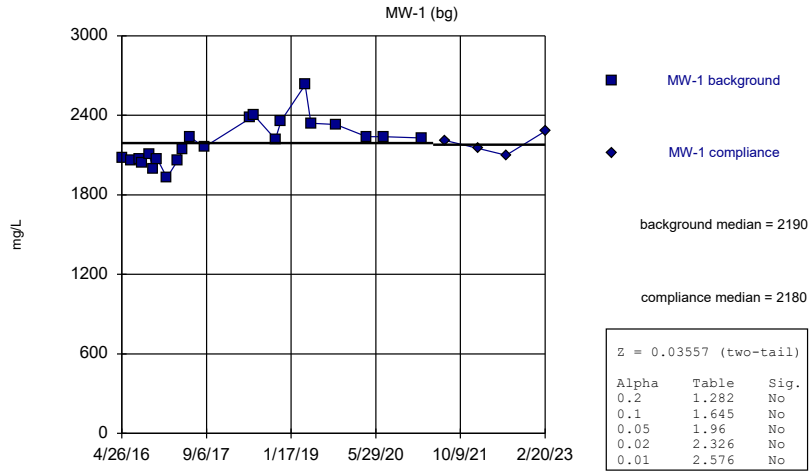
Mann-Whitney (Wilcoxon Rank Sum)

MW-8



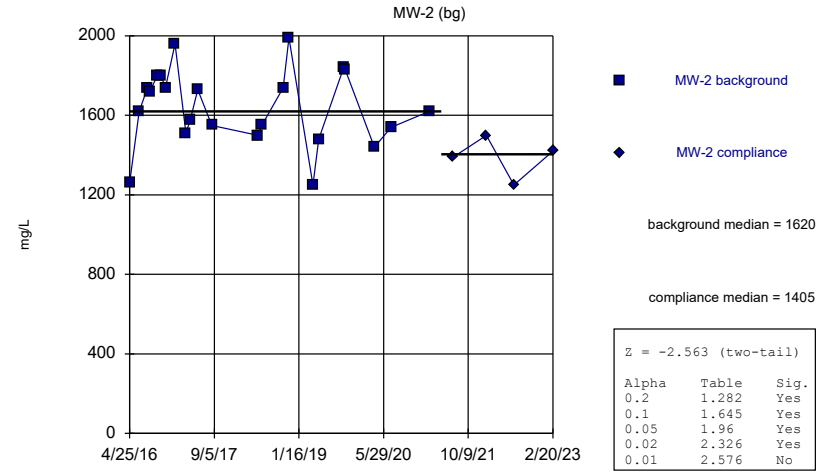
Constituent: Sulfate as SO4 Analysis Run 10/6/2023 3:31 PM View: Mann-Whitney  
Plant Gorgas Data: Gorgas CCR LF

### Mann-Whitney (Wilcoxon Rank Sum)



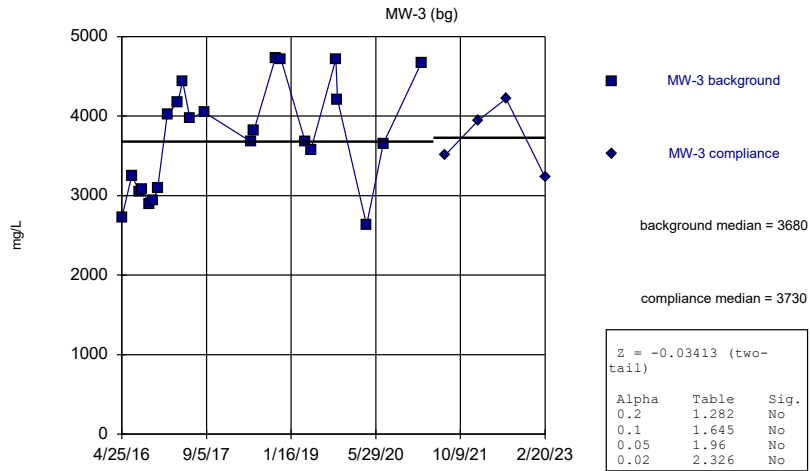
Constituent: Total Dissolved Solids [TDS] Analysis Run 10/6/2023 3:31 PM View: Mann-Whitney  
Plant Gorgas Data: Gorgas CCR LF

### Mann-Whitney (Wilcoxon Rank Sum)



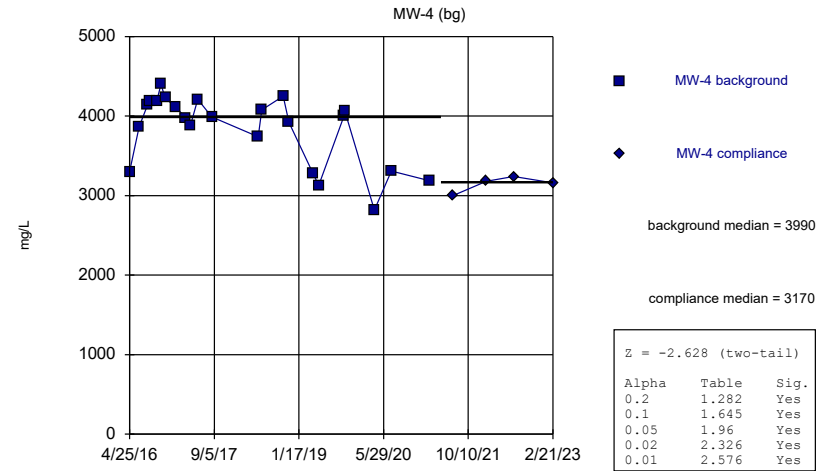
Constituent: Total Dissolved Solids [TDS] Analysis Run 10/6/2023 3:31 PM View: Mann-Whitney  
Plant Gorgas Data: Gorgas CCR LF

### Mann-Whitney (Wilcoxon Rank Sum)



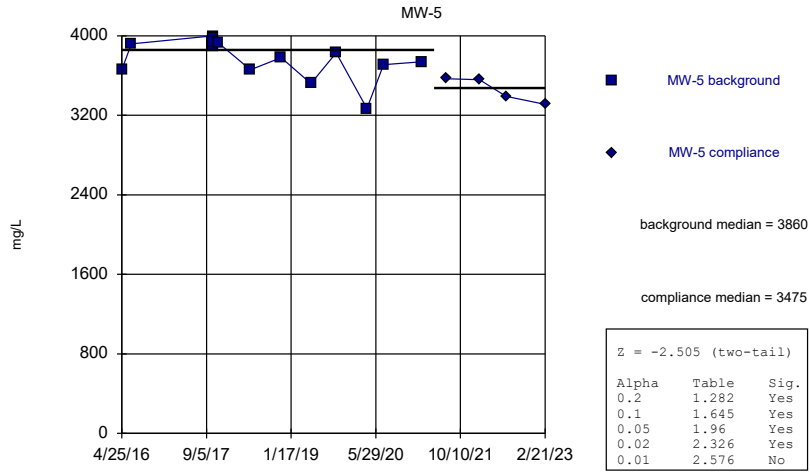
Constituent: Total Dissolved Solids [TDS] Analysis Run 10/6/2023 3:31 PM View: Mann-Whitney  
Plant Gorgas Data: Gorgas CCR LF

### Mann-Whitney (Wilcoxon Rank Sum)



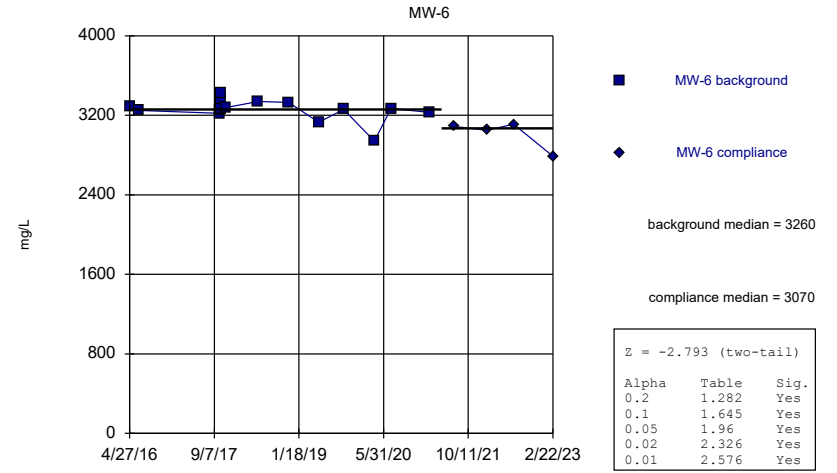
Constituent: Total Dissolved Solids [TDS] Analysis Run 10/6/2023 3:31 PM View: Mann-Whitney  
Plant Gorgas Data: Gorgas CCR LF

Mann-Whitney (Wilcoxon Rank Sum)



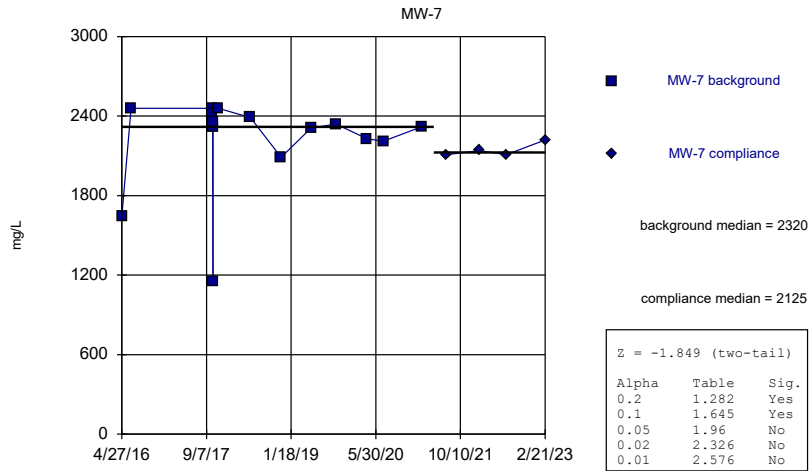
Constituent: Total Dissolved Solids [TDS] Analysis Run 10/6/2023 3:31 PM View: Mann-Whitney  
Plant Gorgas Data: Gorgas CCR LF

Mann-Whitney (Wilcoxon Rank Sum)



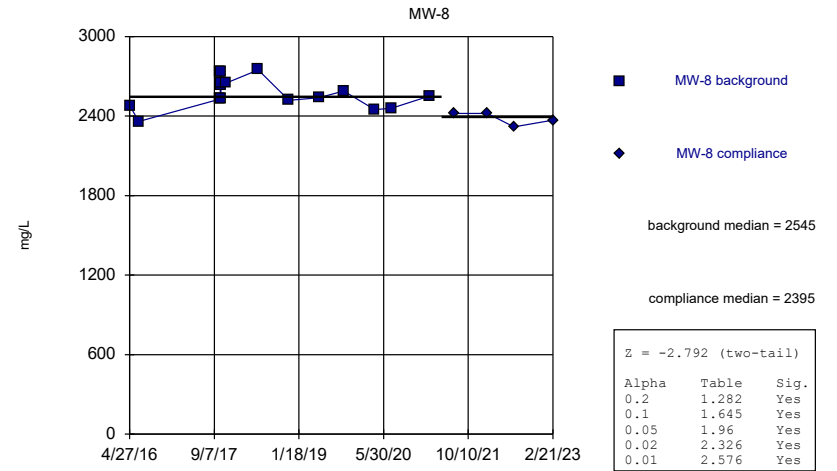
Constituent: Total Dissolved Solids [TDS] Analysis Run 10/6/2023 3:31 PM View: Mann-Whitney  
Plant Gorgas Data: Gorgas CCR LF

Mann-Whitney (Wilcoxon Rank Sum)



Constituent: Total Dissolved Solids [TDS] Analysis Run 10/6/2023 3:31 PM View: Mann-Whitney  
Plant Gorgas Data: Gorgas CCR LF

Mann-Whitney (Wilcoxon Rank Sum)



Constituent: Total Dissolved Solids [TDS] Analysis Run 10/6/2023 3:31 PM View: Mann-Whitney  
Plant Gorgas Data: Gorgas CCR LF

# Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Boron, total (mg/L) Analysis Run 10/6/2023 3:35 PM View: Mann-Whitney

Plant Gorgas Data: Gorgas CCR LF

	MW-1	MW-1
4/26/2016	0.0231 (J)	
6/20/2016	0.0227 (J)	
8/8/2016	0.0278 (J)	
8/24/2016	0.0247 (J)	
10/3/2016	0.0307 (J)	
10/26/2016	0.0241 (J)	
11/21/2016	0.0202 (J)	
1/17/2017	0.0201 (J)	
3/22/2017	0.0224 (J)	
4/18/2017	<0.1015	
5/30/2017	<0.1015	
8/23/2017	0.0253 (J)	
5/22/2018	0.0224 (J)	
6/12/2018	0.0214 (J)	
10/17/2018	0.0216 (J)	
11/19/2018	0.0237 (J)	
4/10/2019	0.0304 (J)	
5/14/2019	<0.1015	
10/8/2019	<0.1015	
10/16/2019	0.0385 (J)	
4/6/2020	<0.1015	
7/13/2020	<0.1015	
2/22/2021	0.0307 (J)	
7/12/2021		<0.1015
1/25/2022		<0.1015
7/5/2022		<0.1015
2/20/2023		<0.1015

# Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Boron, total (mg/L) Analysis Run 10/6/2023 3:35 PM View: Mann-Whitney

Plant Gorgas Data: Gorgas CCR LF

---

	MW-2	MW-2
4/25/2016	0.0241 (J)	
6/20/2016	0.0284 (J)	
8/8/2016	0.034 (J)	
8/24/2016	0.0316 (J)	
10/3/2016	0.0367 (J)	
10/26/2016	0.0331 (J)	
11/21/2016	0.035 (J)	
1/17/2017	0.0259 (J)	
3/22/2017	0.0243 (J)	
4/18/2017	0.0206 (J)	
5/31/2017	0.0234 (J)	
8/23/2017	0.0267 (J)	
5/22/2018	0.0251 (J)	
6/12/2018	0.0275 (J)	
10/17/2018	0.0321 (J)	
11/19/2018	0.0324 (J)	
4/10/2019	<0.1015	
5/14/2019	<0.1015	
10/8/2019	0.0371 (J)	
10/16/2019	0.0419 (J)	
4/6/2020	<0.1015	
7/13/2020	<0.1015	
2/22/2021	<0.1015	
7/12/2021		<0.1015
1/25/2022		<0.1015
7/5/2022		<0.1015
2/20/2023		<0.1015

# Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Boron, total (mg/L) Analysis Run 10/6/2023 3:35 PM View: Mann-Whitney

Plant Gorgas Data: Gorgas CCR LF

	MW-3	MW-3
4/25/2016	0.028 (J)	
6/22/2016	0.0433 (J)	
8/9/2016	0.0429 (J)	
8/24/2016	0.0431 (J)	
10/4/2016	0.04 (J)	
10/26/2016	0.0375 (J)	
11/21/2016	0.0406 (J)	
1/18/2017	0.0548 (J)	
3/22/2017	0.0344 (J)	
4/18/2017	<0.1015	
5/31/2017	0.0454 (J)	
8/23/2017	0.0425 (J)	
5/24/2018	0.0339 (J)	
6/12/2018	0.0371 (J)	
10/17/2018	0.0596 (J)	
11/19/2018	0.0514 (J)	
4/10/2019	<0.1015	
5/14/2019	<0.1015	
10/8/2019	0.0537 (J)	
10/16/2019	0.05 (J)	
4/6/2020	<0.1015	
7/13/2020	0.0366 (J)	
2/22/2021	<0.1015	
7/12/2021		<0.1015
1/25/2022		<0.1015
7/5/2022		0.0374 (J)
2/20/2023		<0.1015



# Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Boron, total (mg/L) Analysis Run 10/6/2023 3:35 PM View: Mann-Whitney

Plant Gorgas Data: Gorgas CCR LF

---

	MW-4	MW-4
4/25/2016	0.0414 (J)	
6/20/2016	0.0434 (J)	
8/9/2016	0.0453 (J)	
8/24/2016	0.0451 (J)	
10/3/2016	0.0511 (J)	
10/26/2016	0.0507 (J)	
11/21/2016	0.0458 (J)	
1/18/2017	0.0445 (J)	
3/22/2017	0.0432 (J)	
4/18/2017	0.0409 (J)	
5/31/2017	0.0392 (J)	
8/23/2017	0.042 (J)	
5/23/2018	0.0433 (J)	
6/12/2018	0.0478 (J)	
10/17/2018	0.0468 (J)	
11/19/2018	0.0526 (J)	
4/10/2019	0.0438 (J)	
5/14/2019	<0.203 (o)	
10/10/2019	0.0487 (J)	
10/16/2019	0.0505 (J)	
4/6/2020	0.0428 (J)	
7/14/2020	0.0441 (J)	
2/22/2021	0.0397 (J)	
7/12/2021		0.0411 (J)
1/25/2022		0.0408 (J)
7/5/2022		0.0433 (J)
2/21/2023		0.0408 (J)

# Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Boron, total (mg/L) Analysis Run 10/6/2023 3:35 PM View: Mann-Whitney

Plant Gorgas Data: Gorgas CCR LF

---

	MW-5	MW-5
4/25/2016	0.0301 (J)	
6/21/2016	0.0304 (J)	
10/12/2017	0.0285 (J)	
10/13/2017	0.0287 (J)	
10/14/2017	0.0305 (J)	
10/15/2017	0.0319 (J)	
10/16/2017	0.0304 (J)	
10/17/2017	0.036 (J)	
11/16/2017	0.0377 (J)	
5/23/2018	0.0301 (J)	
11/20/2018	0.0357 (J)	
5/14/2019	<0.203 (o)	
10/10/2019	0.0323 (J)	
4/7/2020	0.0399 (J)	
7/14/2020	0.033 (J)	
2/23/2021	0.0369 (J)	
7/21/2021		0.0319 (J)
1/31/2022		0.0314 (J)
7/6/2022		0.0355 (J)
2/21/2023		0.0315 (J)

# Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Boron, total (mg/L) Analysis Run 10/6/2023 3:35 PM View: Mann-Whitney

Plant Gorgas Data: Gorgas CCR LF

---

	MW-6	MW-6
4/27/2016	0.075 (J)	
6/21/2016	0.0729 (J)	
10/12/2017	0.0806 (J)	
10/13/2017	0.0803 (J)	
10/14/2017	0.0828 (J)	
10/15/2017	0.0852 (J)	
10/16/2017	0.0858 (J)	
10/17/2017	0.0846 (J)	
11/16/2017	0.0772 (J)	
5/23/2018	0.0757 (J)	
11/20/2018	0.0915 (J)	
5/15/2019	0.0616 (J)	
10/10/2019	0.0919 (J)	
4/8/2020	0.0499 (J)	
7/14/2020	0.0838 (J)	
2/23/2021	0.0866 (J)	
7/20/2021		0.0608 (J)
1/31/2022		0.0648 (J)
7/6/2022		0.069 (J)
2/22/2023		0.0356 (J)

# Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Boron, total (mg/L) Analysis Run 10/6/2023 3:35 PM View: Mann-Whitney

Plant Gorgas Data: Gorgas CCR LF

---

	MW-7	MW-7
4/27/2016	0.253 (O)	
6/21/2016	0.0768 (J)	
10/12/2017	0.0685 (J)	
10/13/2017	0.0674 (J)	
10/14/2017	0.0756 (J)	
10/15/2017	0.0719 (J)	
10/16/2017	0.0726 (J)	
10/17/2017	0.0716 (J)	
11/16/2017	0.0644 (J)	
5/23/2018	0.0715 (J)	
11/20/2018	0.0772 (J)	
5/15/2019	0.0678 (J)	
10/8/2019	0.073 (J)	
4/8/2020	0.077 (J)	
7/14/2020	0.0865 (J)	
2/23/2021	0.0803 (J)	
7/20/2021		0.0721 (J)
1/31/2022		0.0689 (J)
7/6/2022		0.0752 (J)
2/21/2023		0.0645 (J)

# Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Boron, total (mg/L) Analysis Run 10/6/2023 3:35 PM View: Mann-Whitney

Plant Gorgas Data: Gorgas CCR LF

---

	MW-8	MW-8
4/27/2016	0.0662 (J)	
6/21/2016	0.0681 (J)	
10/12/2017	0.0687 (J)	
10/13/2017	0.0831 (J)	
10/14/2017	0.0702 (J)	
10/15/2017	0.0702 (J)	
10/16/2017	0.0707 (J)	
10/17/2017	0.0695 (J)	
11/16/2017	0.0675 (J)	
5/23/2018	0.0693 (J)	
11/20/2018	0.0771 (J)	
5/15/2019	0.0689 (J)	
10/9/2019	0.0723 (J)	
4/8/2020	0.0683 (J)	
7/15/2020	0.0723 (J)	
2/23/2021	0.0731 (J)	
7/20/2021		0.0656 (J)
2/1/2022		0.0639 (J)
7/6/2022		0.0686 (J)
2/21/2023		0.0609 (J)

# Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Calcium, total (mg/L) Analysis Run 10/6/2023 3:35 PM View: Mann-Whitney

Plant Gorgas Data: Gorgas CCR LF

---

	MW-1	MW-1
4/26/2016	147	
6/20/2016	152	
8/8/2016	150	
8/24/2016	142	
10/3/2016	139	
10/26/2016	133	
11/21/2016	144	
1/17/2017	131	
3/22/2017	141	
4/18/2017	149	
5/30/2017	140	
8/23/2017	152	
5/22/2018	166	
6/12/2018	203	
10/17/2018	171	
11/19/2018	154	
4/10/2019	243	
5/14/2019	167	
10/8/2019	157	
10/16/2019	157	
4/6/2020	149	
7/13/2020	147	
2/22/2021	151	
7/12/2021		149
1/25/2022		150
7/5/2022		168
2/20/2023		151

# Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Calcium, total (mg/L) Analysis Run 10/6/2023 3:35 PM View: Mann-Whitney

Plant Gorgas Data: Gorgas CCR LF

---

	MW-2	MW-2
4/25/2016	123	
6/20/2016	168	
8/8/2016	180	
8/24/2016	180	
10/3/2016	184	
10/26/2016	171	
11/21/2016	179	
1/17/2017	188	
3/22/2017	155	
4/18/2017	156	
5/31/2017	151	
8/23/2017	155	
5/22/2018	172	
6/12/2018	179	
10/17/2018	200	
11/19/2018	221	
4/10/2019	200	
5/14/2019	168	
10/8/2019	190	
10/16/2019	194	
4/6/2020	152	
7/13/2020	163	
2/22/2021	178	
7/12/2021		159
1/25/2022		179
7/5/2022		172
2/20/2023		160

# Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Calcium, total (mg/L) Analysis Run 10/6/2023 3:35 PM View: Mann-Whitney

Plant Gorgas Data: Gorgas CCR LF

---

	MW-3	MW-3
4/25/2016	224	
6/22/2016	266	
8/9/2016	260	
8/24/2016	274	
10/4/2016	243	
10/26/2016	254	
11/21/2016	263	
1/18/2017	431	
3/22/2017	318	
4/18/2017	296	
5/31/2017	306	
8/23/2017	298	
5/24/2018	297	
6/12/2018	318	
10/17/2018	392	
11/19/2018	387	
4/10/2019	348	
5/14/2019	254	
10/8/2019	371	
10/16/2019	346	
4/6/2020	177	
7/13/2020	264	
2/22/2021	312	
7/12/2021		252
1/25/2022		285
7/5/2022		369
2/20/2023		210



# Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Calcium, total (mg/L) Analysis Run 10/6/2023 3:35 PM View: Mann-Whitney

Plant Gorgas Data: Gorgas CCR LF

---

	MW-4	MW-4
4/25/2016	261	
6/20/2016	295	
8/9/2016	318	
8/24/2016	319	
10/3/2016	293	
10/26/2016	311	
11/21/2016	320	
1/18/2017	417	
3/22/2017	292	
4/18/2017	302	
5/31/2017	284	
8/23/2017	297	
5/23/2018	296	
6/12/2018	355	
10/17/2018	342	
11/19/2018	289	
4/10/2019	356	
5/14/2019	254	
10/10/2019	302	
10/16/2019	356	
4/6/2020	222	
7/14/2020	259	
2/22/2021	271	
7/12/2021		242
1/25/2022		259
7/5/2022		294
2/21/2023		232

# Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Calcium, total (mg/L) Analysis Run 10/6/2023 3:35 PM View: Mann-Whitney  
Plant Gorgas Data: Gorgas CCR LF

---

	MW-5	MW-5
4/25/2016	399	
6/21/2016	295	
10/12/2017	394	
10/13/2017	389	
10/14/2017	391	
10/15/2017	332	
10/16/2017	380	
10/17/2017	377	
11/16/2017	368	
5/23/2018	405	
11/20/2018	414	
5/14/2019	441	
10/10/2019	386	
4/7/2020	432	
7/14/2020	395	
2/23/2021	394	
7/21/2021		384
1/31/2022		398
7/6/2022		414
2/21/2023		367

# Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Calcium, total (mg/L) Analysis Run 10/6/2023 3:35 PM View: Mann-Whitney  
Plant Gorgas Data: Gorgas CCR LF

---

	MW-6	MW-6
4/27/2016	411	
6/21/2016	318	
10/12/2017	421	
10/13/2017	396	
10/14/2017	400	
10/15/2017	378	
10/16/2017	402	
10/17/2017	373	
11/16/2017	367	
5/23/2018	425	
11/20/2018	449	
5/15/2019	345	
10/10/2019	461	
4/8/2020	242	
7/14/2020	406	
2/23/2021	428	
7/20/2021		348
1/31/2022		385
7/6/2022		430
2/22/2023		250

# Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Calcium, total (mg/L) Analysis Run 10/6/2023 3:35 PM View: Mann-Whitney  
Plant Gorgas Data: Gorgas CCR LF

---

	MW-7	MW-7
4/27/2016	198	
6/21/2016	327	
10/12/2017	317	
10/13/2017	302	
10/14/2017	283	
10/15/2017	294	
10/16/2017	284	
10/17/2017	294	
11/16/2017	299	
5/23/2018	321	
11/20/2018	306	
5/15/2019	302	
10/8/2019	294	
4/8/2020	280	
7/14/2020	261	
2/23/2021	292	
7/20/2021		254
1/31/2022		278
7/6/2022		280
2/21/2023		286

# Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Calcium, total (mg/L) Analysis Run 10/6/2023 3:35 PM View: Mann-Whitney  
Plant Gorgas Data: Gorgas CCR LF

---

	MW-8	MW-8
4/27/2016	282	
6/21/2016	291	
10/12/2017	300	
10/13/2017	298	
10/14/2017	299	
10/15/2017	307	
10/16/2017	299	
10/17/2017	294	
11/16/2017	308	
5/23/2018	344	
11/20/2018	327	
5/15/2019	305	
10/9/2019	329	
4/8/2020	281	
7/15/2020	280	
2/23/2021	306	
7/20/2021		281
2/1/2022		284
7/6/2022		306
2/21/2023		327

# Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Fluoride, total (mg/L) Analysis Run 10/6/2023 3:35 PM View: Mann-Whitney

Plant Gorgas Data: Gorgas CCR LF

---

	MW-1	MW-1
4/26/2016	0.146 (J)	
6/20/2016	0.148 (J)	
8/8/2016	0.137 (J)	
8/24/2016	0.133 (J)	
10/3/2016	0.103 (J)	
10/26/2016	0.05 (J)	
11/21/2016	0.047 (J)	
1/17/2017	0.09 (J)	
3/22/2017	0.12	
4/18/2017	0.12	
5/30/2017	0.13	
8/23/2017	0.16	
2/13/2018	0.14	
5/22/2018	0.16	
6/12/2018	0.16	
10/17/2018	0.18	
11/19/2018	0.15	
4/10/2019	0.102	
5/14/2019	0.119	
10/8/2019	0.0924 (J)	
10/16/2019	0.0756 (J)	
4/6/2020	0.101	
7/13/2020	0.0678 (J)	
2/22/2021	0.082 (J)	
7/12/2021		0.125
1/25/2022		0.101
7/5/2022		0.11 (J)
2/20/2023		0.221

# Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Fluoride, total (mg/L) Analysis Run 10/6/2023 3:35 PM View: Mann-Whitney

Plant Gorgas Data: Gorgas CCR LF

---

	MW-2	MW-2
4/25/2016	0.149 (J)	
6/20/2016	0.148 (J)	
8/8/2016	0.134 (J)	
8/24/2016	0.129 (J)	
10/3/2016	0.086 (J)	
10/26/2016	0.027 (J)	
11/21/2016	0.027 (J)	
1/17/2017	0.066 (J)	
3/22/2017	0.13	
4/18/2017	0.16	
5/31/2017	0.13	
8/23/2017	0.16	
2/13/2018	0.22	
5/22/2018	0.17	
6/12/2018	0.16	
10/17/2018	0.16	
11/19/2018	0.18	
4/10/2019	0.262	
5/14/2019	0.17	
10/8/2019	0.164	
10/16/2019	0.114	
4/6/2020	0.207	
7/13/2020	0.132	
2/22/2021	0.209	
7/12/2021		0.196
1/25/2022		0.204
7/5/2022		0.2
2/20/2023		0.267

# Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Fluoride, total (mg/L) Analysis Run 10/6/2023 3:35 PM View: Mann-Whitney  
Plant Gorgas Data: Gorgas CCR LF

---

	MW-3	MW-3
4/25/2016	0.243 (J)	
6/22/2016	0.269 (J)	
8/9/2016	0.363	
8/24/2016	0.346	
10/4/2016	0.266 (J)	
10/26/2016	0.266 (J)	
11/21/2016	0.244 (J)	
1/18/2017	0.385	
3/22/2017	0.41	
4/18/2017	0.29	
5/31/2017	0.37	
8/23/2017	0.55	
2/13/2018	0.27	
5/24/2018	0.6	
6/12/2018	0.53	
10/17/2018	0.63	
11/19/2018	0.31	
4/10/2019	0.273	
5/14/2019	0.281	
10/8/2019	0.225	
10/16/2019	0.106	
4/6/2020	0.314	
7/13/2020	0.13	
2/22/2021	0.246	
7/12/2021		0.287
1/25/2022		0.325
7/5/2022		0.386
2/20/2023		0.379



# Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Fluoride, total (mg/L) Analysis Run 10/6/2023 3:35 PM View: Mann-Whitney  
Plant Gorgas Data: Gorgas CCR LF

---

	MW-4	MW-4
4/25/2016	0.372	
6/20/2016	0.361	
8/9/2016	0.326	
8/24/2016	0.329	
10/3/2016	0.287 (J)	
10/26/2016	0.194 (J)	
11/21/2016	0.192 (J)	
1/18/2017	0.223 (J)	
3/22/2017	0.32	
4/18/2017	0.32	
5/31/2017	0.31	
8/23/2017	0.38	
2/13/2018	0.38	
5/23/2018	0.38	
6/12/2018	0.39	
10/17/2018	0.39	
11/19/2018	0.36	
4/10/2019	0.384	
5/14/2019	0.335	
10/10/2019	0.304	
10/16/2019	0.302	
4/6/2020	0.368	
7/14/2020	0.33	
2/22/2021	0.357	
7/12/2021		0.35
1/25/2022		0.364
7/5/2022		0.362
2/21/2023		0.415

# Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Fluoride, total (mg/L) Analysis Run 10/6/2023 3:35 PM View: Mann-Whitney  
Plant Gorgas Data: Gorgas CCR LF

---

	MW-5	MW-5
4/25/2016	0.307	
6/21/2016	0.337	
10/12/2017	0.35	
10/13/2017	0.36	
10/14/2017	0.37	
10/15/2017	0.37	
10/16/2017	0.36	
10/17/2017	0.35	
11/16/2017	0.37	
2/14/2018	0.33	
5/23/2018	0.29	
11/20/2018	0.32	
5/14/2019	0.22	
10/10/2019	0.338	
4/7/2020	0.225	
7/14/2020	0.263	
2/23/2021	0.287	
7/21/2021		0.331
1/31/2022		0.291
7/6/2022		0.306
2/21/2023		0.319

# Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Fluoride, total (mg/L) Analysis Run 10/6/2023 3:35 PM View: Mann-Whitney

Plant Gorgas Data: Gorgas CCR LF

---

	MW-6	MW-6
4/27/2016	0.131 (J)	
6/21/2016	0.153 (J)	
10/12/2017	0.15	
10/13/2017	0.15	
10/14/2017	0.14	
10/15/2017	0.14	
10/16/2017	0.14	
10/17/2017	0.14	
11/16/2017	0.14	
2/14/2018	0.13	
5/23/2018	0.13	
11/20/2018	0.14	
5/15/2019	0.133	
10/10/2019	0.124	
4/8/2020	<0.1 (o)	
7/14/2020	0.115	
2/23/2021	0.139	
7/20/2021		0.131
1/31/2022		0.121
7/6/2022		0.147
2/22/2023		0.173

# Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Fluoride, total (mg/L) Analysis Run 10/6/2023 3:35 PM View: Mann-Whitney

Plant Gorgas Data: Gorgas CCR LF

---

	MW-7	MW-7
4/27/2016	0.2 (J)	
6/21/2016	0.163 (J)	
10/12/2017	0.17	
10/13/2017	0.19	
10/14/2017	0.2	
10/15/2017	0.2	
10/16/2017	0.2	
10/17/2017	0.19	
11/16/2017	0.18	
2/14/2018	0.18	
5/23/2018	0.18	
11/20/2018	0.19	
5/15/2019	0.169	
10/8/2019	0.183	
4/8/2020	0.153	
7/14/2020	0.193	
2/23/2021	0.2	
7/20/2021		0.286
1/31/2022		0.173
7/6/2022		0.208
2/21/2023		0.216

# Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Fluoride, total (mg/L) Analysis Run 10/6/2023 3:35 PM View: Mann-Whitney

Plant Gorgas Data: Gorgas CCR LF

---

	MW-8	MW-8
4/27/2016	0.212 (J)	
6/21/2016	0.211 (J)	
10/12/2017	0.22	
10/13/2017	0.23	
10/14/2017	0.22	
10/15/2017	0.22	
10/16/2017	0.22	
10/17/2017	0.21	
11/16/2017	0.22	
2/14/2018	0.21	
5/23/2018	0.21	
11/20/2018	0.21	
5/15/2019	0.192	
10/9/2019	0.189	
4/8/2020	0.192	
7/15/2020	0.196	
2/23/2021	0.208	
7/20/2021		0.262
2/1/2022		0.177
7/6/2022		0.173
2/21/2023		0.212

# Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Sulfate as SO4 (mg/L) Analysis Run 10/6/2023 3:35 PM View: Mann-Whitney

Plant Gorgas Data: Gorgas CCR LF

---

	MW-1	MW-1
4/26/2016	1490	
6/20/2016	1420	
8/8/2016	1460	
8/24/2016	1450	
10/3/2016	1460	
10/26/2016	1330	
11/21/2016	1420	
1/17/2017	1350	
3/22/2017	1500	
4/18/2017	1300	
5/30/2017	1400	
8/23/2017	1500	
5/22/2018	2100 (o)	
6/12/2018	1500	
10/17/2018	1400	
11/19/2018	1300	
4/10/2019	1700	
5/14/2019	1560	
10/8/2019	1540	
10/16/2019	1680	
4/6/2020	1530	
7/13/2020	1450	
2/22/2021	1400	
7/12/2021		1560
1/25/2022		1430
7/5/2022		1600
2/20/2023		1520

# Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Sulfate as SO4 (mg/L) Analysis Run 10/6/2023 3:35 PM View: Mann-Whitney

Plant Gorgas Data: Gorgas CCR LF

---

	MW-2	MW-2
4/25/2016	745	
6/20/2016	964	
8/8/2016	1100	
8/24/2016	1130	
10/3/2016	1140	
10/26/2016	1060	
11/21/2016	1100	
1/17/2017	1160	
3/22/2017	900	
4/18/2017	870	
5/31/2017	1100	
8/23/2017	920	
5/22/2018	1200	
6/12/2018	860	
10/17/2018	970	
11/19/2018	1000	
4/10/2019	889	
5/14/2019	948	
10/8/2019	1230	
10/16/2019	1170	
4/6/2020	786	
7/13/2020	843	
2/22/2021	864	
7/12/2021		763
1/25/2022		842
7/5/2022		819
2/20/2023		767

# Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Sulfate as SO4 (mg/L) Analysis Run 10/6/2023 3:35 PM View: Mann-Whitney

Plant Gorgas Data: Gorgas CCR LF

---

	MW-3	MW-3
4/25/2016	1890	
6/22/2016	2100	
8/9/2016	2050	
8/24/2016	2190	
10/4/2016	1950	
10/26/2016	1980	
11/21/2016	2060	
1/18/2017	2620	
3/22/2017	3200	
4/18/2017	2500	
5/31/2017	2800	
8/23/2017	2600	
5/24/2018	2700	
6/12/2018	2500	
10/17/2018	2700	
11/19/2018	3000	
4/10/2019	2460	
5/14/2019	2460	
10/8/2019	2950	
10/16/2019	2820	
4/6/2020	1670	
7/13/2020	2130	
2/22/2021	3040	
7/12/2021		2380
1/25/2022		2550
7/5/2022		3110
2/20/2023		2110



# Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Sulfate as SO4 (mg/L) Analysis Run 10/6/2023 3:35 PM View: Mann-Whitney

Plant Gorgas Data: Gorgas CCR LF

---

	MW-4	MW-4
4/25/2016	2260	
6/20/2016	2500	
8/9/2016	2750	
8/24/2016	2770	
10/3/2016	3060	
10/26/2016	2650	
11/21/2016	2720	
1/18/2017	2650	
3/22/2017	2700	
4/18/2017	2400	
5/31/2017	2700	
8/23/2017	2700	
5/23/2018	2400	
6/12/2018	2600	
10/17/2018	2600	
11/19/2018	2400	
4/10/2019	2090	
5/14/2019	2240	
10/10/2019	2690	
10/16/2019	3050	
4/6/2020	1810	
7/14/2020	1970	
2/22/2021	2040	
7/12/2021		1930
1/25/2022		1930
7/5/2022		2380
2/21/2023		1930

# Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Sulfate as SO4 (mg/L) Analysis Run 10/6/2023 3:35 PM View: Mann-Whitney

Plant Gorgas Data: Gorgas CCR LF

---

	MW-5	MW-5
4/25/2016	2390	
6/21/2016	2500	
10/12/2017	2300	
10/13/2017	2300	
10/14/2017	2300	
10/15/2017	2300	
10/16/2017	2300	
10/17/2017	2200	
11/16/2017	2200	
5/23/2018	2400	
11/20/2018	2500	
5/14/2019	2380	
10/10/2019	2460	
4/7/2020	2050	
7/14/2020	2080	
2/23/2021	2210	
7/21/2021		2240
1/31/2022		2310
7/6/2022		2320
2/21/2023		2210

# Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Sulfate as SO4 (mg/L) Analysis Run 10/6/2023 3:35 PM View: Mann-Whitney

Plant Gorgas Data: Gorgas CCR LF

---

	MW-6	MW-6
4/27/2016	2090	
6/21/2016	2000	
10/12/2017	2000	
10/13/2017	2000	
10/14/2017	1900	
10/15/2017	1900	
10/16/2017	1900	
10/17/2017	1900	
11/16/2017	1800	
5/23/2018	2000	
11/20/2018	2200	
5/15/2019	2110	
10/10/2019	2330	
4/8/2020	1900	
7/14/2020	1970	
2/23/2021	2010	
7/20/2021		1930
1/31/2022		2080
7/6/2022		2100
2/22/2023		1870

# Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Sulfate as SO4 (mg/L) Analysis Run 10/6/2023 3:35 PM View: Mann-Whitney

Plant Gorgas Data: Gorgas CCR LF

---

	MW-7	MW-7
4/27/2016	1050	
6/21/2016	1410	
10/12/2017	1400	
10/13/2017	1400	
10/14/2017	1300	
10/15/2017	1300	
10/16/2017	1300	
10/17/2017	1300	
11/16/2017	1300	
5/23/2018	1900 (O)	
11/20/2018	1100	
5/15/2019	1510	
10/8/2019	1570	
4/8/2020	1270	
7/14/2020	1330	
2/23/2021	1320	
7/20/2021		1170
1/31/2022		1370
7/6/2022		1330
2/21/2023		1450

# Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Sulfate as SO4 (mg/L) Analysis Run 10/6/2023 3:35 PM View: Mann-Whitney

Plant Gorgas Data: Gorgas CCR LF

---

	MW-8	MW-8
4/27/2016	1550	
6/21/2016	1470	
10/12/2017	1400	
10/13/2017	1600	
10/14/2017	1400	
10/15/2017	1400	
10/16/2017	1400	
10/17/2017	1400	
11/16/2017	1400	
5/23/2018	2100 (o)	
11/20/2018	1400	
5/15/2019	1640	
10/9/2019	1550	
4/8/2020	1380	
7/15/2020	1410	
2/23/2021	1420	
7/20/2021		1500
2/1/2022		1500
7/6/2022		1460
2/21/2023		1510

# Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Total Dissolved Solids [TDS] (mg/L) Analysis Run 10/6/2023 3:35 PM View: Mann-Whitney

Plant Gorgas Data: Gorgas CCR LF

---

	MW-1	MW-1
4/26/2016	2080	
6/20/2016	2060	
8/8/2016	2070	
8/24/2016	2040	
10/3/2016	2110	
10/26/2016	2000	
11/21/2016	2070	
1/17/2017	1930	
3/22/2017	2060	
4/18/2017	2140	
5/30/2017	2240	
8/23/2017	2160	
5/22/2018	2380	
6/12/2018	2400	
10/17/2018	2220	
11/19/2018	2360	
4/10/2019	2630	
5/14/2019	2340	
10/8/2019	2330	
10/16/2019	3650 (o)	
4/6/2020	2240	
7/13/2020	2240	
2/22/2021	2230	
7/12/2021		2210
1/25/2022		2150
7/5/2022		2100
2/20/2023		2280

# Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Total Dissolved Solids [TDS] (mg/L) Analysis Run 10/6/2023 3:35 PM View: Mann-Whitney  
Plant Gorgas Data: Gorgas CCR LF

---

	MW-2	MW-2
4/25/2016	1260	
6/20/2016	1620	
8/8/2016	1740	
8/24/2016	1720	
10/3/2016	1800	
10/26/2016	1800	
11/21/2016	1740	
1/17/2017	1960	
3/22/2017	1510	
4/18/2017	1580	
5/31/2017	1730	
8/23/2017	1550	
5/22/2018	1500	
6/12/2018	1550	
10/17/2018	1740	
11/19/2018	1990	
4/10/2019	1250	
5/14/2019	1480	
10/8/2019	1840	
10/16/2019	1830	
4/6/2020	1440	
7/13/2020	1540	
2/22/2021	1620	
7/12/2021		1390
1/25/2022		1500
7/5/2022		1250
2/20/2023		1420

# Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Total Dissolved Solids [TDS] (mg/L) Analysis Run 10/6/2023 3:35 PM View: Mann-Whitney

Plant Gorgas Data: Gorgas CCR LF

---

	MW-3	MW-3
4/25/2016	2720	
6/22/2016	3250	
8/9/2016	3050	
8/24/2016	3080	
10/4/2016	2900	
10/26/2016	2940	
11/21/2016	3090	
1/18/2017	4020	
3/22/2017	4180	
4/18/2017	4440	
5/31/2017	3970	
8/23/2017	4050	
5/24/2018	3680	
6/12/2018	3820	
10/17/2018	4730	
11/19/2018	4710	
4/10/2019	3680	
5/14/2019	3580	
10/8/2019	4720	
10/16/2019	4210	
4/6/2020	2630	
7/13/2020	3650	
2/22/2021	4670	
7/12/2021		3510
1/25/2022		3950
7/5/2022		4220
2/20/2023		3230



# Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Total Dissolved Solids [TDS] (mg/L) Analysis Run 10/6/2023 3:35 PM View: Mann-Whitney

Plant Gorgas Data: Gorgas CCR LF

---

	MW-4	MW-4
4/25/2016	3300	
6/20/2016	3870	
8/9/2016	4140	
8/24/2016	4190	
10/3/2016	4190	
10/26/2016	4400	
11/21/2016	4230	
1/18/2017	4120	
3/22/2017	3980	
4/18/2017	3880	
5/31/2017	4210	
8/23/2017	3990	
5/23/2018	3740	
6/12/2018	4080	
10/17/2018	4250	
11/19/2018	3920	
4/10/2019	3280	
5/14/2019	3130 (D)	
10/10/2019	4000	
10/16/2019	4060	
4/6/2020	2820	
7/14/2020	3310	
2/22/2021	3190	
7/12/2021		3000
1/25/2022		3180
7/5/2022		3240
2/21/2023		3160

# Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Total Dissolved Solids [TDS] (mg/L) Analysis Run 10/6/2023 3:35 PM View: Mann-Whitney  
Plant Gorgas Data: Gorgas CCR LF

---

	MW-5	MW-5
4/25/2016	3660	
6/21/2016	3920	
10/12/2017	4000	
10/13/2017	3960	
10/14/2017	3910	
10/15/2017	3890	
10/16/2017	3980	
10/17/2017	3940	
11/16/2017	3930	
5/23/2018	3660	
11/20/2018	3780	
5/14/2019	3520	
10/10/2019	3830	
4/7/2020	3270	
7/14/2020	3710	
2/23/2021	3740	
7/21/2021		3570
1/31/2022		3560
7/6/2022		3390
2/21/2023		3310

# Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Total Dissolved Solids [TDS] (mg/L) Analysis Run 10/6/2023 3:35 PM View: Mann-Whitney  
Plant Gorgas Data: Gorgas CCR LF

---

	MW-6	MW-6
4/27/2016	3290	
6/21/2016	3250	
10/12/2017	3220	
10/13/2017	3250	
10/14/2017	3260	
10/15/2017	3260	
10/16/2017	3360	
10/17/2017	3420	
11/16/2017	3280	
5/23/2018	3340	
11/20/2018	3330	
5/15/2019	3130	
10/10/2019	3260	
4/8/2020	2940	
7/14/2020	3270	
2/23/2021	3230	
7/20/2021		3090
1/31/2022		3050
7/6/2022		3110
2/22/2023		2790

# Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Total Dissolved Solids [TDS] (mg/L) Analysis Run 10/6/2023 3:35 PM View: Mann-Whitney  
Plant Gorgas Data: Gorgas CCR LF

---

	MW-7	MW-7
4/27/2016	1640	
6/21/2016	2460	
10/12/2017	2460	
10/13/2017	2420	
10/14/2017	2320	
10/15/2017	1150	
10/16/2017	2320	
10/17/2017	2360	
11/16/2017	2460	
5/23/2018	2390	
11/20/2018	2090	
5/15/2019	2310	
10/8/2019	2340	
4/8/2020	2230	
7/14/2020	2210	
2/23/2021	2320	
7/20/2021		2110
1/31/2022		2140
7/6/2022		2110
2/21/2023		2220

# Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Total Dissolved Solids [TDS] (mg/L) Analysis Run 10/6/2023 3:35 PM View: Mann-Whitney  
Plant Gorgas Data: Gorgas CCR LF

---

	MW-8	MW-8
4/27/2016	2480	
6/21/2016	2360	
10/12/2017	2530	
10/13/2017	2740	
10/14/2017	2630	
10/15/2017	2530	
10/16/2017	2740	
10/17/2017	2650	
11/16/2017	2650	
5/23/2018	2750	
11/20/2018	2520	
5/15/2019	2540	
10/9/2019	2590	
4/8/2020	2450	
7/15/2020	2460	
2/23/2021	2550	
7/20/2021		2420
2/1/2022		2420
7/6/2022		2320
2/21/2023		2370

FIGURE E.

# Upgradient Wells Trend Tests - Significant Results

Plant Gorgas Data: Gorgas CCR LF Printed 10/6/2023, 3:55 PM

<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Alpha</u>	<u>Method</u>
pH, Field (SU)	MW-1 (bg)	-0.01854	-181	-131	Yes	28	0	n/a	0.01	NP
pH, Field (SU)	MW-2 (bg)	0.04189	142	131	Yes	28	0	n/a	0.01	NP

# Upgradient Wells Trend Tests - All Results

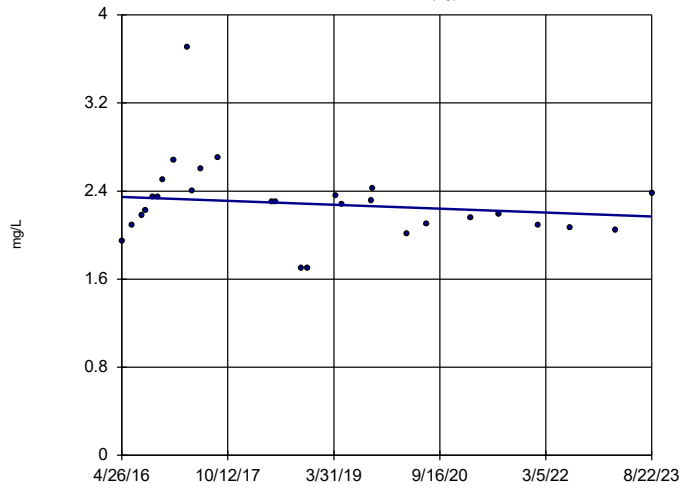
Plant Gorgas Data: Gorgas CCR LF Printed 10/6/2023, 3:55 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Alpha	Method
Chloride, Total (mg/L)	MW-1 (bg)	-0.02423	-54	-131	No	28	0	n/a	0.01	NP
Chloride, Total (mg/L)	MW-2 (bg)	-0.1196	-77	-131	No	28	0	n/a	0.01	NP
Chloride, Total (mg/L)	MW-3 (bg)	0.04365	68	131	No	28	7.143	n/a	0.01	NP
Chloride, Total (mg/L)	MW-4 (bg)	-0.04985	-94	-131	No	28	3.571	n/a	0.01	NP
<b>pH, Field (SU)</b>	<b>MW-1 (bg)</b>	<b>-0.01854</b>	<b>-181</b>	<b>-131</b>	<b>Yes</b>	<b>28</b>	<b>0</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
<b>pH, Field (SU)</b>	<b>MW-2 (bg)</b>	<b>0.04189</b>	<b>142</b>	<b>131</b>	<b>Yes</b>	<b>28</b>	<b>0</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
pH, Field (SU)	MW-3 (bg)	0.02424	22	131	No	28	0	n/a	0.01	NP
pH, Field (SU)	MW-4 (bg)	0.01768	115	139	No	29	0	n/a	0.01	NP



### Sen's Slope Estimator

MW-1 (bg)

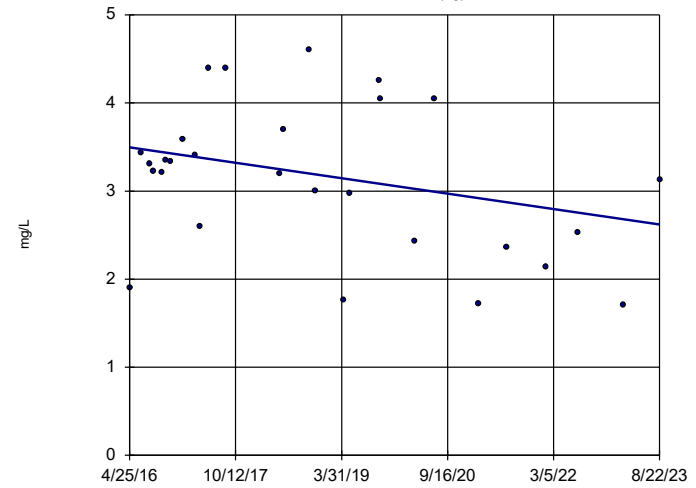


n = 28  
 Slope = -0.02423  
 units per year.  
 Mann-Kendall  
 statistic = -54  
 critical = -131  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Chloride, Total Analysis Run 10/6/2023 3:52 PM View: Upgradient Trend Tests  
 Plant Gorgas Data: Gorgas CCR LF

### Sen's Slope Estimator

MW-2 (bg)

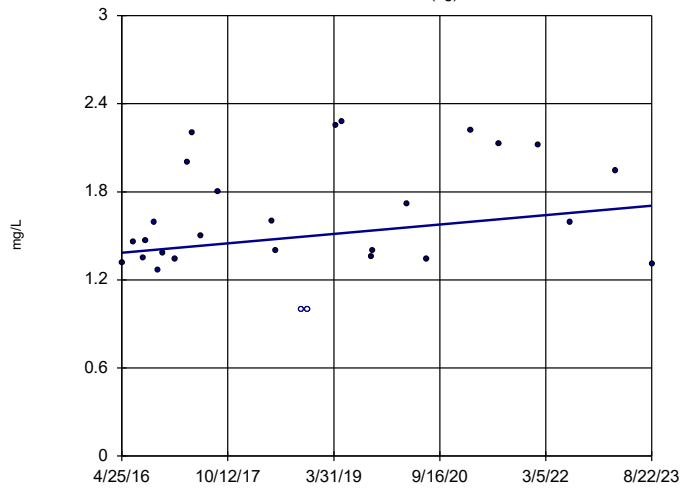


n = 28  
 Slope = -0.1196  
 units per year.  
 Mann-Kendall  
 statistic = -77  
 critical = -131  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Chloride, Total Analysis Run 10/6/2023 3:52 PM View: Upgradient Trend Tests  
 Plant Gorgas Data: Gorgas CCR LF

### Sen's Slope Estimator

MW-3 (bg)

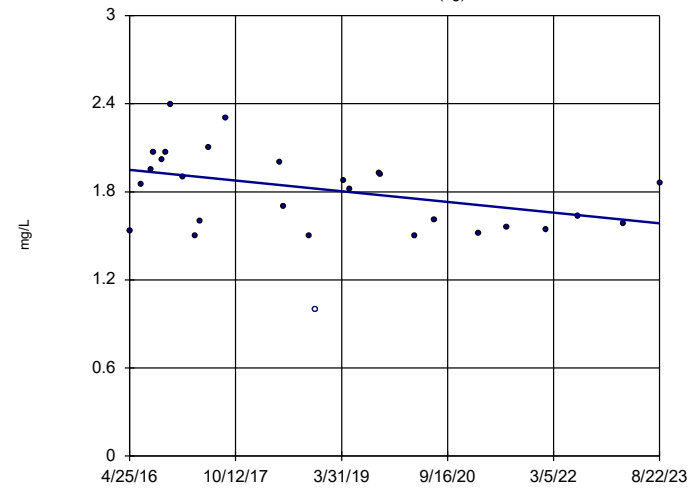


n = 28  
 Slope = 0.04365  
 units per year.  
 Mann-Kendall  
 statistic = 68  
 critical = 131  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Chloride, Total Analysis Run 10/6/2023 3:52 PM View: Upgradient Trend Tests  
 Plant Gorgas Data: Gorgas CCR LF

### Sen's Slope Estimator

MW-4 (bg)

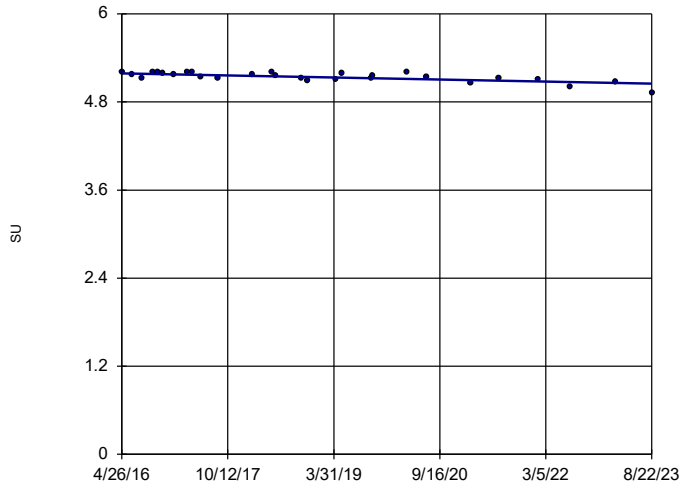


n = 28  
 Slope = -0.04985  
 units per year.  
 Mann-Kendall  
 statistic = -94  
 critical = -131  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Chloride, Total Analysis Run 10/6/2023 3:52 PM View: Upgradient Trend Tests  
 Plant Gorgas Data: Gorgas CCR LF

### Sen's Slope Estimator

MW-1 (bg)

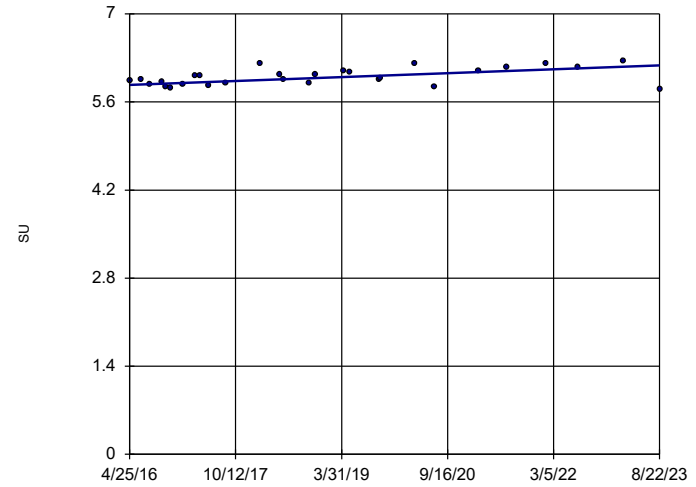


n = 28  
 Slope = -0.01854  
 units per year.  
 Mann-Kendall  
 statistic = -181  
 critical = -131  
 Decreasing trend  
 significant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: pH, Field Analysis Run 10/6/2023 3:52 PM View: Upgradient Trend Tests  
 Plant Gorgas Data: Gorgas CCR LF

### Sen's Slope Estimator

MW-2 (bg)

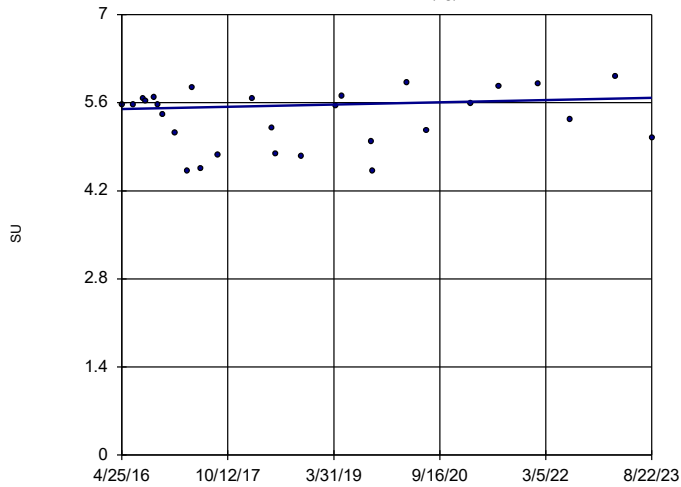


n = 28  
 Slope = 0.04189  
 units per year.  
 Mann-Kendall  
 statistic = 142  
 critical = 131  
 Increasing trend  
 significant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: pH, Field Analysis Run 10/6/2023 3:52 PM View: Upgradient Trend Tests  
 Plant Gorgas Data: Gorgas CCR LF

### Sen's Slope Estimator

MW-3 (bg)

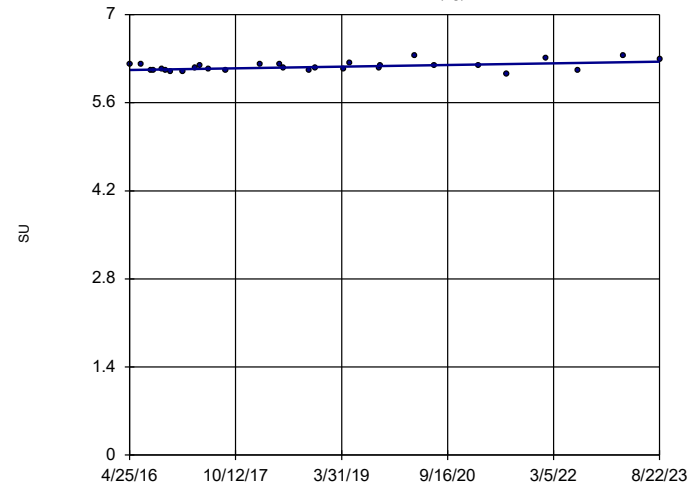


n = 28  
 Slope = 0.02424  
 units per year.  
 Mann-Kendall  
 statistic = 22  
 critical = 131  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: pH, Field Analysis Run 10/6/2023 3:52 PM View: Upgradient Trend Tests  
 Plant Gorgas Data: Gorgas CCR LF

### Sen's Slope Estimator

MW-4 (bg)



n = 29  
 Slope = 0.01768  
 units per year.  
 Mann-Kendall  
 statistic = 115  
 critical = 139  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: pH, Field Analysis Run 10/6/2023 3:52 PM View: Upgradient Trend Tests  
 Plant Gorgas Data: Gorgas CCR LF

FIGURE F.

# Appendix III Intrawell Prediction Limits - Significant Results

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF Printed 10/9/2023, 10:10 AM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Date</u>	<u>Observ.</u>	<u>Sig.</u>	<u>Bg N</u>	<u>%NDs</u>	<u>ND Adj.</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Calcium, total (mg/L)	MW-7	336	n/a	8/15/2023	339	Yes	20	0	None	x^2	0.00188	Param Intra 1 of 2

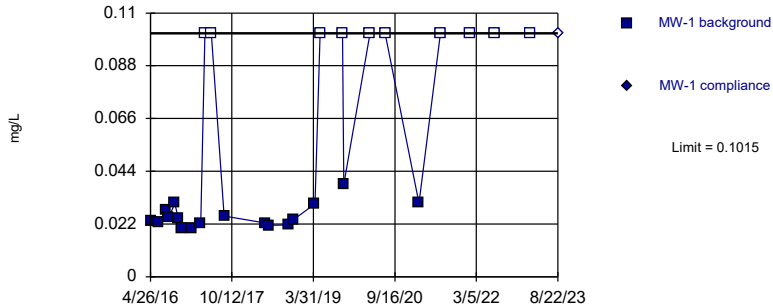
# Appendix III Intrawell Prediction Limits - All Results

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF Printed 10/9/2023, 10:10 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	ND Adj.	Transform	Alpha	Method
Boron, total (mg/L)	MW-1	0.1015	n/a	8/22/2023	0.1015ND	No	27	37.04	n/a	n/a	0.002502	NP Intra (normality) 1 of 2
Boron, total (mg/L)	MW-2	0.1015	n/a	8/22/2023	0.1015ND	No	27	33.33	n/a	n/a	0.002502	NP Intra (normality) 1 of 2
Boron, total (mg/L)	MW-3	0.1015	n/a	8/22/2023	0.0373J	No	27	29.63	n/a	n/a	0.002502	NP Intra (normality) 1 of 2
Boron, total (mg/L)	MW-4	0.05171	n/a	8/22/2023	0.0448J	No	26	0	None	No	0.00188	Param Intra 1 of 2
Boron, total (mg/L)	MW-5	0.03928	n/a	8/16/2023	0.032J	No	19	0	None	No	0.00188	Param Intra 1 of 2
Boron, total (mg/L)	MW-6	0.1033	n/a	8/16/2023	0.0686J	No	20	0	None	No	0.00188	Param Intra 1 of 2
Boron, total (mg/L)	MW-7	0.08381	n/a	8/15/2023	0.0663J	No	19	0	None	No	0.00188	Param Intra 1 of 2
Boron, total (mg/L)	MW-8	0.079	n/a	8/15/2023	0.0654J	No	20	0	None	No	0.00188	Param Intra 1 of 2
Calcium, total (mg/L)	MW-1	243	n/a	8/22/2023	183	No	27	0	n/a	n/a	0.002502	NP Intra (normality) 1 of 2
Calcium, total (mg/L)	MW-2	210.5	n/a	8/22/2023	168	No	27	0	None	No	0.00188	Param Intra 1 of 2
Calcium, total (mg/L)	MW-3	410.9	n/a	8/22/2023	359	No	27	0	None	No	0.00188	Param Intra 1 of 2
Calcium, total (mg/L)	MW-4	379.9	n/a	8/22/2023	287	No	27	0	None	No	0.00188	Param Intra 1 of 2
Calcium, total (mg/L)	MW-5	451.5	n/a	8/16/2023	361	No	20	0	None	No	0.00188	Param Intra 1 of 2
Calcium, total (mg/L)	MW-6	497.9	n/a	8/16/2023	383	No	20	0	None	No	0.00188	Param Intra 1 of 2
<b>Calcium, total (mg/L)</b>	<b>MW-7</b>	<b>336</b>	<b>n/a</b>	<b>8/15/2023</b>	<b>339</b>	<b>Yes</b>	<b>20</b>	<b>0</b>	<b>None</b>	<b>x^2</b>	<b>0.00188</b>	<b>Param Intra 1 of 2</b>
Calcium, total (mg/L)	MW-8	338.2	n/a	8/15/2023	328	No	20	0	None	No	0.00188	Param Intra 1 of 2
Fluoride, total (mg/L)	MW-1	0.1947	n/a	8/22/2023	0.159	No	28	0	None	No	0.00188	Param Intra 1 of 2
Fluoride, total (mg/L)	MW-2	0.2619	n/a	8/22/2023	0.184	No	20	0	None	No	0.00188	Param Intra 1 of 2
Fluoride, total (mg/L)	MW-3	0.5679	n/a	8/22/2023	0.283	No	28	0	None	No	0.00188	Param Intra 1 of 2
Fluoride, total (mg/L)	MW-4	0.4241	n/a	8/22/2023	0.358	No	28	0	None	x^2	0.00188	Param Intra 1 of 2
Fluoride, total (mg/L)	MW-5	0.4057	n/a	8/16/2023	0.266	No	21	0	None	No	0.00188	Param Intra 1 of 2
Fluoride, total (mg/L)	MW-6	0.1638	n/a	8/16/2023	0.0931J	No	20	0	None	No	0.00188	Param Intra 1 of 2
Fluoride, total (mg/L)	MW-7	0.2441	n/a	8/15/2023	0.154	No	21	0	None	ln(x)	0.00188	Param Intra 1 of 2
Fluoride, total (mg/L)	MW-8	0.2471	n/a	8/15/2023	0.174	No	21	0	None	No	0.00188	Param Intra 1 of 2
Sulfate as SO4 (mg/L)	MW-1	1666	n/a	8/22/2023	1560	No	26	0	None	No	0.00188	Param Intra 1 of 2
Sulfate as SO4 (mg/L)	MW-2	1253	n/a	8/22/2023	912	No	27	0	None	No	0.00188	Param Intra 1 of 2
Sulfate as SO4 (mg/L)	MW-3	3254	n/a	8/22/2023	3140	No	27	0	None	No	0.00188	Param Intra 1 of 2
Sulfate as SO4 (mg/L)	MW-4	3111	n/a	8/22/2023	2390	No	27	0	None	No	0.00188	Param Intra 1 of 2
Sulfate as SO4 (mg/L)	MW-5	2539	n/a	8/16/2023	2310	No	20	0	None	No	0.00188	Param Intra 1 of 2
Sulfate as SO4 (mg/L)	MW-6	2249	n/a	8/16/2023	2060	No	20	0	None	No	0.00188	Param Intra 1 of 2
Sulfate as SO4 (mg/L)	MW-7	1579	n/a	8/15/2023	1360	No	19	0	None	No	0.00188	Param Intra 1 of 2
Sulfate as SO4 (mg/L)	MW-8	1640	n/a	8/15/2023	1480	No	19	0	n/a	n/a	0.004832	NP Intra (normality) 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-1	2487	n/a	8/22/2023	2160	No	26	0	None	No	0.00188	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-2	1993	n/a	8/22/2023	1520	No	27	0	None	No	0.00188	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-3	4952	n/a	8/22/2023	4820	No	27	0	None	No	0.00188	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-4	4498	n/a	8/22/2023	3780	No	27	0	None	x^3	0.00188	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-5	4181	n/a	8/16/2023	3640	No	20	0	None	No	0.00188	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-6	3505	n/a	8/16/2023	3140	No	20	0	None	No	0.00188	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-7	2577	n/a	8/15/2023	2270	No	20	0	None	x^4	0.00188	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-8	2791	n/a	8/15/2023	2410	No	20	0	None	No	0.00188	Param Intra 1 of 2

Within Limit

Prediction Limit  
Intrawell Non-parametric

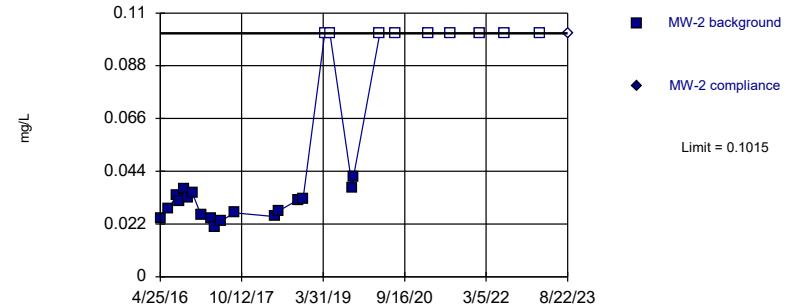


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 27 background values. 37.04% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Boron, total Analysis Run 10/9/2023 10:07 AM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit  
Intrawell Non-parametric

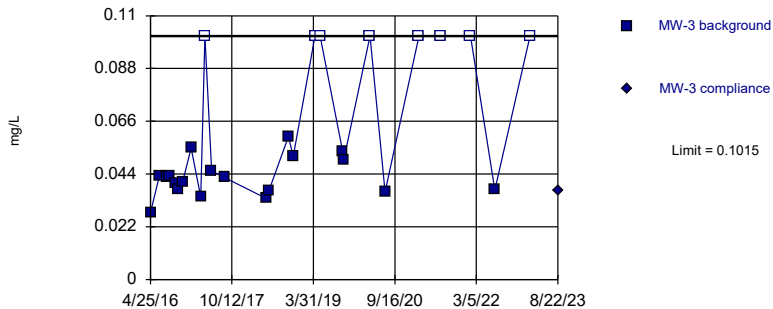


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 27 background values. 33.33% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Boron, total Analysis Run 10/9/2023 10:07 AM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit  
Intrawell Non-parametric

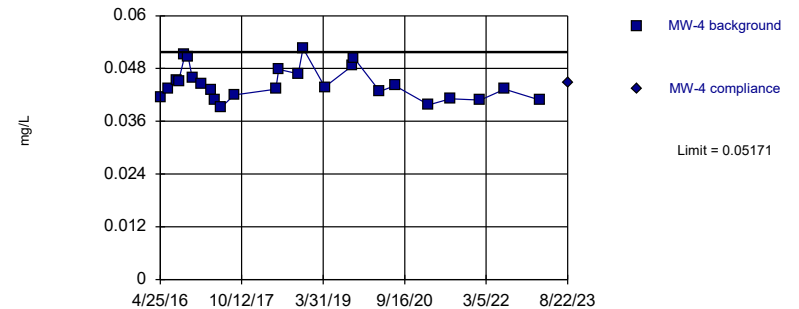


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 27 background values. 29.63% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Boron, total Analysis Run 10/9/2023 10:07 AM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit  
Intrawell Parametric

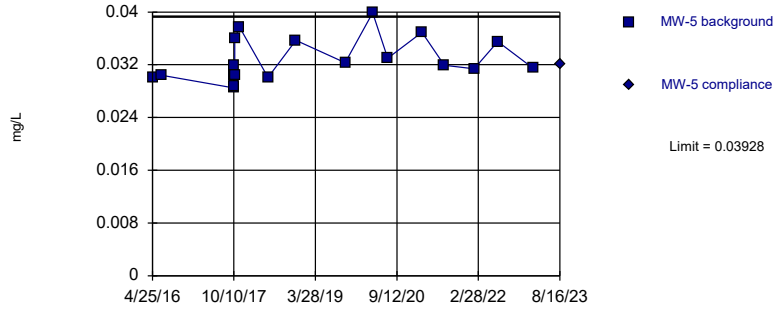


Background Data Summary: Mean=0.04457, Std. Dev.=0.003732, n=26. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9307, critical = 0.891. Kappa = 1.915 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Boron, total Analysis Run 10/9/2023 10:07 AM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

### Prediction Limit Intrawell Parametric

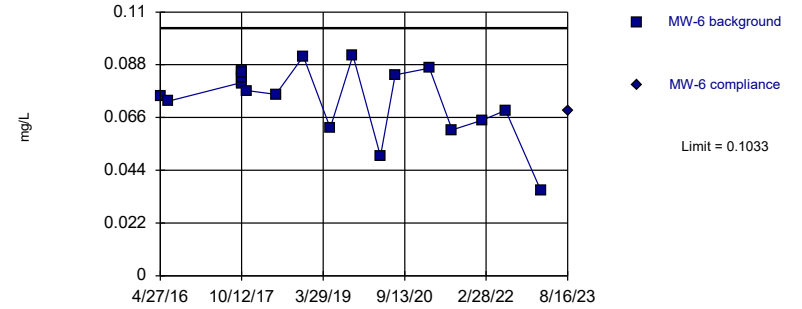


Background Data Summary: Mean=0.03276, Std. Dev.=0.003244, n=19. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9151, critical = 0.901. Kappa = 2.01 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Boron, total Analysis Run 10/9/2023 10:07 AM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

### Prediction Limit Intrawell Parametric

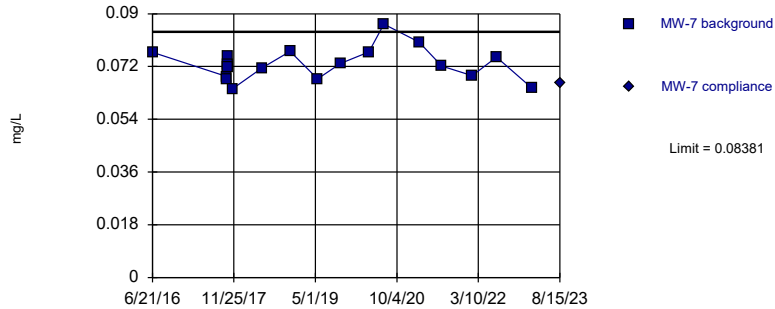


Background Data Summary: Mean=0.07478, Std. Dev.=0.01436, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8922, critical = 0.868. Kappa = 1.988 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Boron, total Analysis Run 10/9/2023 10:07 AM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

### Prediction Limit Intrawell Parametric

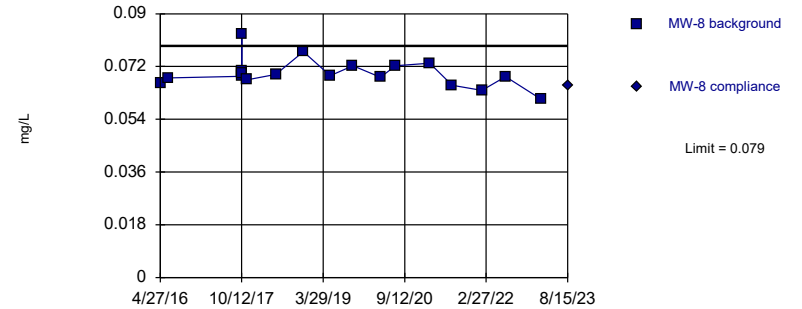


Background Data Summary: Mean=0.07278, Std. Dev.=0.005489, n=19. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9586, critical = 0.901. Kappa = 2.01 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Boron, total Analysis Run 10/9/2023 10:07 AM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

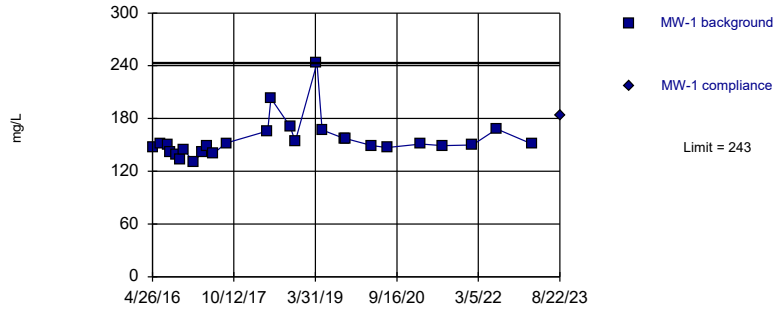
### Prediction Limit Intrawell Parametric



Background Data Summary: Mean=0.06973, Std. Dev.=0.004665, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9146, critical = 0.868. Kappa = 1.988 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Boron, total Analysis Run 10/9/2023 10:07 AM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

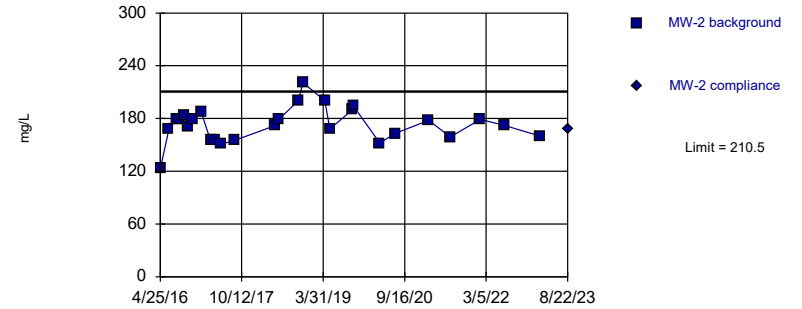
Within Limit Prediction Limit  
Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 27 background values. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Calcium, total Analysis Run 10/9/2023 10:07 AM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

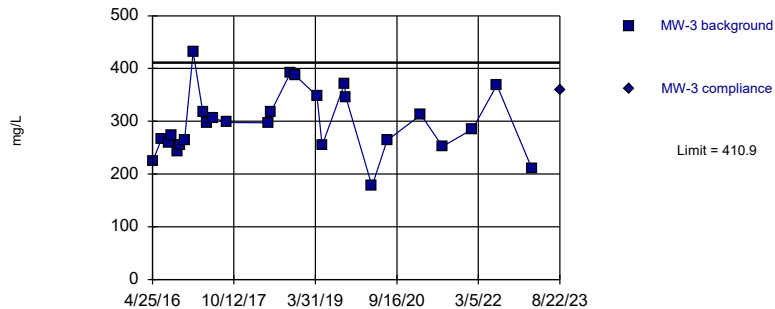
Within Limit Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=173.2, Std. Dev.=19.56, n=27. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9768, critical = 0.894. Kappa = 1.906 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Calcium, total Analysis Run 10/9/2023 10:07 AM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

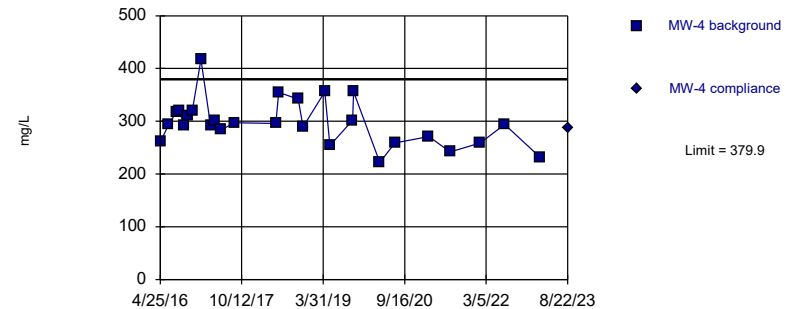
Within Limit Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=296.9, Std. Dev.=59.85, n=27. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9776, critical = 0.894. Kappa = 1.906 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Calcium, total Analysis Run 10/9/2023 10:08 AM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit Prediction Limit  
Intrawell Parametric



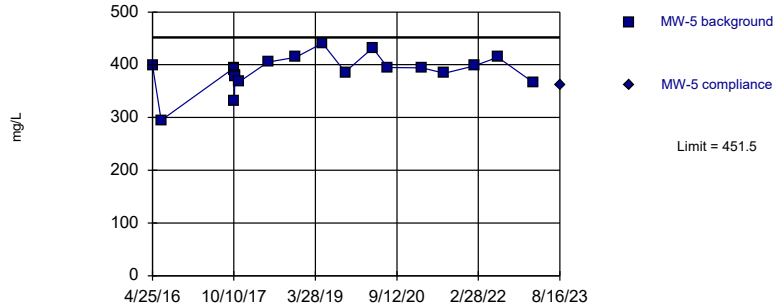
Background Data Summary: Mean=297.7, Std. Dev.=43.11, n=27. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9596, critical = 0.894. Kappa = 1.906 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Calcium, total Analysis Run 10/9/2023 10:08 AM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF



Within Limit

Prediction Limit  
Intrawell Parametric

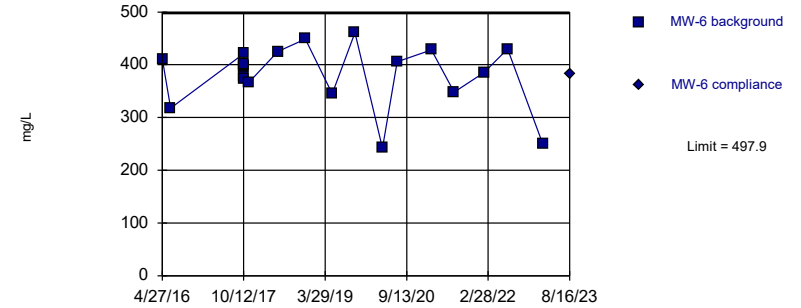


Background Data Summary: Mean=387.8, Std. Dev.=32.09, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8964, critical = 0.868. Kappa = 1.988 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Calcium, total Analysis Run 10/9/2023 10:08 AM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit  
Intrawell Parametric

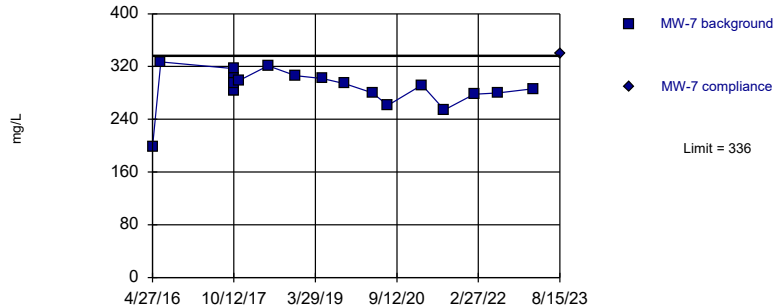


Background Data Summary: Mean=381.8, Std. Dev.=58.41, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8915, critical = 0.868. Kappa = 1.988 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Calcium, total Analysis Run 10/9/2023 10:08 AM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Exceeds Limit

Prediction Limit  
Intrawell Parametric

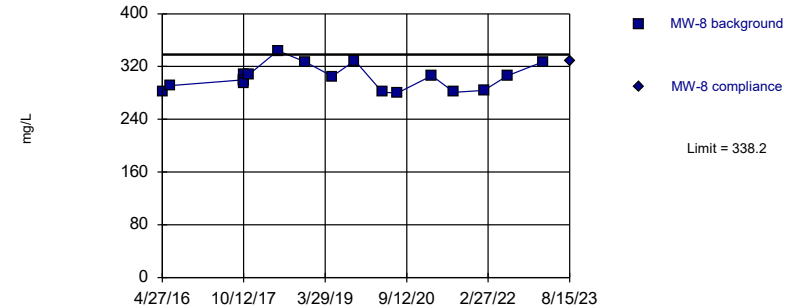


Background Data Summary (based on square transformation): Mean=83447, Std. Dev.=14827, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9078, critical = 0.868. Kappa = 1.988 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Calcium, total Analysis Run 10/9/2023 10:08 AM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit  
Intrawell Parametric

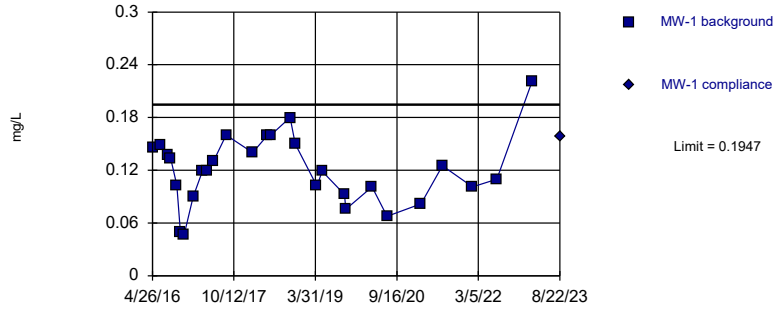


Background Data Summary: Mean=302.4, Std. Dev.=18, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.917, critical = 0.868. Kappa = 1.988 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Calcium, total Analysis Run 10/9/2023 10:08 AM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

### Prediction Limit Intrawell Parametric

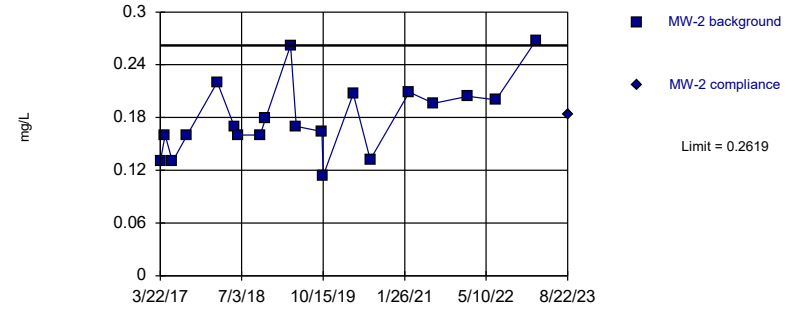


Background Data Summary: Mean=0.1204, Std. Dev.=0.03916, n=28. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9828, critical = 0.896. Kappa = 1.898 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Fluoride, total Analysis Run 10/9/2023 10:08 AM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

### Prediction Limit Intrawell Parametric

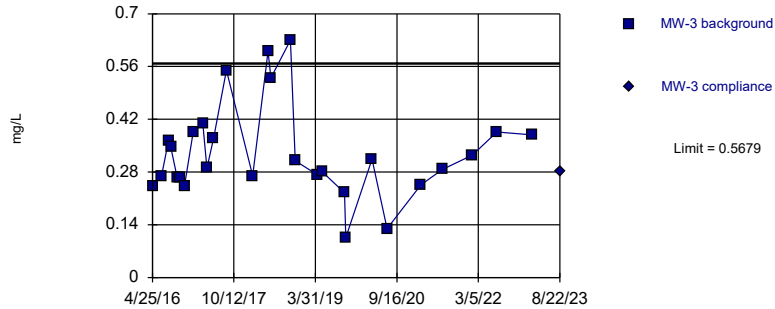


Background Data Summary: Mean=0.1798, Std. Dev.=0.0413, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9453, critical = 0.868. Kappa = 1.988 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Fluoride, total Analysis Run 10/9/2023 10:08 AM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

### Prediction Limit Intrawell Parametric

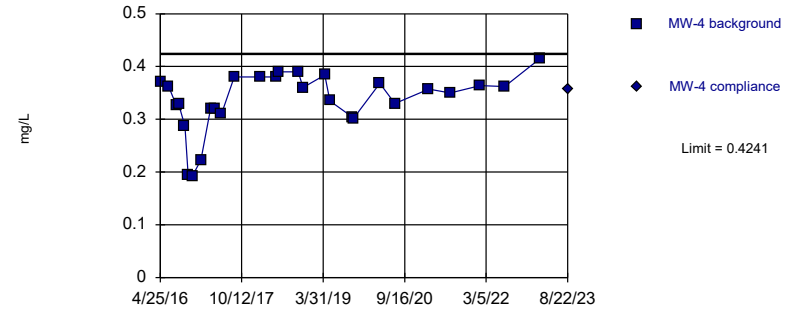


Background Data Summary: Mean=0.3319, Std. Dev.=0.1244, n=28. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.913, critical = 0.896. Kappa = 1.898 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Fluoride, total Analysis Run 10/9/2023 10:08 AM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

### Prediction Limit Intrawell Parametric

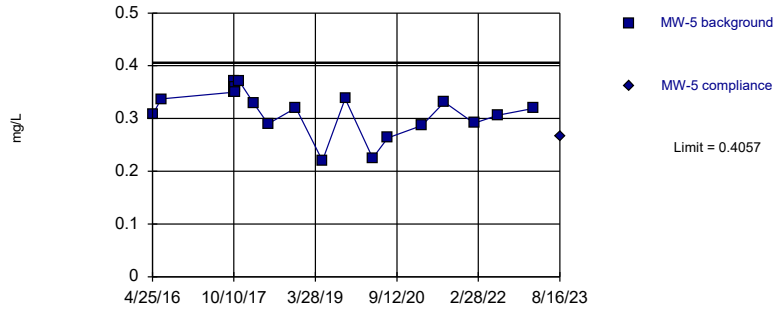


Background Data Summary (based on square transformation): Mean=0.1154, Std. Dev.=0.03399, n=28. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9213, critical = 0.896. Kappa = 1.898 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Fluoride, total Analysis Run 10/9/2023 10:08 AM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit  
Intrawell Parametric

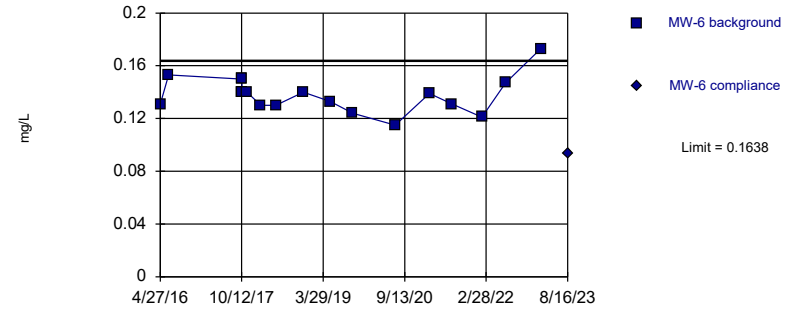


Background Data Summary: Mean=0.3188, Std. Dev.=0.04403, n=21. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9099, critical = 0.873. Kappa = 1.975 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Fluoride, total Analysis Run 10/9/2023 10:08 AM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit  
Intrawell Parametric

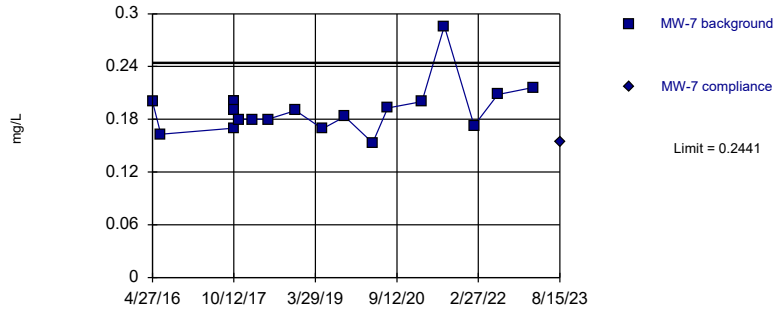


Background Data Summary: Mean=0.1384, Std. Dev.=0.01279, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9418, critical = 0.868. Kappa = 1.988 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Fluoride, total Analysis Run 10/9/2023 10:08 AM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit  
Intrawell Parametric

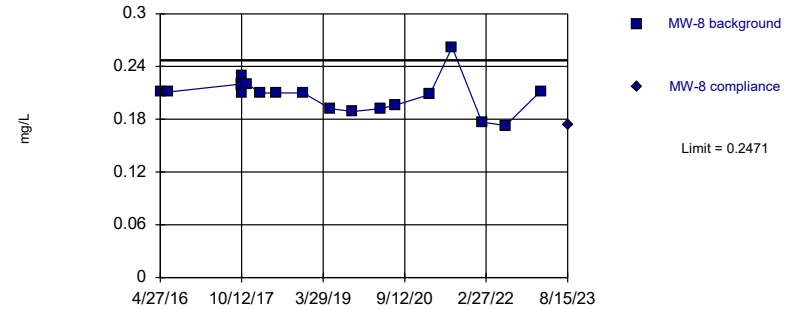


Background Data Summary (based on natural log transformation): Mean=-1.66, Std. Dev.=0.1266, n=21. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8784, critical = 0.873. Kappa = 1.975 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Fluoride, total Analysis Run 10/9/2023 10:08 AM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

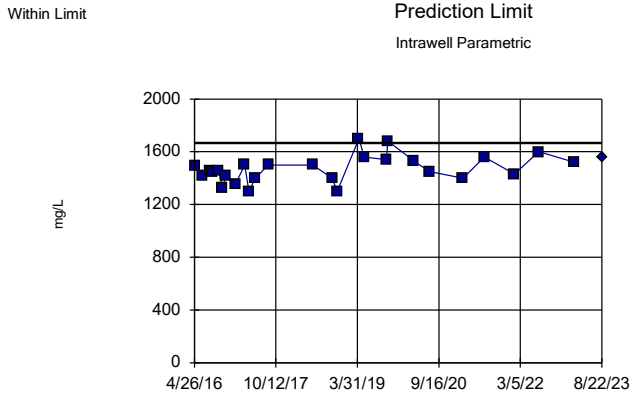
Within Limit

Prediction Limit  
Intrawell Parametric



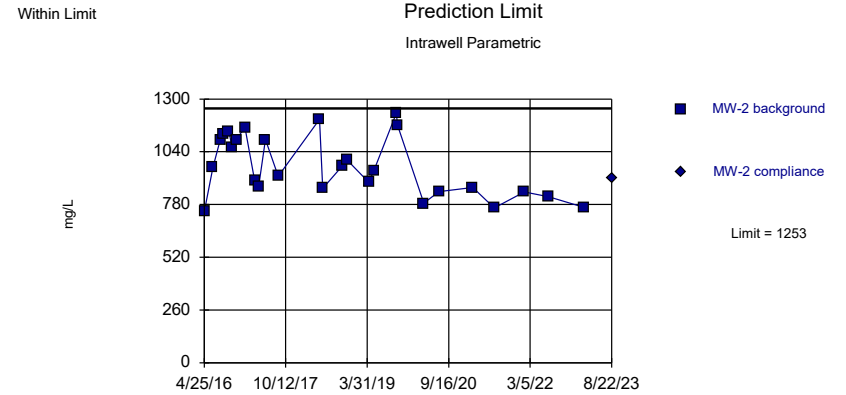
Background Data Summary: Mean=0.2092, Std. Dev.=0.01917, n=21. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.914, critical = 0.873. Kappa = 1.975 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Fluoride, total Analysis Run 10/9/2023 10:08 AM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF



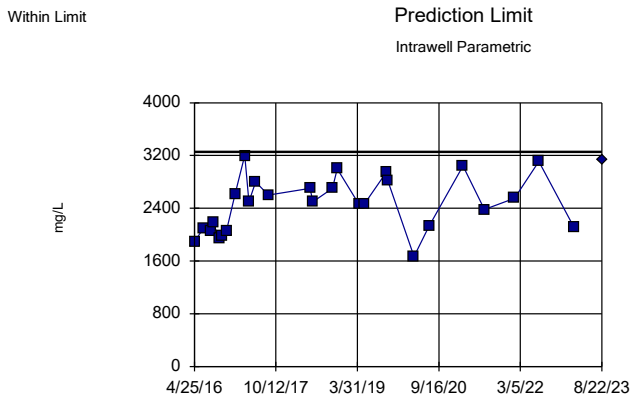
Background Data Summary: Mean=1471, Std. Dev.=101.6, n=26. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9678, critical = 0.891. Kappa = 1.915 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Sulfate as SO4 Analysis Run 10/9/2023 10:08 AM View: Appendix III - IntraWell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF



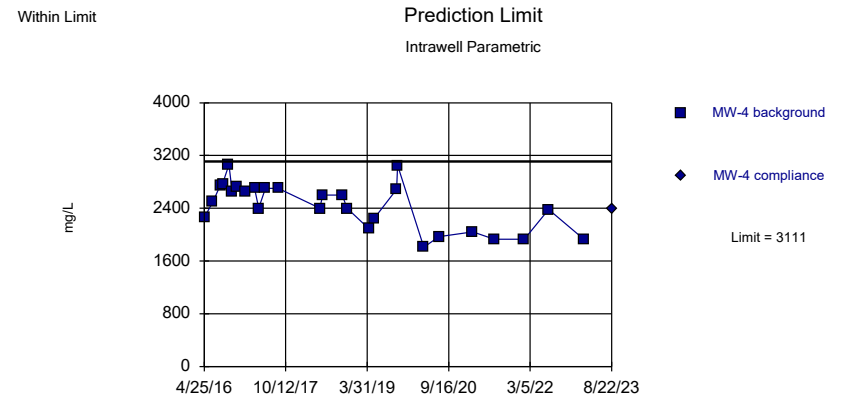
Background Data Summary: Mean=968.1, Std. Dev.=149.7, n=27. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9333, critical = 0.894. Kappa = 1.906 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Sulfate as SO4 Analysis Run 10/9/2023 10:08 AM View: Appendix III - IntraWell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF



Background Data Summary: Mean=2464, Std. Dev.=414.3, n=27. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9674, critical = 0.894. Kappa = 1.906 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Sulfate as SO4 Analysis Run 10/9/2023 10:08 AM View: Appendix III - IntraWell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

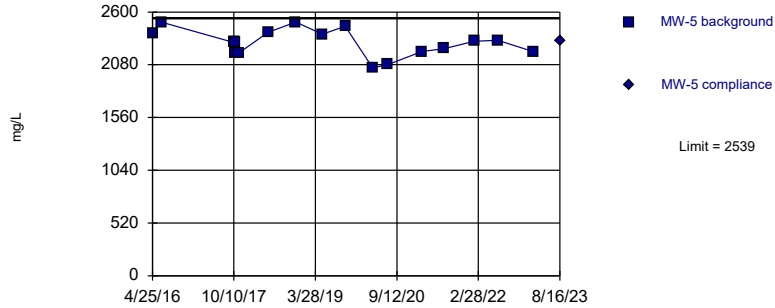


Background Data Summary: Mean=2441, Std. Dev.=351.3, n=27. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9355, critical = 0.894. Kappa = 1.906 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Sulfate as SO4 Analysis Run 10/9/2023 10:08 AM View: Appendix III - IntraWell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit  
Intrawell Parametric

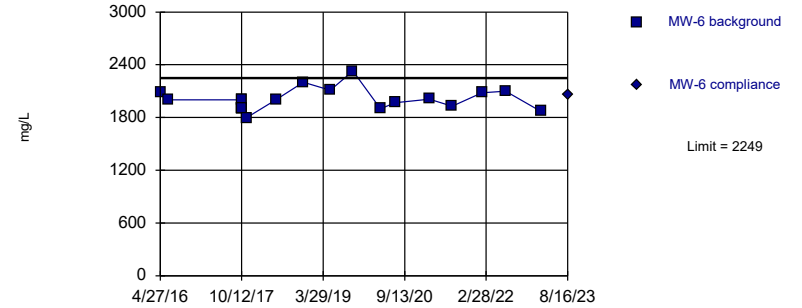


Background Data Summary: Mean=2298, Std. Dev.=121.6, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9547, critical = 0.868. Kappa = 1.988 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Sulfate as SO4 Analysis Run 10/9/2023 10:08 AM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit  
Intrawell Parametric

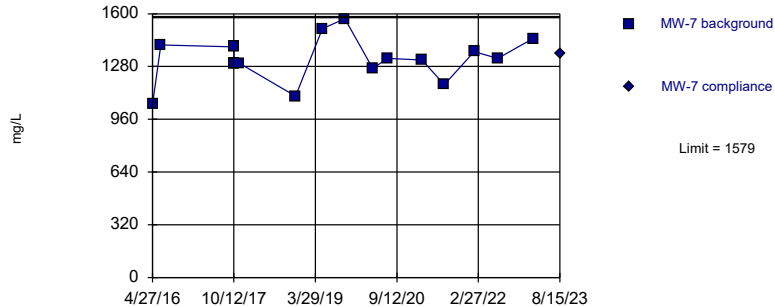


Background Data Summary: Mean=2000, Std. Dev.=125.3, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.927, critical = 0.868. Kappa = 1.988 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Sulfate as SO4 Analysis Run 10/9/2023 10:08 AM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit  
Intrawell Parametric

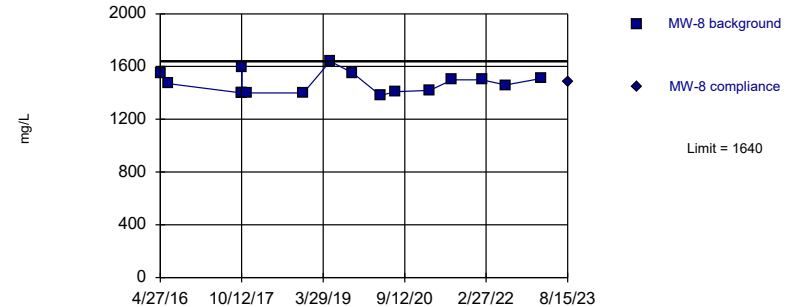


Background Data Summary: Mean=1325, Std. Dev.=126.2, n=19. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9478, critical = 0.901. Kappa = 2.01 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Sulfate as SO4 Analysis Run 10/9/2023 10:08 AM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit  
Intrawell Non-parametric

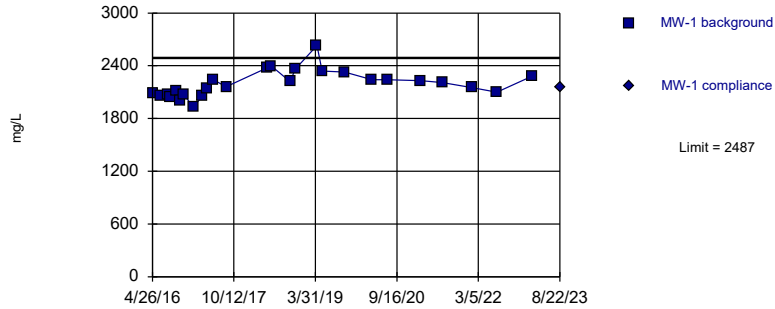


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.05 alpha level. Limit is highest of 19 background values. Well-constituent pair annual alpha = 0.009641. Individual comparison alpha = 0.004832 (1 of 2).

Constituent: Sulfate as SO4 Analysis Run 10/9/2023 10:08 AM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit  
Intrawell Parametric

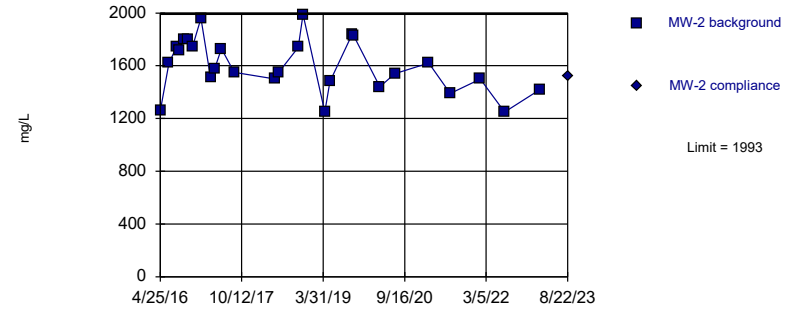


Background Data Summary: Mean=2195, Std. Dev.=152.7, n=26. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9537, critical = 0.891. Kappa = 1.915 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Total Dissolved Solids [TDS] Analysis Run 10/9/2023 10:08 AM View: Appendix III - Intrawell  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit  
Intrawell Parametric

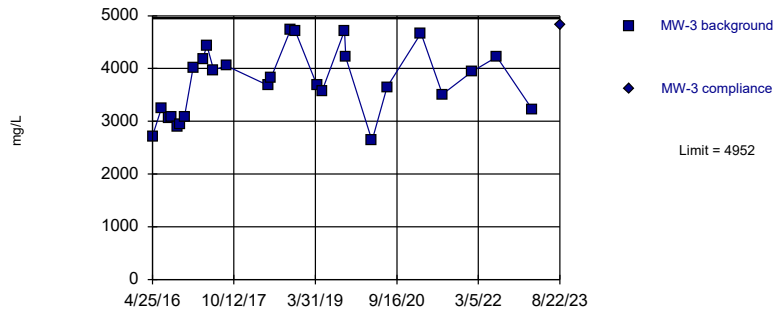


Background Data Summary: Mean=1606, Std. Dev.=203.5, n=27. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9651, critical = 0.894. Kappa = 1.906 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Total Dissolved Solids [TDS] Analysis Run 10/9/2023 10:08 AM View: Appendix III - Intrawell  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit  
Intrawell Parametric

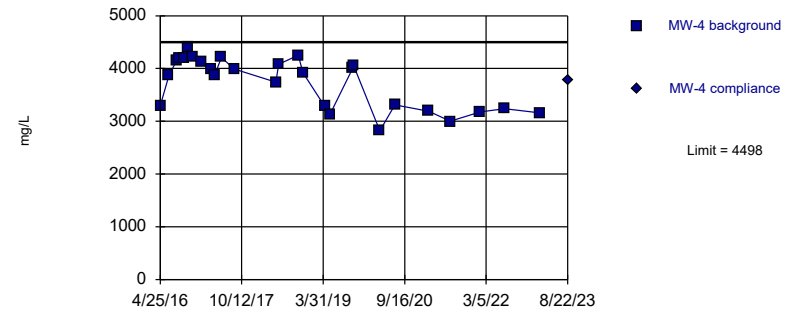


Background Data Summary: Mean=3729, Std. Dev.=641.6, n=27. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9508, critical = 0.894. Kappa = 1.906 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Total Dissolved Solids [TDS] Analysis Run 10/9/2023 10:08 AM View: Appendix III - Intrawell  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

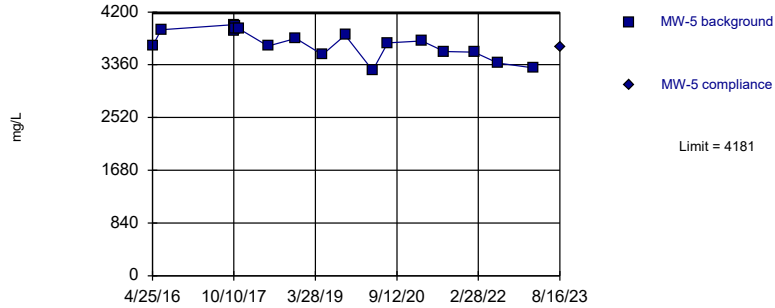
Prediction Limit  
Intrawell Parametric



Background Data Summary (based on cube transformation): Mean=5.5e10, Std. Dev.=1.9e10, n=27. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8943, critical = 0.894. Kappa = 1.906 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Total Dissolved Solids [TDS] Analysis Run 10/9/2023 10:08 AM View: Appendix III - Intrawell  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

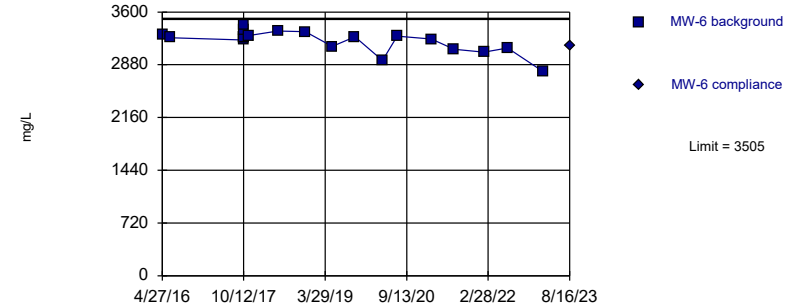
Within Limit Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=3727, Std. Dev.=228.4, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9121, critical = 0.868. Kappa = 1.988 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Total Dissolved Solids [TDS] Analysis Run 10/9/2023 10:08 AM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

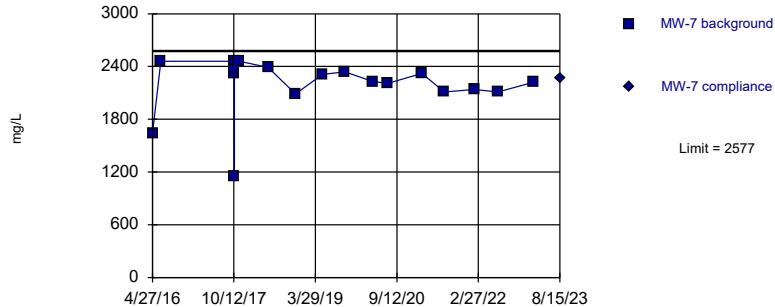
Within Limit Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=3207, Std. Dev.=150.3, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8826, critical = 0.868. Kappa = 1.988 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Total Dissolved Solids [TDS] Analysis Run 10/9/2023 10:08 AM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

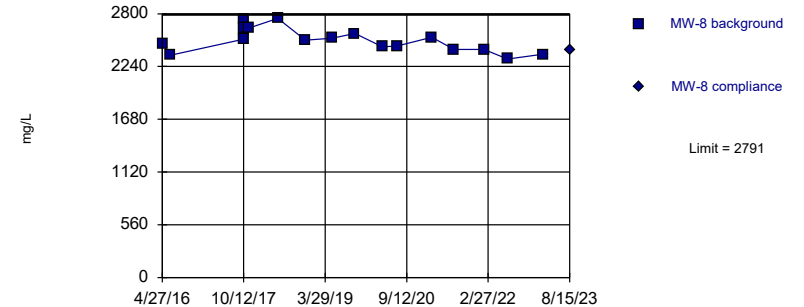
Within Limit Prediction Limit  
Intrawell Parametric



Background Data Summary (based on x^4 transformation): Mean=2.6e13, Std. Dev.=9.2e12, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8948, critical = 0.868. Kappa = 1.988 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Total Dissolved Solids [TDS] Analysis Run 10/9/2023 10:08 AM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=2535, Std. Dev.=128.9, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.959, critical = 0.868. Kappa = 1.988 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Total Dissolved Solids [TDS] Analysis Run 10/9/2023 10:08 AM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

# Prediction Limit

Constituent: Boron, total (mg/L) Analysis Run 10/9/2023 10:10 AM View: Appendix III - IntraWell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-1	MW-1
4/26/2016	0.0231 (J)	
6/20/2016	0.0227 (J)	
8/8/2016	0.0278 (J)	
8/24/2016	0.0247 (J)	
10/3/2016	0.0307 (J)	
10/26/2016	0.0241 (J)	
11/21/2016	0.0202 (J)	
1/17/2017	0.0201 (J)	
3/22/2017	0.0224 (J)	
4/18/2017	<0.1015	
5/30/2017	<0.1015	
8/23/2017	0.0253 (J)	
5/22/2018	0.0224 (J)	
6/12/2018	0.0214 (J)	
10/17/2018	0.0216 (J)	
11/19/2018	0.0237 (J)	
4/10/2019	0.0304 (J)	
5/14/2019	<0.1015	
10/8/2019	<0.1015	
10/16/2019	0.0385 (J)	
4/6/2020	<0.1015	
7/13/2020	<0.1015	
2/22/2021	0.0307 (J)	
7/12/2021	<0.1015	
1/25/2022	<0.1015	
7/5/2022	<0.1015	
2/20/2023	<0.1015	
8/22/2023		<0.1015



# Prediction Limit

Constituent: Boron, total (mg/L) Analysis Run 10/9/2023 10:10 AM View: Appendix III - IntraWell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-2	MW-2
4/25/2016	0.0241 (J)	
6/20/2016	0.0284 (J)	
8/8/2016	0.034 (J)	
8/24/2016	0.0316 (J)	
10/3/2016	0.0367 (J)	
10/26/2016	0.0331 (J)	
11/21/2016	0.035 (J)	
1/17/2017	0.0259 (J)	
3/22/2017	0.0243 (J)	
4/18/2017	0.0206 (J)	
5/31/2017	0.0234 (J)	
8/23/2017	0.0267 (J)	
5/22/2018	0.0251 (J)	
6/12/2018	0.0275 (J)	
10/17/2018	0.0321 (J)	
11/19/2018	0.0324 (J)	
4/10/2019	<0.1015	
5/14/2019	<0.1015	
10/8/2019	0.0371 (J)	
10/16/2019	0.0419 (J)	
4/6/2020	<0.1015	
7/13/2020	<0.1015	
2/22/2021	<0.1015	
7/12/2021	<0.1015	
1/25/2022	<0.1015	
7/5/2022	<0.1015	
2/20/2023	<0.1015	
8/22/2023		<0.1015

# Prediction Limit

Constituent: Boron, total (mg/L) Analysis Run 10/9/2023 10:10 AM View: Appendix III - IntraWell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-3	MW-3
4/25/2016	0.028 (J)	
6/22/2016	0.0433 (J)	
8/9/2016	0.0429 (J)	
8/24/2016	0.0431 (J)	
10/4/2016	0.04 (J)	
10/26/2016	0.0375 (J)	
11/21/2016	0.0406 (J)	
1/18/2017	0.0548 (J)	
3/22/2017	0.0344 (J)	
4/18/2017	<0.1015	
5/31/2017	0.0454 (J)	
8/23/2017	0.0425 (J)	
5/24/2018	0.0339 (J)	
6/12/2018	0.0371 (J)	
10/17/2018	0.0596 (J)	
11/19/2018	0.0514 (J)	
4/10/2019	<0.1015	
5/14/2019	<0.1015	
10/8/2019	0.0537 (J)	
10/16/2019	0.05 (J)	
4/6/2020	<0.1015	
7/13/2020	0.0366 (J)	
2/22/2021	<0.1015	
7/12/2021	<0.1015	
1/25/2022	<0.1015	
7/5/2022	0.0374 (J)	
2/20/2023	<0.1015	
8/22/2023		0.0373 (J)

# Prediction Limit

Constituent: Boron, total (mg/L) Analysis Run 10/9/2023 10:10 AM View: Appendix III - IntraWell

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-4	MW-4
4/25/2016	0.0414 (J)	
6/20/2016	0.0434 (J)	
8/9/2016	0.0453 (J)	
8/24/2016	0.0451 (J)	
10/3/2016	0.0511 (J)	
10/26/2016	0.0507 (J)	
11/21/2016	0.0458 (J)	
1/18/2017	0.0445 (J)	
3/22/2017	0.0432 (J)	
4/18/2017	0.0409 (J)	
5/31/2017	0.0392 (J)	
8/23/2017	0.042 (J)	
5/23/2018	0.0433 (J)	
6/12/2018	0.0478 (J)	
10/17/2018	0.0468 (J)	
11/19/2018	0.0526 (J)	
4/10/2019	0.0438 (J)	
5/14/2019	<0.203 (o)	
10/10/2019	0.0487 (J)	
10/16/2019	0.0505 (J)	
4/6/2020	0.0428 (J)	
7/14/2020	0.0441 (J)	
2/22/2021	0.0397 (J)	
7/12/2021	0.0411 (J)	
1/25/2022	0.0408 (J)	
7/5/2022	0.0433 (J)	
2/21/2023	0.0408 (J)	
8/22/2023		0.0448 (J)

# Prediction Limit

Constituent: Boron, total (mg/L) Analysis Run 10/9/2023 10:10 AM View: Appendix III - Intrawell

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-5	MW-5
4/25/2016	0.0301 (J)	
6/21/2016	0.0304 (J)	
10/12/2017	0.0285 (J)	
10/13/2017	0.0287 (J)	
10/14/2017	0.0305 (J)	
10/15/2017	0.0319 (J)	
10/16/2017	0.0304 (J)	
10/17/2017	0.036 (J)	
11/16/2017	0.0377 (J)	
5/23/2018	0.0301 (J)	
11/20/2018	0.0357 (J)	
5/14/2019	<0.203 (o)	
10/10/2019	0.0323 (J)	
4/7/2020	0.0399 (J)	
7/14/2020	0.033 (J)	
2/23/2021	0.0369 (J)	
7/21/2021	0.0319 (J)	
1/31/2022	0.0314 (J)	
7/6/2022	0.0355 (J)	
2/21/2023	0.0315 (J)	
8/16/2023		0.032 (J)

# Prediction Limit

Constituent: Boron, total (mg/L) Analysis Run 10/9/2023 10:10 AM View: Appendix III - Intrawell

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-6	MW-6
4/27/2016	0.075 (J)	
6/21/2016	0.0729 (J)	
10/12/2017	0.0806 (J)	
10/13/2017	0.0803 (J)	
10/14/2017	0.0828 (J)	
10/15/2017	0.0852 (J)	
10/16/2017	0.0858 (J)	
10/17/2017	0.0846 (J)	
11/16/2017	0.0772 (J)	
5/23/2018	0.0757 (J)	
11/20/2018	0.0915 (J)	
5/15/2019	0.0616 (J)	
10/10/2019	0.0919 (J)	
4/8/2020	0.0499 (J)	
7/14/2020	0.0838 (J)	
2/23/2021	0.0866 (J)	
7/20/2021	0.0608 (J)	
1/31/2022	0.0648 (J)	
7/6/2022	0.069 (J)	
2/22/2023	0.0356 (J)	
8/16/2023		0.0686 (J)

# Prediction Limit

Constituent: Boron, total (mg/L) Analysis Run 10/9/2023 10:10 AM View: Appendix III - Intrawell

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-7	MW-7
4/27/2016	0.253 (O)	
6/21/2016	0.0768 (J)	
10/12/2017	0.0685 (J)	
10/13/2017	0.0674 (J)	
10/14/2017	0.0756 (J)	
10/15/2017	0.0719 (J)	
10/16/2017	0.0726 (J)	
10/17/2017	0.0716 (J)	
11/16/2017	0.0644 (J)	
5/23/2018	0.0715 (J)	
11/20/2018	0.0772 (J)	
5/15/2019	0.0678 (J)	
10/8/2019	0.073 (J)	
4/8/2020	0.077 (J)	
7/14/2020	0.0865 (J)	
2/23/2021	0.0803 (J)	
7/20/2021	0.0721 (J)	
1/31/2022	0.0689 (J)	
7/6/2022	0.0752 (J)	
2/21/2023	0.0645 (J)	
8/15/2023		0.0663 (J)

# Prediction Limit

Constituent: Boron, total (mg/L) Analysis Run 10/9/2023 10:10 AM View: Appendix III - Intrawell

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-8	MW-8
4/27/2016	0.0662 (J)	
6/21/2016	0.0681 (J)	
10/12/2017	0.0687 (J)	
10/13/2017	0.0831 (J)	
10/14/2017	0.0702 (J)	
10/15/2017	0.0702 (J)	
10/16/2017	0.0707 (J)	
10/17/2017	0.0695 (J)	
11/16/2017	0.0675 (J)	
5/23/2018	0.0693 (J)	
11/20/2018	0.0771 (J)	
5/15/2019	0.0689 (J)	
10/9/2019	0.0723 (J)	
4/8/2020	0.0683 (J)	
7/15/2020	0.0723 (J)	
2/23/2021	0.0731 (J)	
7/20/2021	0.0656 (J)	
2/1/2022	0.0639 (J)	
7/6/2022	0.0686 (J)	
2/21/2023	0.0609 (J)	
8/15/2023		0.0654 (J)

# Prediction Limit

Constituent: Calcium, total (mg/L) Analysis Run 10/9/2023 10:10 AM View: Appendix III - IntraWell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-1	MW-1
4/26/2016	147	
6/20/2016	152	
8/8/2016	150	
8/24/2016	142	
10/3/2016	139	
10/26/2016	133	
11/21/2016	144	
1/17/2017	131	
3/22/2017	141	
4/18/2017	149	
5/30/2017	140	
8/23/2017	152	
5/22/2018	166	
6/12/2018	203	
10/17/2018	171	
11/19/2018	154	
4/10/2019	243	
5/14/2019	167	
10/8/2019	157	
10/16/2019	157	
4/6/2020	149	
7/13/2020	147	
2/22/2021	151	
7/12/2021	149	
1/25/2022	150	
7/5/2022	168	
2/20/2023	151	
8/22/2023		183



# Prediction Limit

Constituent: Calcium, total (mg/L) Analysis Run 10/9/2023 10:10 AM View: Appendix III - IntraWell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-2	MW-2
4/25/2016	123	
6/20/2016	168	
8/8/2016	180	
8/24/2016	180	
10/3/2016	184	
10/26/2016	171	
11/21/2016	179	
1/17/2017	188	
3/22/2017	155	
4/18/2017	156	
5/31/2017	151	
8/23/2017	155	
5/22/2018	172	
6/12/2018	179	
10/17/2018	200	
11/19/2018	221	
4/10/2019	200	
5/14/2019	168	
10/8/2019	190	
10/16/2019	194	
4/6/2020	152	
7/13/2020	163	
2/22/2021	178	
7/12/2021	159	
1/25/2022	179	
7/5/2022	172	
2/20/2023	160	
8/22/2023		168

# Prediction Limit

Constituent: Calcium, total (mg/L) Analysis Run 10/9/2023 10:10 AM View: Appendix III - IntraWell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-3	MW-3
4/25/2016	224	
6/22/2016	266	
8/9/2016	260	
8/24/2016	274	
10/4/2016	243	
10/26/2016	254	
11/21/2016	263	
1/18/2017	431	
3/22/2017	318	
4/18/2017	296	
5/31/2017	306	
8/23/2017	298	
5/24/2018	297	
6/12/2018	318	
10/17/2018	392	
11/19/2018	387	
4/10/2019	348	
5/14/2019	254	
10/8/2019	371	
10/16/2019	346	
4/6/2020	177	
7/13/2020	264	
2/22/2021	312	
7/12/2021	252	
1/25/2022	285	
7/5/2022	369	
2/20/2023	210	
8/22/2023		359

# Prediction Limit

Constituent: Calcium, total (mg/L) Analysis Run 10/9/2023 10:10 AM View: Appendix III - IntraWell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-4	MW-4
4/25/2016	261	
6/20/2016	295	
8/9/2016	318	
8/24/2016	319	
10/3/2016	293	
10/26/2016	311	
11/21/2016	320	
1/18/2017	417	
3/22/2017	292	
4/18/2017	302	
5/31/2017	284	
8/23/2017	297	
5/23/2018	296	
6/12/2018	355	
10/17/2018	342	
11/19/2018	289	
4/10/2019	356	
5/14/2019	254	
10/10/2019	302	
10/16/2019	356	
4/6/2020	222	
7/14/2020	259	
2/22/2021	271	
7/12/2021	242	
1/25/2022	259	
7/5/2022	294	
2/21/2023	232	
8/22/2023		287

# Prediction Limit

Constituent: Calcium, total (mg/L) Analysis Run 10/9/2023 10:10 AM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-5	MW-5
4/25/2016	399	
6/21/2016	295	
10/12/2017	394	
10/13/2017	389	
10/14/2017	391	
10/15/2017	332	
10/16/2017	380	
10/17/2017	377	
11/16/2017	368	
5/23/2018	405	
11/20/2018	414	
5/14/2019	441	
10/10/2019	386	
4/7/2020	432	
7/14/2020	395	
2/23/2021	394	
7/21/2021	384	
1/31/2022	398	
7/6/2022	414	
2/21/2023	367	
8/16/2023		361

# Prediction Limit

Constituent: Calcium, total (mg/L) Analysis Run 10/9/2023 10:10 AM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-6	MW-6
4/27/2016	411	
6/21/2016	318	
10/12/2017	421	
10/13/2017	396	
10/14/2017	400	
10/15/2017	378	
10/16/2017	402	
10/17/2017	373	
11/16/2017	367	
5/23/2018	425	
11/20/2018	449	
5/15/2019	345	
10/10/2019	461	
4/8/2020	242	
7/14/2020	406	
2/23/2021	428	
7/20/2021	348	
1/31/2022	385	
7/6/2022	430	
2/22/2023	250	
8/16/2023		383

# Prediction Limit

Constituent: Calcium, total (mg/L) Analysis Run 10/9/2023 10:10 AM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-7	MW-7
4/27/2016	198	
6/21/2016	327	
10/12/2017	317	
10/13/2017	302	
10/14/2017	283	
10/15/2017	294	
10/16/2017	284	
10/17/2017	294	
11/16/2017	299	
5/23/2018	321	
11/20/2018	306	
5/15/2019	302	
10/8/2019	294	
4/8/2020	280	
7/14/2020	261	
2/23/2021	292	
7/20/2021	254	
1/31/2022	278	
7/6/2022	280	
2/21/2023	286	
8/15/2023		339

# Prediction Limit

Constituent: Calcium, total (mg/L) Analysis Run 10/9/2023 10:10 AM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-8	MW-8
4/27/2016	282	
6/21/2016	291	
10/12/2017	300	
10/13/2017	298	
10/14/2017	299	
10/15/2017	307	
10/16/2017	299	
10/17/2017	294	
11/16/2017	308	
5/23/2018	344	
11/20/2018	327	
5/15/2019	305	
10/9/2019	329	
4/8/2020	281	
7/15/2020	280	
2/23/2021	306	
7/20/2021	281	
2/1/2022	284	
7/6/2022	306	
2/21/2023	327	
8/15/2023		328

# Prediction Limit

Constituent: Fluoride, total (mg/L) Analysis Run 10/9/2023 10:10 AM View: Appendix III - Intrawell

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-1	MW-1
4/26/2016	0.146 (J)	
6/20/2016	0.148 (J)	
8/8/2016	0.137 (J)	
8/24/2016	0.133 (J)	
10/3/2016	0.103 (J)	
10/26/2016	0.05 (J)	
11/21/2016	0.047 (J)	
1/17/2017	0.09 (J)	
3/22/2017	0.12	
4/18/2017	0.12	
5/30/2017	0.13	
8/23/2017	0.16	
2/13/2018	0.14	
5/22/2018	0.16	
6/12/2018	0.16	
10/17/2018	0.18	
11/19/2018	0.15	
4/10/2019	0.102	
5/14/2019	0.119	
10/8/2019	0.0924 (J)	
10/16/2019	0.0756 (J)	
4/6/2020	0.101	
7/13/2020	0.0678 (J)	
2/22/2021	0.082 (J)	
7/12/2021	0.125	
1/25/2022	0.101	
7/5/2022	0.11 (J)	
2/20/2023	0.221	
8/22/2023		0.159



# Prediction Limit

Constituent: Fluoride, total (mg/L) Analysis Run 10/9/2023 10:10 AM View: Appendix III - Intrawell

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-2	MW-2
4/25/2016	0.149 (J)	
6/20/2016	0.148 (J)	
8/8/2016	0.134 (J)	
8/24/2016	0.129 (J)	
10/3/2016	0.086 (J)	
10/26/2016	0.027 (J)	
11/21/2016	0.027 (J)	
1/17/2017	0.066 (J)	
3/22/2017	0.13	
4/18/2017	0.16	
5/31/2017	0.13	
8/23/2017	0.16	
2/13/2018	0.22	
5/22/2018	0.17	
6/12/2018	0.16	
10/17/2018	0.16	
11/19/2018	0.18	
4/10/2019	0.262	
5/14/2019	0.17	
10/8/2019	0.164	
10/16/2019	0.114	
4/6/2020	0.207	
7/13/2020	0.132	
2/22/2021	0.209	
7/12/2021	0.196	
1/25/2022	0.204	
7/5/2022	0.2	
2/20/2023	0.267	
8/22/2023		0.184

# Prediction Limit

Constituent: Fluoride, total (mg/L) Analysis Run 10/9/2023 10:10 AM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-3	MW-3
4/25/2016	0.243 (J)	
6/22/2016	0.269 (J)	
8/9/2016	0.363	
8/24/2016	0.346	
10/4/2016	0.266 (J)	
10/26/2016	0.266 (J)	
11/21/2016	0.244 (J)	
1/18/2017	0.385	
3/22/2017	0.41	
4/18/2017	0.29	
5/31/2017	0.37	
8/23/2017	0.55	
2/13/2018	0.27	
5/24/2018	0.6	
6/12/2018	0.53	
10/17/2018	0.63	
11/19/2018	0.31	
4/10/2019	0.273	
5/14/2019	0.281	
10/8/2019	0.225	
10/16/2019	0.106	
4/6/2020	0.314	
7/13/2020	0.13	
2/22/2021	0.246	
7/12/2021	0.287	
1/25/2022	0.325	
7/5/2022	0.386	
2/20/2023	0.379	
8/22/2023		0.283

# Prediction Limit

Constituent: Fluoride, total (mg/L) Analysis Run 10/9/2023 10:10 AM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-4	MW-4
4/25/2016	0.372	
6/20/2016	0.361	
8/9/2016	0.326	
8/24/2016	0.329	
10/3/2016	0.287 (J)	
10/26/2016	0.194 (J)	
11/21/2016	0.192 (J)	
1/18/2017	0.223 (J)	
3/22/2017	0.32	
4/18/2017	0.32	
5/31/2017	0.31	
8/23/2017	0.38	
2/13/2018	0.38	
5/23/2018	0.38	
6/12/2018	0.39	
10/17/2018	0.39	
11/19/2018	0.36	
4/10/2019	0.384	
5/14/2019	0.335	
10/10/2019	0.304	
10/16/2019	0.302	
4/6/2020	0.368	
7/14/2020	0.33	
2/22/2021	0.357	
7/12/2021	0.35	
1/25/2022	0.364	
7/5/2022	0.362	
2/21/2023	0.415	
8/22/2023		0.358

# Prediction Limit

Constituent: Fluoride, total (mg/L) Analysis Run 10/9/2023 10:10 AM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-5	MW-5
4/25/2016	0.307	
6/21/2016	0.337	
10/12/2017	0.35	
10/13/2017	0.36	
10/14/2017	0.37	
10/15/2017	0.37	
10/16/2017	0.36	
10/17/2017	0.35	
11/16/2017	0.37	
2/14/2018	0.33	
5/23/2018	0.29	
11/20/2018	0.32	
5/14/2019	0.22	
10/10/2019	0.338	
4/7/2020	0.225	
7/14/2020	0.263	
2/23/2021	0.287	
7/21/2021	0.331	
1/31/2022	0.291	
7/6/2022	0.306	
2/21/2023	0.319	
8/16/2023		0.266

# Prediction Limit

Constituent: Fluoride, total (mg/L) Analysis Run 10/9/2023 10:10 AM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-6	MW-6
4/27/2016	0.131 (J)	
6/21/2016	0.153 (J)	
10/12/2017	0.15	
10/13/2017	0.15	
10/14/2017	0.14	
10/15/2017	0.14	
10/16/2017	0.14	
10/17/2017	0.14	
11/16/2017	0.14	
2/14/2018	0.13	
5/23/2018	0.13	
11/20/2018	0.14	
5/15/2019	0.133	
10/10/2019	0.124	
4/8/2020	<0.1 (o)	
7/14/2020	0.115	
2/23/2021	0.139	
7/20/2021	0.131	
1/31/2022	0.121	
7/6/2022	0.147	
2/22/2023	0.173	
8/16/2023		0.0931 (J)

# Prediction Limit

Constituent: Fluoride, total (mg/L) Analysis Run 10/9/2023 10:10 AM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-7	MW-7
4/27/2016	0.2 (J)	
6/21/2016	0.163 (J)	
10/12/2017	0.17	
10/13/2017	0.19	
10/14/2017	0.2	
10/15/2017	0.2	
10/16/2017	0.2	
10/17/2017	0.19	
11/16/2017	0.18	
2/14/2018	0.18	
5/23/2018	0.18	
11/20/2018	0.19	
5/15/2019	0.169	
10/8/2019	0.183	
4/8/2020	0.153	
7/14/2020	0.193	
2/23/2021	0.2	
7/20/2021	0.286	
1/31/2022	0.173	
7/6/2022	0.208	
2/21/2023	0.216	
8/15/2023		0.154

# Prediction Limit

Constituent: Fluoride, total (mg/L) Analysis Run 10/9/2023 10:10 AM View: Appendix III - Intrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-8	MW-8
4/27/2016	0.212 (J)	
6/21/2016	0.211 (J)	
10/12/2017	0.22	
10/13/2017	0.23	
10/14/2017	0.22	
10/15/2017	0.22	
10/16/2017	0.22	
10/17/2017	0.21	
11/16/2017	0.22	
2/14/2018	0.21	
5/23/2018	0.21	
11/20/2018	0.21	
5/15/2019	0.192	
10/9/2019	0.189	
4/8/2020	0.192	
7/15/2020	0.196	
2/23/2021	0.208	
7/20/2021	0.262	
2/1/2022	0.177	
7/6/2022	0.173	
2/21/2023	0.212	
8/15/2023		0.174

# Prediction Limit

Constituent: Sulfate as SO4 (mg/L) Analysis Run 10/9/2023 10:10 AM View: Appendix III - Inrawell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-1	MW-1
4/26/2016	1490	
6/20/2016	1420	
8/8/2016	1460	
8/24/2016	1450	
10/3/2016	1460	
10/26/2016	1330	
11/21/2016	1420	
1/17/2017	1350	
3/22/2017	1500	
4/18/2017	1300	
5/30/2017	1400	
8/23/2017	1500	
5/22/2018	2100 (o)	
6/12/2018	1500	
10/17/2018	1400	
11/19/2018	1300	
4/10/2019	1700	
5/14/2019	1560	
10/8/2019	1540	
10/16/2019	1680	
4/6/2020	1530	
7/13/2020	1450	
2/22/2021	1400	
7/12/2021	1560	
1/25/2022	1430	
7/5/2022	1600	
2/20/2023	1520	
8/22/2023		1560



# Prediction Limit

Constituent: Sulfate as SO4 (mg/L) Analysis Run 10/9/2023 10:10 AM View: Appendix III - IntraWell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-2	MW-2
4/25/2016	745	
6/20/2016	964	
8/8/2016	1100	
8/24/2016	1130	
10/3/2016	1140	
10/26/2016	1060	
11/21/2016	1100	
1/17/2017	1160	
3/22/2017	900	
4/18/2017	870	
5/31/2017	1100	
8/23/2017	920	
5/22/2018	1200	
6/12/2018	860	
10/17/2018	970	
11/19/2018	1000	
4/10/2019	889	
5/14/2019	948	
10/8/2019	1230	
10/16/2019	1170	
4/6/2020	786	
7/13/2020	843	
2/22/2021	864	
7/12/2021	763	
1/25/2022	842	
7/5/2022	819	
2/20/2023	767	
8/22/2023		912

# Prediction Limit

Constituent: Sulfate as SO4 (mg/L) Analysis Run 10/9/2023 10:10 AM View: Appendix III - IntraWell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-3	MW-3
4/25/2016	1890	
6/22/2016	2100	
8/9/2016	2050	
8/24/2016	2190	
10/4/2016	1950	
10/26/2016	1980	
11/21/2016	2060	
1/18/2017	2620	
3/22/2017	3200	
4/18/2017	2500	
5/31/2017	2800	
8/23/2017	2600	
5/24/2018	2700	
6/12/2018	2500	
10/17/2018	2700	
11/19/2018	3000	
4/10/2019	2460	
5/14/2019	2460	
10/8/2019	2950	
10/16/2019	2820	
4/6/2020	1670	
7/13/2020	2130	
2/22/2021	3040	
7/12/2021	2380	
1/25/2022	2550	
7/5/2022	3110	
2/20/2023	2110	
8/22/2023		3140

# Prediction Limit

Constituent: Sulfate as SO4 (mg/L) Analysis Run 10/9/2023 10:10 AM View: Appendix III - IntraWell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-4	MW-4
4/25/2016	2260	
6/20/2016	2500	
8/9/2016	2750	
8/24/2016	2770	
10/3/2016	3060	
10/26/2016	2650	
11/21/2016	2720	
1/18/2017	2650	
3/22/2017	2700	
4/18/2017	2400	
5/31/2017	2700	
8/23/2017	2700	
5/23/2018	2400	
6/12/2018	2600	
10/17/2018	2600	
11/19/2018	2400	
4/10/2019	2090	
5/14/2019	2240	
10/10/2019	2690	
10/16/2019	3050	
4/6/2020	1810	
7/14/2020	1970	
2/22/2021	2040	
7/12/2021	1930	
1/25/2022	1930	
7/5/2022	2380	
2/21/2023	1930	
8/22/2023		2390

# Prediction Limit

Constituent: Sulfate as SO4 (mg/L) Analysis Run 10/9/2023 10:10 AM View: Appendix III - IntraWell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-5	MW-5
4/25/2016	2390	
6/21/2016	2500	
10/12/2017	2300	
10/13/2017	2300	
10/14/2017	2300	
10/15/2017	2300	
10/16/2017	2300	
10/17/2017	2200	
11/16/2017	2200	
5/23/2018	2400	
11/20/2018	2500	
5/14/2019	2380	
10/10/2019	2460	
4/7/2020	2050	
7/14/2020	2080	
2/23/2021	2210	
7/21/2021	2240	
1/31/2022	2310	
7/6/2022	2320	
2/21/2023	2210	
8/16/2023		2310

# Prediction Limit

Constituent: Sulfate as SO4 (mg/L) Analysis Run 10/9/2023 10:10 AM View: Appendix III - IntraWell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-6	MW-6
4/27/2016	2090	
6/21/2016	2000	
10/12/2017	2000	
10/13/2017	2000	
10/14/2017	1900	
10/15/2017	1900	
10/16/2017	1900	
10/17/2017	1900	
11/16/2017	1800	
5/23/2018	2000	
11/20/2018	2200	
5/15/2019	2110	
10/10/2019	2330	
4/8/2020	1900	
7/14/2020	1970	
2/23/2021	2010	
7/20/2021	1930	
1/31/2022	2080	
7/6/2022	2100	
2/22/2023	1870	
8/16/2023		2060

# Prediction Limit

Constituent: Sulfate as SO4 (mg/L) Analysis Run 10/9/2023 10:10 AM View: Appendix III - IntraWell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-7	MW-7
4/27/2016	1050	
6/21/2016	1410	
10/12/2017	1400	
10/13/2017	1400	
10/14/2017	1300	
10/15/2017	1300	
10/16/2017	1300	
10/17/2017	1300	
11/16/2017	1300	
5/23/2018	1900 (O)	
11/20/2018	1100	
5/15/2019	1510	
10/8/2019	1570	
4/8/2020	1270	
7/14/2020	1330	
2/23/2021	1320	
7/20/2021	1170	
1/31/2022	1370	
7/6/2022	1330	
2/21/2023	1450	
8/15/2023		1360

# Prediction Limit

Constituent: Sulfate as SO4 (mg/L) Analysis Run 10/9/2023 10:10 AM View: Appendix III - IntraWell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-8	MW-8
4/27/2016	1550	
6/21/2016	1470	
10/12/2017	1400	
10/13/2017	1600	
10/14/2017	1400	
10/15/2017	1400	
10/16/2017	1400	
10/17/2017	1400	
11/16/2017	1400	
5/23/2018	2100 (o)	
11/20/2018	1400	
5/15/2019	1640	
10/9/2019	1550	
4/8/2020	1380	
7/15/2020	1410	
2/23/2021	1420	
7/20/2021	1500	
2/1/2022	1500	
7/6/2022	1460	
2/21/2023	1510	
8/15/2023		1480

# Prediction Limit

Constituent: Total Dissolved Solids [TDS] (mg/L) Analysis Run 10/9/2023 10:10 AM View: Appendix III - IntraWell

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-1	MW-1
4/26/2016	2080	
6/20/2016	2060	
8/8/2016	2070	
8/24/2016	2040	
10/3/2016	2110	
10/26/2016	2000	
11/21/2016	2070	
1/17/2017	1930	
3/22/2017	2060	
4/18/2017	2140	
5/30/2017	2240	
8/23/2017	2160	
5/22/2018	2380	
6/12/2018	2400	
10/17/2018	2220	
11/19/2018	2360	
4/10/2019	2630	
5/14/2019	2340	
10/8/2019	2330	
10/16/2019	3650 (o)	
4/6/2020	2240	
7/13/2020	2240	
2/22/2021	2230	
7/12/2021	2210	
1/25/2022	2150	
7/5/2022	2100	
2/20/2023	2280	
8/22/2023		2160



# Prediction Limit

Constituent: Total Dissolved Solids [TDS] (mg/L) Analysis Run 10/9/2023 10:10 AM View: Appendix III - IntraWell

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-2	MW-2
4/25/2016	1260	
6/20/2016	1620	
8/8/2016	1740	
8/24/2016	1720	
10/3/2016	1800	
10/26/2016	1800	
11/21/2016	1740	
1/17/2017	1960	
3/22/2017	1510	
4/18/2017	1580	
5/31/2017	1730	
8/23/2017	1550	
5/22/2018	1500	
6/12/2018	1550	
10/17/2018	1740	
11/19/2018	1990	
4/10/2019	1250	
5/14/2019	1480	
10/8/2019	1840	
10/16/2019	1830	
4/6/2020	1440	
7/13/2020	1540	
2/22/2021	1620	
7/12/2021	1390	
1/25/2022	1500	
7/5/2022	1250	
2/20/2023	1420	
8/22/2023		1520

# Prediction Limit

Constituent: Total Dissolved Solids [TDS] (mg/L) Analysis Run 10/9/2023 10:10 AM View: Appendix III - IntraWell

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-3	MW-3
4/25/2016	2720	
6/22/2016	3250	
8/9/2016	3050	
8/24/2016	3080	
10/4/2016	2900	
10/26/2016	2940	
11/21/2016	3090	
1/18/2017	4020	
3/22/2017	4180	
4/18/2017	4440	
5/31/2017	3970	
8/23/2017	4050	
5/24/2018	3680	
6/12/2018	3820	
10/17/2018	4730	
11/19/2018	4710	
4/10/2019	3680	
5/14/2019	3580	
10/8/2019	4720	
10/16/2019	4210	
4/6/2020	2630	
7/13/2020	3650	
2/22/2021	4670	
7/12/2021	3510	
1/25/2022	3950	
7/5/2022	4220	
2/20/2023	3230	
8/22/2023		4820

# Prediction Limit

Constituent: Total Dissolved Solids [TDS] (mg/L) Analysis Run 10/9/2023 10:10 AM View: Appendix III - IntraWell

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-4	MW-4
4/25/2016	3300	
6/20/2016	3870	
8/9/2016	4140	
8/24/2016	4190	
10/3/2016	4190	
10/26/2016	4400	
11/21/2016	4230	
1/18/2017	4120	
3/22/2017	3980	
4/18/2017	3880	
5/31/2017	4210	
8/23/2017	3990	
5/23/2018	3740	
6/12/2018	4080	
10/17/2018	4250	
11/19/2018	3920	
4/10/2019	3280	
5/14/2019	3130 (D)	
10/10/2019	4000	
10/16/2019	4060	
4/6/2020	2820	
7/14/2020	3310	
2/22/2021	3190	
7/12/2021	3000	
1/25/2022	3180	
7/5/2022	3240	
2/21/2023	3160	
8/22/2023		3780

# Prediction Limit

Constituent: Total Dissolved Solids [TDS] (mg/L) Analysis Run 10/9/2023 10:10 AM View: Appendix III - IntraWell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-5	MW-5
4/25/2016	3660	
6/21/2016	3920	
10/12/2017	4000	
10/13/2017	3960	
10/14/2017	3910	
10/15/2017	3890	
10/16/2017	3980	
10/17/2017	3940	
11/16/2017	3930	
5/23/2018	3660	
11/20/2018	3780	
5/14/2019	3520	
10/10/2019	3830	
4/7/2020	3270	
7/14/2020	3710	
2/23/2021	3740	
7/21/2021	3570	
1/31/2022	3560	
7/6/2022	3390	
2/21/2023	3310	
8/16/2023		3640

# Prediction Limit

Constituent: Total Dissolved Solids [TDS] (mg/L) Analysis Run 10/9/2023 10:10 AM View: Appendix III - IntraWell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-6	MW-6
4/27/2016	3290	
6/21/2016	3250	
10/12/2017	3220	
10/13/2017	3250	
10/14/2017	3260	
10/15/2017	3260	
10/16/2017	3360	
10/17/2017	3420	
11/16/2017	3280	
5/23/2018	3340	
11/20/2018	3330	
5/15/2019	3130	
10/10/2019	3260	
4/8/2020	2940	
7/14/2020	3270	
2/23/2021	3230	
7/20/2021	3090	
1/31/2022	3050	
7/6/2022	3110	
2/22/2023	2790	
8/16/2023		3140

# Prediction Limit

Constituent: Total Dissolved Solids [TDS] (mg/L) Analysis Run 10/9/2023 10:10 AM View: Appendix III - IntraWell

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-7	MW-7
4/27/2016	1640	
6/21/2016	2460	
10/12/2017	2460	
10/13/2017	2420	
10/14/2017	2320	
10/15/2017	1150	
10/16/2017	2320	
10/17/2017	2360	
11/16/2017	2460	
5/23/2018	2390	
11/20/2018	2090	
5/15/2019	2310	
10/8/2019	2340	
4/8/2020	2230	
7/14/2020	2210	
2/23/2021	2320	
7/20/2021	2110	
1/31/2022	2140	
7/6/2022	2110	
2/21/2023	2220	
8/15/2023		2270

# Prediction Limit

Constituent: Total Dissolved Solids [TDS] (mg/L) Analysis Run 10/9/2023 10:10 AM View: Appendix III - IntraWell  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-8	MW-8
4/27/2016	2480	
6/21/2016	2360	
10/12/2017	2530	
10/13/2017	2740	
10/14/2017	2630	
10/15/2017	2530	
10/16/2017	2740	
10/17/2017	2650	
11/16/2017	2650	
5/23/2018	2750	
11/20/2018	2520	
5/15/2019	2540	
10/9/2019	2590	
4/8/2020	2450	
7/15/2020	2460	
2/23/2021	2550	
7/20/2021	2420	
2/1/2022	2420	
7/6/2022	2320	
2/21/2023	2370	
8/15/2023		2410

FIGURE G.



# Appendix III Interwell Prediction Limits - Significant Results

Plant Gorgas Data: Gorgas CCR LF Printed 10/6/2023, 4:32 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	ND Adj.	Transform	Alpha	Method
Chloride, Total (mg/L)	MW-5	4.6	n/a	8/16/2023	7.19	Yes	112	2.679	n/a	n/a	0.0001585	NP Inter (normality) 1 of 2
Chloride, Total (mg/L)	MW-7	4.6	n/a	8/15/2023	6.51	Yes	112	2.679	n/a	n/a	0.0001585	NP Inter (normality) 1 of 2
Chloride, Total (mg/L)	MW-8	4.6	n/a	8/15/2023	4.92	Yes	112	2.679	n/a	n/a	0.0001585	NP Inter (normality) 1 of 2
pH, Field (SU)	MW-5	6.35	4.51	8/16/2023	6.5	Yes	113	0	n/a	n/a	0.0003112	NP Inter (normality) 1 of 2
pH, Field (SU)	MW-7	6.35	4.51	8/15/2023	7.47	Yes	113	0	n/a	n/a	0.0003112	NP Inter (normality) 1 of 2
pH, Field (SU)	MW-8	6.35	4.51	8/15/2023	7.58	Yes	113	0	n/a	n/a	0.0003112	NP Inter (normality) 1 of 2

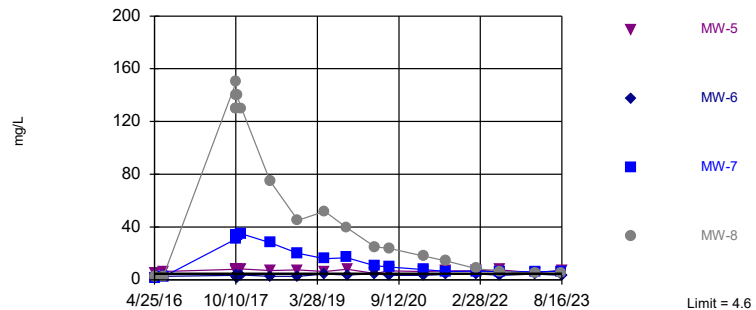
# Appendix III Interwell Prediction Limits - All Results

Plant Gorgas Data: Gorgas CCR LF Printed 10/6/2023, 4:32 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	ND Adj.	Transform	Alpha	Method
<b>Chloride, Total (mg/L)</b>	<b>MW-5</b>	<b>4.6</b>	<b>n/a</b>	<b>8/16/2023</b>	<b>7.19</b>	<b>Yes</b>	<b>112</b>	<b>2.679</b>	<b>n/a</b>	<b>n/a</b>	<b>0.0001585</b>	<b>NP Inter (normality) 1 of 2</b>
Chloride, Total (mg/L)	MW-6	4.6	n/a	8/16/2023	3.36	No	112	2.679	n/a	n/a	0.0001585	NP Inter (normality) 1 of 2
<b>Chloride, Total (mg/L)</b>	<b>MW-7</b>	<b>4.6</b>	<b>n/a</b>	<b>8/15/2023</b>	<b>6.51</b>	<b>Yes</b>	<b>112</b>	<b>2.679</b>	<b>n/a</b>	<b>n/a</b>	<b>0.0001585</b>	<b>NP Inter (normality) 1 of 2</b>
<b>Chloride, Total (mg/L)</b>	<b>MW-8</b>	<b>4.6</b>	<b>n/a</b>	<b>8/15/2023</b>	<b>4.92</b>	<b>Yes</b>	<b>112</b>	<b>2.679</b>	<b>n/a</b>	<b>n/a</b>	<b>0.0001585</b>	<b>NP Inter (normality) 1 of 2</b>
<b>pH, Field (SU)</b>	<b>MW-5</b>	<b>6.35</b>	<b>4.51</b>	<b>8/16/2023</b>	<b>6.5</b>	<b>Yes</b>	<b>113</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.0003112</b>	<b>NP Inter (normality) 1 of 2</b>
pH, Field (SU)	MW-6	6.35	4.51	8/16/2023	6.01	No	113	0	n/a	n/a	0.0003112	NP Inter (normality) 1 of 2
<b>pH, Field (SU)</b>	<b>MW-7</b>	<b>6.35</b>	<b>4.51</b>	<b>8/15/2023</b>	<b>7.47</b>	<b>Yes</b>	<b>113</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.0003112</b>	<b>NP Inter (normality) 1 of 2</b>
<b>pH, Field (SU)</b>	<b>MW-8</b>	<b>6.35</b>	<b>4.51</b>	<b>8/15/2023</b>	<b>7.58</b>	<b>Yes</b>	<b>113</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.0003112</b>	<b>NP Inter (normality) 1 of 2</b>

Exceeds Limit: MW-5, MW-7, MW-8

Prediction Limit  
Interwell Non-parametric

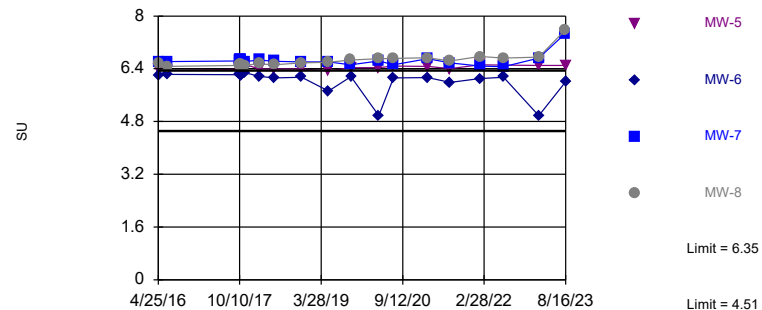


Non-parametric test used in lieu of parametric prediction limit because the Chi Squared normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 112 background values. 2.679% NDs. Annual per-constituent alpha = 0.001267. Individual comparison alpha = 0.0001585 (1 of 2). Comparing 4 points to limit.

Constituent: Chloride, Total Analysis Run 10/6/2023 4:32 PM View: Appendix III - Interwell  
Plant Gorgas Data: Gorgas CCR LF

Exceeds Limits: MW-5, MW-7, MW-8

Prediction Limit  
Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Chi Squared normality test showed the data to be non-normal at the 0.01 alpha level. Limits are highest and lowest of 113 background values. Annual per-constituent alpha = 0.002488. Individual comparison alpha = 0.0003112 (1 of 2). Comparing 4 points to limit.

Constituent: pH, Field Analysis Run 10/6/2023 4:32 PM View: Appendix III - Interwell  
Plant Gorgas Data: Gorgas CCR LF

# Prediction Limit

Constituent: Chloride, Total (mg/L) Analysis Run 10/6/2023 4:32 PM View: Appendix III - Interwell

Plant Gorgas Data: Gorgas CCR LF

	MW-4 (bg)	MW-5	MW-3 (bg)	MW-2 (bg)	MW-1 (bg)	MW-6	MW-8	MW-7
4/25/2016	1.53	5.44	1.32	1.9				
4/26/2016					1.94			
4/27/2016						2.19	2.34	1.71
6/20/2016	1.85			3.43	2.09			
6/21/2016		6.32				2.56	2.29	2.04
6/22/2016			1.46					
8/8/2016				3.31	2.18			
8/9/2016	1.95		1.35					
8/24/2016	2.07		1.47	3.23	2.22			
10/3/2016	2.02			3.21	2.34			
10/4/2016			1.59					
10/26/2016	2.07		1.27	3.35	2.34			
11/21/2016	2.39		1.38	3.34	2.5			
1/17/2017				3.58	2.68			
1/18/2017	1.9		1.34					
3/22/2017	1.5 (J)		2	3.4	3.7			
4/18/2017	1.6 (J)		2.2	2.6	2.4			
5/30/2017					2.6			
5/31/2017	2.1		1.5 (J)	4.4				
8/23/2017	2.3		1.8 (J)	4.4	2.7			
10/12/2017		7.9				3.4	150	31
10/13/2017		8 (B)				3 (B)	130 (B)	32 (B)
10/14/2017		7.4				2.8	140	33
10/15/2017		7.2				1.9 (J)	130	34
10/16/2017		8.1				1.8 (J)	140	34
10/17/2017		7.9				3.1	140	34
11/16/2017		8.1				3.5	130	35
5/22/2018				3.2	2.3			
5/23/2018	2	7				2.6	75	28
5/24/2018			1.6 (J)					
6/12/2018	1.7 (J)		1.4 (J)	3.7	2.3			
10/17/2018	1.5 (J)		<2	4.6	1.7 (J)			
11/19/2018	<2		<2	3	1.7 (J)			
11/20/2018		7.4				2.7	45	20
4/10/2019	1.88		2.25	1.76	2.36			
5/14/2019	1.82	6.24	2.28	2.98	2.28			
5/15/2019						4.45	52	15.9
10/8/2019			1.36	4.26	2.31			16.8
10/9/2019							39.2	
10/10/2019	1.93	7.88				3.61		
10/16/2019	1.92		1.4	4.04	2.42			
4/6/2020	1.5		1.72	2.43	2.01			
4/7/2020		4.83						
4/8/2020						4.63	24.9	10.6
7/13/2020			1.34	4.05	2.1			
7/14/2020	1.61	6.84				3.25		9.68
7/15/2020							23.8	
2/22/2021	1.52		2.22	1.72	2.16			
2/23/2021		6.19				3.47	17.9	7.85
7/12/2021	1.56		2.13	2.36	2.19			
7/20/2021						4.04	14.3	6.35
7/21/2021		6.73						

# Prediction Limit

Constituent: Chloride, Total (mg/L) Analysis Run 10/6/2023 4:32 PM View: Appendix III - Interwell  
Plant Gorgas Data: Gorgas CCR LF

---

	MW-4 (bg)	MW-5	MW-3 (bg)	MW-2 (bg)	MW-1 (bg)	MW-6	MW-8	MW-7
1/25/2022	1.54		2.12	2.14	2.09			
1/31/2022		6.87				4.53		6.4
2/1/2022							8.56	
7/5/2022	1.63		1.59	2.53	2.07			
7/6/2022		7.51				3.36	6.5	6.25
2/20/2023			1.94	1.7	2.05			
2/21/2023	1.58	5.25					4.86	6.12
2/22/2023						4.37		
8/15/2023							4.92	6.51
8/16/2023		7.19				3.36		
8/22/2023	1.86		1.31	3.13	2.38			

# Prediction Limit

Constituent: pH, Field (SU) Analysis Run 10/6/2023 4:32 PM View: Appendix III - Interwell

Plant Gorgas Data: Gorgas CCR LF

	MW-5	MW-4 (bg)	MW-3 (bg)	MW-2 (bg)	MW-1 (bg)	MW-6	MW-8	MW-7
4/25/2016	6.37	6.22	5.56	5.94				
4/26/2016					5.2			
4/27/2016						6.18	6.55	6.6
6/20/2016		6.21		5.96	5.18			
6/21/2016	6.35					6.23	6.47	6.62
6/22/2016			5.57					
8/8/2016				5.88	5.12			
8/9/2016		6.11	5.67					
8/24/2016		6.11	5.63					
10/3/2016		6.13		5.91	5.21			
10/4/2016			5.69					
10/26/2016		6.12	5.56	5.84	5.2			
11/21/2016		6.09	5.42	5.82	5.19			
1/17/2017				5.87	5.17			
1/18/2017		6.09	5.11					
3/22/2017		6.15	4.52	6.01	5.2			
4/18/2017		6.19	5.84	6.02	5.2			
5/30/2017					5.14			
5/31/2017		6.13	4.56	5.85				
8/23/2017		6.12	4.77	5.89	5.12			
10/12/2017	6.38					6.22	6.5	6.64
10/13/2017	6.43					6.23	6.51	6.64
10/14/2017	6.41					6.22	6.53	6.66
10/15/2017	6.42					6.22	6.53	6.67
10/16/2017	6.42					6.21	6.54	6.67
10/17/2017	6.41					6.2	6.54	6.66
11/16/2017	6.53					6.28	6.51	6.62
2/13/2018		6.22	5.67	6.21	5.18			
2/14/2018	6.39					6.17	6.55	6.67
5/22/2018				6.04	5.2			
5/23/2018	6.39	6.21				6.12	6.52	6.63
5/24/2018			5.19					
6/12/2018		6.16	4.79	5.95	5.15			
10/17/2018		6.12	4.75	5.9	5.12			
11/19/2018		6.16	3.77 (o)	6.03	5.09			
11/20/2018	6.39					6.14	6.58	6.61
4/10/2019		6.14	5.54	6.1	5.11			
5/14/2019	6.34	6.23	5.71	6.07	5.19			
5/15/2019						5.72	6.6	6.61
10/8/2019			4.98	5.96	5.12			6.52
10/9/2019							6.67	
10/10/2019	6.43	6.15				6.16		
10/16/2019		6.19	4.51	5.98	5.16			
4/6/2020		6.35	5.91	6.21	5.21			
4/7/2020	6.43							
4/8/2020						4.98	6.7	6.64
7/13/2020			5.16	5.84	5.14			
7/14/2020	6.48	6.2				6.12		6.52
7/15/2020							6.71	
2/22/2021		6.19	5.59	6.1	5.06			
2/23/2021	6.47					6.13	6.73	6.7
7/12/2021		6.06	5.86	6.16	5.13			

# Prediction Limit

Constituent: pH, Field (SU) Analysis Run 10/6/2023 4:32 PM View: Appendix III - Interwell  
Plant Gorgas Data: Gorgas CCR LF

---

	MW-5	MW-4 (bg)	MW-3 (bg)	MW-2 (bg)	MW-1 (bg)	MW-6	MW-8	MW-7
7/20/2021						5.99	6.64	6.58
7/21/2021	6.4							
1/25/2022		6.3	5.9	6.22	5.11			
1/31/2022	6.52					6.1		6.48
2/1/2022							6.77	
7/5/2022		6.12	5.34	6.15	5.01			
7/6/2022	6.51					6.14	6.72	6.46
2/20/2023			6.01	6.24	5.07			
2/21/2023	6.5	6.35					6.75	6.72
2/22/2023						4.98		
8/15/2023							7.58	7.47
8/16/2023	6.5					6.01		
8/22/2023		6.28	5.04	5.81	4.92			

FIGURE H.



# Appendix III Trend Tests - Prediction Limit Exceedances - Significant Results

Plant Gorgas Data: Gorgas CCR LF Printed 10/6/2023, 4:35 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Alpha	Method
Chloride, Total (mg/L)	MW-8	-19.64	-114	-87	Yes	21	0	n/a	0.01	NP
pH, Field (SU)	MW-1 (bg)	-0.01854	-181	-131	Yes	28	0	n/a	0.01	NP
pH, Field (SU)	MW-2 (bg)	0.04189	142	131	Yes	28	0	n/a	0.01	NP
pH, Field (SU)	MW-5	0.01816	100	92	Yes	22	0	n/a	0.01	NP
pH, Field (SU)	MW-8	0.0485	177	92	Yes	22	0	n/a	0.01	NP

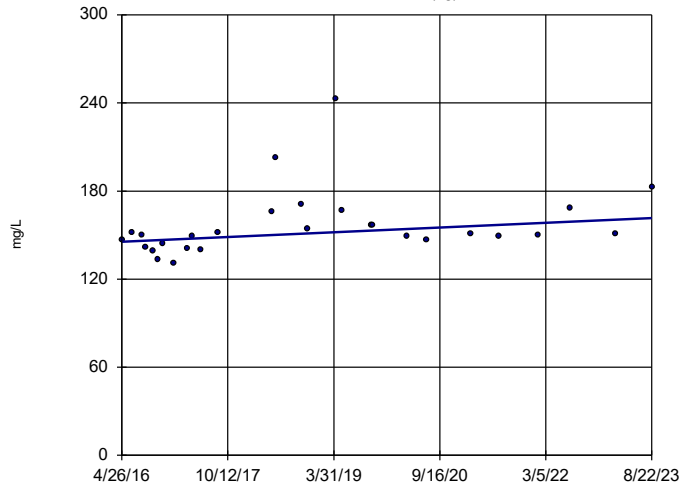
# Appendix III Trend Tests - Prediction Limit Exceedances - All Results

Plant Gorgas Data: Gorgas CCR LF Printed 10/6/2023, 4:35 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Alpha	Method
Calcium, total (mg/L)	MW-1 (bg)	2.226	116	131	No	28	0	n/a	0.01	NP
Calcium, total (mg/L)	MW-2 (bg)	0	4	131	No	28	0	n/a	0.01	NP
Calcium, total (mg/L)	MW-3 (bg)	9.024	58	131	No	28	0	n/a	0.01	NP
Calcium, total (mg/L)	MW-4 (bg)	-6.626	-101	-131	No	28	0	n/a	0.01	NP
Calcium, total (mg/L)	MW-7	-2.964	-39	-87	No	21	0	n/a	0.01	NP
Chloride, Total (mg/L)	MW-1 (bg)	-0.02423	-54	-131	No	28	0	n/a	0.01	NP
Chloride, Total (mg/L)	MW-2 (bg)	-0.1196	-77	-131	No	28	0	n/a	0.01	NP
Chloride, Total (mg/L)	MW-3 (bg)	0.04365	68	131	No	28	7.143	n/a	0.01	NP
Chloride, Total (mg/L)	MW-4 (bg)	-0.04985	-94	-131	No	28	3.571	n/a	0.01	NP
Chloride, Total (mg/L)	MW-5	-0.1187	-43	-87	No	21	0	n/a	0.01	NP
Chloride, Total (mg/L)	MW-7	-4.43	-81	-87	No	21	0	n/a	0.01	NP
<b>Chloride, Total (mg/L)</b>	<b>MW-8</b>	<b>-19.64</b>	<b>-114</b>	<b>-87</b>	<b>Yes</b>	<b>21</b>	<b>0</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
<b>pH, Field (SU)</b>	<b>MW-1 (bg)</b>	<b>-0.01854</b>	<b>-181</b>	<b>-131</b>	<b>Yes</b>	<b>28</b>	<b>0</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
<b>pH, Field (SU)</b>	<b>MW-2 (bg)</b>	<b>0.04189</b>	<b>142</b>	<b>131</b>	<b>Yes</b>	<b>28</b>	<b>0</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
pH, Field (SU)	MW-3 (bg)	0.02424	22	131	No	28	0	n/a	0.01	NP
pH, Field (SU)	MW-4 (bg)	0.01768	115	139	No	29	0	n/a	0.01	NP
<b>pH, Field (SU)</b>	<b>MW-5</b>	<b>0.01816</b>	<b>100</b>	<b>92</b>	<b>Yes</b>	<b>22</b>	<b>0</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
pH, Field (SU)	MW-7	-0.006697	-17	-92	No	22	0	n/a	0.01	NP
<b>pH, Field (SU)</b>	<b>MW-8</b>	<b>0.0485</b>	<b>177</b>	<b>92</b>	<b>Yes</b>	<b>22</b>	<b>0</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>

### Sen's Slope Estimator

MW-1 (bg)

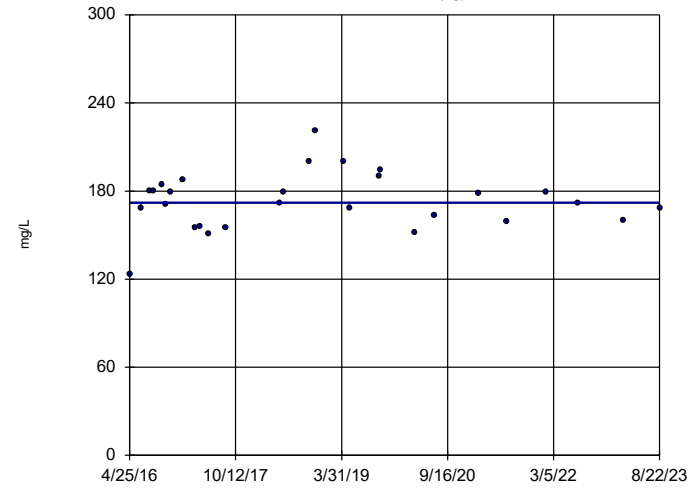


n = 28  
 Slope = 2.226  
 units per year.  
 Mann-Kendall  
 statistic = 116  
 critical = 131  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Calcium, total Analysis Run 10/6/2023 4:33 PM View: Appendix III - Trend Tests  
 Plant Gorgas Data: Gorgas CCR LF

### Sen's Slope Estimator

MW-2 (bg)

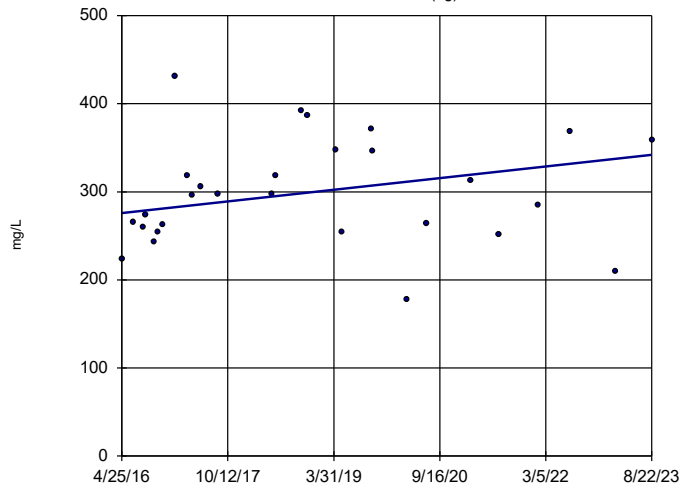


n = 28  
 Slope = 0  
 units per year.  
 Mann-Kendall  
 statistic = 4  
 critical = 131  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Calcium, total Analysis Run 10/6/2023 4:33 PM View: Appendix III - Trend Tests  
 Plant Gorgas Data: Gorgas CCR LF

### Sen's Slope Estimator

MW-3 (bg)

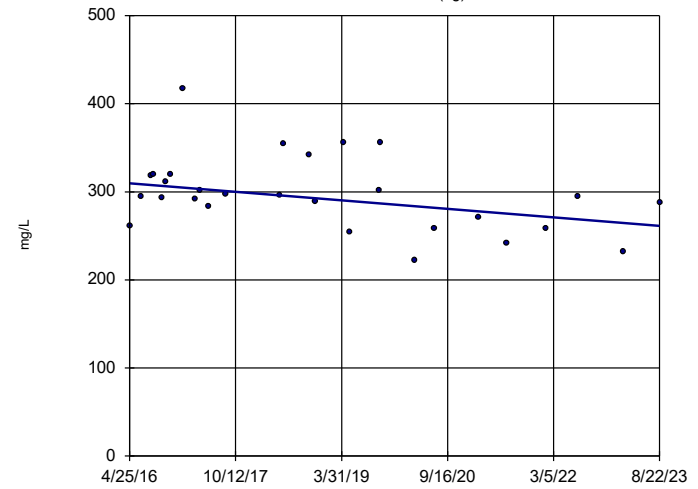


n = 28  
 Slope = 9.024  
 units per year.  
 Mann-Kendall  
 statistic = 58  
 critical = 131  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Calcium, total Analysis Run 10/6/2023 4:33 PM View: Appendix III - Trend Tests  
 Plant Gorgas Data: Gorgas CCR LF

### Sen's Slope Estimator

MW-4 (bg)

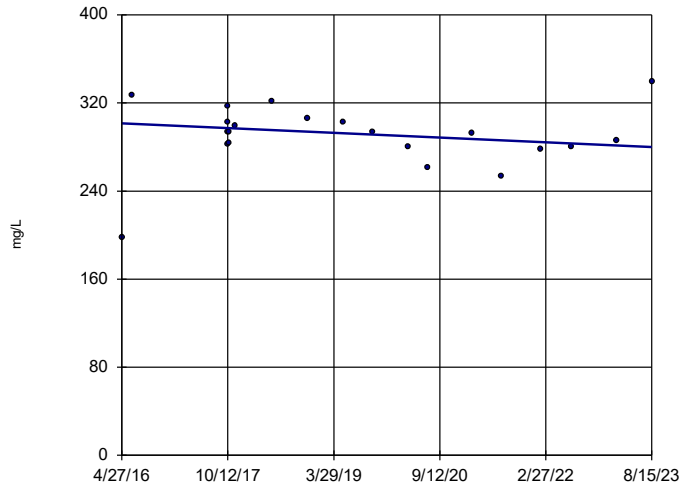


n = 28  
 Slope = -6.626  
 units per year.  
 Mann-Kendall  
 statistic = -101  
 critical = -131  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Calcium, total Analysis Run 10/6/2023 4:33 PM View: Appendix III - Trend Tests  
 Plant Gorgas Data: Gorgas CCR LF

### Sen's Slope Estimator

MW-7

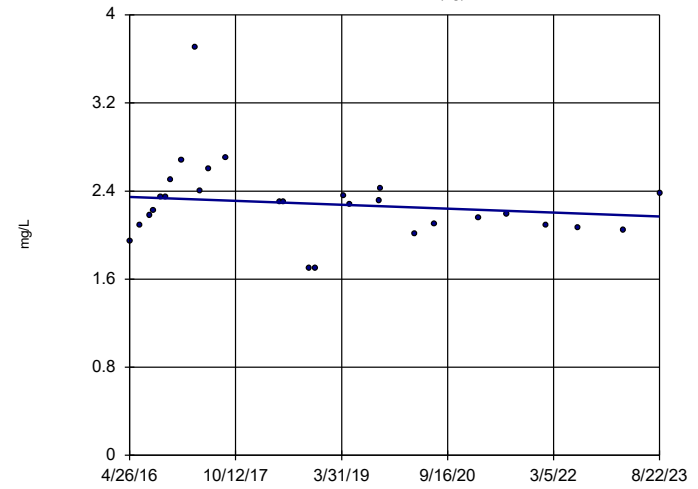


n = 21  
 Slope = -2.964  
 units per year.  
 Mann-Kendall  
 statistic = -39  
 critical = -87  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 (α = 0.005 per  
 tail).

Constituent: Calcium, total Analysis Run 10/6/2023 4:33 PM View: Appendix III - Trend Tests  
 Plant Gorgas Data: Gorgas CCR LF

### Sen's Slope Estimator

MW-1 (bg)

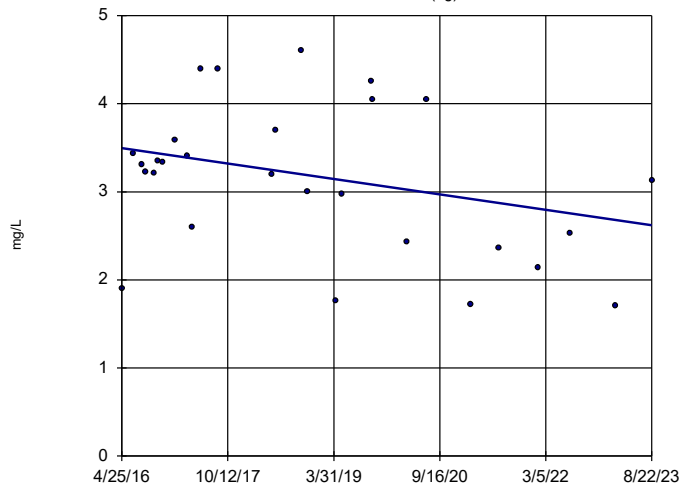


n = 28  
 Slope = -0.02423  
 units per year.  
 Mann-Kendall  
 statistic = -54  
 critical = -131  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 (α = 0.005 per  
 tail).

Constituent: Chloride, Total Analysis Run 10/6/2023 4:33 PM View: Appendix III - Trend Tests  
 Plant Gorgas Data: Gorgas CCR LF

### Sen's Slope Estimator

MW-2 (bg)



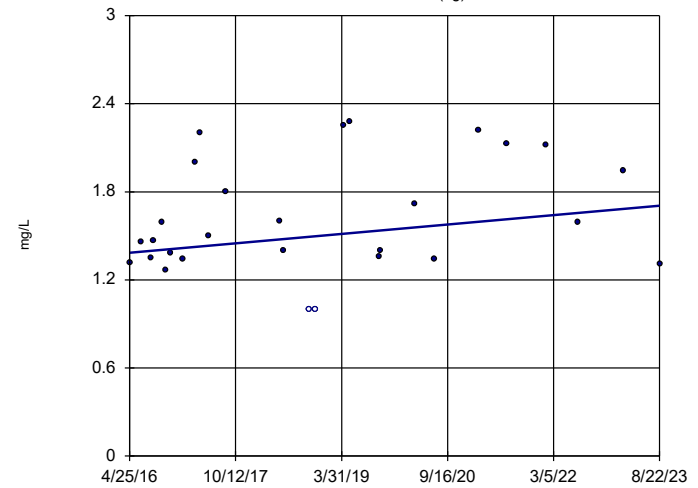
n = 28  
 Slope = -0.1196  
 units per year.  
 Mann-Kendall  
 statistic = -77  
 critical = -131  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 (α = 0.005 per  
 tail).

Constituent: Chloride, Total Analysis Run 10/6/2023 4:34 PM View: Appendix III - Trend Tests  
 Plant Gorgas Data: Gorgas CCR LF

Hollow symbols indicate censored values.

### Sen's Slope Estimator

MW-3 (bg)

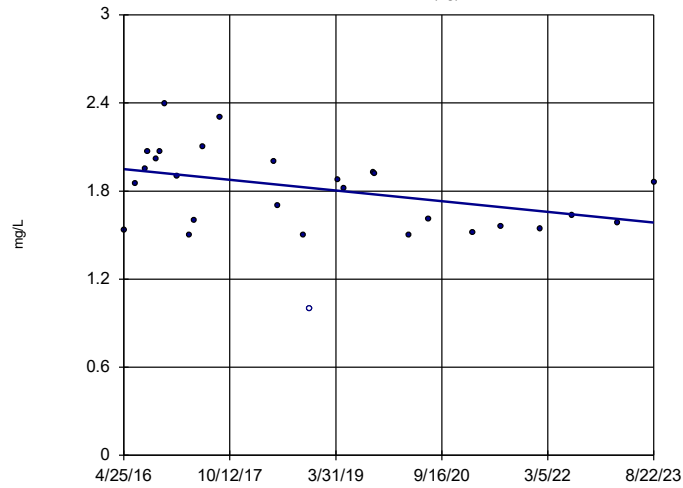


n = 28  
 Slope = 0.04365  
 units per year.  
 Mann-Kendall  
 statistic = 68  
 critical = 131  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 (α = 0.005 per  
 tail).

Constituent: Chloride, Total Analysis Run 10/6/2023 4:34 PM View: Appendix III - Trend Tests  
 Plant Gorgas Data: Gorgas CCR LF

### Sen's Slope Estimator

MW-4 (bg)

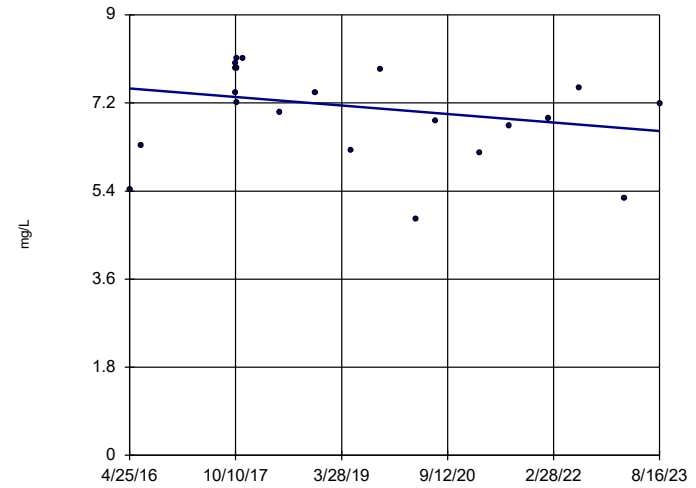


n = 28  
Slope = -0.04985  
units per year.  
Mann-Kendall  
statistic = -94  
critical = -131  
Trend not sig-  
nificant at 99%  
confidence level  
( $\alpha = 0.005$  per  
tail).

Constituent: Chloride, Total Analysis Run 10/6/2023 4:34 PM View: Appendix III - Trend Tests  
Plant Gorgas Data: Gorgas CCR LF

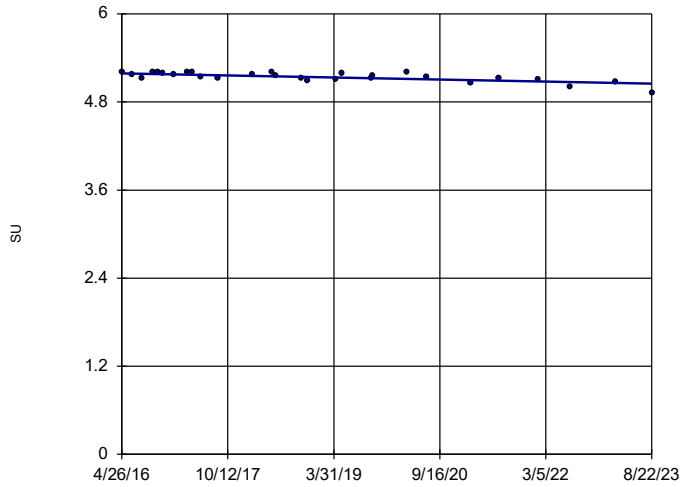
### Sen's Slope Estimator

MW-5



### Sen's Slope Estimator

MW-1 (bg)

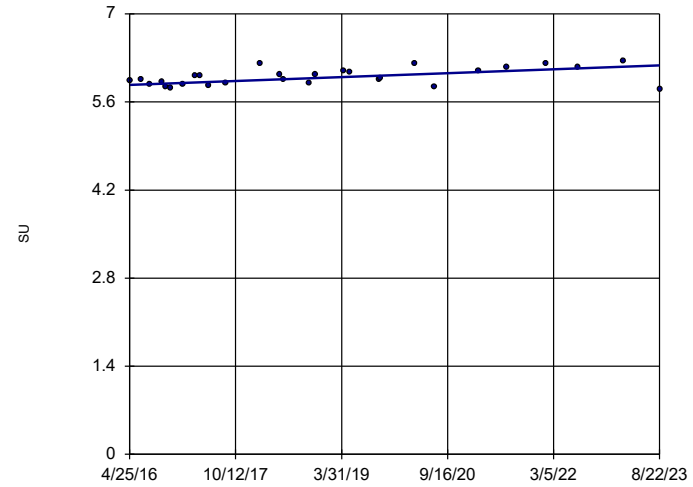


n = 28  
 Slope = -0.01854  
 units per year.  
 Mann-Kendall  
 statistic = -181  
 critical = -131  
 Decreasing trend  
 significant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: pH, Field Analysis Run 10/6/2023 4:34 PM View: Appendix III - Trend Tests  
 Plant Gorgas Data: Gorgas CCR LF

### Sen's Slope Estimator

MW-2 (bg)

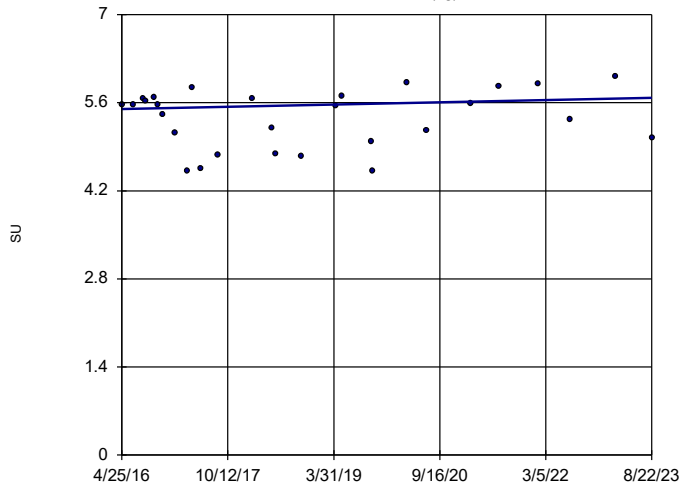


n = 28  
 Slope = 0.04189  
 units per year.  
 Mann-Kendall  
 statistic = 142  
 critical = 131  
 Increasing trend  
 significant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: pH, Field Analysis Run 10/6/2023 4:34 PM View: Appendix III - Trend Tests  
 Plant Gorgas Data: Gorgas CCR LF

### Sen's Slope Estimator

MW-3 (bg)

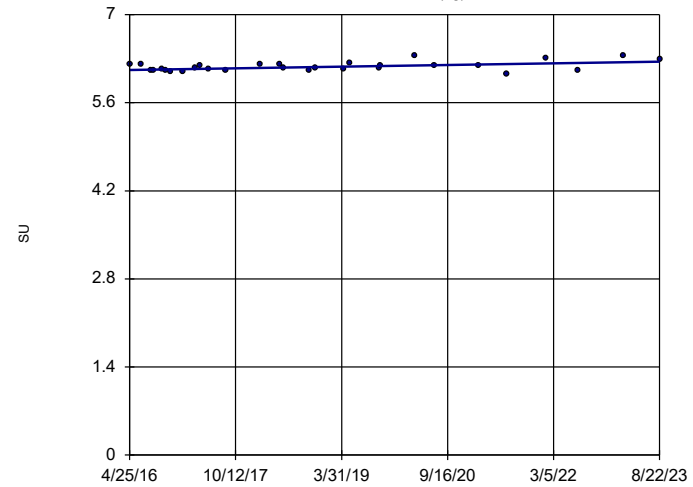


n = 28  
 Slope = 0.02424  
 units per year.  
 Mann-Kendall  
 statistic = 22  
 critical = 131  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: pH, Field Analysis Run 10/6/2023 4:34 PM View: Appendix III - Trend Tests  
 Plant Gorgas Data: Gorgas CCR LF

### Sen's Slope Estimator

MW-4 (bg)

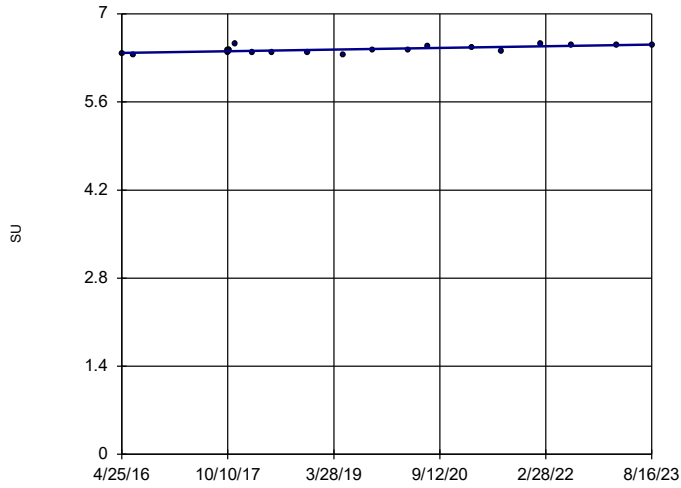


n = 29  
 Slope = 0.01768  
 units per year.  
 Mann-Kendall  
 statistic = 115  
 critical = 139  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: pH, Field Analysis Run 10/6/2023 4:34 PM View: Appendix III - Trend Tests  
 Plant Gorgas Data: Gorgas CCR LF

### Sen's Slope Estimator

MW-5

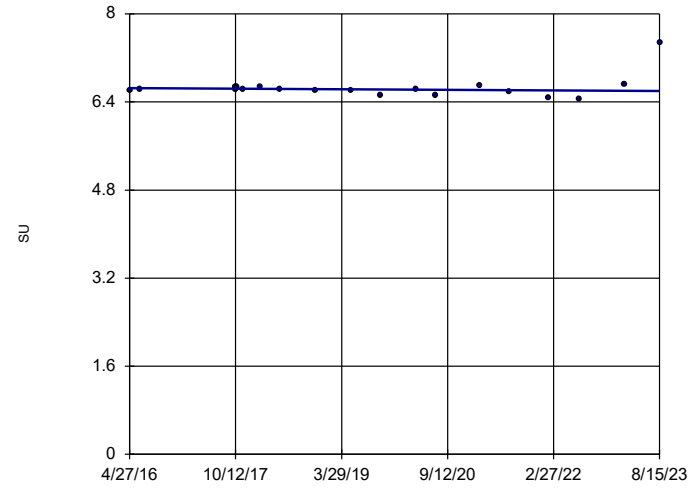


n = 22  
Slope = 0.01816  
units per year.  
Mann-Kendall  
statistic = 100  
critical = 92  
Increasing trend  
significant at 99%  
confidence level  
( $\alpha = 0.005$  per  
tail).

Constituent: pH, Field Analysis Run 10/6/2023 4:34 PM View: Appendix III - Trend Tests  
Plant Gorgas Data: Gorgas CCR LF

### Sen's Slope Estimator

MW-7

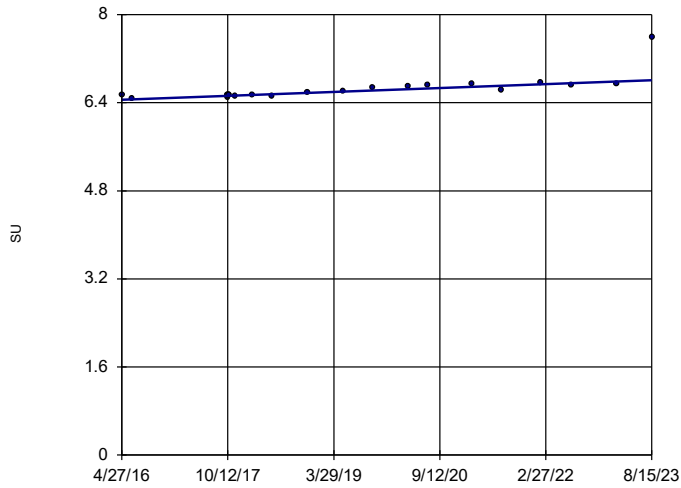


n = 22  
Slope = -0.006697  
units per year.  
Mann-Kendall  
statistic = -17  
critical = -92  
Trend not sig-  
nificant at 99%  
confidence level  
( $\alpha = 0.005$  per  
tail).

Constituent: pH, Field Analysis Run 10/6/2023 4:34 PM View: Appendix III - Trend Tests  
Plant Gorgas Data: Gorgas CCR LF

### Sen's Slope Estimator

MW-8



n = 22  
Slope = 0.0485  
units per year.  
Mann-Kendall  
statistic = 177  
critical = 92  
Increasing trend  
significant at 99%  
confidence level  
( $\alpha = 0.005$  per  
tail).

Constituent: pH, Field Analysis Run 10/6/2023 4:34 PM View: Appendix III - Trend Tests  
Plant Gorgas Data: Gorgas CCR LF

FIGURE I.

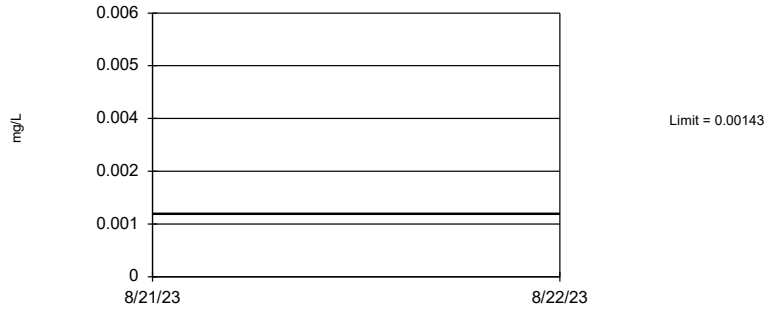


# Upper Tolerance Limits - Summary Table

Plant Gorgas Data: Gorgas CCR LF Printed 10/6/2023, 4:39 PM

Constituent	Well	Upper Lim.	Date	Observ.	Sig.	Bg N	%NDs	ND Adj.	Transform Alpha	Method
Antimony (mg/L)	n/a	0.00143	n/a	n/a	n/a	112	94.64	n/a	n/a	0.003199 NP Inter
Arsenic (mg/L)	n/a	0.0048	n/a	n/a	n/a	112	72.32	n/a	n/a	0.003199 NP Inter
Barium (mg/L)	n/a	0.0165	n/a	n/a	n/a	112	0	n/a	n/a	0.003199 NP Inter
Beryllium (mg/L)	n/a	0.0121	n/a	n/a	n/a	110	84.55	n/a	n/a	0.003545 NP Inter
Cadmium (mg/L)	n/a	0.00885	n/a	n/a	n/a	111	41.44	n/a	n/a	0.003368 NP Inter
Chromium (mg/L)	n/a	0.0105	n/a	n/a	n/a	112	81.25	n/a	n/a	0.003199 NP Inter
Cobalt (mg/L)	n/a	0.529	n/a	n/a	n/a	110	25.45	n/a	n/a	0.003545 NP Inter
Combined Radium 226 + 228 (pCi/L)	n/a	1.49	n/a	n/a	n/a	108	0	n/a	n/a	0.003928 NP Inter
Fluoride, total (mg/L)	n/a	0.63	n/a	n/a	n/a	116	0	n/a	n/a	0.002606 NP Inter
Lead (mg/L)	n/a	0.00108	n/a	n/a	n/a	111	93.69	n/a	n/a	0.003368 NP Inter
Lithium (mg/L)	n/a	0.419	n/a	n/a	n/a	112	0	n/a	n/a	0.003199 NP Inter
Mercury (mg/L)	n/a	0.0005	n/a	n/a	n/a	112	100	n/a	n/a	0.003199 NP Inter
Molybdenum (mg/L)	n/a	0.01015	n/a	n/a	n/a	112	94.64	n/a	n/a	0.003199 NP Inter
Selenium (mg/L)	n/a	0.0209	n/a	n/a	n/a	112	55.36	n/a	n/a	0.003199 NP Inter
Thallium (mg/L)	n/a	0.000226	n/a	n/a	n/a	112	97.32	n/a	n/a	0.003199 NP Inter

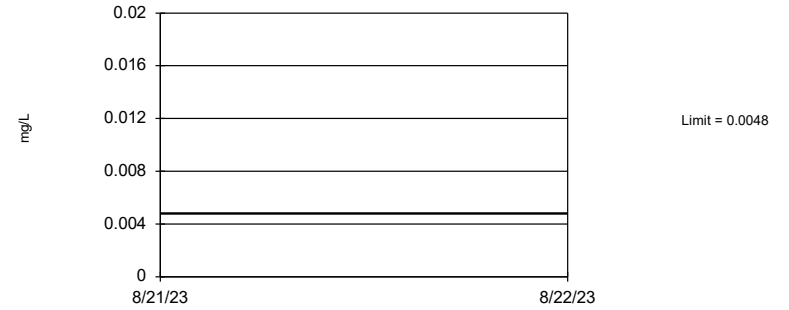
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 112 background values. 94.64% NDs. 95.9% coverage at alpha=0.01; 97.46% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.003199.

Constituent: Antimony Analysis Run 10/6/2023 4:36 PM View: UTLs  
Plant Gorgas Data: Gorgas CCR LF

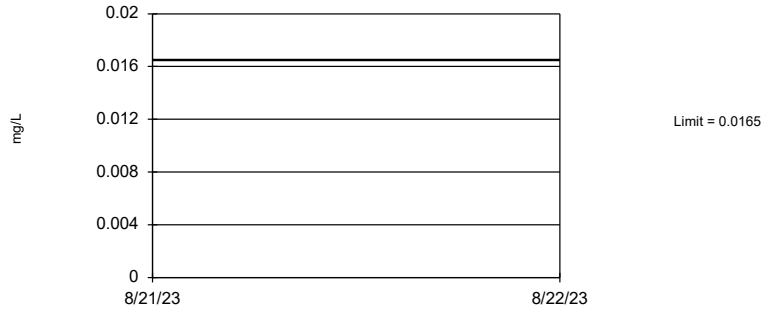
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 112 background values. 72.32% NDs. 95.9% coverage at alpha=0.01; 97.46% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.003199.

Constituent: Arsenic Analysis Run 10/6/2023 4:36 PM View: UTLs  
Plant Gorgas Data: Gorgas CCR LF

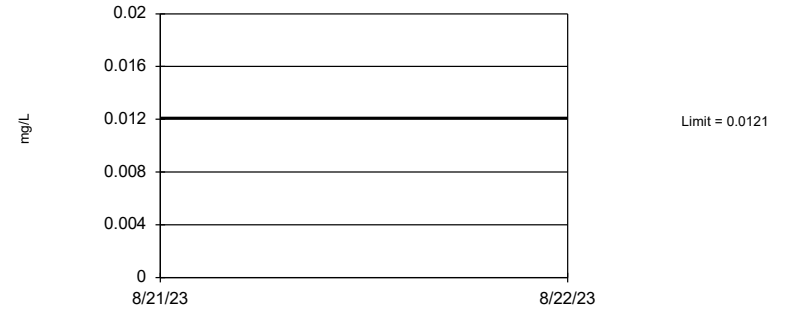
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 112 background values. 95.9% coverage at alpha=0.01; 97.46% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.003199.

Constituent: Barium Analysis Run 10/6/2023 4:36 PM View: UTLs  
Plant Gorgas Data: Gorgas CCR LF

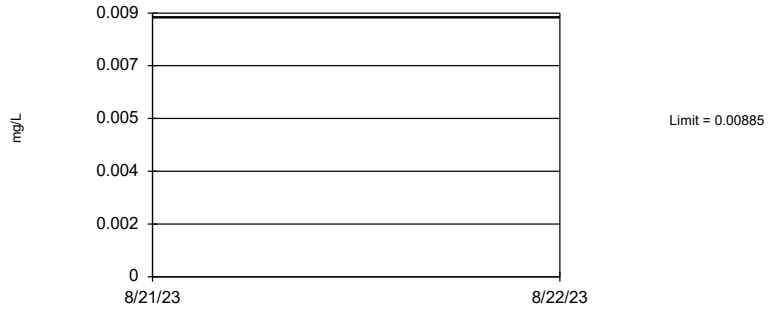
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 110 background values. 84.55% NDs. 95.9% coverage at alpha=0.01; 97.46% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.003545.

Constituent: Beryllium Analysis Run 10/6/2023 4:36 PM View: UTLs  
Plant Gorgas Data: Gorgas CCR LF

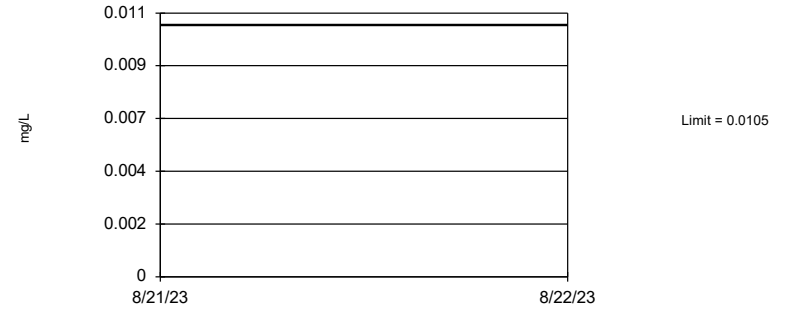
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 111 background values. 41.44% NDs. 95.9% coverage at alpha=0.01; 97.46% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.003368.

Constituent: Cadmium Analysis Run 10/6/2023 4:36 PM View: UTLs  
Plant Gorgas Data: Gorgas CCR LF

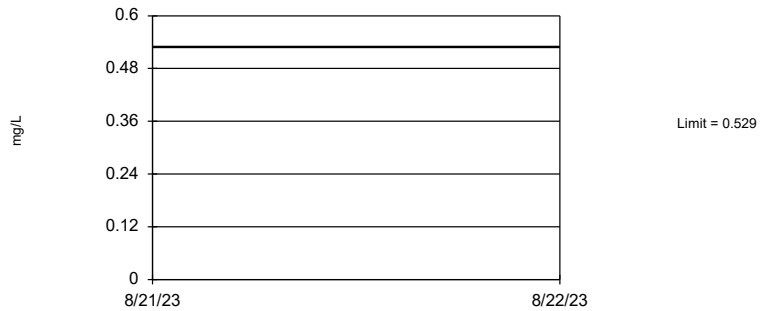
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 112 background values. 81.25% NDs. 95.9% coverage at alpha=0.01; 97.46% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.003199.

Constituent: Chromium Analysis Run 10/6/2023 4:36 PM View: UTLs  
Plant Gorgas Data: Gorgas CCR LF

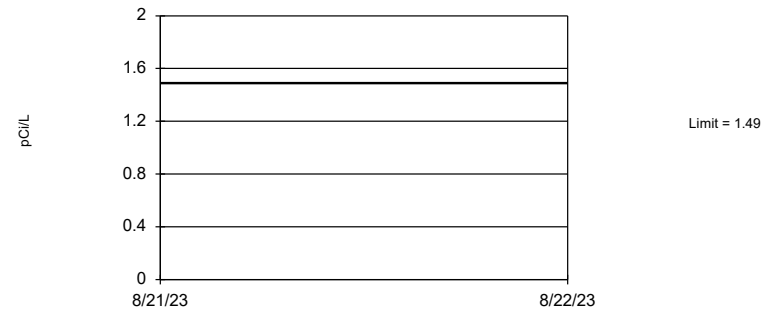
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 110 background values. 25.45% NDs. 95.9% coverage at alpha=0.01; 97.46% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.003545.

Constituent: Cobalt Analysis Run 10/6/2023 4:36 PM View: UTLs  
Plant Gorgas Data: Gorgas CCR LF

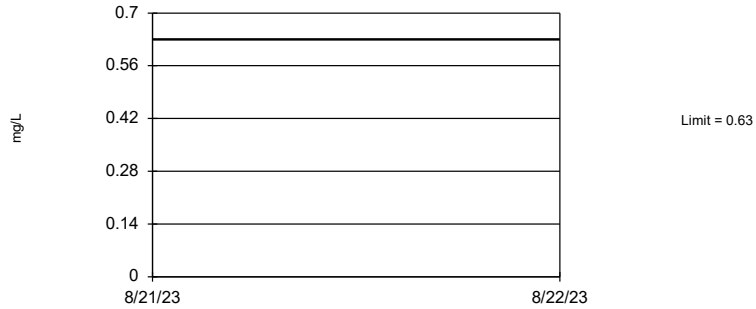
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 108 background values. 95.9% coverage at alpha=0.01; 97.07% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.003928.

Constituent: Combined Radium 226 + 228 Analysis Run 10/6/2023 4:36 PM View: UTLs  
Plant Gorgas Data: Gorgas CCR LF

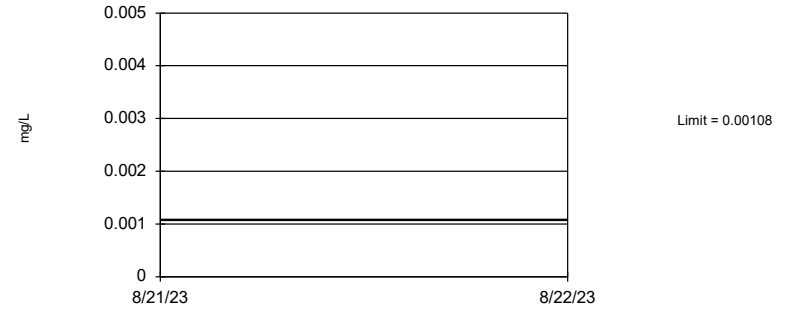
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 116 background values. 96.29% coverage at alpha=0.01; 97.46% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.002606.

Constituent: Fluoride, total Analysis Run 10/6/2023 4:36 PM View: UTLs  
Plant Gorgas Data: Gorgas CCR LF

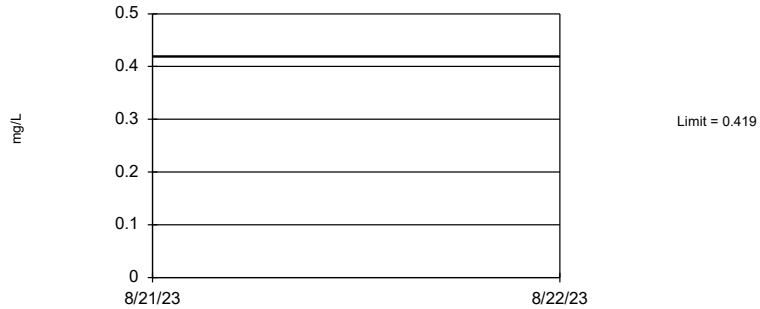
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 111 background values. 93.69% NDs. 95.9% coverage at alpha=0.01; 97.46% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.003368.

Constituent: Lead Analysis Run 10/6/2023 4:36 PM View: UTLs  
Plant Gorgas Data: Gorgas CCR LF

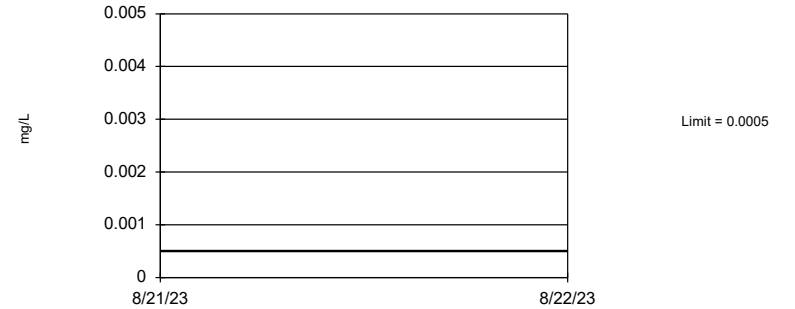
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 112 background values. 95.9% coverage at alpha=0.01; 97.46% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.003199.

Constituent: Lithium Analysis Run 10/6/2023 4:36 PM View: UTLs  
Plant Gorgas Data: Gorgas CCR LF

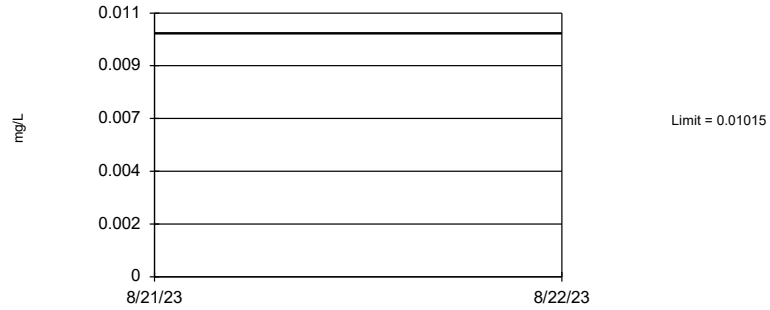
### Tolerance Limit Interwell Non-parametric



NP test selected by user. All background values were censored; limit is most recent reporting limit. 95.9% coverage at alpha=0.01; 97.46% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.003199.

Constituent: Mercury Analysis Run 10/6/2023 4:36 PM View: UTLs  
Plant Gorgas Data: Gorgas CCR LF

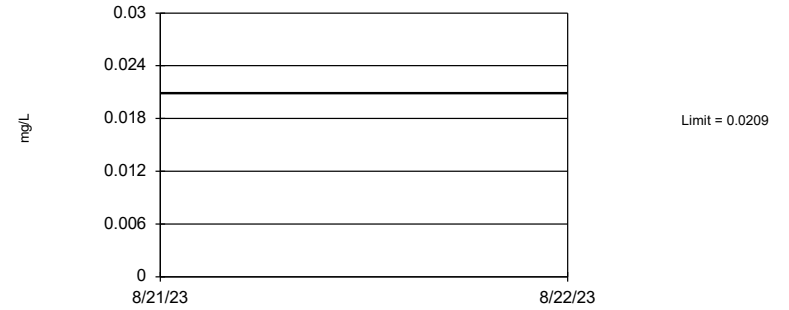
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 112 background values. 94.64% NDs. 95.9% coverage at alpha=0.01; 97.46% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.003199.

Constituent: Molybdenum Analysis Run 10/6/2023 4:36 PM View: UTLs  
Plant Gorgas Data: Gorgas CCR LF

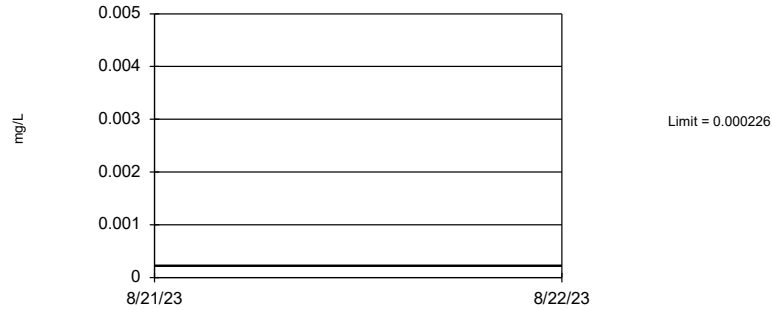
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 112 background values. 55.36% NDs. 95.9% coverage at alpha=0.01; 97.46% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.003199.

Constituent: Selenium Analysis Run 10/6/2023 4:36 PM View: UTLs  
Plant Gorgas Data: Gorgas CCR LF

### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 112 background values. 97.32% NDs. 95.9% coverage at alpha=0.01; 97.46% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.003199.

Constituent: Thallium Analysis Run 10/6/2023 4:36 PM View: UTLs  
Plant Gorgas Data: Gorgas CCR LF

FIGURE J.

<b>GORGAS CCR LANDFILL GWPS</b>			
<b>Analyte</b>	<b>Units</b>	<b>Background</b>	<b>GWPS</b>
Antimony	mg/L	0.00143	0.006
Arsenic	mg/L	0.0048	0.01
Barium	mg/L	0.0165	2
Beryllium	mg/L	0.0121	0.004
Cadmium	mg/L	0.00885	0.00885
Chromium	mg/L	0.0105	0.1
Cobalt	mg/L	0.529	0.529
Combined Radium-226/228	pCi/L	1.49	5
Fluoride	mg/L	0.63	4
Lead	mg/L	0.00108	0.015
Lithium	mg/L	0.419	0.419
Mercury	mg/L	0.0005	0.002
Molybdenum	mg/L	0.01015	0.1
Selenium	mg/L	0.0209	0.05
Thallium	mg/L	0.000226	0.002

Notes:

1. mg/L - Milligrams per liter
2. pCi/L - Picocuries per liter
3. The background limits were used as the groundwater protection standard (GWPS) when appropriate under 40 CFR §257.95(h), ADEM Rule 335-13-15-.06(h), and the ADEM Variance.
4. GWPS established during second semi-annual sampling event in 2023.

FIGURE K.



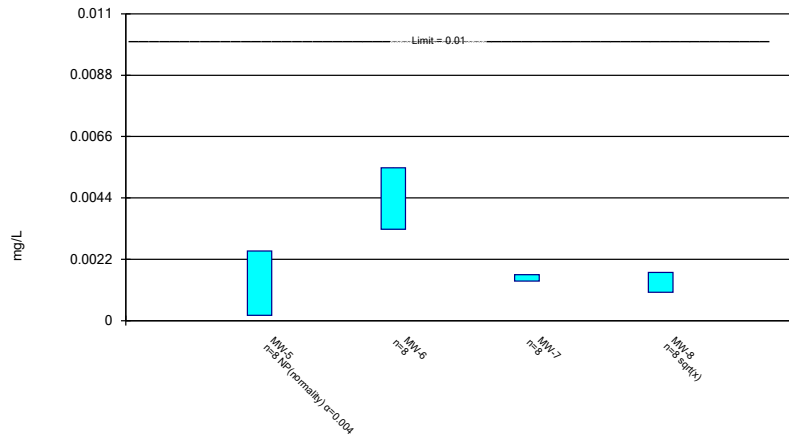
# Appendix IV Confidence Intervals - All Results (No Significant)

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF Printed 10/6/2023, 5:15 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	ND Adj.	Transform	Alpha	Method
Arsenic (mg/L)	MW-5	0.0025	0.00019	0.01	No	8	12.5	None	No	0.004	NP (normality)
Arsenic (mg/L)	MW-6	0.005485	0.003277	0.01	No	8	0	None	No	0.01	Param.
Arsenic (mg/L)	MW-7	0.001647	0.001415	0.01	No	8	0	None	No	0.01	Param.
Arsenic (mg/L)	MW-8	0.001724	0.001013	0.01	No	8	0	None	sqrt(x)	0.01	Param.
Barium (mg/L)	MW-5	0.01285	0.0108	2	No	8	0	None	No	0.01	Param.
Barium (mg/L)	MW-6	0.01483	0.01272	2	No	8	0	None	No	0.01	Param.
Barium (mg/L)	MW-7	0.01457	0.01288	2	No	8	0	None	No	0.01	Param.
Barium (mg/L)	MW-8	0.01464	0.01334	2	No	8	0	None	No	0.01	Param.
Beryllium (mg/L)	MW-6	0.0009932	0.0002071	0.004	No	8	50	Kaplan-Meier	x^2	0.01	Param.
Cadmium (mg/L)	MW-6	0.001351	0.00005711	0.00885	No	8	37.5	Kaplan-Meier	x^(1/3)	0.01	Param.
Chromium (mg/L)	MW-5	0.001015	0.00027	0.1	No	8	75	None	No	0.004	NP (NDs)
Chromium (mg/L)	MW-6	0.00102	0.00024	0.1	No	8	62.5	None	No	0.004	NP (NDs)
Chromium (mg/L)	MW-7	0.001015	0.00026	0.1	No	8	75	None	No	0.004	NP (NDs)
Chromium (mg/L)	MW-8	0.001015	0.000211	0.1	No	8	75	None	No	0.004	NP (NDs)
Cobalt (mg/L)	MW-5	0.005	0.000538	0.529	No	8	25	None	No	0.004	NP (normality)
Cobalt (mg/L)	MW-6	0.4066	0.04459	0.529	No	8	0	None	sqrt(x)	0.01	Param.
Cobalt (mg/L)	MW-7	0.006124	0.003524	0.529	No	8	0	None	No	0.01	Param.
Cobalt (mg/L)	MW-8	0.008031	0.006524	0.529	No	8	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-5	0.7624	0.2132	5	No	8	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-6	2.62	0.1555	5	No	8	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-7	0.7246	0.3137	5	No	8	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-8	1.379	0.2685	5	No	8	0	None	x^(1/3)	0.01	Param.
Fluoride, total (mg/L)	MW-5	0.3223	0.2497	4	No	8	0	None	No	0.01	Param.
Fluoride, total (mg/L)	MW-6	0.1615	0.1011	4	No	7	0	None	No	0.01	Param.
Fluoride, total (mg/L)	MW-7	0.2432	0.1526	4	No	8	0	None	No	0.01	Param.
Fluoride, total (mg/L)	MW-8	0.2296	0.1694	4	No	8	0	None	sqrt(x)	0.01	Param.
Lead (mg/L)	MW-6	0.000457	0.000191	0.015	No	8	62.5	None	No	0.004	NP (NDs)
Lead (mg/L)	MW-8	0.000203	0.000088	0.015	No	8	37.5	None	No	0.004	NP (normality)
Lithium (mg/L)	MW-5	0.1272	0.0912	0.419	No	8	0	None	No	0.01	Param.
Lithium (mg/L)	MW-6	0.25	0.07821	0.419	No	8	0	None	No	0.01	Param.
Lithium (mg/L)	MW-7	0.131	0.0907	0.419	No	8	0	None	No	0.004	NP (normality)
Lithium (mg/L)	MW-8	0.1579	0.1198	0.419	No	8	0	None	No	0.01	Param.
Molybdenum (mg/L)	MW-5	0.01015	0.000945	0.1	No	8	37.5	None	No	0.004	NP (normality)
Molybdenum (mg/L)	MW-6	0.01015	0.00007	0.1	No	8	50	None	No	0.004	NP (normality)
Molybdenum (mg/L)	MW-7	0.01015	0.000846	0.1	No	8	37.5	None	No	0.004	NP (normality)
Molybdenum (mg/L)	MW-8	0.0129	0.00031	0.1	No	8	37.5	None	No	0.004	NP (normality)
Selenium (mg/L)	MW-5	0.01	0.00124	0.05	No	8	25	None	No	0.004	NP (normality)
Selenium (mg/L)	MW-6	0.0019	0.00102	0.05	No	8	87.5	None	No	0.004	NP (NDs)
Selenium (mg/L)	MW-7	0.00102	0.000677	0.05	No	8	87.5	None	No	0.004	NP (NDs)
Thallium (mg/L)	MW-5	0.0002	0.00007	0.002	No	8	87.5	None	No	0.004	NP (NDs)
Thallium (mg/L)	MW-6	0.000203	0.000094	0.002	No	8	62.5	None	No	0.004	NP (NDs)

### Parametric and Non-Parametric (NP) Confidence Interval

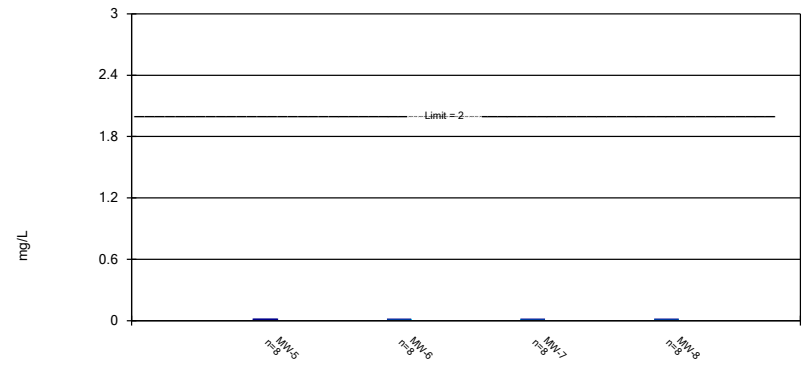
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Arsenic Analysis Run 10/6/2023 5:14 PM View: Appendix IV  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Parametric Confidence Interval

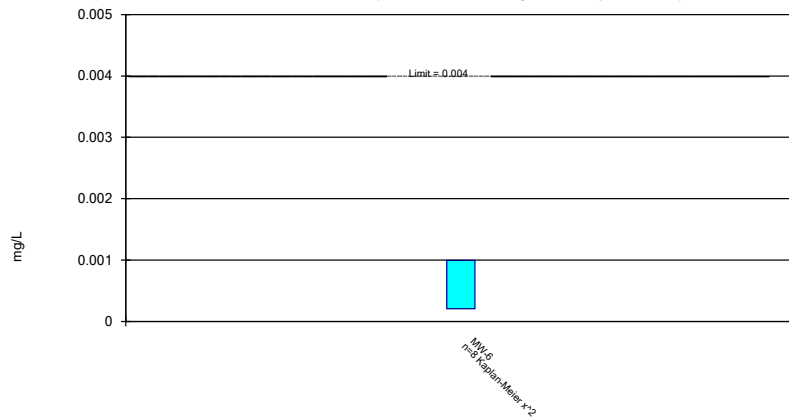
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Barium Analysis Run 10/6/2023 5:14 PM View: Appendix IV  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Parametric Confidence Interval

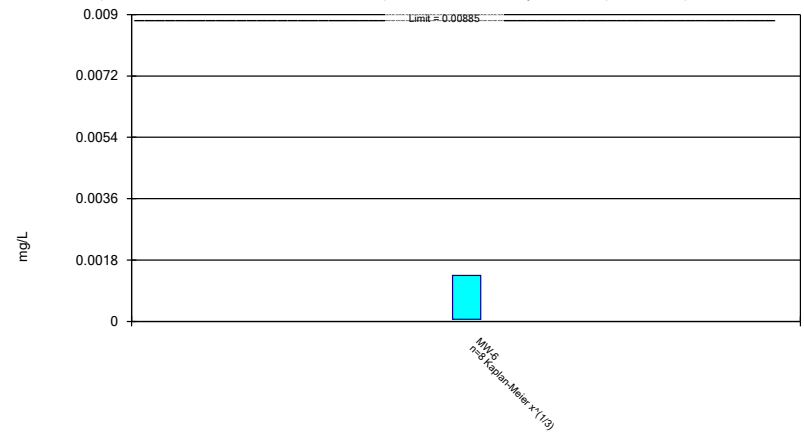
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Beryllium Analysis Run 10/6/2023 5:14 PM View: Appendix IV  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Parametric Confidence Interval

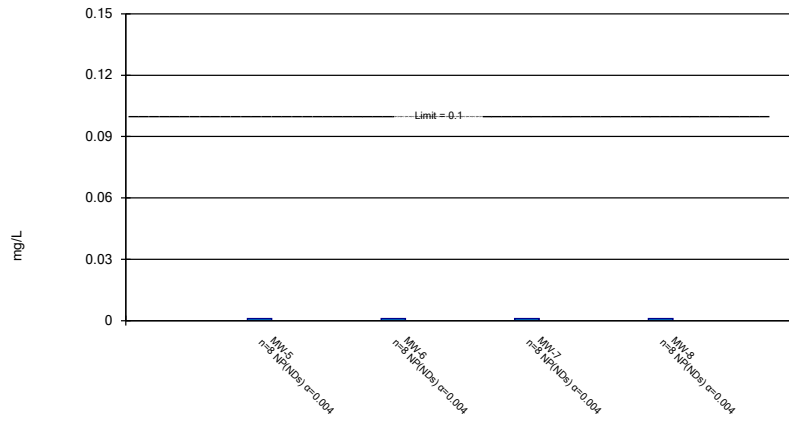
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cadmium Analysis Run 10/6/2023 5:14 PM View: Appendix IV  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Non-Parametric Confidence Interval

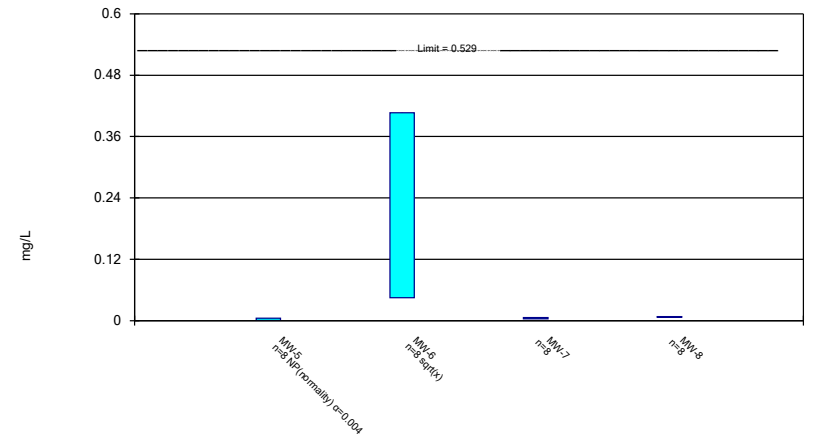
Compliance Limit is not exceeded.



Constituent: Chromium Analysis Run 10/6/2023 5:14 PM View: Appendix IV  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Parametric and Non-Parametric (NP) Confidence Interval

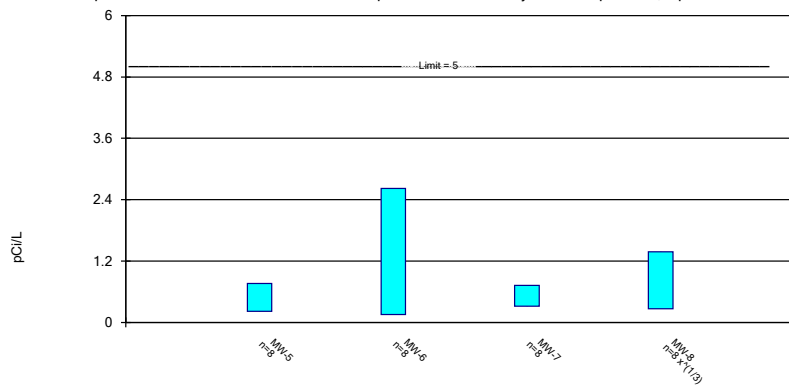
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cobalt Analysis Run 10/6/2023 5:14 PM View: Appendix IV  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Parametric Confidence Interval

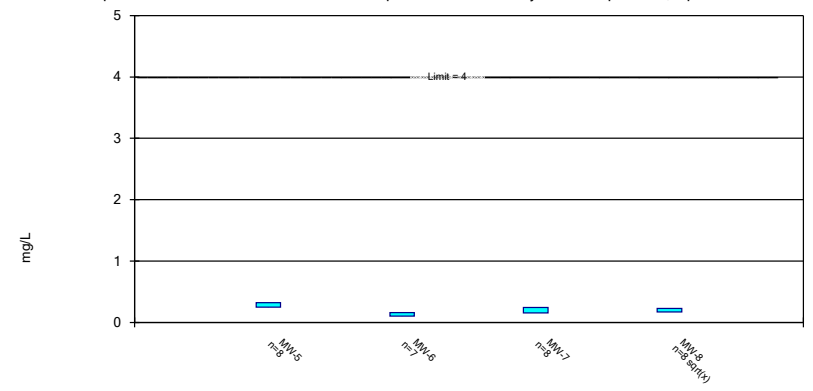
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Combined Radium 226 + 228 Analysis Run 10/6/2023 5:14 PM View: Appendix IV  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Parametric Confidence Interval

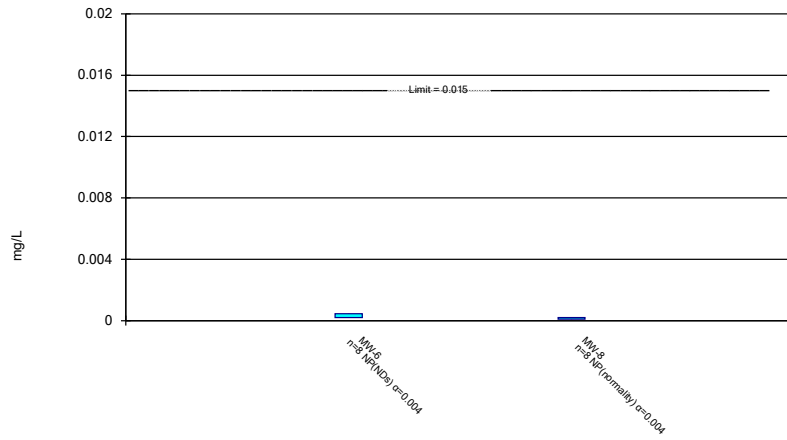
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Fluoride, total Analysis Run 10/6/2023 5:14 PM View: Appendix IV  
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Non-Parametric Confidence Interval

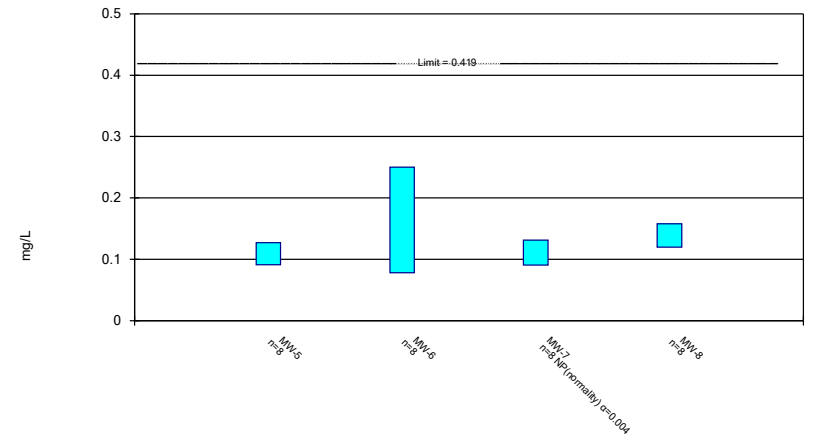
Compliance Limit is not exceeded.



Constituent: Lead Analysis Run 10/6/2023 5:14 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Parametric and Non-Parametric (NP) Confidence Interval

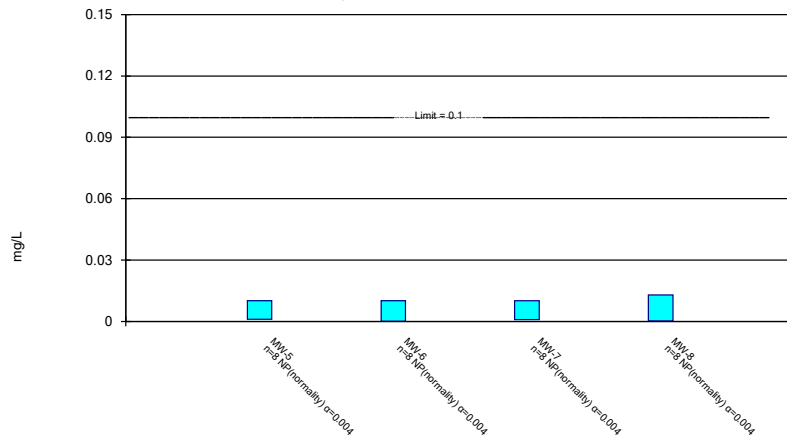
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lithium Analysis Run 10/6/2023 5:14 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Non-Parametric Confidence Interval

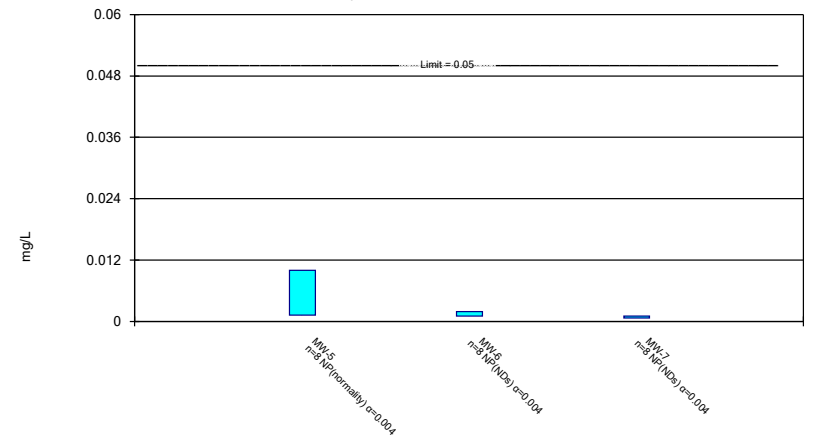
Compliance Limit is not exceeded.



Constituent: Molybdenum Analysis Run 10/6/2023 5:14 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Non-Parametric Confidence Interval

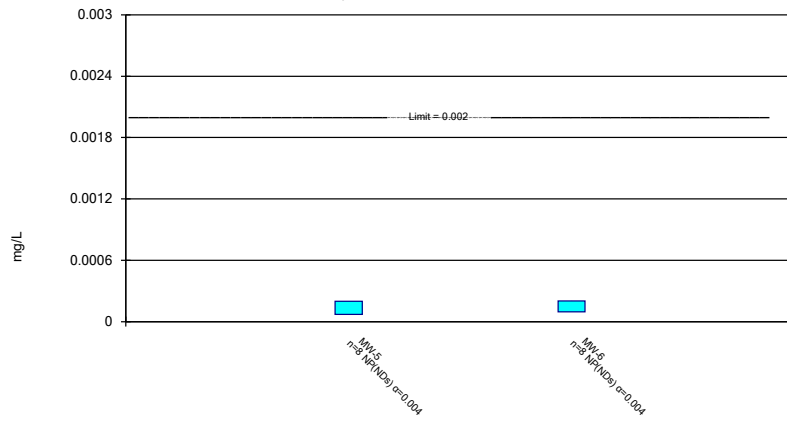
Compliance Limit is not exceeded.



Constituent: Selenium Analysis Run 10/6/2023 5:14 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

### Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



Constituent: Thallium Analysis Run 10/6/2023 5:15 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

# Confidence Interval

Constituent: Arsenic (mg/L) Analysis Run 10/6/2023 5:15 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
4/7/2020	0.00163 (J)			
4/8/2020		0.00232 (J)	0.00136 (J)	0.00102 (J)
7/14/2020	<0.005	0.0048 (J)	0.00147 (J)	
7/15/2020				0.00212 (J)
2/23/2021	0.000309	0.00494	0.00141	0.00117
7/20/2021		0.00475	0.00164	0.00111
7/21/2021	0.00046			
1/31/2022	0.00019 (J)	0.00435	0.00156	
2/1/2022				0.00131
7/6/2022	0.000225	0.00554	0.00164	0.00136
2/21/2023	0.000306		0.00153	0.00119
2/22/2023		0.00337		
8/15/2023			0.00164	0.00163
8/16/2023	0.000224	0.00498		
Mean	0.0007305	0.004381	0.001531	0.001364
Std. Dev.	0.0008599	0.001042	0.0001096	0.0003578
Upper Lim.	0.0025	0.005485	0.001647	0.001724
Lower Lim.	0.00019	0.003277	0.001415	0.001013

# Confidence Interval

Constituent: Barium (mg/L) Analysis Run 10/6/2023 5:15 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-5	MW-6	MW-7	MW-8
4/7/2020	0.0137			
4/8/2020		0.0128	0.0127	0.0137
7/14/2020	0.0124	0.0154	0.0148	
7/15/2020				0.0143
2/23/2021	0.0116	0.0143	0.014	0.014
7/20/2021		0.0143	0.0142	0.0141
7/21/2021	0.0116			
1/31/2022	0.0104	0.0125	0.0126	
2/1/2022				0.0135
7/6/2022	0.0117	0.0144	0.0142	0.0146
2/21/2023	0.0121		0.0141	0.0148
2/22/2023		0.0136		
8/15/2023			0.0132	0.0129
8/16/2023	0.0111	0.0129		
Mean	0.01183	0.01378	0.01373	0.01399
Std. Dev.	0.0009706	0.0009968	0.0007942	0.0006151
Upper Lim.	0.01285	0.01483	0.01457	0.01464
Lower Lim.	0.0108	0.01272	0.01288	0.01334

# Confidence Interval

Constituent: Beryllium (mg/L) Analysis Run 10/6/2023 5:15 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-6
4/8/2020	0.000788 (J)
7/14/2020	<0.00102
2/23/2021	<0.00102
7/20/2021	0.00048 (J)
1/31/2022	0.00044 (J)
7/6/2022	<0.00102
2/22/2023	0.00123
8/16/2023	<0.00102
Mean	0.0008772
Std. Dev.	0.0002836
Upper Lim.	0.0009932
Lower Lim.	0.0002071



# Confidence Interval

Constituent: Cadmium (mg/L) Analysis Run 10/6/2023 5:15 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-6
4/8/2020	0.00204
7/14/2020	<0.0002
2/23/2021	<0.0002
7/20/2021	0.00058
1/31/2022	0.0005
7/6/2022	7.2E-05 (J)
2/22/2023	0.00192
8/16/2023	<0.0002
Mean	0.000714
Std. Dev.	0.0008001
Upper Lim.	0.001351
Lower Lim.	5.711E-05

# Confidence Interval

Constituent: Chromium (mg/L) Analysis Run 10/6/2023 5:15 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
4/7/2020	<0.001015			
4/8/2020		<0.00102	<0.001015	<0.001015
7/14/2020	<0.001015	<0.00102	<0.001015	
7/15/2020				<0.001015
2/23/2021	<0.001015	<0.00102	<0.001015	<0.001015
7/20/2021		<0.00102	<0.001015	<0.001015
7/21/2021	<0.001015			
1/31/2022	0.00027 (J)	0.00024 (J)	0.00032 (J)	
2/1/2022				0.00025 (J)
7/6/2022	<0.001015	0.000284 (J)	<0.001015	<0.001015
2/21/2023	<0.001015		<0.001015	<0.001015
2/22/2023		0.000301 (J)		
8/15/2023			0.00026 (J)	0.000211 (J)
8/16/2023	0.000324 (J)	<0.00102		
Mean	0.0008355	0.0007406	0.0008338	0.0008189
Std. Dev.	0.0003327	0.0003859	0.000336	0.0003633
Upper Lim.	0.001015	0.00102	0.001015	0.001015
Lower Lim.	0.00027	0.00024	0.00026	0.000211

# Confidence Interval

Constituent: Cobalt (mg/L) Analysis Run 10/6/2023 5:15 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
4/7/2020	<0.005			
4/8/2020		0.479	0.00394 (J)	0.00762
7/14/2020	<0.005	0.0916	0.00653	
7/15/2020				0.00821
2/23/2021	0.00102	0.0771	0.00294	0.00796
7/20/2021		0.216	0.00561	0.00714
7/21/2021	0.00127			
1/31/2022	0.00094	0.174	0.00546	
2/1/2022				0.0075
7/6/2022	0.000538	0.0675	0.0059	0.00701
2/21/2023	0.00091		0.0043	0.00682
2/22/2023		0.567		
8/15/2023			0.00391	0.00596
8/16/2023	0.000931	0.052		
Mean	0.001951	0.2155	0.004824	0.007278
Std. Dev.	0.001892	0.1992	0.001227	0.0007109
Upper Lim.	0.005	0.4066	0.006124	0.008031
Lower Lim.	0.000538	0.04459	0.003524	0.006524

# Confidence Interval

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 10/6/2023 5:15 PM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-5	MW-6	MW-7	MW-8
4/7/2020	0.48 (U)			
4/8/2020		0.179 (U)	0.237 (U)	1.38 (U)
7/14/2020	0.521	0.578	0.434	
7/15/2020				0.398 (U)
2/23/2021	0.71 (U)	1.15 (U)	0.696 (U)	0.685 (U)
7/20/2021		1.32	0.356 (U)	0.42 (U)
7/21/2021	0.79 (U)			
1/31/2022	0.0523 (U)	0.374 (U)	0.473 (U)	
2/1/2022				0.643 (U)
7/6/2022	0.747 (U)	1.56	0.716 (U)	0.415 (U)
2/21/2023	0.275 (U)		0.789 (U)	2.19
2/22/2023		3.75		
8/15/2023			0.452 (U)	0.269 (U)
8/16/2023	0.327 (U)	2.19		
Mean	0.4878	1.388	0.5191	0.8
Std. Dev.	0.2591	1.162	0.1938	0.6593
Upper Lim.	0.7624	2.62	0.7246	1.379
Lower Lim.	0.2132	0.1555	0.3137	0.2685

# Confidence Interval

Constituent: Fluoride, total (mg/L) Analysis Run 10/6/2023 5:15 PM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-5	MW-6	MW-7	MW-8
4/7/2020	0.225			
4/8/2020		<0.1 (o)	0.153	0.192
7/14/2020	0.263	0.115	0.193	
7/15/2020				0.196
2/23/2021	0.287	0.139	0.2	0.208
7/20/2021		0.131	0.286	0.262
7/21/2021	0.331			
1/31/2022	0.291	0.121	0.173	
2/1/2022				0.177
7/6/2022	0.306	0.147	0.208	0.173
2/21/2023	0.319		0.216	0.212
2/22/2023		0.173		
8/15/2023			0.154	0.174
8/16/2023	0.266	0.0931 (J)		
Mean	0.286	0.1313	0.1979	0.1993
Std. Dev.	0.03421	0.02542	0.04273	0.02943
Upper Lim.	0.3223	0.1615	0.2432	0.2296
Lower Lim.	0.2497	0.1011	0.1526	0.1694

# Confidence Interval

Constituent: Lead (mg/L) Analysis Run 10/6/2023 5:15 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-6	MW-8
4/8/2020	<0.0002	<0.000203
7/14/2020	<0.0002	
7/15/2020		<0.000203
2/23/2021	<0.0002	<0.000203
7/20/2021	<0.0002	9E-05 (J)
1/31/2022	<0.0002	
2/1/2022		9E-05 (J)
7/6/2022	0.000232	0.000109 (J)
2/21/2023		8.8E-05 (J)
2/22/2023	0.000457	
8/15/2023		0.000178 (J)
8/16/2023	0.000191 (J)	
Mean	0.000235	0.0001455
Std. Dev.	9.052E-05	5.577E-05
Upper Lim.	0.000457	0.000203
Lower Lim.	0.000191	8.8E-05

# Confidence Interval

Constituent: Lithium (mg/L) Analysis Run 10/6/2023 5:15 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-5	MW-6	MW-7	MW-8
4/7/2020	0.133			
4/8/2020		0.0489	0.117	0.149
7/14/2020	0.11	0.223	0.103	
7/15/2020				0.152
2/23/2021	0.133	0.253	0.131	0.166
7/20/2021		0.18	0.096	0.151
7/21/2021	0.113			
1/31/2022	0.0932	0.161	0.0907	
2/1/2022				0.124
7/6/2022	0.101	0.216	0.0926	0.132
2/21/2023	0.104		0.0932	0.12
2/22/2023		0.0329		
8/15/2023			0.0977	0.117
8/16/2023	0.0864	0.198		
Mean	0.1092	0.1641	0.1027	0.1389
Std. Dev.	0.01698	0.08103	0.0142	0.01797
Upper Lim.	0.1272	0.25	0.131	0.1579
Lower Lim.	0.0912	0.07821	0.0907	0.1198

# Confidence Interval

Constituent: Molybdenum (mg/L) Analysis Run 10/6/2023 5:15 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
4/7/2020	<0.01015			
4/8/2020		<0.01015	<0.01015	<0.01015
7/14/2020	<0.01015	<0.01015	<0.01015	
7/15/2020				<0.01015
2/23/2021	0.0014	0.000285	0.00107	0.0129
7/20/2021		7E-05 (J)	0.00086	0.00033
7/21/2021	0.00126			
1/31/2022	0.00126	7E-05 (J)	0.00093	
2/1/2022				0.00031
7/6/2022	0.00104	0.000316	0.000846	0.000351
2/21/2023	0.000945		0.00103	0.000338
2/22/2023		<0.01015		
8/15/2023			<0.01015	<0.01015
8/16/2023	<0.01015	<0.01015		
Mean	0.004544	0.005168	0.004398	0.005585
Std. Dev.	0.004644	0.005327	0.004764	0.005687
Upper Lim.	0.01015	0.01015	0.01015	0.0129
Lower Lim.	0.000945	7E-05	0.000846	0.00031



# Confidence Interval

Constituent: Selenium (mg/L) Analysis Run 10/6/2023 5:15 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-5	MW-6	MW-7
4/7/2020	<0.01		
4/8/2020		<0.00102	<0.00102
7/14/2020	<0.01	<0.00102	<0.00102
2/23/2021	0.00233	<0.00102	<0.00102
7/20/2021		<0.00102	<0.00102
7/21/2021	0.00178		
1/31/2022	0.00237	<0.00102	<0.00102
7/6/2022	0.0017	<0.00102	0.000677 (J)
2/21/2023	0.00124		<0.00102
2/22/2023		0.0019	
8/15/2023			<0.00102
8/16/2023	0.00247	<0.00102	
Mean	0.003986	0.00113	0.0009771
Std. Dev.	0.003734	0.0003111	0.0001213
Upper Lim.	0.01	0.0019	0.00102
Lower Lim.	0.00124	0.00102	0.000677

# Confidence Interval

Constituent: Thallium (mg/L) Analysis Run 10/6/2023 5:15 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

---

	MW-5	MW-6
4/7/2020	<0.0002	
4/8/2020		<0.000203
7/14/2020	<0.0002	<0.000203
2/23/2021	<0.0002	<0.000203
7/20/2021		<0.000203
7/21/2021	<0.0002	
1/31/2022	7E-05 (J)	0.00011 (J)
7/6/2022	<0.0002	<0.000203
2/21/2023	<0.0002	
2/22/2023		0.000143 (J)
8/16/2023	<0.0002	9.4E-05 (J)
Mean	0.0001837	0.0001703
Std. Dev.	4.596E-05	4.713E-05
Upper Lim.	0.0002	0.000203
Lower Lim.	7E-05	9.4E-05