

2022 SEMI-ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

**ALABAMA POWER COMPANY
PLANT GORGAS
CCR LANDFILL**

July 31, 2022

Prepared for

Alabama Power Company
Birmingham, Alabama

By

Southern Company Services
Earth Science and Environmental Engineering



CERTIFICATION STATEMENT

This 2022 *Semi-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.



7/31/2022

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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 2022 Semi-Annual Groundwater Monitoring and Corrective Action Report has been prepared to document the first 2022 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 § 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 § 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 § 257.95 and ADEM Admin. Code r. 335-13-15-.06(6). Statistically significant increases (SSIs) 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 (SSLs) 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 § 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 17, 2022 for review.

The Corrective Action Groundwater Monitoring Program was prepared to meet § 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 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 2022 semi-annual assessment monitoring data did not identify SSLs of Appendix IV constituents above the GWPS. In accordance with § 257.95(d) and ADEM Admin. Code r. 335-13-15-.06(6)(d), APC will continue assessment monitoring. The following summarizes results and activities conducted during the 2022 first semi-annual monitoring period:

- Submitted 2021 Annual Groundwater Monitoring and Corrective Action Report on January 31, 2021.
- Completed the first semi-annual assessment groundwater sampling event between January 24, 2022 and February 3, 2022.

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 recently collected MNA parameter data and ongoing compliance monitoring to determine the effectiveness of the selected remedies in meeting long-term groundwater protection standards at the site.
- Conduct the second semi-annual assessment monitoring event in 2022 and submit the Annual Groundwater Monitoring and Corrective Action Report summarizing the findings to ADEM by January 31, 2023.

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

Assessment Monitoring Inintiated: January 15, 2018

Monitoring Period: January 1 - July 31, 2022

Beginning Status: Assessment

Ending Status: Assessment

Statistical Analysis Results *

Appendix III SSIs

Parameter	Wells
Boron	NA
Calcium	NA
Chloride	MW-5, MW-6, MW-7, and MW-8
Fluoride	NA
pH	MW-5, MW-7, and MW-8
Sulfate	NA
TDS	NA

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

Date Initiated: January 13, 2019

Date Complete: June 12, 2019

Revised to Include the CCR Landfill: February 28, 2020

Public Meeting Date: July 1, 2020

Groundwater Remedy

Selected During Period: Yes
 Selection Date: December 17, 2021
 Initiated During Period: No
 Ongoing During Period: No

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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 *2022 Semi-Annual Groundwater Monitoring and Corrective Action Report* has been prepared to document 2022 semi-annual assessment groundwater monitoring activities at the Plant Gorgas CCR Landfill and to satisfy the requirements of § 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 § 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 17, 2022).

2.0 MONITORING PROGRAM STATUS

In accordance with § 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 were identified at the Plant Gorgas CCR Landfill during the first 2022 semi-annual sampling event, but no SSLs of Appendix IV constituents were reported over the GWPS.

Following completion of statistical analysis of Appendix IV data from the first assessment event in May 2018, an SSL above the groundwater protection standard 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 SSL identified 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 § 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 § 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 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 on-site 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'**, illustrates 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. A potentiometric surface map for the Site is presented in a later section.

3.3 GROUNDWATER MONITORING SYSTEM

Pursuant to § 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.

Monitoring well locations for the Gorgas CCR Landfill are presented on **Figure 5, Monitoring Well Location Map. Table 1, Compliance Monitoring Well Network Details**, summarizes the monitoring well construction details 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

There are currently no piezometers installed in the groundwater monitoring well network.

3.3.1.4 Monitoring Well Replacement and Abandonment

Monitoring well replacement or abandonment activities were not performed during the first semi-annual period of 2022.

3.4 GROUNDWATER MONITORING HISTORY

In accordance with § 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 is 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 Groundwater Analytical Data**.

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 semi-annually between: (1) late winter – mid spring and (2) early to late fall. The temporal spacing between sampling events is sufficient to ensure that sampling events yield independent groundwater samples and generally, represent different climatic or meteorological seasons which often foster 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. Additional general chemistry constituents (major ions and anions) are now being collected routinely as well. These non-compliance parameters will be periodically analyzed to explore seasonal changes in geochemical facies in Site groundwater.

The following subsections summarize the sequential steps and process for the sampling, handling/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 § 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 5 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. 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 event are included in **Appendix C, Laboratory and Field Records**.

3.5.2 Sample Preservation and Handling

Groundwater samples were collected within 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 the monitoring event are presented in **Appendix C**.

3.5.5 Monitoring Period Sampling Events

As required by § 257.90(e) and ADEM Admin. Code r. 335-13-15-.06(1)(f), the following describes monitoring-related activities performed during the preceding semi-annual period. The first 2022 Semi-annual Assessment Monitoring sampling event took place between January 24, 2022, and February 1, 2022.

Groundwater samples were analyzed for the full list of Appendix III and Appendix IV parameters during each Assessment Monitoring event. 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 event is included as **Appendix C**, in accordance with the requirements of § 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 312.53 to 418.99 feet NAVD88 (feet above reference 1988 North American Vertical Datum) in CCR Landfill monitoring wells. **Figure 6, Potentiometric Surface Contour Map (January 24, 2022)** depicts groundwater elevations and inferred groundwater flow direction.

As shown on **Figure 6**, 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 that (1) both vertically confining conditions exist and (2) deeper, older groundwater is upward flowing. Recent available groundwater elevation data collected from the first 2022 semi-annual sampling event have been tabulated and included in **Table 3, Groundwater Elevations Summary**. All available groundwater elevation data recorded since 2016 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 5.11×10^{-3} centimeters per second (cm/sec) and 2.47×10^{-4} cm/sec. The average hydraulic conductivity value used in the calculations is 2.83×10^{-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 velocity calculated using groundwater elevation data from the first 2022 semi-annual sampling event.

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 are 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 4a, Relative Percent Difference Calculations,** provides the RPDs for sample and sample duplicates during the first semi-annual monitoring event of 2022. All RPDs were below 20% for the most recent sampling event.

Chromium was detected at a low level in two equipment blanks (1/25/22 and 2/1/22) and two field blanks (1/31/22 and 2/1/22) collected for the downgradient compliance wells during the first semi-annual sampling event. Additionally, lead was detected at a low level in one equipment blank (2/1/22) collected for the downgradient compliance wells during the first semi-annual sampling event. **Table 4B, Field QC: Blank Detections** summarizes the results of the QC sample detections for the first semi-annual monitoring event. These detections are reported by the laboratory as estimated concentrations, above the MDL but below the RL, and qualified in the analytical report with a “J flag.” The reported concentrations are well below established background concentrations and the GWPS. However, because chromium and lead were detected above the MDL in equipment and field QC samples the resulting concentrations were compared and subsequently validated. Well locations with reported detection less than five times the blank detection were flagged with a (+) U* and MDL/RL values modified based upon the blank concentrations. **Table 4C, Field QC: Data Validation Results** summarizes the resulting qualifications for chromium and lead constituents during the first 2022 semi-annual monitoring event.

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 a statistically significant increase (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 utilized in the statistical analysis. The reporting limit utilized 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 (i.e., UTLs) 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 semi-annual monitoring event in 2022 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 semi-annual monitoring event for 2022. **Table 6, First Semi-Annual Monitoring Event Analytical Summary** provides a summary of all constituent concentrations for the first semi-annual monitoring event .

6.0 ALTERNATE SOURCE DEMONSTRATION

Section 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 § 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 § 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 analyzed for all Appendix III and IV parameters. Statistical evaluations of the first 2022 semi-annual assessment monitoring data did not identify SSLs of Appendix IV constituents above the GWPS.

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 the Department has direct implications on future actions for the site. If approved, the site will return to assessment monitoring and corrective actions will not necessitate further evaluation.

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

- Conduct the second 2022 semi-annual assessment monitoring event in the fall of 2022 and submit the annual groundwater monitoring and corrective action report summarizing the findings to ADEM by January 31, 2023.

9.0 REFERENCES

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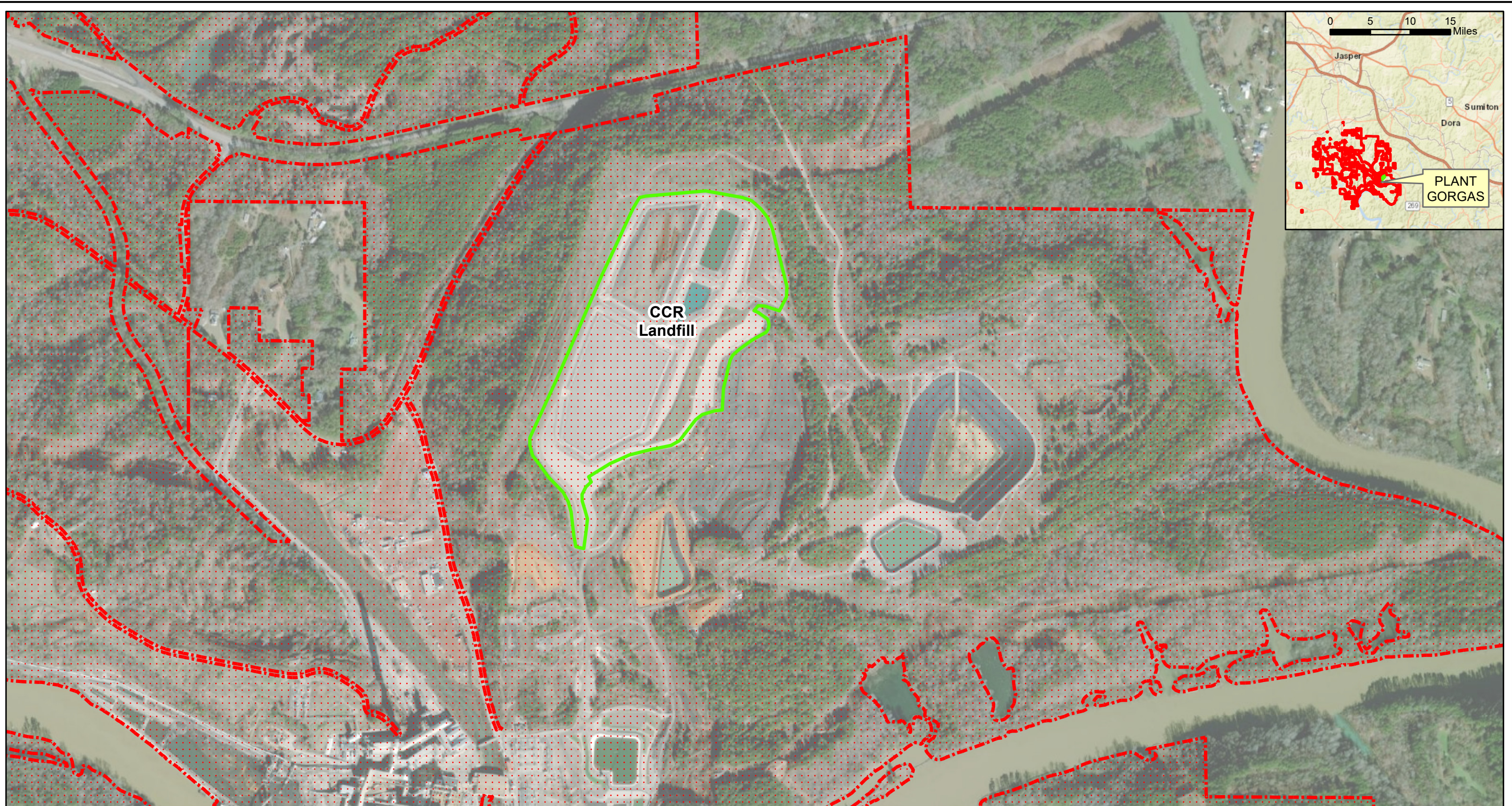
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Figures



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



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DATE 11/9/2020

DRAWN BY KWR

CHECKED BY GBD

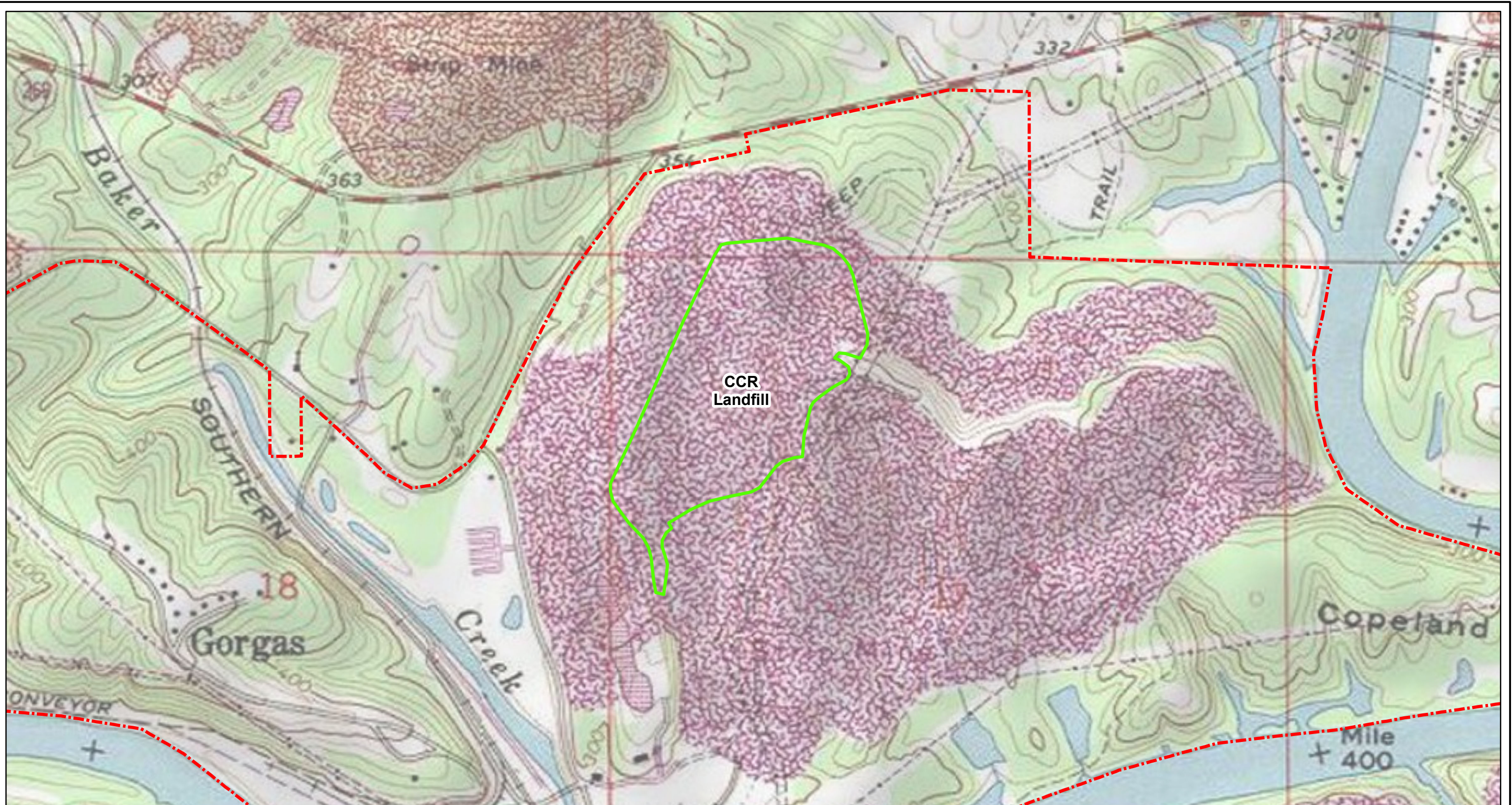
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SITE LOCATION MAP
PLANT GORGAS CCR LANDFILL



FIGURE NO

FIGURE 1






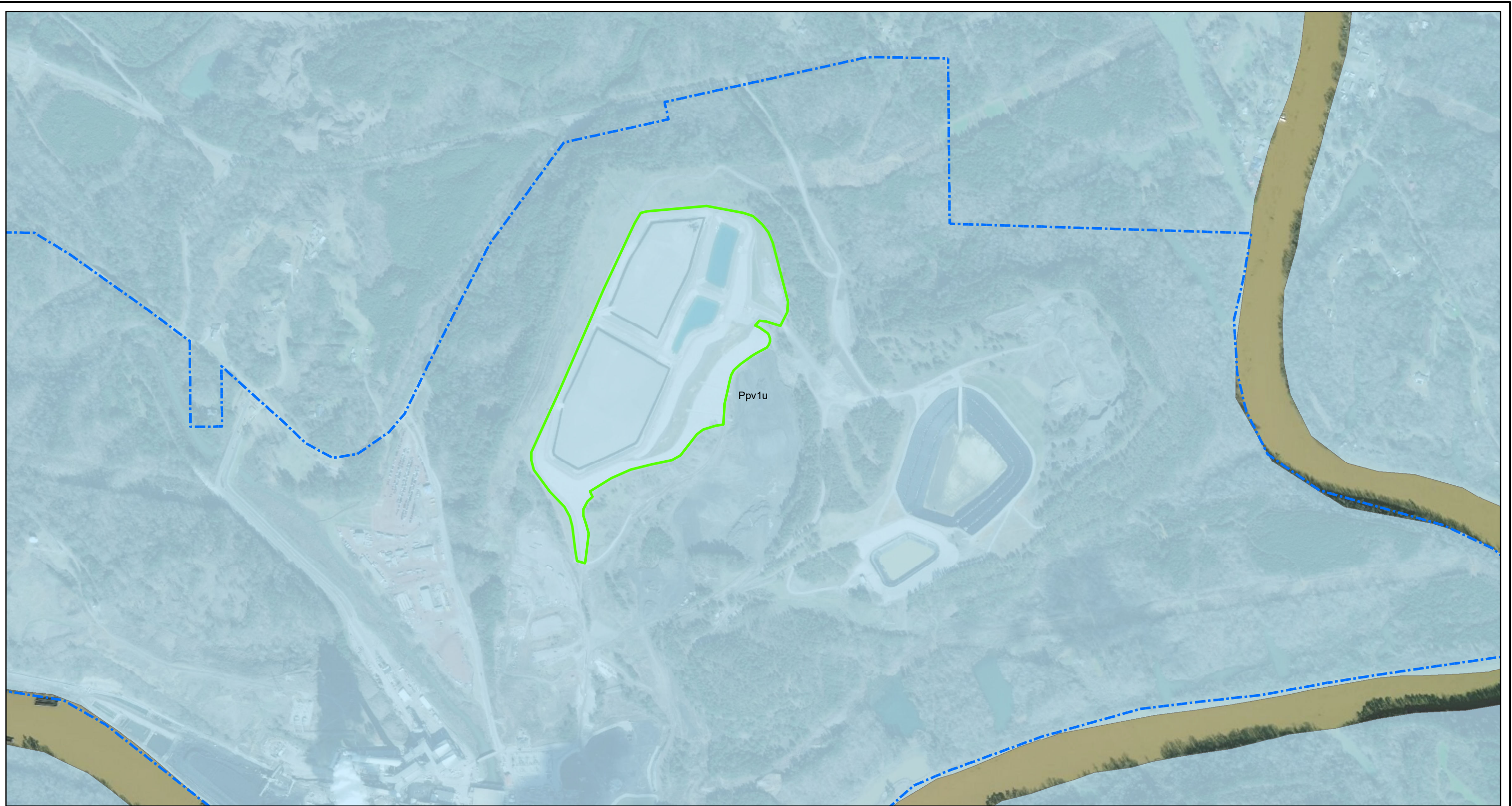
Legend

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





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CHECKED BY	GBD

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SITE TOPOGRAPHIC MAP PLANT GORGAS CCR LANDFILL	
FIGURE NO	FIGURE 2
	




Legend

 Property Boundary (Approximate)


 CCR Landfill Boundary (Approximate)

Geologic Units

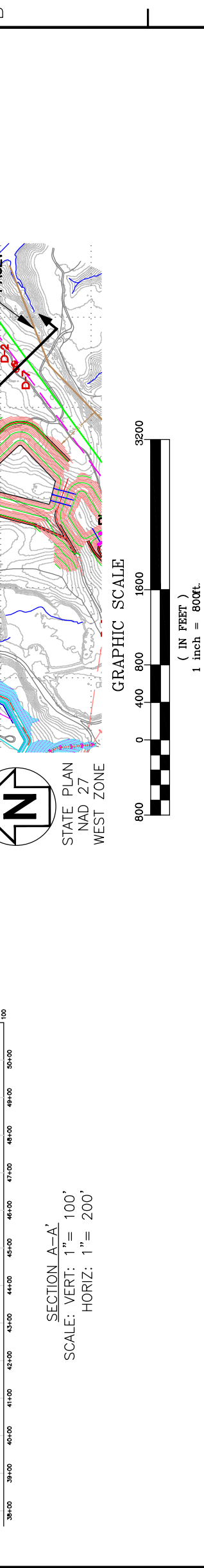
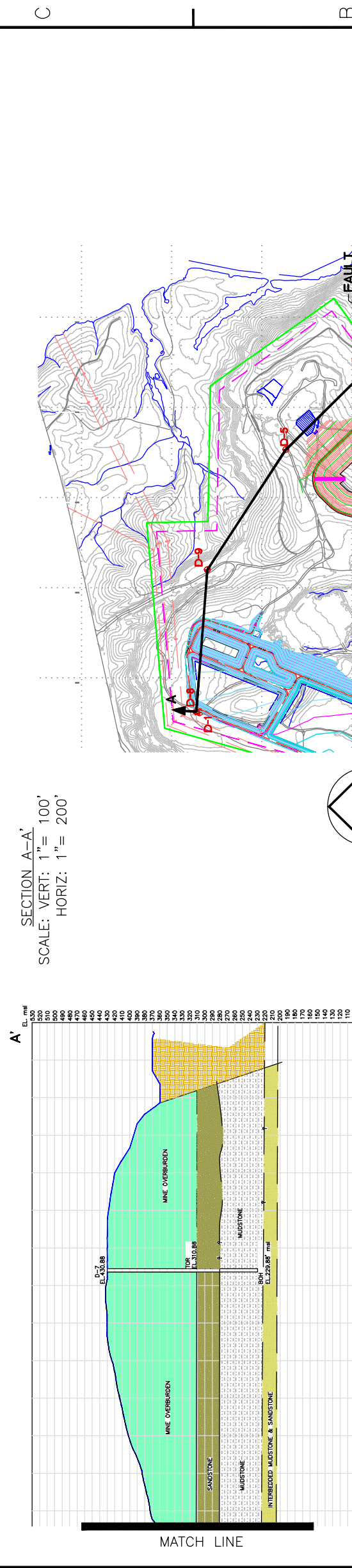
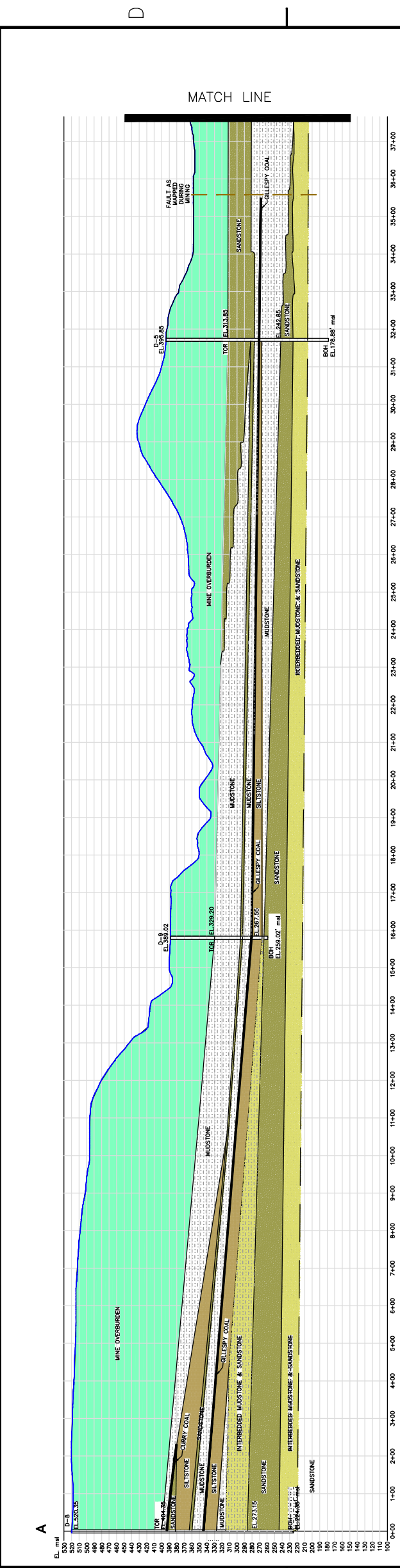
 Pottsville Formation (upper part), Appalachian Plateaus (Ppv1u)



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SITE GEOLOGIC MAP PLANT GORGAS CCR LANDFILL	
FIGURE NO	FIGURE 3
 Southern Company	

4 3 2 1



SECTION A-A'
SCALE: VERT: 1" = 100'
HORIZ: 1" = 200'

SECTION A'-A'
SCALE: VERT: 1" = 100'
HORIZ: 1" = 200'

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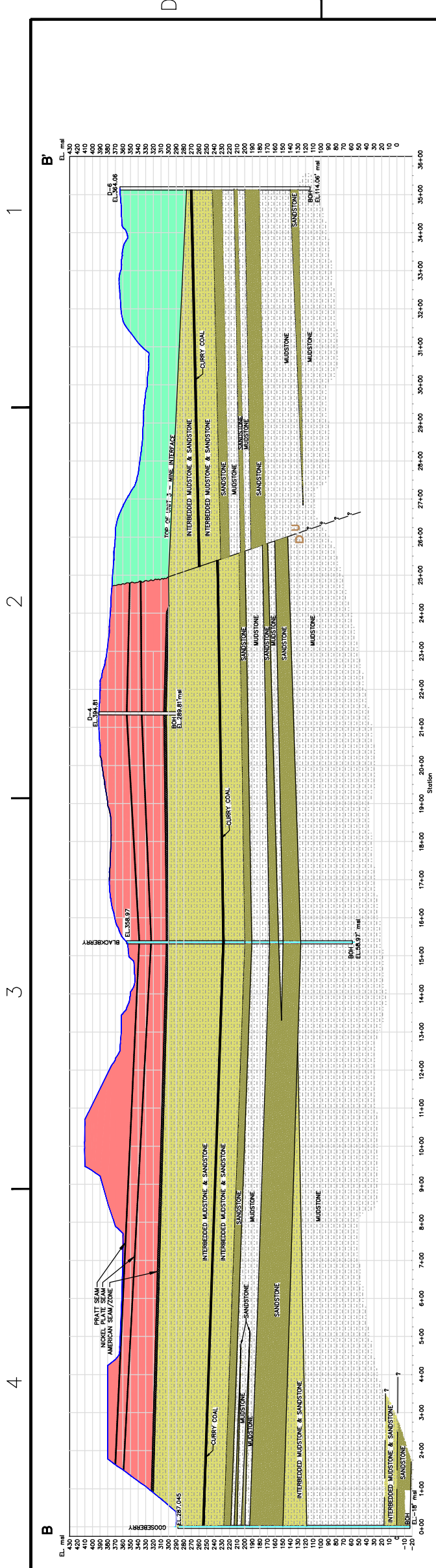
Alabama Power Company
PLANT GORGAS
 UNIT 8, UNIT 9 AND UNIT 10
 CCB STORAGE FACILITY
 GEOLOGIC CROSS
 SECTION A-A

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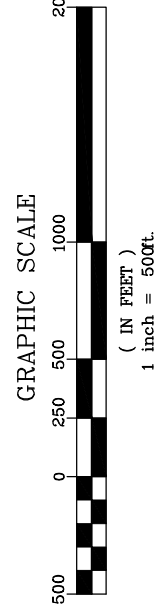
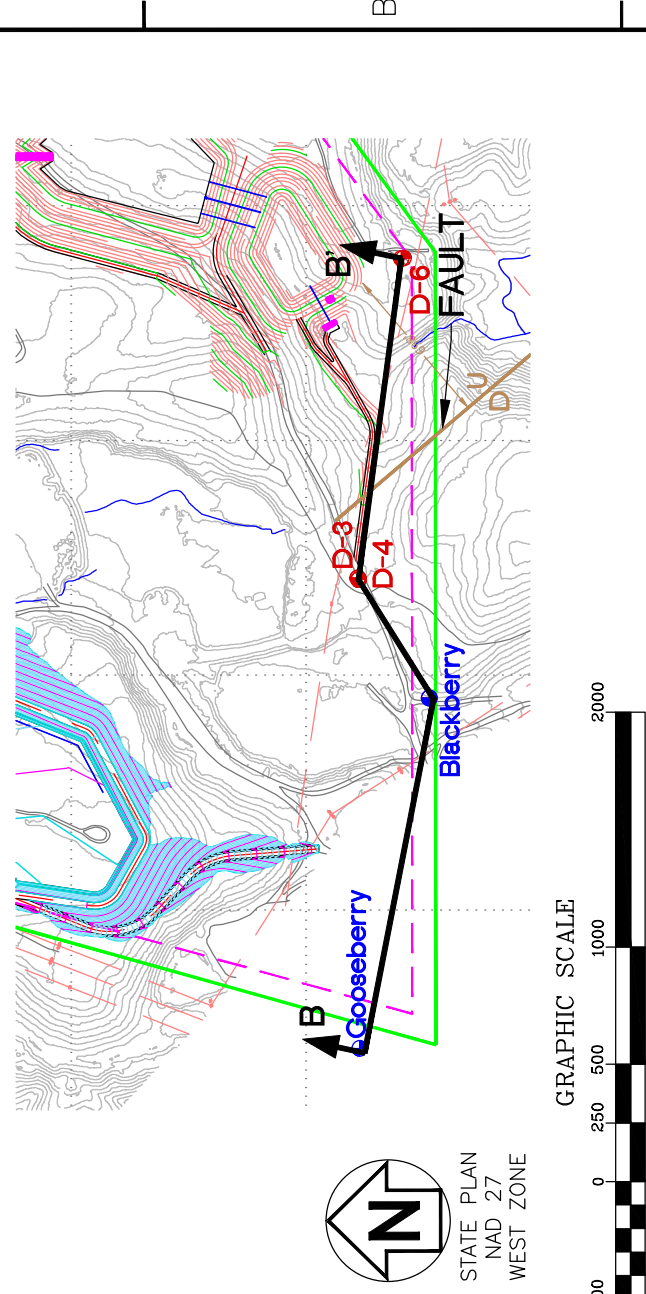
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 Engineering and Construction Services
 FOR

Alabama Power Company
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FIGURE 4A

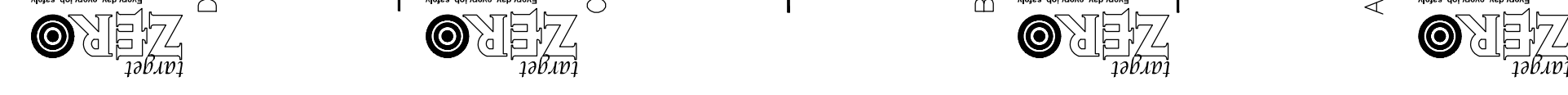
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SECTION B-B'
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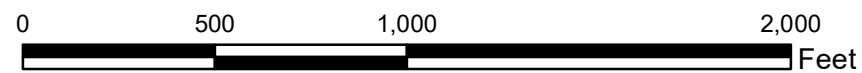
Southern Company Services Engineering and Construction Services FOR Alabama Power Company		UNIT 8, UNIT 9 AND UNIT 10 CCB STORAGE FACILITY GEOLOGIC CROSS SECTION B-B'				
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Legend

-  Downgradient Monitoring Well
-  Upgradient Monitoring Well
-  Gorgas CCR Landfill Boundary (Approximate)



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DATE 6/23/2020

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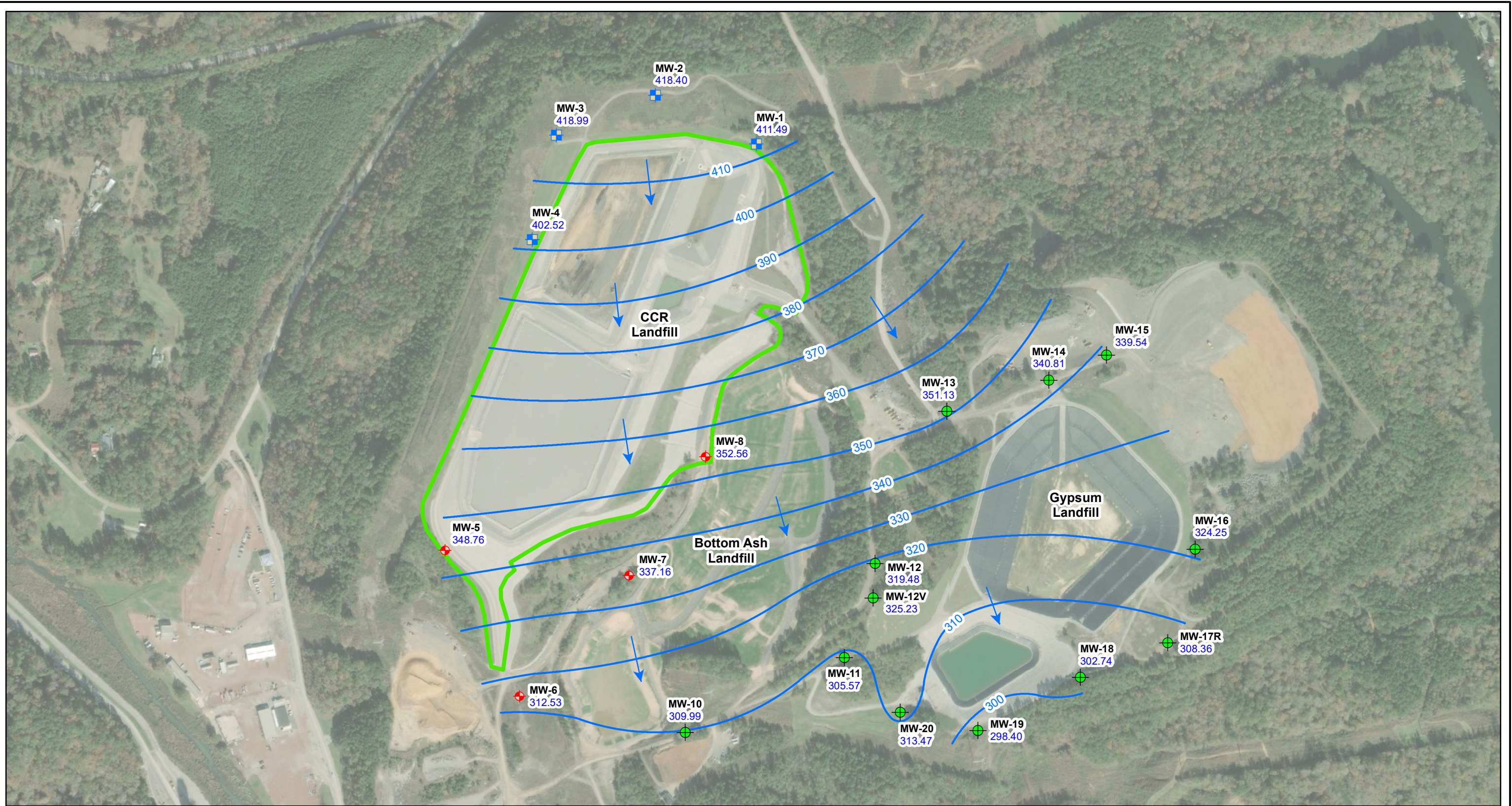
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**MONITORING WELL LOCATION MAP
PLANT GORGAS CCR LANDFILL**

FIGURE NO

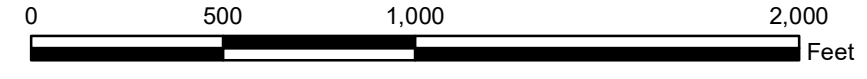
FIGURE 5





Legend

- ◆ Downgradient Monitoring Well
 - ◆ Upgradient Monitoring Well
 - ◆ Monitoring Well
 - Potentiometric Surface Contour (ft NAVD88)
 - Approximate Groundwater Flow Direction
 - CCR Landfill Boundary (Approximate)
- MW-1** Well ID
411.49 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	1:6000
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POTENTIOMETRIC SURFACE CONTOUR MAP JANUARY 24, 2022 PLANT GORGAS CCR LANDFILL	
FIGURE NO	FIGURE 6
Southern Company	

Tables



**Table 1a. - 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
WELL NETWORK											
MW-1	Upgradient	Mine Spoil - Pottsville Fm Interface	33.65827	-87.19083	499.19	502.38	104.5	405.10	395.10	10	1/15/2014
MW-2	Upgradient	Mine Spoil - Pottsville Fm Interface	33.65899	-87.19258	498.54	502.17	91.0	417.90	407.90	10	10/23/2014
MW-3	Upgradient	Mine Spoil - Pottsville Fm Interface	33.65841	-87.1943	522.23	525.90	115.5	417.10	407.10	10	10/23/2014
MW-4	Upgradient	Mine Spoil - Pottsville Fm Interface	33.65689	-87.19473	516.67	517.89	126.7	400.40	390.40	10	2/19/2012
MW-5	Downgradient	Mine Spoil - Pottsville Fm Interface	33.65824	-87.19429	471.55	474.55	137.0	351.95	341.95	10	10/28/2014
MW-6	Downgradient	Mine Spoil - Pottsville Fm Interface	33.65672	-87.19472	409.99	412.99	129.0	294.39	284.39	10	10/29/2014
MW-7	Downgradient	Mine Spoil - Pottsville Fm Interface	33.65221	-87.19625	391.59	394.59	74.0	330.99	320.99	10	10/29/2014
MW-8	Downgradient	Mine Spoil - Pottsville Fm Interface	33.65009	-87.19496	413.15	416.10	72.3	354.25	344.25	10	1/16/2014

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

Notes:

(1) Coordinates have been transformed into WGS 84 from NAD 27/83

Table 2. Parameters And Reporting Limits

Plant Gorgas CCR Landfill
01/25/2022 - 02/01/2022

Appendix III Parameters			
Parameters	Analytical Methods	Reporting Limits	Units of Measure
Boron	EPA 200.7	0.1015	mg/L
Calcium	EPA 200.7	8.12	mg/L
Chloride	SM4500Cl E	1	mg/L
Fluoride	SM4500F G 2017	0.1	mg/L
pH_Field	Field Sampling	NA	SU
Sulfate	SM4500SO4 E 2011	40-100	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	0.000203	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
Fluoride	SM4500F G 2017	0.1	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 200.8	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	NA	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
01/24/2022 - 01/24/2022

Well	Measure Date	TOCElevation (ft. NAVD)	Depth To Water (ft. BTOC)	Groundwater Elevation (ft. NAVD)
MW-5	01/24/2022	474.55	125.79	348.76
MW-6	01/24/2022	412.99	100.46	312.53
MW-7	01/24/2022	394.59	57.43	337.16
MW-8	01/24/2022	416.1	63.54	352.56
MW-1	01/24/2022	502.38	90.76	411.62
MW-2	01/24/2022	502.17	83.72	418.45
MW-3	01/24/2022	525.9	106.91	418.99
MW-4	01/24/2022	517.89	116.11	401.78

Notes:

ft. = feet; ft. NAVD = elevation in feet, referenced to North American Vertical Datum (1988); TOC = top of casing; BTOC = below top of casing



Table 4a. Relative Percent Difference (RPD) Calculations

Plant Gorgas CCR Landfill
01/25/2022 - 01/31/2022

MW-6				
Sample Date = 1/31/2022				
Analyte	Units	Original Result	Duplicate Result	RPD (%)
Calcium	mg/L	385	377	2.10%
Chloride	mg/L	4.53	4.7	3.68%
Fluoride	mg/L	0.121	0.106	13.22%
Sulfate	mg/L	2080	2070	0.48%
Arsenic	mg/L	0.00435	0.00461	5.80%
Barium	mg/L	0.0125	0.0128	2.37%
Cadmium	mg/L	0.0005	0.00052	4.12%
Cobalt	mg/L	0.174	0.184	5.59%
Lithium	mg/L	0.161	0.158	1.88%
MW-2				
Sample Date = 1/25/2022				
Analyte	Units	Original Result	Duplicate Result	RPD (%)
Calcium	mg/L	179	180	0.56%
Chloride	mg/L	2.14	2.28	6.34%
Fluoride	mg/L	0.204	0.239	15.80%
Sulfate	mg/L	842	847	0.59%
Arsenic	mg/L	0.00033	0.00033	0.00%
Barium	mg/L	0.0122	0.0127	4.02%
Cobalt	mg/L	0.0166	0.0167	0.60%
Lithium	mg/L	0.051	0.0502	1.58%

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 4b. - Field QC: Blank Detections

Plant Gorgas CCR Landfill
01/25/2022 - 02/01/2022

Parameters Detected Above MDL					
Sample Date	QC Location	Parameter	Blank Concentration	Units	MDL
02/01/2022	FB-2	Chromium	0.0003 J	mg/L	0.0002
02/01/2022	EB-1	Chromium	0.00028 J	mg/L	0.0002
01/31/2022	FB-1	Chromium	0.00033 J	mg/L	0.0002
01/25/2022	EB-1	Chromium	0.00021 J	mg/L	0.0002
02/01/2022	EB-1	Lead	0.00072 v	mg/L	7E-05

Notes:

1. Lab qualifiers have been appended to result when applicable
2. MDL = Method Detection Limit
3. Only Appendix 4 Constituents were compared and validated. Radium data was not validated.
4. mg/L = milligrams per liter



Table 4c – Field QC: Data Validation Results (Blanks)

Plant Gorgas CCR Landfill
01/25/2022 - 02/01/2022

List of Compliance Sample Concentrations < 5x Blank Concentrations							
Sample Date	QC Sample	Parameter	QC Sample Result (5x)	Sample Location	Result	Units	Validation Flag
02/01/2022	EB-1	Lead	0.00361	MW-8	9E-05 J	mg/L	+(U)*
01/25/2022	EB-1	Chromium	0.00104	MW-1	0.00043 J	mg/L	+(U)*
01/25/2022	EB-1	Chromium	0.00104	MW-2	0.00022 J	mg/L	+(U)*
01/25/2022	EB-1	Chromium	0.00104	MW-3	0.00051 J	mg/L	+(U)*
01/25/2022	EB-1	Chromium	0.00104	MW-4	0.00021 J	mg/L	+(U)*
01/31/2022	FB-1	Chromium	0.00165	MW-7	0.00032 J	mg/L	+(U)*
01/31/2022	FB-1	Chromium	0.00165	MW-5	0.00027 J	mg/L	+(U)*
01/31/2022	FB-1	Chromium	0.00165	MW-6	0.00024 J	mg/L	+(U)*
02/01/2022	EB-1	Chromium	0.0014	MW-8	0.00025 J	mg/L	+(U)*
02/01/2022	FB-2	Chromium	0.00149	MW-8	0.00025 J	mg/L	+(U)*

Notes:

1. Lab qualifiers have been appended to result when applicable
2. QC Sample listed represents the source of comparison, validation flag.
3. Only Appendix 4 Constituents were compared and validated. Radium data was not validated.
4. mg/L = milligrams per liter
5. Wells with concentrations less than 5x Blank Detections are flagged with (U)*.



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	0.005	0.01
Barium	mg/L	0.0165	2
Beryllium	mg/L	0.0121	0.0185
Cadmium	mg/L	0.00598	0.005
Chromium	mg/L	0.0105	0.1
Cobalt	mg/L	0.49	1.07
Fluoride	mg/L	1.47	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
Combined Radium 226 + 228	pCi/L	1.47	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).

Field Parameters									
Hydraulic Location	Well	Sample Date	DO mg/L	ORP mv	Turbidity NTU	Field Temperature C	pH_Field SU	Conductivity uS/cm	
Upgradient	MW-1	01/25/2022	0.96	342.61	1.07	20.4	5.11	2248.18	
Upgradient	MW-2	01/25/2022	0.9	76.06	1.13	20.03	6.22	1777.69	
Upgradient	MW-3	01/25/2022	6.2	262.48	2.05	20.01	5.9	3139.08	
Upgradient	MW-4	01/25/2022	2.8	241.8	1.1	21.37	6.3	2843.39	
Downgradient	MW-5	01/31/2022	0.56	10.95	1.58	21.5	6.52	2954.93	
Downgradient	MW-6	01/31/2022	0.52	12.84	1.5	22.07	6.1	2811.81	
Downgradient	MW-7	01/31/2022	0.13	11.12	1.24	21.03	6.48	2214.15	
Downgradient	MW-8	02/01/2022	1.05	6.61	8.92	18.42	6.77	2433.78	

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.

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	01/25/2022	<0.03	150	2.09	0.101	5.11	1430		
Upgradient	MW-2	01/25/2022	<0.03	179	2.14	0.204	6.22	842		
Upgradient	MW-3	01/25/2022	<0.03	285	2.12	0.325	5.9	2550		
Upgradient	MW-4	01/25/2022	0.0408 J	259	1.54	0.364	6.3	1930		
Downgradient	MW-5	01/31/2022	0.0314 J	398	6.87	0.291	6.52	2310		
Downgradient	MW-6	01/31/2022	0.0648 J	385	4.53	0.121	6.1	2080		
Downgradient	MW-7	01/31/2022	0.0689 J	278	6.4	0.173	6.48	1370		
Downgradient	MW-8	02/01/2022	0.0639 J	284	8.56	0.177	6.77	1500		

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.

Table 6. First Semi-Annual Monitoring Event

Analytical Results Summary
Plant Gorgas CCR Landfill
01/25/2022 - 02/01/2022



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	01/25/2022	<0.000508	0.000248	0.0098	<0.000406	0.00196	0.000434 J	0.0654	0.101
Upgradient	MW-2	01/25/2022	<0.000508	0.000334	0.0122	<0.000406	8.12e-005 J	0.000216 J	0.0166	0.204
Upgradient	MW-3	01/25/2022	<0.000508	0.000275	0.00821	<0.000406	0.00178	0.000509 J	0.0051	0.325
Upgradient	MW-4	01/25/2022	<0.000508	8.75e-005 J	0.00908	<0.000406	<6.8e-005	0.000208 J	<6.8e-005	0.364
Downgradient	MW-5	01/31/2022	<0.000508	0.000193 J	0.0104	<0.000406	<6.8e-005	0.000271 J	0.000942	0.291
Downgradient	MW-6	01/31/2022	<0.000508	0.00435	0.0125	0.000441 J	0.000499	0.000236 J	0.174	0.121
Downgradient	MW-7	01/31/2022	<0.000508	0.00156	0.0126	<0.000406	<6.8e-005	0.000321 J	0.00546	0.173
Downgradient	MW-8	02/01/2022	<0.000508	0.00131	0.0135	<0.000406	<6.8e-005	0.000253 J	0.0075	0.177

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.

Table 6. First Semi-Annual Monitoring Event

Analytical Results Summary
Plant Gorgas CCR Landfill
01/25/2022 - 02/01/2022



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		
Upgradient	MW-1	01/25/2022	<6.8e-005	0.0239	<0.0003	<6.8e-005	0.00216	<6.8e-005		
Upgradient	MW-2	01/25/2022	<6.8e-005	0.051	<0.0003	<6.8e-005	<0.000508	<6.8e-005		
Upgradient	MW-3	01/25/2022	<6.8e-005	0.077	<0.0003	8.01e-005 J	0.0154	<6.8e-005		
Upgradient	MW-4	01/25/2022	<6.8e-005	0.0433	<0.0003	0.000114 J	0.00224	<6.8e-005		
Downgradient	MW-5	01/31/2022	<6.8e-005	0.0932	<0.0003	0.00126	0.00237	6.84e-005 J		
Downgradient	MW-6	01/31/2022	<6.8e-005	0.161	<0.0003	7.08e-005 J	<0.000508	0.000106 J		
Downgradient	MW-7	01/31/2022	<6.8e-005	0.0907	<0.0003	0.000929	<0.000508	<6.8e-005		
Downgradient	MW-8	02/01/2022	8.59e-005 J	0.124	<0.0003	0.000309	<0.000508	<6.8e-005		

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.

Table 6. First Semi-Annual Monitoring Event

Analytical Results Summary
Plant Gorgas CCR Landfill
01/25/2022 - 02/01/2022



General Chemistry and MNA Parameters										
Hydraulic Location	Well	Sample Date	Iron Total mg/L	Magnesium Total mg/L	Silicon mg/L	Sodium mg/L	Calcium mg/L	Silica mg/L	Aluminum mg/L	Manganese Total mg/L
Upgradient	MW-1	01/25/2022	<0.00812	281	11.6	33.8	150	24.8	0.123	10.4
Upgradient	MW-2	01/25/2022	1.18	194	5.2	20.1	179	11.1	<0.00406	4.05
Upgradient	MW-3	01/25/2022	0.0451	542	11	49.9	285	23.5	0.0419	0.466
Upgradient	MW-4	01/25/2022	<0.00812	424	5.8	33.1	259	12.4	0.00905 J	0.000745
Downgradient	MW-5	01/31/2022	1.57	423	7.33	54.6	398	15.7	<0.00406	0.313
Downgradient	MW-6	01/31/2022	26	304	12.1	57.6	385	25.9	0.0207	21.6
Downgradient	MW-7	01/31/2022	2.12	253	5.06	38	278	10.8	<0.00406	2.77
Downgradient	MW-8	02/01/2022	1.98	284	5.28	38.3	284	11.3	<0.00406	0.993

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.

General Chemistry and MNA Parameters										
Hydraulic Location	Well	Sample Date	Potassium mg/L	Nitrate Nitrite mg/L as N	Alkalinity Total as CaCO3 mg/L	Carbonate Alkalinity as CaCO3 mg/L	Bicarbonate Alkalinity as CaCO3 mg/L	Carbon, Total Organic mg/L	Chloride mg/L	Sulfate mg/L
Upgradient	MW-1	01/25/2022	6.85	1.13	21.6	0	21.6	1 J	2.09	1430
Upgradient	MW-2	01/25/2022	5.8	<0.2	344	0.08	344	1.84 J	2.14	842
Upgradient	MW-3	01/25/2022	7.05	3.7	71.5	0.01	71.5	1.01 J	2.12	2550
Upgradient	MW-4	01/25/2022	7.45	0.226 J	174	0.05	174	<1	1.54	1930
Downgradient	MW-5	01/31/2022	6.68	<0.2	299	0.17	299	1.22 J	6.87	2310
Downgradient	MW-6	01/31/2022	6.5	<0.2	133	0.01	133	1.07 J	4.53	2080
Downgradient	MW-7	01/31/2022	6.92	<0.2	313	0.25	313	1 J	6.4	1370
Downgradient	MW-8	02/01/2022	8.1	<0.2	391	0.33	391	1.42 J	8.56	1500

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.

Appendix A



Appendix A. Historical Analytical Data Plant Gorgas CCR Landfill

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	
Appendix III																													
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	<0.0609	<0.03	0.0385 J	<0.03	<0.03	<0.03	<0.03	0.0307 J	<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	
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	
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	
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	
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	
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	
Appendix IV																													
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	<0.0006	<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
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	<0.001	0.000403	0.000363	0.000248
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	0.0107	0.0107	0.00984	0.0098
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	<0.0006	<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	
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	0.000382 J	0.000389 J	0.000354 J
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	
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	
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
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	
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
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	<6.8e-005	<6.8e-005	<6.8e-005
Selenium	mg/L	0.00261 J	0.00242 J	0.00253 J	<0.002	0.00211 J	<0.002	<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
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	<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 Quantita



**Appendix A. Historical Analytical Data
Plant Gorgas CCR Landfill**

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			
Appendix III																																	
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				
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				
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				
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				
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				
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				
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				
Appendix IV																																	
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	<0.0006	<0.0008	<0.0008	0.000989 J	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.000507	<0.000508	<0.000508		
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	<0.001	<0.001	0.000295	0.000364	0.000334			
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				
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	<0.0006	<0.0006	<0.0006	<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	0.000311 J	<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	<0.0003	<0.0003	<0.0003	8.96e-005 J	8.27e-005 J	9.31e-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	<0.000203	0.000251 J	<0.000203	
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				
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				
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	<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				
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	<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	<0.000507	<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	<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 Quantita



Appendix A. Historical Analytical Data Plant Gorgas CCR Landfill

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
Appendix III																												
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
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
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
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
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
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
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
Appendix IV																												
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	0.000978 J	<0.0008	<0.0008	<0.0008	--	<0.0008	<0.0008	<0.0008	<0.000507	<0.000508	<0.000508
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	0.0048 J	0.00389 J	--	<0.001	0.0032 J	0.00426 J	0.000789	0.000376	0.000275
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
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
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
Chromium	mg/L	0.00373 J	0.00606 J	<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	<0.002	0.00035 J	0.000307 J	0.000509 J
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
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
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
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
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
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
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
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

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 Quantita



Appendix A. Historical Analytical Data Plant Gorgas CCR Landfill

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
Appendix III																											
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
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
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
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
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
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
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
Appendix IV																											
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
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	0.000125 J	0.000116 J	6.97e-005 J
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
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	<0.000406	<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	8.96e-005 J	8.19e-005 J	<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	<0.000203	0.000302 J	0.000216 J
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	<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
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	<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	0.0434
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
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
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	--	0.00284 J	<0.002	0.00222	0.00155	0.00224
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	<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 Quantita



**Appendix A. Historical Analytical Data
Plant Gorgas CCR Landfill**

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
Appendix III																				
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	<0.0609	0.0323 J	0.0399 J	0.033 J	0.0369 J	0.0319 J	0.0305 J
Calcium	mg/L	399	295	394	389	391	332	380	377	368	--	405	414	441	386	432	395	394	384	398
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
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
pH_Field	SU	--	--	--	--	--	--	--	--	--	6.39	--	--	6.34	6.43	6.43	6.48	6.47	6.4	6.52
Sulfate	mg/L	2390	2500	2300	2300	2300	2300	2300	2200	2200	--	2400	2500	2380	2460	2050	2080	2210	2240	2310
TDS	mg/L	3660	3920	4000	3960	3910	3890	3980	3940	3930	--	3660	3780	3520	3830	3270	3710	3740	3570	3560
Appendix IV																				
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
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
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
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
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
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
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	<0.002	0.00102	0.00127
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
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
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
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
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	0.0014	0.00126
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	<0.002	0.00233	0.00178
Thallium	mg/L	<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	<0.0002	<0.0002	<6.8e-005	8.95e-005 J

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 Quantita



**Appendix A. Historical Analytical Data
Plant Gorgas CCR Landfill**

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
Appendix III																					
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	
Calcium	mg/L	411	318	421	396	400	378	402	373	367	--	425	449	345	461	242	406	428	351	385	
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	
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	
pH_Field	SU	--	--	--	--	--	--	--	--	--	6.17	--	--	5.72	6.16	4.98	6.12	6.13	5.99	6.1	
Sulfate	mg/L	2090	2000	2000	2000	1900	1900	1900	1900	1800	--	2000	2200	2110	2330	1900	1970	2010	1930	2070	
TDS	mg/L	3290	3250	3220	3250	3260	3260	3360	3420	3280	--	3340	3330	3130	3260	2940	3270	3230	2980	3070	
Appendix IV																					
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	
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	
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	
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	
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	
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	<0.000436 J	
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	
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	
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
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	
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	
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
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	<0.000507	<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	9.93e-005 J

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 Quantita



Appendix A. Historical Analytical Data Plant Gorgas CCR Landfill

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
Appendix III																				
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
Calcium	mg/L	198	327	317	302	283	294	284	294	299	--	321	306	302	294	280	261	292	254	270
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
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
pH_Field	SU	--	--	--	--	--	--	--	--	--	6.67	--	--	6.61	6.52	6.64	6.52	6.7	6.58	6.48
Sulfate	mg/L	1050	1410	1400	1400	1300	1300	1300	1300	1300	--	1900	1100	1510	1570	1270	1330	1320	1170	1370
TDS	mg/L	1640	2460	2460	2420	2320	1150	2320	2360	2460	--	2390	2090	2310	2340	2230	2210	2320	2110	2140
Appendix IV																				
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
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
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
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
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
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
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
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
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
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
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
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	0.00107	0.00086	0.000929
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	<0.000507	<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	<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 Quantita



Appendix A. Historical Analytical Data Plant Gorgas CCR Landfill

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
Appendix III																				
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
Calcium	mg/L	282	291	300	298	299	307	299	294	308	--	344	327	305	329	281	280	306	281	291
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
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
pH_Field	SU	--	--	--	--	--	--	--	--	--	6.55	--	--	6.6	6.67	6.7	6.71	6.73	6.64	6.77
Sulfate	mg/L	1550	1470	1400	1600	1400	1400	1400	1400	1400	--	2100	1400	1640	1550	1380	1410	1420	1500	1500
TDS	mg/L	2480	2360	2530	2740	2630	2530	2740	2650	2650	--	2750	2520	2540	2590	2450	2460	2550	2420	2420
Appendix IV																				
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
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
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
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
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
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	<0.000253 J
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
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
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
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
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
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
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	<0.000507	<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	<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 Quantita

Appendix B

**Appendix B.
Historical Groundwater Elevation Summary**

Well Name	Top of Casing Elevation	Groundwater Elevation (ft. AMSL)														
		4/25/2016	6/20/2016	8/8/2016	10/3/2016	11/21/2016	1/17/2017	3/20/2017	4/10/2017	5/30/2017	8/23/2017	10/12/2017	10/13/2017	10/14/2017	10/15/2017	10/16/2017
MW-1	502.25	411.22	410.70	410.49	410.31	410.10	410.07	410.67	410.89	410.80	411.06	410.70	410.72	410.68	410.73	410.68
MW-2	502.12	417.36	416.76	416.60	416.21	415.98	416.62	417.24	417.66	416.94	417.02	416.50	416.54	416.49	416.53	416.50
MW-3	525.90	416.41	415.45	415.00	414.82	414.43	415.27	416.07	418.23	415.53	415.73	415.10	415.14	415.15	415.17	415.13
MW-4	518.63	402.31	401.79	400.61	400.09	399.53	400.51	402.02	402.50	401.68	401.77	400.79	400.76	400.67	400.67	400.59
MW-5	474.55	348.47	348.37	348.43	348.39	348.38	348.34	348.40	348.53	348.42	348.42	348.38	348.40	348.36	348.37	348.34
MW-6	412.99	312.84	308.08	305.87	304.61	304.24	304.60	306.45	307.79	306.65	310.02	306.04	306.03	305.99	305.98	305.95
MW-7	394.59	336.39	334.07	333.91	333.86	333.71	333.81	334.10	336.18	334.24	335.75	334.36	334.53	334.45	334.45	334.42
MW-8	416.10	351.49	351.75	351.95	352.15	352.16	353.56	352.92	353.12	353.12	353.29	353.39	353.32	353.31	353.40	353.34

Notes:

1. ft. AMSL - feet above mean sea level
2. -- Not Measured

**Appendix B.
Historical Groundwater Elevation Summary**

Well Name	Top of Casing Elevation	Groundwater Elevation (ft. AMSL)														
		10/17/2017	11/15/2017	2/12/2018	4/9/2018	5/21/2018	10/29/2018	11/19/2018	3/13/2019	5/13/2019	10/7/2019	4/6/2020	7/13/2020	2/22/2021	7/12/2021	1/24/2022
MW-1	502.25	410.65	410.66	410.89	411.35	411.47	410.62	410.80	412.11	411.77	410.79	412.16	411.22	411.59	411.54	411.49
MW-2	502.12	416.51	416.74	419.29	417.32	417.33	416.30	417.67	417.70	417.64	416.63	417.81	416.93	418.50	417.75	418.40
MW-3	525.90	415.12	415.41	418.49	416.25	416.28	414.85	416.31	418.31	416.40	415.17	417.64	415.34	419.94	421.54	418.99
MW-4	518.63	400.62	400.60	402.67	402.22	402.24	400.18	402.08	402.68	402.43	400.33	402.59	401.42	402.82	402.30	402.52
MW-5	474.55	348.37	348.43	348.61	348.50	348.49	348.42	348.55	348.74	348.66	348.46	348.74	348.59	348.81	348.65	348.76
MW-6	412.99	305.91	305.75	306.47	311.90	314.14	304.84	306.89	323.91	316.49	304.21	319.32	309.56	311.83	314.66	312.53
MW-7	394.59	334.41	334.14	336.82	335.68	336.60	334.01	337.61	339.54	338.44	334.13	338.34	335.86	338.01	336.47	337.16
MW-8	416.10	353.31	353.30	353.44	353.50	353.55	353.08	353.37	353.47	353.32	352.22	353.52	353.04	352.81	352.61	352.56

Notes:

1. ft. AMSL - feet above mean sea level
2. -- Not Measured

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 Landfill

2022 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).

Suspected iron bacteria appeared to be present during initial pumping of wells MW-14 and MW-19.

Rainy conditions were present when pumping and sampling well MW-10.

Field quality control procedures were performed as follows:

- Blanks and Sample Duplicates were collected as described in the SAP.
 - FB-1 and FB-2 had results above the Reporting Limiting (RL) for Manganese.
 - EB-1 had a result above the RL for Lead.
- 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 Pooled Upgradient Wells

2022 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 Company
Plant Gorgas Bottom Ash Landfill**

WELL ID	DESCRIPTION	TIME OF READING	VALUE	UNIT
MW-1	Conductivity	1/25/2022 9:48	2243.47	uS/cm
MW-1	DO	1/25/2022 9:48	1.57	mg/L
MW-1	Depth to Water Detail	1/25/2022 9:48	93.17	ft
MW-1	Oxidation Reduction Potention	1/25/2022 9:48	289.32	mv
MW-1	pH	1/25/2022 9:48	5.06	SU
MW-1	Temperature	1/25/2022 9:48	20.38	C
MW-1	Turbidity	1/25/2022 9:48	0.51	NTU
MW-1	Conductivity	1/25/2022 9:53	2255.48	uS/cm
MW-1	DO	1/25/2022 9:53	1.2	mg/L
MW-1	Depth to Water Detail	1/25/2022 9:53	93.31	ft
MW-1	Oxidation Reduction Potention	1/25/2022 9:53	309.45	mv
MW-1	pH	1/25/2022 9:53	5.09	SU
MW-1	Temperature	1/25/2022 9:53	20.39	C
MW-1	Turbidity	1/25/2022 9:53	0.44	NTU
MW-1	Conductivity	1/25/2022 9:58	2253.35	uS/cm
MW-1	DO	1/25/2022 9:58	1.02	mg/L
MW-1	Depth to Water Detail	1/25/2022 9:58	93.31	ft
MW-1	Oxidation Reduction Potention	1/25/2022 9:58	318.36	mv
MW-1	pH	1/25/2022 9:58	5.1	SU
MW-1	Temperature	1/25/2022 9:58	20.35	C
MW-1	Turbidity	1/25/2022 9:58	0.51	NTU
MW-1	Conductivity	1/25/2022 10:03	2199.78	uS/cm
MW-1	DO	1/25/2022 10:03	0.94	mg/L
MW-1	Depth to Water Detail	1/25/2022 10:03	93.31	ft
MW-1	Oxidation Reduction Potention	1/25/2022 10:03	344.01	mv
MW-1	pH	1/25/2022 10:03	5.1	SU
MW-1	Temperature	1/25/2022 10:03	20.44	C
MW-1	Turbidity	1/25/2022 10:03	0.79	NTU
MW-1	Conductivity	1/25/2022 10:08	2248.18	uS/cm
MW-1	DO	1/25/2022 10:08	0.96	mg/L
MW-1	Depth to Water Detail	1/25/2022 10:08	93.31	ft
MW-1	Oxidation Reduction Potention	1/25/2022 10:08	342.61	mv
MW-1	pH	1/25/2022 10:08	5.11	SU
MW-1	Temperature	1/25/2022 10:08	20.4	C
MW-1	Turbidity	1/25/2022 10:08	1.07	NTU



**Alabama Power Company
Plant Gorgas Bottom Ash Landfill**

WELL ID	DESCRIPTION	TIME OF READING	VALUE	UNIT
MW-2	Conductivity	1/25/2022 11:13	1775.11	uS/cm
MW-2	DO	1/25/2022 11:13	0.84	mg/L
MW-2	Depth to Water Detail	1/25/2022 11:13	83.86	ft
MW-2	Oxidation Reduction Potention	1/25/2022 11:13	76.54	mv
MW-2	pH	1/25/2022 11:13	6.18	SU
MW-2	Temperature	1/25/2022 11:13	20.01	C
MW-2	Turbidity	1/25/2022 11:13	4.6	NTU
MW-2	Conductivity	1/25/2022 11:18	1781.49	uS/cm
MW-2	DO	1/25/2022 11:18	0.77	mg/L
MW-2	Depth to Water Detail	1/25/2022 11:18	83.86	ft
MW-2	Oxidation Reduction Potention	1/25/2022 11:18	77.05	mv
MW-2	pH	1/25/2022 11:18	6.2	SU
MW-2	Temperature	1/25/2022 11:18	20.03	C
MW-2	Turbidity	1/25/2022 11:18	2.75	NTU
MW-2	Conductivity	1/25/2022 11:23	1779.37	uS/cm
MW-2	DO	1/25/2022 11:23	0.85	mg/L
MW-2	Depth to Water Detail	1/25/2022 11:23	83.86	ft
MW-2	Oxidation Reduction Potention	1/25/2022 11:23	76.59	mv
MW-2	pH	1/25/2022 11:23	6.21	SU
MW-2	Temperature	1/25/2022 11:23	20.02	C
MW-2	Turbidity	1/25/2022 11:23	2.74	NTU
MW-2	Conductivity	1/25/2022 11:28	1777.69	uS/cm
MW-2	DO	1/25/2022 11:28	0.9	mg/L
MW-2	Depth to Water Detail	1/25/2022 11:28	83.86	ft
MW-2	Oxidation Reduction Potention	1/25/2022 11:28	76.06	mv
MW-2	pH	1/25/2022 11:28	6.22	SU
MW-2	Temperature	1/25/2022 11:28	20.03	C
MW-2	Turbidity	1/25/2022 11:28	1.13	NTU



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WELL ID	DESCRIPTION	TIME OF READING	VALUE	UNIT
MW-3	Conductivity	1/25/2022 12:38	3088.14	uS/cm
MW-3	DO	1/25/2022 12:38	6.61	mg/L
MW-3	Depth to Water Detail	1/25/2022 12:38	107.28	ft
MW-3	Oxidation Reduction Potention	1/25/2022 12:38	242.63	mv
MW-3	pH	1/25/2022 12:38	5.85	SU
MW-3	Temperature	1/25/2022 12:38	19.63	C
MW-3	Turbidity	1/25/2022 12:38	1.5	NTU
MW-3	Conductivity	1/25/2022 12:43	3205.21	uS/cm
MW-3	DO	1/25/2022 12:43	6.29	mg/L
MW-3	Depth to Water Detail	1/25/2022 12:43	107.3	ft
MW-3	Oxidation Reduction Potention	1/25/2022 12:43	250.3	mv
MW-3	pH	1/25/2022 12:43	5.88	SU
MW-3	Temperature	1/25/2022 12:43	19.76	C
MW-3	Turbidity	1/25/2022 12:43	1.97	NTU
MW-3	Conductivity	1/25/2022 12:48	3148.48	uS/cm
MW-3	DO	1/25/2022 12:48	6.18	mg/L
MW-3	Depth to Water Detail	1/25/2022 12:48	107.31	ft
MW-3	Oxidation Reduction Potention	1/25/2022 12:48	257.13	mv
MW-3	pH	1/25/2022 12:48	5.89	SU
MW-3	Temperature	1/25/2022 12:48	20	C
MW-3	Turbidity	1/25/2022 12:48	1.51	NTU
MW-3	Conductivity	1/25/2022 12:53	3139.08	uS/cm
MW-3	DO	1/25/2022 12:53	6.2	mg/L
MW-3	Depth to Water Detail	1/25/2022 12:53	107.34	ft
MW-3	Oxidation Reduction Potention	1/25/2022 12:53	262.48	mv
MW-3	pH	1/25/2022 12:53	5.9	SU
MW-3	Temperature	1/25/2022 12:53	20.01	C
MW-3	Turbidity	1/25/2022 12:53	2.05	NTU



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WELL ID	DESCRIPTION	TIME OF READING	VALUE	UNIT
MW-4	Conductivity	1/25/2022 14:10	2952.85	uS/cm
MW-4	DO	1/25/2022 14:10	2.06	mg/L
MW-4	Depth to Water Detail	1/25/2022 14:10	116.14	ft
MW-4	Oxidation Reduction Potention	1/25/2022 14:10	215.69	mv
MW-4	pH	1/25/2022 14:10	6.27	SU
MW-4	Temperature	1/25/2022 14:10	21.38	C
MW-4	Turbidity	1/25/2022 14:10	4.39	NTU
MW-4	Conductivity	1/25/2022 14:15	2893.5	uS/cm
MW-4	DO	1/25/2022 14:15	2.29	mg/L
MW-4	Depth to Water Detail	1/25/2022 14:15	116.14	ft
MW-4	Oxidation Reduction Potention	1/25/2022 14:15	226.1	mv
MW-4	pH	1/25/2022 14:15	6.28	SU
MW-4	Temperature	1/25/2022 14:15	21.33	C
MW-4	Turbidity	1/25/2022 14:15	1.63	NTU
MW-4	Conductivity	1/25/2022 14:20	2868.73	uS/cm
MW-4	DO	1/25/2022 14:20	2.57	mg/L
MW-4	Depth to Water Detail	1/25/2022 14:20	116.14	ft
MW-4	Oxidation Reduction Potention	1/25/2022 14:20	232.18	mv
MW-4	pH	1/25/2022 14:20	6.29	SU
MW-4	Temperature	1/25/2022 14:20	21.29	C
MW-4	Turbidity	1/25/2022 14:20	1.28	NTU
MW-4	Conductivity	1/25/2022 14:25	2857.11	uS/cm
MW-4	DO	1/25/2022 14:25	2.75	mg/L
MW-4	Depth to Water Detail	1/25/2022 14:25	116.14	ft
MW-4	Oxidation Reduction Potention	1/25/2022 14:25	236.53	mv
MW-4	pH	1/25/2022 14:25	6.3	SU
MW-4	Temperature	1/25/2022 14:25	21.35	C
MW-4	Turbidity	1/25/2022 14:25	1.13	NTU
MW-4	Conductivity	1/25/2022 14:30	2846.67	uS/cm
MW-4	DO	1/25/2022 14:30	2.8	mg/L
MW-4	Depth to Water Detail	1/25/2022 14:30	116.14	ft
MW-4	Oxidation Reduction Potention	1/25/2022 14:30	239.4	mv
MW-4	pH	1/25/2022 14:30	6.3	SU
MW-4	Temperature	1/25/2022 14:30	21.4	C
MW-4	Turbidity	1/25/2022 14:30	0.84	NTU
MW-4	Conductivity	1/25/2022 14:35	2843.39	uS/cm
MW-4	DO	1/25/2022 14:35	2.8	mg/L
MW-4	Depth to Water Detail	1/25/2022 14:35	116.14	ft
MW-4	Oxidation Reduction Potention	1/25/2022 14:35	241.8	mv
MW-4	pH	1/25/2022 14:35	6.3	SU
MW-4	Temperature	1/25/2022 14:35	21.37	C
MW-4	Turbidity	1/25/2022 14:35	1.1	NTU



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WELL ID	DESCRIPTION	TIME OF READING	VALUE	UNIT
MW-7	Conductivity	1/31/2022 15:25	2377.3	uS/cm
MW-7	DO	1/31/2022 15:25	0.17	mg/L
MW-7	Depth to Water Detail	1/31/2022 15:25	58.59	ft
MW-7	Oxidation Reduction Potention	1/31/2022 15:25	9.06	mv
MW-7	pH	1/31/2022 15:25	6.46	SU
MW-7	Temperature	1/31/2022 15:25	20.88	C
MW-7	Turbidity	1/31/2022 15:25	3.03	NTU
MW-7	Conductivity	1/31/2022 15:30	2296.78	uS/cm
MW-7	DO	1/31/2022 15:30	0.15	mg/L
MW-7	Depth to Water Detail	1/31/2022 15:30	58.59	ft
MW-7	Oxidation Reduction Potention	1/31/2022 15:30	12.41	mv
MW-7	pH	1/31/2022 15:30	6.45	SU
MW-7	Temperature	1/31/2022 15:30	20.98	C
MW-7	Turbidity	1/31/2022 15:30	2.45	NTU
MW-7	Conductivity	1/31/2022 15:35	2252.16	uS/cm
MW-7	DO	1/31/2022 15:35	0.14	mg/L
MW-7	Depth to Water Detail	1/31/2022 15:35	58.59	ft
MW-7	Oxidation Reduction Potention	1/31/2022 15:35	11.7	mv
MW-7	pH	1/31/2022 15:35	6.47	SU
MW-7	Temperature	1/31/2022 15:35	20.99	C
MW-7	Turbidity	1/31/2022 15:35	1.6	NTU
MW-7	Conductivity	1/31/2022 15:40	2214.15	uS/cm
MW-7	DO	1/31/2022 15:40	0.13	mg/L
MW-7	Depth to Water Detail	1/31/2022 15:40	58.59	ft
MW-7	Oxidation Reduction Potention	1/31/2022 15:40	11.12	mv
MW-7	pH	1/31/2022 15:40	6.48	SU
MW-7	Temperature	1/31/2022 15:40	21.03	C
MW-7	Turbidity	1/31/2022 15:40	1.24	NTU



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WELL ID	DESCRIPTION	TIME OF READING	VALUE	UNIT
MW-8	Conductivity	2/1/2022 8:25	2464.65	uS/cm
MW-8	DO	2/1/2022 8:25	2.85	mg/L
MW-8	Depth to Water Detail	2/1/2022 8:25	65.26	ft
MW-8	Oxidation Reduction Potention	2/1/2022 8:25	27.19	mv
MW-8	pH	2/1/2022 8:25	6.82	SU
MW-8	Temperature	2/1/2022 8:25	17.31	C
MW-8	Turbidity	2/1/2022 8:25	9.52	NTU
MW-8	Conductivity	2/1/2022 8:30	2453.23	uS/cm
MW-8	DO	2/1/2022 8:30	1.59	mg/L
MW-8	Depth to Water Detail	2/1/2022 8:30	65.53	ft
MW-8	Oxidation Reduction Potention	2/1/2022 8:30	13.83	mv
MW-8	pH	2/1/2022 8:30	6.79	SU
MW-8	Temperature	2/1/2022 8:30	17.6	C
MW-8	Turbidity	2/1/2022 8:30	5.73	NTU
MW-8	Conductivity	2/1/2022 8:35	2447.03	uS/cm
MW-8	DO	2/1/2022 8:35	1.23	mg/L
MW-8	Depth to Water Detail	2/1/2022 8:35	65.82	ft
MW-8	Oxidation Reduction Potention	2/1/2022 8:35	8.43	mv
MW-8	pH	2/1/2022 8:35	6.78	SU
MW-8	Temperature	2/1/2022 8:35	17.91	C
MW-8	Turbidity	2/1/2022 8:35	9.82	NTU
MW-8	Conductivity	2/1/2022 8:40	2438.66	uS/cm
MW-8	DO	2/1/2022 8:40	1.17	mg/L
MW-8	Depth to Water Detail	2/1/2022 8:40	65.96	ft
MW-8	Oxidation Reduction Potention	2/1/2022 8:40	6.96	mv
MW-8	pH	2/1/2022 8:40	6.78	SU
MW-8	Temperature	2/1/2022 8:40	18.19	C
MW-8	Turbidity	2/1/2022 8:40	9.61	NTU
MW-8	Conductivity	2/1/2022 8:45	2433.78	uS/cm
MW-8	DO	2/1/2022 8:45	1.05	mg/L
MW-8	Depth to Water Detail	2/1/2022 8:45	66.09	ft
MW-8	Oxidation Reduction Potention	2/1/2022 8:45	6.61	mv
MW-8	pH	2/1/2022 8:45	6.77	SU
MW-8	Temperature	2/1/2022 8:45	18.42	C
MW-8	Turbidity	2/1/2022 8:45	8.92	NTU



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WELL ID	DESCRIPTION	TIME OF READING	VALUE	UNIT
MW-10	Conductivity	2/1/2022 10:22	1242.7	uS/cm
MW-10	DO	2/1/2022 10:22	1.15	mg/L
MW-10	Depth to Water Detail	2/1/2022 10:22	87.19	ft
MW-10	Oxidation Reduction Potention	2/1/2022 10:22	3.46	mv
MW-10	pH	2/1/2022 10:22	6.66	SU
MW-10	Temperature	2/1/2022 10:22	19.7	C
MW-10	Turbidity	2/1/2022 10:22	9.41	NTU
MW-10	Conductivity	2/1/2022 10:27	1240.27	uS/cm
MW-10	DO	2/1/2022 10:27	0.58	mg/L
MW-10	Depth to Water Detail	2/1/2022 10:27	87.66	ft
MW-10	Oxidation Reduction Potention	2/1/2022 10:27	-4.9	mv
MW-10	pH	2/1/2022 10:27	6.65	SU
MW-10	Temperature	2/1/2022 10:27	19.84	C
MW-10	Turbidity	2/1/2022 10:27	12.52	NTU
MW-10	Conductivity	2/1/2022 10:32	1241.34	uS/cm
MW-10	DO	2/1/2022 10:32	0.51	mg/L
MW-10	Depth to Water Detail	2/1/2022 10:32	87.98	ft
MW-10	Oxidation Reduction Potention	2/1/2022 10:32	-5.66	mv
MW-10	pH	2/1/2022 10:32	6.64	SU
MW-10	Temperature	2/1/2022 10:32	19.86	C
MW-10	Turbidity	2/1/2022 10:32	8.43	NTU
MW-10	Conductivity	2/1/2022 10:37	1249.32	uS/cm
MW-10	DO	2/1/2022 10:37	0.63	mg/L
MW-10	Depth to Water Detail	2/1/2022 10:37	88.29	ft
MW-10	Oxidation Reduction Potention	2/1/2022 10:37	-2.85	mv
MW-10	pH	2/1/2022 10:37	6.65	SU
MW-10	Temperature	2/1/2022 10:37	19.73	C
MW-10	Turbidity	2/1/2022 10:37	6.24	NTU
MW-10	Conductivity	2/1/2022 10:42	1259.89	uS/cm
MW-10	DO	2/1/2022 10:42	0.64	mg/L
MW-10	Depth to Water Detail	2/1/2022 10:42	88.49	ft
MW-10	Oxidation Reduction Potention	2/1/2022 10:42	-1.88	mv
MW-10	pH	2/1/2022 10:42	6.64	SU
MW-10	Temperature	2/1/2022 10:42	19.86	C
MW-10	Turbidity	2/1/2022 10:42	3.63	NTU
MW-10	Conductivity	2/1/2022 10:47	1272.32	uS/cm
MW-10	DO	2/1/2022 10:47	0.59	mg/L
MW-10	Depth to Water Detail	2/1/2022 10:47	88.57	ft
MW-10	Oxidation Reduction Potention	2/1/2022 10:47	-1.14	mv
MW-10	pH	2/1/2022 10:47	6.62	SU
MW-10	Temperature	2/1/2022 10:47	19.91	C
MW-10	Turbidity	2/1/2022 10:47	2.86	NTU



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WELL ID	DESCRIPTION	TIME OF READING	VALUE	UNIT
MW-11	Conductivity	2/1/2022 11:48	2413.13	uS/cm
MW-11	DO	2/1/2022 11:48	0.71	mg/L
MW-11	Depth to Water Detail	2/1/2022 11:48	107.39	ft
MW-11	Oxidation Reduction Potention	2/1/2022 11:48	-24.66	mv
MW-11	pH	2/1/2022 11:48	6.82	SU
MW-11	Temperature	2/1/2022 11:48	21.43	C
MW-11	Turbidity	2/1/2022 11:48	0.83	NTU
MW-11	Conductivity	2/1/2022 11:53	2410.78	uS/cm
MW-11	DO	2/1/2022 11:53	0.69	mg/L
MW-11	Depth to Water Detail	2/1/2022 11:53	109.58	ft
MW-11	Oxidation Reduction Potention	2/1/2022 11:53	-29.75	mv
MW-11	pH	2/1/2022 11:53	6.8	SU
MW-11	Temperature	2/1/2022 11:53	21.38	C
MW-11	Turbidity	2/1/2022 11:53	0.76	NTU
MW-11	Conductivity	2/1/2022 11:58	2393.34	uS/cm
MW-11	DO	2/1/2022 11:58	1.97	mg/L
MW-11	Depth to Water Detail	2/1/2022 11:58	109.81	ft
MW-11	Oxidation Reduction Potention	2/1/2022 11:58	-30.43	mv
MW-11	pH	2/1/2022 11:58	6.84	SU
MW-11	Temperature	2/1/2022 11:58	20.44	C
MW-11	Turbidity	2/1/2022 11:58	0.92	NTU
MW-11	Conductivity	2/1/2022 12:03	2390.98	uS/cm
MW-11	DO	2/1/2022 12:03	2.32	mg/L
MW-11	Depth to Water Detail	2/1/2022 12:03	109.96	ft
MW-11	Oxidation Reduction Potention	2/1/2022 12:03	-32.24	mv
MW-11	pH	2/1/2022 12:03	6.83	SU
MW-11	Temperature	2/1/2022 12:03	20.26	C
MW-11	Turbidity	2/1/2022 12:03	0.49	NTU
MW-11	Conductivity	2/1/2022 12:08	2385.98	uS/cm
MW-11	DO	2/1/2022 12:08	2.48	mg/L
MW-11	Depth to Water Detail	2/1/2022 12:08	110.11	ft
MW-11	Oxidation Reduction Potention	2/1/2022 12:08	-33.47	mv
MW-11	pH	2/1/2022 12:08	6.83	SU
MW-11	Temperature	2/1/2022 12:08	20.16	C
MW-11	Turbidity	2/1/2022 12:08	0.49	NTU
MW-11	Conductivity	2/1/2022 12:13	2381.24	uS/cm
MW-11	DO	2/1/2022 12:13	2.49	mg/L
MW-11	Depth to Water Detail	2/1/2022 12:13	110.24	ft
MW-11	Oxidation Reduction Potention	2/1/2022 12:13	-34.11	mv
MW-11	pH	2/1/2022 12:13	6.83	SU
MW-11	Temperature	2/1/2022 12:13	20.12	C
MW-11	Turbidity	2/1/2022 12:13	0.57	NTU



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WELL ID	DESCRIPTION	TIME OF READING	VALUE	UNIT
MW-12	Conductivity	2/1/2022 10:37	3095.82	uS/cm
MW-12	DO	2/1/2022 10:37	1.77	mg/L
MW-12	Depth to Water Detail	2/1/2022 10:37	154.9	ft
MW-12	Oxidation Reduction Potention	2/1/2022 10:37	56.3	mv
MW-12	pH	2/1/2022 10:37	5.58	SU
MW-12	Temperature	2/1/2022 10:37	21.01	C
MW-12	Turbidity	2/1/2022 10:37	2.81	NTU
MW-12	Conductivity	2/1/2022 10:42	3104.24	uS/cm
MW-12	DO	2/1/2022 10:42	0.66	mg/L
MW-12	Depth to Water Detail	2/1/2022 10:42	154.9	ft
MW-12	Oxidation Reduction Potention	2/1/2022 10:42	38.15	mv
MW-12	pH	2/1/2022 10:42	5.65	SU
MW-12	Temperature	2/1/2022 10:42	20.94	C
MW-12	Turbidity	2/1/2022 10:42	4.79	NTU
MW-12	Conductivity	2/1/2022 10:47	3128.37	uS/cm
MW-12	DO	2/1/2022 10:47	0.54	mg/L
MW-12	Depth to Water Detail	2/1/2022 10:47	154.9	ft
MW-12	Oxidation Reduction Potention	2/1/2022 10:47	36.22	mv
MW-12	pH	2/1/2022 10:47	5.64	SU
MW-12	Temperature	2/1/2022 10:47	20.9	C
MW-12	Turbidity	2/1/2022 10:47	4.25	NTU
MW-12	Conductivity	2/1/2022 10:52	3130.89	uS/cm
MW-12	DO	2/1/2022 10:52	0.5	mg/L
MW-12	Depth to Water Detail	2/1/2022 10:52	154.9	ft
MW-12	Oxidation Reduction Potention	2/1/2022 10:52	36.22	mv
MW-12	pH	2/1/2022 10:52	5.64	SU
MW-12	Temperature	2/1/2022 10:52	20.95	C
MW-12	Turbidity	2/1/2022 10:52	3.19	NTU



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WELL ID	DESCRIPTION	TIME OF READING	VALUE	UNIT
MW-12V	Conductivity	2/1/2022 9:23	2452.37	uS/cm
MW-12V	DO	2/1/2022 9:23	0.95	mg/L
MW-12V	Depth to Water Detail	2/1/2022 9:23	157.24	ft
MW-12V	Oxidation Reduction Potention	2/1/2022 9:23	16.96	mv
MW-12V	pH	2/1/2022 9:23	6.6	SU
MW-12V	Temperature	2/1/2022 9:23	20.13	C
MW-12V	Turbidity	2/1/2022 9:23	2.16	NTU
MW-12V	Conductivity	2/1/2022 9:28	2457.81	uS/cm
MW-12V	DO	2/1/2022 9:28	0.57	mg/L
MW-12V	Depth to Water Detail	2/1/2022 9:28	157.75	ft
MW-12V	Oxidation Reduction Potention	2/1/2022 9:28	44.25	mv
MW-12V	pH	2/1/2022 9:28	6.62	SU
MW-12V	Temperature	2/1/2022 9:28	20.19	C
MW-12V	Turbidity	2/1/2022 9:28	1.06	NTU
MW-12V	Conductivity	2/1/2022 9:33	2449.88	uS/cm
MW-12V	DO	2/1/2022 9:33	0.54	mg/L
MW-12V	Depth to Water Detail	2/1/2022 9:33	158.1	ft
MW-12V	Oxidation Reduction Potention	2/1/2022 9:33	-21.42	mv
MW-12V	pH	2/1/2022 9:33	6.64	SU
MW-12V	Temperature	2/1/2022 9:33	19.97	C
MW-12V	Turbidity	2/1/2022 9:33	0.69	NTU
MW-12V	Conductivity	2/1/2022 9:38	2460.13	uS/cm
MW-12V	DO	2/1/2022 9:38	0.53	mg/L
MW-12V	Depth to Water Detail	2/1/2022 9:38	158.23	ft
MW-12V	Oxidation Reduction Potention	2/1/2022 9:38	-31.7	mv
MW-12V	pH	2/1/2022 9:38	6.65	SU
MW-12V	Temperature	2/1/2022 9:38	20.14	C
MW-12V	Turbidity	2/1/2022 9:38	0.64	NTU
MW-12V	Conductivity	2/1/2022 9:43	2459.46	uS/cm
MW-12V	DO	2/1/2022 9:43	0.56	mg/L
MW-12V	Depth to Water Detail	2/1/2022 9:43	158.45	ft
MW-12V	Oxidation Reduction Potention	2/1/2022 9:43	-34.71	mv
MW-12V	pH	2/1/2022 9:43	6.66	SU
MW-12V	Temperature	2/1/2022 9:43	20.13	C
MW-12V	Turbidity	2/1/2022 9:43	0.69	NTU
MW-12V	Conductivity	2/1/2022 9:48	2458.78	uS/cm
MW-12V	DO	2/1/2022 9:48	0.63	mg/L
MW-12V	Depth to Water Detail	2/1/2022 9:48	158.55	ft
MW-12V	Oxidation Reduction Potention	2/1/2022 9:48	-34.04	mv
MW-12V	pH	2/1/2022 9:48	6.67	SU
MW-12V	Temperature	2/1/2022 9:48	19.77	C
MW-12V	Turbidity	2/1/2022 9:48	0.6	NTU
MW-12V	Conductivity	2/1/2022 9:53	2458.25	uS/cm
MW-12V	DO	2/1/2022 9:53	0.66	mg/L
MW-12V	Depth to Water Detail	2/1/2022 9:53	158.55	ft
MW-12V	Oxidation Reduction Potention	2/1/2022 9:53	-34.47	mv
MW-12V	pH	2/1/2022 9:53	6.68	SU
MW-12V	Temperature	2/1/2022 9:53	19.8	C
MW-12V	Turbidity	2/1/2022 9:53	0.73	NTU

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

Analytical Report



Sample Group : WMWGORLF_1349

Project/Site : Gorgas Landfill
Parrish, AL 35580

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

Attention : Dustin Brooks & Greg Dyer

Released By : Laura Midkiff
lbmidkif@southernco.com
(205) 664-6197

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



March 21, 2022

Dear Dustin Brooks,

Enclosed are the analytical results for sample(s) received by the laboratory on February 01, 2022. 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, 2022

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

Sincerely,

Quality Control: **Laura Midkiff**
Digitally signed by Laura Midkiff
DN: cn=Laura Midkiff, o=Alabama Power
Company, ou=Environmental Affairs,
email=lmidkif@southernco.com, c=US
Date: 2022.03.22 11:05:59 -05'00'

Supervision: **T. Durant Maske**
Digitally signed by T. Durant Maske
DN: cn=T. Durant Maske, o=Alabama
Power Company, ou=Environmental
Affairs, email=tdmaske@southernco.com,
c=US
Date: 2022.03.29 11:51:55 -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_1349

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>
BC02100	717312	WMWGORLF_1349
BC02101	717312	WMWGORLF_1349
BC02102	717312	WMWGORLF_1349
BC02103	717312	WMWGORLF_1349
BC02104	717312	WMWGORLF_1349
BC02105	717312	WMWGORLF_1349
BC02106	717312	WMWGORLF_1349
BC02107	717312	WMWGORLF_1349
BC02108	717312	WMWGORLF_1349
BC02109	717312	WMWGORLF_1349
BC02110	717313	WMWGORLF_1349
BC02111	717313	WMWGORLF_1349
BC02112	717313	WMWGORLF_1349
BC02113	717313	WMWGORLF_1349
BC02114	717313	WMWGORLF_1349
BC02115	717313	WMWGORLF_1349
BC02116	717313	WMWGORLF_1349
BC02117	717313	WMWGORLF_1349
BC02118	717313	WMWGORLF_1349
BC02119	717313	WMWGORLF_1349
BC02120	717314	WMWGORLF_1349

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:
 - BC02109 Calcium, Iron, Magnesium, & Sodium MS/MSD spike levels were <30% of the sample concentrations.
 - BC02119 Calcium, Magnesium, & Sodium MS/MSD spike levels were <30% of the sample concentrations.
 - BC02120 Calcium, Iron, & Magnesium MS/MSD spike levels were <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>
BC02100	Calcium, Magnesium	20.3
BC02101	Calcium, Magnesium	20.3
BC02102	Calcium, Iron Magnesium	20.3
BC02104	Calcium, Magnesium	20.3
BC02105	Calcium, Magnesium	20.3
BC02106	Calcium, Iron, Magnesium	20.3
BC02107	Calcium, Magnesium	20.3
BC02108	Calcium, Magnesium	20.3
BC02109	Calcium, Iron, Magnesium, Sodium	20.3
BC02111	Calcium, Magnesium, Sodium	20.3
BC02112	Calcium, Iron, Magnesium, Sodium	20.3
BC02113	Calcium, Iron, Magnesium, Sodium	20.3
BC02114	Calcium, Magnesium	20.3
BC02115	Calcium, Magnesium	20.3
BC02116	Calcium, Iron, Magnesium, Sodium	20.3
BC02117	Calcium, Magnesium, Sodium	20.3
BC02119	Calcium, Magnesium, Sodium	20.3
BC02120	Calcium, Iron, Magnesium, Sodium	50.75

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

Dissolved Metals ICP

Gorgas Landfill

WMWGORLF_1349

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>
BC02100	717272	WMWGORLF_1349
BC02101	717272	WMWGORLF_1349
BC02102	717272	WMWGORLF_1349
BC02104	717272	WMWGORLF_1349
BC02105	717272	WMWGORLF_1349
BC02106	717272	WMWGORLF_1349
BC02107	717272	WMWGORLF_1349
BC02108	717272	WMWGORLF_1349
BC02109	717272	WMWGORLF_1349
BC02111	717272	WMWGORLF_1349
BC02112	717273	WMWGORLF_1349
BC02113	717273	WMWGORLF_1349
BC02114	717273	WMWGORLF_1349
BC02115	717273	WMWGORLF_1349
BC02116	717273	WMWGORLF_1349
BC02117	717273	WMWGORLF_1349
BC02119	717273	WMWGORLF_1349
BC02120	717273	WMWGORLF_1349

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:
 - BC02111 Calcium & Magnesium MS/MSD spike levels were <30% of the sample concentrations.
 - BC02120 Calcium, Iron, & Magnesium MS/MSD spike levels were <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>
BC02100	Calcium, Magnesium	20.3
BC02101	Calcium, Magnesium	20.3
BC02102	Calcium, Iron Magnesium	20.3
BC02104	Calcium, Magnesium	20.3
BC02105	Calcium, Magnesium	20.3
BC02106	Calcium, Iron, Magnesium	20.3
BC02107	Calcium, Magnesium	20.3
BC02108	Calcium, Magnesium	20.3
BC02109	Calcium, Iron, Magnesium, Sodium	20.3
BC02111	Calcium, Magnesium, Sodium	20.3
BC02112	Calcium, Iron, Magnesium, Sodium	20.3
BC02113	Calcium, Iron, Magnesium, Sodium	20.3
BC02114	Calcium, Magnesium	20.3
BC02115	Calcium, Magnesium	20.3
BC02116	Calcium, Iron, Magnesium, Sodium	20.3
BC02117	Calcium, Magnesium, Sodium	20.3
BC02119	Calcium, Magnesium, Sodium	20.3
BC02120	Calcium, Iron, Magnesium, Sodium	50.75

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

Total Metals ICPMS

Gorgas Landfill

WMWGORLF_1349

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>
BC02100	717953	WMWGORLF_1349
BC02101	717953	WMWGORLF_1349
BC02102	717953	WMWGORLF_1349
BC02103	717953	WMWGORLF_1349
BC02104	717953	WMWGORLF_1349
BC02105	717953	WMWGORLF_1349
BC02106	717953	WMWGORLF_1349
BC02107	717953	WMWGORLF_1349
BC02108	717953	WMWGORLF_1349
BC02109	717953	WMWGORLF_1349
BC02110	717954	WMWGORLF_1349
BC02111	717954	WMWGORLF_1349
BC02112	717954	WMWGORLF_1349
BC02113	717954	WMWGORLF_1349
BC02114	717954	WMWGORLF_1349
BC02115	717954	WMWGORLF_1349
BC02116	717954	WMWGORLF_1349
BC02117	717954	WMWGORLF_1349
BC02118	717954	WMWGORLF_1349
BC02119	717954	WMWGORLF_1349
BC02120	717955	WMWGORLF_1349

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:
 - BC02119 Manganese MS/MSD spike level was <30% of the sample concentration.
 - BC02120 Manganese MS/MSD spike level was <30% of the sample concentration.
- 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>
BC02101	Manganese	10.15
BC02102	Manganese	92.365
BC02104	Manganese	10.15
BC02105	Manganese	10.15
BC02106	Manganese	92.365
BC02108	Manganese	10.15
BC02112	Manganese	92.365
BC02113	Manganese	92.365
BC02114	Manganese	10.15
BC02116	Manganese	10.15
BC02117	Manganese	10.15
BC02120	Manganese	92.365

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

Dissolved Metals ICPMS

Gorgas Landfill

WMWGORLF_1349

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>
BC02100	718327	WMWGORLF_1349
BC02101	718327	WMWGORLF_1349
BC02102	718327	WMWGORLF_1349
BC02104	718327	WMWGORLF_1349
BC02105	718327	WMWGORLF_1349
BC02106	718327	WMWGORLF_1349
BC02107	718327	WMWGORLF_1349
BC02108	718327	WMWGORLF_1349
BC02109	718327	WMWGORLF_1349
BC02111	718327	WMWGORLF_1349
BC02112	718328	WMWGORLF_1349
BC02113	718328	WMWGORLF_1349
BC02114	718328	WMWGORLF_1349
BC02115	718328	WMWGORLF_1349
BC02116	718328	WMWGORLF_1349
BC02117	718328	WMWGORLF_1349
BC02119	718328	WMWGORLF_1349
BC02120	718328	WMWGORLF_1349

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:
 - BC02120 Manganese MS/MSD spike level was <30% of the sample concentration.
- 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>
BC02100	Manganese	10.15
BC02101	Manganese	10.15
BC02102	Manganese	92.365
BC02104	Manganese	10.15
BC02105	Manganese	10.15
BC02106	Manganese	92.365
BC02108	Manganese	10.15
BC02109	Manganese	10.15
BC02112	Manganese	92.365
BC02113	Manganese	92.365
BC02114	Manganese	10.15
BC02116	Manganese	10.15
BC02117	Manganese	10.15
BC02120	Manganese	92.365

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

Mercury

Gorgas Landfill

WMWGORLF_1349

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>
BC02100	717664	WMWGORLF_1349
BC02101	717664	WMWGORLF_1349
BC02102	717664	WMWGORLF_1349
BC02103	717664	WMWGORLF_1349
BC02104	717664	WMWGORLF_1349
BC02105	717664	WMWGORLF_1349
BC02106	717664	WMWGORLF_1349
BC02107	717664	WMWGORLF_1349
BC02108	717664	WMWGORLF_1349
BC02109	717664	WMWGORLF_1349
BC02110	717665	WMWGORLF_1349
BC02111	717665	WMWGORLF_1349
BC02112	717665	WMWGORLF_1349
BC02113	717665	WMWGORLF_1349
BC02114	717665	WMWGORLF_1349
BC02115	717665	WMWGORLF_1349
BC02116	717665	WMWGORLF_1349
BC02117	717665	WMWGORLF_1349
BC02118	717665	WMWGORLF_1349
BC02119	717665	WMWGORLF_1349
BC02120	717666	WMWGORLF_1349

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.

7. All samples were analyzed without a dilution.

TDS

Gorgas Landfill

WMWGORLF_1349

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>
BC02100	717334	WMWGORLF_1349
BC02101	717334	WMWGORLF_1349
BC02102	717334	WMWGORLF_1349
BC02103	717334	WMWGORLF_1349
BC02104	717334	WMWGORLF_1349
BC02105	717334	WMWGORLF_1349
BC02106	717335	WMWGORLF_1349
BC02107	717335	WMWGORLF_1349
BC02108	717335	WMWGORLF_1349
BC02109	717335	WMWGORLF_1349
BC02110	717494	WMWGORLF_1349
BC02111	717335	WMWGORLF_1349
BC02112	717335	WMWGORLF_1349
BC02113	717335	WMWGORLF_1349
BC02114	717335	WMWGORLF_1349
BC02115	717335	WMWGORLF_1349
BC02116	717494	WMWGORLF_1349
BC02117	717494	WMWGORLF_1349
BC02118	717494	WMWGORLF_1349
BC02119	717494	WMWGORLF_1349
BC02120	717494	WMWGORLF_1349

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 $< 2.5\text{mg}$ had the maximum volume of 150mL filtered. Affected samples are as follows:
 - BC02103
 - BC02110
 - BC02118

Anions

Gorgas Landfill

WMWGORLF_1349

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>
BC02100	717713, 718044, & 717667	WMWGORLF_1349
BC02101	717713, 718044, & 717667	WMWGORLF_1349
BC02102	717713, 718044, & 717667	WMWGORLF_1349
BC02103	717713, 718044, & 717667	WMWGORLF_1349
BC02104	717713, 718044, & 717667	WMWGORLF_1349
BC02105	717713, 718044, & 717667	WMWGORLF_1349
BC02106	717713, 718044, & 717667	WMWGORLF_1349
BC02107	717713, 718044, & 717667	WMWGORLF_1349
BC02108	717713, 718044, & 717667	WMWGORLF_1349
BC02109	717713, 718044, & 717667	WMWGORLF_1349
BC02110	717714, 718045, & 717668	WMWGORLF_1349
BC02111	717714, 718045, & 717668	WMWGORLF_1349
BC02112	717714, 718045, & 717668	WMWGORLF_1349
BC02113	717714, 718045, & 717668	WMWGORLF_1349
BC02114	717714, 718045, & 717668	WMWGORLF_1349
BC02115	717714, 718045, & 717668	WMWGORLF_1349
BC02116	717714, 718045, & 717668	WMWGORLF_1349
BC02117	717714, 718045, & 717668	WMWGORLF_1349
BC02118	717714, 718045, & 717668	WMWGORLF_1349
BC02119	717714, 718045, & 717668	WMWGORLF_1349
BC02120	717715, 718046, & 717669	WMWGORLF_1349

4. All of the above samples were analyzed and prepared by SM4500 Cl E, SM4500 F G, & 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 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 was analyzed with each batch. Acceptance criteria for accuracy were met.
- A sample duplicate was analyzed with each batch. Acceptance criteria for precision were met, except for the following:
 - BC02120 Fluoride precision is invalid due to sample concentration.

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>
BC02100	Sulfate	50
BC02101	Sulfate	50
BC02102	Sulfate	50
BC02104	Sulfate	40
BC02105	Sulfate	40
BC02106	Sulfate	80
BC02107	Sulfate	50
BC02108	Sulfate	50
BC02109	Chloride & Sulfate	16 & 80

Case Narrative

BC02111	Sulfate	100
BC02112	Sulfate	100
BC02113	Sulfate	100
BC02114	Sulfate	50
BC02115	Sulfate	50
BC02116	Sulfate	32
BC02117	Chloride & Sulfate	10 & 50
BC02119	Chloride & Sulfate	16 & 80
BC02120	Sulfate	160

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

Alkalinity

Gorgas Landfill

WMWGORLF_1349

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>
BC02100	717573 & 717574	WMWGORLF_1349
BC02101	717573 & 717574	WMWGORLF_1349
BC02102	717573 & 717574	WMWGORLF_1349
BC02104	717573 & 717574	WMWGORLF_1349
BC02105	717573 & 717574	WMWGORLF_1349
BC02106	717573 & 717574	WMWGORLF_1349
BC02107	717573 & 717574	WMWGORLF_1349
BC02108	717573 & 717574	WMWGORLF_1349
BC02109	717573 & 717574	WMWGORLF_1349
BC02111	717573 & 717574	WMWGORLF_1349
BC02112	717573 & 717574	WMWGORLF_1349
BC02113	717573 & 717574	WMWGORLF_1349
BC02114	717573 & 717574	WMWGORLF_1349
BC02115	717573 & 717574	WMWGORLF_1349
BC02116	717573 & 717574	WMWGORLF_1349
BC02117	717573 & 717574	WMWGORLF_1349
BC02119	717573 & 717574	WMWGORLF_1349
BC02120	717573 & 717574	WMWGORLF_1349

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.

Nitrate-Nitrite

Gorgas Landfill

WMWGORLF_1349

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>
BC02100	717622	WMWGORLF_1349
BC02101	717622	WMWGORLF_1349
BC02102	717622	WMWGORLF_1349
BC02103	717622	WMWGORLF_1349
BC02104	717622	WMWGORLF_1349
BC02105	717622	WMWGORLF_1349
BC02106	717622	WMWGORLF_1349
BC02107	717622	WMWGORLF_1349
BC02108	717622	WMWGORLF_1349
BC02109	717622	WMWGORLF_1349
BC02110	717623	WMWGORLF_1349
BC02111	717623	WMWGORLF_1349
BC02112	717623	WMWGORLF_1349
BC02113	717623	WMWGORLF_1349
BC02114	717623	WMWGORLF_1349
BC02115	717623	WMWGORLF_1349
BC02116	717623	WMWGORLF_1349
BC02117	717623	WMWGORLF_1349
BC02118	717623	WMWGORLF_1349
BC02119	717623	WMWGORLF_1349
BC02120	717624	WMWGORLF_1349

4. All of the above samples were prepared and analyzed for NO_x 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, except for the following:
 - BC02120 precision is invalid due to sample concentration.
 - A matrix spike was run and criteria for accuracy was met, except for the following:
 - BC02120 matrix spike recovery is outside of the specification limit.
7. All samples were analyzed without a dilution.
8. The raw data results are shown with dilution factors included.

Total Organic Carbon

Gorgas Landfill

WMWGORLF_1349

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>
BC02100	718055	WMWGORLF_1349
BC02101	718055	WMWGORLF_1349
BC02102	718055	WMWGORLF_1349
BC02103	718055	WMWGORLF_1349
BC02104	718055	WMWGORLF_1349
BC02105	718055	WMWGORLF_1349
BC02106	718055	WMWGORLF_1349
BC02107	718055	WMWGORLF_1349
BC02108	718055	WMWGORLF_1349
BC02109	718055	WMWGORLF_1349
BC02110	718056	WMWGORLF_1349
BC02111	718056	WMWGORLF_1349
BC02112	718056	WMWGORLF_1349
BC02113	718056	WMWGORLF_1349
BC02114	718056	WMWGORLF_1349
BC02115	718056	WMWGORLF_1349
BC02116	718056	WMWGORLF_1349
BC02117	718056	WMWGORLF_1349
BC02118	718056	WMWGORLF_1349
BC02119	718056	WMWGORLF_1349
BC02120	718057	WMWGORLF_1349

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-13

Location Code: WMWGORLF
Collected: 1/31/22 10:18
Customer ID:
Submittal Date: 2/1/22 16:40

Laboratory ID Number: BC02100

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: EPA 200.7			Analyst: RDA			Preparation Method: EPA 1638			
* Boron, Total	2/7/22 11:00	2/8/22 10:18		1.015	0.0581	mg/L	0.030000	0.1015	J
* Calcium, Total	2/7/22 11:00	2/8/22 12:13		20.3	252	mg/L	1.4007	8.12	
* Iron, Total	2/7/22 11:00	2/8/22 10:18		1.015	0.0165	mg/L	0.008120	0.0406	J
* Lithium, Total	2/7/22 11:00	2/8/22 10:18		1.015	0.0237	mg/L	0.007105	0.01999956	
* Magnesium, Total	2/7/22 11:00	2/8/22 12:13		20.3	303	mg/L	0.4263	8.12	
Silica, Total (calc.)	2/7/22 11:00	2/8/22 10:18		1	8.35	mg/L			
Silicon, Total	2/7/22 11:00	2/8/22 10:18		1.015	3.90	mg/L	0.02030	0.25375	
* Sodium, Total	2/7/22 11:00	2/8/22 10:18		1.015	25.1	mg/L	0.03045	0.406	
Analytical Method: EPA 200.7			Analyst: RDA						
* Boron, Dissolved	2/7/22 11:00	2/8/22 09:26		1.015	0.0586	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	2/7/22 11:00	2/8/22 11:24		20.3	246	mg/L	1.4007	8.12	
* Iron, Dissolved	2/7/22 11:00	2/8/22 09:26		1.015	0.0144	mg/L	0.008120	0.0406	J
* Lithium, Dissolved	2/7/22 11:00	2/8/22 09:26		1.015	0.0231	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	2/7/22 11:00	2/8/22 11:24		20.3	297	mg/L	0.4263	8.12	
Silica, Dissolved (calc.)	2/7/22 11:00	2/8/22 09:26		1	8.24	mg/L			
Silicon, Dissolved	2/7/22 11:00	2/8/22 09:26		1.015	3.85	mg/L	0.02030	0.25375	
* Sodium, Dissolved	2/7/22 11:00	2/8/22 09:26		1.015	24.5	mg/L	0.03045	0.406	
Analytical Method: EPA 200.8			Analyst: ABB			Preparation Method: EPA 1638			
* Antimony, Total	2/8/22 14:11	2/9/22 13:11		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	2/8/22 14:11	2/9/22 13:11		1.015	Not Detected	mg/L	0.004060	0.01015	U
* Arsenic, Total	2/8/22 14:11	2/9/22 13:11		1.015	0.000114	mg/L	0.000068	0.000203	J
* Barium, Total	2/8/22 14:11	2/9/22 13:11		1.015	0.0103	mg/L	0.000102	0.000203	
* Beryllium, Total	2/8/22 14:11	2/9/22 13:11		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	2/8/22 14:11	2/9/22 13:11		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	2/8/22 14:11	2/9/22 13:11		1.015	0.000257	mg/L	0.000203	0.001015	J
* Cobalt, Total	2/8/22 14:11	2/9/22 13:11		1.015	0.00312	mg/L	0.000068	0.000203	
* Lead, Total	2/8/22 14:11	2/9/22 13:11		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	2/8/22 14:11	2/9/22 13:11		1.015	1.11	mg/L	0.000068	0.000203	
* Molybdenum, Total	2/8/22 14:11	2/9/22 13:11		1.015	0.000437	mg/L	0.000068	0.000203	
* Potassium, Total	2/8/22 14:11	2/9/22 13:11		1.015	8.02	mg/L	0.169505	0.5075	

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill - MW-13

Location Code: WMWGORLF
Collected: 1/31/22 10:18
Customer ID:
Submittal Date: 2/1/22 16:40

Laboratory ID Number: BC02100

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/8/22 14:11	2/9/22 13:11		1.015	0.00422	mg/L	0.000508	0.001015	
* Thallium, Total	2/8/22 14:11	2/9/22 13:11		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 200.8		Analyst: ABB							
* Antimony, Dissolved	2/8/22 14:50	2/10/22 15:06		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/8/22 14:50	2/10/22 15:06		1.015	Not Detected	mg/L	0.004060	0.01015	U
* Arsenic, Dissolved	2/8/22 14:50	2/10/22 15:06		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Barium, Dissolved	2/8/22 14:50	2/10/22 15:06		1.015	0.0100	mg/L	0.000102	0.000203	
* Beryllium, Dissolved	2/8/22 14:50	2/10/22 15:06		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	2/8/22 14:50	2/10/22 15:06		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	2/8/22 14:50	2/10/22 15:06		1.015	0.000264	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	2/8/22 14:50	2/10/22 15:06		1.015	0.00318	mg/L	0.000068	0.000203	
* Lead, Dissolved	2/8/22 14:50	2/10/22 15:06		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	2/8/22 14:50	2/10/22 17:02		10.15	1.07	mg/L	0.000680	0.00203	
* Molybdenum, Dissolved	2/8/22 14:50	2/10/22 15:06		1.015	0.000474	mg/L	0.000068	0.000203	
* Potassium, Dissolved	2/8/22 14:50	2/10/22 15:06		1.015	7.85	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/8/22 14:50	2/10/22 15:06		1.015	0.00377	mg/L	0.000508	0.001015	
* Thallium, Dissolved	2/8/22 14:50	2/10/22 15:06		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	2/10/22 13:23	2/10/22 17:21		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: ELH							
* Nitrogen, Nitrate/Nitrite	2/3/22 13:27	2/3/22 13:27		1	0.289	mg/L as N	0.20	0.3	J
Analytical Method: SM 2320 B		Analyst: ALH							
Alkalinity, Total as CaCO3	2/7/22 09:40	2/7/22 14:00		1	283	mg/L		0.1	
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	2/2/22 11:55	2/3/22 13:40		1	2260	mg/L		125	
Analytical Method: SM 4500CO2 D		Analyst: ALH							
Bicarbonate Alkalinity, (calc.)	2/7/22 09:40	2/7/22 14:00		1	283	mg/L			
Carbonate Alkalinity, (calc.)	2/7/22 09:40	2/7/22 14:00		1	0.20	mg/L			
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	2/10/22 12:39	2/10/22 12:39		1	1.31	mg/L	1.00	2	J

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill - MW-13

Location Code: WMWGORLF

Collected: 1/31/22 10:18

Customer ID:

Submittal Date: 2/1/22 16:40

Laboratory ID Number: BC02100

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	2/9/22 09:40	2/9/22 09:40		1	1.62	mg/L	0.50	1	
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	2/10/22 15:10	2/10/22 15:10		1	0.246	mg/L	0.06	0.1	
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	2/8/22 10:18	2/8/22 10:18		50	1380	mg/L	25.00	50	
Analytical Method: Field Measurements		Analyst: DKG							
Conductivity	1/31/22 10:15	1/31/22 10:15			2502.90	uS/cm			FA
pH	1/31/22 10:15	1/31/22 10:15			6.57	SU			FA
Temperature	1/31/22 10:15	1/31/22 10:15			18.04	C			FA
Turbidity	1/31/22 10:15	1/31/22 10:15			0.21	NTU			FA

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 10:18

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-13

Laboratory ID Number: BC02100

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BC02111	Aluminum, Dissolved	mg/L	0.000259	0.010	0.100	0.0986	0.0947	0.0956	0.0850 to 0.115	93.9	70.0 to 130	4.04	20.0
BC02109	Aluminum, Total	mg/L	-0.00435	0.010	0.100	0.106	0.103	0.106	0.0850 to 0.115	106	70.0 to 130	2.87	20.0
BC02111	Antimony, Dissolved	mg/L	0.000124	0.00100	0.100	0.101	0.0969	0.0990	0.0850 to 0.115	101	70.0 to 130	4.14	20.0
BC02109	Antimony, Total	mg/L	0.0000732	0.00100	0.100	0.107	0.103	0.101	0.0850 to 0.115	107	70.0 to 130	3.81	20.0
BC02111	Arsenic, Dissolved	mg/L	-0.0000275	0.000176	0.100	0.0989	0.0968	0.102	0.0850 to 0.115	98.8	70.0 to 130	2.15	20.0
BC02109	Arsenic, Total	mg/L	0.0000153	0.000176	0.100	0.107	0.106	0.107	0.0850 to 0.115	106	70.0 to 130	0.939	20.0
BC02111	Barium, Dissolved	mg/L	0.0000421	0.000200	0.100	0.111	0.0994	0.0954	0.0850 to 0.115	100	70.0 to 130	11.0	20.0
BC02109	Barium, Total	mg/L	-0.0000787	0.000200	0.100	0.112	0.111	0.0944	0.0850 to 0.115	96.7	70.0 to 130	0.897	20.0
BC02111	Beryllium, Dissolved	mg/L	0.000287	0.000880	0.100	0.0889	0.0846	0.0952	0.0850 to 0.115	88.9	70.0 to 130	4.96	20.0
BC02109	Beryllium, Total	mg/L	0.000094	0.000880	0.100	0.0993	0.101	0.101	0.0850 to 0.115	99.3	70.0 to 130	1.70	20.0
BC02111	Boron, Dissolved	mg/L	-0.000503	0.0650	1.00	1.03	1.05	1.00	0.850 to 1.15	100	70.0 to 130	1.92	20.0
BC02109	Boron, Total	mg/L	-0.000571	0.0650	1.00	1.12	1.10	0.990	0.850 to 1.15	102	70.0 to 130	1.80	20.0
BC02111	Cadmium, Dissolved	mg/L	-0.0000147	0.000147	0.100	0.0990	0.0931	0.100	0.0850 to 0.115	99.0	70.0 to 130	6.14	20.0
BC02109	Cadmium, Total	mg/L	0.000006	0.000147	0.100	0.100	0.101	0.105	0.0850 to 0.115	100	70.0 to 130	0.995	20.0
BC02111	Calcium, Dissolved	mg/L	-0.0197	0.152	5.00	391	398	4.96	4.25 to 5.75	100	70.0 to 130	1.77	20.0
BC02109	Calcium, Total	mg/L	-0.0136	0.152	5.00	348	351	4.87	4.25 to 5.75	-40.0	70.0 to 130	0.858	20.0
BC02111	Chromium, Dissolved	mg/L	0.0000585	0.000440	0.100	0.0973	0.0938	0.103	0.0850 to 0.115	97.3	70.0 to 130	3.66	20.0
BC02109	Chromium, Total	mg/L	-0.0000041	0.000440	0.100	0.103	0.101	0.105	0.0850 to 0.115	103	70.0 to 130	1.96	20.0
BC02111	Cobalt, Dissolved	mg/L	0.0000464	0.000147	0.100	0.0984	0.0949	0.105	0.0850 to 0.115	97.3	70.0 to 130	3.62	20.0
BC02109	Cobalt, Total	mg/L	0.0000084	0.000147	0.100	0.103	0.101	0.107	0.0850 to 0.115	103	70.0 to 130	1.96	20.0
BC02111	Iron, Dissolved	mg/L	-0.000316	0.0176	0.2	1.29	1.30	0.201	0.170 to 0.230	90.0	70.0 to 130	0.772	20.0
BC02109	Iron, Total	mg/L	-0.000407	0.0176	0.2	6.81	6.83	0.199	0.170 to 0.230	10.0	70.0 to 130	0.293	20.0
BC02111	Lead, Dissolved	mg/L	0.0000093	0.000147	0.100	0.0992	0.0964	0.102	0.0850 to 0.115	99.2	70.0 to 130	2.86	20.0
BC02109	Lead, Total	mg/L	0.000007	0.000147	0.100	0.100	0.104	0.0980	0.0850 to 0.115	100	70.0 to 130	3.92	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF
Sample Date: 1/31/22 10:18
Customer ID:
Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-13

Laboratory ID Number: BC02100

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC02111	Lithium, Dissolved	mg/L	-0.000056	0.0154	0.200	0.291	0.298	0.200	0.170 to 0.230	101	70.0 to 130	2.38	20.0
BC02109	Lithium, Total	mg/L	-0.000062	0.0154	0.200	0.398	0.416	0.203	0.170 to 0.230	98.0	70.0 to 130	4.42	20.0
BC02111	Magnesium, Dissolved	mg/L	-0.00951	0.0462	5.00	431	431	5.11	4.25 to 5.75	180	70.0 to 130	0.00	20.0
BC02109	Magnesium, Total	mg/L	-0.00456	0.0462	5.00	189	193	5.11	4.25 to 5.75	60.0	70.0 to 130	2.09	20.0
BC02111	Manganese, Dissolved	mg/L	-0.0000097	0.0002	0.100	0.399	0.391	0.0965	0.0850 to 0.115	98.0	70.0 to 130	2.03	20.0
BC02109	Manganese, Total	mg/L	-0.000185	0.0002	0.100	1.26	1.25	0.106	0.0850 to 0.115	110	70.0 to 130	0.797	20.0
BC02109	Mercury, Total by CVAA	mg/L	0.00017	0.000500	0.004	0.00419	0.00422	0.00389	0.00340 to 0.00460	105	70.0 to 130	0.713	20.0
BC02111	Molybdenum, Dissolved	mg/L	0.0000632	0.0002	0.100	0.101	0.101	0.104	0.0850 to 0.115	99.7	70.0 to 130	0.00	20.0
BC02109	Molybdenum, Total	mg/L	0.0000061	0.0002	0.100	0.104	0.102	0.101	0.0850 to 0.115	103	70.0 to 130	1.94	20.0
BC02111	Potassium, Dissolved	mg/L	-0.0724	0.367	10.0	15.7	15.0	9.83	8.50 to 11.5	93.2	70.0 to 130	4.56	20.0
BC02109	Potassium, Total	mg/L	-0.0179	0.367	10.0	15.9	15.6	10.1	8.50 to 11.5	100	70.0 to 130	1.90	20.0
BC02111	Selenium, Dissolved	mg/L	0.000111	0.00100	0.100	0.106	0.103	0.104	0.0850 to 0.115	104	70.0 to 130	2.87	20.0
BC02109	Selenium, Total	mg/L	0.0000269	0.00100	0.100	0.102	0.101	0.108	0.0850 to 0.115	102	70.0 to 130	0.985	20.0
BC02111	Silicon, Dissolved	mg/L	-0.000923	0.0440	1.00	8.17	8.27	1.02	0.850 to 1.15	99.0	70.0 to 130	1.22	20.0
BC02109	Silicon, Total	mg/L	-0.00067	0.0440	1.00	10.8	10.7	1.03	0.850 to 1.15	86.0	70.0 to 130	0.930	20.0
BC02111	Sodium, Dissolved	mg/L	0.000085	0.0660	5.00	60.1	59.9	5.01	4.25 to 5.75	116	70.0 to 130	0.333	20.0
BC02109	Sodium, Total	mg/L	0.0024	0.0660	5.00	139	142	5.07	4.25 to 5.75	60.0	70.0 to 130	2.14	20.0
BC02111	Thallium, Dissolved	mg/L	0.000006	0.000147	0.100	0.0991	0.0964	0.102	0.0850 to 0.115	99.0	70.0 to 130	2.76	20.0
BC02109	Thallium, Total	mg/L	0.0000139	0.000147	0.100	0.0983	0.105	0.102	0.0850 to 0.115	98.3	70.0 to 130	6.59	20.0
BC02109	Total Organic Carbon	mg/L	0.370	1.00	10.0	10.6	10.4	24.2		106	80.0 to 120	1.90	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 10:18

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-13

Laboratory ID Number: BC02100

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC02120	Alkalinity, Total as CaCO3	mg/L					239	51.9	45.0 to 55.0			4.27	10.0
BC02109	Chloride	mg/L	-0.122	1.00	160	236	76.9	10.4	9.00 to 11.0	101	80.0 to 120	2.90	20.0
BC02109	Fluoride	mg/L	-0.00422	0.125	2.50	2.67	0.100	2.62	2.25 to 2.75	103	80.0 to 120	2.96	20.0
BC02109	Nitrogen, Nitrate/Nitrite	mg/L as N	0.01	0.200	2.00	2.06	0.039	1.95	1.80 to 2.20	103	90.0 to 110	0.00	15.0
BC02105	Solids, Dissolved	mg/L	1.00	25.0			2370	55.0	40.0 to 60.0			2.13	10.0
BC02109	Sulfate	mg/L	0.228	2.0	1600	2910	1290	18.8	18.0 to 22.0	99.4	80.0 to 120	2.30	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill - MW-14

Location Code: WMWGORLF
Collected: 1/31/22 11:16
Customer ID:
Submittal Date: 2/1/22 16:40

Laboratory ID Number: BC02101

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: EPA 200.7		Analyst: RDA			Preparation Method: EPA 1638				
* Boron, Total	2/7/22 11:00	2/8/22 10:20		1.015	0.0466	mg/L	0.030000	0.1015	J
* Calcium, Total	2/7/22 11:00	2/8/22 12:14		20.3	309	mg/L	1.4007	8.12	
* Iron, Total	2/7/22 11:00	2/8/22 10:20		1.015	1.45	mg/L	0.008120	0.0406	
* Lithium, Total	2/7/22 11:00	2/8/22 10:20		1.015	0.0313	mg/L	0.007105	0.01999956	
* Magnesium, Total	2/7/22 11:00	2/8/22 12:14		20.3	356	mg/L	0.4263	8.12	
Silica, Total (calc.)	2/7/22 11:00	2/8/22 10:20		1	11.7	mg/L			
Silicon, Total	2/7/22 11:00	2/8/22 10:20		1.015	5.48	mg/L	0.02030	0.25375	
* Sodium, Total	2/7/22 11:00	2/8/22 10:20		1.015	26.2	mg/L	0.03045	0.406	
Analytical Method: EPA 200.7		Analyst: RDA			Preparation Method: EPA 1638				
* Boron, Dissolved	2/7/22 11:00	2/8/22 09:28		1.015	0.0467	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	2/7/22 11:00	2/8/22 11:26		20.3	307	mg/L	1.4007	8.12	
* Iron, Dissolved	2/7/22 11:00	2/8/22 09:28		1.015	1.27	mg/L	0.008120	0.0406	
* Lithium, Dissolved	2/7/22 11:00	2/8/22 09:28		1.015	0.0307	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	2/7/22 11:00	2/8/22 11:26		20.3	352	mg/L	0.4263	8.12	
Silica, Dissolved (calc.)	2/7/22 11:00	2/8/22 09:28		1	11.5	mg/L			
Silicon, Dissolved	2/7/22 11:00	2/8/22 09:28		1.015	5.38	mg/L	0.02030	0.25375	
* Sodium, Dissolved	2/7/22 11:00	2/8/22 09:28		1.015	25.8	mg/L	0.03045	0.406	
Analytical Method: EPA 200.8		Analyst: ABB			Preparation Method: EPA 1638				
* Antimony, Total	2/8/22 14:11	2/9/22 13:15		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	2/8/22 14:11	2/9/22 13:15		1.015	Not Detected	mg/L	0.004060	0.01015	U
* Arsenic, Total	2/8/22 14:11	2/9/22 13:15		1.015	0.000963	mg/L	0.000068	0.000203	
* Barium, Total	2/8/22 14:11	2/9/22 13:15		1.015	0.0102	mg/L	0.000102	0.000203	
* Beryllium, Total	2/8/22 14:11	2/9/22 13:15		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	2/8/22 14:11	2/9/22 13:15		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	2/8/22 14:11	2/9/22 13:15		1.015	0.000291	mg/L	0.000203	0.001015	J
* Cobalt, Total	2/8/22 14:11	2/9/22 13:15		1.015	0.00916	mg/L	0.000068	0.000203	
* Lead, Total	2/8/22 14:11	2/9/22 13:15		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	2/8/22 14:11	2/9/22 16:10		10.15	2.51	mg/L	0.000680	0.00203	
* Molybdenum, Total	2/8/22 14:11	2/9/22 13:15		1.015	0.000389	mg/L	0.000068	0.000203	
* Potassium, Total	2/8/22 14:11	2/9/22 13:15		1.015	8.09	mg/L	0.169505	0.5075	

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill - MW-14

Location Code: WMWGORLF
Collected: 1/31/22 11:16
Customer ID:
Submittal Date: 2/1/22 16:40

Laboratory ID Number: BC02101

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/8/22 14:11	2/9/22 13:15		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	2/8/22 14:11	2/9/22 13:15		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 200.8		Analyst: ABB							
* Antimony, Dissolved	2/8/22 14:50	2/10/22 15:10		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/8/22 14:50	2/10/22 15:10		1.015	0.00480	mg/L	0.004060	0.01015	J
* Arsenic, Dissolved	2/8/22 14:50	2/10/22 15:10		1.015	0.000708	mg/L	0.000068	0.000203	
* Barium, Dissolved	2/8/22 14:50	2/10/22 15:10		1.015	0.0104	mg/L	0.000102	0.000203	
* Beryllium, Dissolved	2/8/22 14:50	2/10/22 15:10		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	2/8/22 14:50	2/10/22 15:10		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	2/8/22 14:50	2/10/22 15:10		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	2/8/22 14:50	2/10/22 15:10		1.015	0.00851	mg/L	0.000068	0.000203	
* Lead, Dissolved	2/8/22 14:50	2/10/22 15:10		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	2/8/22 14:50	2/10/22 17:07		10.15	2.07	mg/L	0.000680	0.00203	
* Molybdenum, Dissolved	2/8/22 14:50	2/10/22 15:10		1.015	0.000341	mg/L	0.000068	0.000203	
* Potassium, Dissolved	2/8/22 14:50	2/10/22 15:10		1.015	7.73	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/8/22 14:50	2/10/22 15:10		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	2/8/22 14:50	2/10/22 15:10		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	2/10/22 13:23	2/10/22 17:25		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: ELH							
* Nitrogen, Nitrate/Nitrite	2/3/22 13:29	2/3/22 13:29		1	Not Detected	mg/L as N	0.20	0.3	U
Analytical Method: SM 2320 B		Analyst: ALH							
Alkalinity, Total as CaCO3	2/7/22 09:40	2/7/22 14:00		1	259	mg/L		0.1	
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	2/2/22 11:55	2/3/22 13:40		1	2850	mg/L		147.1	
Analytical Method: SM 4500CO2 D		Analyst: ALH							
Bicarbonate Alkalinity, (calc.)	2/7/22 09:40	2/7/22 14:00		1	259	mg/L			
Carbonate Alkalinity, (calc.)	2/7/22 09:40	2/7/22 14:00		1	0.13	mg/L			
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	2/10/22 12:58	2/10/22 12:58		1	1.05	mg/L	1.00	2	J

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill - MW-14

Location Code: WMWGORLF
Collected: 1/31/22 11:16
Customer ID:
Submittal Date: 2/1/22 16:40

Laboratory ID Number: BC02101

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	2/9/22 09:41	2/9/22 09:41		1	2.96	mg/L	0.50	1	
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	2/10/22 15:12	2/10/22 15:12		1	0.234	mg/L	0.06	0.1	
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	2/8/22 10:15	2/8/22 10:15		50	1800	mg/L	25.00	50	
Analytical Method: Field Measurements		Analyst: DKG							
Conductivity	1/31/22 11:13	1/31/22 11:13			3036.85	uS/cm			FA
pH	1/31/22 11:13	1/31/22 11:13			6.28	SU			FA
Temperature	1/31/22 11:13	1/31/22 11:13			18.78	C			FA
Turbidity	1/31/22 11:13	1/31/22 11:13			2.98	NTU			FA

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 11:16

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-14

Laboratory ID Number: BC02101

Sample	Analysis	Units	MB	MB		MS	MSD	Standard		Rec		Prec	Limit
				Limit	Spike			Standard	Limit	Rec	Limit		
BC02111	Aluminum, Dissolved	mg/L	0.000259	0.010	0.100	0.0986	0.0947	0.0956	0.0850 to 0.115	93.9	70.0 to 130	4.04	20.0
BC02109	Aluminum, Total	mg/L	-0.00435	0.010	0.100	0.106	0.103	0.106	0.0850 to 0.115	106	70.0 to 130	2.87	20.0
BC02111	Antimony, Dissolved	mg/L	0.000124	0.00100	0.100	0.101	0.0969	0.0990	0.0850 to 0.115	101	70.0 to 130	4.14	20.0
BC02109	Antimony, Total	mg/L	0.0000732	0.00100	0.100	0.107	0.103	0.101	0.0850 to 0.115	107	70.0 to 130	3.81	20.0
BC02111	Arsenic, Dissolved	mg/L	-0.0000275	0.000176	0.100	0.0989	0.0968	0.102	0.0850 to 0.115	98.8	70.0 to 130	2.15	20.0
BC02109	Arsenic, Total	mg/L	0.0000153	0.000176	0.100	0.107	0.106	0.107	0.0850 to 0.115	106	70.0 to 130	0.939	20.0
BC02111	Barium, Dissolved	mg/L	0.0000421	0.000200	0.100	0.111	0.0994	0.0954	0.0850 to 0.115	100	70.0 to 130	11.0	20.0
BC02109	Barium, Total	mg/L	-0.0000787	0.000200	0.100	0.112	0.111	0.0944	0.0850 to 0.115	96.7	70.0 to 130	0.897	20.0
BC02111	Beryllium, Dissolved	mg/L	0.000287	0.000880	0.100	0.0889	0.0846	0.0952	0.0850 to 0.115	88.9	70.0 to 130	4.96	20.0
BC02109	Beryllium, Total	mg/L	0.000094	0.000880	0.100	0.0993	0.101	0.101	0.0850 to 0.115	99.3	70.0 to 130	1.70	20.0
BC02111	Boron, Dissolved	mg/L	-0.000503	0.0650	1.00	1.03	1.05	1.00	0.850 to 1.15	100	70.0 to 130	1.92	20.0
BC02109	Boron, Total	mg/L	-0.000571	0.0650	1.00	1.12	1.10	0.990	0.850 to 1.15	102	70.0 to 130	1.80	20.0
BC02111	Cadmium, Dissolved	mg/L	-0.0000147	0.000147	0.100	0.0990	0.0931	0.100	0.0850 to 0.115	99.0	70.0 to 130	6.14	20.0
BC02109	Cadmium, Total	mg/L	0.000006	0.000147	0.100	0.100	0.101	0.105	0.0850 to 0.115	100	70.0 to 130	0.995	20.0
BC02111	Calcium, Dissolved	mg/L	-0.0197	0.152	5.00	391	398	4.96	4.25 to 5.75	100	70.0 to 130	1.77	20.0
BC02109	Calcium, Total	mg/L	-0.0136	0.152	5.00	348	351	4.87	4.25 to 5.75	-40.0	70.0 to 130	0.858	20.0
BC02111	Chromium, Dissolved	mg/L	0.0000585	0.000440	0.100	0.0973	0.0938	0.103	0.0850 to 0.115	97.3	70.0 to 130	3.66	20.0
BC02109	Chromium, Total	mg/L	-0.0000041	0.000440	0.100	0.103	0.101	0.105	0.0850 to 0.115	103	70.0 to 130	1.96	20.0
BC02111	Cobalt, Dissolved	mg/L	0.0000464	0.000147	0.100	0.0984	0.0949	0.105	0.0850 to 0.115	97.3	70.0 to 130	3.62	20.0
BC02109	Cobalt, Total	mg/L	0.0000084	0.000147	0.100	0.103	0.101	0.107	0.0850 to 0.115	103	70.0 to 130	1.96	20.0
BC02111	Iron, Dissolved	mg/L	-0.000316	0.0176	0.2	1.29	1.30	0.201	0.170 to 0.230	90.0	70.0 to 130	0.772	20.0
BC02109	Iron, Total	mg/L	-0.000407	0.0176	0.2	6.81	6.83	0.199	0.170 to 0.230	10.0	70.0 to 130	0.293	20.0
BC02111	Lead, Dissolved	mg/L	0.0000093	0.000147	0.100	0.0992	0.0964	0.102	0.0850 to 0.115	99.2	70.0 to 130	2.86	20.0
BC02109	Lead, Total	mg/L	0.000007	0.000147	0.100	0.100	0.104	0.0980	0.0850 to 0.115	100	70.0 to 130	3.92	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 11:16

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-14

Laboratory ID Number: BC02101

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC02111	Lithium, Dissolved	mg/L	-0.000056	0.0154	0.200	0.291	0.298	0.200	0.170 to 0.230	101	70.0 to 130	2.38	20.0
BC02109	Lithium, Total	mg/L	-0.000062	0.0154	0.200	0.398	0.416	0.203	0.170 to 0.230	98.0	70.0 to 130	4.42	20.0
BC02111	Magnesium, Dissolved	mg/L	-0.00951	0.0462	5.00	431	431	5.11	4.25 to 5.75	180	70.0 to 130	0.00	20.0
BC02109	Magnesium, Total	mg/L	-0.00456	0.0462	5.00	189	193	5.11	4.25 to 5.75	60.0	70.0 to 130	2.09	20.0
BC02111	Manganese, Dissolved	mg/L	-0.0000097	0.0002	0.100	0.399	0.391	0.0965	0.0850 to 0.115	98.0	70.0 to 130	2.03	20.0
BC02109	Manganese, Total	mg/L	-0.000185	0.0002	0.100	1.26	1.25	0.106	0.0850 to 0.115	110	70.0 to 130	0.797	20.0
BC02109	Mercury, Total by CVAA	mg/L	0.00017	0.000500	0.004	0.00419	0.00422	0.00389	0.00340 to 0.00460	105	70.0 to 130	0.713	20.0
BC02111	Molybdenum, Dissolved	mg/L	0.0000632	0.0002	0.100	0.101	0.101	0.104	0.0850 to 0.115	99.7	70.0 to 130	0.00	20.0
BC02109	Molybdenum, Total	mg/L	0.0000061	0.0002	0.100	0.104	0.102	0.101	0.0850 to 0.115	103	70.0 to 130	1.94	20.0
BC02111	Potassium, Dissolved	mg/L	-0.0724	0.367	10.0	15.7	15.0	9.83	8.50 to 11.5	93.2	70.0 to 130	4.56	20.0
BC02109	Potassium, Total	mg/L	-0.0179	0.367	10.0	15.9	15.6	10.1	8.50 to 11.5	100	70.0 to 130	1.90	20.0
BC02111	Selenium, Dissolved	mg/L	0.000111	0.00100	0.100	0.106	0.103	0.104	0.0850 to 0.115	104	70.0 to 130	2.87	20.0
BC02109	Selenium, Total	mg/L	0.0000269	0.00100	0.100	0.102	0.101	0.108	0.0850 to 0.115	102	70.0 to 130	0.985	20.0
BC02111	Silicon, Dissolved	mg/L	-0.000923	0.0440	1.00	8.17	8.27	1.02	0.850 to 1.15	99.0	70.0 to 130	1.22	20.0
BC02109	Silicon, Total	mg/L	-0.00067	0.0440	1.00	10.8	10.7	1.03	0.850 to 1.15	86.0	70.0 to 130	0.930	20.0
BC02111	Sodium, Dissolved	mg/L	0.000085	0.0660	5.00	60.1	59.9	5.01	4.25 to 5.75	116	70.0 to 130	0.333	20.0
BC02109	Sodium, Total	mg/L	0.0024	0.0660	5.00	139	142	5.07	4.25 to 5.75	60.0	70.0 to 130	2.14	20.0
BC02111	Thallium, Dissolved	mg/L	0.000006	0.000147	0.100	0.0991	0.0964	0.102	0.0850 to 0.115	99.0	70.0 to 130	2.76	20.0
BC02109	Thallium, Total	mg/L	0.0000139	0.000147	0.100	0.0983	0.105	0.102	0.0850 to 0.115	98.3	70.0 to 130	6.59	20.0
BC02109	Total Organic Carbon	mg/L	0.370	1.00	10.0	10.6	10.4	24.2		106	80.0 to 120	1.90	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 11:16

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-14

Laboratory ID Number: BC02101

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC02120	Alkalinity, Total as CaCO3	mg/L					239	51.9	45.0 to 55.0			4.27	10.0
BC02109	Chloride	mg/L	-0.122	1.00	160	236	76.9	10.4	9.00 to 11.0	101	80.0 to 120	2.90	20.0
BC02109	Fluoride	mg/L	-0.00422	0.125	2.50	2.67	0.100	2.62	2.25 to 2.75	103	80.0 to 120	2.96	20.0
BC02109	Nitrogen, Nitrate/Nitrite	mg/L as N	0.01	0.200	2.00	2.06	0.039	1.95	1.80 to 2.20	103	90.0 to 110	0.00	15.0
BC02105	Solids, Dissolved	mg/L	1.00	25.0			2370	55.0	40.0 to 60.0			2.13	10.0
BC02109	Sulfate	mg/L	0.228	2.0	1600	2910	1290	18.8	18.0 to 22.0	99.4	80.0 to 120	2.30	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill - MW-15

Location Code: WMWGORLF
Collected: 1/31/22 12:12
Customer ID:
Submittal Date: 2/1/22 16:40

Laboratory ID Number: BC02102

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: EPA 200.7		Analyst: RDA			Preparation Method: EPA 1638				
* Boron, Total	2/7/22 11:00	2/8/22 10:22		1.015	0.0459	mg/L	0.030000	0.1015	J
* Calcium, Total	2/7/22 11:00	2/8/22 12:16		20.3	252	mg/L	1.4007	8.12	
* Iron, Total	2/7/22 11:00	2/8/22 12:16		20.3	15.7	mg/L	0.1624	0.812	
* Lithium, Total	2/7/22 11:00	2/8/22 10:22		1.015	0.0543	mg/L	0.007105	0.01999956	
* Magnesium, Total	2/7/22 11:00	2/8/22 12:16		20.3	270	mg/L	0.4263	8.12	
Silica, Total (calc.)	2/7/22 11:00	2/8/22 10:22		1	20.9	mg/L			
Silicon, Total	2/7/22 11:00	2/8/22 10:22		1.015	9.78	mg/L	0.02030	0.25375	
* Sodium, Total	2/7/22 11:00	2/8/22 10:22		1.015	24.5	mg/L	0.03045	0.406	
Analytical Method: EPA 200.7		Analyst: RDA			Preparation Method: EPA 1638				
* Boron, Dissolved	2/7/22 11:00	2/8/22 09:30		1.015	0.0448	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	2/7/22 11:00	2/8/22 11:28		20.3	252	mg/L	1.4007	8.12	
* Iron, Dissolved	2/7/22 11:00	2/8/22 11:28		20.3	15.0	mg/L	0.1624	0.812	
* Lithium, Dissolved	2/7/22 11:00	2/8/22 09:30		1.015	0.0529	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	2/7/22 11:00	2/8/22 11:28		20.3	268	mg/L	0.4263	8.12	
Silica, Dissolved (calc.)	2/7/22 11:00	2/8/22 09:30		1	20.7	mg/L			
Silicon, Dissolved	2/7/22 11:00	2/8/22 09:30		1.015	9.66	mg/L	0.02030	0.25375	
* Sodium, Dissolved	2/7/22 11:00	2/8/22 09:30		1.015	24.0	mg/L	0.03045	0.406	
Analytical Method: EPA 200.8		Analyst: ABB			Preparation Method: EPA 1638				
* Antimony, Total	2/8/22 14:11	2/9/22 13:18		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	2/8/22 14:11	2/9/22 13:18		1.015	Not Detected	mg/L	0.004060	0.01015	U
* Arsenic, Total	2/8/22 14:11	2/9/22 13:18		1.015	0.000224	mg/L	0.000068	0.000203	
* Barium, Total	2/8/22 14:11	2/9/22 13:18		1.015	0.00992	mg/L	0.000102	0.000203	
* Beryllium, Total	2/8/22 14:11	2/9/22 13:18		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	2/8/22 14:11	2/9/22 13:18		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	2/8/22 14:11	2/9/22 13:18		1.015	0.000307	mg/L	0.000203	0.001015	J
* Cobalt, Total	2/8/22 14:11	2/9/22 13:18		1.015	0.0646	mg/L	0.000068	0.000203	
* Lead, Total	2/8/22 14:11	2/9/22 13:18		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	2/8/22 14:11	2/9/22 16:13		92.365	12.5	mg/L	0.006188	0.018473	
* Molybdenum, Total	2/8/22 14:11	2/9/22 13:18		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Potassium, Total	2/8/22 14:11	2/9/22 13:18		1.015	5.34	mg/L	0.169505	0.5075	

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill - MW-15

Location Code: WMWGORLF
Collected: 1/31/22 12:12
Customer ID:
Submittal Date: 2/1/22 16:40

Laboratory ID Number: BC02102

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/8/22 14:11	2/9/22 13:18		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	2/8/22 14:11	2/9/22 13:18		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 200.8		Analyst: ABB							
* Antimony, Dissolved	2/8/22 14:50	2/10/22 15:13		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/8/22 14:50	2/10/22 15:13		1.015	Not Detected	mg/L	0.004060	0.01015	U
* Arsenic, Dissolved	2/8/22 14:50	2/10/22 15:13		1.015	0.000104	mg/L	0.000068	0.000203	J
* Barium, Dissolved	2/8/22 14:50	2/10/22 15:13		1.015	0.00942	mg/L	0.000102	0.000203	
* Beryllium, Dissolved	2/8/22 14:50	2/10/22 15:13		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	2/8/22 14:50	2/10/22 15:13		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	2/8/22 14:50	2/10/22 15:13		1.015	0.000207	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	2/8/22 14:50	2/10/22 15:13		1.015	0.0617	mg/L	0.000068	0.000203	
* Lead, Dissolved	2/8/22 14:50	2/10/22 15:13		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	2/8/22 14:50	2/10/22 17:10		92.365	11.5	mg/L	0.006188	0.018473	
* Molybdenum, Dissolved	2/8/22 14:50	2/10/22 15:13		1.015	0.000085	mg/L	0.000068	0.000203	J
* Potassium, Dissolved	2/8/22 14:50	2/10/22 15:13		1.015	5.13	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/8/22 14:50	2/10/22 15:13		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	2/8/22 14:50	2/10/22 15:13		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	2/10/22 13:23	2/10/22 17:28		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: ELH							
* Nitrogen, Nitrate/Nitrite	2/3/22 13:31	2/3/22 13:31		1	Not Detected	mg/L as N	0.20	0.3	U
Analytical Method: SM 2320 B		Analyst: ALH							
Alkalinity, Total as CaCO3	2/7/22 09:40	2/7/22 14:00		1	177	mg/L		0.1	
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	2/2/22 11:55	2/3/22 13:40		1	2360	mg/L		125	
Analytical Method: SM 4500CO2 D		Analyst: ALH							
Bicarbonate Alkalinity, (calc.)	2/7/22 09:40	2/7/22 14:00		1	177	mg/L			
Carbonate Alkalinity, (calc.)	2/7/22 09:40	2/7/22 14:00		1	0.04	mg/L			
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	2/10/22 13:16	2/10/22 13:16		1	1.08	mg/L	1.00	2	J

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill - MW-15

Location Code: WMWGORLF

Collected: 1/31/22 12:12

Customer ID:

Submittal Date: 2/1/22 16:40

Laboratory ID Number: BC02102

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	2/9/22 09:42	2/9/22 09:42		1	3.27	mg/L	0.50	1	
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	2/10/22 15:13	2/10/22 15:13		1	0.263	mg/L	0.06	0.1	
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	2/8/22 10:17	2/8/22 10:17		50	1630	mg/L	25.00	50	
Analytical Method: Field Measurements		Analyst: DKG							
Conductivity	1/31/22 12:09	1/31/22 12:09			2527.78	uS/cm			FA
pH	1/31/22 12:09	1/31/22 12:09			5.80	SU			FA
Temperature	1/31/22 12:09	1/31/22 12:09			18.53	C			FA
Turbidity	1/31/22 12:09	1/31/22 12:09			5.72	NTU			FA

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF
Sample Date: 1/31/22 12:12
Customer ID:
Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-15

Laboratory ID Number: BC02102

Sample	Analysis	Units	MB	MB		Spike	MS	MSD	Standard		Rec		Prec
				Limit					Standard	Limit	Rec	Limit	
BC02111	Aluminum, Dissolved	mg/L	0.000259	0.010	0.100	0.0986	0.0947	0.0956	0.0850 to 0.115	93.9	70.0 to 130	4.04	20.0
BC02109	Aluminum, Total	mg/L	-0.00435	0.010	0.100	0.106	0.103	0.106	0.0850 to 0.115	106	70.0 to 130	2.87	20.0
BC02111	Antimony, Dissolved	mg/L	0.000124	0.00100	0.100	0.101	0.0969	0.0990	0.0850 to 0.115	101	70.0 to 130	4.14	20.0
BC02109	Antimony, Total	mg/L	0.0000732	0.00100	0.100	0.107	0.103	0.101	0.0850 to 0.115	107	70.0 to 130	3.81	20.0
BC02111	Arsenic, Dissolved	mg/L	-0.0000275	0.000176	0.100	0.0989	0.0968	0.102	0.0850 to 0.115	98.8	70.0 to 130	2.15	20.0
BC02109	Arsenic, Total	mg/L	0.0000153	0.000176	0.100	0.107	0.106	0.107	0.0850 to 0.115	106	70.0 to 130	0.939	20.0
BC02111	Barium, Dissolved	mg/L	0.0000421	0.000200	0.100	0.111	0.0994	0.0954	0.0850 to 0.115	100	70.0 to 130	11.0	20.0
BC02109	Barium, Total	mg/L	-0.0000787	0.000200	0.100	0.112	0.111	0.0944	0.0850 to 0.115	96.7	70.0 to 130	0.897	20.0
BC02111	Beryllium, Dissolved	mg/L	0.000287	0.000880	0.100	0.0889	0.0846	0.0952	0.0850 to 0.115	88.9	70.0 to 130	4.96	20.0
BC02109	Beryllium, Total	mg/L	0.000094	0.000880	0.100	0.0993	0.101	0.101	0.0850 to 0.115	99.3	70.0 to 130	1.70	20.0
BC02111	Boron, Dissolved	mg/L	-0.000503	0.0650	1.00	1.03	1.05	1.00	0.850 to 1.15	100	70.0 to 130	1.92	20.0
BC02109	Boron, Total	mg/L	-0.000571	0.0650	1.00	1.12	1.10	0.990	0.850 to 1.15	102	70.0 to 130	1.80	20.0
BC02111	Cadmium, Dissolved	mg/L	-0.0000147	0.000147	0.100	0.0990	0.0931	0.100	0.0850 to 0.115	99.0	70.0 to 130	6.14	20.0
BC02109	Cadmium, Total	mg/L	0.000006	0.000147	0.100	0.100	0.101	0.105	0.0850 to 0.115	100	70.0 to 130	0.995	20.0
BC02111	Calcium, Dissolved	mg/L	-0.0197	0.152	5.00	391	398	4.96	4.25 to 5.75	100	70.0 to 130	1.77	20.0
BC02109	Calcium, Total	mg/L	-0.0136	0.152	5.00	348	351	4.87	4.25 to 5.75	-40.0	70.0 to 130	0.858	20.0
BC02111	Chromium, Dissolved	mg/L	0.0000585	0.000440	0.100	0.0973	0.0938	0.103	0.0850 to 0.115	97.3	70.0 to 130	3.66	20.0
BC02109	Chromium, Total	mg/L	-0.0000041	0.000440	0.100	0.103	0.101	0.105	0.0850 to 0.115	103	70.0 to 130	1.96	20.0
BC02111	Cobalt, Dissolved	mg/L	0.0000464	0.000147	0.100	0.0984	0.0949	0.105	0.0850 to 0.115	97.3	70.0 to 130	3.62	20.0
BC02109	Cobalt, Total	mg/L	0.0000084	0.000147	0.100	0.103	0.101	0.107	0.0850 to 0.115	103	70.0 to 130	1.96	20.0
BC02111	Iron, Dissolved	mg/L	-0.000316	0.0176	0.2	1.29	1.30	0.201	0.170 to 0.230	90.0	70.0 to 130	0.772	20.0
BC02109	Iron, Total	mg/L	-0.000407	0.0176	0.2	6.81	6.83	0.199	0.170 to 0.230	10.0	70.0 to 130	0.293	20.0
BC02111	Lead, Dissolved	mg/L	0.0000093	0.000147	0.100	0.0992	0.0964	0.102	0.0850 to 0.115	99.2	70.0 to 130	2.86	20.0
BC02109	Lead, Total	mg/L	0.000007	0.000147	0.100	0.100	0.104	0.0980	0.0850 to 0.115	100	70.0 to 130	3.92	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 12:12

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-15

Laboratory ID Number: BC02102

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC02111	Lithium, Dissolved	mg/L	-0.000056	0.0154	0.200	0.291	0.298	0.200	0.170 to 0.230	101	70.0 to 130	2.38	20.0
BC02109	Lithium, Total	mg/L	-0.000062	0.0154	0.200	0.398	0.416	0.203	0.170 to 0.230	98.0	70.0 to 130	4.42	20.0
BC02111	Magnesium, Dissolved	mg/L	-0.00951	0.0462	5.00	431	431	5.11	4.25 to 5.75	180	70.0 to 130	0.00	20.0
BC02109	Magnesium, Total	mg/L	-0.00456	0.0462	5.00	189	193	5.11	4.25 to 5.75	60.0	70.0 to 130	2.09	20.0
BC02111	Manganese, Dissolved	mg/L	-0.0000097	0.0002	0.100	0.399	0.391	0.0965	0.0850 to 0.115	98.0	70.0 to 130	2.03	20.0
BC02109	Manganese, Total	mg/L	-0.000185	0.0002	0.100	1.26	1.25	0.106	0.0850 to 0.115	110	70.0 to 130	0.797	20.0
BC02109	Mercury, Total by CVAA	mg/L	0.00017	0.000500	0.004	0.00419	0.00422	0.00389	0.00340 to 0.00460	105	70.0 to 130	0.713	20.0
BC02111	Molybdenum, Dissolved	mg/L	0.0000632	0.0002	0.100	0.101	0.101	0.104	0.0850 to 0.115	99.7	70.0 to 130	0.00	20.0
BC02109	Molybdenum, Total	mg/L	0.0000061	0.0002	0.100	0.104	0.102	0.101	0.0850 to 0.115	103	70.0 to 130	1.94	20.0
BC02111	Potassium, Dissolved	mg/L	-0.0724	0.367	10.0	15.7	15.0	9.83	8.50 to 11.5	93.2	70.0 to 130	4.56	20.0
BC02109	Potassium, Total	mg/L	-0.0179	0.367	10.0	15.9	15.6	10.1	8.50 to 11.5	100	70.0 to 130	1.90	20.0
BC02111	Selenium, Dissolved	mg/L	0.000111	0.00100	0.100	0.106	0.103	0.104	0.0850 to 0.115	104	70.0 to 130	2.87	20.0
BC02109	Selenium, Total	mg/L	0.0000269	0.00100	0.100	0.102	0.101	0.108	0.0850 to 0.115	102	70.0 to 130	0.985	20.0
BC02111	Silicon, Dissolved	mg/L	-0.000923	0.0440	1.00	8.17	8.27	1.02	0.850 to 1.15	99.0	70.0 to 130	1.22	20.0
BC02109	Silicon, Total	mg/L	-0.00067	0.0440	1.00	10.8	10.7	1.03	0.850 to 1.15	86.0	70.0 to 130	0.930	20.0
BC02111	Sodium, Dissolved	mg/L	0.000085	0.0660	5.00	60.1	59.9	5.01	4.25 to 5.75	116	70.0 to 130	0.333	20.0
BC02109	Sodium, Total	mg/L	0.0024	0.0660	5.00	139	142	5.07	4.25 to 5.75	60.0	70.0 to 130	2.14	20.0
BC02111	Thallium, Dissolved	mg/L	0.000006	0.000147	0.100	0.0991	0.0964	0.102	0.0850 to 0.115	99.0	70.0 to 130	2.76	20.0
BC02109	Thallium, Total	mg/L	0.0000139	0.000147	0.100	0.0983	0.105	0.102	0.0850 to 0.115	98.3	70.0 to 130	6.59	20.0
BC02109	Total Organic Carbon	mg/L	0.370	1.00	10.0	10.6	10.4	24.2		106	80.0 to 120	1.90	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 12:12

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-15

Laboratory ID Number: BC02102

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC02120	Alkalinity, Total as CaCO3	mg/L					239	51.9	45.0 to 55.0			4.27	10.0
BC02109	Chloride	mg/L	-0.122	1.00	160	236	76.9	10.4	9.00 to 11.0	101	80.0 to 120	2.90	20.0
BC02109	Fluoride	mg/L	-0.00422	0.125	2.50	2.67	0.100	2.62	2.25 to 2.75	103	80.0 to 120	2.96	20.0
BC02109	Nitrogen, Nitrate/Nitrite	mg/L as N	0.01	0.200	2.00	2.06	0.039	1.95	1.80 to 2.20	103	90.0 to 110	0.00	15.0
BC02105	Solids, Dissolved	mg/L	1.00	25.0			2370	55.0	40.0 to 60.0			2.13	10.0
BC02109	Sulfate	mg/L	0.228	2.0	1600	2910	1290	18.8	18.0 to 22.0	99.4	80.0 to 120	2.30	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill Field Blank-1

Location Code: WMWGORLFFB
Collected: 1/31/22 12:45
Customer ID:
Submittal Date: 2/1/22 16:40

Laboratory ID Number: BC02103

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: EPA 200.7		Analyst: RDA			Preparation Method: EPA 1638				
* Boron, Total	2/7/22 11:00	2/8/22 10:24		1.015	Not Detected	mg/L	0.030000	0.1015	U
* Calcium, Total	2/7/22 11:00	2/8/22 10:24		1.015	Not Detected	mg/L	0.070035	0.406	U
* Iron, Total	2/7/22 11:00	2/8/22 10:24		1.015	Not Detected	mg/L	0.008120	0.0406	U
* Lithium, Total	2/7/22 11:00	2/8/22 10:24		1.015	Not Detected	mg/L	0.007105	0.01999956	U
* Magnesium, Total	2/7/22 11:00	2/8/22 10:24		1.015	Not Detected	mg/L	0.021315	0.406	U
Silica, Total (calc.)	2/7/22 11:00	2/8/22 10:24		1	Not Detected	mg/L			
Silicon, Total	2/7/22 11:00	2/8/22 10:24		1.015	Not Detected	mg/L	0.02030	0.25375	U
* Sodium, Total	2/7/22 11:00	2/8/22 10:24		1.015	Not Detected	mg/L	0.03045	0.406	U
Analytical Method: EPA 200.8		Analyst: ABB			Preparation Method: EPA 1638				
* Antimony, Total	2/8/22 14:11	2/9/22 13:22		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	2/8/22 14:11	2/9/22 13:22		1.015	Not Detected	mg/L	0.004060	0.01015	U
* Arsenic, Total	2/8/22 14:11	2/9/22 13:22		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Barium, Total	2/8/22 14:11	2/9/22 13:22		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Beryllium, Total	2/8/22 14:11	2/9/22 13:22		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	2/8/22 14:11	2/9/22 13:22		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	2/8/22 14:11	2/9/22 13:22		1.015	0.000330	mg/L	0.000203	0.001015	J
* Cobalt, Total	2/8/22 14:11	2/9/22 13:22		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Lead, Total	2/8/22 14:11	2/9/22 13:22		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	2/8/22 14:11	2/9/22 13:22		1.015	0.00116	mg/L	0.000068	0.000203	
* Molybdenum, Total	2/8/22 14:11	2/9/22 13:22		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Potassium, Total	2/8/22 14:11	2/9/22 13:22		1.015	Not Detected	mg/L	0.169505	0.5075	U
* Selenium, Total	2/8/22 14:11	2/9/22 13:22		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	2/8/22 14:11	2/9/22 13:22		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	2/10/22 13:23	2/10/22 17:32		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: ELH							
* Nitrogen, Nitrate/Nitrite	2/3/22 13:33	2/3/22 13:33		1	Not Detected	mg/L as N	0.20	0.3	U
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	2/2/22 11:55	2/3/22 13:40		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: 1/31/22 12:45

Customer ID:

Submittal Date: 2/1/22 16:40

Laboratory ID Number: BC02103

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	2/10/22 13:34	2/10/22 13:34		1	Not Detected	mg/L	1.00	2	U
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	2/9/22 09:43	2/9/22 09:43		1	Not Detected	mg/L	0.50	1	U
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	2/10/22 15:14	2/10/22 15:14		1	Not Detected	mg/L	0.06	0.1	U
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	2/8/22 10:19	2/8/22 10:19		1	Not Detected	mg/L	0.50	1	U

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

Comments:

Batch QC Summary

Customer Account: WMWGORLFFB

Sample Date: 1/31/22 12:45

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill Field Blank-1

Laboratory ID Number: BC02103

Sample	Analysis	Units	MB	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
				Limit					Standard	Limit	Rec	Limit		
BC02109	Aluminum, Total	mg/L	-0.00435	0.010	0.100	0.106	0.103	0.106	0.106	0.0850 to 0.115	106	70.0 to 130	2.87	20.0
BC02109	Antimony, Total	mg/L	0.0000732	0.00100	0.100	0.107	0.103	0.101	0.101	0.0850 to 0.115	107	70.0 to 130	3.81	20.0
BC02109	Arsenic, Total	mg/L	0.0000153	0.000176	0.100	0.107	0.106	0.107	0.107	0.0850 to 0.115	106	70.0 to 130	0.939	20.0
BC02109	Barium, Total	mg/L	-0.0000787	0.000200	0.100	0.112	0.111	0.0944	0.0944	0.0850 to 0.115	96.7	70.0 to 130	0.897	20.0
BC02109	Beryllium, Total	mg/L	0.000094	0.000880	0.100	0.0993	0.101	0.101	0.101	0.0850 to 0.115	99.3	70.0 to 130	1.70	20.0
BC02109	Boron, Total	mg/L	-0.000571	0.0650	1.00	1.12	1.10	0.990	0.990	0.850 to 1.15	102	70.0 to 130	1.80	20.0
BC02109	Cadmium, Total	mg/L	0.000006	0.000147	0.100	0.100	0.101	0.105	0.105	0.0850 to 0.115	100	70.0 to 130	0.995	20.0
BC02109	Calcium, Total	mg/L	-0.0136	0.152	5.00	348	351	4.87	4.87	4.25 to 5.75	-40.0	70.0 to 130	0.858	20.0
BC02109	Chromium, Total	mg/L	-0.0000041	0.000440	0.100	0.103	0.101	0.105	0.105	0.0850 to 0.115	103	70.0 to 130	1.96	20.0
BC02109	Cobalt, Total	mg/L	0.0000084	0.000147	0.100	0.103	0.101	0.107	0.107	0.0850 to 0.115	103	70.0 to 130	1.96	20.0
BC02109	Iron, Total	mg/L	-0.000407	0.0176	0.2	6.81	6.83	0.199	0.199	0.170 to 0.230	10.0	70.0 to 130	0.293	20.0
BC02109	Lead, Total	mg/L	0.000007	0.000147	0.100	0.100	0.104	0.0980	0.0980	0.0850 to 0.115	100	70.0 to 130	3.92	20.0
BC02109	Lithium, Total	mg/L	-0.000062	0.0154	0.200	0.398	0.416	0.203	0.203	0.170 to 0.230	98.0	70.0 to 130	4.42	20.0
BC02109	Magnesium, Total	mg/L	-0.00456	0.0462	5.00	189	193	5.11	5.11	4.25 to 5.75	60.0	70.0 to 130	2.09	20.0
BC02109	Manganese, Total	mg/L	-0.000185	0.0002	0.100	1.26	1.25	0.106	0.106	0.0850 to 0.115	110	70.0 to 130	0.797	20.0
BC02109	Mercury, Total by CVAA	mg/L	0.00017	0.000500	0.004	0.00419	0.00422	0.00389	0.00389	0.00340 to 0.00460	105	70.0 to 130	0.713	20.0
BC02109	Molybdenum, Total	mg/L	0.0000061	0.0002	0.100	0.104	0.102	0.101	0.101	0.0850 to 0.115	103	70.0 to 130	1.94	20.0
BC02109	Potassium, Total	mg/L	-0.0179	0.367	10.0	15.9	15.6	10.1	10.1	8.50 to 11.5	100	70.0 to 130	1.90	20.0
BC02109	Selenium, Total	mg/L	0.0000269	0.00100	0.100	0.102	0.101	0.108	0.108	0.0850 to 0.115	102	70.0 to 130	0.985	20.0
BC02109	Silicon, Total	mg/L	-0.00067	0.0440	1.00	10.8	10.7	1.03	1.03	0.850 to 1.15	86.0	70.0 to 130	0.930	20.0
BC02109	Sodium, Total	mg/L	0.0024	0.0660	5.00	139	142	5.07	5.07	4.25 to 5.75	60.0	70.0 to 130	2.14	20.0
BC02109	Thallium, Total	mg/L	0.0000139	0.000147	0.100	0.0983	0.105	0.102	0.102	0.0850 to 0.115	98.3	70.0 to 130	6.59	20.0
BC02109	Total Organic Carbon	mg/L	0.370	1.00	10.0	10.6	10.4	24.2	24.2		106	80.0 to 120	1.90	20.0

Comments:

Batch QC Summary

Customer Account: WMWGORLFFB

Sample Date: 1/31/22 12:45

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill Field Blank-1

Laboratory ID Number: BC02103

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC02109	Chloride	mg/L	-0.122	1.00	160	236	76.9	10.4	9.00 to 11.0	101	80.0 to 120	2.90	20.0
BC02109	Fluoride	mg/L	-0.00422	0.125	2.50	2.67	0.100	2.62	2.25 to 2.75	103	80.0 to 120	2.96	20.0
BC02109	Nitrogen, Nitrate/Nitrite	mg/L as N	0.01	0.200	2.00	2.06	0.039	1.95	1.80 to 2.20	103	90.0 to 110	0.00	15.0
BC02105	Solids, Dissolved	mg/L	1.00	25.0			2370	55.0	40.0 to 60.0			2.13	10.0
BC02109	Sulfate	mg/L	0.228	2.0	1600	2910	1290	18.8	18.0 to 22.0	99.4	80.0 to 120	2.30	20.0

Comments:

Certificate Of Analysis

Description: Gorgas Landfill - MW-16

Location Code: WMWGORLF
Collected: 1/31/22 13:13
Customer ID:
Submittal Date: 2/1/22 16:40

Laboratory ID Number: BC02104

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: EPA 200.7		Analyst: RDA			Preparation Method: EPA 1638				
* Boron, Total	2/7/22 11:00	2/8/22 10:26		1.015	0.0453	mg/L	0.030000	0.1015	J
* Calcium, Total	2/7/22 11:00	2/8/22 12:18		20.3	324	mg/L	1.4007	8.12	
* Iron, Total	2/7/22 11:00	2/8/22 10:26		1.015	2.93	mg/L	0.008120	0.0406	
* Lithium, Total	2/7/22 11:00	2/8/22 10:26		1.015	0.0165	mg/L	0.007105	0.01999956	J
* Magnesium, Total	2/7/22 11:00	2/8/22 12:18		20.3	270	mg/L	0.4263	8.12	
Silica, Total (calc.)	2/7/22 11:00	2/8/22 10:26		1	13.8	mg/L			
Silicon, Total	2/7/22 11:00	2/8/22 10:26		1.015	6.47	mg/L	0.02030	0.25375	
* Sodium, Total	2/7/22 11:00	2/8/22 10:26		1.015	28.6	mg/L	0.03045	0.406	
Analytical Method: EPA 200.7		Analyst: RDA			Preparation Method: EPA 1638				
* Boron, Dissolved	2/7/22 11:00	2/8/22 09:32		1.015	0.0450	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	2/7/22 11:00	2/8/22 11:30		20.3	317	mg/L	1.4007	8.12	
* Iron, Dissolved	2/7/22 11:00	2/8/22 09:32		1.015	2.88	mg/L	0.008120	0.0406	
* Lithium, Dissolved	2/7/22 11:00	2/8/22 09:32		1.015	0.0154	mg/L	0.007105	0.01999956	J
* Magnesium, Dissolved	2/7/22 11:00	2/8/22 11:30		20.3	263	mg/L	0.4263	8.12	
Silica, Dissolved (calc.)	2/7/22 11:00	2/8/22 09:32		1	13.7	mg/L			
Silicon, Dissolved	2/7/22 11:00	2/8/22 09:32		1.015	6.40	mg/L	0.02030	0.25375	
* Sodium, Dissolved	2/7/22 11:00	2/8/22 09:32		1.015	26.2	mg/L	0.03045	0.406	
Analytical Method: EPA 200.8		Analyst: ABB			Preparation Method: EPA 1638				
* Antimony, Total	2/8/22 14:11	2/9/22 13:25		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	2/8/22 14:11	2/9/22 13:25		1.015	Not Detected	mg/L	0.004060	0.01015	U
* Arsenic, Total	2/8/22 14:11	2/9/22 13:25		1.015	0.00294	mg/L	0.000068	0.000203	
* Barium, Total	2/8/22 14:11	2/9/22 13:25		1.015	0.0117	mg/L	0.000102	0.000203	
* Beryllium, Total	2/8/22 14:11	2/9/22 13:25		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	2/8/22 14:11	2/9/22 13:25		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	2/8/22 14:11	2/9/22 13:25		1.015	0.000359	mg/L	0.000203	0.001015	J
* Cobalt, Total	2/8/22 14:11	2/9/22 13:25		1.015	0.0104	mg/L	0.000068	0.000203	
* Lead, Total	2/8/22 14:11	2/9/22 13:25		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	2/8/22 14:11	2/9/22 16:17		10.15	3.34	mg/L	0.000680	0.00203	
* Molybdenum, Total	2/8/22 14:11	2/9/22 13:25		1.015	0.000551	mg/L	0.000068	0.000203	
* Potassium, Total	2/8/22 14:11	2/9/22 13:25		1.015	7.93	mg/L	0.169505	0.5075	

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill - MW-16

Location Code: WMWGORLF
Collected: 1/31/22 13:13
Customer ID:
Submittal Date: 2/1/22 16:40

Laboratory ID Number: BC02104

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/8/22 14:11	2/9/22 13:25		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	2/8/22 14:11	2/9/22 13:25		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 200.8		Analyst: ABB							
* Antimony, Dissolved	2/8/22 14:50	2/10/22 15:17		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/8/22 14:50	2/10/22 15:17		1.015	Not Detected	mg/L	0.004060	0.01015	U
* Arsenic, Dissolved	2/8/22 14:50	2/10/22 15:17		1.015	0.00261	mg/L	0.000068	0.000203	
* Barium, Dissolved	2/8/22 14:50	2/10/22 15:17		1.015	0.0128	mg/L	0.000102	0.000203	
* Beryllium, Dissolved	2/8/22 14:50	2/10/22 15:17		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	2/8/22 14:50	2/10/22 15:17		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	2/8/22 14:50	2/10/22 15:17		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	2/8/22 14:50	2/10/22 15:17		1.015	0.0100	mg/L	0.000068	0.000203	
* Lead, Dissolved	2/8/22 14:50	2/10/22 15:17		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	2/8/22 14:50	2/10/22 17:14		10.15	2.89	mg/L	0.000680	0.00203	
* Molybdenum, Dissolved	2/8/22 14:50	2/10/22 15:17		1.015	0.000496	mg/L	0.000068	0.000203	
* Potassium, Dissolved	2/8/22 14:50	2/10/22 15:17		1.015	7.50	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/8/22 14:50	2/10/22 15:17		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	2/8/22 14:50	2/10/22 15:17		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	2/10/22 13:23	2/10/22 17:36		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: ELH							
* Nitrogen, Nitrate/Nitrite	2/3/22 13:35	2/3/22 13:35		1	Not Detected	mg/L as N	0.20	0.3	U
Analytical Method: SM 2320 B		Analyst: ALH							
Alkalinity, Total as CaCO3	2/7/22 09:40	2/7/22 14:00		1	424	mg/L		0.1	
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	2/2/22 11:55	2/3/22 13:40		1	2360	mg/L		125	
Analytical Method: SM 4500CO2 D		Analyst: ALH							
Bicarbonate Alkalinity, (calc.)	2/7/22 09:40	2/7/22 14:00		1	424	mg/L			
Carbonate Alkalinity, (calc.)	2/7/22 09:40	2/7/22 14:00		1	0.23	mg/L			
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	2/10/22 13:52	2/10/22 13:52		1	1.43	mg/L	1.00	2	J

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill - MW-16

Location Code: WMWGORLF

Collected: 1/31/22 13:13

Customer ID:

Submittal Date: 2/1/22 16:40

Laboratory ID Number: BC02104

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	2/9/22 09:45	2/9/22 09:45		1	3.39	mg/L	0.50	1	
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	2/10/22 15:15	2/10/22 15:15		1	0.153	mg/L	0.06	0.1	
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	2/8/22 10:20	2/8/22 10:20		40	1380	mg/L	20.00	40	
Analytical Method: Field Measurements		Analyst: DKG							
Conductivity	1/31/22 13:10	1/31/22 13:10			2646.32	uS/cm			FA
pH	1/31/22 13:10	1/31/22 13:10			6.27	SU			FA
Temperature	1/31/22 13:10	1/31/22 13:10			19.30	C			FA
Turbidity	1/31/22 13:10	1/31/22 13:10			1.09	NTU			FA

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF
Sample Date: 1/31/22 13:13
Customer ID:
Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-16

Laboratory ID Number: BC02104

Sample	Analysis	Units	MB	MB		Spike	MS	MSD	Standard		Rec		Prec
				Limit					Standard	Limit	Rec	Limit	
BC02111	Aluminum, Dissolved	mg/L	0.000259	0.010	0.100	0.0986	0.0947	0.0956	0.0850 to 0.115	93.9	70.0 to 130	4.04	20.0
BC02109	Aluminum, Total	mg/L	-0.00435	0.010	0.100	0.106	0.103	0.106	0.0850 to 0.115	106	70.0 to 130	2.87	20.0
BC02111	Antimony, Dissolved	mg/L	0.000124	0.00100	0.100	0.101	0.0969	0.0990	0.0850 to 0.115	101	70.0 to 130	4.14	20.0
BC02109	Antimony, Total	mg/L	0.0000732	0.00100	0.100	0.107	0.103	0.101	0.0850 to 0.115	107	70.0 to 130	3.81	20.0
BC02111	Arsenic, Dissolved	mg/L	-0.0000275	0.000176	0.100	0.0989	0.0968	0.102	0.0850 to 0.115	98.8	70.0 to 130	2.15	20.0
BC02109	Arsenic, Total	mg/L	0.0000153	0.000176	0.100	0.107	0.106	0.107	0.0850 to 0.115	106	70.0 to 130	0.939	20.0
BC02111	Barium, Dissolved	mg/L	0.0000421	0.000200	0.100	0.111	0.0994	0.0954	0.0850 to 0.115	100	70.0 to 130	11.0	20.0
BC02109	Barium, Total	mg/L	-0.0000787	0.000200	0.100	0.112	0.111	0.0944	0.0850 to 0.115	96.7	70.0 to 130	0.897	20.0
BC02111	Beryllium, Dissolved	mg/L	0.000287	0.000880	0.100	0.0889	0.0846	0.0952	0.0850 to 0.115	88.9	70.0 to 130	4.96	20.0
BC02109	Beryllium, Total	mg/L	0.000094	0.000880	0.100	0.0993	0.101	0.101	0.0850 to 0.115	99.3	70.0 to 130	1.70	20.0
BC02111	Boron, Dissolved	mg/L	-0.000503	0.0650	1.00	1.03	1.05	1.00	0.850 to 1.15	100	70.0 to 130	1.92	20.0
BC02109	Boron, Total	mg/L	-0.000571	0.0650	1.00	1.12	1.10	0.990	0.850 to 1.15	102	70.0 to 130	1.80	20.0
BC02111	Cadmium, Dissolved	mg/L	-0.0000147	0.000147	0.100	0.0990	0.0931	0.100	0.0850 to 0.115	99.0	70.0 to 130	6.14	20.0
BC02109	Cadmium, Total	mg/L	0.000006	0.000147	0.100	0.100	0.101	0.105	0.0850 to 0.115	100	70.0 to 130	0.995	20.0
BC02111	Calcium, Dissolved	mg/L	-0.0197	0.152	5.00	391	398	4.96	4.25 to 5.75	100	70.0 to 130	1.77	20.0
BC02109	Calcium, Total	mg/L	-0.0136	0.152	5.00	348	351	4.87	4.25 to 5.75	-40.0	70.0 to 130	0.858	20.0
BC02111	Chromium, Dissolved	mg/L	0.0000585	0.000440	0.100	0.0973	0.0938	0.103	0.0850 to 0.115	97.3	70.0 to 130	3.66	20.0
BC02109	Chromium, Total	mg/L	-0.0000041	0.000440	0.100	0.103	0.101	0.105	0.0850 to 0.115	103	70.0 to 130	1.96	20.0
BC02111	Cobalt, Dissolved	mg/L	0.0000464	0.000147	0.100	0.0984	0.0949	0.105	0.0850 to 0.115	97.3	70.0 to 130	3.62	20.0
BC02109	Cobalt, Total	mg/L	0.0000084	0.000147	0.100	0.103	0.101	0.107	0.0850 to 0.115	103	70.0 to 130	1.96	20.0
BC02111	Iron, Dissolved	mg/L	-0.000316	0.0176	0.2	1.29	1.30	0.201	0.170 to 0.230	90.0	70.0 to 130	0.772	20.0
BC02109	Iron, Total	mg/L	-0.000407	0.0176	0.2	6.81	6.83	0.199	0.170 to 0.230	10.0	70.0 to 130	0.293	20.0
BC02111	Lead, Dissolved	mg/L	0.0000093	0.000147	0.100	0.0992	0.0964	0.102	0.0850 to 0.115	99.2	70.0 to 130	2.86	20.0
BC02109	Lead, Total	mg/L	0.000007	0.000147	0.100	0.100	0.104	0.0980	0.0850 to 0.115	100	70.0 to 130	3.92	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 13:13

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-16

Laboratory ID Number: BC02104

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC02111	Lithium, Dissolved	mg/L	-0.000056	0.0154	0.200	0.291	0.298	0.200	0.170 to 0.230	101	70.0 to 130	2.38	20.0
BC02109	Lithium, Total	mg/L	-0.000062	0.0154	0.200	0.398	0.416	0.203	0.170 to 0.230	98.0	70.0 to 130	4.42	20.0
BC02111	Magnesium, Dissolved	mg/L	-0.00951	0.0462	5.00	431	431	5.11	4.25 to 5.75	180	70.0 to 130	0.00	20.0
BC02109	Magnesium, Total	mg/L	-0.00456	0.0462	5.00	189	193	5.11	4.25 to 5.75	60.0	70.0 to 130	2.09	20.0
BC02111	Manganese, Dissolved	mg/L	-0.0000097	0.0002	0.100	0.399	0.391	0.0965	0.0850 to 0.115	98.0	70.0 to 130	2.03	20.0
BC02109	Manganese, Total	mg/L	-0.000185	0.0002	0.100	1.26	1.25	0.106	0.0850 to 0.115	110	70.0 to 130	0.797	20.0
BC02109	Mercury, Total by CVAA	mg/L	0.00017	0.000500	0.004	0.00419	0.00422	0.00389	0.00340 to 0.00460	105	70.0 to 130	0.713	20.0
BC02111	Molybdenum, Dissolved	mg/L	0.0000632	0.0002	0.100	0.101	0.101	0.104	0.0850 to 0.115	99.7	70.0 to 130	0.00	20.0
BC02109	Molybdenum, Total	mg/L	0.0000061	0.0002	0.100	0.104	0.102	0.101	0.0850 to 0.115	103	70.0 to 130	1.94	20.0
BC02111	Potassium, Dissolved	mg/L	-0.0724	0.367	10.0	15.7	15.0	9.83	8.50 to 11.5	93.2	70.0 to 130	4.56	20.0
BC02109	Potassium, Total	mg/L	-0.0179	0.367	10.0	15.9	15.6	10.1	8.50 to 11.5	100	70.0 to 130	1.90	20.0
BC02111	Selenium, Dissolved	mg/L	0.000111	0.00100	0.100	0.106	0.103	0.104	0.0850 to 0.115	104	70.0 to 130	2.87	20.0
BC02109	Selenium, Total	mg/L	0.0000269	0.00100	0.100	0.102	0.101	0.108	0.0850 to 0.115	102	70.0 to 130	0.985	20.0
BC02111	Silicon, Dissolved	mg/L	-0.000923	0.0440	1.00	8.17	8.27	1.02	0.850 to 1.15	99.0	70.0 to 130	1.22	20.0
BC02109	Silicon, Total	mg/L	-0.00067	0.0440	1.00	10.8	10.7	1.03	0.850 to 1.15	86.0	70.0 to 130	0.930	20.0
BC02111	Sodium, Dissolved	mg/L	0.000085	0.0660	5.00	60.1	59.9	5.01	4.25 to 5.75	116	70.0 to 130	0.333	20.0
BC02109	Sodium, Total	mg/L	0.0024	0.0660	5.00	139	142	5.07	4.25 to 5.75	60.0	70.0 to 130	2.14	20.0
BC02111	Thallium, Dissolved	mg/L	0.000006	0.000147	0.100	0.0991	0.0964	0.102	0.0850 to 0.115	99.0	70.0 to 130	2.76	20.0
BC02109	Thallium, Total	mg/L	0.0000139	0.000147	0.100	0.0983	0.105	0.102	0.0850 to 0.115	98.3	70.0 to 130	6.59	20.0
BC02109	Total Organic Carbon	mg/L	0.370	1.00	10.0	10.6	10.4	24.2		106	80.0 to 120	1.90	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 13:13

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-16

Laboratory ID Number: BC02104

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC02120	Alkalinity, Total as CaCO3	mg/L					239	51.9	45.0 to 55.0			4.27	10.0
BC02109	Chloride	mg/L	-0.122	1.00	160	236	76.9	10.4	9.00 to 11.0	101	80.0 to 120	2.90	20.0
BC02109	Fluoride	mg/L	-0.00422	0.125	2.50	2.67	0.100	2.62	2.25 to 2.75	103	80.0 to 120	2.96	20.0
BC02109	Nitrogen, Nitrate/Nitrite	mg/L as N	0.01	0.200	2.00	2.06	0.039	1.95	1.80 to 2.20	103	90.0 to 110	0.00	15.0
BC02105	Solids, Dissolved	mg/L	1.00	25.0			2370	55.0	40.0 to 60.0			2.13	10.0
BC02109	Sulfate	mg/L	0.228	2.0	1600	2910	1290	18.8	18.0 to 22.0	99.4	80.0 to 120	2.30	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill - MW-16 DUP

Location Code: WMWGORLF
Collected: 1/31/22 13:13
Customer ID:
Submittal Date: 2/1/22 16:40

Laboratory ID Number: BC02105

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: EPA 200.7		Analyst: RDA			Preparation Method: EPA 1638				
* Boron, Total	2/7/22 11:00	2/8/22 10:28		1.015	0.0450	mg/L	0.030000	0.1015	J
* Calcium, Total	2/7/22 11:00	2/8/22 12:20		20.3	321	mg/L	1.4007	8.12	
* Iron, Total	2/7/22 11:00	2/8/22 10:28		1.015	2.89	mg/L	0.008120	0.0406	
* Lithium, Total	2/7/22 11:00	2/8/22 10:28		1.015	0.0163	mg/L	0.007105	0.01999956	J
* Magnesium, Total	2/7/22 11:00	2/8/22 12:20		20.3	267	mg/L	0.4263	8.12	
Silica, Total (calc.)	2/7/22 11:00	2/8/22 10:28		1	13.7	mg/L			
Silicon, Total	2/7/22 11:00	2/8/22 10:28		1.015	6.41	mg/L	0.02030	0.25375	
* Sodium, Total	2/7/22 11:00	2/8/22 10:28		1.015	27.7	mg/L	0.03045	0.406	
Analytical Method: EPA 200.7		Analyst: RDA			Preparation Method: EPA 1638				
* Boron, Dissolved	2/7/22 11:00	2/8/22 09:34		1.015	0.0454	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	2/7/22 11:00	2/8/22 11:31		20.3	317	mg/L	1.4007	8.12	
* Iron, Dissolved	2/7/22 11:00	2/8/22 09:34		1.015	2.88	mg/L	0.008120	0.0406	
* Lithium, Dissolved	2/7/22 11:00	2/8/22 09:34		1.015	0.0160	mg/L	0.007105	0.01999956	J
* Magnesium, Dissolved	2/7/22 11:00	2/8/22 11:31		20.3	262	mg/L	0.4263	8.12	
Silica, Dissolved (calc.)	2/7/22 11:00	2/8/22 09:34		1	13.7	mg/L			
Silicon, Dissolved	2/7/22 11:00	2/8/22 09:34		1.015	6.39	mg/L	0.02030	0.25375	
* Sodium, Dissolved	2/7/22 11:00	2/8/22 09:34		1.015	27.4	mg/L	0.03045	0.406	
Analytical Method: EPA 200.8		Analyst: ABB			Preparation Method: EPA 1638				
* Antimony, Total	2/8/22 14:11	2/9/22 13:29		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	2/8/22 14:11	2/9/22 13:29		1.015	Not Detected	mg/L	0.004060	0.01015	U
* Arsenic, Total	2/8/22 14:11	2/9/22 13:29		1.015	0.00293	mg/L	0.000068	0.000203	
* Barium, Total	2/8/22 14:11	2/9/22 13:29		1.015	0.0119	mg/L	0.000102	0.000203	
* Beryllium, Total	2/8/22 14:11	2/9/22 13:29		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	2/8/22 14:11	2/9/22 13:29		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	2/8/22 14:11	2/9/22 13:29		1.015	0.000284	mg/L	0.000203	0.001015	J
* Cobalt, Total	2/8/22 14:11	2/9/22 13:29		1.015	0.0103	mg/L	0.000068	0.000203	
* Lead, Total	2/8/22 14:11	2/9/22 13:29		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	2/8/22 14:11	2/9/22 16:21		10.15	3.27	mg/L	0.000680	0.00203	
* Molybdenum, Total	2/8/22 14:11	2/9/22 13:29		1.015	0.000396	mg/L	0.000068	0.000203	
* Potassium, Total	2/8/22 14:11	2/9/22 13:29		1.015	7.92	mg/L	0.169505	0.5075	

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill - MW-16 DUP

Location Code: WMWGORLF
Collected: 1/31/22 13:13
Customer ID:
Submittal Date: 2/1/22 16:40

Laboratory ID Number: BC02105

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/8/22 14:11	2/9/22 13:29		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	2/8/22 14:11	2/9/22 13:29		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 200.8		Analyst: ABB							
* Antimony, Dissolved	2/8/22 14:50	2/10/22 15:21		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/8/22 14:50	2/10/22 15:21		1.015	Not Detected	mg/L	0.004060	0.01015	U
* Arsenic, Dissolved	2/8/22 14:50	2/10/22 15:21		1.015	0.00237	mg/L	0.000068	0.000203	
* Barium, Dissolved	2/8/22 14:50	2/10/22 15:21		1.015	0.0116	mg/L	0.000102	0.000203	
* Beryllium, Dissolved	2/8/22 14:50	2/10/22 15:21		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	2/8/22 14:50	2/10/22 15:21		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	2/8/22 14:50	2/10/22 15:21		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	2/8/22 14:50	2/10/22 15:21		1.015	0.00985	mg/L	0.000068	0.000203	
* Lead, Dissolved	2/8/22 14:50	2/10/22 15:21		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	2/8/22 14:50	2/10/22 17:18		10.15	2.93	mg/L	0.000680	0.00203	
* Molybdenum, Dissolved	2/8/22 14:50	2/10/22 15:21		1.015	0.000502	mg/L	0.000068	0.000203	
* Potassium, Dissolved	2/8/22 14:50	2/10/22 15:21		1.015	7.67	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/8/22 14:50	2/10/22 15:21		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	2/8/22 14:50	2/10/22 15:21		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	2/10/22 13:23	2/10/22 17:40		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: ELH							
* Nitrogen, Nitrate/Nitrite	2/3/22 13:37	2/3/22 13:37		1	Not Detected	mg/L as N	0.20	0.3	U
Analytical Method: SM 2320 B		Analyst: ALH							
Alkalinity, Total as CaCO3	2/7/22 09:40	2/7/22 14:00		1	391	mg/L		0.1	
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	2/2/22 11:55	2/3/22 13:40		1	2320	mg/L		125	
Analytical Method: SM 4500CO2 D		Analyst: ALH							
Bicarbonate Alkalinity, (calc.)	2/7/22 09:40	2/7/22 14:00		1	391	mg/L			
Carbonate Alkalinity, (calc.)	2/7/22 09:40	2/7/22 14:00		1	0.24	mg/L			
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	2/10/22 14:11	2/10/22 14:11		1	1.48	mg/L	1.00	2	J

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill - MW-16 DUP

Location Code: WMWGORLF
Collected: 1/31/22 13:13
Customer ID:
Submittal Date: 2/1/22 16:40

Laboratory ID Number: BC02105

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	2/9/22 09:46	2/9/22 09:46		1	3.45	mg/L	0.50	1	
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	2/10/22 15:17	2/10/22 15:17		1	0.145	mg/L	0.06	0.1	
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	2/8/22 10:21	2/8/22 10:21		40	1390	mg/L	20.00	40	
Analytical Method: Field Measurements		Analyst: DKG							
Conductivity	1/31/22 13:10	1/31/22 13:10			2646.32	uS/cm			FA
pH	1/31/22 13:10	1/31/22 13:10			6.27	SU			FA
Temperature	1/31/22 13:10	1/31/22 13:10			19.30	C			FA
Turbidity	1/31/22 13:10	1/31/22 13:10			1.09	NTU			FA

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 13:13

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-16 DUP

Laboratory ID Number: BC02105

Sample	Analysis	Units	MB	MB		MS	MSD	Standard		Rec		Prec	Limit
				Limit	Spike			Standard	Limit	Rec	Limit		
BC02111	Aluminum, Dissolved	mg/L	0.000259	0.010	0.100	0.0986	0.0947	0.0956	0.0850 to 0.115	93.9	70.0 to 130	4.04	20.0
BC02109	Aluminum, Total	mg/L	-0.00435	0.010	0.100	0.106	0.103	0.106	0.0850 to 0.115	106	70.0 to 130	2.87	20.0
BC02111	Antimony, Dissolved	mg/L	0.000124	0.00100	0.100	0.101	0.0969	0.0990	0.0850 to 0.115	101	70.0 to 130	4.14	20.0
BC02109	Antimony, Total	mg/L	0.0000732	0.00100	0.100	0.107	0.103	0.101	0.0850 to 0.115	107	70.0 to 130	3.81	20.0
BC02111	Arsenic, Dissolved	mg/L	-0.0000275	0.000176	0.100	0.0989	0.0968	0.102	0.0850 to 0.115	98.8	70.0 to 130	2.15	20.0
BC02109	Arsenic, Total	mg/L	0.0000153	0.000176	0.100	0.107	0.106	0.107	0.0850 to 0.115	106	70.0 to 130	0.939	20.0
BC02111	Barium, Dissolved	mg/L	0.0000421	0.000200	0.100	0.111	0.0994	0.0954	0.0850 to 0.115	100	70.0 to 130	11.0	20.0
BC02109	Barium, Total	mg/L	-0.0000787	0.000200	0.100	0.112	0.111	0.0944	0.0850 to 0.115	96.7	70.0 to 130	0.897	20.0
BC02111	Beryllium, Dissolved	mg/L	0.000287	0.000880	0.100	0.0889	0.0846	0.0952	0.0850 to 0.115	88.9	70.0 to 130	4.96	20.0
BC02109	Beryllium, Total	mg/L	0.000094	0.000880	0.100	0.0993	0.101	0.101	0.0850 to 0.115	99.3	70.0 to 130	1.70	20.0
BC02111	Boron, Dissolved	mg/L	-0.000503	0.0650	1.00	1.03	1.05	1.00	0.850 to 1.15	100	70.0 to 130	1.92	20.0
BC02109	Boron, Total	mg/L	-0.000571	0.0650	1.00	1.12	1.10	0.990	0.850 to 1.15	102	70.0 to 130	1.80	20.0
BC02111	Cadmium, Dissolved	mg/L	-0.0000147	0.000147	0.100	0.0990	0.0931	0.100	0.0850 to 0.115	99.0	70.0 to 130	6.14	20.0
BC02109	Cadmium, Total	mg/L	0.000006	0.000147	0.100	0.100	0.101	0.105	0.0850 to 0.115	100	70.0 to 130	0.995	20.0
BC02111	Calcium, Dissolved	mg/L	-0.0197	0.152	5.00	391	398	4.96	4.25 to 5.75	100	70.0 to 130	1.77	20.0
BC02109	Calcium, Total	mg/L	-0.0136	0.152	5.00	348	351	4.87	4.25 to 5.75	-40.0	70.0 to 130	0.858	20.0
BC02111	Chromium, Dissolved	mg/L	0.0000585	0.000440	0.100	0.0973	0.0938	0.103	0.0850 to 0.115	97.3	70.0 to 130	3.66	20.0
BC02109	Chromium, Total	mg/L	-0.0000041	0.000440	0.100	0.103	0.101	0.105	0.0850 to 0.115	103	70.0 to 130	1.96	20.0
BC02111	Cobalt, Dissolved	mg/L	0.0000464	0.000147	0.100	0.0984	0.0949	0.105	0.0850 to 0.115	97.3	70.0 to 130	3.62	20.0
BC02109	Cobalt, Total	mg/L	0.0000084	0.000147	0.100	0.103	0.101	0.107	0.0850 to 0.115	103	70.0 to 130	1.96	20.0
BC02111	Iron, Dissolved	mg/L	-0.000316	0.0176	0.2	1.29	1.30	0.201	0.170 to 0.230	90.0	70.0 to 130	0.772	20.0
BC02109	Iron, Total	mg/L	-0.000407	0.0176	0.2	6.81	6.83	0.199	0.170 to 0.230	10.0	70.0 to 130	0.293	20.0
BC02111	Lead, Dissolved	mg/L	0.0000093	0.000147	0.100	0.0992	0.0964	0.102	0.0850 to 0.115	99.2	70.0 to 130	2.86	20.0
BC02109	Lead, Total	mg/L	0.000007	0.000147	0.100	0.100	0.104	0.0980	0.0850 to 0.115	100	70.0 to 130	3.92	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 13:13

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-16 DUP

Laboratory ID Number: BC02105

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC02111	Lithium, Dissolved	mg/L	-0.000056	0.0154	0.200	0.291	0.298	0.200	0.170 to 0.230	101	70.0 to 130	2.38	20.0
BC02109	Lithium, Total	mg/L	-0.000062	0.0154	0.200	0.398	0.416	0.203	0.170 to 0.230	98.0	70.0 to 130	4.42	20.0
BC02111	Magnesium, Dissolved	mg/L	-0.00951	0.0462	5.00	431	431	5.11	4.25 to 5.75	180	70.0 to 130	0.00	20.0
BC02109	Magnesium, Total	mg/L	-0.00456	0.0462	5.00	189	193	5.11	4.25 to 5.75	60.0	70.0 to 130	2.09	20.0
BC02111	Manganese, Dissolved	mg/L	-0.0000097	0.0002	0.100	0.399	0.391	0.0965	0.0850 to 0.115	98.0	70.0 to 130	2.03	20.0
BC02109	Manganese, Total	mg/L	-0.000185	0.0002	0.100	1.26	1.25	0.106	0.0850 to 0.115	110	70.0 to 130	0.797	20.0
BC02109	Mercury, Total by CVAA	mg/L	0.00017	0.000500	0.004	0.00419	0.00422	0.00389	0.00340 to 0.00460	105	70.0 to 130	0.713	20.0
BC02111	Molybdenum, Dissolved	mg/L	0.0000632	0.0002	0.100	0.101	0.101	0.104	0.0850 to 0.115	99.7	70.0 to 130	0.00	20.0
BC02109	Molybdenum, Total	mg/L	0.0000061	0.0002	0.100	0.104	0.102	0.101	0.0850 to 0.115	103	70.0 to 130	1.94	20.0
BC02111	Potassium, Dissolved	mg/L	-0.0724	0.367	10.0	15.7	15.0	9.83	8.50 to 11.5	93.2	70.0 to 130	4.56	20.0
BC02109	Potassium, Total	mg/L	-0.0179	0.367	10.0	15.9	15.6	10.1	8.50 to 11.5	100	70.0 to 130	1.90	20.0
BC02111	Selenium, Dissolved	mg/L	0.000111	0.00100	0.100	0.106	0.103	0.104	0.0850 to 0.115	104	70.0 to 130	2.87	20.0
BC02109	Selenium, Total	mg/L	0.0000269	0.00100	0.100	0.102	0.101	0.108	0.0850 to 0.115	102	70.0 to 130	0.985	20.0
BC02111	Silicon, Dissolved	mg/L	-0.000923	0.0440	1.00	8.17	8.27	1.02	0.850 to 1.15	99.0	70.0 to 130	1.22	20.0
BC02109	Silicon, Total	mg/L	-0.00067	0.0440	1.00	10.8	10.7	1.03	0.850 to 1.15	86.0	70.0 to 130	0.930	20.0
BC02111	Sodium, Dissolved	mg/L	0.000085	0.0660	5.00	60.1	59.9	5.01	4.25 to 5.75	116	70.0 to 130	0.333	20.0
BC02109	Sodium, Total	mg/L	0.0024	0.0660	5.00	139	142	5.07	4.25 to 5.75	60.0	70.0 to 130	2.14	20.0
BC02111	Thallium, Dissolved	mg/L	0.000006	0.000147	0.100	0.0991	0.0964	0.102	0.0850 to 0.115	99.0	70.0 to 130	2.76	20.0
BC02109	Thallium, Total	mg/L	0.0000139	0.000147	0.100	0.0983	0.105	0.102	0.0850 to 0.115	98.3	70.0 to 130	6.59	20.0
BC02109	Total Organic Carbon	mg/L	0.370	1.00	10.0	10.6	10.4	24.2		106	80.0 to 120	1.90	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 13:13

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-16 DUP

Laboratory ID Number: BC02105

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC02120	Alkalinity, Total as CaCO3	mg/L					239	51.9	45.0 to 55.0			4.27	10.0
BC02109	Chloride	mg/L	-0.122	1.00	160	236	76.9	10.4	9.00 to 11.0	101	80.0 to 120	2.90	20.0
BC02109	Fluoride	mg/L	-0.00422	0.125	2.50	2.67	0.100	2.62	2.25 to 2.75	103	80.0 to 120	2.96	20.0
BC02109	Nitrogen, Nitrate/Nitrite	mg/L as N	0.01	0.200	2.00	2.06	0.039	1.95	1.80 to 2.20	103	90.0 to 110	0.00	15.0
BC02105	Solids, Dissolved	mg/L	1.00	25.0			2370	55.0	40.0 to 60.0			2.13	10.0
BC02109	Sulfate	mg/L	0.228	2.0	1600	2910	1290	18.8	18.0 to 22.0	99.4	80.0 to 120	2.30	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill - MW-17R

Location Code: WMWGORLF
Collected: 1/31/22 14:21
Customer ID:
Submittal Date: 2/1/22 16:40

Laboratory ID Number: BC02106

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: EPA 200.7		Analyst: RDA			Preparation Method: EPA 1638				
* Boron, Total	2/7/22 11:00	2/8/22 10:30		1.015	0.0536	mg/L	0.030000	0.1015	J
* Calcium, Total	2/7/22 11:00	2/8/22 12:22		20.3	412	mg/L	1.4007	8.12	
* Iron, Total	2/7/22 11:00	2/8/22 12:22		20.3	21.1	mg/L	0.1624	0.812	
* Lithium, Total	2/7/22 11:00	2/8/22 10:30		1.015	0.0422	mg/L	0.007105	0.01999956	
* Magnesium, Total	2/7/22 11:00	2/8/22 12:22		20.3	451	mg/L	0.4263	8.12	
Silica, Total (calc.)	2/7/22 11:00	2/8/22 10:30		1	17.5	mg/L			
Silicon, Total	2/7/22 11:00	2/8/22 10:30		1.015	8.18	mg/L	0.02030	0.25375	
* Sodium, Total	2/7/22 11:00	2/8/22 10:30		1.015	39.1	mg/L	0.03045	0.406	
Analytical Method: EPA 200.7		Analyst: RDA			Preparation Method: EPA 1638				
* Boron, Dissolved	2/7/22 11:00	2/8/22 09:35		1.015	0.0527	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	2/7/22 11:00	2/8/22 11:33		20.3	419	mg/L	1.4007	8.12	
* Iron, Dissolved	2/7/22 11:00	2/8/22 11:33		20.3	19.7	mg/L	0.1624	0.812	
* Lithium, Dissolved	2/7/22 11:00	2/8/22 09:35		1.015	0.0428	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	2/7/22 11:00	2/8/22 11:33		20.3	451	mg/L	0.4263	8.12	
Silica, Dissolved (calc.)	2/7/22 11:00	2/8/22 09:35		1	17.4	mg/L			
Silicon, Dissolved	2/7/22 11:00	2/8/22 09:35		1.015	8.15	mg/L	0.02030	0.25375	
* Sodium, Dissolved	2/7/22 11:00	2/8/22 09:35		1.015	38.8	mg/L	0.03045	0.406	
Analytical Method: EPA 200.8		Analyst: ABB			Preparation Method: EPA 1638				
* Antimony, Total	2/8/22 14:11	2/9/22 13:33		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	2/8/22 14:11	2/9/22 13:33		1.015	0.0391	mg/L	0.004060	0.01015	
* Arsenic, Total	2/8/22 14:11	2/9/22 13:33		1.015	0.00165	mg/L	0.000068	0.000203	
* Barium, Total	2/8/22 14:11	2/9/22 13:33		1.015	0.0125	mg/L	0.000102	0.000203	
* Beryllium, Total	2/8/22 14:11	2/9/22 13:33		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	2/8/22 14:11	2/9/22 13:33		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	2/8/22 14:11	2/9/22 13:33		1.015	0.000443	mg/L	0.000203	0.001015	J
* Cobalt, Total	2/8/22 14:11	2/9/22 13:33		1.015	0.333	mg/L	0.000068	0.000203	
* Lead, Total	2/8/22 14:11	2/9/22 13:33		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	2/8/22 14:11	2/9/22 16:24		92.365	22.2	mg/L	0.006188	0.018473	
* Molybdenum, Total	2/8/22 14:11	2/9/22 13:33		1.015	0.000168	mg/L	0.000068	0.000203	J
* Potassium, Total	2/8/22 14:11	2/9/22 13:33		1.015	7.24	mg/L	0.169505	0.5075	

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill - MW-17R

Location Code: WMWGORLF
Collected: 1/31/22 14:21
Customer ID:
Submittal Date: 2/1/22 16:40

Laboratory ID Number: BC02106

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/8/22 14:11	2/9/22 13:33		1.015	0.000512	mg/L	0.000508	0.001015	J
* Thallium, Total	2/8/22 14:11	2/9/22 13:33		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 200.8		Analyst: ABB							
* Antimony, Dissolved	2/8/22 14:50	2/10/22 15:24		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/8/22 14:50	2/10/22 15:24		1.015	0.0114	mg/L	0.004060	0.01015	
* Arsenic, Dissolved	2/8/22 14:50	2/10/22 15:24		1.015	0.00150	mg/L	0.000068	0.000203	
* Barium, Dissolved	2/8/22 14:50	2/10/22 15:24		1.015	0.0124	mg/L	0.000102	0.000203	
* Beryllium, Dissolved	2/8/22 14:50	2/10/22 15:24		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	2/8/22 14:50	2/10/22 15:24		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	2/8/22 14:50	2/10/22 15:24		1.015	0.000228	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	2/8/22 14:50	2/10/22 15:24		1.015	0.299	mg/L	0.000068	0.000203	
* Lead, Dissolved	2/8/22 14:50	2/10/22 15:24		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	2/8/22 14:50	2/10/22 17:21		92.365	18.4	mg/L	0.006188	0.018473	
* Molybdenum, Dissolved	2/8/22 14:50	2/10/22 15:24		1.015	0.000143	mg/L	0.000068	0.000203	J
* Potassium, Dissolved	2/8/22 14:50	2/10/22 15:24		1.015	6.77	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/8/22 14:50	2/10/22 15:24		1.015	0.000897	mg/L	0.000508	0.001015	J
* Thallium, Dissolved	2/8/22 14:50	2/10/22 15:24		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	2/10/22 13:23	2/10/22 17:44		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: ELH							
* Nitrogen, Nitrate/Nitrite	2/3/22 13:39	2/3/22 13:39		1	Not Detected	mg/L as N	0.20	0.3	U
Analytical Method: SM 2320 B		Analyst: ALH							
Alkalinity, Total as CaCO3	2/7/22 09:40	2/7/22 14:00		1	188	mg/L		0.1	
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	2/2/22 11:55	2/3/22 13:40		1	3940	mg/L		208.3	
Analytical Method: SM 4500CO2 D		Analyst: ALH							
Bicarbonate Alkalinity, (calc.)	2/7/22 09:40	2/7/22 14:00		1	188	mg/L			
Carbonate Alkalinity, (calc.)	2/7/22 09:40	2/7/22 14:00		1	0.04	mg/L			
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	2/10/22 14:30	2/10/22 14:30		1	1.57	mg/L	1.00	2	J

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill - MW-17R

Location Code: WMWGORLF
Collected: 1/31/22 14:21
Customer ID:
Submittal Date: 2/1/22 16:40

Laboratory ID Number: BC02106

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	2/9/22 09:47	2/9/22 09:47		1	2.96	mg/L	0.50	1	
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	2/10/22 15:18	2/10/22 15:18		1	0.139	mg/L	0.06	0.1	
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	2/8/22 10:26	2/8/22 10:26		80	2470	mg/L	40.00	80	
Analytical Method: Field Measurements		Analyst: DKG							
Conductivity	1/31/22 14:18	1/31/22 14:18			3731.21	uS/cm			FA
pH	1/31/22 14:18	1/31/22 14:18			5.98	SU			FA
Temperature	1/31/22 14:18	1/31/22 14:18			21.13	C			FA
Turbidity	1/31/22 14:18	1/31/22 14:18			1.24	NTU			FA

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 14:21

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-17R

Laboratory ID Number: BC02106

Sample	Analysis	Units	MB	MB		MS	MSD	Standard		Rec		Prec	Limit
				Limit	Spike			Standard	Limit	Rec	Limit		
BC02111	Aluminum, Dissolved	mg/L	0.000259	0.010	0.100	0.0986	0.0947	0.0956	0.0850 to 0.115	93.9	70.0 to 130	4.04	20.0
BC02109	Aluminum, Total	mg/L	-0.00435	0.010	0.100	0.106	0.103	0.106	0.0850 to 0.115	106	70.0 to 130	2.87	20.0
BC02111	Antimony, Dissolved	mg/L	0.000124	0.00100	0.100	0.101	0.0969	0.0990	0.0850 to 0.115	101	70.0 to 130	4.14	20.0
BC02109	Antimony, Total	mg/L	0.0000732	0.00100	0.100	0.107	0.103	0.101	0.0850 to 0.115	107	70.0 to 130	3.81	20.0
BC02111	Arsenic, Dissolved	mg/L	-0.0000275	0.000176	0.100	0.0989	0.0968	0.102	0.0850 to 0.115	98.8	70.0 to 130	2.15	20.0
BC02109	Arsenic, Total	mg/L	0.0000153	0.000176	0.100	0.107	0.106	0.107	0.0850 to 0.115	106	70.0 to 130	0.939	20.0
BC02111	Barium, Dissolved	mg/L	0.0000421	0.000200	0.100	0.111	0.0994	0.0954	0.0850 to 0.115	100	70.0 to 130	11.0	20.0
BC02109	Barium, Total	mg/L	-0.0000787	0.000200	0.100	0.112	0.111	0.0944	0.0850 to 0.115	96.7	70.0 to 130	0.897	20.0
BC02111	Beryllium, Dissolved	mg/L	0.000287	0.000880	0.100	0.0889	0.0846	0.0952	0.0850 to 0.115	88.9	70.0 to 130	4.96	20.0
BC02109	Beryllium, Total	mg/L	0.000094	0.000880	0.100	0.0993	0.101	0.101	0.0850 to 0.115	99.3	70.0 to 130	1.70	20.0
BC02111	Boron, Dissolved	mg/L	-0.000503	0.0650	1.00	1.03	1.05	1.00	0.850 to 1.15	100	70.0 to 130	1.92	20.0
BC02109	Boron, Total	mg/L	-0.000571	0.0650	1.00	1.12	1.10	0.990	0.850 to 1.15	102	70.0 to 130	1.80	20.0
BC02111	Cadmium, Dissolved	mg/L	-0.0000147	0.000147	0.100	0.0990	0.0931	0.100	0.0850 to 0.115	99.0	70.0 to 130	6.14	20.0
BC02109	Cadmium, Total	mg/L	0.000006	0.000147	0.100	0.100	0.101	0.105	0.0850 to 0.115	100	70.0 to 130	0.995	20.0
BC02111	Calcium, Dissolved	mg/L	-0.0197	0.152	5.00	391	398	4.96	4.25 to 5.75	100	70.0 to 130	1.77	20.0
BC02109	Calcium, Total	mg/L	-0.0136	0.152	5.00	348	351	4.87	4.25 to 5.75	-40.0	70.0 to 130	0.858	20.0
BC02111	Chromium, Dissolved	mg/L	0.0000585	0.000440	0.100	0.0973	0.0938	0.103	0.0850 to 0.115	97.3	70.0 to 130	3.66	20.0
BC02109	Chromium, Total	mg/L	-0.0000041	0.000440	0.100	0.103	0.101	0.105	0.0850 to 0.115	103	70.0 to 130	1.96	20.0
BC02111	Cobalt, Dissolved	mg/L	0.0000464	0.000147	0.100	0.0984	0.0949	0.105	0.0850 to 0.115	97.3	70.0 to 130	3.62	20.0
BC02109	Cobalt, Total	mg/L	0.0000084	0.000147	0.100	0.103	0.101	0.107	0.0850 to 0.115	103	70.0 to 130	1.96	20.0
BC02111	Iron, Dissolved	mg/L	-0.000316	0.0176	0.2	1.29	1.30	0.201	0.170 to 0.230	90.0	70.0 to 130	0.772	20.0
BC02109	Iron, Total	mg/L	-0.000407	0.0176	0.2	6.81	6.83	0.199	0.170 to 0.230	10.0	70.0 to 130	0.293	20.0
BC02111	Lead, Dissolved	mg/L	0.0000093	0.000147	0.100	0.0992	0.0964	0.102	0.0850 to 0.115	99.2	70.0 to 130	2.86	20.0
BC02109	Lead, Total	mg/L	0.000007	0.000147	0.100	0.100	0.104	0.0980	0.0850 to 0.115	100	70.0 to 130	3.92	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 14:21

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-17R

Laboratory ID Number: BC02106

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC02111	Lithium, Dissolved	mg/L	-0.000056	0.0154	0.200	0.291	0.298	0.200	0.170 to 0.230	101	70.0 to 130	2.38	20.0
BC02109	Lithium, Total	mg/L	-0.000062	0.0154	0.200	0.398	0.416	0.203	0.170 to 0.230	98.0	70.0 to 130	4.42	20.0
BC02111	Magnesium, Dissolved	mg/L	-0.00951	0.0462	5.00	431	431	5.11	4.25 to 5.75	180	70.0 to 130	0.00	20.0
BC02109	Magnesium, Total	mg/L	-0.00456	0.0462	5.00	189	193	5.11	4.25 to 5.75	60.0	70.0 to 130	2.09	20.0
BC02111	Manganese, Dissolved	mg/L	-0.0000097	0.0002	0.100	0.399	0.391	0.0965	0.0850 to 0.115	98.0	70.0 to 130	2.03	20.0
BC02109	Manganese, Total	mg/L	-0.000185	0.0002	0.100	1.26	1.25	0.106	0.0850 to 0.115	110	70.0 to 130	0.797	20.0
BC02109	Mercury, Total by CVAA	mg/L	0.00017	0.000500	0.004	0.00419	0.00422	0.00389	0.00340 to 0.00460	105	70.0 to 130	0.713	20.0
BC02111	Molybdenum, Dissolved	mg/L	0.0000632	0.0002	0.100	0.101	0.101	0.104	0.0850 to 0.115	99.7	70.0 to 130	0.00	20.0
BC02109	Molybdenum, Total	mg/L	0.0000061	0.0002	0.100	0.104	0.102	0.101	0.0850 to 0.115	103	70.0 to 130	1.94	20.0
BC02111	Potassium, Dissolved	mg/L	-0.0724	0.367	10.0	15.7	15.0	9.83	8.50 to 11.5	93.2	70.0 to 130	4.56	20.0
BC02109	Potassium, Total	mg/L	-0.0179	0.367	10.0	15.9	15.6	10.1	8.50 to 11.5	100	70.0 to 130	1.90	20.0
BC02111	Selenium, Dissolved	mg/L	0.000111	0.00100	0.100	0.106	0.103	0.104	0.0850 to 0.115	104	70.0 to 130	2.87	20.0
BC02109	Selenium, Total	mg/L	0.0000269	0.00100	0.100	0.102	0.101	0.108	0.0850 to 0.115	102	70.0 to 130	0.985	20.0
BC02111	Silicon, Dissolved	mg/L	-0.000923	0.0440	1.00	8.17	8.27	1.02	0.850 to 1.15	99.0	70.0 to 130	1.22	20.0
BC02109	Silicon, Total	mg/L	-0.00067	0.0440	1.00	10.8	10.7	1.03	0.850 to 1.15	86.0	70.0 to 130	0.930	20.0
BC02111	Sodium, Dissolved	mg/L	0.000085	0.0660	5.00	60.1	59.9	5.01	4.25 to 5.75	116	70.0 to 130	0.333	20.0
BC02109	Sodium, Total	mg/L	0.0024	0.0660	5.00	139	142	5.07	4.25 to 5.75	60.0	70.0 to 130	2.14	20.0
BC02111	Thallium, Dissolved	mg/L	0.000006	0.000147	0.100	0.0991	0.0964	0.102	0.0850 to 0.115	99.0	70.0 to 130	2.76	20.0
BC02109	Thallium, Total	mg/L	0.0000139	0.000147	0.100	0.0983	0.105	0.102	0.0850 to 0.115	98.3	70.0 to 130	6.59	20.0
BC02109	Total Organic Carbon	mg/L	0.370	1.00	10.0	10.6	10.4	24.2		106	80.0 to 120	1.90	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 14:21

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-17R

Laboratory ID Number: BC02106

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC02120	Alkalinity, Total as CaCO3	mg/L					239	51.9	45.0 to 55.0			4.27	10.0
BC02109	Chloride	mg/L	-0.122	1.00	160	236	76.9	10.4	9.00 to 11.0	101	80.0 to 120	2.90	20.0
BC02109	Fluoride	mg/L	-0.00422	0.125	2.50	2.67	0.100	2.62	2.25 to 2.75	103	80.0 to 120	2.96	20.0
BC02109	Nitrogen, Nitrate/Nitrite	mg/L as N	0.01	0.200	2.00	2.06	0.039	1.95	1.80 to 2.20	103	90.0 to 110	0.00	15.0
BC02115	Solids, Dissolved	mg/L	1.00	25.0			2460	55.0	40.0 to 60.0			1.64	10.0
BC02109	Sulfate	mg/L	0.228	2.0	1600	2910	1290	18.8	18.0 to 22.0	99.4	80.0 to 120	2.30	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill - MW-18

Location Code: WMWGORLF
Collected: 1/31/22 15:25
Customer ID:
Submittal Date: 2/1/22 16:40

Laboratory ID Number: BC02107

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q	
Analytical Method: EPA 200.7		Analyst: RDA			Preparation Method: EPA 1638					
* Boron, Total	2/7/22 11:00	2/8/22 10:32		1.015	0.0318	mg/L	0.030000	0.1015	J	
* Calcium, Total	2/7/22 11:00	2/8/22 12:24		20.3	282	mg/L	1.4007	8.12		
* Iron, Total	2/7/22 11:00	2/8/22 10:32		1.015	0.0123	mg/L	0.008120	0.0406	J	
* Lithium, Total	2/7/22 11:00	2/8/22 10:32		1.015	0.0476	mg/L	0.007105	0.01999956		
* Magnesium, Total	2/7/22 11:00	2/8/22 12:24		20.3	291	mg/L	0.4263	8.12		
Silica, Total (calc.)	2/7/22 11:00	2/8/22 10:32		1	13.8	mg/L				
Silicon, Total	2/7/22 11:00	2/8/22 10:32		1.015	6.45	mg/L	0.02030	0.25375		
* Sodium, Total	2/7/22 11:00	2/8/22 10:32		1.015	27.5	mg/L	0.03045	0.406		
Analytical Method: EPA 200.7		Analyst: RDA			Preparation Method: EPA 1638					
* Boron, Dissolved	2/7/22 11:00	2/8/22 09:37		1.015	0.0320	mg/L	0.030000	0.1015	J	
* Calcium, Dissolved	2/7/22 11:00	2/8/22 11:35		20.3	282	mg/L	1.4007	8.12		
* Iron, Dissolved	2/7/22 11:00	2/8/22 09:37		1.015	Not Detected	mg/L	0.008120	0.0406	U	
* Lithium, Dissolved	2/7/22 11:00	2/8/22 09:37		1.015	0.0477	mg/L	0.007105	0.01999956		
* Magnesium, Dissolved	2/7/22 11:00	2/8/22 11:35		20.3	291	mg/L	0.4263	8.12		
Silica, Dissolved (calc.)	2/7/22 11:00	2/8/22 09:37		1	13.6	mg/L				
Silicon, Dissolved	2/7/22 11:00	2/8/22 09:37		1.015	6.36	mg/L	0.02030	0.25375		
* Sodium, Dissolved	2/7/22 11:00	2/8/22 09:37		1.015	27.8	mg/L	0.03045	0.406		
Analytical Method: EPA 200.8		Analyst: ABB			Preparation Method: EPA 1638					
* Antimony, Total	2/8/22 14:11	2/9/22 13:36		1.015	Not Detected	mg/L	0.000508	0.001015	U	
* Aluminum, Total	2/8/22 14:11	2/9/22 13:36		1.015	Not Detected	mg/L	0.004060	0.01015	U	
* Arsenic, Total	2/8/22 14:11	2/9/22 13:36		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Barium, Total	2/8/22 14:11	2/9/22 13:36		1.015	0.00915	mg/L	0.000102	0.000203		
* Beryllium, Total	2/8/22 14:11	2/9/22 13:36		1.015	Not Detected	mg/L	0.000406	0.001015	U	
* Cadmium, Total	2/8/22 14:11	2/9/22 13:36		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Chromium, Total	2/8/22 14:11	2/9/22 13:36		1.015	0.000480	mg/L	0.000203	0.001015	J	
* Cobalt, Total	2/8/22 14:11	2/9/22 13:36		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Lead, Total	2/8/22 14:11	2/9/22 13:36		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Manganese, Total	2/8/22 14:11	2/9/22 13:36		1.015	0.00197	mg/L	0.000068	0.000203		
* Molybdenum, Total	2/8/22 14:11	2/9/22 13:36		1.015	0.000140	mg/L	0.000068	0.000203	J	
* Potassium, Total	2/8/22 14:11	2/9/22 13:36		1.015	6.59	mg/L	0.169505	0.5075		

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill - MW-18

Location Code: WMWGORLF
Collected: 1/31/22 15:25
Customer ID:
Submittal Date: 2/1/22 16:40

Laboratory ID Number: BC02107

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/8/22 14:11	2/9/22 13:36		1.015	0.00356	mg/L	0.000508	0.001015	
* Thallium, Total	2/8/22 14:11	2/9/22 13:36		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 200.8		Analyst: ABB							
* Antimony, Dissolved	2/8/22 14:50	2/10/22 15:28		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/8/22 14:50	2/10/22 15:28		1.015	Not Detected	mg/L	0.004060	0.01015	U
* Arsenic, Dissolved	2/8/22 14:50	2/10/22 15:28		1.015	0.000068	mg/L	0.000068	0.000203	J
* Barium, Dissolved	2/8/22 14:50	2/10/22 15:28		1.015	0.00931	mg/L	0.000102	0.000203	
* Beryllium, Dissolved	2/8/22 14:50	2/10/22 15:28		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	2/8/22 14:50	2/10/22 15:28		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	2/8/22 14:50	2/10/22 15:28		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	2/8/22 14:50	2/10/22 15:28		1.015	0.000127	mg/L	0.000068	0.000203	J
* Lead, Dissolved	2/8/22 14:50	2/10/22 15:28		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	2/8/22 14:50	2/10/22 17:25		1.015	0.0000882	mg/L	0.000068	0.000203	J
* Molybdenum, Dissolved	2/8/22 14:50	2/10/22 15:28		1.015	0.000212	mg/L	0.000068	0.000203	
* Potassium, Dissolved	2/8/22 14:50	2/10/22 15:28		1.015	6.26	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/8/22 14:50	2/10/22 15:28		1.015	0.00399	mg/L	0.000508	0.001015	
* Thallium, Dissolved	2/8/22 14:50	2/10/22 15:28		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	2/10/22 13:23	2/10/22 17:48		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: ELH							
* Nitrogen, Nitrate/Nitrite	2/3/22 13:40	2/3/22 13:40		1	0.584	mg/L as N	0.20	0.3	
Analytical Method: SM 2320 B		Analyst: ALH							
Alkalinity, Total as CaCO3	2/7/22 09:40	2/7/22 14:00		1	170	mg/L		0.1	
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	2/2/22 11:55	2/3/22 13:40		1	2480	mg/L		125	
Analytical Method: SM 4500CO2 D		Analyst: ALH							
Bicarbonate Alkalinity, (calc.)	2/7/22 09:40	2/7/22 14:00		1	170	mg/L			
Carbonate Alkalinity, (calc.)	2/7/22 09:40	2/7/22 14:00		1	0.11	mg/L			
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	2/10/22 14:48	2/10/22 14:48		1	Not Detected	mg/L	1.00	2	U

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill - MW-18

Location Code: WMWGORLF
Collected: 1/31/22 15:25
Customer ID:
Submittal Date: 2/1/22 16:40

Laboratory ID Number: BC02107

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	2/9/22 09:48	2/9/22 09:48		1	1.32	mg/L	0.50	1	
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	2/10/22 15:19	2/10/22 15:19		1	0.275	mg/L	0.06	0.1	
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	2/8/22 10:24	2/8/22 10:24		50	1570	mg/L	25.00	50	
Analytical Method: Field Measurements		Analyst: DKG							
Conductivity	1/31/22 15:22	1/31/22 15:22			2602.91	uS/cm			FA
pH	1/31/22 15:22	1/31/22 15:22			6.37	SU			FA
Temperature	1/31/22 15:22	1/31/22 15:22			19.08	C			FA
Turbidity	1/31/22 15:22	1/31/22 15:22			1.07	NTU			FA

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 15:25

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-18

Laboratory ID Number: BC02107

Sample	Analysis	Units	MB	MB		MS	MSD	Standard		Rec		Prec	Limit
				Limit	Spike			Standard	Limit	Rec	Limit		
BC02111	Aluminum, Dissolved	mg/L	0.000259	0.010	0.100	0.0986	0.0947	0.0956	0.0850 to 0.115	93.9	70.0 to 130	4.04	20.0
BC02109	Aluminum, Total	mg/L	-0.00435	0.010	0.100	0.106	0.103	0.106	0.0850 to 0.115	106	70.0 to 130	2.87	20.0
BC02111	Antimony, Dissolved	mg/L	0.000124	0.00100	0.100	0.101	0.0969	0.0990	0.0850 to 0.115	101	70.0 to 130	4.14	20.0
BC02109	Antimony, Total	mg/L	0.0000732	0.00100	0.100	0.107	0.103	0.101	0.0850 to 0.115	107	70.0 to 130	3.81	20.0
BC02111	Arsenic, Dissolved	mg/L	-0.0000275	0.000176	0.100	0.0989	0.0968	0.102	0.0850 to 0.115	98.8	70.0 to 130	2.15	20.0
BC02109	Arsenic, Total	mg/L	0.0000153	0.000176	0.100	0.107	0.106	0.107	0.0850 to 0.115	106	70.0 to 130	0.939	20.0
BC02111	Barium, Dissolved	mg/L	0.0000421	0.000200	0.100	0.111	0.0994	0.0954	0.0850 to 0.115	100	70.0 to 130	11.0	20.0
BC02109	Barium, Total	mg/L	-0.0000787	0.000200	0.100	0.112	0.111	0.0944	0.0850 to 0.115	96.7	70.0 to 130	0.897	20.0
BC02111	Beryllium, Dissolved	mg/L	0.000287	0.000880	0.100	0.0889	0.0846	0.0952	0.0850 to 0.115	88.9	70.0 to 130	4.96	20.0
BC02109	Beryllium, Total	mg/L	0.000094	0.000880	0.100	0.0993	0.101	0.101	0.0850 to 0.115	99.3	70.0 to 130	1.70	20.0
BC02111	Boron, Dissolved	mg/L	-0.000503	0.0650	1.00	1.03	1.05	1.00	0.850 to 1.15	100	70.0 to 130	1.92	20.0
BC02109	Boron, Total	mg/L	-0.000571	0.0650	1.00	1.12	1.10	0.990	0.850 to 1.15	102	70.0 to 130	1.80	20.0
BC02111	Cadmium, Dissolved	mg/L	-0.0000147	0.000147	0.100	0.0990	0.0931	0.100	0.0850 to 0.115	99.0	70.0 to 130	6.14	20.0
BC02109	Cadmium, Total	mg/L	0.000006	0.000147	0.100	0.100	0.101	0.105	0.0850 to 0.115	100	70.0 to 130	0.995	20.0
BC02111	Calcium, Dissolved	mg/L	-0.0197	0.152	5.00	391	398	4.96	4.25 to 5.75	100	70.0 to 130	1.77	20.0
BC02109	Calcium, Total	mg/L	-0.0136	0.152	5.00	348	351	4.87	4.25 to 5.75	-40.0	70.0 to 130	0.858	20.0
BC02111	Chromium, Dissolved	mg/L	0.0000585	0.000440	0.100	0.0973	0.0938	0.103	0.0850 to 0.115	97.3	70.0 to 130	3.66	20.0
BC02109	Chromium, Total	mg/L	-0.0000041	0.000440	0.100	0.103	0.101	0.105	0.0850 to 0.115	103	70.0 to 130	1.96	20.0
BC02111	Cobalt, Dissolved	mg/L	0.0000464	0.000147	0.100	0.0984	0.0949	0.105	0.0850 to 0.115	97.3	70.0 to 130	3.62	20.0
BC02109	Cobalt, Total	mg/L	0.0000084	0.000147	0.100	0.103	0.101	0.107	0.0850 to 0.115	103	70.0 to 130	1.96	20.0
BC02111	Iron, Dissolved	mg/L	-0.000316	0.0176	0.2	1.29	1.30	0.201	0.170 to 0.230	90.0	70.0 to 130	0.772	20.0
BC02109	Iron, Total	mg/L	-0.000407	0.0176	0.2	6.81	6.83	0.199	0.170 to 0.230	10.0	70.0 to 130	0.293	20.0
BC02111	Lead, Dissolved	mg/L	0.0000093	0.000147	0.100	0.0992	0.0964	0.102	0.0850 to 0.115	99.2	70.0 to 130	2.86	20.0
BC02109	Lead, Total	mg/L	0.000007	0.000147	0.100	0.100	0.104	0.0980	0.0850 to 0.115	100	70.0 to 130	3.92	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 15:25

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-18

Laboratory ID Number: BC02107

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC02111	Lithium, Dissolved	mg/L	-0.000056	0.0154	0.200	0.291	0.298	0.200	0.170 to 0.230	101	70.0 to 130	2.38	20.0
BC02109	Lithium, Total	mg/L	-0.000062	0.0154	0.200	0.398	0.416	0.203	0.170 to 0.230	98.0	70.0 to 130	4.42	20.0
BC02111	Magnesium, Dissolved	mg/L	-0.00951	0.0462	5.00	431	431	5.11	4.25 to 5.75	180	70.0 to 130	0.00	20.0
BC02109	Magnesium, Total	mg/L	-0.00456	0.0462	5.00	189	193	5.11	4.25 to 5.75	60.0	70.0 to 130	2.09	20.0
BC02111	Manganese, Dissolved	mg/L	-0.0000097	0.0002	0.100	0.399	0.391	0.0965	0.0850 to 0.115	98.0	70.0 to 130	2.03	20.0
BC02109	Manganese, Total	mg/L	-0.000185	0.0002	0.100	1.26	1.25	0.106	0.0850 to 0.115	110	70.0 to 130	0.797	20.0
BC02109	Mercury, Total by CVAA	mg/L	0.00017	0.000500	0.004	0.00419	0.00422	0.00389	0.00340 to 0.00460	105	70.0 to 130	0.713	20.0
BC02111	Molybdenum, Dissolved	mg/L	0.0000632	0.0002	0.100	0.101	0.101	0.104	0.0850 to 0.115	99.7	70.0 to 130	0.00	20.0
BC02109	Molybdenum, Total	mg/L	0.0000061	0.0002	0.100	0.104	0.102	0.101	0.0850 to 0.115	103	70.0 to 130	1.94	20.0
BC02111	Potassium, Dissolved	mg/L	-0.0724	0.367	10.0	15.7	15.0	9.83	8.50 to 11.5	93.2	70.0 to 130	4.56	20.0
BC02109	Potassium, Total	mg/L	-0.0179	0.367	10.0	15.9	15.6	10.1	8.50 to 11.5	100	70.0 to 130	1.90	20.0
BC02111	Selenium, Dissolved	mg/L	0.000111	0.00100	0.100	0.106	0.103	0.104	0.0850 to 0.115	104	70.0 to 130	2.87	20.0
BC02109	Selenium, Total	mg/L	0.0000269	0.00100	0.100	0.102	0.101	0.108	0.0850 to 0.115	102	70.0 to 130	0.985	20.0
BC02111	Silicon, Dissolved	mg/L	-0.000923	0.0440	1.00	8.17	8.27	1.02	0.850 to 1.15	99.0	70.0 to 130	1.22	20.0
BC02109	Silicon, Total	mg/L	-0.00067	0.0440	1.00	10.8	10.7	1.03	0.850 to 1.15	86.0	70.0 to 130	0.930	20.0
BC02111	Sodium, Dissolved	mg/L	0.000085	0.0660	5.00	60.1	59.9	5.01	4.25 to 5.75	116	70.0 to 130	0.333	20.0
BC02109	Sodium, Total	mg/L	0.0024	0.0660	5.00	139	142	5.07	4.25 to 5.75	60.0	70.0 to 130	2.14	20.0
BC02111	Thallium, Dissolved	mg/L	0.000006	0.000147	0.100	0.0991	0.0964	0.102	0.0850 to 0.115	99.0	70.0 to 130	2.76	20.0
BC02109	Thallium, Total	mg/L	0.0000139	0.000147	0.100	0.0983	0.105	0.102	0.0850 to 0.115	98.3	70.0 to 130	6.59	20.0
BC02109	Total Organic Carbon	mg/L	0.370	1.00	10.0	10.6	10.4	24.2		106	80.0 to 120	1.90	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 15:25

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-18

Laboratory ID Number: BC02107

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC02120	Alkalinity, Total as CaCO3	mg/L					239	51.9	45.0 to 55.0			4.27	10.0
BC02109	Chloride	mg/L	-0.122	1.00	160	236	76.9	10.4	9.00 to 11.0	101	80.0 to 120	2.90	20.0
BC02109	Fluoride	mg/L	-0.00422	0.125	2.50	2.67	0.100	2.62	2.25 to 2.75	103	80.0 to 120	2.96	20.0
BC02109	Nitrogen, Nitrate/Nitrite	mg/L as N	0.01	0.200	2.00	2.06	0.039	1.95	1.80 to 2.20	103	90.0 to 110	0.00	15.0
BC02115	Solids, Dissolved	mg/L	1.00	25.0			2460	55.0	40.0 to 60.0			1.64	10.0
BC02109	Sulfate	mg/L	0.228	2.0	1600	2910	1290	18.8	18.0 to 22.0	99.4	80.0 to 120	2.30	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill - MW-19

Location Code: WMWGORLF
Collected: 2/1/22 10:54
Customer ID:
Submittal Date: 2/1/22 16:40

Laboratory ID Number: BC02108

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: EPA 200.7		Analyst: RDA			Preparation Method: EPA 1638				
* Boron, Total	2/7/22 11:00	2/8/22 10:33		1.015	0.0356	mg/L	0.030000	0.1015	J
* Calcium, Total	2/7/22 11:00	2/8/22 12:26		20.3	343	mg/L	1.4007	8.12	
* Iron, Total	2/7/22 11:00	2/8/22 10:33		1.015	2.52	mg/L	0.008120	0.0406	
* Lithium, Total	2/7/22 11:00	2/8/22 10:33		1.015	0.0528	mg/L	0.007105	0.01999956	
* Magnesium, Total	2/7/22 11:00	2/8/22 12:26		20.3	363	mg/L	0.4263	8.12	
Silica, Total (calc.)	2/7/22 11:00	2/8/22 10:33		1	15.9	mg/L			
Silicon, Total	2/7/22 11:00	2/8/22 10:33		1.015	7.45	mg/L	0.02030	0.25375	
* Sodium, Total	2/7/22 11:00	2/8/22 10:33		1.015	32.6	mg/L	0.03045	0.406	
Analytical Method: EPA 200.7		Analyst: RDA			Preparation Method: EPA 1638				
* Boron, Dissolved	2/7/22 11:00	2/8/22 09:39		1.015	0.0359	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	2/7/22 11:00	2/8/22 11:37		20.3	345	mg/L	1.4007	8.12	
* Iron, Dissolved	2/7/22 11:00	2/8/22 09:39		1.015	1.67	mg/L	0.008120	0.0406	
* Lithium, Dissolved	2/7/22 11:00	2/8/22 09:39		1.015	0.0528	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	2/7/22 11:00	2/8/22 11:37		20.3	359	mg/L	0.4263	8.12	
Silica, Dissolved (calc.)	2/7/22 11:00	2/8/22 09:39		1	16.1	mg/L			
Silicon, Dissolved	2/7/22 11:00	2/8/22 09:39		1.015	7.54	mg/L	0.02030	0.25375	
* Sodium, Dissolved	2/7/22 11:00	2/8/22 09:39		1.015	32.6	mg/L	0.03045	0.406	
Analytical Method: EPA 200.8		Analyst: ABB			Preparation Method: EPA 1638				
* Antimony, Total	2/8/22 14:11	2/9/22 13:40		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	2/8/22 14:11	2/9/22 13:40		1.015	Not Detected	mg/L	0.004060	0.01015	U
* Arsenic, Total	2/8/22 14:11	2/9/22 13:40		1.015	0.000190	mg/L	0.000068	0.000203	J
* Barium, Total	2/8/22 14:11	2/9/22 13:40		1.015	0.00813	mg/L	0.000102	0.000203	
* Beryllium, Total	2/8/22 14:11	2/9/22 13:40		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	2/8/22 14:11	2/9/22 13:40		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	2/8/22 14:11	2/9/22 13:40		1.015	0.000261	mg/L	0.000203	0.001015	J
* Cobalt, Total	2/8/22 14:11	2/9/22 13:40		1.015	0.0380	mg/L	0.000068	0.000203	
* Lead, Total	2/8/22 14:11	2/9/22 13:40		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	2/8/22 14:11	2/9/22 16:28		10.15	2.43	mg/L	0.000680	0.00203	
* Molybdenum, Total	2/8/22 14:11	2/9/22 13:40		1.015	0.000212	mg/L	0.000068	0.000203	
* Potassium, Total	2/8/22 14:11	2/9/22 13:40		1.015	5.98	mg/L	0.169505	0.5075	

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill - MW-19

Location Code: WMWGORLF

Collected: 2/1/22 10:54

Customer ID:

Submittal Date: 2/1/22 16:40

Laboratory ID Number: BC02108

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/8/22 14:11	2/9/22 13:40		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	2/8/22 14:11	2/9/22 13:40		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 200.8		Analyst: ABB							
* Antimony, Dissolved	2/8/22 14:50	2/10/22 15:31		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/8/22 14:50	2/10/22 15:31		1.015	0.00439	mg/L	0.004060	0.01015	J
* Arsenic, Dissolved	2/8/22 14:50	2/10/22 15:31		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Barium, Dissolved	2/8/22 14:50	2/10/22 15:31		1.015	0.00811	mg/L	0.000102	0.000203	
* Beryllium, Dissolved	2/8/22 14:50	2/10/22 15:31		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	2/8/22 14:50	2/10/22 15:31		1.015	0.0000681	mg/L	0.000068	0.000203	J
* Chromium, Dissolved	2/8/22 14:50	2/10/22 15:31		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	2/8/22 14:50	2/10/22 15:31		1.015	0.0366	mg/L	0.000068	0.000203	
* Lead, Dissolved	2/8/22 14:50	2/10/22 15:31		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	2/8/22 14:50	2/10/22 17:29		10.15	2.10	mg/L	0.000680	0.00203	
* Molybdenum, Dissolved	2/8/22 14:50	2/10/22 15:31		1.015	0.000195	mg/L	0.000068	0.000203	J
* Potassium, Dissolved	2/8/22 14:50	2/10/22 15:31		1.015	5.75	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/8/22 14:50	2/10/22 15:31		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	2/8/22 14:50	2/10/22 15:31		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	2/10/22 13:23	2/10/22 17:52		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: ELH							
* Nitrogen, Nitrate/Nitrite	2/3/22 13:42	2/3/22 13:42		1	Not Detected	mg/L as N	0.20	0.3	U
Analytical Method: SM 2320 B		Analyst: ALH							
Alkalinity, Total as CaCO3	2/7/22 09:40	2/7/22 14:00		1	200	mg/L		0.1	
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	2/2/22 11:55	2/3/22 13:40		1	3080	mg/L		147.1	
Analytical Method: SM 4500CO2 D		Analyst: ALH							
Bicarbonate Alkalinity, (calc.)	2/7/22 09:40	2/7/22 14:00		1	200	mg/L			
Carbonate Alkalinity, (calc.)	2/7/22 09:40	2/7/22 14:00		1	0.07	mg/L			
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	2/10/22 15:06	2/10/22 15:06		1	Not Detected	mg/L	1.00	2	U

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill - MW-19

Location Code: WMWGORLF

Collected: 2/1/22 10:54

Customer ID:

Submittal Date: 2/1/22 16:40

Laboratory ID Number: BC02108

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	2/9/22 09:49	2/9/22 09:49		1	2.27	mg/L	0.50	1	
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	2/10/22 15:20	2/10/22 15:20		1	0.355	mg/L	0.06	0.1	
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	2/8/22 10:25	2/8/22 10:25		50	1940	mg/L	25.00	50	
Analytical Method: Field Measurements		Analyst: DKG							
Conductivity	2/1/22 10:51	2/1/22 10:51			3096.65	uS/cm			FA
pH	2/1/22 10:51	2/1/22 10:51			6.73	SU			FA
Temperature	2/1/22 10:51	2/1/22 10:51			18.99	C			FA
Turbidity	2/1/22 10:51	2/1/22 10:51			5.71	NTU			FA

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 2/1/22 10:54

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-19

Laboratory ID Number: BC02108

Sample	Analysis	Units	MB	MB		MS	MSD	Standard		Rec		Prec	Limit
				Limit	Spike			Standard	Limit	Rec	Limit		
BC02111	Aluminum, Dissolved	mg/L	0.000259	0.010	0.100	0.0986	0.0947	0.0956	0.0850 to 0.115	93.9	70.0 to 130	4.04	20.0
BC02109	Aluminum, Total	mg/L	-0.00435	0.010	0.100	0.106	0.103	0.106	0.0850 to 0.115	106	70.0 to 130	2.87	20.0
BC02111	Antimony, Dissolved	mg/L	0.000124	0.00100	0.100	0.101	0.0969	0.0990	0.0850 to 0.115	101	70.0 to 130	4.14	20.0
BC02109	Antimony, Total	mg/L	0.0000732	0.00100	0.100	0.107	0.103	0.101	0.0850 to 0.115	107	70.0 to 130	3.81	20.0
BC02111	Arsenic, Dissolved	mg/L	-0.0000275	0.000176	0.100	0.0989	0.0968	0.102	0.0850 to 0.115	98.8	70.0 to 130	2.15	20.0
BC02109	Arsenic, Total	mg/L	0.0000153	0.000176	0.100	0.107	0.106	0.107	0.0850 to 0.115	106	70.0 to 130	0.939	20.0
BC02111	Barium, Dissolved	mg/L	0.0000421	0.000200	0.100	0.111	0.0994	0.0954	0.0850 to 0.115	100	70.0 to 130	11.0	20.0
BC02109	Barium, Total	mg/L	-0.0000787	0.000200	0.100	0.112	0.111	0.0944	0.0850 to 0.115	96.7	70.0 to 130	0.897	20.0
BC02111	Beryllium, Dissolved	mg/L	0.000287	0.000880	0.100	0.0889	0.0846	0.0952	0.0850 to 0.115	88.9	70.0 to 130	4.96	20.0
BC02109	Beryllium, Total	mg/L	0.000094	0.000880	0.100	0.0993	0.101	0.101	0.0850 to 0.115	99.3	70.0 to 130	1.70	20.0
BC02111	Boron, Dissolved	mg/L	-0.000503	0.0650	1.00	1.03	1.05	1.00	0.850 to 1.15	100	70.0 to 130	1.92	20.0
BC02109	Boron, Total	mg/L	-0.000571	0.0650	1.00	1.12	1.10	0.990	0.850 to 1.15	102	70.0 to 130	1.80	20.0
BC02111	Cadmium, Dissolved	mg/L	-0.0000147	0.000147	0.100	0.0990	0.0931	0.100	0.0850 to 0.115	99.0	70.0 to 130	6.14	20.0
BC02109	Cadmium, Total	mg/L	0.000006	0.000147	0.100	0.100	0.101	0.105	0.0850 to 0.115	100	70.0 to 130	0.995	20.0
BC02111	Calcium, Dissolved	mg/L	-0.0197	0.152	5.00	391	398	4.96	4.25 to 5.75	100	70.0 to 130	1.77	20.0
BC02109	Calcium, Total	mg/L	-0.0136	0.152	5.00	348	351	4.87	4.25 to 5.75	-40.0	70.0 to 130	0.858	20.0
BC02111	Chromium, Dissolved	mg/L	0.0000585	0.000440	0.100	0.0973	0.0938	0.103	0.0850 to 0.115	97.3	70.0 to 130	3.66	20.0
BC02109	Chromium, Total	mg/L	-0.0000041	0.000440	0.100	0.103	0.101	0.105	0.0850 to 0.115	103	70.0 to 130	1.96	20.0
BC02111	Cobalt, Dissolved	mg/L	0.0000464	0.000147	0.100	0.0984	0.0949	0.105	0.0850 to 0.115	97.3	70.0 to 130	3.62	20.0
BC02109	Cobalt, Total	mg/L	0.0000084	0.000147	0.100	0.103	0.101	0.107	0.0850 to 0.115	103	70.0 to 130	1.96	20.0
BC02111	Iron, Dissolved	mg/L	-0.000316	0.0176	0.2	1.29	1.30	0.201	0.170 to 0.230	90.0	70.0 to 130	0.772	20.0
BC02109	Iron, Total	mg/L	-0.000407	0.0176	0.2	6.81	6.83	0.199	0.170 to 0.230	10.0	70.0 to 130	0.293	20.0
BC02111	Lead, Dissolved	mg/L	0.0000093	0.000147	0.100	0.0992	0.0964	0.102	0.0850 to 0.115	99.2	70.0 to 130	2.86	20.0
BC02109	Lead, Total	mg/L	0.000007	0.000147	0.100	0.100	0.104	0.0980	0.0850 to 0.115	100	70.0 to 130	3.92	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 2/1/22 10:54

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-19

Laboratory ID Number: BC02108

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC02111	Lithium, Dissolved	mg/L	-0.000056	0.0154	0.200	0.291	0.298	0.200	0.170 to 0.230	101	70.0 to 130	2.38	20.0
BC02109	Lithium, Total	mg/L	-0.000062	0.0154	0.200	0.398	0.416	0.203	0.170 to 0.230	98.0	70.0 to 130	4.42	20.0
BC02111	Magnesium, Dissolved	mg/L	-0.00951	0.0462	5.00	431	431	5.11	4.25 to 5.75	180	70.0 to 130	0.00	20.0
BC02109	Magnesium, Total	mg/L	-0.00456	0.0462	5.00	189	193	5.11	4.25 to 5.75	60.0	70.0 to 130	2.09	20.0
BC02111	Manganese, Dissolved	mg/L	-0.0000097	0.0002	0.100	0.399	0.391	0.0965	0.0850 to 0.115	98.0	70.0 to 130	2.03	20.0
BC02109	Manganese, Total	mg/L	-0.000185	0.0002	0.100	1.26	1.25	0.106	0.0850 to 0.115	110	70.0 to 130	0.797	20.0
BC02109	Mercury, Total by CVAA	mg/L	0.00017	0.000500	0.004	0.00419	0.00422	0.00389	0.00340 to 0.00460	105	70.0 to 130	0.713	20.0
BC02111	Molybdenum, Dissolved	mg/L	0.0000632	0.0002	0.100	0.101	0.101	0.104	0.0850 to 0.115	99.7	70.0 to 130	0.00	20.0
BC02109	Molybdenum, Total	mg/L	0.0000061	0.0002	0.100	0.104	0.102	0.101	0.0850 to 0.115	103	70.0 to 130	1.94	20.0
BC02111	Potassium, Dissolved	mg/L	-0.0724	0.367	10.0	15.7	15.0	9.83	8.50 to 11.5	93.2	70.0 to 130	4.56	20.0
BC02109	Potassium, Total	mg/L	-0.0179	0.367	10.0	15.9	15.6	10.1	8.50 to 11.5	100	70.0 to 130	1.90	20.0
BC02111	Selenium, Dissolved	mg/L	0.000111	0.00100	0.100	0.106	0.103	0.104	0.0850 to 0.115	104	70.0 to 130	2.87	20.0
BC02109	Selenium, Total	mg/L	0.0000269	0.00100	0.100	0.102	0.101	0.108	0.0850 to 0.115	102	70.0 to 130	0.985	20.0
BC02111	Silicon, Dissolved	mg/L	-0.000923	0.0440	1.00	8.17	8.27	1.02	0.850 to 1.15	99.0	70.0 to 130	1.22	20.0
BC02109	Silicon, Total	mg/L	-0.00067	0.0440	1.00	10.8	10.7	1.03	0.850 to 1.15	86.0	70.0 to 130	0.930	20.0
BC02111	Sodium, Dissolved	mg/L	0.000085	0.0660	5.00	60.1	59.9	5.01	4.25 to 5.75	116	70.0 to 130	0.333	20.0
BC02109	Sodium, Total	mg/L	0.0024	0.0660	5.00	139	142	5.07	4.25 to 5.75	60.0	70.0 to 130	2.14	20.0
BC02111	Thallium, Dissolved	mg/L	0.000006	0.000147	0.100	0.0991	0.0964	0.102	0.0850 to 0.115	99.0	70.0 to 130	2.76	20.0
BC02109	Thallium, Total	mg/L	0.0000139	0.000147	0.100	0.0983	0.105	0.102	0.0850 to 0.115	98.3	70.0 to 130	6.59	20.0
BC02109	Total Organic Carbon	mg/L	0.370	1.00	10.0	10.6	10.4	24.2		106	80.0 to 120	1.90	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 2/1/22 10:54

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-19

Laboratory ID Number: BC02108

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC02120	Alkalinity, Total as CaCO3	mg/L					239	51.9	45.0 to 55.0			4.27	10.0
BC02109	Chloride	mg/L	-0.122	1.00	160	236	76.9	10.4	9.00 to 11.0	101	80.0 to 120	2.90	20.0
BC02109	Fluoride	mg/L	-0.00422	0.125	2.50	2.67	0.100	2.62	2.25 to 2.75	103	80.0 to 120	2.96	20.0
BC02109	Nitrogen, Nitrate/Nitrite	mg/L as N	0.01	0.200	2.00	2.06	0.039	1.95	1.80 to 2.20	103	90.0 to 110	0.00	15.0
BC02115	Solids, Dissolved	mg/L	1.00	25.0			2460	55.0	40.0 to 60.0			1.64	10.0
BC02109	Sulfate	mg/L	0.228	2.0	1600	2910	1290	18.8	18.0 to 22.0	99.4	80.0 to 120	2.30	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill - MW-20

Location Code: WMWGORLF
Collected: 2/1/22 12:03
Customer ID:
Submittal Date: 2/1/22 16:40

Laboratory ID Number: BC02109

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: EPA 200.7		Analyst: RDA			Preparation Method: EPA 1638				
* Boron, Total	2/7/22 11:00	2/8/22 10:35		1.015	0.104	mg/L	0.030000	0.1015	
* Calcium, Total	2/7/22 11:00	2/8/22 12:28		20.3	350	mg/L	1.4007	8.12	RA
* Iron, Total	2/7/22 11:00	2/8/22 12:28		20.3	6.79	mg/L	0.1624	0.812	RA
* Lithium, Total	2/7/22 11:00	2/8/22 10:35		1.015	0.202	mg/L	0.007105	0.01999956	
* Magnesium, Total	2/7/22 11:00	2/8/22 12:28		20.3	186	mg/L	0.4263	8.12	RA
Silica, Total (calc.)	2/7/22 11:00	2/8/22 10:35		1	21.3	mg/L			
Silicon, Total	2/7/22 11:00	2/8/22 10:35		1.015	9.94	mg/L	0.02030	0.25375	
* Sodium, Total	2/7/22 11:00	2/8/22 12:28		20.3	136	mg/L	0.609	8.12	RA
Analytical Method: EPA 200.7		Analyst: RDA			Preparation Method: EPA 1638				
* Boron, Dissolved	2/7/22 11:00	2/8/22 09:41		1.015	0.104	mg/L	0.030000	0.1015	
* Calcium, Dissolved	2/7/22 11:00	2/8/22 11:39		20.3	343	mg/L	1.4007	8.12	
* Iron, Dissolved	2/7/22 11:00	2/8/22 11:39		20.3	6.69	mg/L	0.1624	0.812	
* Lithium, Dissolved	2/7/22 11:00	2/8/22 09:41		1.015	0.199	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	2/7/22 11:00	2/8/22 11:39		20.3	183	mg/L	0.4263	8.12	
Silica, Dissolved (calc.)	2/7/22 11:00	2/8/22 09:41		1	21.2	mg/L			
Silicon, Dissolved	2/7/22 11:00	2/8/22 09:41		1.015	9.91	mg/L	0.02030	0.25375	
* Sodium, Dissolved	2/7/22 11:00	2/8/22 11:39		20.3	135	mg/L	0.609	8.12	
Analytical Method: EPA 200.8		Analyst: ABB			Preparation Method: EPA 1638				
* Antimony, Total	2/8/22 14:11	2/9/22 13:43		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	2/8/22 14:11	2/9/22 13:43		1.015	Not Detected	mg/L	0.004060	0.01015	U
* Arsenic, Total	2/8/22 14:11	2/9/22 13:43		1.015	0.000769	mg/L	0.000068	0.000203	
* Barium, Total	2/8/22 14:11	2/9/22 13:43		1.015	0.0153	mg/L	0.000102	0.000203	
* Beryllium, Total	2/8/22 14:11	2/9/22 13:43		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	2/8/22 14:11	2/9/22 13:43		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	2/8/22 14:11	2/9/22 13:43		1.015	0.000296	mg/L	0.000203	0.001015	J
* Cobalt, Total	2/8/22 14:11	2/9/22 13:43		1.015	0.000295	mg/L	0.000068	0.000203	
* Lead, Total	2/8/22 14:11	2/9/22 13:43		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	2/8/22 14:11	2/9/22 13:43		1.015	1.15	mg/L	0.000068	0.000203	
* Molybdenum, Total	2/8/22 14:11	2/9/22 13:43		1.015	0.00104	mg/L	0.000068	0.000203	
* Potassium, Total	2/8/22 14:11	2/9/22 13:43		1.015	5.90	mg/L	0.169505	0.5075	

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill - MW-20

Location Code: WMWGORLF
Collected: 2/1/22 12:03
Customer ID:
Submittal Date: 2/1/22 16:40

Laboratory ID Number: BC02109

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/8/22 14:11	2/9/22 13:43		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	2/8/22 14:11	2/9/22 13:43		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 200.8		Analyst: ABB							
* Antimony, Dissolved	2/8/22 14:50	2/10/22 15:35		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/8/22 14:50	2/10/22 15:35		1.015	Not Detected	mg/L	0.004060	0.01015	U
* Arsenic, Dissolved	2/8/22 14:50	2/10/22 15:35		1.015	0.000688	mg/L	0.000068	0.000203	
* Barium, Dissolved	2/8/22 14:50	2/10/22 15:35		1.015	0.0150	mg/L	0.000102	0.000203	
* Beryllium, Dissolved	2/8/22 14:50	2/10/22 15:35		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	2/8/22 14:50	2/10/22 15:35		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	2/8/22 14:50	2/10/22 15:35		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	2/8/22 14:50	2/10/22 15:35		1.015	0.000310	mg/L	0.000068	0.000203	
* Lead, Dissolved	2/8/22 14:50	2/10/22 15:35		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	2/8/22 14:50	2/10/22 17:32		10.15	1.07	mg/L	0.000680	0.00203	
* Molybdenum, Dissolved	2/8/22 14:50	2/10/22 15:35		1.015	0.000884	mg/L	0.000068	0.000203	
* Potassium, Dissolved	2/8/22 14:50	2/10/22 15:35		1.015	5.68	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/8/22 14:50	2/10/22 15:35		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	2/8/22 14:50	2/10/22 15:35		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	2/10/22 13:23	2/10/22 17:56		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: ELH							
* Nitrogen, Nitrate/Nitrite	2/3/22 13:44	2/3/22 13:44		1	Not Detected	mg/L as N	0.20	0.3	U
Analytical Method: SM 2320 B		Analyst: ALH							
Alkalinity, Total as CaCO3	2/7/22 09:40	2/7/22 14:00		1	289	mg/L		0.1	
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	2/2/22 11:55	2/3/22 13:40		1	2380	mg/L		125	
Analytical Method: SM 4500CO2 D		Analyst: ALH							
Bicarbonate Alkalinity, (calc.)	2/7/22 09:40	2/7/22 14:00		1	289	mg/L			
Carbonate Alkalinity, (calc.)	2/7/22 09:40	2/7/22 14:00		1	0.25	mg/L			
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	2/10/22 15:25	2/10/22 15:25		1	Not Detected	mg/L	1.00	2	U

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill - MW-20

Location Code: WMWGORLF

Collected: 2/1/22 12:03

Customer ID:

Submittal Date: 2/1/22 16:40

Laboratory ID Number: BC02109

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	2/9/22 10:03	2/9/22 10:03		16	74.7	mg/L	8.00	16	
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	2/10/22 15:21	2/10/22 15:21		1	0.103	mg/L	0.06	0.1	
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	2/8/22 10:27	2/8/22 10:27		80	1320	mg/L	40.00	80	
Analytical Method: Field Measurements		Analyst: DKG							
Conductivity	2/1/22 12:00	2/1/22 12:00			2742.60	uS/cm			FA
pH	2/1/22 12:00	2/1/22 12:00			7.19	SU			FA
Temperature	2/1/22 12:00	2/1/22 12:00			19.15	C			FA
Turbidity	2/1/22 12:00	2/1/22 12:00			0.35	NTU			FA

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 2/1/22 12:03

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-20

Laboratory ID Number: BC02109

Sample	Analysis	Units	MB	MB		MS	MSD	Standard		Rec		Prec	Limit
				Limit	Spike			Standard	Limit	Rec	Limit		
BC02111	Aluminum, Dissolved	mg/L	0.000259	0.010	0.100	0.0986	0.0947	0.0956	0.0850 to 0.115	93.9	70.0 to 130	4.04	20.0
BC02109	Aluminum, Total	mg/L	-0.00435	0.010	0.100	0.106	0.103	0.106	0.0850 to 0.115	106	70.0 to 130	2.87	20.0
BC02111	Antimony, Dissolved	mg/L	0.000124	0.00100	0.100	0.101	0.0969	0.0990	0.0850 to 0.115	101	70.0 to 130	4.14	20.0
BC02109	Antimony, Total	mg/L	0.0000732	0.00100	0.100	0.107	0.103	0.101	0.0850 to 0.115	107	70.0 to 130	3.81	20.0
BC02111	Arsenic, Dissolved	mg/L	-0.0000275	0.000176	0.100	0.0989	0.0968	0.102	0.0850 to 0.115	98.8	70.0 to 130	2.15	20.0
BC02109	Arsenic, Total	mg/L	0.0000153	0.000176	0.100	0.107	0.106	0.107	0.0850 to 0.115	106	70.0 to 130	0.939	20.0
BC02111	Barium, Dissolved	mg/L	0.0000421	0.000200	0.100	0.111	0.0994	0.0954	0.0850 to 0.115	100	70.0 to 130	11.0	20.0
BC02109	Barium, Total	mg/L	-0.0000787	0.000200	0.100	0.112	0.111	0.0944	0.0850 to 0.115	96.7	70.0 to 130	0.897	20.0
BC02111	Beryllium, Dissolved	mg/L	0.000287	0.000880	0.100	0.0889	0.0846	0.0952	0.0850 to 0.115	88.9	70.0 to 130	4.96	20.0
BC02109	Beryllium, Total	mg/L	0.000094	0.000880	0.100	0.0993	0.101	0.101	0.0850 to 0.115	99.3	70.0 to 130	1.70	20.0
BC02111	Boron, Dissolved	mg/L	-0.000503	0.0650	1.00	1.03	1.05	1.00	0.850 to 1.15	100	70.0 to 130	1.92	20.0
BC02109	Boron, Total	mg/L	-0.000571	0.0650	1.00	1.12	1.10	0.990	0.850 to 1.15	102	70.0 to 130	1.80	20.0
BC02111	Cadmium, Dissolved	mg/L	-0.0000147	0.000147	0.100	0.0990	0.0931	0.100	0.0850 to 0.115	99.0	70.0 to 130	6.14	20.0
BC02109	Cadmium, Total	mg/L	0.000006	0.000147	0.100	0.100	0.101	0.105	0.0850 to 0.115	100	70.0 to 130	0.995	20.0
BC02111	Calcium, Dissolved	mg/L	-0.0197	0.152	5.00	391	398	4.96	4.25 to 5.75	100	70.0 to 130	1.77	20.0
BC02109	Calcium, Total	mg/L	-0.0136	0.152	5.00	348	351	4.87	4.25 to 5.75	-40.0	70.0 to 130	0.858	20.0
BC02111	Chromium, Dissolved	mg/L	0.0000585	0.000440	0.100	0.0973	0.0938	0.103	0.0850 to 0.115	97.3	70.0 to 130	3.66	20.0
BC02109	Chromium, Total	mg/L	-0.0000041	0.000440	0.100	0.103	0.101	0.105	0.0850 to 0.115	103	70.0 to 130	1.96	20.0
BC02111	Cobalt, Dissolved	mg/L	0.0000464	0.000147	0.100	0.0984	0.0949	0.105	0.0850 to 0.115	97.3	70.0 to 130	3.62	20.0
BC02109	Cobalt, Total	mg/L	0.0000084	0.000147	0.100	0.103	0.101	0.107	0.0850 to 0.115	103	70.0 to 130	1.96	20.0
BC02111	Iron, Dissolved	mg/L	-0.000316	0.0176	0.2	1.29	1.30	0.201	0.170 to 0.230	90.0	70.0 to 130	0.772	20.0
BC02109	Iron, Total	mg/L	-0.000407	0.0176	0.2	6.81	6.83	0.199	0.170 to 0.230	10.0	70.0 to 130	0.293	20.0
BC02111	Lead, Dissolved	mg/L	0.0000093	0.000147	0.100	0.0992	0.0964	0.102	0.0850 to 0.115	99.2	70.0 to 130	2.86	20.0
BC02109	Lead, Total	mg/L	0.000007	0.000147	0.100	0.100	0.104	0.0980	0.0850 to 0.115	100	70.0 to 130	3.92	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 2/1/22 12:03

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-20

Laboratory ID Number: BC02109

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC02111	Lithium, Dissolved	mg/L	-0.000056	0.0154	0.200	0.291	0.298	0.200	0.170 to 0.230	101	70.0 to 130	2.38	20.0
BC02109	Lithium, Total	mg/L	-0.000062	0.0154	0.200	0.398	0.416	0.203	0.170 to 0.230	98.0	70.0 to 130	4.42	20.0
BC02111	Magnesium, Dissolved	mg/L	-0.00951	0.0462	5.00	431	431	5.11	4.25 to 5.75	180	70.0 to 130	0.00	20.0
BC02109	Magnesium, Total	mg/L	-0.00456	0.0462	5.00	189	193	5.11	4.25 to 5.75	60.0	70.0 to 130	2.09	20.0
BC02111	Manganese, Dissolved	mg/L	-0.0000097	0.0002	0.100	0.399	0.391	0.0965	0.0850 to 0.115	98.0	70.0 to 130	2.03	20.0
BC02109	Manganese, Total	mg/L	-0.000185	0.0002	0.100	1.26	1.25	0.106	0.0850 to 0.115	110	70.0 to 130	0.797	20.0
BC02109	Mercury, Total by CVAA	mg/L	0.00017	0.000500	0.004	0.00419	0.00422	0.00389	0.00340 to 0.00460	105	70.0 to 130	0.713	20.0
BC02111	Molybdenum, Dissolved	mg/L	0.0000632	0.0002	0.100	0.101	0.101	0.104	0.0850 to 0.115	99.7	70.0 to 130	0.00	20.0
BC02109	Molybdenum, Total	mg/L	0.0000061	0.0002	0.100	0.104	0.102	0.101	0.0850 to 0.115	103	70.0 to 130	1.94	20.0
BC02111	Potassium, Dissolved	mg/L	-0.0724	0.367	10.0	15.7	15.0	9.83	8.50 to 11.5	93.2	70.0 to 130	4.56	20.0
BC02109	Potassium, Total	mg/L	-0.0179	0.367	10.0	15.9	15.6	10.1	8.50 to 11.5	100	70.0 to 130	1.90	20.0
BC02111	Selenium, Dissolved	mg/L	0.000111	0.00100	0.100	0.106	0.103	0.104	0.0850 to 0.115	104	70.0 to 130	2.87	20.0
BC02109	Selenium, Total	mg/L	0.0000269	0.00100	0.100	0.102	0.101	0.108	0.0850 to 0.115	102	70.0 to 130	0.985	20.0
BC02111	Silicon, Dissolved	mg/L	-0.000923	0.0440	1.00	8.17	8.27	1.02	0.850 to 1.15	99.0	70.0 to 130	1.22	20.0
BC02109	Silicon, Total	mg/L	-0.00067	0.0440	1.00	10.8	10.7	1.03	0.850 to 1.15	86.0	70.0 to 130	0.930	20.0
BC02111	Sodium, Dissolved	mg/L	0.000085	0.0660	5.00	60.1	59.9	5.01	4.25 to 5.75	116	70.0 to 130	0.333	20.0
BC02109	Sodium, Total	mg/L	0.0024	0.0660	5.00	139	142	5.07	4.25 to 5.75	60.0	70.0 to 130	2.14	20.0
BC02111	Thallium, Dissolved	mg/L	0.000006	0.000147	0.100	0.0991	0.0964	0.102	0.0850 to 0.115	99.0	70.0 to 130	2.76	20.0
BC02109	Thallium, Total	mg/L	0.0000139	0.000147	0.100	0.0983	0.105	0.102	0.0850 to 0.115	98.3	70.0 to 130	6.59	20.0
BC02109	Total Organic Carbon	mg/L	0.370	1.00	10.0	10.6	10.4	24.2		106	80.0 to 120	1.90	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 2/1/22 12:03

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-20

Laboratory ID Number: BC02109

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC02120	Alkalinity, Total as CaCO3	mg/L					239	51.9	45.0 to 55.0			4.27	10.0
BC02109	Chloride	mg/L	-0.122	1.00	160	236	76.9	10.4	9.00 to 11.0	101	80.0 to 120	2.90	20.0
BC02109	Fluoride	mg/L	-0.00422	0.125	2.50	2.67	0.100	2.62	2.25 to 2.75	103	80.0 to 120	2.96	20.0
BC02109	Nitrogen, Nitrate/Nitrite	mg/L as N	0.01	0.200	2.00	2.06	0.039	1.95	1.80 to 2.20	103	90.0 to 110	0.00	15.0
BC02115	Solids, Dissolved	mg/L	1.00	25.0			2460	55.0	40.0 to 60.0			1.64	10.0
BC02109	Sulfate	mg/L	0.228	2.0	1600	2910	1290	18.8	18.0 to 22.0	99.4	80.0 to 120	2.30	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill Equipment Blank-1

Location Code: WMWGORLFEB
Collected: 2/1/22 12:35
Customer ID:
Submittal Date: 2/1/22 16:40

Laboratory ID Number: BC02110

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: EPA 200.7		Analyst: RDA			Preparation Method: EPA 1638				
* Boron, Total	2/7/22 11:00	2/8/22 10:45		1.015	Not Detected	mg/L	0.030000	0.1015	U
* Calcium, Total	2/7/22 11:00	2/8/22 10:45		1.015	Not Detected	mg/L	0.070035	0.406	U
* Iron, Total	2/7/22 11:00	2/8/22 10:45		1.015	Not Detected	mg/L	0.008120	0.0406	U
* Lithium, Total	2/7/22 11:00	2/8/22 10:45		1.015	Not Detected	mg/L	0.007105	0.01999956	U
* Magnesium, Total	2/7/22 11:00	2/8/22 10:45		1.015	Not Detected	mg/L	0.021315	0.406	U
Silica, Total (calc.)	2/7/22 11:00	2/8/22 10:45		1	Not Detected	mg/L			
Silicon, Total	2/7/22 11:00	2/8/22 10:45		1.015	Not Detected	mg/L	0.02030	0.25375	U
* Sodium, Total	2/7/22 11:00	2/8/22 10:45		1.015	Not Detected	mg/L	0.03045	0.406	U
Analytical Method: EPA 200.8		Analyst: ABB			Preparation Method: EPA 1638				
* Antimony, Total	2/8/22 14:11	2/9/22 14:05		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	2/8/22 14:11	2/9/22 14:05		1.015	Not Detected	mg/L	0.004060	0.01015	U
* Arsenic, Total	2/8/22 14:11	2/9/22 14:05		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Barium, Total	2/8/22 14:11	2/9/22 14:05		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Beryllium, Total	2/8/22 14:11	2/9/22 14:05		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	2/8/22 14:11	2/9/22 14:05		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	2/8/22 14:11	2/9/22 14:05		1.015	0.000281	mg/L	0.000203	0.001015	J
* Cobalt, Total	2/8/22 14:11	2/9/22 14:05		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Lead, Total	2/8/22 14:11	2/9/22 14:05		1.015	0.000723	mg/L	0.000068	0.000203	
* Manganese, Total	2/8/22 14:11	2/9/22 14:05		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Molybdenum, Total	2/8/22 14:11	2/9/22 14:05		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Potassium, Total	2/8/22 14:11	2/9/22 14:05		1.015	Not Detected	mg/L	0.169505	0.5075	U
* Selenium, Total	2/8/22 14:11	2/9/22 14:05		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	2/8/22 14:11	2/9/22 14:05		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	2/10/22 13:23	2/10/22 18:16		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: ELH							
* Nitrogen, Nitrate/Nitrite	2/3/22 13:53	2/3/22 13:53		1	Not Detected	mg/L as N	0.20	0.3	U
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	2/4/22 11:40	2/7/22 13:22		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: 2/1/22 12:35
Customer ID:
Submittal Date: 2/1/22 16:40

Laboratory ID Number: BC02110

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	2/10/22 16:45	2/10/22 16:45		1	Not Detected	mg/L	1.00	2	U
Analytical Method: SM4500CI E		Analyst: JCC							
* Chloride	2/9/22 10:18	2/9/22 10:18		1	Not Detected	mg/L	0.50	1	U
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	2/10/22 15:33	2/10/22 15:33		1	Not Detected	mg/L	0.06	0.1	U
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	2/8/22 11:30	2/8/22 11:30		1	Not Detected	mg/L	0.50	1	U

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

Comments:

Batch QC Summary

Customer Account: WMWGORLFEB

Sample Date: 2/1/22 12:35

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill Equipment Blank-1

Laboratory ID Number: BC02110

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC02119	Aluminum, Total	mg/L	-0.00435	0.010	0.100	0.103	0.104	0.106	0.0850 to 0.115	103	70.0 to 130	0.966	20.0
BC02119	Antimony, Total	mg/L	0.0000732	0.00100	0.100	0.106	0.105	0.101	0.0850 to 0.115	106	70.0 to 130	0.948	20.0
BC02119	Arsenic, Total	mg/L	0.0000153	0.000176	0.100	0.112	0.114	0.107	0.0850 to 0.115	106	70.0 to 130	1.77	20.0
BC02119	Barium, Total	mg/L	-0.0000787	0.000200	0.100	0.117	0.113	0.0944	0.0850 to 0.115	97.7	70.0 to 130	3.48	20.0
BC02119	Beryllium, Total	mg/L	0.000094	0.000880	0.100	0.0966	0.101	0.101	0.0850 to 0.115	96.6	70.0 to 130	4.45	20.0
BC02119	Boron, Total	mg/L	-0.000571	0.0650	1.00	1.16	1.18	0.990	0.850 to 1.15	101	70.0 to 130	1.71	20.0
BC02119	Cadmium, Total	mg/L	0.000006	0.000147	0.100	0.102	0.103	0.105	0.0850 to 0.115	102	70.0 to 130	0.976	20.0
BC02119	Calcium, Total	mg/L	-0.0136	0.152	5.00	294	285	4.87	4.25 to 5.75	20.0	70.0 to 130	3.11	20.0
BC02119	Chromium, Total	mg/L	-0.0000041	0.000440	0.100	0.102	0.104	0.105	0.0850 to 0.115	102	70.0 to 130	1.94	20.0
BC02119	Cobalt, Total	mg/L	0.0000084	0.000147	0.100	0.103	0.104	0.107	0.0850 to 0.115	103	70.0 to 130	0.966	20.0
BC02119	Iron, Total	mg/L	-0.000407	0.0176	0.2	3.76	3.75	0.199	0.170 to 0.230	100	70.0 to 130	0.266	20.0
BC02119	Lead, Total	mg/L	0.000007	0.000147	0.100	0.101	0.102	0.0980	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BC02119	Lithium, Total	mg/L	-0.000062	0.0154	0.200	0.482	0.487	0.203	0.170 to 0.230	102	70.0 to 130	1.03	20.0
BC02119	Magnesium, Total	mg/L	-0.00456	0.0462	5.00	196	193	5.11	4.25 to 5.75	60.0	70.0 to 130	1.54	20.0
BC02119	Manganese, Total	mg/L	-0.000185	0.0002	0.100	0.621	0.625	0.106	0.0850 to 0.115	66.0	70.0 to 130	0.642	20.0
BC02119	Mercury, Total by CVAA	mg/L	0.00017	0.000500	0.004	0.00421	0.00423	0.00389	0.00340 to 0.00460	105	70.0 to 130	0.474	20.0
BC02119	Molybdenum, Total	mg/L	0.0000061	0.0002	0.100	0.104	0.104	0.101	0.0850 to 0.115	102	70.0 to 130	0.00	20.0
BC02119	Potassium, Total	mg/L	-0.0179	0.367	10.0	17.2	17.2	10.1	8.50 to 11.5	95.1	70.0 to 130	0.00	20.0
BC02119	Selenium, Total	mg/L	0.0000269	0.00100	0.100	0.101	0.102	0.108	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BC02119	Silicon, Total	mg/L	-0.00067	0.0440	1.00	8.22	8.22	1.03	0.850 to 1.15	108	70.0 to 130	0.00	20.0
BC02119	Sodium, Total	mg/L	0.0024	0.0660	5.00	130	129	5.07	4.25 to 5.75	80.0	70.0 to 130	0.772	20.0
BC02119	Thallium, Total	mg/L	0.0000139	0.000147	0.100	0.0991	0.104	0.102	0.0850 to 0.115	99.1	70.0 to 130	4.83	20.0
BC02119	Total Organic Carbon	mg/L	0.380	1.00	10.0	10.7	11.1	25.6		107	80.0 to 120	3.67	20.0

Comments:

Batch QC Summary

Customer Account: WMWGORLFEB

Sample Date: 2/1/22 12:35

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill Equipment Blank-1

Laboratory ID Number: BC02110

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC02119	Chloride	mg/L	-0.111	1.00	160	229	69.8	10.5	9.00 to 11.0	99.8	80.0 to 120	0.719	20.0
BC02119	Fluoride	mg/L	-0.0138	0.125	2.50	2.74	0.148	2.62	2.25 to 2.75	104	80.0 to 120	2.01	20.0
BC02119	Nitrogen, Nitrate/Nitrite	mg/L as N	-0.01	0.200	2.00	2.14	0.014	1.97	1.80 to 2.20	107	90.0 to 110	0.00	15.0
BC02116	Solids, Dissolved	mg/L	0.0000	25.0			1060	47.0	40.0 to 60.0			0.948	10.0
BC02119	Sulfate	mg/L	-0.114	2.0	1600	2990	1270	19.7	18.0 to 22.0	111	80.0 to 120	4.02	20.0

Comments:

Certificate Of Analysis

Description: Gorgas Landfill - MW-5

Location Code: WMWGORLF
Collected: 1/31/22 13:22
Customer ID:
Submittal Date: 2/1/22 16:41

Laboratory ID Number: BC02111

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: EPA 200.7		Analyst: RDA			Preparation Method: EPA 1638				
* Boron, Total	2/7/22 11:00	2/8/22 10:47		1.015	0.0314	mg/L	0.030000	0.1015	J
* Calcium, Total	2/7/22 11:00	2/8/22 12:37		20.3	398	mg/L	1.4007	8.12	
* Iron, Total	2/7/22 11:00	2/8/22 10:47		1.015	1.57	mg/L	0.008120	0.0406	
* Lithium, Total	2/7/22 11:00	2/8/22 10:47		1.015	0.0932	mg/L	0.007105	0.01999956	
* Magnesium, Total	2/7/22 11:00	2/8/22 12:37		20.3	423	mg/L	0.4263	8.12	
Silica, Total (calc.)	2/7/22 11:00	2/8/22 10:47		1	15.7	mg/L			
Silicon, Total	2/7/22 11:00	2/8/22 10:47		1.015	7.33	mg/L	0.02030	0.25375	
* Sodium, Total	2/7/22 11:00	2/8/22 12:37		20.3	54.6	mg/L	0.609	8.12	
Analytical Method: EPA 200.7		Analyst: RDA			Preparation Method: EPA 1638				
* Boron, Dissolved	2/7/22 11:00	2/8/22 09:43		1.015	0.0305	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	2/7/22 11:00	2/8/22 11:41		20.3	386	mg/L	1.4007	8.12	RA
* Iron, Dissolved	2/7/22 11:00	2/8/22 09:43		1.015	1.11	mg/L	0.008120	0.0406	
* Lithium, Dissolved	2/7/22 11:00	2/8/22 09:43		1.015	0.0893	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	2/7/22 11:00	2/8/22 11:41		20.3	422	mg/L	0.4263	8.12	RA
Silica, Dissolved (calc.)	2/7/22 11:00	2/8/22 09:43		1	15.4	mg/L			
Silicon, Dissolved	2/7/22 11:00	2/8/22 09:43		1.015	7.18	mg/L	0.02030	0.25375	
* Sodium, Dissolved	2/7/22 11:00	2/8/22 11:41		20.3	54.3	mg/L	0.609	8.12	
Analytical Method: EPA 200.8		Analyst: ABB			Preparation Method: EPA 1638				
* Antimony, Total	2/8/22 14:11	2/9/22 14:08		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	2/8/22 14:11	2/9/22 14:08		1.015	Not Detected	mg/L	0.004060	0.01015	U
* Arsenic, Total	2/8/22 14:11	2/9/22 14:08		1.015	0.000193	mg/L	0.000068	0.000203	J
* Barium, Total	2/8/22 14:11	2/9/22 14:08		1.015	0.0104	mg/L	0.000102	0.000203	
* Beryllium, Total	2/8/22 14:11	2/9/22 14:08		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	2/8/22 14:11	2/9/22 14:08		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	2/8/22 14:11	2/9/22 14:08		1.015	0.000271	mg/L	0.000203	0.001015	J
* Cobalt, Total	2/8/22 14:11	2/9/22 14:08		1.015	0.000942	mg/L	0.000068	0.000203	
* Lead, Total	2/8/22 14:11	2/9/22 14:08		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	2/8/22 14:11	2/9/22 14:08		1.015	0.313	mg/L	0.000068	0.000203	
* Molybdenum, Total	2/8/22 14:11	2/9/22 14:08		1.015	0.00126	mg/L	0.000068	0.000203	
* Potassium, Total	2/8/22 14:11	2/9/22 14:08		1.015	6.68	mg/L	0.169505	0.5075	

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill - MW-5

Location Code: WMWGORLF
Collected: 1/31/22 13:22
Customer ID:
Submittal Date: 2/1/22 16:41

Laboratory ID Number: BC02111

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/8/22 14:11	2/9/22 14:08		1.015	0.00237	mg/L	0.000508	0.001015	
* Thallium, Total	2/8/22 14:11	2/9/22 14:08		1.015	0.0000684	mg/L	0.000068	0.000203	J
Analytical Method: EPA 200.8		Analyst: ABB							
* Antimony, Dissolved	2/8/22 14:50	2/10/22 15:39		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/8/22 14:50	2/10/22 15:39		1.015	0.00467	mg/L	0.004060	0.01015	J
* Arsenic, Dissolved	2/8/22 14:50	2/10/22 15:39		1.015	0.0000686	mg/L	0.000068	0.000203	J
* Barium, Dissolved	2/8/22 14:50	2/10/22 15:39		1.015	0.0107	mg/L	0.000102	0.000203	
* Beryllium, Dissolved	2/8/22 14:50	2/10/22 15:39		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	2/8/22 14:50	2/10/22 15:39		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	2/8/22 14:50	2/10/22 15:39		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	2/8/22 14:50	2/10/22 15:39		1.015	0.00110	mg/L	0.000068	0.000203	
* Lead, Dissolved	2/8/22 14:50	2/10/22 15:39		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	2/8/22 14:50	2/10/22 17:36		1.015	0.301	mg/L	0.000068	0.000203	
* Molybdenum, Dissolved	2/8/22 14:50	2/10/22 15:39		1.015	0.00127	mg/L	0.000068	0.000203	
* Potassium, Dissolved	2/8/22 14:50	2/10/22 15:39		1.015	6.38	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/8/22 14:50	2/10/22 15:39		1.015	0.00226	mg/L	0.000508	0.001015	
* Thallium, Dissolved	2/8/22 14:50	2/10/22 15:39		1.015	0.0000895	mg/L	0.000068	0.000203	J
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	2/10/22 13:23	2/10/22 18:20		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: ELH							
* Nitrogen, Nitrate/Nitrite	2/3/22 13:55	2/3/22 13:55		1	Not Detected	mg/L as N	0.20	0.3	U
Analytical Method: SM 2320 B		Analyst: ALH							
Alkalinity, Total as CaCO3	2/7/22 09:40	2/7/22 14:00		1	299	mg/L		0.1	
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	2/2/22 11:55	2/3/22 13:40		1	3560	mg/L		178.6	
Analytical Method: SM 4500CO2 D		Analyst: ALH							
Bicarbonate Alkalinity, (calc.)	2/7/22 09:40	2/7/22 14:00		1	299	mg/L			
Carbonate Alkalinity, (calc.)	2/7/22 09:40	2/7/22 14:00		1	0.17	mg/L			
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	2/10/22 17:01	2/10/22 17:01		1	1.22	mg/L	1.00	2	J

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill - MW-5

Location Code: WMWGORLF

Collected: 1/31/22 13:22

Customer ID:

Submittal Date: 2/1/22 16:41

Laboratory ID Number: BC02111

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	2/9/22 10:20	2/9/22 10:20		1	6.87	mg/L	0.50	1	
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	2/10/22 15:34	2/10/22 15:34		1	0.291	mg/L	0.06	0.1	
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	2/8/22 11:31	2/8/22 11:31		100	2310	mg/L	50.00	100	
Analytical Method: Field Measurements		Analyst: TJD							
Conductivity	1/31/22 13:19	1/31/22 13:19			2954.93	uS/cm			FA
pH	1/31/22 13:19	1/31/22 13:19			6.52	SU			FA
Temperature	1/31/22 13:19	1/31/22 13:19			21.50	C			FA
Turbidity	1/31/22 13:19	1/31/22 13:19			1.58	NTU			FA

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 13:22

Customer ID:

Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill - MW-5

Laboratory ID Number: BC02111

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BC02111	Aluminum, Dissolved	mg/L	0.000259	0.010	0.100	0.0986	0.0947	0.0956	0.0850 to 0.115	93.9	70.0 to 130	4.04	20.0
BC02119	Aluminum, Total	mg/L	-0.00435	0.010	0.100	0.103	0.104	0.106	0.0850 to 0.115	103	70.0 to 130	0.966	20.0
BC02111	Antimony, Dissolved	mg/L	0.000124	0.00100	0.100	0.101	0.0969	0.0990	0.0850 to 0.115	101	70.0 to 130	4.14	20.0
BC02119	Antimony, Total	mg/L	0.0000732	0.00100	0.100	0.106	0.105	0.101	0.0850 to 0.115	106	70.0 to 130	0.948	20.0
BC02111	Arsenic, Dissolved	mg/L	-0.0000275	0.000176	0.100	0.0989	0.0968	0.102	0.0850 to 0.115	98.8	70.0 to 130	2.15	20.0
BC02119	Arsenic, Total	mg/L	0.0000153	0.000176	0.100	0.112	0.114	0.107	0.0850 to 0.115	106	70.0 to 130	1.77	20.0
BC02111	Barium, Dissolved	mg/L	0.0000421	0.000200	0.100	0.111	0.0994	0.0954	0.0850 to 0.115	100	70.0 to 130	11.0	20.0
BC02119	Barium, Total	mg/L	-0.0000787	0.000200	0.100	0.117	0.113	0.0944	0.0850 to 0.115	97.7	70.0 to 130	3.48	20.0
BC02111	Beryllium, Dissolved	mg/L	0.000287	0.000880	0.100	0.0889	0.0846	0.0952	0.0850 to 0.115	88.9	70.0 to 130	4.96	20.0
BC02119	Beryllium, Total	mg/L	0.000094	0.000880	0.100	0.0966	0.101	0.101	0.0850 to 0.115	96.6	70.0 to 130	4.45	20.0
BC02111	Boron, Dissolved	mg/L	-0.000503	0.0650	1.00	1.03	1.05	1.00	0.850 to 1.15	100	70.0 to 130	1.92	20.0
BC02119	Boron, Total	mg/L	-0.000571	0.0650	1.00	1.16	1.18	0.990	0.850 to 1.15	101	70.0 to 130	1.71	20.0
BC02111	Cadmium, Dissolved	mg/L	-0.0000147	0.000147	0.100	0.0990	0.0931	0.100	0.0850 to 0.115	99.0	70.0 to 130	6.14	20.0
BC02119	Cadmium, Total	mg/L	0.000006	0.000147	0.100	0.102	0.103	0.105	0.0850 to 0.115	102	70.0 to 130	0.976	20.0
BC02111	Calcium, Dissolved	mg/L	-0.0197	0.152	5.00	391	398	4.96	4.25 to 5.75	100	70.0 to 130	1.77	20.0
BC02119	Calcium, Total	mg/L	-0.0136	0.152	5.00	294	285	4.87	4.25 to 5.75	20.0	70.0 to 130	3.11	20.0
BC02111	Chromium, Dissolved	mg/L	0.0000585	0.000440	0.100	0.0973	0.0938	0.103	0.0850 to 0.115	97.3	70.0 to 130	3.66	20.0
BC02119	Chromium, Total	mg/L	-0.0000041	0.000440	0.100	0.102	0.104	0.105	0.0850 to 0.115	102	70.0 to 130	1.94	20.0
BC02111	Cobalt, Dissolved	mg/L	0.0000464	0.000147	0.100	0.0984	0.0949	0.105	0.0850 to 0.115	97.3	70.0 to 130	3.62	20.0
BC02119	Cobalt, Total	mg/L	0.0000084	0.000147	0.100	0.103	0.104	0.107	0.0850 to 0.115	103	70.0 to 130	0.966	20.0
BC02111	Iron, Dissolved	mg/L	-0.000316	0.0176	0.2	1.29	1.30	0.201	0.170 to 0.230	90.0	70.0 to 130	0.772	20.0
BC02119	Iron, Total	mg/L	-0.000407	0.0176	0.2	3.76	3.75	0.199	0.170 to 0.230	100	70.0 to 130	0.266	20.0
BC02111	Lead, Dissolved	mg/L	0.0000093	0.000147	0.100	0.0992	0.0964	0.102	0.0850 to 0.115	99.2	70.0 to 130	2.86	20.0
BC02119	Lead, Total	mg/L	0.000007	0.000147	0.100	0.101	0.102	0.0980	0.0850 to 0.115	101	70.0 to 130	0.985	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF
Sample Date: 1/31/22 13:22
Customer ID:
Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill - MW-5

Laboratory ID Number: BC02111

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC02111	Lithium, Dissolved	mg/L	-0.000056	0.0154	0.200	0.291	0.298	0.200	0.170 to 0.230	101	70.0 to 130	2.38	20.0
BC02119	Lithium, Total	mg/L	-0.000062	0.0154	0.200	0.482	0.487	0.203	0.170 to 0.230	102	70.0 to 130	1.03	20.0
BC02111	Magnesium, Dissolved	mg/L	-0.00951	0.0462	5.00	431	431	5.11	4.25 to 5.75	180	70.0 to 130	0.00	20.0
BC02119	Magnesium, Total	mg/L	-0.00456	0.0462	5.00	196	193	5.11	4.25 to 5.75	60.0	70.0 to 130	1.54	20.0
BC02111	Manganese, Dissolved	mg/L	-0.0000097	0.0002	0.100	0.399	0.391	0.0965	0.0850 to 0.115	98.0	70.0 to 130	2.03	20.0
BC02119	Manganese, Total	mg/L	-0.000185	0.0002	0.100	0.621	0.625	0.106	0.0850 to 0.115	66.0	70.0 to 130	0.642	20.0
BC02119	Mercury, Total by CVAA	mg/L	0.00017	0.000500	0.004	0.00421	0.00423	0.00389	0.00340 to 0.00460	105	70.0 to 130	0.474	20.0
BC02111	Molybdenum, Dissolved	mg/L	0.0000632	0.0002	0.100	0.101	0.101	0.104	0.0850 to 0.115	99.7	70.0 to 130	0.00	20.0
BC02119	Molybdenum, Total	mg/L	0.0000061	0.0002	0.100	0.104	0.104	0.101	0.0850 to 0.115	102	70.0 to 130	0.00	20.0
BC02111	Potassium, Dissolved	mg/L	-0.0724	0.367	10.0	15.7	15.0	9.83	8.50 to 11.5	93.2	70.0 to 130	4.56	20.0
BC02119	Potassium, Total	mg/L	-0.0179	0.367	10.0	17.2	17.2	10.1	8.50 to 11.5	95.1	70.0 to 130	0.00	20.0
BC02111	Selenium, Dissolved	mg/L	0.000111	0.00100	0.100	0.106	0.103	0.104	0.0850 to 0.115	104	70.0 to 130	2.87	20.0
BC02119	Selenium, Total	mg/L	0.0000269	0.00100	0.100	0.101	0.102	0.108	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BC02111	Silicon, Dissolved	mg/L	-0.000923	0.0440	1.00	8.17	8.27	1.02	0.850 to 1.15	99.0	70.0 to 130	1.22	20.0
BC02119	Silicon, Total	mg/L	-0.00067	0.0440	1.00	8.22	8.22	1.03	0.850 to 1.15	108	70.0 to 130	0.00	20.0
BC02111	Sodium, Dissolved	mg/L	0.000085	0.0660	5.00	60.1	59.9	5.01	4.25 to 5.75	116	70.0 to 130	0.333	20.0
BC02119	Sodium, Total	mg/L	0.0024	0.0660	5.00	130	129	5.07	4.25 to 5.75	80.0	70.0 to 130	0.772	20.0
BC02111	Thallium, Dissolved	mg/L	0.000006	0.000147	0.100	0.0991	0.0964	0.102	0.0850 to 0.115	99.0	70.0 to 130	2.76	20.0
BC02119	Thallium, Total	mg/L	0.0000139	0.000147	0.100	0.0991	0.104	0.102	0.0850 to 0.115	99.1	70.0 to 130	4.83	20.0
BC02119	Total Organic Carbon	mg/L	0.380	1.00	10.0	10.7	11.1	25.6		107	80.0 to 120	3.67	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 13:22

Customer ID:

Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill - MW-5

Laboratory ID Number: BC02111

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC02120	Alkalinity, Total as CaCO3	mg/L					239	51.9	45.0 to 55.0			4.27	10.0
BC02119	Chloride	mg/L	-0.111	1.00	160	229	69.8	10.5	9.00 to 11.0	99.8	80.0 to 120	0.719	20.0
BC02119	Fluoride	mg/L	-0.0138	0.125	2.50	2.74	0.148	2.62	2.25 to 2.75	104	80.0 to 120	2.01	20.0
BC02119	Nitrogen, Nitrate/Nitrite	mg/L as N	-0.01	0.200	2.00	2.14	0.014	1.97	1.80 to 2.20	107	90.0 to 110	0.00	15.0
BC02115	Solids, Dissolved	mg/L	1.00	25.0			2460	55.0	40.0 to 60.0			1.64	10.0
BC02119	Sulfate	mg/L	-0.114	2.0	1600	2990	1270	19.7	18.0 to 22.0	111	80.0 to 120	4.02	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill - MW-6

Location Code: WMWGORLF
Collected: 1/31/22 14:38
Customer ID:
Submittal Date: 2/1/22 16:41

Laboratory ID Number: BC02112

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: EPA 200.7			Analyst: RDA		Preparation Method: EPA 1638				
* Boron, Total	2/7/22 11:00	2/8/22 10:48		1.015	0.0648	mg/L	0.030000	0.1015	J
* Calcium, Total	2/7/22 11:00	2/8/22 12:39		20.3	385	mg/L	1.4007	8.12	
* Iron, Total	2/7/22 11:00	2/8/22 12:39		20.3	26.0	mg/L	0.1624	0.812	
* Lithium, Total	2/7/22 11:00	2/8/22 10:48		1.015	0.161	mg/L	0.007105	0.01999956	
* Magnesium, Total	2/7/22 11:00	2/8/22 12:39		20.3	304	mg/L	0.4263	8.12	
Silica, Total (calc.)	2/7/22 11:00	2/8/22 10:48		1	25.9	mg/L			
Silicon, Total	2/7/22 11:00	2/8/22 10:48		1.015	12.1	mg/L	0.02030	0.25375	
* Sodium, Total	2/7/22 11:00	2/8/22 12:39		20.3	57.6	mg/L	0.609	8.12	
Analytical Method: EPA 200.7			Analyst: RDA		Preparation Method: EPA 1638				
* Boron, Dissolved	2/7/22 11:00	2/8/22 09:52		1.015	0.0623	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	2/7/22 11:00	2/8/22 11:50		20.3	363	mg/L	1.4007	8.12	
* Iron, Dissolved	2/7/22 11:00	2/8/22 11:50		20.3	22.2	mg/L	0.1624	0.812	
* Lithium, Dissolved	2/7/22 11:00	2/8/22 09:52		1.015	0.143	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	2/7/22 11:00	2/8/22 11:50		20.3	305	mg/L	0.4263	8.12	
Silica, Dissolved (calc.)	2/7/22 11:00	2/8/22 09:52		1	25.0	mg/L			
Silicon, Dissolved	2/7/22 11:00	2/8/22 09:52		1.015	11.7	mg/L	0.02030	0.25375	
* Sodium, Dissolved	2/7/22 11:00	2/8/22 11:50		20.3	54.7	mg/L	0.609	8.12	
Analytical Method: EPA 200.8			Analyst: ABB		Preparation Method: EPA 1638				
* Antimony, Total	2/8/22 14:11	2/9/22 14:12		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	2/8/22 14:11	2/9/22 14:12		1.015	0.0207	mg/L	0.004060	0.01015	
* Arsenic, Total	2/8/22 14:11	2/9/22 14:12		1.015	0.00435	mg/L	0.000068	0.000203	
* Barium, Total	2/8/22 14:11	2/9/22 14:12		1.015	0.0125	mg/L	0.000102	0.000203	
* Beryllium, Total	2/8/22 14:11	2/9/22 14:12		1.015	0.000441	mg/L	0.000406	0.001015	J
* Cadmium, Total	2/8/22 14:11	2/9/22 14:12		1.015	0.000499	mg/L	0.000068	0.000203	
* Chromium, Total	2/8/22 14:11	2/9/22 14:12		1.015	0.000236	mg/L	0.000203	0.001015	J
* Cobalt, Total	2/8/22 14:11	2/9/22 14:12		1.015	0.174	mg/L	0.000068	0.000203	
* Lead, Total	2/8/22 14:11	2/9/22 14:12		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	2/8/22 14:11	2/9/22 16:31		92.365	21.6	mg/L	0.006188	0.018473	
* Molybdenum, Total	2/8/22 14:11	2/9/22 14:12		1.015	0.0000708	mg/L	0.000068	0.000203	J
* Potassium, Total	2/8/22 14:11	2/9/22 14:12		1.015	6.50	mg/L	0.169505	0.5075	

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill - MW-6

Location Code: WMWGORLF
Collected: 1/31/22 14:38
Customer ID:
Submittal Date: 2/1/22 16:41

Laboratory ID Number: BC02112

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/8/22 14:11	2/9/22 14:12		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	2/8/22 14:11	2/9/22 14:12		1.015	0.000106	mg/L	0.000068	0.000203	J
Analytical Method: EPA 200.8		Analyst: ABB							
* Antimony, Dissolved	2/8/22 14:50	2/10/22 16:00		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/8/22 14:50	2/10/22 16:00		1.015	0.0447	mg/L	0.004060	0.01015	
* Arsenic, Dissolved	2/8/22 14:50	2/10/22 16:00		1.015	0.00379	mg/L	0.000068	0.000203	
* Barium, Dissolved	2/8/22 14:50	2/10/22 16:00		1.015	0.0136	mg/L	0.000102	0.000203	
* Beryllium, Dissolved	2/8/22 14:50	2/10/22 16:00		1.015	0.000567	mg/L	0.000406	0.001015	J
* Cadmium, Dissolved	2/8/22 14:50	2/10/22 16:00		1.015	0.000780	mg/L	0.000068	0.000203	
* Chromium, Dissolved	2/8/22 14:50	2/10/22 16:00		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	2/8/22 14:50	2/10/22 16:00		1.015	0.219	mg/L	0.000068	0.000203	
* Lead, Dissolved	2/8/22 14:50	2/10/22 16:00		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	2/8/22 14:50	2/10/22 17:57		92.365	24.4	mg/L	0.006188	0.018473	
* Molybdenum, Dissolved	2/8/22 14:50	2/10/22 16:00		1.015	0.000123	mg/L	0.000068	0.000203	J
* Potassium, Dissolved	2/8/22 14:50	2/10/22 16:00		1.015	6.12	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/8/22 14:50	2/10/22 16:00		1.015	0.000562	mg/L	0.000508	0.001015	J
* Thallium, Dissolved	2/8/22 14:50	2/10/22 16:00		1.015	0.0000993	mg/L	0.000068	0.000203	J
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	2/10/22 13:23	2/10/22 18:24		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: ELH							
* Nitrogen, Nitrate/Nitrite	2/3/22 13:57	2/3/22 13:57		1	Not Detected	mg/L as N	0.20	0.3	U
Analytical Method: SM 2320 B		Analyst: ALH							
Alkalinity, Total as CaCO3	2/7/22 09:40	2/7/22 14:00		1	133	mg/L		0.1	
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	2/2/22 11:55	2/3/22 13:40		1	3050	mg/L		147.1	
Analytical Method: SM 4500CO2 D		Analyst: ALH							
Bicarbonate Alkalinity, (calc.)	2/7/22 09:40	2/7/22 14:00		1	133	mg/L			
Carbonate Alkalinity, (calc.)	2/7/22 09:40	2/7/22 14:00		1	0.01	mg/L			
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	2/10/22 17:20	2/10/22 17:20		1	1.07	mg/L	1.00	2	J

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill - MW-6

Location Code: WMWGORLF
Collected: 1/31/22 14:38
Customer ID:
Submittal Date: 2/1/22 16:41

Laboratory ID Number: BC02112

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	2/9/22 10:21	2/9/22 10:21		1	4.53	mg/L	0.50	1	
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	2/10/22 15:35	2/10/22 15:35		1	0.121	mg/L	0.06	0.1	
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	2/8/22 11:32	2/8/22 11:32		100	2080	mg/L	50.00	100	
Analytical Method: Field Measurements		Analyst: TJD							
Conductivity	1/31/22 14:34	1/31/22 14:34			2811.81	uS/cm			FA
pH	1/31/22 14:34	1/31/22 14:34			6.10	SU			FA
Temperature	1/31/22 14:34	1/31/22 14:34			22.07	C			FA
Turbidity	1/31/22 14:34	1/31/22 14:34			1.5	NTU			FA

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 14:38

Customer ID:

Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill - MW-6

Laboratory ID Number: BC02112

Sample	Analysis	Units	MB	MB		MS	MSD	Standard		Rec		Prec	Limit
				Limit	Spike			Standard	Limit	Rec	Limit		
BC02120	Aluminum, Dissolved	mg/L	0.000259	0.010	0.100	0.102	0.102	0.0956	0.0850 to 0.115	96.1	70.0 to 130	0.00	20.0
BC02119	Aluminum, Total	mg/L	-0.00435	0.010	0.100	0.103	0.104	0.106	0.0850 to 0.115	103	70.0 to 130	0.966	20.0
BC02120	Antimony, Dissolved	mg/L	0.000124	0.00100	0.100	0.103	0.106	0.0990	0.0850 to 0.115	103	70.0 to 130	2.87	20.0
BC02119	Antimony, Total	mg/L	0.0000732	0.00100	0.100	0.106	0.105	0.101	0.0850 to 0.115	106	70.0 to 130	0.948	20.0
BC02120	Arsenic, Dissolved	mg/L	-0.0000275	0.000176	0.100	0.163	0.162	0.102	0.0850 to 0.115	100	70.0 to 130	0.615	20.0
BC02119	Arsenic, Total	mg/L	0.0000153	0.000176	0.100	0.112	0.114	0.107	0.0850 to 0.115	106	70.0 to 130	1.77	20.0
BC02120	Barium, Dissolved	mg/L	0.0000421	0.000200	0.100	0.107	0.107	0.0954	0.0850 to 0.115	95.8	70.0 to 130	0.00	20.0
BC02119	Barium, Total	mg/L	-0.0000787	0.000200	0.100	0.117	0.113	0.0944	0.0850 to 0.115	97.7	70.0 to 130	3.48	20.0
BC02120	Beryllium, Dissolved	mg/L	0.000287	0.000880	0.100	0.0860	0.0882	0.0952	0.0850 to 0.115	86.0	70.0 to 130	2.53	20.0
BC02119	Beryllium, Total	mg/L	0.000094	0.000880	0.100	0.0966	0.101	0.101	0.0850 to 0.115	96.6	70.0 to 130	4.45	20.0
BC02120	Boron, Dissolved	mg/L	-0.000503	0.0650	1.00	1.23	1.22	1.00	0.850 to 1.15	102	70.0 to 130	0.816	20.0
BC02119	Boron, Total	mg/L	-0.000571	0.0650	1.00	1.16	1.18	0.990	0.850 to 1.15	101	70.0 to 130	1.71	20.0
BC02120	Cadmium, Dissolved	mg/L	-0.0000147	0.000147	0.100	0.0973	0.0994	0.100	0.0850 to 0.115	97.3	70.0 to 130	2.14	20.0
BC02119	Cadmium, Total	mg/L	0.000006	0.000147	0.100	0.102	0.103	0.105	0.0850 to 0.115	102	70.0 to 130	0.976	20.0
BC02120	Calcium, Dissolved	mg/L	-0.0197	0.152	5.00	339	350	4.96	4.25 to 5.75	20.0	70.0 to 130	3.19	20.0
BC02119	Calcium, Total	mg/L	-0.0136	0.152	5.00	294	285	4.87	4.25 to 5.75	20.0	70.0 to 130	3.11	20.0
BC02120	Chromium, Dissolved	mg/L	0.0000585	0.000440	0.100	0.0970	0.0987	0.103	0.0850 to 0.115	97.0	70.0 to 130	1.74	20.0
BC02119	Chromium, Total	mg/L	-0.0000041	0.000440	0.100	0.102	0.104	0.105	0.0850 to 0.115	102	70.0 to 130	1.94	20.0
BC02120	Cobalt, Dissolved	mg/L	0.0000464	0.000147	0.100	0.144	0.146	0.105	0.0850 to 0.115	99.3	70.0 to 130	1.38	20.0
BC02119	Cobalt, Total	mg/L	0.0000084	0.000147	0.100	0.103	0.104	0.107	0.0850 to 0.115	103	70.0 to 130	0.966	20.0
BC02120	Iron, Dissolved	mg/L	-0.000316	0.0176	0.2	167	166	0.201	0.170 to 0.230	0.00	70.0 to 130	0.601	20.0
BC02119	Iron, Total	mg/L	-0.000407	0.0176	0.2	3.76	3.75	0.199	0.170 to 0.230	100	70.0 to 130	0.266	20.0
BC02120	Lead, Dissolved	mg/L	0.0000093	0.000147	0.100	0.0973	0.101	0.102	0.0850 to 0.115	97.3	70.0 to 130	3.73	20.0
BC02119	Lead, Total	mg/L	0.000007	0.000147	0.100	0.101	0.102	0.0980	0.0850 to 0.115	101	70.0 to 130	0.985	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 14:38

Customer ID:

Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill - MW-6

Laboratory ID Number: BC02112

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC02120	Lithium, Dissolved	mg/L	-0.000056	0.0154	0.200	0.280	0.279	0.200	0.170 to 0.230	109	70.0 to 130	0.358	20.0
BC02119	Lithium, Total	mg/L	-0.000062	0.0154	0.200	0.482	0.487	0.203	0.170 to 0.230	102	70.0 to 130	1.03	20.0
BC02120	Magnesium, Dissolved	mg/L	-0.00951	0.0462	5.00	380	391	5.11	4.25 to 5.75	20.0	70.0 to 130	2.85	20.0
BC02119	Magnesium, Total	mg/L	-0.00456	0.0462	5.00	196	193	5.11	4.25 to 5.75	60.0	70.0 to 130	1.54	20.0
BC02120	Manganese, Dissolved	mg/L	-0.0000097	0.0002	0.100	20.1	20.5	0.0965	0.0850 to 0.115	300	70.0 to 130	1.97	20.0
BC02119	Manganese, Total	mg/L	-0.000185	0.0002	0.100	0.621	0.625	0.106	0.0850 to 0.115	66.0	70.0 to 130	0.642	20.0
BC02119	Mercury, Total by CVAA	mg/L	0.00017	0.000500	0.004	0.00421	0.00423	0.00389	0.00340 to 0.00460	105	70.0 to 130	0.474	20.0
BC02120	Molybdenum, Dissolved	mg/L	0.0000632	0.0002	0.100	0.0973	0.101	0.104	0.0850 to 0.115	97.1	70.0 to 130	3.73	20.0
BC02119	Molybdenum, Total	mg/L	0.0000061	0.0002	0.100	0.104	0.104	0.101	0.0850 to 0.115	102	70.0 to 130	0.00	20.0
BC02120	Potassium, Dissolved	mg/L	-0.0724	0.367	10.0	31.3	31.5	9.83	8.50 to 11.5	97.0	70.0 to 130	0.637	20.0
BC02119	Potassium, Total	mg/L	-0.0179	0.367	10.0	17.2	17.2	10.1	8.50 to 11.5	95.1	70.0 to 130	0.00	20.0
BC02120	Selenium, Dissolved	mg/L	0.000111	0.00100	0.100	0.0999	0.105	0.104	0.0850 to 0.115	99.3	70.0 to 130	4.98	20.0
BC02119	Selenium, Total	mg/L	0.0000269	0.00100	0.100	0.101	0.102	0.108	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BC02120	Silicon, Dissolved	mg/L	-0.000923	0.0440	1.00	15.2	14.9	1.02	0.850 to 1.15	120	70.0 to 130	1.99	20.0
BC02119	Silicon, Total	mg/L	-0.00067	0.0440	1.00	8.22	8.22	1.03	0.850 to 1.15	108	70.0 to 130	0.00	20.0
BC02120	Sodium, Dissolved	mg/L	0.000085	0.0660	5.00	49.7	51.6	5.01	4.25 to 5.75	86.0	70.0 to 130	3.75	20.0
BC02119	Sodium, Total	mg/L	0.0024	0.0660	5.00	130	129	5.07	4.25 to 5.75	80.0	70.0 to 130	0.772	20.0
BC02120	Thallium, Dissolved	mg/L	0.000006	0.000147	0.100	0.0962	0.101	0.102	0.0850 to 0.115	96.1	70.0 to 130	4.87	20.0
BC02119	Thallium, Total	mg/L	0.0000139	0.000147	0.100	0.0991	0.104	0.102	0.0850 to 0.115	99.1	70.0 to 130	4.83	20.0
BC02119	Total Organic Carbon	mg/L	0.380	1.00	10.0	10.7	11.1	25.6		107	80.0 to 120	3.67	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 14:38

Customer ID:

Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill - MW-6

Laboratory ID Number: BC02112

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Limit	Prec	Limit
BC02120	Alkalinity, Total as CaCO3	mg/L					239	51.9	45.0 to 55.0			4.27	10.0
BC02119	Chloride	mg/L	-0.111	1.00	160	229	69.8	10.5	9.00 to 11.0	99.8	80.0 to 120	0.719	20.0
BC02119	Fluoride	mg/L	-0.0138	0.125	2.50	2.74	0.148	2.62	2.25 to 2.75	104	80.0 to 120	2.01	20.0
BC02119	Nitrogen, Nitrate/Nitrite	mg/L as N	-0.01	0.200	2.00	2.14	0.014	1.97	1.80 to 2.20	107	90.0 to 110	0.00	15.0
BC02115	Solids, Dissolved	mg/L	1.00	25.0			2460	55.0	40.0 to 60.0			1.64	10.0
BC02119	Sulfate	mg/L	-0.114	2.0	1600	2990	1270	19.7	18.0 to 22.0	111	80.0 to 120	4.02	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill - MW-6 DUP

Location Code: WMWGORLF
Collected: 1/31/22 14:38
Customer ID:
Submittal Date: 2/1/22 16:41

Laboratory ID Number: BC02113

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: EPA 200.7		Analyst: RDA			Preparation Method: EPA 1638				
* Boron, Total	2/7/22 11:00	2/8/22 10:50		1.015	0.0640	mg/L	0.030000	0.1015	J
* Calcium, Total	2/7/22 11:00	2/8/22 12:41		20.3	377	mg/L	1.4007	8.12	
* Iron, Total	2/7/22 11:00	2/8/22 12:41		20.3	25.8	mg/L	0.1624	0.812	
* Lithium, Total	2/7/22 11:00	2/8/22 10:50		1.015	0.158	mg/L	0.007105	0.01999956	
* Magnesium, Total	2/7/22 11:00	2/8/22 12:41		20.3	302	mg/L	0.4263	8.12	
Silica, Total (calc.)	2/7/22 11:00	2/8/22 10:50		1	25.7	mg/L			
Silicon, Total	2/7/22 11:00	2/8/22 10:50		1.015	12.0	mg/L	0.02030	0.25375	
* Sodium, Total	2/7/22 11:00	2/8/22 12:41		20.3	56.6	mg/L	0.609	8.12	
Analytical Method: EPA 200.7		Analyst: RDA			Preparation Method: EPA 1638				
* Boron, Dissolved	2/7/22 11:00	2/8/22 09:54		1.015	0.0586	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	2/7/22 11:00	2/8/22 11:52		20.3	365	mg/L	1.4007	8.12	
* Iron, Dissolved	2/7/22 11:00	2/8/22 11:52		20.3	22.6	mg/L	0.1624	0.812	
* Lithium, Dissolved	2/7/22 11:00	2/8/22 09:54		1.015	0.139	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	2/7/22 11:00	2/8/22 11:52		20.3	302	mg/L	0.4263	8.12	
Silica, Dissolved (calc.)	2/7/22 11:00	2/8/22 09:54		1	25.3	mg/L			
Silicon, Dissolved	2/7/22 11:00	2/8/22 09:54		1.015	11.8	mg/L	0.02030	0.25375	
* Sodium, Dissolved	2/7/22 11:00	2/8/22 11:52		20.3	54.6	mg/L	0.609	8.12	
Analytical Method: EPA 200.8		Analyst: ABB			Preparation Method: EPA 1638				
* Antimony, Total	2/8/22 14:11	2/9/22 14:15		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	2/8/22 14:11	2/9/22 14:15		1.015	0.0254	mg/L	0.004060	0.01015	
* Arsenic, Total	2/8/22 14:11	2/9/22 14:15		1.015	0.00461	mg/L	0.000068	0.000203	
* Barium, Total	2/8/22 14:11	2/9/22 14:15		1.015	0.0128	mg/L	0.000102	0.000203	
* Beryllium, Total	2/8/22 14:11	2/9/22 14:15		1.015	0.000412	mg/L	0.000406	0.001015	J
* Cadmium, Total	2/8/22 14:11	2/9/22 14:15		1.015	0.000520	mg/L	0.000068	0.000203	
* Chromium, Total	2/8/22 14:11	2/9/22 14:15		1.015	0.000436	mg/L	0.000203	0.001015	J
* Cobalt, Total	2/8/22 14:11	2/9/22 14:15		1.015	0.184	mg/L	0.000068	0.000203	
* Lead, Total	2/8/22 14:11	2/9/22 14:15		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	2/8/22 14:11	2/9/22 16:35		92.365	23.0	mg/L	0.006188	0.018473	
* Molybdenum, Total	2/8/22 14:11	2/9/22 14:15		1.015	0.000151	mg/L	0.000068	0.000203	J
* Potassium, Total	2/8/22 14:11	2/9/22 14:15		1.015	6.60	mg/L	0.169505	0.5075	

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill - MW-6 DUP

Location Code: WMWGORLF
Collected: 1/31/22 14:38
Customer ID:
Submittal Date: 2/1/22 16:41

Laboratory ID Number: BC02113

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/8/22 14:11	2/9/22 14:15		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	2/8/22 14:11	2/9/22 14:15		1.015	0.000108	mg/L	0.000068	0.000203	J
Analytical Method: EPA 200.8		Analyst: ABB							
* Antimony, Dissolved	2/8/22 14:50	2/10/22 16:04		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/8/22 14:50	2/10/22 16:04		1.015	0.0429	mg/L	0.004060	0.01015	
* Arsenic, Dissolved	2/8/22 14:50	2/10/22 16:04		1.015	0.00375	mg/L	0.000068	0.000203	
* Barium, Dissolved	2/8/22 14:50	2/10/22 16:04		1.015	0.0133	mg/L	0.000102	0.000203	
* Beryllium, Dissolved	2/8/22 14:50	2/10/22 16:04		1.015	0.000610	mg/L	0.000406	0.001015	J
* Cadmium, Dissolved	2/8/22 14:50	2/10/22 16:04		1.015	0.000626	mg/L	0.000068	0.000203	
* Chromium, Dissolved	2/8/22 14:50	2/10/22 16:04		1.015	0.000220	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	2/8/22 14:50	2/10/22 16:04		1.015	0.215	mg/L	0.000068	0.000203	
* Lead, Dissolved	2/8/22 14:50	2/10/22 16:04		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	2/8/22 14:50	2/10/22 18:01		92.365	23.9	mg/L	0.006188	0.018473	
* Molybdenum, Dissolved	2/8/22 14:50	2/10/22 16:04		1.015	0.0000944	mg/L	0.000068	0.000203	J
* Potassium, Dissolved	2/8/22 14:50	2/10/22 16:04		1.015	6.20	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/8/22 14:50	2/10/22 16:04		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	2/8/22 14:50	2/10/22 16:04		1.015	0.0000979	mg/L	0.000068	0.000203	J
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	2/10/22 13:23	2/10/22 18:27		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: ELH							
* Nitrogen, Nitrate/Nitrite	2/3/22 13:59	2/3/22 13:59		1	Not Detected	mg/L as N	0.20	0.3	U
Analytical Method: SM 2320 B		Analyst: ALH							
Alkalinity, Total as CaCO3	2/7/22 09:40	2/7/22 14:00		1	127	mg/L		0.1	
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	2/2/22 11:55	2/3/22 13:40		1	3070	mg/L		147.1	
Analytical Method: SM 4500CO2 D		Analyst: ALH							
Bicarbonate Alkalinity, (calc.)	2/7/22 09:40	2/7/22 14:00		1	127	mg/L			
Carbonate Alkalinity, (calc.)	2/7/22 09:40	2/7/22 14:00		1	0.01	mg/L			
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	2/10/22 17:38	2/10/22 17:38		1	1.14	mg/L	1.00	2	J

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill - MW-6 DUP

Location Code: WMWGORLF
Collected: 1/31/22 14:38
Customer ID:
Submittal Date: 2/1/22 16:41

Laboratory ID Number: BC02113

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	2/9/22 10:22	2/9/22 10:22		1	4.70	mg/L	0.50	1	
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	2/10/22 15:37	2/10/22 15:37		1	0.106	mg/L	0.06	0.1	
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	2/8/22 11:33	2/8/22 11:33		100	2070	mg/L	50.00	100	
Analytical Method: Field Measurements		Analyst: TJD							
Conductivity	1/31/22 14:34	1/31/22 14:34			2811.81	uS/cm			FA
pH	1/31/22 14:34	1/31/22 14:34			6.10	SU			FA
Temperature	1/31/22 14:34	1/31/22 14:34			22.07	C			FA
Turbidity	1/31/22 14:34	1/31/22 14:34			1.5	NTU			FA

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF
Sample Date: 1/31/22 14:38
Customer ID:
Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill - MW-6 DUP

Laboratory ID Number: BC02113

Sample	Analysis	Units	MB	MB		MS	MSD	Standard		Rec		Prec	Limit
				Limit	Spike			Standard	Limit	Rec	Limit		
BC02120	Aluminum, Dissolved	mg/L	0.000259	0.010	0.100	0.102	0.102	0.0956	0.0850 to 0.115	96.1	70.0 to 130	0.00	20.0
BC02119	Aluminum, Total	mg/L	-0.00435	0.010	0.100	0.103	0.104	0.106	0.0850 to 0.115	103	70.0 to 130	0.966	20.0
BC02120	Antimony, Dissolved	mg/L	0.000124	0.00100	0.100	0.103	0.106	0.0990	0.0850 to 0.115	103	70.0 to 130	2.87	20.0
BC02119	Antimony, Total	mg/L	0.0000732	0.00100	0.100	0.106	0.105	0.101	0.0850 to 0.115	106	70.0 to 130	0.948	20.0
BC02120	Arsenic, Dissolved	mg/L	-0.0000275	0.000176	0.100	0.163	0.162	0.102	0.0850 to 0.115	100	70.0 to 130	0.615	20.0
BC02119	Arsenic, Total	mg/L	0.0000153	0.000176	0.100	0.112	0.114	0.107	0.0850 to 0.115	106	70.0 to 130	1.77	20.0
BC02120	Barium, Dissolved	mg/L	0.0000421	0.000200	0.100	0.107	0.107	0.0954	0.0850 to 0.115	95.8	70.0 to 130	0.00	20.0
BC02119	Barium, Total	mg/L	-0.0000787	0.000200	0.100	0.117	0.113	0.0944	0.0850 to 0.115	97.7	70.0 to 130	3.48	20.0
BC02120	Beryllium, Dissolved	mg/L	0.000287	0.000880	0.100	0.0860	0.0882	0.0952	0.0850 to 0.115	86.0	70.0 to 130	2.53	20.0
BC02119	Beryllium, Total	mg/L	0.000094	0.000880	0.100	0.0966	0.101	0.101	0.0850 to 0.115	96.6	70.0 to 130	4.45	20.0
BC02120	Boron, Dissolved	mg/L	-0.000503	0.0650	1.00	1.23	1.22	1.00	0.850 to 1.15	102	70.0 to 130	0.816	20.0
BC02119	Boron, Total	mg/L	-0.000571	0.0650	1.00	1.16	1.18	0.990	0.850 to 1.15	101	70.0 to 130	1.71	20.0
BC02120	Cadmium, Dissolved	mg/L	-0.0000147	0.000147	0.100	0.0973	0.0994	0.100	0.0850 to 0.115	97.3	70.0 to 130	2.14	20.0
BC02119	Cadmium, Total	mg/L	0.000006	0.000147	0.100	0.102	0.103	0.105	0.0850 to 0.115	102	70.0 to 130	0.976	20.0
BC02120	Calcium, Dissolved	mg/L	-0.0197	0.152	5.00	339	350	4.96	4.25 to 5.75	20.0	70.0 to 130	3.19	20.0
BC02119	Calcium, Total	mg/L	-0.0136	0.152	5.00	294	285	4.87	4.25 to 5.75	20.0	70.0 to 130	3.11	20.0
BC02120	Chromium, Dissolved	mg/L	0.0000585	0.000440	0.100	0.0970	0.0987	0.103	0.0850 to 0.115	97.0	70.0 to 130	1.74	20.0
BC02119	Chromium, Total	mg/L	-0.0000041	0.000440	0.100	0.102	0.104	0.105	0.0850 to 0.115	102	70.0 to 130	1.94	20.0
BC02120	Cobalt, Dissolved	mg/L	0.0000464	0.000147	0.100	0.144	0.146	0.105	0.0850 to 0.115	99.3	70.0 to 130	1.38	20.0
BC02119	Cobalt, Total	mg/L	0.0000084	0.000147	0.100	0.103	0.104	0.107	0.0850 to 0.115	103	70.0 to 130	0.966	20.0
BC02120	Iron, Dissolved	mg/L	-0.000316	0.0176	0.2	167	166	0.201	0.170 to 0.230	0.00	70.0 to 130	0.601	20.0
BC02119	Iron, Total	mg/L	-0.000407	0.0176	0.2	3.76	3.75	0.199	0.170 to 0.230	100	70.0 to 130	0.266	20.0
BC02120	Lead, Dissolved	mg/L	0.0000093	0.000147	0.100	0.0973	0.101	0.102	0.0850 to 0.115	97.3	70.0 to 130	3.73	20.0
BC02119	Lead, Total	mg/L	0.000007	0.000147	0.100	0.101	0.102	0.0980	0.0850 to 0.115	101	70.0 to 130	0.985	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF
Sample Date: 1/31/22 14:38
Customer ID:
Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill - MW-6 DUP

Laboratory ID Number: BC02113

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC02120	Lithium, Dissolved	mg/L	-0.000056	0.0154	0.200	0.280	0.279	0.200	0.170 to 0.230	109	70.0 to 130	0.358	20.0
BC02119	Lithium, Total	mg/L	-0.000062	0.0154	0.200	0.482	0.487	0.203	0.170 to 0.230	102	70.0 to 130	1.03	20.0
BC02120	Magnesium, Dissolved	mg/L	-0.00951	0.0462	5.00	380	391	5.11	4.25 to 5.75	20.0	70.0 to 130	2.85	20.0
BC02119	Magnesium, Total	mg/L	-0.00456	0.0462	5.00	196	193	5.11	4.25 to 5.75	60.0	70.0 to 130	1.54	20.0
BC02120	Manganese, Dissolved	mg/L	-0.0000097	0.0002	0.100	20.1	20.5	0.0965	0.0850 to 0.115	300	70.0 to 130	1.97	20.0
BC02119	Manganese, Total	mg/L	-0.000185	0.0002	0.100	0.621	0.625	0.106	0.0850 to 0.115	66.0	70.0 to 130	0.642	20.0
BC02119	Mercury, Total by CVAA	mg/L	0.00017	0.000500	0.004	0.00421	0.00423	0.00389	0.00340 to 0.00460	105	70.0 to 130	0.474	20.0
BC02120	Molybdenum, Dissolved	mg/L	0.0000632	0.0002	0.100	0.0973	0.101	0.104	0.0850 to 0.115	97.1	70.0 to 130	3.73	20.0
BC02119	Molybdenum, Total	mg/L	0.0000061	0.0002	0.100	0.104	0.104	0.101	0.0850 to 0.115	102	70.0 to 130	0.00	20.0
BC02120	Potassium, Dissolved	mg/L	-0.0724	0.367	10.0	31.3	31.5	9.83	8.50 to 11.5	97.0	70.0 to 130	0.637	20.0
BC02119	Potassium, Total	mg/L	-0.0179	0.367	10.0	17.2	17.2	10.1	8.50 to 11.5	95.1	70.0 to 130	0.00	20.0
BC02120	Selenium, Dissolved	mg/L	0.000111	0.00100	0.100	0.0999	0.105	0.104	0.0850 to 0.115	99.3	70.0 to 130	4.98	20.0
BC02119	Selenium, Total	mg/L	0.0000269	0.00100	0.100	0.101	0.102	0.108	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BC02120	Silicon, Dissolved	mg/L	-0.000923	0.0440	1.00	15.2	14.9	1.02	0.850 to 1.15	120	70.0 to 130	1.99	20.0
BC02119	Silicon, Total	mg/L	-0.00067	0.0440	1.00	8.22	8.22	1.03	0.850 to 1.15	108	70.0 to 130	0.00	20.0
BC02120	Sodium, Dissolved	mg/L	0.000085	0.0660	5.00	49.7	51.6	5.01	4.25 to 5.75	86.0	70.0 to 130	3.75	20.0
BC02119	Sodium, Total	mg/L	0.0024	0.0660	5.00	130	129	5.07	4.25 to 5.75	80.0	70.0 to 130	0.772	20.0
BC02120	Thallium, Dissolved	mg/L	0.000006	0.000147	0.100	0.0962	0.101	0.102	0.0850 to 0.115	96.1	70.0 to 130	4.87	20.0
BC02119	Thallium, Total	mg/L	0.0000139	0.000147	0.100	0.0991	0.104	0.102	0.0850 to 0.115	99.1	70.0 to 130	4.83	20.0
BC02119	Total Organic Carbon	mg/L	0.380	1.00	10.0	10.7	11.1	25.6		107	80.0 to 120	3.67	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 14:38

Customer ID:

Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill - MW-6 DUP

Laboratory ID Number: BC02113

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC02120	Alkalinity, Total as CaCO3	mg/L					239	51.9	45.0 to 55.0			4.27	10.0
BC02119	Chloride	mg/L	-0.111	1.00	160	229	69.8	10.5	9.00 to 11.0	99.8	80.0 to 120	0.719	20.0
BC02119	Fluoride	mg/L	-0.0138	0.125	2.50	2.74	0.148	2.62	2.25 to 2.75	104	80.0 to 120	2.01	20.0
BC02119	Nitrogen, Nitrate/Nitrite	mg/L as N	-0.01	0.200	2.00	2.14	0.014	1.97	1.80 to 2.20	107	90.0 to 110	0.00	15.0
BC02115	Solids, Dissolved	mg/L	1.00	25.0			2460	55.0	40.0 to 60.0			1.64	10.0
BC02119	Sulfate	mg/L	-0.114	2.0	1600	2990	1270	19.7	18.0 to 22.0	111	80.0 to 120	4.02	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill - MW-7

Location Code: WMWGORLF
Collected: 1/31/22 15:45
Customer ID:
Submittal Date: 2/1/22 16:41

Laboratory ID Number: BC02114

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: EPA 200.7		Analyst: RDA			Preparation Method: EPA 1638				
* Boron, Total	2/7/22 11:00	2/8/22 10:52		1.015	0.0689	mg/L	0.030000	0.1015	J
* Calcium, Total	2/7/22 11:00	2/8/22 12:42		20.3	278	mg/L	1.4007	8.12	
* Iron, Total	2/7/22 11:00	2/8/22 10:52		1.015	2.12	mg/L	0.008120	0.0406	
* Lithium, Total	2/7/22 11:00	2/8/22 10:52		1.015	0.0907	mg/L	0.007105	0.01999956	
* Magnesium, Total	2/7/22 11:00	2/8/22 12:42		20.3	253	mg/L	0.4263	8.12	
Silica, Total (calc.)	2/7/22 11:00	2/8/22 10:52		1	10.8	mg/L			
Silicon, Total	2/7/22 11:00	2/8/22 10:52		1.015	5.06	mg/L	0.02030	0.25375	
* Sodium, Total	2/7/22 11:00	2/8/22 10:52		1.015	38.0	mg/L	0.03045	0.406	
Analytical Method: EPA 200.7		Analyst: RDA			Preparation Method: EPA 1638				
* Boron, Dissolved	2/7/22 11:00	2/8/22 09:56		1.015	0.0697	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	2/7/22 11:00	2/8/22 11:54		20.3	270	mg/L	1.4007	8.12	
* Iron, Dissolved	2/7/22 11:00	2/8/22 09:56		1.015	1.99	mg/L	0.008120	0.0406	
* Lithium, Dissolved	2/7/22 11:00	2/8/22 09:56		1.015	0.0839	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	2/7/22 11:00	2/8/22 11:54		20.3	249	mg/L	0.4263	8.12	
Silica, Dissolved (calc.)	2/7/22 11:00	2/8/22 09:56		1	10.8	mg/L			
Silicon, Dissolved	2/7/22 11:00	2/8/22 09:56		1.015	5.05	mg/L	0.02030	0.25375	
* Sodium, Dissolved	2/7/22 11:00	2/8/22 09:56		1.015	36.1	mg/L	0.03045	0.406	
Analytical Method: EPA 200.8		Analyst: ABB			Preparation Method: EPA 1638				
* Antimony, Total	2/8/22 14:11	2/9/22 14:19		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	2/8/22 14:11	2/9/22 14:19		1.015	Not Detected	mg/L	0.004060	0.01015	U
* Arsenic, Total	2/8/22 14:11	2/9/22 14:19		1.015	0.00156	mg/L	0.000068	0.000203	
* Barium, Total	2/8/22 14:11	2/9/22 14:19		1.015	0.0126	mg/L	0.000102	0.000203	
* Beryllium, Total	2/8/22 14:11	2/9/22 14:19		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	2/8/22 14:11	2/9/22 14:19		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	2/8/22 14:11	2/9/22 14:19		1.015	0.000321	mg/L	0.000203	0.001015	J
* Cobalt, Total	2/8/22 14:11	2/9/22 14:19		1.015	0.00546	mg/L	0.000068	0.000203	
* Lead, Total	2/8/22 14:11	2/9/22 14:19		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	2/8/22 14:11	2/9/22 16:38		10.15	2.77	mg/L	0.000680	0.00203	
* Molybdenum, Total	2/8/22 14:11	2/9/22 14:19		1.015	0.000929	mg/L	0.000068	0.000203	
* Potassium, Total	2/8/22 14:11	2/9/22 14:19		1.015	6.92	mg/L	0.169505	0.5075	

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill - MW-7

Location Code: WMWGORLF
Collected: 1/31/22 15:45
Customer ID:
Submittal Date: 2/1/22 16:41

Laboratory ID Number: BC02114

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/8/22 14:11	2/9/22 14:19		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	2/8/22 14:11	2/9/22 14:19		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 200.8		Analyst: ABB							
* Antimony, Dissolved	2/8/22 14:50	2/10/22 16:08		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/8/22 14:50	2/10/22 16:08		1.015	Not Detected	mg/L	0.004060	0.01015	U
* Arsenic, Dissolved	2/8/22 14:50	2/10/22 16:08		1.015	0.00147	mg/L	0.000068	0.000203	
* Barium, Dissolved	2/8/22 14:50	2/10/22 16:08		1.015	0.0140	mg/L	0.000102	0.000203	
* Beryllium, Dissolved	2/8/22 14:50	2/10/22 16:08		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	2/8/22 14:50	2/10/22 16:08		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	2/8/22 14:50	2/10/22 16:08		1.015	0.000217	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	2/8/22 14:50	2/10/22 16:08		1.015	0.00565	mg/L	0.000068	0.000203	
* Lead, Dissolved	2/8/22 14:50	2/10/22 16:08		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	2/8/22 14:50	2/10/22 18:05		10.15	2.60	mg/L	0.000680	0.00203	
* Molybdenum, Dissolved	2/8/22 14:50	2/10/22 16:08		1.015	0.000959	mg/L	0.000068	0.000203	
* Potassium, Dissolved	2/8/22 14:50	2/10/22 16:08		1.015	6.56	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/8/22 14:50	2/10/22 16:08		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	2/8/22 14:50	2/10/22 16:08		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	2/10/22 13:23	2/10/22 18:31		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: ELH							
* Nitrogen, Nitrate/Nitrite	2/3/22 14:01	2/3/22 14:01		1	Not Detected	mg/L as N	0.20	0.3	U
Analytical Method: SM 2320 B		Analyst: ALH							
Alkalinity, Total as CaCO3	2/7/22 09:40	2/7/22 14:00		1	313	mg/L		0.1	
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	2/2/22 11:55	2/3/22 13:40		1	2140	mg/L		125	
Analytical Method: SM 4500CO2 D		Analyst: ALH							
Bicarbonate Alkalinity, (calc.)	2/7/22 09:40	2/7/22 14:00		1	313	mg/L			
Carbonate Alkalinity, (calc.)	2/7/22 09:40	2/7/22 14:00		1	0.25	mg/L			
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	2/10/22 17:57	2/10/22 17:57		1	1.00	mg/L	1.00	2	J

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill - MW-7

Location Code: WMWGORLF

Collected: 1/31/22 15:45

Customer ID:

Submittal Date: 2/1/22 16:41

Laboratory ID Number: BC02114

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	2/9/22 10:23	2/9/22 10:23		1	6.40	mg/L	0.50	1	
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	2/10/22 15:38	2/10/22 15:38		1	0.173	mg/L	0.06	0.1	
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	2/8/22 11:34	2/8/22 11:34		50	1370	mg/L	25.00	50	
Analytical Method: Field Measurements		Analyst: TJD							
Conductivity	1/31/22 15:40	1/31/22 15:40			2214.15	uS/cm			FA
pH	1/31/22 15:40	1/31/22 15:40			6.48	SU			FA
Temperature	1/31/22 15:40	1/31/22 15:40			21.03	C			FA
Turbidity	1/31/22 15:40	1/31/22 15:40			1.24	NTU			FA

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF
Sample Date: 1/31/22 15:45
Customer ID:
Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill - MW-7

Laboratory ID Number: BC02114

Sample	Analysis	Units	MB	MB		Spike	MS	MSD	Standard		Rec		Prec
				Limit					Standard	Limit	Rec	Limit	
BC02120	Aluminum, Dissolved	mg/L	0.000259	0.010	0.100	0.102	0.102	0.0956	0.0850 to 0.115	96.1	70.0 to 130	0.00	20.0
BC02119	Aluminum, Total	mg/L	-0.00435	0.010	0.100	0.103	0.104	0.106	0.0850 to 0.115	103	70.0 to 130	0.966	20.0
BC02120	Antimony, Dissolved	mg/L	0.000124	0.00100	0.100	0.103	0.106	0.0990	0.0850 to 0.115	103	70.0 to 130	2.87	20.0
BC02119	Antimony, Total	mg/L	0.0000732	0.00100	0.100	0.106	0.105	0.101	0.0850 to 0.115	106	70.0 to 130	0.948	20.0
BC02120	Arsenic, Dissolved	mg/L	-0.0000275	0.000176	0.100	0.163	0.162	0.102	0.0850 to 0.115	100	70.0 to 130	0.615	20.0
BC02119	Arsenic, Total	mg/L	0.0000153	0.000176	0.100	0.112	0.114	0.107	0.0850 to 0.115	106	70.0 to 130	1.77	20.0
BC02120	Barium, Dissolved	mg/L	0.0000421	0.000200	0.100	0.107	0.107	0.0954	0.0850 to 0.115	95.8	70.0 to 130	0.00	20.0
BC02119	Barium, Total	mg/L	-0.0000787	0.000200	0.100	0.117	0.113	0.0944	0.0850 to 0.115	97.7	70.0 to 130	3.48	20.0
BC02120	Beryllium, Dissolved	mg/L	0.000287	0.000880	0.100	0.0860	0.0882	0.0952	0.0850 to 0.115	86.0	70.0 to 130	2.53	20.0
BC02119	Beryllium, Total	mg/L	0.000094	0.000880	0.100	0.0966	0.101	0.101	0.0850 to 0.115	96.6	70.0 to 130	4.45	20.0
BC02120	Boron, Dissolved	mg/L	-0.000503	0.0650	1.00	1.23	1.22	1.00	0.850 to 1.15	102	70.0 to 130	0.816	20.0
BC02119	Boron, Total	mg/L	-0.000571	0.0650	1.00	1.16	1.18	0.990	0.850 to 1.15	101	70.0 to 130	1.71	20.0
BC02120	Cadmium, Dissolved	mg/L	-0.0000147	0.000147	0.100	0.0973	0.0994	0.100	0.0850 to 0.115	97.3	70.0 to 130	2.14	20.0
BC02119	Cadmium, Total	mg/L	0.000006	0.000147	0.100	0.102	0.103	0.105	0.0850 to 0.115	102	70.0 to 130	0.976	20.0
BC02120	Calcium, Dissolved	mg/L	-0.0197	0.152	5.00	339	350	4.96	4.25 to 5.75	20.0	70.0 to 130	3.19	20.0
BC02119	Calcium, Total	mg/L	-0.0136	0.152	5.00	294	285	4.87	4.25 to 5.75	20.0	70.0 to 130	3.11	20.0
BC02120	Chromium, Dissolved	mg/L	0.0000585	0.000440	0.100	0.0970	0.0987	0.103	0.0850 to 0.115	97.0	70.0 to 130	1.74	20.0
BC02119	Chromium, Total	mg/L	-0.0000041	0.000440	0.100	0.102	0.104	0.105	0.0850 to 0.115	102	70.0 to 130	1.94	20.0
BC02120	Cobalt, Dissolved	mg/L	0.0000464	0.000147	0.100	0.144	0.146	0.105	0.0850 to 0.115	99.3	70.0 to 130	1.38	20.0
BC02119	Cobalt, Total	mg/L	0.0000084	0.000147	0.100	0.103	0.104	0.107	0.0850 to 0.115	103	70.0 to 130	0.966	20.0
BC02120	Iron, Dissolved	mg/L	-0.000316	0.0176	0.2	167	166	0.201	0.170 to 0.230	0.00	70.0 to 130	0.601	20.0
BC02119	Iron, Total	mg/L	-0.000407	0.0176	0.2	3.76	3.75	0.199	0.170 to 0.230	100	70.0 to 130	0.266	20.0
BC02120	Lead, Dissolved	mg/L	0.0000093	0.000147	0.100	0.0973	0.101	0.102	0.0850 to 0.115	97.3	70.0 to 130	3.73	20.0
BC02119	Lead, Total	mg/L	0.000007	0.000147	0.100	0.101	0.102	0.0980	0.0850 to 0.115	101	70.0 to 130	0.985	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF
Sample Date: 1/31/22 15:45
Customer ID:
Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill - MW-7

Laboratory ID Number: BC02114

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC02120	Lithium, Dissolved	mg/L	-0.000056	0.0154	0.200	0.280	0.279	0.200	0.170 to 0.230	109	70.0 to 130	0.358	20.0
BC02119	Lithium, Total	mg/L	-0.000062	0.0154	0.200	0.482	0.487	0.203	0.170 to 0.230	102	70.0 to 130	1.03	20.0
BC02120	Magnesium, Dissolved	mg/L	-0.00951	0.0462	5.00	380	391	5.11	4.25 to 5.75	20.0	70.0 to 130	2.85	20.0
BC02119	Magnesium, Total	mg/L	-0.00456	0.0462	5.00	196	193	5.11	4.25 to 5.75	60.0	70.0 to 130	1.54	20.0
BC02120	Manganese, Dissolved	mg/L	-0.0000097	0.0002	0.100	20.1	20.5	0.0965	0.0850 to 0.115	300	70.0 to 130	1.97	20.0
BC02119	Manganese, Total	mg/L	-0.000185	0.0002	0.100	0.621	0.625	0.106	0.0850 to 0.115	66.0	70.0 to 130	0.642	20.0
BC02119	Mercury, Total by CVAA	mg/L	0.00017	0.000500	0.004	0.00421	0.00423	0.00389	0.00340 to 0.00460	105	70.0 to 130	0.474	20.0
BC02120	Molybdenum, Dissolved	mg/L	0.0000632	0.0002	0.100	0.0973	0.101	0.104	0.0850 to 0.115	97.1	70.0 to 130	3.73	20.0
BC02119	Molybdenum, Total	mg/L	0.0000061	0.0002	0.100	0.104	0.104	0.101	0.0850 to 0.115	102	70.0 to 130	0.00	20.0
BC02120	Potassium, Dissolved	mg/L	-0.0724	0.367	10.0	31.3	31.5	9.83	8.50 to 11.5	97.0	70.0 to 130	0.637	20.0
BC02119	Potassium, Total	mg/L	-0.0179	0.367	10.0	17.2	17.2	10.1	8.50 to 11.5	95.1	70.0 to 130	0.00	20.0
BC02120	Selenium, Dissolved	mg/L	0.000111	0.00100	0.100	0.0999	0.105	0.104	0.0850 to 0.115	99.3	70.0 to 130	4.98	20.0
BC02119	Selenium, Total	mg/L	0.0000269	0.00100	0.100	0.101	0.102	0.108	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BC02120	Silicon, Dissolved	mg/L	-0.000923	0.0440	1.00	15.2	14.9	1.02	0.850 to 1.15	120	70.0 to 130	1.99	20.0
BC02119	Silicon, Total	mg/L	-0.00067	0.0440	1.00	8.22	8.22	1.03	0.850 to 1.15	108	70.0 to 130	0.00	20.0
BC02120	Sodium, Dissolved	mg/L	0.000085	0.0660	5.00	49.7	51.6	5.01	4.25 to 5.75	86.0	70.0 to 130	3.75	20.0
BC02119	Sodium, Total	mg/L	0.0024	0.0660	5.00	130	129	5.07	4.25 to 5.75	80.0	70.0 to 130	0.772	20.0
BC02120	Thallium, Dissolved	mg/L	0.000006	0.000147	0.100	0.0962	0.101	0.102	0.0850 to 0.115	96.1	70.0 to 130	4.87	20.0
BC02119	Thallium, Total	mg/L	0.0000139	0.000147	0.100	0.0991	0.104	0.102	0.0850 to 0.115	99.1	70.0 to 130	4.83	20.0
BC02119	Total Organic Carbon	mg/L	0.380	1.00	10.0	10.7	11.1	25.6		107	80.0 to 120	3.67	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 15:45

Customer ID:

Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill - MW-7

Laboratory ID Number: BC02114

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Limit	Prec	Prec Limit
BC02120	Alkalinity, Total as CaCO3	mg/L					239	51.9	45.0 to 55.0			4.27	10.0
BC02119	Chloride	mg/L	-0.111	1.00	160	229	69.8	10.5	9.00 to 11.0	99.8	80.0 to 120	0.719	20.0
BC02119	Fluoride	mg/L	-0.0138	0.125	2.50	2.74	0.148	2.62	2.25 to 2.75	104	80.0 to 120	2.01	20.0
BC02119	Nitrogen, Nitrate/Nitrite	mg/L as N	-0.01	0.200	2.00	2.14	0.014	1.97	1.80 to 2.20	107	90.0 to 110	0.00	15.0
BC02115	Solids, Dissolved	mg/L	1.00	25.0			2460	55.0	40.0 to 60.0			1.64	10.0
BC02119	Sulfate	mg/L	-0.114	2.0	1600	2990	1270	19.7	18.0 to 22.0	111	80.0 to 120	4.02	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill - MW-8

Location Code: WMWGORLF
Collected: 2/1/22 08:50
Customer ID:
Submittal Date: 2/1/22 16:41

Laboratory ID Number: BC02115

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: EPA 200.7		Analyst: RDA			Preparation Method: EPA 1638				
* Boron, Total	2/7/22 11:00	2/8/22 10:54		1.015	0.0639	mg/L	0.030000	0.1015	J
* Calcium, Total	2/7/22 11:00	2/8/22 12:44		20.3	284	mg/L	1.4007	8.12	
* Iron, Total	2/7/22 11:00	2/8/22 10:54		1.015	1.98	mg/L	0.008120	0.0406	
* Lithium, Total	2/7/22 11:00	2/8/22 10:54		1.015	0.124	mg/L	0.007105	0.01999956	
* Magnesium, Total	2/7/22 11:00	2/8/22 12:44		20.3	284	mg/L	0.4263	8.12	
Silica, Total (calc.)	2/7/22 11:00	2/8/22 10:54		1	11.3	mg/L			
Silicon, Total	2/7/22 11:00	2/8/22 10:54		1.015	5.28	mg/L	0.02030	0.25375	
* Sodium, Total	2/7/22 11:00	2/8/22 10:54		1.015	38.3	mg/L	0.03045	0.406	
Analytical Method: EPA 200.7		Analyst: RDA			Preparation Method: EPA 1638				
* Boron, Dissolved	2/7/22 11:00	2/8/22 09:58		1.015	0.0639	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	2/7/22 11:00	2/8/22 11:56		20.3	291	mg/L	1.4007	8.12	
* Iron, Dissolved	2/7/22 11:00	2/8/22 09:58		1.015	1.22	mg/L	0.008120	0.0406	
* Lithium, Dissolved	2/7/22 11:00	2/8/22 09:58		1.015	0.124	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	2/7/22 11:00	2/8/22 11:56		20.3	285	mg/L	0.4263	8.12	
Silica, Dissolved (calc.)	2/7/22 11:00	2/8/22 09:58		1	11.1	mg/L			
Silicon, Dissolved	2/7/22 11:00	2/8/22 09:58		1.015	5.18	mg/L	0.02030	0.25375	
* Sodium, Dissolved	2/7/22 11:00	2/8/22 09:58		1.015	38.4	mg/L	0.03045	0.406	
Analytical Method: EPA 200.8		Analyst: ABB			Preparation Method: EPA 1638				
* Antimony, Total	2/8/22 14:11	2/9/22 14:22		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	2/8/22 14:11	2/9/22 14:22		1.015	Not Detected	mg/L	0.004060	0.01015	U
* Arsenic, Total	2/8/22 14:11	2/9/22 14:22		1.015	0.00131	mg/L	0.000068	0.000203	
* Barium, Total	2/8/22 14:11	2/9/22 14:22		1.015	0.0135	mg/L	0.000102	0.000203	
* Beryllium, Total	2/8/22 14:11	2/9/22 14:22		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	2/8/22 14:11	2/9/22 14:22		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	2/8/22 14:11	2/9/22 14:22		1.015	0.000253	mg/L	0.000203	0.001015	J
* Cobalt, Total	2/8/22 14:11	2/9/22 14:22		1.015	0.00750	mg/L	0.000068	0.000203	
* Lead, Total	2/8/22 14:11	2/9/22 14:22		1.015	0.0000859	mg/L	0.000068	0.000203	J
* Manganese, Total	2/8/22 14:11	2/9/22 14:22		1.015	0.993	mg/L	0.000068	0.000203	
* Molybdenum, Total	2/8/22 14:11	2/9/22 14:22		1.015	0.000309	mg/L	0.000068	0.000203	
* Potassium, Total	2/8/22 14:11	2/9/22 14:22		1.015	8.10	mg/L	0.169505	0.5075	

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill - MW-8

Location Code: WMWGORLF
Collected: 2/1/22 08:50
Customer ID:
Submittal Date: 2/1/22 16:41

Laboratory ID Number: BC02115

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/8/22 14:11	2/9/22 14:22		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	2/8/22 14:11	2/9/22 14:22		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 200.8		Analyst: ABB							
* Antimony, Dissolved	2/8/22 14:50	2/10/22 16:11		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/8/22 14:50	2/10/22 16:11		1.015	Not Detected	mg/L	0.004060	0.01015	U
* Arsenic, Dissolved	2/8/22 14:50	2/10/22 16:11		1.015	0.000401	mg/L	0.000068	0.000203	
* Barium, Dissolved	2/8/22 14:50	2/10/22 16:11		1.015	0.0142	mg/L	0.000102	0.000203	
* Beryllium, Dissolved	2/8/22 14:50	2/10/22 16:11		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	2/8/22 14:50	2/10/22 16:11		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	2/8/22 14:50	2/10/22 16:11		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	2/8/22 14:50	2/10/22 16:11		1.015	0.00684	mg/L	0.000068	0.000203	
* Lead, Dissolved	2/8/22 14:50	2/10/22 16:11		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	2/8/22 14:50	2/10/22 18:08		1.015	0.867	mg/L	0.000068	0.000203	
* Molybdenum, Dissolved	2/8/22 14:50	2/10/22 16:11		1.015	0.000453	mg/L	0.000068	0.000203	
* Potassium, Dissolved	2/8/22 14:50	2/10/22 16:11		1.015	7.60	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/8/22 14:50	2/10/22 16:11		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	2/8/22 14:50	2/10/22 16:11		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	2/10/22 13:23	2/10/22 18:35		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: ELH							
* Nitrogen, Nitrate/Nitrite	2/3/22 14:03	2/3/22 14:03		1	Not Detected	mg/L as N	0.20	0.3	U
Analytical Method: SM 2320 B		Analyst: ALH							
Alkalinity, Total as CaCO3	2/7/22 09:40	2/7/22 14:00		1	391	mg/L		0.1	
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	2/2/22 11:55	2/3/22 13:40		1	2420	mg/L		125	
Analytical Method: SM 4500CO2 D		Analyst: ALH							
Bicarbonate Alkalinity, (calc.)	2/7/22 09:40	2/7/22 14:00		1	391	mg/L			
Carbonate Alkalinity, (calc.)	2/7/22 09:40	2/7/22 14:00		1	0.33	mg/L			
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	2/10/22 18:15	2/10/22 18:15		1	1.42	mg/L	1.00	2	J

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill - MW-8

Location Code: WMWGORLF

Collected: 2/1/22 08:50

Customer ID:

Submittal Date: 2/1/22 16:41

Laboratory ID Number: BC02115

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	2/9/22 10:24	2/9/22 10:24		1	8.56	mg/L	0.50	1	
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	2/10/22 15:39	2/10/22 15:39		1	0.177	mg/L	0.06	0.1	
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	2/8/22 11:36	2/8/22 11:36		50	1500	mg/L	25.00	50	
Analytical Method: Field Measurements		Analyst: TJD							
Conductivity	2/1/22 08:45	2/1/22 08:45			2433.78	uS/cm			FA
pH	2/1/22 08:45	2/1/22 08:45			6.77	SU			FA
Temperature	2/1/22 08:45	2/1/22 08:45			18.42	C			FA
Turbidity	2/1/22 08:45	2/1/22 08:45			8.92	NTU			FA

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF
Sample Date: 2/1/22 08:50
Customer ID:
Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill - MW-8

Laboratory ID Number: BC02115

Sample	Analysis	Units	MB	MB				Standard		Rec			Prec
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit	Prec	
BC02120	Aluminum, Dissolved	mg/L	0.000259	0.010	0.100	0.102	0.102	0.0956	0.0850 to 0.115	96.1	70.0 to 130	0.00	20.0
BC02119	Aluminum, Total	mg/L	-0.00435	0.010	0.100	0.103	0.104	0.106	0.0850 to 0.115	103	70.0 to 130	0.966	20.0
BC02120	Antimony, Dissolved	mg/L	0.000124	0.00100	0.100	0.103	0.106	0.0990	0.0850 to 0.115	103	70.0 to 130	2.87	20.0
BC02119	Antimony, Total	mg/L	0.0000732	0.00100	0.100	0.106	0.105	0.101	0.0850 to 0.115	106	70.0 to 130	0.948	20.0
BC02120	Arsenic, Dissolved	mg/L	-0.0000275	0.000176	0.100	0.163	0.162	0.102	0.0850 to 0.115	100	70.0 to 130	0.615	20.0
BC02119	Arsenic, Total	mg/L	0.0000153	0.000176	0.100	0.112	0.114	0.107	0.0850 to 0.115	106	70.0 to 130	1.77	20.0
BC02120	Barium, Dissolved	mg/L	0.0000421	0.000200	0.100	0.107	0.107	0.0954	0.0850 to 0.115	95.8	70.0 to 130	0.00	20.0
BC02119	Barium, Total	mg/L	-0.0000787	0.000200	0.100	0.117	0.113	0.0944	0.0850 to 0.115	97.7	70.0 to 130	3.48	20.0
BC02120	Beryllium, Dissolved	mg/L	0.000287	0.000880	0.100	0.0860	0.0882	0.0952	0.0850 to 0.115	86.0	70.0 to 130	2.53	20.0
BC02119	Beryllium, Total	mg/L	0.000094	0.000880	0.100	0.0966	0.101	0.101	0.0850 to 0.115	96.6	70.0 to 130	4.45	20.0
BC02120	Boron, Dissolved	mg/L	-0.000503	0.0650	1.00	1.23	1.22	1.00	0.850 to 1.15	102	70.0 to 130	0.816	20.0
BC02119	Boron, Total	mg/L	-0.000571	0.0650	1.00	1.16	1.18	0.990	0.850 to 1.15	101	70.0 to 130	1.71	20.0
BC02120	Cadmium, Dissolved	mg/L	-0.0000147	0.000147	0.100	0.0973	0.0994	0.100	0.0850 to 0.115	97.3	70.0 to 130	2.14	20.0
BC02119	Cadmium, Total	mg/L	0.000006	0.000147	0.100	0.102	0.103	0.105	0.0850 to 0.115	102	70.0 to 130	0.976	20.0
BC02120	Calcium, Dissolved	mg/L	-0.0197	0.152	5.00	339	350	4.96	4.25 to 5.75	20.0	70.0 to 130	3.19	20.0
BC02119	Calcium, Total	mg/L	-0.0136	0.152	5.00	294	285	4.87	4.25 to 5.75	20.0	70.0 to 130	3.11	20.0
BC02120	Chromium, Dissolved	mg/L	0.0000585	0.000440	0.100	0.0970	0.0987	0.103	0.0850 to 0.115	97.0	70.0 to 130	1.74	20.0
BC02119	Chromium, Total	mg/L	-0.0000041	0.000440	0.100	0.102	0.104	0.105	0.0850 to 0.115	102	70.0 to 130	1.94	20.0
BC02120	Cobalt, Dissolved	mg/L	0.0000464	0.000147	0.100	0.144	0.146	0.105	0.0850 to 0.115	99.3	70.0 to 130	1.38	20.0
BC02119	Cobalt, Total	mg/L	0.0000084	0.000147	0.100	0.103	0.104	0.107	0.0850 to 0.115	103	70.0 to 130	0.966	20.0
BC02120	Iron, Dissolved	mg/L	-0.000316	0.0176	0.2	167	166	0.201	0.170 to 0.230	0.00	70.0 to 130	0.601	20.0
BC02119	Iron, Total	mg/L	-0.000407	0.0176	0.2	3.76	3.75	0.199	0.170 to 0.230	100	70.0 to 130	0.266	20.0
BC02120	Lead, Dissolved	mg/L	0.0000093	0.000147	0.100	0.0973	0.101	0.102	0.0850 to 0.115	97.3	70.0 to 130	3.73	20.0
BC02119	Lead, Total	mg/L	0.000007	0.000147	0.100	0.101	0.102	0.0980	0.0850 to 0.115	101	70.0 to 130	0.985	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 2/1/22 08:50

Customer ID:

Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill - MW-8

Laboratory ID Number: BC02115

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC02120	Lithium, Dissolved	mg/L	-0.000056	0.0154	0.200	0.280	0.279	0.200	0.170 to 0.230	109	70.0 to 130	0.358	20.0
BC02119	Lithium, Total	mg/L	-0.000062	0.0154	0.200	0.482	0.487	0.203	0.170 to 0.230	102	70.0 to 130	1.03	20.0
BC02120	Magnesium, Dissolved	mg/L	-0.00951	0.0462	5.00	380	391	5.11	4.25 to 5.75	20.0	70.0 to 130	2.85	20.0
BC02119	Magnesium, Total	mg/L	-0.00456	0.0462	5.00	196	193	5.11	4.25 to 5.75	60.0	70.0 to 130	1.54	20.0
BC02120	Manganese, Dissolved	mg/L	-0.0000097	0.0002	0.100	20.1	20.5	0.0965	0.0850 to 0.115	300	70.0 to 130	1.97	20.0
BC02119	Manganese, Total	mg/L	-0.000185	0.0002	0.100	0.621	0.625	0.106	0.0850 to 0.115	66.0	70.0 to 130	0.642	20.0
BC02119	Mercury, Total by CVAA	mg/L	0.00017	0.000500	0.004	0.00421	0.00423	0.00389	0.00340 to 0.00460	105	70.0 to 130	0.474	20.0
BC02120	Molybdenum, Dissolved	mg/L	0.0000632	0.0002	0.100	0.0973	0.101	0.104	0.0850 to 0.115	97.1	70.0 to 130	3.73	20.0
BC02119	Molybdenum, Total	mg/L	0.0000061	0.0002	0.100	0.104	0.104	0.101	0.0850 to 0.115	102	70.0 to 130	0.00	20.0
BC02120	Potassium, Dissolved	mg/L	-0.0724	0.367	10.0	31.3	31.5	9.83	8.50 to 11.5	97.0	70.0 to 130	0.637	20.0
BC02119	Potassium, Total	mg/L	-0.0179	0.367	10.0	17.2	17.2	10.1	8.50 to 11.5	95.1	70.0 to 130	0.00	20.0
BC02120	Selenium, Dissolved	mg/L	0.000111	0.00100	0.100	0.0999	0.105	0.104	0.0850 to 0.115	99.3	70.0 to 130	4.98	20.0
BC02119	Selenium, Total	mg/L	0.0000269	0.00100	0.100	0.101	0.102	0.108	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BC02120	Silicon, Dissolved	mg/L	-0.000923	0.0440	1.00	15.2	14.9	1.02	0.850 to 1.15	120	70.0 to 130	1.99	20.0
BC02119	Silicon, Total	mg/L	-0.00067	0.0440	1.00	8.22	8.22	1.03	0.850 to 1.15	108	70.0 to 130	0.00	20.0
BC02120	Sodium, Dissolved	mg/L	0.000085	0.0660	5.00	49.7	51.6	5.01	4.25 to 5.75	86.0	70.0 to 130	3.75	20.0
BC02119	Sodium, Total	mg/L	0.0024	0.0660	5.00	130	129	5.07	4.25 to 5.75	80.0	70.0 to 130	0.772	20.0
BC02120	Thallium, Dissolved	mg/L	0.000006	0.000147	0.100	0.0962	0.101	0.102	0.0850 to 0.115	96.1	70.0 to 130	4.87	20.0
BC02119	Thallium, Total	mg/L	0.0000139	0.000147	0.100	0.0991	0.104	0.102	0.0850 to 0.115	99.1	70.0 to 130	4.83	20.0
BC02119	Total Organic Carbon	mg/L	0.380	1.00	10.0	10.7	11.1	25.6		107	80.0 to 120	3.67	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 2/1/22 08:50

Customer ID:

Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill - MW-8

Laboratory ID Number: BC02115

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC02120	Alkalinity, Total as CaCO3	mg/L					239	51.9	45.0 to 55.0			4.27	10.0
BC02119	Chloride	mg/L	-0.111	1.00	160	229	69.8	10.5	9.00 to 11.0	99.8	80.0 to 120	0.719	20.0
BC02119	Fluoride	mg/L	-0.0138	0.125	2.50	2.74	0.148	2.62	2.25 to 2.75	104	80.0 to 120	2.01	20.0
BC02119	Nitrogen, Nitrate/Nitrite	mg/L as N	-0.01	0.200	2.00	2.14	0.014	1.97	1.80 to 2.20	107	90.0 to 110	0.00	15.0
BC02115	Solids, Dissolved	mg/L	1.00	25.0			2460	55.0	40.0 to 60.0			1.64	10.0
BC02119	Sulfate	mg/L	-0.114	2.0	1600	2990	1270	19.7	18.0 to 22.0	111	80.0 to 120	4.02	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill - MW-10

Location Code: WMWGORLF
Collected: 2/1/22 10:50
Customer ID:
Submittal Date: 2/1/22 16:41

Laboratory ID Number: BC02116

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: EPA 200.7		Analyst: RDA			Preparation Method: EPA 1638				
* Boron, Total	2/7/22 11:00	2/8/22 10:56		1.015	0.177	mg/L	0.030000	0.1015	
* Calcium, Total	2/7/22 11:00	2/8/22 12:46		20.3	155	mg/L	1.4007	8.12	
* Iron, Total	2/7/22 11:00	2/8/22 12:46		20.3	9.10	mg/L	0.1624	0.812	
* Lithium, Total	2/7/22 11:00	2/8/22 10:56		1.015	0.157	mg/L	0.007105	0.01999956	
* Magnesium, Total	2/7/22 11:00	2/8/22 12:46		20.3	82.6	mg/L	0.4263	8.12	
Silica, Total (calc.)	2/7/22 11:00	2/8/22 10:56		1	15.3	mg/L			
Silicon, Total	2/7/22 11:00	2/8/22 10:56		1.015	7.15	mg/L	0.02030	0.25375	
* Sodium, Total	2/7/22 11:00	2/8/22 12:46		20.3	72.5	mg/L	0.609	8.12	
Analytical Method: EPA 200.7		Analyst: RDA			Preparation Method: EPA 1638				
* Boron, Dissolved	2/7/22 11:00	2/8/22 10:00		1.015	0.218	mg/L	0.030000	0.1015	
* Calcium, Dissolved	2/7/22 11:00	2/8/22 11:58		20.3	155	mg/L	1.4007	8.12	
* Iron, Dissolved	2/7/22 11:00	2/8/22 11:58		20.3	13.2	mg/L	0.1624	0.812	
* Lithium, Dissolved	2/7/22 11:00	2/8/22 10:00		1.015	0.175	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	2/7/22 11:00	2/8/22 11:58		20.3	81.4	mg/L	0.4263	8.12	
Silica, Dissolved (calc.)	2/7/22 11:00	2/8/22 10:00		1	18.5	mg/L			
Silicon, Dissolved	2/7/22 11:00	2/8/22 10:00		1.015	8.63	mg/L	0.02030	0.25375	
* Sodium, Dissolved	2/7/22 11:00	2/8/22 11:58		20.3	59.5	mg/L	0.609	8.12	
Analytical Method: EPA 200.8		Analyst: ABB			Preparation Method: EPA 1638				
* Antimony, Total	2/8/22 14:11	2/9/22 14:26		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	2/8/22 14:11	2/9/22 14:26		1.015	0.162	mg/L	0.004060	0.01015	
* Arsenic, Total	2/8/22 14:11	2/9/22 14:26		1.015	0.000733	mg/L	0.000068	0.000203	
* Barium, Total	2/8/22 14:11	2/9/22 14:26		1.015	0.0198	mg/L	0.000102	0.000203	
* Beryllium, Total	2/8/22 14:11	2/9/22 14:26		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	2/8/22 14:11	2/9/22 14:26		1.015	0.000101	mg/L	0.000068	0.000203	J
* Chromium, Total	2/8/22 14:11	2/9/22 14:26		1.015	0.000288	mg/L	0.000203	0.001015	J
* Cobalt, Total	2/8/22 14:11	2/9/22 14:26		1.015	0.00978	mg/L	0.000068	0.000203	
* Lead, Total	2/8/22 14:11	2/9/22 14:26		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	2/8/22 14:11	2/9/22 16:53		10.15	1.35	mg/L	0.000680	0.00203	
* Molybdenum, Total	2/8/22 14:11	2/9/22 14:26		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Potassium, Total	2/8/22 14:11	2/9/22 14:26		1.015	5.42	mg/L	0.169505	0.5075	

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill - MW-10

Location Code: WMWGORLF
Collected: 2/1/22 10:50
Customer ID:
Submittal Date: 2/1/22 16:41

Laboratory ID Number: BC02116

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/8/22 14:11	2/9/22 14:26		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	2/8/22 14:11	2/9/22 14:26		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 200.8		Analyst: ABB							
* Antimony, Dissolved	2/8/22 14:50	2/10/22 16:15		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/8/22 14:50	2/10/22 16:15		1.015	0.114	mg/L	0.004060	0.01015	
* Arsenic, Dissolved	2/8/22 14:50	2/10/22 16:15		1.015	0.000998	mg/L	0.000068	0.000203	
* Barium, Dissolved	2/8/22 14:50	2/10/22 16:15		1.015	0.0212	mg/L	0.000102	0.000203	
* Beryllium, Dissolved	2/8/22 14:50	2/10/22 16:15		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	2/8/22 14:50	2/10/22 16:15		1.015	0.000138	mg/L	0.000068	0.000203	J
* Chromium, Dissolved	2/8/22 14:50	2/10/22 16:15		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	2/8/22 14:50	2/10/22 16:15		1.015	0.0140	mg/L	0.000068	0.000203	
* Lead, Dissolved	2/8/22 14:50	2/10/22 16:15		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	2/8/22 14:50	2/10/22 18:12		10.15	1.75	mg/L	0.000680	0.00203	
* Molybdenum, Dissolved	2/8/22 14:50	2/10/22 16:15		1.015	0.0000696	mg/L	0.000068	0.000203	J
* Potassium, Dissolved	2/8/22 14:50	2/10/22 16:15		1.015	5.45	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/8/22 14:50	2/10/22 16:15		1.015	0.000581	mg/L	0.000508	0.001015	J
* Thallium, Dissolved	2/8/22 14:50	2/10/22 16:15		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	2/10/22 13:23	2/10/22 18:39		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: ELH							
* Nitrogen, Nitrate/Nitrite	2/3/22 14:04	2/3/22 14:04		1	Not Detected	mg/L as N	0.20	0.3	U
Analytical Method: SM 2320 B		Analyst: ALH							
Alkalinity, Total as CaCO3	2/7/22 09:40	2/7/22 14:00		1	145	mg/L		0.1	
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	2/4/22 11:40	2/7/22 13:22		1	1050	mg/L		75.8	
Analytical Method: SM 4500CO2 D		Analyst: ALH							
Bicarbonate Alkalinity, (calc.)	2/7/22 09:40	2/7/22 14:00		1	145	mg/L			
Carbonate Alkalinity, (calc.)	2/7/22 09:40	2/7/22 14:00		1	0.08	mg/L			
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	2/10/22 18:33	2/10/22 18:33		1	Not Detected	mg/L	1.00	2	U

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill - MW-10

Location Code: WMWGORLF

Collected: 2/1/22 10:50

Customer ID:

Submittal Date: 2/1/22 16:41

Laboratory ID Number: BC02116

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	2/9/22 10:26	2/9/22 10:26		1	3.97	mg/L	0.50	1	
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	2/10/22 15:40	2/10/22 15:40		1	0.157	mg/L	0.06	0.1	
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	2/8/22 11:37	2/8/22 11:37		32	707	mg/L	16.00	32	
Analytical Method: Field Measurements		Analyst: TJD							
Conductivity	2/1/22 10:47	2/1/22 10:47			1272.32	uS/cm			FA
pH	2/1/22 10:47	2/1/22 10:47			6.62	SU			FA
Temperature	2/1/22 10:47	2/1/22 10:47			19.91	C			FA
Turbidity	2/1/22 10:47	2/1/22 10:47			2.86	NTU			FA

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 2/1/22 10:50

Customer ID:

Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill - MW-10

Laboratory ID Number: BC02116

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC02120	Aluminum, Dissolved	mg/L	0.000259	0.010	0.100	0.102	0.102	0.0956	0.0850 to 0.115	96.1	70.0 to 130	0.00	20.0
BC02119	Aluminum, Total	mg/L	-0.00435	0.010	0.100	0.103	0.104	0.106	0.0850 to 0.115	103	70.0 to 130	0.966	20.0
BC02120	Antimony, Dissolved	mg/L	0.000124	0.00100	0.100	0.103	0.106	0.0990	0.0850 to 0.115	103	70.0 to 130	2.87	20.0
BC02119	Antimony, Total	mg/L	0.0000732	0.00100	0.100	0.106	0.105	0.101	0.0850 to 0.115	106	70.0 to 130	0.948	20.0
BC02120	Arsenic, Dissolved	mg/L	-0.0000275	0.000176	0.100	0.163	0.162	0.102	0.0850 to 0.115	100	70.0 to 130	0.615	20.0
BC02119	Arsenic, Total	mg/L	0.0000153	0.000176	0.100	0.112	0.114	0.107	0.0850 to 0.115	106	70.0 to 130	1.77	20.0
BC02120	Barium, Dissolved	mg/L	0.0000421	0.000200	0.100	0.107	0.107	0.0954	0.0850 to 0.115	95.8	70.0 to 130	0.00	20.0
BC02119	Barium, Total	mg/L	-0.0000787	0.000200	0.100	0.117	0.113	0.0944	0.0850 to 0.115	97.7	70.0 to 130	3.48	20.0
BC02120	Beryllium, Dissolved	mg/L	0.000287	0.000880	0.100	0.0860	0.0882	0.0952	0.0850 to 0.115	86.0	70.0 to 130	2.53	20.0
BC02119	Beryllium, Total	mg/L	0.000094	0.000880	0.100	0.0966	0.101	0.101	0.0850 to 0.115	96.6	70.0 to 130	4.45	20.0
BC02120	Boron, Dissolved	mg/L	-0.000503	0.0650	1.00	1.23	1.22	1.00	0.850 to 1.15	102	70.0 to 130	0.816	20.0
BC02119	Boron, Total	mg/L	-0.000571	0.0650	1.00	1.16	1.18	0.990	0.850 to 1.15	101	70.0 to 130	1.71	20.0
BC02120	Cadmium, Dissolved	mg/L	-0.0000147	0.000147	0.100	0.0973	0.0994	0.100	0.0850 to 0.115	97.3	70.0 to 130	2.14	20.0
BC02119	Cadmium, Total	mg/L	0.000006	0.000147	0.100	0.102	0.103	0.105	0.0850 to 0.115	102	70.0 to 130	0.976	20.0
BC02120	Calcium, Dissolved	mg/L	-0.0197	0.152	5.00	339	350	4.96	4.25 to 5.75	20.0	70.0 to 130	3.19	20.0
BC02119	Calcium, Total	mg/L	-0.0136	0.152	5.00	294	285	4.87	4.25 to 5.75	20.0	70.0 to 130	3.11	20.0
BC02120	Chromium, Dissolved	mg/L	0.0000585	0.000440	0.100	0.0970	0.0987	0.103	0.0850 to 0.115	97.0	70.0 to 130	1.74	20.0
BC02119	Chromium, Total	mg/L	-0.0000041	0.000440	0.100	0.102	0.104	0.105	0.0850 to 0.115	102	70.0 to 130	1.94	20.0
BC02120	Cobalt, Dissolved	mg/L	0.0000464	0.000147	0.100	0.144	0.146	0.105	0.0850 to 0.115	99.3	70.0 to 130	1.38	20.0
BC02119	Cobalt, Total	mg/L	0.0000084	0.000147	0.100	0.103	0.104	0.107	0.0850 to 0.115	103	70.0 to 130	0.966	20.0
BC02120	Iron, Dissolved	mg/L	-0.000316	0.0176	0.2	167	166	0.201	0.170 to 0.230	0.00	70.0 to 130	0.601	20.0
BC02119	Iron, Total	mg/L	-0.000407	0.0176	0.2	3.76	3.75	0.199	0.170 to 0.230	100	70.0 to 130	0.266	20.0
BC02120	Lead, Dissolved	mg/L	0.0000093	0.000147	0.100	0.0973	0.101	0.102	0.0850 to 0.115	97.3	70.0 to 130	3.73	20.0
BC02119	Lead, Total	mg/L	0.000007	0.000147	0.100	0.101	0.102	0.0980	0.0850 to 0.115	101	70.0 to 130	0.985	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 2/1/22 10:50

Customer ID:

Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill - MW-10

Laboratory ID Number: BC02116

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC02120	Lithium, Dissolved	mg/L	-0.000056	0.0154	0.200	0.280	0.279	0.200	0.170 to 0.230	109	70.0 to 130	0.358	20.0
BC02119	Lithium, Total	mg/L	-0.000062	0.0154	0.200	0.482	0.487	0.203	0.170 to 0.230	102	70.0 to 130	1.03	20.0
BC02120	Magnesium, Dissolved	mg/L	-0.00951	0.0462	5.00	380	391	5.11	4.25 to 5.75	20.0	70.0 to 130	2.85	20.0
BC02119	Magnesium, Total	mg/L	-0.00456	0.0462	5.00	196	193	5.11	4.25 to 5.75	60.0	70.0 to 130	1.54	20.0
BC02120	Manganese, Dissolved	mg/L	-0.0000097	0.0002	0.100	20.1	20.5	0.0965	0.0850 to 0.115	300	70.0 to 130	1.97	20.0
BC02119	Manganese, Total	mg/L	-0.000185	0.0002	0.100	0.621	0.625	0.106	0.0850 to 0.115	66.0	70.0 to 130	0.642	20.0
BC02119	Mercury, Total by CVAA	mg/L	0.00017	0.000500	0.004	0.00421	0.00423	0.00389	0.00340 to 0.00460	105	70.0 to 130	0.474	20.0
BC02120	Molybdenum, Dissolved	mg/L	0.0000632	0.0002	0.100	0.0973	0.101	0.104	0.0850 to 0.115	97.1	70.0 to 130	3.73	20.0
BC02119	Molybdenum, Total	mg/L	0.0000061	0.0002	0.100	0.104	0.104	0.101	0.0850 to 0.115	102	70.0 to 130	0.00	20.0
BC02120	Potassium, Dissolved	mg/L	-0.0724	0.367	10.0	31.3	31.5	9.83	8.50 to 11.5	97.0	70.0 to 130	0.637	20.0
BC02119	Potassium, Total	mg/L	-0.0179	0.367	10.0	17.2	17.2	10.1	8.50 to 11.5	95.1	70.0 to 130	0.00	20.0
BC02120	Selenium, Dissolved	mg/L	0.000111	0.00100	0.100	0.0999	0.105	0.104	0.0850 to 0.115	99.3	70.0 to 130	4.98	20.0
BC02119	Selenium, Total	mg/L	0.0000269	0.00100	0.100	0.101	0.102	0.108	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BC02120	Silicon, Dissolved	mg/L	-0.000923	0.0440	1.00	15.2	14.9	1.02	0.850 to 1.15	120	70.0 to 130	1.99	20.0
BC02119	Silicon, Total	mg/L	-0.00067	0.0440	1.00	8.22	8.22	1.03	0.850 to 1.15	108	70.0 to 130	0.00	20.0
BC02120	Sodium, Dissolved	mg/L	0.000085	0.0660	5.00	49.7	51.6	5.01	4.25 to 5.75	86.0	70.0 to 130	3.75	20.0
BC02119	Sodium, Total	mg/L	0.0024	0.0660	5.00	130	129	5.07	4.25 to 5.75	80.0	70.0 to 130	0.772	20.0
BC02120	Thallium, Dissolved	mg/L	0.000006	0.000147	0.100	0.0962	0.101	0.102	0.0850 to 0.115	96.1	70.0 to 130	4.87	20.0
BC02119	Thallium, Total	mg/L	0.0000139	0.000147	0.100	0.0991	0.104	0.102	0.0850 to 0.115	99.1	70.0 to 130	4.83	20.0
BC02119	Total Organic Carbon	mg/L	0.380	1.00	10.0	10.7	11.1	25.6		107	80.0 to 120	3.67	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 2/1/22 10:50

Customer ID:

Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill - MW-10

Laboratory ID Number: BC02116

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC02120	Alkalinity, Total as CaCO3	mg/L					239	51.9	45.0 to 55.0			4.27	10.0
BC02119	Chloride	mg/L	-0.111	1.00	160	229	69.8	10.5	9.00 to 11.0	99.8	80.0 to 120	0.719	20.0
BC02119	Fluoride	mg/L	-0.0138	0.125	2.50	2.74	0.148	2.62	2.25 to 2.75	104	80.0 to 120	2.01	20.0
BC02119	Nitrogen, Nitrate/Nitrite	mg/L as N	-0.01	0.200	2.00	2.14	0.014	1.97	1.80 to 2.20	107	90.0 to 110	0.00	15.0
BC02116	Solids, Dissolved	mg/L	0.0000	25.0			1060	47.0	40.0 to 60.0			0.948	10.0
BC02119	Sulfate	mg/L	-0.114	2.0	1600	2990	1270	19.7	18.0 to 22.0	111	80.0 to 120	4.02	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill - MW-11

Location Code: WMWGORLF
Collected: 2/1/22 12:17
Customer ID:
Submittal Date: 2/1/22 16:41

Laboratory ID Number: BC02117

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: EPA 200.7		Analyst: RDA			Preparation Method: EPA 1638				
* Boron, Total	2/7/22 11:00	2/8/22 10:58		1.015	0.105	mg/L	0.030000	0.1015	
* Calcium, Total	2/7/22 11:00	2/8/22 12:48		20.3	335	mg/L	1.4007	8.12	
* Iron, Total	2/7/22 11:00	2/8/22 10:58		1.015	3.99	mg/L	0.008120	0.0406	
* Lithium, Total	2/7/22 11:00	2/8/22 10:58		1.015	0.223	mg/L	0.007105	0.01999956	
* Magnesium, Total	2/7/22 11:00	2/8/22 12:48		20.3	177	mg/L	0.4263	8.12	
Silica, Total (calc.)	2/7/22 11:00	2/8/22 10:58		1	22.0	mg/L			
Silicon, Total	2/7/22 11:00	2/8/22 10:58		1.015	10.3	mg/L	0.02030	0.25375	
* Sodium, Total	2/7/22 11:00	2/8/22 12:48		20.3	140	mg/L	0.609	8.12	
Analytical Method: EPA 200.7		Analyst: RDA			Preparation Method: EPA 1638				
* Boron, Dissolved	2/7/22 11:00	2/8/22 10:02		1.015	0.105	mg/L	0.030000	0.1015	
* Calcium, Dissolved	2/7/22 11:00	2/8/22 11:59		20.3	318	mg/L	1.4007	8.12	
* Iron, Dissolved	2/7/22 11:00	2/8/22 10:02		1.015	3.95	mg/L	0.008120	0.0406	
* Lithium, Dissolved	2/7/22 11:00	2/8/22 10:02		1.015	0.216	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	2/7/22 11:00	2/8/22 11:59		20.3	168	mg/L	0.4263	8.12	
Silica, Dissolved (calc.)	2/7/22 11:00	2/8/22 10:02		1	21.8	mg/L			
Silicon, Dissolved	2/7/22 11:00	2/8/22 10:02		1.015	10.2	mg/L	0.02030	0.25375	
* Sodium, Dissolved	2/7/22 11:00	2/8/22 11:59		20.3	134	mg/L	0.609	8.12	
Analytical Method: EPA 200.8		Analyst: ABB			Preparation Method: EPA 1638				
* Antimony, Total	2/8/22 14:11	2/9/22 14:29		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	2/8/22 14:11	2/9/22 14:29		1.015	Not Detected	mg/L	0.004060	0.01015	U
* Arsenic, Total	2/8/22 14:11	2/9/22 14:29		1.015	0.000854	mg/L	0.000068	0.000203	
* Barium, Total	2/8/22 14:11	2/9/22 14:29		1.015	0.0132	mg/L	0.000102	0.000203	
* Beryllium, Total	2/8/22 14:11	2/9/22 14:29		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	2/8/22 14:11	2/9/22 14:29		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	2/8/22 14:11	2/9/22 14:29		1.015	0.000334	mg/L	0.000203	0.001015	J
* Cobalt, Total	2/8/22 14:11	2/9/22 14:29		1.015	0.000455	mg/L	0.000068	0.000203	
* Lead, Total	2/8/22 14:11	2/9/22 14:29		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	2/8/22 14:11	2/9/22 16:57		10.15	1.33	mg/L	0.000680	0.00203	
* Molybdenum, Total	2/8/22 14:11	2/9/22 14:29		1.015	0.00181	mg/L	0.000068	0.000203	
* Potassium, Total	2/8/22 14:11	2/9/22 14:29		1.015	6.52	mg/L	0.169505	0.5075	

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill - MW-11

Location Code: WMWGORLF
Collected: 2/1/22 12:17
Customer ID:
Submittal Date: 2/1/22 16:41

Laboratory ID Number: BC02117

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/8/22 14:11	2/9/22 14:29		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	2/8/22 14:11	2/9/22 14:29		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 200.8		Analyst: ABB							
* Antimony, Dissolved	2/8/22 14:50	2/10/22 16:19		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/8/22 14:50	2/10/22 16:19		1.015	Not Detected	mg/L	0.004060	0.01015	U
* Arsenic, Dissolved	2/8/22 14:50	2/10/22 16:19		1.015	0.000724	mg/L	0.000068	0.000203	
* Barium, Dissolved	2/8/22 14:50	2/10/22 16:19		1.015	0.0150	mg/L	0.000102	0.000203	
* Beryllium, Dissolved	2/8/22 14:50	2/10/22 16:19		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	2/8/22 14:50	2/10/22 16:19		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	2/8/22 14:50	2/10/22 16:19		1.015	0.000256	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	2/8/22 14:50	2/10/22 16:19		1.015	0.000517	mg/L	0.000068	0.000203	
* Lead, Dissolved	2/8/22 14:50	2/10/22 16:19		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	2/8/22 14:50	2/10/22 18:15		10.15	1.22	mg/L	0.000680	0.00203	
* Molybdenum, Dissolved	2/8/22 14:50	2/10/22 16:19		1.015	0.00165	mg/L	0.000068	0.000203	
* Potassium, Dissolved	2/8/22 14:50	2/10/22 16:19		1.015	5.95	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/8/22 14:50	2/10/22 16:19		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	2/8/22 14:50	2/10/22 16:19		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	2/10/22 13:23	2/10/22 18:43		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: ELH							
* Nitrogen, Nitrate/Nitrite	2/3/22 14:06	2/3/22 14:06		1	Not Detected	mg/L as N	0.20	0.3	U
Analytical Method: SM 2320 B		Analyst: ALH							
Alkalinity, Total as CaCO3	2/7/22 09:40	2/7/22 14:00		1	286	mg/L		0.1	
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	2/4/22 11:40	2/7/22 13:22		1	2200	mg/L		125	
Analytical Method: SM 4500CO2 D		Analyst: ALH							
Bicarbonate Alkalinity, (calc.)	2/7/22 09:40	2/7/22 14:00		1	286	mg/L			
Carbonate Alkalinity, (calc.)	2/7/22 09:40	2/7/22 14:00		1	0.26	mg/L			
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	2/10/22 18:51	2/10/22 18:51		1	1.36	mg/L	1.00	2	J

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill - MW-11

Location Code: WMWGORLF

Collected: 2/1/22 12:17

Customer ID:

Submittal Date: 2/1/22 16:41

Laboratory ID Number: BC02117

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	2/9/22 10:47	2/9/22 10:47		10	68.3	mg/L	5.00	10	
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	2/10/22 15:41	2/10/22 15:41		1	0.0848	mg/L	0.06	0.1	J
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	2/8/22 11:38	2/8/22 11:38		50	1350	mg/L	25.00	50	
Analytical Method: Field Measurements		Analyst: TJD							
Conductivity	2/1/22 12:13	2/1/22 12:13			2381.24	uS/cm			FA
pH	2/1/22 12:13	2/1/22 12:13			6.83	SU			FA
Temperature	2/1/22 12:13	2/1/22 12:13			20.12	C			FA
Turbidity	2/1/22 12:13	2/1/22 12:13			0.57	NTU			FA

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 2/1/22 12:17

Customer ID:

Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill - MW-11

Laboratory ID Number: BC02117

Sample	Analysis	Units	MB	MB		MS	MSD	Standard		Rec		Prec	Limit
				Limit	Spike			Standard	Limit	Rec	Limit		
BC02120	Aluminum, Dissolved	mg/L	0.000259	0.010	0.100	0.102	0.102	0.0956	0.0850 to 0.115	96.1	70.0 to 130	0.00	20.0
BC02119	Aluminum, Total	mg/L	-0.00435	0.010	0.100	0.103	0.104	0.106	0.0850 to 0.115	103	70.0 to 130	0.966	20.0
BC02120	Antimony, Dissolved	mg/L	0.000124	0.00100	0.100	0.103	0.106	0.0990	0.0850 to 0.115	103	70.0 to 130	2.87	20.0
BC02119	Antimony, Total	mg/L	0.0000732	0.00100	0.100	0.106	0.105	0.101	0.0850 to 0.115	106	70.0 to 130	0.948	20.0
BC02120	Arsenic, Dissolved	mg/L	-0.0000275	0.000176	0.100	0.163	0.162	0.102	0.0850 to 0.115	100	70.0 to 130	0.615	20.0
BC02119	Arsenic, Total	mg/L	0.0000153	0.000176	0.100	0.112	0.114	0.107	0.0850 to 0.115	106	70.0 to 130	1.77	20.0
BC02120	Barium, Dissolved	mg/L	0.0000421	0.000200	0.100	0.107	0.107	0.0954	0.0850 to 0.115	95.8	70.0 to 130	0.00	20.0
BC02119	Barium, Total	mg/L	-0.0000787	0.000200	0.100	0.117	0.113	0.0944	0.0850 to 0.115	97.7	70.0 to 130	3.48	20.0
BC02120	Beryllium, Dissolved	mg/L	0.000287	0.000880	0.100	0.0860	0.0882	0.0952	0.0850 to 0.115	86.0	70.0 to 130	2.53	20.0
BC02119	Beryllium, Total	mg/L	0.000094	0.000880	0.100	0.0966	0.101	0.101	0.0850 to 0.115	96.6	70.0 to 130	4.45	20.0
BC02120	Boron, Dissolved	mg/L	-0.000503	0.0650	1.00	1.23	1.22	1.00	0.850 to 1.15	102	70.0 to 130	0.816	20.0
BC02119	Boron, Total	mg/L	-0.000571	0.0650	1.00	1.16	1.18	0.990	0.850 to 1.15	101	70.0 to 130	1.71	20.0
BC02120	Cadmium, Dissolved	mg/L	-0.0000147	0.000147	0.100	0.0973	0.0994	0.100	0.0850 to 0.115	97.3	70.0 to 130	2.14	20.0
BC02119	Cadmium, Total	mg/L	0.000006	0.000147	0.100	0.102	0.103	0.105	0.0850 to 0.115	102	70.0 to 130	0.976	20.0
BC02120	Calcium, Dissolved	mg/L	-0.0197	0.152	5.00	339	350	4.96	4.25 to 5.75	20.0	70.0 to 130	3.19	20.0
BC02119	Calcium, Total	mg/L	-0.0136	0.152	5.00	294	285	4.87	4.25 to 5.75	20.0	70.0 to 130	3.11	20.0
BC02120	Chromium, Dissolved	mg/L	0.0000585	0.000440	0.100	0.0970	0.0987	0.103	0.0850 to 0.115	97.0	70.0 to 130	1.74	20.0
BC02119	Chromium, Total	mg/L	-0.0000041	0.000440	0.100	0.102	0.104	0.105	0.0850 to 0.115	102	70.0 to 130	1.94	20.0
BC02120	Cobalt, Dissolved	mg/L	0.0000464	0.000147	0.100	0.144	0.146	0.105	0.0850 to 0.115	99.3	70.0 to 130	1.38	20.0
BC02119	Cobalt, Total	mg/L	0.0000084	0.000147	0.100	0.103	0.104	0.107	0.0850 to 0.115	103	70.0 to 130	0.966	20.0
BC02120	Iron, Dissolved	mg/L	-0.000316	0.0176	0.2	167	166	0.201	0.170 to 0.230	0.00	70.0 to 130	0.601	20.0
BC02119	Iron, Total	mg/L	-0.000407	0.0176	0.2	3.76	3.75	0.199	0.170 to 0.230	100	70.0 to 130	0.266	20.0
BC02120	Lead, Dissolved	mg/L	0.0000093	0.000147	0.100	0.0973	0.101	0.102	0.0850 to 0.115	97.3	70.0 to 130	3.73	20.0
BC02119	Lead, Total	mg/L	0.000007	0.000147	0.100	0.101	0.102	0.0980	0.0850 to 0.115	101	70.0 to 130	0.985	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 2/1/22 12:17

Customer ID:

Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill - MW-11

Laboratory ID Number: BC02117

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC02120	Lithium, Dissolved	mg/L	-0.000056	0.0154	0.200	0.280	0.279	0.200	0.170 to 0.230	109	70.0 to 130	0.358	20.0
BC02119	Lithium, Total	mg/L	-0.000062	0.0154	0.200	0.482	0.487	0.203	0.170 to 0.230	102	70.0 to 130	1.03	20.0
BC02120	Magnesium, Dissolved	mg/L	-0.00951	0.0462	5.00	380	391	5.11	4.25 to 5.75	20.0	70.0 to 130	2.85	20.0
BC02119	Magnesium, Total	mg/L	-0.00456	0.0462	5.00	196	193	5.11	4.25 to 5.75	60.0	70.0 to 130	1.54	20.0
BC02120	Manganese, Dissolved	mg/L	-0.0000097	0.0002	0.100	20.1	20.5	0.0965	0.0850 to 0.115	300	70.0 to 130	1.97	20.0
BC02119	Manganese, Total	mg/L	-0.000185	0.0002	0.100	0.621	0.625	0.106	0.0850 to 0.115	66.0	70.0 to 130	0.642	20.0
BC02119	Mercury, Total by CVAA	mg/L	0.00017	0.000500	0.004	0.00421	0.00423	0.00389	0.00340 to 0.00460	105	70.0 to 130	0.474	20.0
BC02120	Molybdenum, Dissolved	mg/L	0.0000632	0.0002	0.100	0.0973	0.101	0.104	0.0850 to 0.115	97.1	70.0 to 130	3.73	20.0
BC02119	Molybdenum, Total	mg/L	0.0000061	0.0002	0.100	0.104	0.104	0.101	0.0850 to 0.115	102	70.0 to 130	0.00	20.0
BC02120	Potassium, Dissolved	mg/L	-0.0724	0.367	10.0	31.3	31.5	9.83	8.50 to 11.5	97.0	70.0 to 130	0.637	20.0
BC02119	Potassium, Total	mg/L	-0.0179	0.367	10.0	17.2	17.2	10.1	8.50 to 11.5	95.1	70.0 to 130	0.00	20.0
BC02120	Selenium, Dissolved	mg/L	0.000111	0.00100	0.100	0.0999	0.105	0.104	0.0850 to 0.115	99.3	70.0 to 130	4.98	20.0
BC02119	Selenium, Total	mg/L	0.0000269	0.00100	0.100	0.101	0.102	0.108	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BC02120	Silicon, Dissolved	mg/L	-0.000923	0.0440	1.00	15.2	14.9	1.02	0.850 to 1.15	120	70.0 to 130	1.99	20.0
BC02119	Silicon, Total	mg/L	-0.00067	0.0440	1.00	8.22	8.22	1.03	0.850 to 1.15	108	70.0 to 130	0.00	20.0
BC02120	Sodium, Dissolved	mg/L	0.000085	0.0660	5.00	49.7	51.6	5.01	4.25 to 5.75	86.0	70.0 to 130	3.75	20.0
BC02119	Sodium, Total	mg/L	0.0024	0.0660	5.00	130	129	5.07	4.25 to 5.75	80.0	70.0 to 130	0.772	20.0
BC02120	Thallium, Dissolved	mg/L	0.000006	0.000147	0.100	0.0962	0.101	0.102	0.0850 to 0.115	96.1	70.0 to 130	4.87	20.0
BC02119	Thallium, Total	mg/L	0.0000139	0.000147	0.100	0.0991	0.104	0.102	0.0850 to 0.115	99.1	70.0 to 130	4.83	20.0
BC02119	Total Organic Carbon	mg/L	0.380	1.00	10.0	10.7	11.1	25.6		107	80.0 to 120	3.67	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 2/1/22 12:17

Customer ID:

Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill - MW-11

Laboratory ID Number: BC02117

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC02120	Alkalinity, Total as CaCO3	mg/L					239	51.9	45.0 to 55.0			4.27	10.0
BC02119	Chloride	mg/L	-0.111	1.00	160	229	69.8	10.5	9.00 to 11.0	99.8	80.0 to 120	0.719	20.0
BC02119	Fluoride	mg/L	-0.0138	0.125	2.50	2.74	0.148	2.62	2.25 to 2.75	104	80.0 to 120	2.01	20.0
BC02119	Nitrogen, Nitrate/Nitrite	mg/L as N	-0.01	0.200	2.00	2.14	0.014	1.97	1.80 to 2.20	107	90.0 to 110	0.00	15.0
BC02116	Solids, Dissolved	mg/L	0.0000	25.0			1060	47.0	40.0 to 60.0			0.948	10.0
BC02119	Sulfate	mg/L	-0.114	2.0	1600	2990	1270	19.7	18.0 to 22.0	111	80.0 to 120	4.02	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill Field Blank-2

Location Code: WMWGORLFFB
Collected: 2/1/22 13:30
Customer ID:
Submittal Date: 2/1/22 16:41

Laboratory ID Number: BC02118

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: EPA 200.7			Analyst: RDA		Preparation Method: EPA 1638				
* Boron, Total	2/7/22 11:00	2/8/22 11:00		1.015	Not Detected	mg/L	0.030000	0.1015	U
* Calcium, Total	2/7/22 11:00	2/8/22 11:00		1.015	Not Detected	mg/L	0.070035	0.406	U
* Iron, Total	2/7/22 11:00	2/8/22 11:00		1.015	Not Detected	mg/L	0.008120	0.0406	U
* Lithium, Total	2/7/22 11:00	2/8/22 11:00		1.015	Not Detected	mg/L	0.007105	0.01999956	U
* Magnesium, Total	2/7/22 11:00	2/8/22 11:00		1.015	Not Detected	mg/L	0.021315	0.406	U
Silica, Total (calc.)	2/7/22 11:00	2/8/22 11:00		1	Not Detected	mg/L			
Silicon, Total	2/7/22 11:00	2/8/22 11:00		1.015	Not Detected	mg/L	0.02030	0.25375	U
* Sodium, Total	2/7/22 11:00	2/8/22 11:00		1.015	Not Detected	mg/L	0.03045	0.406	U
Analytical Method: EPA 200.8			Analyst: ABB		Preparation Method: EPA 1638				
* Antimony, Total	2/8/22 14:11	2/9/22 14:33		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	2/8/22 14:11	2/9/22 14:33		1.015	Not Detected	mg/L	0.004060	0.01015	U
* Arsenic, Total	2/8/22 14:11	2/9/22 14:33		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Barium, Total	2/8/22 14:11	2/9/22 14:33		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Beryllium, Total	2/8/22 14:11	2/9/22 14:33		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	2/8/22 14:11	2/9/22 14:33		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	2/8/22 14:11	2/9/22 14:33		1.015	0.000298	mg/L	0.000203	0.001015	J
* Cobalt, Total	2/8/22 14:11	2/9/22 14:33		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Lead, Total	2/8/22 14:11	2/9/22 14:33		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	2/8/22 14:11	2/9/22 14:33		1.015	0.000261	mg/L	0.000068	0.000203	
* Molybdenum, Total	2/8/22 14:11	2/9/22 14:33		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Potassium, Total	2/8/22 14:11	2/9/22 14:33		1.015	Not Detected	mg/L	0.169505	0.5075	U
* Selenium, Total	2/8/22 14:11	2/9/22 14:33		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	2/8/22 14:11	2/9/22 14:33		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 245.1			Analyst: CRB						
* Mercury, Total by CVAA	2/10/22 13:23	2/10/22 18:47		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2			Analyst: ELH						
* Nitrogen, Nitrate/Nitrite	2/3/22 14:08	2/3/22 14:08		1	Not Detected	mg/L as N	0.20	0.3	U
Analytical Method: SM 2540C			Analyst: CNJ						
* Solids, Dissolved	2/4/22 11:40	2/7/22 13:22		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: 2/1/22 13:30

Customer ID:

Submittal Date: 2/1/22 16:41

Laboratory ID Number: BC02118

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	2/10/22 19:08	2/10/22 19:08		1	Not Detected	mg/L	1.00	2	U
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	2/9/22 10:28	2/9/22 10:28		1	Not Detected	mg/L	0.50	1	U
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	2/10/22 15:43	2/10/22 15:43		1	Not Detected	mg/L	0.06	0.1	U
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	2/8/22 11:39	2/8/22 11:39		1	Not Detected	mg/L	0.50	1	U

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

Comments:

Batch QC Summary

Customer Account: WMWGORLFFB

Sample Date: 2/1/22 13:30

Customer ID:

Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill Field Blank-2

Laboratory ID Number: BC02118

Sample	Analysis	Units	MB	MB				Standard		Rec			Prec Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit	Prec	
BC02119	Aluminum, Total	mg/L	-0.00435	0.010	0.100	0.103	0.104	0.106	0.0850 to 0.115	103	70.0 to 130	0.966	20.0
BC02119	Antimony, Total	mg/L	0.0000732	0.00100	0.100	0.106	0.105	0.101	0.0850 to 0.115	106	70.0 to 130	0.948	20.0
BC02119	Arsenic, Total	mg/L	0.0000153	0.000176	0.100	0.112	0.114	0.107	0.0850 to 0.115	106	70.0 to 130	1.77	20.0
BC02119	Barium, Total	mg/L	-0.0000787	0.000200	0.100	0.117	0.113	0.0944	0.0850 to 0.115	97.7	70.0 to 130	3.48	20.0
BC02119	Beryllium, Total	mg/L	0.000094	0.000880	0.100	0.0966	0.101	0.101	0.0850 to 0.115	96.6	70.0 to 130	4.45	20.0
BC02119	Boron, Total	mg/L	-0.000571	0.0650	1.00	1.16	1.18	0.990	0.850 to 1.15	101	70.0 to 130	1.71	20.0
BC02119	Cadmium, Total	mg/L	0.000006	0.000147	0.100	0.102	0.103	0.105	0.0850 to 0.115	102	70.0 to 130	0.976	20.0
BC02119	Calcium, Total	mg/L	-0.0136	0.152	5.00	294	285	4.87	4.25 to 5.75	20.0	70.0 to 130	3.11	20.0
BC02119	Chromium, Total	mg/L	-0.0000041	0.000440	0.100	0.102	0.104	0.105	0.0850 to 0.115	102	70.0 to 130	1.94	20.0
BC02119	Cobalt, Total	mg/L	0.0000084	0.000147	0.100	0.103	0.104	0.107	0.0850 to 0.115	103	70.0 to 130	0.966	20.0
BC02119	Iron, Total	mg/L	-0.000407	0.0176	0.2	3.76	3.75	0.199	0.170 to 0.230	100	70.0 to 130	0.266	20.0
BC02119	Lead, Total	mg/L	0.000007	0.000147	0.100	0.101	0.102	0.0980	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BC02119	Lithium, Total	mg/L	-0.000062	0.0154	0.200	0.482	0.487	0.203	0.170 to 0.230	102	70.0 to 130	1.03	20.0
BC02119	Magnesium, Total	mg/L	-0.00456	0.0462	5.00	196	193	5.11	4.25 to 5.75	60.0	70.0 to 130	1.54	20.0
BC02119	Manganese, Total	mg/L	-0.000185	0.0002	0.100	0.621	0.625	0.106	0.0850 to 0.115	66.0	70.0 to 130	0.642	20.0
BC02119	Mercury, Total by CVAA	mg/L	0.00017	0.000500	0.004	0.00421	0.00423	0.00389	0.00340 to 0.00460	105	70.0 to 130	0.474	20.0
BC02119	Molybdenum, Total	mg/L	0.0000061	0.0002	0.100	0.104	0.104	0.101	0.0850 to 0.115	102	70.0 to 130	0.00	20.0
BC02119	Potassium, Total	mg/L	-0.0179	0.367	10.0	17.2	17.2	10.1	8.50 to 11.5	95.1	70.0 to 130	0.00	20.0
BC02119	Selenium, Total	mg/L	0.0000269	0.00100	0.100	0.101	0.102	0.108	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BC02119	Silicon, Total	mg/L	-0.00067	0.0440	1.00	8.22	8.22	1.03	0.850 to 1.15	108	70.0 to 130	0.00	20.0
BC02119	Sodium, Total	mg/L	0.0024	0.0660	5.00	130	129	5.07	4.25 to 5.75	80.0	70.0 to 130	0.772	20.0
BC02119	Thallium, Total	mg/L	0.0000139	0.000147	0.100	0.0991	0.104	0.102	0.0850 to 0.115	99.1	70.0 to 130	4.83	20.0
BC02119	Total Organic Carbon	mg/L	0.380	1.00	10.0	10.7	11.1	25.6		107	80.0 to 120	3.67	20.0

Comments:

Batch QC Summary

Customer Account: WMWGORLFFB

Sample Date: 2/1/22 13:30

Customer ID:

Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill Field Blank-2

Laboratory ID Number: BC02118

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC02119	Chloride	mg/L	-0.111	1.00	160	229	69.8	10.5	9.00 to 11.0	99.8	80.0 to 120	0.719	20.0
BC02119	Fluoride	mg/L	-0.0138	0.125	2.50	2.74	0.148	2.62	2.25 to 2.75	104	80.0 to 120	2.01	20.0
BC02119	Nitrogen, Nitrate/Nitrite	mg/L as N	-0.01	0.200	2.00	2.14	0.014	1.97	1.80 to 2.20	107	90.0 to 110	0.00	15.0
BC02116	Solids, Dissolved	mg/L	0.0000	25.0			1060	47.0	40.0 to 60.0			0.948	10.0
BC02119	Sulfate	mg/L	-0.114	2.0	1600	2990	1270	19.7	18.0 to 22.0	111	80.0 to 120	4.02	20.0

Comments:

Certificate Of Analysis

Description: Gorgas Landfill - MW-12V

Location Code: WMWGORLF
Collected: 2/1/22 09:55
Customer ID:
Submittal Date: 2/1/22 16:41

Laboratory ID Number: BC02119

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: EPA 200.7		Analyst: RDA			Preparation Method: EPA 1638				
* Boron, Total	2/7/22 11:00	2/8/22 11:01		1.015	0.149	mg/L	0.030000	0.1015	
* Calcium, Total	2/7/22 11:00	2/8/22 12:50		20.3	293	mg/L	1.4007	8.12	RA
* Iron, Total	2/7/22 11:00	2/8/22 11:01		1.015	3.56	mg/L	0.008120	0.0406	
* Lithium, Total	2/7/22 11:00	2/8/22 11:01		1.015	0.278	mg/L	0.007105	0.01999956	
* Magnesium, Total	2/7/22 11:00	2/8/22 12:50		20.3	193	mg/L	0.4263	8.12	RA
Silica, Total (calc.)	2/7/22 11:00	2/8/22 11:01		1	15.3	mg/L			
Silicon, Total	2/7/22 11:00	2/8/22 11:01		1.015	7.14	mg/L	0.02030	0.25375	
* Sodium, Total	2/7/22 11:00	2/8/22 12:50		20.3	126	mg/L	0.609	8.12	RA
Analytical Method: EPA 200.7		Analyst: RDA			Preparation Method: EPA 1638				
* Boron, Dissolved	2/7/22 11:00	2/8/22 10:03		1.015	0.148	mg/L	0.030000	0.1015	
* Calcium, Dissolved	2/7/22 11:00	2/8/22 12:01		20.3	286	mg/L	1.4007	8.12	
* Iron, Dissolved	2/7/22 11:00	2/8/22 10:03		1.015	3.56	mg/L	0.008120	0.0406	
* Lithium, Dissolved	2/7/22 11:00	2/8/22 10:03		1.015	0.277	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	2/7/22 11:00	2/8/22 12:01		20.3	188	mg/L	0.4263	8.12	
Silica, Dissolved (calc.)	2/7/22 11:00	2/8/22 10:03		1	15.5	mg/L			
Silicon, Dissolved	2/7/22 11:00	2/8/22 10:03		1.015	7.26	mg/L	0.02030	0.25375	
* Sodium, Dissolved	2/7/22 11:00	2/8/22 12:01		20.3	125	mg/L	0.609	8.12	
Analytical Method: EPA 200.8		Analyst: ABB			Preparation Method: EPA 1638				
* Antimony, Total	2/8/22 14:11	2/9/22 14:37		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	2/8/22 14:11	2/9/22 14:37		1.015	Not Detected	mg/L	0.004060	0.01015	U
* Arsenic, Total	2/8/22 14:11	2/9/22 14:37		1.015	0.00551	mg/L	0.000068	0.000203	
* Barium, Total	2/8/22 14:11	2/9/22 14:37		1.015	0.0193	mg/L	0.000102	0.000203	
* Beryllium, Total	2/8/22 14:11	2/9/22 14:37		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	2/8/22 14:11	2/9/22 14:37		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	2/8/22 14:11	2/9/22 14:37		1.015	0.000388	mg/L	0.000203	0.001015	J
* Cobalt, Total	2/8/22 14:11	2/9/22 14:37		1.015	0.000224	mg/L	0.000068	0.000203	
* Lead, Total	2/8/22 14:11	2/9/22 14:37		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	2/8/22 14:11	2/9/22 14:37		1.015	0.555	mg/L	0.000068	0.000203	RA
* Molybdenum, Total	2/8/22 14:11	2/9/22 14:37		1.015	0.00215	mg/L	0.000068	0.000203	
* Potassium, Total	2/8/22 14:11	2/9/22 14:37		1.015	7.69	mg/L	0.169505	0.5075	

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill - MW-12V

Location Code: WMWGORLF
Collected: 2/1/22 09:55
Customer ID:
Submittal Date: 2/1/22 16:41

Laboratory ID Number: BC02119

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/8/22 14:11	2/9/22 14:37		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	2/8/22 14:11	2/9/22 14:37		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 200.8		Analyst: ABB							
* Antimony, Dissolved	2/8/22 14:50	2/10/22 16:22		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/8/22 14:50	2/10/22 16:22		1.015	Not Detected	mg/L	0.004060	0.01015	U
* Arsenic, Dissolved	2/8/22 14:50	2/10/22 16:22		1.015	0.00482	mg/L	0.000068	0.000203	
* Barium, Dissolved	2/8/22 14:50	2/10/22 16:22		1.015	0.0182	mg/L	0.000102	0.000203	
* Beryllium, Dissolved	2/8/22 14:50	2/10/22 16:22		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	2/8/22 14:50	2/10/22 16:22		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	2/8/22 14:50	2/10/22 16:22		1.015	0.000214	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	2/8/22 14:50	2/10/22 16:22		1.015	0.000218	mg/L	0.000068	0.000203	
* Lead, Dissolved	2/8/22 14:50	2/10/22 16:22		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	2/8/22 14:50	2/10/22 18:19		1.015	0.470	mg/L	0.000068	0.000203	
* Molybdenum, Dissolved	2/8/22 14:50	2/10/22 16:22		1.015	0.00218	mg/L	0.000068	0.000203	
* Potassium, Dissolved	2/8/22 14:50	2/10/22 16:22		1.015	6.89	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/8/22 14:50	2/10/22 16:22		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	2/8/22 14:50	2/10/22 16:22		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	2/10/22 13:23	2/10/22 18:51		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: ELH							
* Nitrogen, Nitrate/Nitrite	2/3/22 14:10	2/3/22 14:10		1	Not Detected	mg/L as N	0.20	0.3	U
Analytical Method: SM 2320 B		Analyst: ALH							
Alkalinity, Total as CaCO3	2/7/22 09:40	2/7/22 14:00		1	291	mg/L		0.1	
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	2/4/22 11:40	2/7/22 13:22		1	2110	mg/L		125	
Analytical Method: SM 4500CO2 D		Analyst: ALH							
Bicarbonate Alkalinity, (calc.)	2/7/22 09:40	2/7/22 14:00		1	291	mg/L			
Carbonate Alkalinity, (calc.)	2/7/22 09:40	2/7/22 14:00		1	0.34	mg/L			
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	2/10/22 19:24	2/10/22 19:24		1	Not Detected	mg/L	1.00	2	U

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill - MW-12V

Location Code: WMWGORLF

Collected: 2/1/22 09:55

Customer ID:

Submittal Date: 2/1/22 16:41

Laboratory ID Number: BC02119

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	2/9/22 10:49	2/9/22 10:49		16	69.3	mg/L	8.00	16	
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	2/10/22 15:44	2/10/22 15:44		1	0.151	mg/L	0.06	0.1	
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	2/8/22 11:44	2/8/22 11:44		80	1220	mg/L	40.00	80	
Analytical Method: Field Measurements		Analyst: AWG							
Conductivity	2/1/22 09:53	2/1/22 09:53			2458.25	uS/cm			FA
pH	2/1/22 09:53	2/1/22 09:53			6.68	SU			FA
Temperature	2/1/22 09:53	2/1/22 09:53			19.80	C			FA
Turbidity	2/1/22 09:53	2/1/22 09:53			0.73	NTU			FA

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 2/1/22 09:55

Customer ID:

Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill - MW-12V

Laboratory ID Number: BC02119

Sample	Analysis	Units	MB	MB				Standard		Rec			Prec
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit	Prec	
BC02120	Aluminum, Dissolved	mg/L	0.000259	0.010	0.100	0.102	0.102	0.0956	0.0850 to 0.115	96.1	70.0 to 130	0.00	20.0
BC02119	Aluminum, Total	mg/L	-0.00435	0.010	0.100	0.103	0.104	0.106	0.0850 to 0.115	103	70.0 to 130	0.966	20.0
BC02120	Antimony, Dissolved	mg/L	0.000124	0.00100	0.100	0.103	0.106	0.0990	0.0850 to 0.115	103	70.0 to 130	2.87	20.0
BC02119	Antimony, Total	mg/L	0.0000732	0.00100	0.100	0.106	0.105	0.101	0.0850 to 0.115	106	70.0 to 130	0.948	20.0
BC02120	Arsenic, Dissolved	mg/L	-0.0000275	0.000176	0.100	0.163	0.162	0.102	0.0850 to 0.115	100	70.0 to 130	0.615	20.0
BC02119	Arsenic, Total	mg/L	0.0000153	0.000176	0.100	0.112	0.114	0.107	0.0850 to 0.115	106	70.0 to 130	1.77	20.0
BC02120	Barium, Dissolved	mg/L	0.0000421	0.000200	0.100	0.107	0.107	0.0954	0.0850 to 0.115	95.8	70.0 to 130	0.00	20.0
BC02119	Barium, Total	mg/L	-0.0000787	0.000200	0.100	0.117	0.113	0.0944	0.0850 to 0.115	97.7	70.0 to 130	3.48	20.0
BC02120	Beryllium, Dissolved	mg/L	0.000287	0.000880	0.100	0.0860	0.0882	0.0952	0.0850 to 0.115	86.0	70.0 to 130	2.53	20.0
BC02119	Beryllium, Total	mg/L	0.000094	0.000880	0.100	0.0966	0.101	0.101	0.0850 to 0.115	96.6	70.0 to 130	4.45	20.0
BC02120	Boron, Dissolved	mg/L	-0.000503	0.0650	1.00	1.23	1.22	1.00	0.850 to 1.15	102	70.0 to 130	0.816	20.0
BC02119	Boron, Total	mg/L	-0.000571	0.0650	1.00	1.16	1.18	0.990	0.850 to 1.15	101	70.0 to 130	1.71	20.0
BC02120	Cadmium, Dissolved	mg/L	-0.0000147	0.000147	0.100	0.0973	0.0994	0.100	0.0850 to 0.115	97.3	70.0 to 130	2.14	20.0
BC02119	Cadmium, Total	mg/L	0.000006	0.000147	0.100	0.102	0.103	0.105	0.0850 to 0.115	102	70.0 to 130	0.976	20.0
BC02120	Calcium, Dissolved	mg/L	-0.0197	0.152	5.00	339	350	4.96	4.25 to 5.75	20.0	70.0 to 130	3.19	20.0
BC02119	Calcium, Total	mg/L	-0.0136	0.152	5.00	294	285	4.87	4.25 to 5.75	20.0	70.0 to 130	3.11	20.0
BC02120	Chromium, Dissolved	mg/L	0.0000585	0.000440	0.100	0.0970	0.0987	0.103	0.0850 to 0.115	97.0	70.0 to 130	1.74	20.0
BC02119	Chromium, Total	mg/L	-0.0000041	0.000440	0.100	0.102	0.104	0.105	0.0850 to 0.115	102	70.0 to 130	1.94	20.0
BC02120	Cobalt, Dissolved	mg/L	0.0000464	0.000147	0.100	0.144	0.146	0.105	0.0850 to 0.115	99.3	70.0 to 130	1.38	20.0
BC02119	Cobalt, Total	mg/L	0.0000084	0.000147	0.100	0.103	0.104	0.107	0.0850 to 0.115	103	70.0 to 130	0.966	20.0
BC02120	Iron, Dissolved	mg/L	-0.000316	0.0176	0.2	167	166	0.201	0.170 to 0.230	0.00	70.0 to 130	0.601	20.0
BC02119	Iron, Total	mg/L	-0.000407	0.0176	0.2	3.76	3.75	0.199	0.170 to 0.230	100	70.0 to 130	0.266	20.0
BC02120	Lead, Dissolved	mg/L	0.0000093	0.000147	0.100	0.0973	0.101	0.102	0.0850 to 0.115	97.3	70.0 to 130	3.73	20.0
BC02119	Lead, Total	mg/L	0.000007	0.000147	0.100	0.101	0.102	0.0980	0.0850 to 0.115	101	70.0 to 130	0.985	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 2/1/22 09:55

Customer ID:

Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill - MW-12V

Laboratory ID Number: BC02119

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC02120	Lithium, Dissolved	mg/L	-0.000056	0.0154	0.200	0.280	0.279	0.200	0.170 to 0.230	109	70.0 to 130	0.358	20.0
BC02119	Lithium, Total	mg/L	-0.000062	0.0154	0.200	0.482	0.487	0.203	0.170 to 0.230	102	70.0 to 130	1.03	20.0
BC02120	Magnesium, Dissolved	mg/L	-0.00951	0.0462	5.00	380	391	5.11	4.25 to 5.75	20.0	70.0 to 130	2.85	20.0
BC02119	Magnesium, Total	mg/L	-0.00456	0.0462	5.00	196	193	5.11	4.25 to 5.75	60.0	70.0 to 130	1.54	20.0
BC02120	Manganese, Dissolved	mg/L	-0.0000097	0.0002	0.100	20.1	20.5	0.0965	0.0850 to 0.115	300	70.0 to 130	1.97	20.0
BC02119	Manganese, Total	mg/L	-0.000185	0.0002	0.100	0.621	0.625	0.106	0.0850 to 0.115	66.0	70.0 to 130	0.642	20.0
BC02119	Mercury, Total by CVAA	mg/L	0.00017	0.000500	0.004	0.00421	0.00423	0.00389	0.00340 to 0.00460	105	70.0 to 130	0.474	20.0
BC02120	Molybdenum, Dissolved	mg/L	0.0000632	0.0002	0.100	0.0973	0.101	0.104	0.0850 to 0.115	97.1	70.0 to 130	3.73	20.0
BC02119	Molybdenum, Total	mg/L	0.0000061	0.0002	0.100	0.104	0.104	0.101	0.0850 to 0.115	102	70.0 to 130	0.00	20.0
BC02120	Potassium, Dissolved	mg/L	-0.0724	0.367	10.0	31.3	31.5	9.83	8.50 to 11.5	97.0	70.0 to 130	0.637	20.0
BC02119	Potassium, Total	mg/L	-0.0179	0.367	10.0	17.2	17.2	10.1	8.50 to 11.5	95.1	70.0 to 130	0.00	20.0
BC02120	Selenium, Dissolved	mg/L	0.000111	0.00100	0.100	0.0999	0.105	0.104	0.0850 to 0.115	99.3	70.0 to 130	4.98	20.0
BC02119	Selenium, Total	mg/L	0.0000269	0.00100	0.100	0.101	0.102	0.108	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BC02120	Silicon, Dissolved	mg/L	-0.000923	0.0440	1.00	15.2	14.9	1.02	0.850 to 1.15	120	70.0 to 130	1.99	20.0
BC02119	Silicon, Total	mg/L	-0.00067	0.0440	1.00	8.22	8.22	1.03	0.850 to 1.15	108	70.0 to 130	0.00	20.0
BC02120	Sodium, Dissolved	mg/L	0.000085	0.0660	5.00	49.7	51.6	5.01	4.25 to 5.75	86.0	70.0 to 130	3.75	20.0
BC02119	Sodium, Total	mg/L	0.0024	0.0660	5.00	130	129	5.07	4.25 to 5.75	80.0	70.0 to 130	0.772	20.0
BC02120	Thallium, Dissolved	mg/L	0.000006	0.000147	0.100	0.0962	0.101	0.102	0.0850 to 0.115	96.1	70.0 to 130	4.87	20.0
BC02119	Thallium, Total	mg/L	0.0000139	0.000147	0.100	0.0991	0.104	0.102	0.0850 to 0.115	99.1	70.0 to 130	4.83	20.0
BC02119	Total Organic Carbon	mg/L	0.380	1.00	10.0	10.7	11.1	25.6		107	80.0 to 120	3.67	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 2/1/22 09:55

Customer ID:

Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill - MW-12V

Laboratory ID Number: BC02119

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC02120	Alkalinity, Total as CaCO3	mg/L					239	51.9	45.0 to 55.0			4.27	10.0
BC02119	Chloride	mg/L	-0.111	1.00	160	229	69.8	10.5	9.00 to 11.0	99.8	80.0 to 120	0.719	20.0
BC02119	Fluoride	mg/L	-0.0138	0.125	2.50	2.74	0.148	2.62	2.25 to 2.75	104	80.0 to 120	2.01	20.0
BC02119	Nitrogen, Nitrate/Nitrite	mg/L as N	-0.01	0.200	2.00	2.14	0.014	1.97	1.80 to 2.20	107	90.0 to 110	0.00	15.0
BC02116	Solids, Dissolved	mg/L	0.0000	25.0			1060	47.0	40.0 to 60.0			0.948	10.0
BC02119	Sulfate	mg/L	-0.114	2.0	1600	2990	1270	19.7	18.0 to 22.0	111	80.0 to 120	4.02	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Landfill - MW-12

Location Code: WMWGORLF
Collected: 2/1/22 10:55
Customer ID:
Submittal Date: 2/1/22 16:41

Laboratory ID Number: BC02120

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q	
Analytical Method: EPA 200.7		Analyst: RDA			Preparation Method: EPA 1638					
* Boron, Total	2/7/22 11:00	2/8/22 11:15		1.015	0.208	mg/L	0.030000	0.1015		
* Calcium, Total	2/7/22 11:00	2/8/22 12:59		50.75	334	mg/L	3.50175	20.3	RA	
* Iron, Total	2/7/22 11:00	2/8/22 12:59		50.75	170	mg/L	0.40600	2.03	RA	
* Lithium, Total	2/7/22 11:00	2/8/22 11:15		1.015	0.0656	mg/L	0.007105	0.01999956		
* Magnesium, Total	2/7/22 11:00	2/8/22 12:59		50.75	374	mg/L	1.06575	20.3	RA	
Silica, Total (calc.)	2/7/22 11:00	2/8/22 11:15		1	30.0	mg/L				
Silicon, Total	2/7/22 11:00	2/8/22 11:15		1.015	14.0	mg/L	0.02030	0.25375		
* Sodium, Total	2/7/22 11:00	2/8/22 12:59		50.75	45.1	mg/L	1.5225	20.3		
Analytical Method: EPA 200.7		Analyst: RDA			Preparation Method: EPA 1638					
* Boron, Dissolved	2/7/22 11:00	2/8/22 10:05		1.015	0.210	mg/L	0.030000	0.1015		
* Calcium, Dissolved	2/7/22 11:00	2/8/22 12:03		50.75	338	mg/L	3.50175	20.3	RA	
* Iron, Dissolved	2/7/22 11:00	2/8/22 12:03		50.75	167	mg/L	0.40600	2.03	RA	
* Lithium, Dissolved	2/7/22 11:00	2/8/22 10:05		1.015	0.0614	mg/L	0.007105	0.01999956		
* Magnesium, Dissolved	2/7/22 11:00	2/8/22 12:03		50.75	379	mg/L	1.06575	20.3	RA	
Silica, Dissolved (calc.)	2/7/22 11:00	2/8/22 10:05		1	30.0	mg/L				
Silicon, Dissolved	2/7/22 11:00	2/8/22 10:05		1.015	14.0	mg/L	0.02030	0.25375		
* Sodium, Dissolved	2/7/22 11:00	2/8/22 12:03		50.75	45.4	mg/L	1.5225	20.3		
Analytical Method: EPA 200.8		Analyst: ABB			Preparation Method: EPA 1638					
* Antimony, Total	2/8/22 14:11	2/9/22 15:05		1.015	Not Detected	mg/L	0.000508	0.001015	U	
* Aluminum, Total	2/8/22 14:11	2/9/22 15:05		1.015	Not Detected	mg/L	0.004060	0.01015	U	
* Arsenic, Total	2/8/22 14:11	2/9/22 15:05		1.015	0.0679	mg/L	0.000068	0.000203		
* Barium, Total	2/8/22 14:11	2/9/22 15:05		1.015	0.0102	mg/L	0.000102	0.000203		
* Beryllium, Total	2/8/22 14:11	2/9/22 15:05		1.015	Not Detected	mg/L	0.000406	0.001015	U	
* Cadmium, Total	2/8/22 14:11	2/9/22 15:05		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Chromium, Total	2/8/22 14:11	2/9/22 15:05		1.015	0.000330	mg/L	0.000203	0.001015	J	
* Cobalt, Total	2/8/22 14:11	2/9/22 15:05		1.015	0.0474	mg/L	0.000068	0.000203		
* Lead, Total	2/8/22 14:11	2/9/22 15:05		1.015	0.000304	mg/L	0.000068	0.000203		
* Manganese, Total	2/8/22 14:11	2/9/22 17:11		92.365	22.8	mg/L	0.006188	0.018473	RA	
* Molybdenum, Total	2/8/22 14:11	2/9/22 15:05		1.015	0.000191	mg/L	0.000068	0.000203	J	
* Potassium, Total	2/8/22 14:11	2/9/22 15:05		1.015	23.2	mg/L	0.169505	0.5075		

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified. Nitrate/Nitrite precision is invalid due to sample concentration. Nitrate/Nitrite MS recovery was outside of the specification limit.

Certificate Of Analysis

Description: Gorgas Landfill - MW-12

Location Code: WMWGORLF
Collected: 2/1/22 10:55
Customer ID:
Submittal Date: 2/1/22 16:41

Laboratory ID Number: BC02120

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/8/22 14:11	2/9/22 15:05		1.015	0.000514	mg/L	0.000508	0.001015	J
* Thallium, Total	2/8/22 14:11	2/9/22 15:05		1.015	0.000105	mg/L	0.000068	0.000203	J
Analytical Method: EPA 200.8		Analyst: ABB							
* Antimony, Dissolved	2/8/22 14:50	2/10/22 16:26		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/8/22 14:50	2/10/22 16:26		1.015	0.00586	mg/L	0.004060	0.01015	J
* Arsenic, Dissolved	2/8/22 14:50	2/10/22 16:26		1.015	0.0629	mg/L	0.000068	0.000203	
* Barium, Dissolved	2/8/22 14:50	2/10/22 16:26		1.015	0.0112	mg/L	0.000102	0.000203	
* Beryllium, Dissolved	2/8/22 14:50	2/10/22 16:26		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	2/8/22 14:50	2/10/22 16:26		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	2/8/22 14:50	2/10/22 16:26		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	2/8/22 14:50	2/10/22 16:26		1.015	0.0447	mg/L	0.000068	0.000203	
* Lead, Dissolved	2/8/22 14:50	2/10/22 16:26		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	2/8/22 14:50	2/10/22 18:22		92.365	19.8	mg/L	0.006188	0.018473	RA
* Molybdenum, Dissolved	2/8/22 14:50	2/10/22 16:26		1.015	0.000162	mg/L	0.000068	0.000203	J
* Potassium, Dissolved	2/8/22 14:50	2/10/22 16:26		1.015	21.6	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/8/22 14:50	2/10/22 16:26		1.015	0.000562	mg/L	0.000508	0.001015	J
* Thallium, Dissolved	2/8/22 14:50	2/10/22 16:26		1.015	0.000106	mg/L	0.000068	0.000203	J
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	2/8/22 18:27	2/8/22 23:43		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: ELH							
* Nitrogen, Nitrate/Nitrite	2/7/22 11:47	2/7/22 11:47		1	0.265	mg/L as N	0.20	0.3	J
Analytical Method: SM 2320 B		Analyst: ALH							
Alkalinity, Total as CaCO3	2/7/22 09:40	2/7/22 14:00		1	229	mg/L		0.1	
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	2/4/22 11:40	2/7/22 13:22		1	3610	mg/L		178.6	
Analytical Method: SM 4500CO2 D		Analyst: ALH							
Bicarbonate Alkalinity, (calc.)	2/7/22 09:40	2/7/22 14:00		1	229	mg/L			
Carbonate Alkalinity, (calc.)	2/7/22 09:40	2/7/22 14:00		1	0.02	mg/L			
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	2/10/22 20:45	2/10/22 20:45		1	4.59	mg/L	1.00	2	

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified. Nitrate/Nitrite precision is invalid due to sample concentration. Nitrate/Nitrite MS recovery was outside of the specification limit.

Certificate Of Analysis

Description: Gorgas Landfill - MW-12

Location Code: WMWGORLF
Collected: 2/1/22 10:55
Customer ID:
Submittal Date: 2/1/22 16:41

Laboratory ID Number: BC02120

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	2/9/22 11:01	2/9/22 11:01		1	11.5	mg/L	0.50	1	
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	2/10/22 15:55	2/10/22 15:55		1	0.174	mg/L	0.06	0.1	PA
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	2/8/22 11:54	2/8/22 11:54		160	2230	mg/L	80.00	160	
Analytical Method: Field Measurements		Analyst: AWG							
Conductivity	2/1/22 10:52	2/1/22 10:52			3130.89	uS/cm			FA
pH	2/1/22 10:52	2/1/22 10:52			5.64	SU			FA
Temperature	2/1/22 10:52	2/1/22 10:52			20.95	C			FA
Turbidity	2/1/22 10:52	2/1/22 10:52			3.19	NTU			FA

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified. Nitrate/Nitrite precision is invalid due to sample concentration. Nitrate/Nitrite MS recovery was outside of the specification limit.

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 2/1/22 10:55

Customer ID:

Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill - MW-12

Laboratory ID Number: BC02120

Sample	Analysis	Units	MB	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
				Limit					Standard	Limit	Rec	Limit		
BC02120	Aluminum, Dissolved	mg/L	0.000259	0.010	0.100	0.102	0.102	0.0956	0.0850 to 0.115	96.1	70.0 to 130	0.00	20.0	
BC02120	Aluminum, Total	mg/L	-0.00422	0.010	0.100	0.112	0.108	0.112	0.0850 to 0.115	112	70.0 to 130	3.64	20.0	
BC02120	Antimony, Dissolved	mg/L	0.000124	0.00100	0.100	0.103	0.106	0.0990	0.0850 to 0.115	103	70.0 to 130	2.87	20.0	
BC02120	Antimony, Total	mg/L	0.0000539	0.00100	0.100	0.112	0.105	0.107	0.0850 to 0.115	112	70.0 to 130	6.45	20.0	
BC02120	Arsenic, Dissolved	mg/L	-0.0000275	0.000176	0.100	0.163	0.162	0.102	0.0850 to 0.115	100	70.0 to 130	0.615	20.0	
BC02120	Arsenic, Total	mg/L	0.0000086	0.000176	0.100	0.179	0.172	0.111	0.0850 to 0.115	111	70.0 to 130	3.99	20.0	
BC02120	Barium, Dissolved	mg/L	0.0000421	0.000200	0.100	0.107	0.107	0.0954	0.0850 to 0.115	95.8	70.0 to 130	0.00	20.0	
BC02120	Barium, Total	mg/L	-0.000110	0.000200	0.100	0.107	0.106	0.0998	0.0850 to 0.115	96.8	70.0 to 130	0.939	20.0	
BC02120	Beryllium, Dissolved	mg/L	0.000287	0.000880	0.100	0.0860	0.0882	0.0952	0.0850 to 0.115	86.0	70.0 to 130	2.53	20.0	
BC02120	Beryllium, Total	mg/L	0.000117	0.000880	0.100	0.0940	0.0920	0.102	0.0850 to 0.115	94.0	70.0 to 130	2.15	20.0	
BC02120	Boron, Dissolved	mg/L	-0.000503	0.0650	1.00	1.23	1.22	1.00	0.850 to 1.15	102	70.0 to 130	0.816	20.0	
BC02120	Boron, Total	mg/L	-0.000644	0.0650	1.00	1.20	1.22	1.01	0.850 to 1.15	99.2	70.0 to 130	1.65	20.0	
BC02120	Cadmium, Dissolved	mg/L	-0.0000147	0.000147	0.100	0.0973	0.0994	0.100	0.0850 to 0.115	97.3	70.0 to 130	2.14	20.0	
BC02120	Cadmium, Total	mg/L	0.00000	0.000147	0.100	0.108	0.101	0.109	0.0850 to 0.115	108	70.0 to 130	6.70	20.0	
BC02120	Calcium, Dissolved	mg/L	-0.0197	0.152	5.00	339	350	4.96	4.25 to 5.75	20.0	70.0 to 130	3.19	20.0	
BC02120	Calcium, Total	mg/L	-0.00917	0.152	5.00	347	348	4.96	4.25 to 5.75	260	70.0 to 130	0.288	20.0	
BC02120	Chromium, Dissolved	mg/L	0.0000585	0.000440	0.100	0.0970	0.0987	0.103	0.0850 to 0.115	97.0	70.0 to 130	1.74	20.0	
BC02120	Chromium, Total	mg/L	-0.0000061	0.000440	0.100	0.106	0.105	0.112	0.0850 to 0.115	106	70.0 to 130	0.948	20.0	
BC02120	Cobalt, Dissolved	mg/L	0.0000464	0.000147	0.100	0.144	0.146	0.105	0.0850 to 0.115	99.3	70.0 to 130	1.38	20.0	
BC02120	Cobalt, Total	mg/L	0.0000112	0.000147	0.100	0.156	0.154	0.115	0.0850 to 0.115	109	70.0 to 130	1.29	20.0	
BC02120	Iron, Dissolved	mg/L	-0.000316	0.0176	0.2	167	166	0.201	0.170 to 0.230	0.00	70.0 to 130	0.601	20.0	
BC02120	Iron, Total	mg/L	-0.000344	0.0176	0.2	169	167	0.201	0.170 to 0.230	-500	70.0 to 130	1.19	20.0	
BC02120	Lead, Dissolved	mg/L	0.0000093	0.000147	0.100	0.0973	0.101	0.102	0.0850 to 0.115	97.3	70.0 to 130	3.73	20.0	
BC02120	Lead, Total	mg/L	0.0000078	0.000147	0.100	0.102	0.0990	0.105	0.0850 to 0.115	102	70.0 to 130	2.99	20.0	

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified. Nitrate/Nitrite precision is invalid due to sample concentration. Nitrate/Nitrite MS recovery was outside of the specification limit.

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 2/1/22 10:55

Customer ID:

Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill - MW-12

Laboratory ID Number: BC02120

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC02120	Lithium, Dissolved	mg/L	-0.000056	0.0154	0.200	0.280	0.279	0.200	0.170 to 0.230	109	70.0 to 130	0.358	20.0
BC02120	Lithium, Total	mg/L	-0.000184	0.0154	0.200	0.266	0.285	0.200	0.170 to 0.230	100	70.0 to 130	6.90	20.0
BC02120	Magnesium, Dissolved	mg/L	-0.00951	0.0462	5.00	380	391	5.11	4.25 to 5.75	20.0	70.0 to 130	2.85	20.0
BC02120	Magnesium, Total	mg/L	-0.00334	0.0462	5.00	383	387	5.11	4.25 to 5.75	180	70.0 to 130	1.04	20.0
BC02120	Manganese, Dissolved	mg/L	-0.0000097	0.0002	0.100	20.1	20.5	0.0965	0.0850 to 0.115	300	70.0 to 130	1.97	20.0
BC02120	Manganese, Total	mg/L	-0.0000677	0.0002	0.100	22.3	22.9	0.110	0.0850 to 0.115	-500	70.0 to 130	2.65	20.0
BC02120	Mercury, Total by CVAA	mg/L	0.00000	0.000500	0.004	0.00402	0.00408	0.00398	0.00340 to 0.00460	100	70.0 to 130	1.48	20.0
BC02120	Molybdenum, Dissolved	mg/L	0.0000632	0.0002	0.100	0.0973	0.101	0.104	0.0850 to 0.115	97.1	70.0 to 130	3.73	20.0
BC02120	Molybdenum, Total	mg/L	-0.0000053	0.0002	0.100	0.105	0.101	0.109	0.0850 to 0.115	105	70.0 to 130	3.88	20.0
BC02120	Potassium, Dissolved	mg/L	-0.0724	0.367	10.0	31.3	31.5	9.83	8.50 to 11.5	97.0	70.0 to 130	0.637	20.0
BC02120	Potassium, Total	mg/L	0.00971	0.367	10.0	34.1	33.5	11.0	8.50 to 11.5	109	70.0 to 130	1.78	20.0
BC02120	Selenium, Dissolved	mg/L	0.000111	0.00100	0.100	0.0999	0.105	0.104	0.0850 to 0.115	99.3	70.0 to 130	4.98	20.0
BC02120	Selenium, Total	mg/L	0.0000614	0.00100	0.100	0.107	0.102	0.112	0.0850 to 0.115	106	70.0 to 130	4.78	20.0
BC02120	Silicon, Dissolved	mg/L	-0.000923	0.0440	1.00	15.2	14.9	1.02	0.850 to 1.15	120	70.0 to 130	1.99	20.0
BC02120	Silicon, Total	mg/L	-0.000194	0.0440	1.00	14.9	15.0	1.04	0.850 to 1.15	90.0	70.0 to 130	0.669	20.0
BC02120	Sodium, Dissolved	mg/L	0.000085	0.0660	5.00	49.7	51.6	5.01	4.25 to 5.75	86.0	70.0 to 130	3.75	20.0
BC02120	Sodium, Total	mg/L	0.00330	0.0660	5.00	49.8	50.8	4.96	4.25 to 5.75	94.0	70.0 to 130	1.99	20.0
BC02120	Thallium, Dissolved	mg/L	0.000006	0.000147	0.100	0.0962	0.101	0.102	0.0850 to 0.115	96.1	70.0 to 130	4.87	20.0
BC02120	Thallium, Total	mg/L	0.000012	0.000147	0.100	0.102	0.0985	0.103	0.0850 to 0.115	102	70.0 to 130	3.49	20.0
BC02120	Total Organic Carbon	mg/L	0.380	1.00	10.0	14.5	14.6	24.7		99.1	80.0 to 120	0.687	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified. Nitrate/Nitrite precision is invalid due to sample concentration. Nitrate/Nitrite MS recovery was outside of the specification limit.

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 2/1/22 10:55

Customer ID:

Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill - MW-12

Laboratory ID Number: BC02120

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Limit	Prec	Prec Limit
BC02120	Alkalinity, Total as CaCO3	mg/L					239	51.9	45.0 to 55.0			4.27	10.0
BC02120	Chloride	mg/L	-0.082	1.00	10.0	20.7	11.5	10.4	9.00 to 11.0	92.0	80.0 to 120	0.00	20.0
BC02120	Fluoride	mg/L	-0.00646	0.125	2.50	2.69	0.140	2.56	2.25 to 2.75	101	80.0 to 120	21.7	20.0
BC02120	Nitrogen, Nitrate/Nitrite	mg/L as N	-0.05	0.200	2.00	1.61	0.227	1.95	1.80 to 2.20	67.2	90.0 to 110	15.4	15.0
BC02116	Solids, Dissolved	mg/L	0.0000	25.0			1060	47.0	40.0 to 60.0			0.948	10.0
BC02120	Sulfate	mg/L	0.00338	2.0	3200	5600	2240	19.6	18.0 to 22.0	105	80.0 to 120	0.447	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified. Nitrate/Nitrite precision is invalid due to sample concentration. Nitrate/Nitrite MS recovery was outside of the specification limit.

Definitions

Project Number: WMWGORLF_1349

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
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.
PA	Precision is invalid due to sample concentration.
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 Outside Lab
 Lab Complete



Lab ETA

Requested Complete Date	Routine	Results To	Dustin Brooks, Greg Dyer
Collector	Anthony Goggins	Requested By	Greg Dyer
		Location	Gorgas Landfill

Bottles	1	Metals	500 mL	3	Hg	250 mL	5	TDS	500 mL	7	Alkalinity	250 mL
	2	Dissolved Metals	500 mL	4	Nitrite/Nitrate, TOC	250 mL	6	Anions	250 mL	8	N/A	N/A

Comments: Nitrate/Nitrite, TOC bottles pH<2. LBM 2/1/22

Sample #	Date	Time	Bottle Count	Description	Lab Filter	Lab Id
MW-12V	02/01/2022	09:55	7	Groundwater		BC02119
MW-12	02/01/2022	10:55	7	Groundwater		BC02120

Relinquished By 	Received By 	Date/Time 02/01/2022 15:26

SmarTroll ID	7586-41446-5-5	All metals and radiological bottles have pH < 2 <input checked="" type="checkbox"/>
Turbidity ID	4677-23343-4-2	Cooler Temp
Sample Event	1349	Thermometer ID
		pH Strip ID
		0.0 degrees C
		5408-27568-2-2
		8440-53679-10-5



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
		Location	Gorgas Landfill

Bottles	1	Metals	1 L	3	Hg	250 mL	5	TDS	500 mL	7	Alkalinity	250 mL
	2	Dissolved Metals	250 mL	4	Nitrates/Nitrites, TOC	250 mL	6	Anions	250 mL	8	N/A	N/A

Comments: Nitrate/Nitrite, TOC bottles pH<2. Correcting date to 1/31/22 for MW-7 per TJD. LBM 2/1/22

Sample #	Date	Time	Bottle Count	Description	Lab Filter	Lab Id
MW-5	01/31/2022	13:22	7	Groundwater		BC02111
MW-6	01/31/2022	14:38	7	Groundwater		BC02112
MW-6 Dup	01/31/2022	14:38	7	Sample Duplicate		BC02113
MW-7	01/31/2022	15:45	7	Groundwater		BC02114
MW-8	02/01/2022	08:50	7	Groundwater		BC02115
MW-10	02/01/2022	10:50	7	Groundwater		BC02116
MW-11	02/01/2022	12:17	7	Groundwater		BC02117
FB-2	02/01/2022	13:30	5	Field Blank		BC02118

Relinquished By	Received By	Date/Time
<i>[Signature]</i>	<i>[Signature]</i>	02/01/2022 15:25

SmarTroll ID	7586-41445-5-4	All metals and radiological bottles have pH < 2 <input checked="" type="checkbox"/>	
Turbidity ID	4677-23342-4-1		
Sample Event	1349		
		Cooler Temp	0.3 degrees C
		Thermometer ID	5408-27568-2-2
		pH Strip ID	8440-53679-10-5

Bottles/Pre-Preserved Bottles are provided by the GTL



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	500 mL	7	Alkalinity	250 mL
	2	Dissolved Metals	500 mL	4	Nitrate/Nitrite, TOC	250 mL	6	Anions	250 mL	8	N/A	N/A

Comments: Nitrate/Nitrite, TOC bottles pH<2. LBM 2/1/22
 Correcting bottle analysis numbers. Nitrate/Nitrite, TOC was bottle #4, and TDS was bottle #5. LBM 2/2/22

Sample #	Date	Time	Bottle Count	Description	Lab Filter	Lab Id
MW-13	01/31/2022	10:18	7	Groundwater		BC02100
MW-14	01/31/2022	11:16	7	Groundwater		BC02101
MW-15	01/31/2022	12:12	7	Groundwater		BC02102
FB-1	01/31/2022	12:45	5	Field Blank		BC02103
MW-16	01/31/2022	13:13	7	Groundwater		BC02104
MW-16 dup	01/31/2022	13:13	7	Sample Duplicate		BC02105
MW-17R	01/31/2022	14:21	7	Groundwater		BC02106
MW-18	01/31/2022	15:25	7	Groundwater		BC02107
MW-19	02/01/2022	10:54	7	Groundwater		BC02108
MW-20	02/01/2022	12:03	7	Groundwater		BC02109
EB-1	02/01/2022	12:35	5	Equipment Blank		BC02110

Relinquished By	Received By	Date/Time
<i>M. Dyer</i>	<i>Karen M. Dyer</i>	02/01/2022 15:09

SmarTroll ID	7586-41444-5-3	All metals and radiological bottles have pH < 2 <input checked="" type="checkbox"/>
Turbidity ID	3901-20010-2-2	
Sample Event	1349	
Cooler Temp	0.9 degrees C & 0.3 degrees C	
Thermometer ID	5408-27568-2-2	
pH Strip ID	8440-53679-10-5	

Bottles/Pre-Preserved Bottles are provided by the GTL



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	Anthony Goggins	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 Sulfide	250 mL	4 N/A	N/A	6 N/A	N/A	8 N/A	N/A

Comments: Sulfide bottles pH>9. LBM 2/1/22

Sample #	Date	Time	Bottle Count	Description	Lab Filter	Lab Id
MW-12V	02/01/2022	09:55	2	Groundwater		BC02140
MW-12	02/01/2022	10:55	2	Groundwater		BC02141

Relinquished By	Received By	Date/Time
		02/01/2022 15:25

SmarTroll ID	7586-41446-5-5	All metals and radiological bottles have pH < 2 <input checked="" type="checkbox"/>
Turbidity ID	4677-23343-4-2	
Sample Event	1349	
Cooler Temp	0.0 degrees C	
Thermometer ID	5408-27568-2-2	
pH Strip ID	8440-53679-10-5	

Bottles/Pre-Preserved Bottles are provided by the GTL



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
		Location	Gorgas Landfill

Bottles	1 Radium	1 L	3 N/A	N/A	5 N/A	N/A	7 N/A	N/A
	2 Sulfide	250 mL	4 N/A	N/A	6 N/A	N/A	8 N/A	N/A

Comments: Radium MS/MSD collected at MW-14 and MW-20
 Sulfide bottles pH>9. LBM 2/1/22

Sample #	Date	Time	Bottle Count	Description	Lab Filter	Lab Id
MW-13	01/31/2022	10:18	2	Groundwater		BC02121
MW-14	01/31/2022	11:16	4	Groundwater		BC02122
MW-15	01/31/2022	12:12	2	Groundwater		BC02123
FB-1	01/31/2022	12:45	2	Field Blank		BC02124
MW-16	01/31/2022	13:13	2	Groundwater		BC02125
MW-16 dup	01/31/2022	13:13	2	Sample Duplicate		BC02126
MW-17R	01/31/2022	14:21	2	Groundwater		BC02127
MW-18	01/31/2022	15:25	2	Groundwater		BC02128
MW-19	02/01/2022	10:54	2	Groundwater		BC02129
MW-20	02/01/2022	12:03	4	Groundwater		BC02130
EB-1	02/01/2022	12:35	2	Equipment Blank		BC02131

Relinquished By	Received By	Date/Time
<i>M. Dyer</i>	<i>Laura M. Dyer</i>	02/01/2022 15:09

SmarTroll ID	7586-41444-5-3	All metals and radiological bottles have pH < 2 <input checked="" type="checkbox"/>
Turbidity ID	3901-20010-2-2	
Sample Event	1349	
Cooler Temp	0.9 degrees C & 0.3 degrees C	
Thermometer ID	5408-27568-2-2	
pH Strip ID	8440-53679-10-5	

Bottles/Pre-Preserved Bottles are provided by the GTL



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	Sulfide	250 mL	4	N/A	N/A	6	N/A	N/A	8	N/A	N/A

Comments: Sulfide bottles pH>9. Correcting date to 1/31/22 for MW-7 per TDJ LBM 2/1/22

Sample #	Date	Time	Bottle Count	Description	Lab Filter	Lab Id
MW-5	01/31/2022	13:22	2	Groundwater		BC02132
MW-6	01/31/2022	14:38	2	Groundwater		BC02133
MW-6 Dup	01/31/2022	14:38	2	Sample Duplicate		BC02134
MW-7	01/31/2022	15:45	2	Groundwater		BC02135
MW-8	02/01/2022	08:50	2	Groundwater		BC02136
MW-10	02/01/2022	10:50	2	Groundwater		BC02137
MW-11	02/01/2022	12:17	2	Groundwater		BC02138
FB-2	02/01/2022	13:30	2	Field Blank		BC02139

Relinquished By	Received By	Date/Time
<i>[Signature]</i>	<i>[Signature]</i>	02/01/2022 15:25

SmarTroll ID	7586-41445-5-4	All metals and radiological bottles have pH < 2 <input checked="" type="checkbox"/>
Turbidity ID	4677-23342-4-1	
Sample Event	1349	
Cooler Temp	0.3 degrees C	
Thermometer ID	5408-27568-2-2	
pH Strip ID	8440-53679-10-5	

Bottles/Pre-Preserved Bottles are provided by the GTL

February 07, 2022

Laura Midkiff
Alabama Power
744 Highway 87
GSC 8
Calera, AL 35040

RE: Project: WMWGORLF_1349
Pace Project No.: 20233689

Dear Laura Midkiff:

Enclosed are the analytical results for sample(s) received by the laboratory on February 02, 2022. 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 - New Orleans

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

Sincerely,



Karen Brown
karen.brown@pacelabs.com
(504)469-0333
Project Manager

Enclosures

cc: Renee Jernigan, Alabama Power
Trinity B. Williams, Alabama Power



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: WMWGORLF_1349

Pace Project No.: 20233689

Pace Analytical Services New Orleans

Florida Department of Health (NELAC): E87595

Illinois Environmental Protection Agency: 0025721

Kansas Department of Health and Environment (NELAC):

E-10266

Louisiana Dept. of Environmental Quality (NELAC/LELAP):

02006

Texas Commission on Env. Quality (NELAC):

T104704405-09-TX

U.S. Dept. of Agriculture Foreign Soil Import: P330-10-

00119

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: WMWGORLF_1349

Pace Project No.: 20233689

Lab ID	Sample ID	Matrix	Date Collected	Date Received
20233689001	BC02121 MW-13	Water	01/31/22 10:18	02/02/22 10:10
20233689002	BC02122 MW-14	Water	01/31/22 11:16	02/02/22 10:10
20233689003	BC02123 MW-15	Water	01/31/22 12:12	02/02/22 10:10
20233689004	BC02124 FB-1	Water	01/31/22 12:45	02/02/22 10:10
20233689005	BC02125 MW-16	Water	01/31/22 13:13	02/02/22 10:10
20233689006	BC02126 MW-16 DUP	Water	01/31/22 13:13	02/02/22 10:10
20233689007	BC02127 MW-17R	Water	01/31/22 14:21	02/02/22 10:10
20233689008	BC02128 MW-18	Water	01/31/22 15:25	02/02/22 10:10
20233689009	BC02129 MW-19	Water	02/01/22 10:54	02/02/22 10:10
20233689010	BC02130 MW-20	Water	02/01/22 12:03	02/02/22 10:10
20233689011	BC02131 EB-1	Water	02/01/22 12:35	02/02/22 10:10
20233689012	BC02132 MW-5	Water	01/31/22 13:22	02/02/22 10:10
20233689013	BC02133 MW-6	Water	01/31/22 14:38	02/02/22 10:10
20233689014	BC02134 MW-6 DUP	Water	01/31/22 14:38	02/02/22 10:10
20233689015	BC02135 MW-7	Water	01/31/22 15:45	02/02/22 10:10
20233689016	BC02136 MW-8	Water	02/01/22 08:50	02/02/22 10:10
20233689017	BC02137 MW-10	Water	02/01/22 10:50	02/02/22 10:10
20233689018	BC02138 MW-11	Water	02/01/22 12:17	02/02/22 10:10
20233689019	BC02139 FB-2	Water	02/01/22 13:30	02/02/22 10:10
20233689020	BC02140 MW-12V	Water	02/01/22 09:55	02/02/22 10:10
20233689021	BC02141 MW-12	Water	02/01/22 10:55	02/02/22 10:10

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SAMPLE ANALYTE COUNT

Project: WMWGORLF_1349

Pace Project No.: 20233689

Lab ID	Sample ID	Method	Analysts	Analytes Reported
20233689001	BC02121 MW-13	SM 4500-S-2 D	RVJ	1
20233689002	BC02122 MW-14	SM 4500-S-2 D	RVJ	1
20233689003	BC02123 MW-15	SM 4500-S-2 D	RVJ	1
20233689004	BC02124 FB-1	SM 4500-S-2 D	RVJ	1
20233689005	BC02125 MW-16	SM 4500-S-2 D	RVJ	1
20233689006	BC02126 MW-16 DUP	SM 4500-S-2 D	RVJ	1
20233689007	BC02127 MW-17R	SM 4500-S-2 D	RVJ	1
20233689008	BC02128 MW-18	SM 4500-S-2 D	RVJ	1
20233689009	BC02129 MW-19	SM 4500-S-2 D	RVJ	1
20233689010	BC02130 MW-20	SM 4500-S-2 D	RVJ	1
20233689011	BC02131 EB-1	SM 4500-S-2 D	RVJ	1
20233689012	BC02132 MW-5	SM 4500-S-2 D	RVJ	1
20233689013	BC02133 MW-6	SM 4500-S-2 D	RVJ	1
20233689014	BC02134 MW-6 DUP	SM 4500-S-2 D	RVJ	1
20233689015	BC02135 MW-7	SM 4500-S-2 D	RVJ	1
20233689016	BC02136 MW-8	SM 4500-S-2 D	RVJ	1
20233689017	BC02137 MW-10	SM 4500-S-2 D	RVJ	1
20233689018	BC02138 MW-11	SM 4500-S-2 D	RVJ	1
20233689019	BC02139 FB-2	SM 4500-S-2 D	RVJ	1
20233689020	BC02140 MW-12V	SM 4500-S-2 D	RVJ	1
20233689021	BC02141 MW-12	SM 4500-S-2 D	RVJ	1

PASI-N = Pace Analytical Services - New Orleans

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: WMWGORLF_1349

Pace Project No.: 20233689

Method: SM 4500-S-2 D

Description: 4500S2D Sulfide, Total

Client: Alabama Power

Date: February 07, 2022

General Information:

21 samples were analyzed for SM 4500-S-2 D by Pace Analytical Services New Orleans. 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.

Duplicate Sample:

All duplicate sample results were within method 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

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ANALYTICAL RESULTS

Project: WMWGORLF_1349

Pace Project No.: 20233689

Sample: BC02121 MW-13 **Lab ID: 20233689001** Collected: 01/31/22 10:18 Received: 02/02/22 10:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total									
Analytical Method: SM 4500-S-2 D									
Pace Analytical Services - New Orleans									
Sulfide, Total	ND	mg/L	0.020	0.012	1		02/03/22 16:14	18496-25-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: WMWGORLF_1349

Pace Project No.: 20233689

Sample: BC02122 MW-14 **Lab ID: 20233689002** Collected: 01/31/22 11:16 Received: 02/02/22 10:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total									
Analytical Method: SM 4500-S-2 D									
Pace Analytical Services - New Orleans									
Sulfide, Total	ND	mg/L	0.020	0.012	1		02/03/22 16:15	18496-25-8	

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ANALYTICAL RESULTS

Project: WMWGORLF_1349

Pace Project No.: 20233689

Sample: BC02123 MW-15 **Lab ID: 20233689003** Collected: 01/31/22 12:12 Received: 02/02/22 10:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total									
Analytical Method: SM 4500-S-2 D									
Pace Analytical Services - New Orleans									
Sulfide, Total	ND	mg/L	0.020	0.012	1		02/03/22 16:19	18496-25-8	

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ANALYTICAL RESULTS

Project: WMWGORLF_1349

Pace Project No.: 20233689

Sample: BC02124 FB-1 **Lab ID: 20233689004** Collected: 01/31/22 12:45 Received: 02/02/22 10:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total									
Analytical Method: SM 4500-S-2 D									
Pace Analytical Services - New Orleans									
Sulfide, Total	ND	mg/L	0.020	0.012	1		02/04/22 14:59	18496-25-8	

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ANALYTICAL RESULTS

Project: WMWGORLF_1349

Pace Project No.: 20233689

Sample: BC02125 MW-16 **Lab ID: 20233689005** Collected: 01/31/22 13:13 Received: 02/02/22 10:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total									
Analytical Method: SM 4500-S-2 D									
Pace Analytical Services - New Orleans									
Sulfide, Total	ND	mg/L	0.020	0.012	1		02/04/22 15:00	18496-25-8	

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ANALYTICAL RESULTS

Project: WMWGORLF_1349
Pace Project No.: 20233689

Sample: BC02126 MW-16 DUP Lab ID: 20233689006 Collected: 01/31/22 13:13 Received: 02/02/22 10:10 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total									
Analytical Method: SM 4500-S-2 D Pace Analytical Services - New Orleans									
Sulfide, Total	ND	mg/L	0.020	0.012	1		02/04/22 15:01	18496-25-8	

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ANALYTICAL RESULTS

Project: WMWGORLF_1349

Pace Project No.: 20233689

Sample: BC02127 MW-17R **Lab ID: 20233689007** Collected: 01/31/22 14:21 Received: 02/02/22 10:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total									
Analytical Method: SM 4500-S-2 D									
Pace Analytical Services - New Orleans									
Sulfide, Total	ND	mg/L	0.020	0.012	1		02/04/22 15:01	18496-25-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: WMWGORLF_1349
Pace Project No.: 20233689

Sample: BC02128 MW-18		Lab ID: 20233689008		Collected: 01/31/22 15:25	Received: 02/02/22 10:10	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total		Analytical Method: SM 4500-S-2 D Pace Analytical Services - New Orleans							
Sulfide, Total	ND	mg/L	0.020	0.012	1		02/04/22 15:02	18496-25-8	

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ANALYTICAL RESULTS

Project: WMWGORLF_1349
Pace Project No.: 20233689

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: BC02129 MW-19 Lab ID: 20233689009 Collected: 02/01/22 10:54 Received: 02/02/22 10:10 Matrix: Water									
Analytical Method: SM 4500-S-2 D Pace Analytical Services - New Orleans									
Sulfide, Total	ND	mg/L	0.020	0.012	1		02/06/22 11:34	18496-25-8	

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ANALYTICAL RESULTS

Project: WMWGORLF_1349
Pace Project No.: 20233689

Sample: BC02130 MW-20 Lab ID: 20233689010 Collected: 02/01/22 12:03 Received: 02/02/22 10:10 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total									
Analytical Method: SM 4500-S-2 D Pace Analytical Services - New Orleans									
Sulfide, Total	ND	mg/L	0.020	0.012	1		02/06/22 11:36	18496-25-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: WMWGORLF_1349

Pace Project No.: 20233689

Sample: BC02131 EB-1 **Lab ID: 20233689011** Collected: 02/01/22 12:35 Received: 02/02/22 10:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total									
Analytical Method: SM 4500-S-2 D									
Pace Analytical Services - New Orleans									
Sulfide, Total	ND	mg/L	0.020	0.012	1		02/06/22 11:36	18496-25-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: WMWGORLF_1349

Pace Project No.: 20233689

Sample: BC02132 MW-5		Lab ID: 20233689012		Collected: 01/31/22 13:22		Received: 02/02/22 10:10		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total		Analytical Method: SM 4500-S-2 D Pace Analytical Services - New Orleans							
Sulfide, Total	ND	mg/L	0.020	0.012	1		02/04/22 15:04	18496-25-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: WMWGORLF_1349
Pace Project No.: 20233689

Sample: BC02133 MW-6 Lab ID: 20233689013 Collected: 01/31/22 14:38 Received: 02/02/22 10:10 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total									
Analytical Method: SM 4500-S-2 D Pace Analytical Services - New Orleans									
Sulfide, Total	ND	mg/L	0.020	0.012	1		02/04/22 15:34	18496-25-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: WMWGORLF_1349

Pace Project No.: 20233689

Sample: BC02134 MW-6 DUP **Lab ID: 20233689014** Collected: 01/31/22 14:38 Received: 02/02/22 10:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total									
Analytical Method: SM 4500-S-2 D									
Pace Analytical Services - New Orleans									
Sulfide, Total	ND	mg/L	0.020	0.012	1		02/04/22 15:34	18496-25-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: WMWGORLF_1349
Pace Project No.: 20233689

Sample: BC02135 MW-7 Lab ID: 20233689015 Collected: 01/31/22 15:45 Received: 02/02/22 10:10 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total									
Analytical Method: SM 4500-S-2 D Pace Analytical Services - New Orleans									
Sulfide, Total	ND	mg/L	0.020	0.012	1		02/04/22 15:35	18496-25-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: WMWGORLF_1349

Pace Project No.: 20233689

Sample: BC02136 MW-8 **Lab ID: 20233689016** Collected: 02/01/22 08:50 Received: 02/02/22 10:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total									
Analytical Method: SM 4500-S-2 D									
Pace Analytical Services - New Orleans									
Sulfide, Total	ND	mg/L	0.020	0.012	1		02/06/22 11:37	18496-25-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: WMWGORLF_1349

Pace Project No.: 20233689

Sample: BC02137 MW-10 **Lab ID: 20233689017** Collected: 02/01/22 10:50 Received: 02/02/22 10:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total									
Analytical Method: SM 4500-S-2 D									
Pace Analytical Services - New Orleans									
Sulfide, Total	ND	mg/L	0.020	0.012	1		02/06/22 11:38	18496-25-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: WMWGORLF_1349

Pace Project No.: 20233689

Sample: BC02138 MW-11 **Lab ID: 20233689018** Collected: 02/01/22 12:17 Received: 02/02/22 10:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total									
Analytical Method: SM 4500-S-2 D									
Pace Analytical Services - New Orleans									
Sulfide, Total	ND	mg/L	0.020	0.012	1		02/06/22 12:40	18496-25-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: WMWGORLF_1349

Pace Project No.: 20233689

Sample: BC02139 FB-2 **Lab ID: 20233689019** Collected: 02/01/22 13:30 Received: 02/02/22 10:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total									
Analytical Method: SM 4500-S-2 D									
Pace Analytical Services - New Orleans									
Sulfide, Total	ND	mg/L	0.020	0.012	1		02/06/22 12:41	18496-25-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: WMWGORLF_1349

Pace Project No.: 20233689

Sample: BC02140 MW-12V **Lab ID: 20233689020** Collected: 02/01/22 09:55 Received: 02/02/22 10:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total									
Analytical Method: SM 4500-S-2 D									
Pace Analytical Services - New Orleans									
Sulfide, Total	ND	mg/L	0.020	0.012	1		02/06/22 12:41	18496-25-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: WMWGORLF_1349
Pace Project No.: 20233689

Sample: BC02141 MW-12 Lab ID: 20233689021 Collected: 02/01/22 10:55 Received: 02/02/22 10:10 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total									
Analytical Method: SM 4500-S-2 D Pace Analytical Services - New Orleans									
Sulfide, Total	ND	mg/L	0.020	0.012	1		02/06/22 12:42	18496-25-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: WMWGORLF_1349

Pace Project No.: 20233689

QC Batch: 246786

Analysis Method: SM 4500-S-2 D

QC Batch Method: SM 4500-S-2 D

Analysis Description: 4500S2D Sulfide, Total

Laboratory: Pace Analytical Services - New Orleans

Associated Lab Samples: 20233689001, 20233689002, 20233689003

METHOD BLANK: 1171851

Matrix: Water

Associated Lab Samples: 20233689001, 20233689002, 20233689003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	ND	0.020	0.012	02/03/22 15:50	

LABORATORY CONTROL SAMPLE: 1171852

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.2	0.20	98	90-110	

MATRIX SPIKE SAMPLE: 1171854

Parameter	Units	20233689001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	ND	0.2	0.18	90	75-125	

SAMPLE DUPLICATE: 1171853

Parameter	Units	20233689001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	ND	ND		20	

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

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QUALITY CONTROL DATA

Project: WMWGORLF_1349
Pace Project No.: 20233689

QC Batch:	246874	Analysis Method:	SM 4500-S-2 D
QC Batch Method:	SM 4500-S-2 D	Analysis Description:	4500S2D Sulfide, Total
		Laboratory:	Pace Analytical Services - New Orleans

Associated Lab Samples: 20233689004, 20233689005, 20233689006, 20233689007, 20233689008, 20233689012, 20233689013, 20233689014, 20233689015

METHOD BLANK: 1172272 Matrix: Water
Associated Lab Samples: 20233689004, 20233689005, 20233689006, 20233689007, 20233689008, 20233689012, 20233689013, 20233689014, 20233689015

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	ND	0.020	0.012	02/04/22 14:59	

LABORATORY CONTROL SAMPLE: 1172273

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.2	0.20	101	90-110	

MATRIX SPIKE SAMPLE: 1172275

Parameter	Units	20233689004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	ND	0.2	0.21	106	75-125	

SAMPLE DUPLICATE: 1172274

Parameter	Units	20233689004 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	ND	ND		20	

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

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QUALITY CONTROL DATA

Project: WMWGORLF_1349
Pace Project No.: 20233689

QC Batch:	246912	Analysis Method:	SM 4500-S-2 D
QC Batch Method:	SM 4500-S-2 D	Analysis Description:	4500S2D Sulfide, Total
		Laboratory:	Pace Analytical Services - New Orleans

Associated Lab Samples: 20233689009, 20233689010, 20233689011, 20233689016, 20233689017, 20233689018, 20233689019, 20233689020, 20233689021

METHOD BLANK: 1172471 Matrix: Water
Associated Lab Samples: 20233689009, 20233689010, 20233689011, 20233689016, 20233689017, 20233689018, 20233689019, 20233689020, 20233689021

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	ND	0.020	0.012	02/06/22 11:05	

LABORATORY CONTROL SAMPLE: 1172472

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.2	0.19	96	90-110	

MATRIX SPIKE SAMPLE: 1172474

Parameter	Units	20233689011 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	ND	0.2	0.21	103	75-125	

SAMPLE DUPLICATE: 1172473

Parameter	Units	20233689011 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	ND	ND		20	

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

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QUALIFIERS

Project: WMWGORLF_1349
Pace Project No.: 20233689

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.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The Nelac Institute

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WMWGORLF_1349
Pace Project No.: 20233689

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
20233689001	BC02121 MW-13	SM 4500-S-2 D	246786		
20233689002	BC02122 MW-14	SM 4500-S-2 D	246786		
20233689003	BC02123 MW-15	SM 4500-S-2 D	246786		
20233689004	BC02124 FB-1	SM 4500-S-2 D	246874		
20233689005	BC02125 MW-16	SM 4500-S-2 D	246874		
20233689006	BC02126 MW-16 DUP	SM 4500-S-2 D	246874		
20233689007	BC02127 MW-17R	SM 4500-S-2 D	246874		
20233689008	BC02128 MW-18	SM 4500-S-2 D	246874		
20233689009	BC02129 MW-19	SM 4500-S-2 D	246912		
20233689010	BC02130 MW-20	SM 4500-S-2 D	246912		
20233689011	BC02131 EB-1	SM 4500-S-2 D	246912		
20233689012	BC02132 MW-5	SM 4500-S-2 D	246874		
20233689013	BC02133 MW-6	SM 4500-S-2 D	246874		
20233689014	BC02134 MW-6 DUP	SM 4500-S-2 D	246874		
20233689015	BC02135 MW-7	SM 4500-S-2 D	246874		
20233689016	BC02136 MW-8	SM 4500-S-2 D	246912		
20233689017	BC02137 MW-10	SM 4500-S-2 D	246912		
20233689018	BC02138 MW-11	SM 4500-S-2 D	246912		
20233689019	BC02139 FB-2	SM 4500-S-2 D	246912		
20233689020	BC02140 MW-12V	SM 4500-S-2 D	246912		
20233689021	BC02141 MW-12	SM 4500-S-2 D	246912		

REPORT OF LABORATORY ANALYSIS

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WO#: 20233689



20233689

CHAIN-OF-CUSTODY / Analytical Request Document
 The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be compli

Section A		Section B		Section C	
Required Client Information:		Required Project Information:		Invoice Information:	
Company: Alabama Power Company	Report To: Laura Midkiff	Company Name: Alabama Power Co.	Attention: Laura Midkiff	Company Name: Alabama Power Co.	Address: 744 Highway 87 GSC Bldg #8
Address: 744 Highway 87 GSC Bldg #8	Copy To: Brooke Caton & Renee Jernigan	Address: Calera, AL 35040	Purchase Order #: APC10700668	Address: 744 Highway 87 GSC Bldg #8	CCR
Email To: lbmidkiff@southernco.com	Project Name: Plant, Gorgas CCB Landfills	Phone: 205-664-6197	Project Number: WMMWGORLF 1349	Pace Quote: Karen Brown	Pace Project Manager: Karen Brown
Requested Due Date: Normal				Pace Profile #: 120 / 1	
				Regulatory Agency	State / Location: AL

ITEM #	Description	Station Name Location_Code	Site Name Facility_ID	Matrix Spike/Main Spike Duplicate	Field Filtered	Matrix Code	Sample Type (G=GRAB C=COMP)	COLLECTED		# OF CONTAINERS	Preservatives	Y/N	EPA 9315	EPA 9320	Total Radium Sum	Total Sulfide	Residual Chlorine (Y/N)	Requested Analysis Filtered (Y/N)
								DATE	TIME									
1	BC02121	APCO-GS-CCB-MW-13	APCO_Gorgas_CCB_Landfills			GW	G	1/31/2022	10:18	1	X							
2	BC02122	APCO-GS-CCB-MW-14	APCO_Gorgas_CCB_Landfills			GW	G	1/31/2022	11:16	1	X							
3	BC02123	APCO-GS-CCB-MW-15	APCO_Gorgas_CCB_Landfills			GW	G	1/31/2022	12:12	1	X							
4	BC02124	APCO-GS-CCB-MW-FB-1	APCO_Gorgas_CCB_Landfills			GW	G	1/31/2022	12:45	1	X							
5	BC02125	APCO-GS-CCB-MW-16	APCO_Gorgas_CCB_Landfills			GW	G	1/31/2022	13:13	1	X							
6	BC02126	APCO-GS-CCB-MW-16	APCO_Gorgas_CCB_Landfills	X		GW	G	1/31/2022	13:13	1	X							
7	BC02127	APCO-GS-CCB-MW-17R	APCO_Gorgas_CCB_Landfills			GW	G	1/31/2022	14:21	1	X							
8	BC02128	APCO-GS-CCB-MW-18	APCO_Gorgas_CCB_Landfills			GW	G	1/31/2022	15:25	1	X							
9	BC02129	APCO-GS-CCB-MW-19	APCO_Gorgas_CCB_Landfills			GW	G	2/1/2022	10:54	1	X							
10	BC02130	APCO-GS-CCB-MW-20	APCO_Gorgas_CCB_Landfills			GW	G	2/1/2022	12:03	1	X							
11	BC02131	APCO-GS-CCB-MW-EB-1	APCO_Gorgas_CCB_Landfills			GW	G	2/1/2022	12:35	1	X							
12																		

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Laura Midkiff APC GTL	2/1/2022	17:01	<i>FedEx</i>	2/12/22	10:10	Ice (Y/N) 4 Custody (Y/N) 4 Sealed Cooler (Y/N) 4 Intact Samples (Y/N) 4
				<i>Any - fair</i>			

SAMPLER NAME AND SIGNATURE:
 PRINT Name of SAMPLER: Dallas Genity
 SIGNATURE of SAMPLER: *Dallas Genity*
 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		Section B		Section C	
Required Client Information:		Required Project Information:		Invoice Information:	
Company:	Alabama Power Company	Report To:	Laura Midkiff	Attention:	Laura Midkiff
Address:	744 Highway 87 GSC Bldg #8 Calera, AL 35040	Copy To:	Brooke Caton & Renee Jernigan	Company Name:	Alabama Power Co.
Email To:	lbmidkiff@southernco.com	Purchase Order #:	APC10700668	Address:	744 Highway 87 GSC Bldg #8 CCR
Phone:	205-664-6197 Fax	Project Name:	Plant Gorgas CGB Landfills	Pace Quote:	Karen Brown
Requested Due Date:	Normal	Project Number:	WMMGORLF_1349	Pace Project Manager:	Karen Brown
				Pace Profile #:	43866

ITEM #	Description	Station Name Location Code	Site Name Facility ID	Sample Duplicate	Mark Spike/Matrix Spike Duplicate	Field Filtered	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		# OF CONTAINERS	Unpreserved	NaOH/ZnAcetate	HNO3	Preservatives	Y/N	EPA 9315	EPA 9320	Total Radium Sum	Total Sulfide	Residual Chlorine (Y/N)	Requested Analysis: Filtered (Y/N)		
									DATE	TIME														
1	BC02132	APCO-GS-CCB-MW-5	APCO_Gorgas_CCBLandfills				GW	G	1/31/2022	13:22	1													
2	BC02133	APCO-GS-CCB-MW-6	APCO_Gorgas_CCBLandfills				GW	G	1/31/2022	14:38	1													
3	BC02134	APCO-GS-CCB-MW-6	APCO_Gorgas_CCBLandfills	X			GW	G	1/31/2022	14:38	1													
4	BC02135	APCO-GS-CCB-MW-7	APCO_Gorgas_CCBLandfills				GW	G	1/31/2022	15:45	1													
5	BC02136	APCO-GS-CCB-MW-8	APCO_Gorgas_CCBLandfills				GW	G	2/1/2022	8:50	1													
6	BC02137	APCO-GS-CCB-MW-10	APCO_Gorgas_CCBLandfills				GW	G	2/1/2022	10:50	1													
7	BC02138	APCO-GS-CCB-MW-11	APCO_Gorgas_CCBLandfills				GW	G	2/1/2022	12:17	1													
8	BC02139	APCO-GS-CCB-MW-FB-2	APCO_Gorgas_CCBLandfills				GW	G	2/1/2022	13:30	1													
9																								
10																								
11																								
12																								

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Laura Midkiff/ APC GTL	2/1/2022	17:01	<i>FedEx</i>	2/2/22	10:10	Received on (Y/N) Custody (Y/N) Sealed Cooler (Y/N) Intact Samples (Y/N)
				<i>FedEx</i>	2/2/22	10:10	TEMP in C

SAMPLER NAME AND SIGNATURE	
PRINT Name of SAMPLER: T.J Daugherty	
SIGNATURE of SAMPLER: <i>T.J Daugherty</i>	
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: Laura Midkiff	Attention: Laura Midkiff
Address: 744 Highway 87 GSC Bldg #8 Calera, AL 35040	Copy To: Brooke Caton & Renee Jernigan	Company Name: Alabama Power Co.
Email To: lbmidkiff@southernco.com	Purchase Order #: APC10700668	Address: 744 Highway 87 GSC Bldg #8 CCR
Phone: 205-664-6197 Fax	Project Name: Plant Gorgas CCB Landfills	Face Quote: Karen Brown
Requested Due Date: Normal	Project Number: WMMG0RLE-1349	Face Project Manager: Karen Brown
		State / Location: AL

ITEM #	DESCRIPTION	STATION NAME LOCATION_CODE	SITE NAME FACILITY_ID	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED	START DATE	START TIME	# OF CONTAINERS	UNPRESERVED	NaOH+ZnAcetate	HNO3	PRESERVATIVES	ANALYSES TEST	EPA 9315	EPA 9320	TOTAL RADIUM SUM	TOTAL SULFIDE	RESIDUAL CHLORINE (Y/N)	TEMP IN C	RECEIVED ON	ICE (Y/N)	CUSTODY	SEALED	COOLER	V/N	SAMPLER	INTACT (Y/N)
1	BC02140	MW-12V	APCO-GS-CCB-MW-12V	APCO_Gorgas_CCBLandfills	GW G	2/1/2022	9:55	1	X								X										
2	BC02141	MW-12	APCO-GS-CCB-MW-12	APCO_Gorgas_CCBLandfills	GW G	2/1/2022	10:55	1	X								X										
3																											
4																											
5																											
6																											
7																											
8																											
9																											
10																											
11																											
12																											

SAMPLER NAME AND SIGNATURE	DATE
Laura Midkiff APC GTL <i>FedEx</i>	2/1/2022 17:01
PRINT Name of SAMPLER:	DATE
SIGNATURE of SAMPLER:	DATE
Anthony Goggins	2/2/2022 10:10
DATE Signed:	



1000 Riverbend Blvd., Suite F
St. Rose, LA 70087

Sample Condition Upon Receipt

WO#: 20233689

PM: KHB Due Date: 02/14/22

CLIENT: 20-Alabama

Project #

Courier: Pace Courier Hired Courier Fed X UPS DHL USPS Customer Other

Custody Seal on Cooler/Box Present: [see COC]

Custody Seals intact: Yes No

Thermometer Used: Therm Fisher IR 7
 Therm Fisher IR 10

Type of Ice: Wet Blue None

Samples on ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 2/2/22 AZ

Temp must be measured from Temperature blank when present

Comments:

Temperature Blank Present?"	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	1
Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2
Chain of Custody Complete:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8
Filtered vol. Rec. for Diss. tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	9
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10
All containers received within manufacture's precautionary and/or expiration dates.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11
All containers needing chemical preservation have been checked (except VOA, coliform, & O&G).	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14
Trip Blank Present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

April 15, 2022

Laura Midkiff
Alabama Power
744 Highway 87
Calera, AL 35040

RE: Project: WMWGORLF_1349
Pace Project No.: 30465804

Dear Laura Midkiff:

Enclosed are the analytical results for sample(s) received by the laboratory on February 09, 2022. 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 4/4/22 report. This project was revised on 4/15/22 to add in U qualifiers per client request.

#CR

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: Brooke Caton, Alabama Power
Renee Jernigan, Alabama Power



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: WMWGORLF_1349
Pace Project No.: 30465804

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
Guam Certification
Florida: Cert E871149 SEKS WET
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

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SAMPLE SUMMARY

Project: WMWGORLF_1349

Pace Project No.: 30465804

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30465804001	BC02121 MW-13	Water	01/31/22 10:18	02/09/22 10:46
30465804002	BC02122 MW-14	Water	01/31/22 11:16	02/09/22 10:46
30465804003	BC02123 MW-15	Water	01/31/22 12:12	02/09/22 10:46
30465804004	BC02124 FB-1	Water	01/31/22 12:45	02/09/22 10:46
30465804005	BC02125 MW-16	Water	01/31/22 13:13	02/09/22 10:46
30465804006	BC02126 MW-16 DUP	Water	01/31/22 13:13	02/09/22 10:46
30465804007	BC02127MW-17R	Water	01/31/22 14:21	02/09/22 10:46
30465804008	BC02128 MW-18	Water	01/31/22 15:25	02/09/22 10:46
30465804009	BC02129 MW-19	Water	02/01/22 10:54	02/09/22 10:46
30465804010	BC02130 MW-20	Water	02/01/22 12:03	02/09/22 10:46
30465804011	BC02131 EB-1	Water	02/01/22 12:35	02/09/22 10:46
30465804012	BC02132 MW-5	Water	01/31/22 13:22	02/09/22 10:46
30465804013	BC02133 MW-6	Water	01/31/22 14:38	02/09/22 10:46
30465804014	BC02134 MW-6 DUP	Water	01/31/22 14:38	02/09/22 10:46
30465804015	BC02135 MW-7	Water	01/31/22 15:45	02/09/22 10:46
30465804016	BC02136 MW-8	Water	02/01/22 08:50	02/09/22 10:46
30465804017	BC02137 MW-10	Water	02/01/22 10:50	02/09/22 10:46
30465804018	BC02138 MW-11	Water	02/01/22 12:17	02/09/22 10:46
30465804019	BC02139 FB-2	Water	02/01/22 13:30	02/09/22 10:46
30465804020	BC02140 MW-12V	Water	02/01/22 09:55	02/09/22 10:46
30465804021	BC02141 MW-12	Water	02/01/22 10:55	02/09/22 10:46
30465804022	BC02122 MW-14 MS	Water	01/31/22 11:16	02/09/22 10:46
30465804023	BC02122 MW-14 MSD	Water	01/31/22 11:16	02/09/22 10:46
30465804024	BC02130 MW-20 MS	Water	02/01/22 12:03	02/09/22 10:46
30465804025	BC02130 MW-20 MSD	Water	02/01/22 12:03	02/09/22 10:46

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: WMWGORLF_1349
Pace Project No.: 30465804

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30465804001	BC02121 MW-13	EPA 9315	JC2	1	PASI-PA
		EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30465804002	BC02122 MW-14	EPA 9315	JC2	1	PASI-PA
		EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30465804003	BC02123 MW-15	EPA 9315	JC2	1	PASI-PA
		EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30465804004	BC02124 FB-1	EPA 9315	JC2	1	PASI-PA
		EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30465804005	BC02125 MW-16	EPA 9315	JC2	1	PASI-PA
		EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30465804006	BC02126 MW-16 DUP	EPA 9315	JC2	1	PASI-PA
		EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30465804007	BC02127MW-17R	EPA 9315	JC2	1	PASI-PA
		EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30465804008	BC02128 MW-18	EPA 9315	JC2	1	PASI-PA
		EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30465804009	BC02129 MW-19	EPA 9315	JC2	1	PASI-PA
		EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30465804010	BC02130 MW-20	EPA 9315	JC2	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30465804011	BC02131 EB-1	EPA 9315	JC2	1	PASI-PA
		EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30465804012	BC02132 MW-5	EPA 9315	JC2	1	PASI-PA
		EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30465804013	BC02133 MW-6	EPA 9315	JC2	1	PASI-PA

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: WMWGORLF_1349
Pace Project No.: 30465804

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30465804014	BC02134 MW-6 DUP	EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	JC2	1	PASI-PA
30465804015	BC02135 MW-7	EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	JC2	1	PASI-PA
30465804016	BC02136 MW-8	EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	JC2	1	PASI-PA
30465804017	BC02137 MW-10	EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	JC2	1	PASI-PA
30465804018	BC02138 MW-11	EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	JC2	1	PASI-PA
30465804019	BC02139 FB-2	EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	JC2	1	PASI-PA
30465804020	BC02140 MW-12V	EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	JC2	1	PASI-PA
30465804021	BC02141 MW-12	EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	JC2	1	PASI-PA
30465804022	BC02122 MW-14 MS	EPA 9320	JC2	1	PASI-PA
		EPA 9315	JC2	1	PASI-PA
30465804023	BC02122 MW-14 MSD	EPA 9320	JC2	1	PASI-PA
		EPA 9315	JC2	1	PASI-PA
30465804024	BC02130 MW-20 MS	EPA 9320	VAL	1	PASI-PA
		EPA 9315	JC2	1	PASI-PA
30465804025	BC02130 MW-20 MSD	EPA 9320	VAL	1	PASI-PA
		EPA 9315	JC2	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: WMWGORLF_1349

Pace Project No.: 30465804

Method: EPA 9315

Description: 9315 Total Radium

Client: Alabama Power

Date: April 15, 2022

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

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PROJECT NARRATIVE

Project: WMWGORLF_1349

Pace Project No.: 30465804

Method: EPA 9320

Description: 9320 Radium 228

Client: Alabama Power

Date: April 15, 2022

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

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PROJECT NARRATIVE

Project: WMWGORLF_1349

Pace Project No.: 30465804

Method: Total Radium Calculation

Description: Total Radium 228+226

Client: Alabama Power

Date: April 15, 2022

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

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

Sample: BC02121 MW-13 **Lab ID: 30465804001** Collected: 01/31/22 10:18 Received: 02/09/22 10:46 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	0.266U ± 0.389 (0.834) C:53% T:NA	pCi/L	03/11/22 08:10	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.624U ± 0.372 (0.683) C:80% T:78%	pCi/L	02/25/22 10:57	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.890U ± 0.761 (1.52)	pCi/L	03/14/22 21:57	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

Sample: BC02122 MW-14 **Lab ID: 30465804002** Collected: 01/31/22 11:16 Received: 02/09/22 10:46 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	0.204U ± 0.157 (0.255) C:99% T:NA	pCi/L	03/11/22 08:10	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	0.511U ± 0.343 (0.645) C:81% T:79%	pCi/L	02/25/22 10:58	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.715U ± 0.500 (0.900)	pCi/L	03/14/22 21:57	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

Sample: BC02123 MW-15 **Lab ID: 30465804003** Collected: 01/31/22 12:12 Received: 02/09/22 10:46 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	0.183U ± 0.158 (0.280) C:98% T:NA	pCi/L	03/11/22 08:10	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	0.332U ± 0.328 (0.672) C:81% T:77%	pCi/L	02/25/22 10:57	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.515U ± 0.486 (0.952)	pCi/L	03/14/22 21:57	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

Sample: BC02124 FB-1 **Lab ID: 30465804004** Collected: 01/31/22 12:45 Received: 02/09/22 10:46 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	0.000U ± 0.0847 (0.249) C:93% T:NA	pCi/L	03/11/22 08:10	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.534U ± 0.394 (0.769) C:78% T:77%	pCi/L	02/25/22 10:57	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.534U ± 0.479 (1.02)	pCi/L	03/14/22 21:57	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

Sample: BC02125 MW-16 **Lab ID: 30465804005** Collected: 01/31/22 13:13 Received: 02/09/22 10:46 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	0.113U ± 0.167 (0.362) C:69% T:NA	pCi/L	03/11/22 08:10	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.342U ± 0.403 (0.847) C:81% T:69%	pCi/L	02/25/22 10:57	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.455U ± 0.570 (1.21)	pCi/L	03/14/22 21:57	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

Sample: BC02126 MW-16 DUP **Lab ID: 30465804006** Collected: 01/31/22 13:13 Received: 02/09/22 10:46 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	0.103U ± 0.164 (0.365) C:96% T:NA	pCi/L	03/11/22 08:10	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	0.0942U ± 0.318 (0.720) C:78% T:83%	pCi/L	02/25/22 14:21	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.197U ± 0.482 (1.09)	pCi/L	03/14/22 21:57	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

Sample: BC02127MW-17R **Lab ID: 30465804007** Collected: 01/31/22 14:21 Received: 02/09/22 10:46 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	0.310 ± 0.197 (0.302) C:91% T:NA	pCi/L	03/11/22 08:10	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.485U ± 0.381 (0.746) C:80% T:76%	pCi/L	02/25/22 14:21	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.795U ± 0.578 (1.05)	pCi/L	03/14/22 21:57	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

Sample: BC02128 MW-18 **Lab ID: 30465804008** Collected: 01/31/22 15:25 Received: 02/09/22 10:46 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	0.0542U ± 0.111 (0.259) C:99% T:NA	pCi/L	03/11/22 08:10	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.0797U ± 0.330 (0.756) C:76% T:78%	pCi/L	02/25/22 14:21	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.134U ± 0.441 (1.02)	pCi/L	03/14/22 21:57	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

Sample: BC02129 MW-19 **Lab ID: 30465804009** Collected: 02/01/22 10:54 Received: 02/09/22 10:46 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	0.371 ± 0.205 (0.279) C:95% T:NA	pCi/L	03/11/22 08:10	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	0.331U ± 0.381 (0.798) C:77% T:75%	pCi/L	02/25/22 14:21	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.702U ± 0.586 (1.08)	pCi/L	03/14/22 21:57	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

Sample: BC02130 MW-20 **Lab ID: 30465804010** Collected: 02/01/22 12:03 Received: 02/09/22 10:46 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	0.226U ± 0.172 (0.281) C:99% T:NA	pCi/L	03/11/22 12:27	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.524U ± 0.338 (0.635) C:87% T:80%	pCi/L	03/04/22 10:48	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.750U ± 0.510 (0.916)	pCi/L	03/14/22 21:56	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

Sample: BC02131 EB-1 **Lab ID: 30465804011** Collected: 02/01/22 12:35 Received: 02/09/22 10:46 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	0.0363U ± 0.104 (0.257) C:97% T:NA	pCi/L	03/11/22 08:10	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	-0.496U ± 0.306 (0.814) C:74% T:81%	pCi/L	02/25/22 11:53	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.0363U ± 0.410 (1.07)	pCi/L	03/14/22 21:57	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

Sample: BC02132 MW-5 **Lab ID: 30465804012** Collected: 01/31/22 13:22 Received: 02/09/22 10:46 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	0.0523U ± 0.137 (0.332) C:98% T:NA	pCi/L	03/11/22 08:10	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	-0.0306U ± 0.311 (0.734) C:80% T:81%	pCi/L	02/25/22 11:53	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.0523U ± 0.448 (1.07)	pCi/L	03/14/22 21:57	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

Sample: BC02133 MW-6 **Lab ID: 30465804013** Collected: 01/31/22 14:38 Received: 02/09/22 10:46 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	0.251U ± 0.226 (0.429) C:95% T:NA	pCi/L	03/11/22 08:10	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.123U ± 0.379 (0.853) C:74% T:78%	pCi/L	02/25/22 11:54	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.374U ± 0.605 (1.28)	pCi/L	03/14/22 21:57	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

Sample: BC02134 MW-6 DUP **Lab ID: 30465804014** Collected: 01/31/22 14:38 Received: 02/09/22 10:46 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	0.209U ± 0.159 (0.257) C:93% T:NA	pCi/L	03/11/22 10:41	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.805 ± 0.363 (0.582) C:86% T:80%	pCi/L	02/25/22 15:04	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	1.01 ± 0.522 (0.839)	pCi/L	03/14/22 21:57	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

Sample: BC02135 MW-7 **Lab ID: 30465804015** Collected: 01/31/22 15:45 Received: 02/09/22 10:46 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	0.0784U ± 0.115 (0.246) C:97% T:NA	pCi/L	03/11/22 10:41	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	0.395U ± 0.347 (0.691) C:79% T:74%	pCi/L	02/25/22 15:04	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.473U ± 0.462 (0.937)	pCi/L	03/14/22 21:57	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

Sample: BC02136 MW-8 **Lab ID: 30465804016** Collected: 02/01/22 08:50 Received: 02/09/22 10:46 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	0.0988U ± 0.130 (0.268) C:83% T:NA	pCi/L	03/11/22 10:41	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.544U ± 0.381 (0.732) C:81% T:82%	pCi/L	02/25/22 15:04	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.643U ± 0.511 (1.000)	pCi/L	03/14/22 21:57	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

Sample: BC02137 MW-10 **Lab ID: 30465804017** Collected: 02/01/22 10:50 Received: 02/09/22 10:46 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	-0.0315U ± 0.0853 (0.280) C:94% T:NA	pCi/L	03/11/22 10:41	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.0120U ± 0.329 (0.769) C:76% T:76%	pCi/L	02/25/22 15:04	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.0120U ± 0.414 (1.05)	pCi/L	03/14/22 21:57	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

Sample: BC02138 MW-11 **Lab ID: 30465804018** Collected: 02/01/22 12:17 Received: 02/09/22 10:46 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	0.196U ± 0.144 (0.224) C:100% T:NA	pCi/L	03/11/22 10:41	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.687U ± 0.398 (0.714) C:81% T:75%	pCi/L	02/25/22 15:04	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.883U ± 0.542 (0.938)	pCi/L	03/14/22 21:57	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

Sample: BC02139 FB-2 **Lab ID: 30465804019** Collected: 02/01/22 13:30 Received: 02/09/22 10:46 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	0.112U ± 0.144 (0.299) C:100% T:NA	pCi/L	03/11/22 10:41	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.0391U ± 0.294 (0.679) C:82% T:82%	pCi/L	02/25/22 15:04	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.151U ± 0.438 (0.978)	pCi/L	03/14/22 21:57	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

Sample: BC02140 MW-12V **Lab ID: 30465804020** Collected: 02/01/22 09:55 Received: 02/09/22 10:46 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	0.119U ± 0.138 (0.271) C:101% T:NA	pCi/L	03/11/22 12:27	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.893U ± 0.917 (1.90) C:81% T:31%	pCi/L	03/04/22 10:49	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	1.01U ± 1.06 (2.17)	pCi/L	03/14/22 21:56	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

Sample: BC02141 MW-12 **Lab ID: 30465804021** Collected: 02/01/22 10:55 Received: 02/09/22 10:46 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	0.264U ± 0.191 (0.309) C:99% T:NA	pCi/L	03/11/22 12:27	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.862U ± 0.508 (0.926) C:81% T:63%	pCi/L	03/04/22 10:49	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	1.13U ± 0.699 (1.24)	pCi/L	03/14/22 21:56	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

Sample: BC02122 MW-14 MS **Lab ID: 30465804022** Collected: 01/31/22 11:16 Received: 02/09/22 10:46 Matrix: Water

PWS: Site ID: Sample Type:

Comments: • Sample is a Matrix Spike of 30465804 002.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	99.74 %REC ± NA (NA) C:NA T:NA	pCi/L	03/11/22 10:41	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	90.91 %REC ± NA (NA) C:NA T:NA	pCi/L	02/25/22 10:57	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

Sample: BC02122 MW-14 MSD **Lab ID: 30465804023** Collected: 01/31/22 11:16 Received: 02/09/22 10:46 Matrix: Water

PWS: Site ID: Sample Type:

Comments: • Sample is a Matric Spike Duplicate of 30465804 002.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	94.33 %REC 5.57RPD ± NA (NA) C:NA T:NA	pCi/L	03/11/22 10:41	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	79.74 %REC 13.10 RPD ± NA (NA) C:NA T:NA	pCi/L	02/25/22 10:57	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

Sample: BC02130 MW-20 MS **Lab ID: 30465804024** Collected: 02/01/22 12:03 Received: 02/09/22 10:46 Matrix: Water

PWS: Site ID: Sample Type:

Comments: • Sample is a Matrix Spike of 30465804 010.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	99.59 %REC ± NA (NA) C:NA T:NA	pCi/L	03/11/22 12:27	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	79.35 %REC ± NA (NA) C:NA T:NA	pCi/L	03/04/22 10:48	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

Sample: BC02130 MW-20 MSD **Lab ID: 30465804025** Collected: 02/01/22 12:03 Received: 02/09/22 10:46 Matrix: Water
PWS: Site ID: Sample Type:

Comments: • Sample is a Matrix Spike Duplicate of 30465804 010.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	90.23 %REC 9.86RPD ± NA (NA) C:NA T:NA	pCi/L	03/11/22 12:27	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	86.39 %REC 8.50 RPD ± NA (NA) C:NA T:NA	pCi/L	03/04/22 10:49	15262-20-1	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

QC Batch:	484774	Analysis Method:	EPA 9320
QC Batch Method:	EPA 9320	Analysis Description:	9320 Radium 228
		Laboratory:	Pace Analytical Services - Greensburg

Associated Lab Samples: 30465804001, 30465804002, 30465804003, 30465804004, 30465804005, 30465804006, 30465804007, 30465804008, 30465804009, 30465804011, 30465804012, 30465804013, 30465804014, 30465804015, 30465804016, 30465804017, 30465804018, 30465804019, 30465804022, 30465804023

METHOD BLANK: 2344490 Matrix: Water

Associated Lab Samples: 30465804001, 30465804002, 30465804003, 30465804004, 30465804005, 30465804006, 30465804007, 30465804008, 30465804009, 30465804011, 30465804012, 30465804013, 30465804014, 30465804015, 30465804016, 30465804017, 30465804018, 30465804019, 30465804022, 30465804023

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.157 ± 0.263 (0.573) C:81% T:82%	pCi/L	02/25/22 10:58	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

QC Batch: 484775

Analysis Method: EPA 9315

QC Batch Method: EPA 9315

Analysis Description: 9315 Total Radium

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 30465804001, 30465804002, 30465804003, 30465804004, 30465804005, 30465804006, 30465804007, 30465804008, 30465804009, 30465804011, 30465804012, 30465804013, 30465804014, 30465804015, 30465804016, 30465804017, 30465804018, 30465804019, 30465804022, 30465804023

METHOD BLANK: 2344491

Matrix: Water

Associated Lab Samples: 30465804001, 30465804002, 30465804003, 30465804004, 30465804005, 30465804006, 30465804007, 30465804008, 30465804009, 30465804011, 30465804012, 30465804013, 30465804014, 30465804015, 30465804016, 30465804017, 30465804018, 30465804019, 30465804022, 30465804023

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0425 ± 0.0658 (0.143) C:96% T:NA	pCi/L	03/11/22 08:10	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

QC Batch: 486655

Analysis Method: EPA 9320

QC Batch Method: EPA 9320

Analysis Description: 9320 Radium 228

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 30465804010, 30465804020, 30465804021, 30465804024, 30465804025

METHOD BLANK: 2353489

Matrix: Water

Associated Lab Samples: 30465804010, 30465804020, 30465804021, 30465804024, 30465804025

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.511 ± 0.307 (0.554) C:83% T:86%	pCi/L	03/04/22 10:48	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

QC Batch: 485927

Analysis Method: EPA 9315

QC Batch Method: EPA 9315

Analysis Description: 9315 Total Radium

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 30465804010, 30465804020, 30465804021, 30465804024, 30465804025

METHOD BLANK: 2349793

Matrix: Water

Associated Lab Samples: 30465804010, 30465804020, 30465804021, 30465804024, 30465804025

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0728 ± 0.0744 (0.139) C:99% T:NA	pCi/L	03/11/22 12:27	

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QUALIFIERS

Project: WMWGORLF_1349

Pace Project No.: 30465804

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WMWGORLF_1349
Pace Project No.: 30465804

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30465804001	BC02121 MW-13	EPA 9315	484775		
30465804002	BC02122 MW-14	EPA 9315	484775		
30465804003	BC02123 MW-15	EPA 9315	484775		
30465804004	BC02124 FB-1	EPA 9315	484775		
30465804005	BC02125 MW-16	EPA 9315	484775		
30465804006	BC02126 MW-16 DUP	EPA 9315	484775		
30465804007	BC02127MW-17R	EPA 9315	484775		
30465804008	BC02128 MW-18	EPA 9315	484775		
30465804009	BC02129 MW-19	EPA 9315	484775		
30465804010	BC02130 MW-20	EPA 9315	485927		
30465804011	BC02131 EB-1	EPA 9315	484775		
30465804012	BC02132 MW-5	EPA 9315	484775		
30465804013	BC02133 MW-6	EPA 9315	484775		
30465804014	BC02134 MW-6 DUP	EPA 9315	484775		
30465804015	BC02135 MW-7	EPA 9315	484775		
30465804016	BC02136 MW-8	EPA 9315	484775		
30465804017	BC02137 MW-10	EPA 9315	484775		
30465804018	BC02138 MW-11	EPA 9315	484775		
30465804019	BC02139 FB-2	EPA 9315	484775		
30465804020	BC02140 MW-12V	EPA 9315	485927		
30465804021	BC02141 MW-12	EPA 9315	485927		
30465804022	BC02122 MW-14 MS	EPA 9315	484775		
30465804023	BC02122 MW-14 MSD	EPA 9315	484775		
30465804024	BC02130 MW-20 MS	EPA 9315	485927		
30465804025	BC02130 MW-20 MSD	EPA 9315	485927		
30465804001	BC02121 MW-13	EPA 9320	484774		
30465804002	BC02122 MW-14	EPA 9320	484774		
30465804003	BC02123 MW-15	EPA 9320	484774		
30465804004	BC02124 FB-1	EPA 9320	484774		
30465804005	BC02125 MW-16	EPA 9320	484774		
30465804006	BC02126 MW-16 DUP	EPA 9320	484774		
30465804007	BC02127MW-17R	EPA 9320	484774		
30465804008	BC02128 MW-18	EPA 9320	484774		
30465804009	BC02129 MW-19	EPA 9320	484774		
30465804010	BC02130 MW-20	EPA 9320	486655		
30465804011	BC02131 EB-1	EPA 9320	484774		
30465804012	BC02132 MW-5	EPA 9320	484774		
30465804013	BC02133 MW-6	EPA 9320	484774		
30465804014	BC02134 MW-6 DUP	EPA 9320	484774		
30465804015	BC02135 MW-7	EPA 9320	484774		
30465804016	BC02136 MW-8	EPA 9320	484774		
30465804017	BC02137 MW-10	EPA 9320	484774		
30465804018	BC02138 MW-11	EPA 9320	484774		
30465804019	BC02139 FB-2	EPA 9320	484774		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WMWGORLF_1349
Pace Project No.: 30465804

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30465804020	BC02140 MW-12V	EPA 9320	486655		
30465804021	BC02141 MW-12	EPA 9320	486655		
30465804022	BC02122 MW-14 MS	EPA 9320	484774		
30465804023	BC02122 MW-14 MSD	EPA 9320	484774		
30465804024	BC02130 MW-20 MS	EPA 9320	486655		
30465804025	BC02130 MW-20 MSD	EPA 9320	486655		
30465804001	BC02121 MW-13	Total Radium Calculation	490239		
30465804002	BC02122 MW-14	Total Radium Calculation	490239		
30465804003	BC02123 MW-15	Total Radium Calculation	490239		
30465804004	BC02124 FB-1	Total Radium Calculation	490239		
30465804005	BC02125 MW-16	Total Radium Calculation	490239		
30465804006	BC02126 MW-16 DUP	Total Radium Calculation	490239		
30465804007	BC02127MW-17R	Total Radium Calculation	490239		
30465804008	BC02128 MW-18	Total Radium Calculation	490239		
30465804009	BC02129 MW-19	Total Radium Calculation	490239		
30465804010	BC02130 MW-20	Total Radium Calculation	490238		
30465804011	BC02131 EB-1	Total Radium Calculation	490239		
30465804012	BC02132 MW-5	Total Radium Calculation	490239		
30465804013	BC02133 MW-6	Total Radium Calculation	490239		
30465804014	BC02134 MW-6 DUP	Total Radium Calculation	490239		
30465804015	BC02135 MW-7	Total Radium Calculation	490239		
30465804016	BC02136 MW-8	Total Radium Calculation	490239		
30465804017	BC02137 MW-10	Total Radium Calculation	490239		
30465804018	BC02138 MW-11	Total Radium Calculation	490239		
30465804019	BC02139 FB-2	Total Radium Calculation	490239		
30465804020	BC02140 MW-12V	Total Radium Calculation	490238		
30465804021	BC02141 MW-12	Total Radium Calculation	490238		

REPORT OF LABORATORY ANALYSIS

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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
 Address: 744 Highway 87 GSC Bldg #8
 Calera, AL 35040
 Email To: lbmidkiff@southernco.com
 Phone: 205-664-6197
 Requested Due Date: Normal

Section B
Required Project Information:
 Report To: Laura Midkiff
 Copy To: Brooke Caton & Renee Jernigan
 Purchase Order #: APC-10700668
 Project Name: Plant Gorgas CCB Landfills
 Project Number: WMWGORLP_1349

Section C
Invoice Information:
 Attention: Laura Midkiff
 Company Name: Alabama Power Co.
 Address: 744 Highway 87 GSC Bldg #8
 Pace Quote: CCR
 Pace Project Manager: Heather Demmonson
 Pace Profile #: 13805

Regulatory Agency:
State / Location: AL

ITEM #	Description	Station Name Location Code	Site Name Facility ID	Matrix Spike/Matrix Spike Duplicate	Field Filtered	MATRIX CODE	COLLECTED		# OF CONTAINERS	Preservatives	Y/N	Requested Analysis Filtered (Y/N)		Residual Chlorine (Y/N)
							DATE	TIME				DATE	TIME	
1	BC02121	APCO-GS-CCB-MW-13	APCO_Gorgas_CCB_Landfills			GW	G	1/31/2022	10:18	1		X	X	
2	BC02122	APCO-GS-CCB-MW-14	APCO_Gorgas_CCB_Landfills	X		GW	G	1/31/2022	11:16	3		X	X	
3	BC02123	APCO-GS-CCB-MW-15	APCO_Gorgas_CCB_Landfills			GW	G	1/31/2022	12:12	1		X	X	
4	BC02124	APCO-GS-CCB-MW-EB-1	APCO_Gorgas_CCB_Landfills			GW	G	1/31/2022	12:45	1		X	X	
5	BC02125	APCO-GS-CCB-MW-16	APCO_Gorgas_CCB_Landfills			GW	G	1/31/2022	13:13	1		X	X	
6	BC02126	MW-16 DUP	APCO_Gorgas_CCB_Landfills	X		GW	G	1/31/2022	13:13	1		X	X	
7	BC02127	APCO-GS-CCB-MW-17R	APCO_Gorgas_CCB_Landfills			GW	G	1/31/2022	14:21	1		X	X	
8	BC02128	APCO-GS-CCB-MW-18	APCO_Gorgas_CCB_Landfills			GW	G	1/31/2022	15:25	1		X	X	
9	BC02129	APCO-GS-CCB-MW-19	APCO_Gorgas_CCB_Landfills			GW	G	2/1/2022	10:54	1		X	X	
10	BC02130	APCO-GS-CCB-MW-20	APCO_Gorgas_CCB_Landfills	X		GW	G	2/1/2022	12:03	3		X	X	
11	BC02131	APCO-GS-CCB-MW-EB-1	APCO_Gorgas_CCB_Landfills			GW	G	2/1/2022	12:35	1		X	X	
12														

ADDITIONAL COMMENTS

RELINQUISHED BY / AFFILIATION: Laura Midkiff APC-GTL
 DATE: 2/2/2022
 TIME: 9:05

ACCEPTED BY / AFFILIATION: *[Signature]*
 DATE: 2/1/2022
 TIME: 10:16

TEMP in C

Received on (Y/N)

Sealed (Y/N)

Cooler (Y/N)

Interact Samples (Y/N)

PRINT Name of SAMPLER: Dallas Gentry
 SIGNATURE of SAMPLER: *[Signature]*
 DATE Signed:

WO#: 30465804



30465804

Pittsburgh Lab Sample Condition Upon Receipt



Client Name: Alabama Power

Project # _____

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Tracking #: 5557 2008 6257

Label	<u>RAE</u>
LIMS Login	<u>RAE</u>

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#			Date and initials of person examining contents:	
	Yes	No	N/A	<u>2/16/20 RAE</u>	
Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>HCL09501</u>	
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Sample Labels match COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
-Includes date/time/ID Matrix: <u>WT</u>					
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Short Hold Time Analysis (<72hr remaining):	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Rush Turn Around Time Requested:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Correct Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
-Pace Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Orthophosphate field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Hex Cr Aqueous sample field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Organic Samples checked for dechlorination:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Filtered volume received for Dissolved tests	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
All containers have been checked for preservation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix				<u>pHca</u>	
All containers meet method preservation requirements.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Initial when completed: <u>RAE</u>	Date/time of preservation: _____
				Lot # of added preservative: _____	
Headspace in VOA Vials (>6mm):	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Trip Blank Present:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Trip Blank Custody Seals Present	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Rad Samples Screened < 0.5 mrem/hr	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Initial when completed: <u>RAE</u>	Date: <u>2/16/20</u> Survey Meter SN: <u>2514390</u>

WO#: 30465804
 PM: AES Due Date: 03/02/22
 CLIENT: ALABAMA PWR

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: _____

A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.



Quality Control Sample Performance Assessment

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test: Ra-228
 Analyst: VAL
 Date: 3/2/2022
 Worklist: 65308
 Matrix: W1

Method Blank Assessment	
MB Sample ID	2353489
MB concentration:	0.511
MB 2 Sigma CSU:	0.307
MB MDC:	0.554
MB Numerical Performance Indicator:	3.27
MB Status vs Numerical Indicator:	Fail
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment		LCSD (Y or N)?	N
Count Date:	3/4/2022	LCSD65308	LCSD65308
Spike ID:	21-029		
Decay Corrected Spike Concentration (pCi/mL):	36.128		
Volume Used (mL):	0.10		
Aliquot Volume (L, g, F):	0.817		
Target Conc. (pCi/mL, g, F):	4.421		
Uncertainty (Calculated):	0.217		
Result (pCi/mL, g, F):	3.377		
LCSD/CSU 2 Sigma CSU (pCi/mL, g, F):	0.855		
Numerical Performance Indicator:	-2.32		
Percent Recovery:	76.38%		
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 LCSD/CSU in the space below.
Duplicate Sample I.D.:	
Sample Result (pCi/mL, g, F):	
Sample Result 2 Sigma CSU (pCi/mL, g, F):	
Sample Duplicate Result (pCi/mL, g, F):	
Sample Duplicate Result 2 Sigma CSU (pCi/mL, 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:
 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.

243/8/22

Sample Matrix Spike Control Assessment		MS/MSD 1	MS/MSD 2
Sample Collection Date:	2/1/2022		
Sample I.D.:	30465804010		
Sample MS I.D.:	30465804024		
Sample MSD I.D.:	30465804025		
Spike I.D.:	21-029		
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	36.499		
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/mL, g, F):	9.095		
MSD Aliquot (L, g, F):	0.816		
MSD Target Conc. (pCi/mL, g, F):	8.951		
MS Spike Uncertainty (calculated):	0.446		
MSD Spike Uncertainty (calculated):	0.439		
MS/MSD Upper % Recovery Limits:	0.524		
MS/MSD Lower % Recovery Limits:	60%		
Sample Result:	0.338		
Sample Result 2 Sigma CSU (pCi/mL, g, F):	7.740		
Sample Matrix Spike Result:	1.677		
Sample Matrix Spike Duplicate Result:	8.256		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/mL, g, F):	1.682		
MS Numerical Performance Indicator:	-2.083		
MSD Numerical Performance Indicator:	-1.348		
MS Percent Recovery:	79.39%		
MSD Percent Recovery:	86.39%		
MS Status vs Numerical Indicator:	Warning		
MSD Status vs Numerical Indicator:	Pass		
MS Status vs Recovery:	Pass		
MSD Status vs Recovery:	Pass		
Upper % Recovery Limits:	135%		
Lower % Recovery Limits:	60%		

Matrix Spike/Matrix Spike Duplicate Sample Assessment	
Sample I.D.:	30465804010
Sample MS I.D.:	30465804024
Sample MSD I.D.:	30465804025
Sample Matrix Spike Result:	7.740
Matrix Spike Result 2 Sigma CSU (pCi/mL, g, F):	1.677
Sample Matrix Spike Duplicate Result:	8.256
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/mL, g, F):	1.682
Duplicate Numerical Performance Indicator:	-0.426
Duplicate Percent Recovery:	8.50%
Duplicate Status vs Numerical Indicator:	Pass
Duplicate Status vs RPD:	Pass
% RPD Limit:	36%

30465804025

Quality Control Sample Performance Assessment



Test: Ra-226
 Analyst: JC2
 Date: 2/23/2022
 Worklist: 65175
 Matrix: DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2344491
MB Concentration:	0.043
MB Counting Uncertainty:	0.065
MB MDC:	0.143
MB Numerical Performance Indicator:	1.27
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment		
Count Date:	LCSD (Y or N)?	Y
Sample I.D.:	LCSD65175	LCSD65175
Decay Corrected Spike Concentration (pCi/mL):	3/11/2022	3/11/2022
Volume Used (mL):	19-033	19-033
Aliquot Volume (L, g, F):	24.029	24.029
Target Conc. (pCi/L, g, F):	0.10	0.10
Uncertainty (Calculated):	0.514	0.515
Result (pCi/L, g, F):	4.678	4.665
LCSD/LCSD Counting Uncertainty (pCi/L, g, F):	0.056	0.056
Numerical Performance Indicator:	4.710	4.725
Percent Recovery:	0.446	0.450
Status vs Numerical Indicator:	0.14	0.26
Status vs Recovery:	100.67%	101.29%
Upper % Recovery Limits:	N/A	N/A
Lower % Recovery Limits:	Pass	Pass
	125%	125%
	75%	75%

Duplicate Sample Assessment	
Sample I.D.:	LCSD65175
Duplicate Sample I.D.:	30465804001
Sample Result (pCi/L, g, F):	4.710
Duplicate Result (pCi/L, g, F):	0.266
Sample Result Counting Uncertainty (pCi/L, g, F):	0.446
Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.387
Sample Duplicate Result (pCi/L, g, F):	4.725
Duplicate Duplicate Result (pCi/L, g, F):	0.166
Are sample and/or duplicate results below RL?	NO
Duplicate Numerical Performance Indicator:	-0.047
(Based on the LCSD/LCSD Percent Recoveries) Duplicate RPD:	0.61%
Duplicate Status vs Numerical Indicator:	N/A
Duplicate Status vs RPD:	Pass
% RPD Limit:	25%

Sample Matrix Spike Control Assessment		MS/MSD 1	MS/MSD 2
Sample Collection Date:	3/11/2022	MS/MSD 1	MS/MSD 2
Sample I.D.:	30465804002	1/31/2022	
Duplicate Sample I.D.:	30465804022	30465804022	
Sample MSD I.D.:	30465804023	30465804023	
Spike I.D.:	19-033	19-033	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	24.030	24.030	
Spike Volume Used in MS (mL):	0.20	0.20	
MS Aliquot (L, g, F):	0.272	0.272	
MS Target Conc. (pCi/L, g, F):	17.643	17.643	
MSD Aliquot (L, g, F):	0.284	0.284	
MSD Target Conc. (pCi/L, g, F):	16.941	16.941	
MS Spike Uncertainty (calculated):	0.212	0.212	
MSD Spike Uncertainty (calculated):	0.203	0.203	
Sample Result:	0.204	0.204	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.154	0.154	
Sample Matrix Spike Result:	17.801	17.801	
Sample Matrix Spike Duplicate Result:	16.185	16.185	
MS Numerical Performance Indicator:	1.161	1.161	
MSD Numerical Performance Indicator:	-1.582	-1.582	
MS Percent Recovery:	99.74%	99.74%	
MSD Percent Recovery:	94.33%	94.33%	
MS Status vs Numerical Indicator:	N/A	N/A	
MSD Status vs Numerical Indicator:	N/A	N/A	
MS Status vs Recovery:	Pass	Pass	
MSD Status vs Recovery:	Pass	Pass	
MS/MSD Upper % Recovery Limits:	125%	125%	
MS/MSD Lower % Recovery Limits:	75%	75%	

Matrix Spike/Matrix Duplicate Sample Assessment	
Sample I.D.:	30465804002
Duplicate Sample I.D.:	30465804022
Sample MS I.D.:	30465804023
Sample MSD I.D.:	30465804023
Sample Matrix Spike Result:	17.801
Sample Matrix Spike Duplicate Result:	1.186
Sample Matrix Spike Counting Uncertainty (pCi/L, g, F):	1.186
Sample Matrix Spike Duplicate Counting Uncertainty (pCi/L, g, F):	1.161
Duplicate Numerical Performance Indicator:	1.907
(Based on the Percent Recoveries) MS/MSD Duplicate RPD:	5.57%
MS/MSD Duplicate Status vs Numerical Indicator:	N/A
MS/MSD 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:

***Batch must be re-prepped due to unacceptable precision. N/A

WAM 3/11/22

WAM 3/11/22

WAM 3/11/22

Quality Control Sample Performance Assessment



Test: Ra-226
Analyst: JJC2
Date: 2/24/2022
Worklist: 65252
Matrix: DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2349793
MB Concentration:	0.073
MB Counting Uncertainty:	0.074
MB MDC:	0.139
MB Numerical Performance Indicator:	1.94
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment		LCS (Y or N)?	LCS DP65252
Count Date:	3/17/2022		
Spike I.D.:	19-033		
Decay Corrected Spike Concentration (pCi/mL):	24.029		
Volume Used (mL):	0.10		
Aliquot Volume (L, g, F):	0.508		
Target Conc. (pCi/L, g, F):	4.729		
Uncertainty (Calculated):	0.057		
Result (pCi/L, g, F):	4.852		
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.464		
Numerical Performance Indicator:	0.52		
Percent Recovery:	102.60%		
Status vs Numerical Indicator:	N/A		
Status vs Recovery:	Pass		
Upper % Recovery Limits:	125%		
Lower % Recovery Limits:	75%		

Duplicate Sample Assessment	
Sample I.D.:	Duplicate Sample I.D.:
Sample Result (pCi/L, g, F):	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):	Sample Duplicate Result Counting Uncertainty (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 RPD:
Duplicate Status vs Numerical Indicator:	Duplicate Status vs Numerical Indicator:
Duplicate Status vs RPD:	Duplicate Status vs RPD:
% RPD Limit:	% RPD Limit:

Sample Matrix Spike Control Assessment		MS/MSD 1	MS/MSD 2
Sample Collection Date:	2/1/2022		
Sample I.D.:	30465804010		
Sample MS I.D.:	30465804024		
Sample MSD I.D.:	30465804025		
Spike I.D.:	19-033		
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	24.030		
Spike Volume Used in MS (mL):	0.20		
Spike Volume Used in MSD (mL):	0.20		
MS Aliquot (L, g, F):	0.251		
MS Target Conc. (pCi/L, g, F):	19.115		
MSD Aliquot (L, g, F):	0.255		
MSD Target Conc. (pCi/L, g, F):	18.846		
MSD Spike Uncertainty (calculated):	0.229		
MSD Spike Uncertainty (calculated):	0.226		
Sample Result:	0.117		
Sample Result Counting Uncertainty (pCi/L, g, F):	0.168		
Sample Matrix Spike Result:	19.262		
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	1.304		
Sample Matrix Spike Duplicate Result:	17.231		
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	1.289		
MS Numerical Performance Indicator:	-0.115		
MSD Numerical Performance Indicator:	-2.734		
MS Percent Recovery:	99.58%		
MSD Percent Recovery:	90.23%		
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.:	30465804010
Sample MS I.D.:	30465804024
Sample MSD I.D.:	30465804025
Sample Matrix Spike Result:	19.262
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	1.304
Sample Matrix Spike Duplicate Result:	17.231
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	1.289
Duplicate Numerical Performance Indicator:	2.172
(Based on the Percent Recoveries) MS/MSD Duplicate RPD:	9.98%
MS/MSD Duplicate Status vs Numerical Indicator:	N/A
MS/MSD 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:

QC 3/14/22

WAM 3/14/22

Quality Control Sample Performance Assessment



Test: Ra-226
 Analyst: JIC2
 Date: 2/24/2022
 Worklist: 65252
 Matrix: DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2349793
MB Concentration:	0.073
MB Counting Uncertainty:	0.074
MB MDC:	0.139
MB Numerical Performance Indicator:	1.94
MB Status vs Numerical Indicator:	N/A
MB Status vs MDC:	Pass

Laboratory Control Sample Assessment		LCSD (Y or N)?	LCSD65252
Count Date:	3/11/2022		
Spike I.D.:	19-033		
Decay Corrected Spike Concentration (pCi/mL):	24.029		
Volume Used (mL):	0.10		
Aliquot Volume (L, g, F):	0.508		
Target Conc. (pCi/L, g, F):	4.729		
Uncertainty (Calculated):	0.057		
Result (pCi/L, g, F):	4.852		
LCSD Counting Uncertainty (pCi/L, g, F):	0.464		
Numerical Performance Indicator:	0.52		
Percent Recovery:	102.60%		
Status vs Numerical Indicator:	N/A		
Status vs Recovery:	Pass		
Upper % Recovery Limits:	125%		
Lower % Recovery Limits:	75%		

Duplicate Sample Assessment		LCSD (Y or N)?	LCSD65252
Sample I.D.:	Duplicate Sample I.D.:		
Sample Result (pCi/L, g, F):	Sample Result (pCi/L, g, F):		
Sample Result Counting Uncertainty (pCi/L, g, F):	Sample Result Counting Uncertainty (pCi/L, g, F):		
Sample Duplicate Result (pCi/L, g, F):	Sample Duplicate Result (pCi/L, g, F):		
Sample Duplicate Counting Uncertainty (pCi/L, g, F):	Sample Duplicate Counting Uncertainty (pCi/L, g, F):		
Are sample and/or duplicate results below RL?	See Below ##		
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:	2/9/2022		
Sample I.D.:	30467365002		
Sample MS I.D.:	30467365005		
Sample MSD I.D.:	30467365006		
Spike I.D.:	19-033		
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	24.030		
Spike Volume Used in MS (mL):	0.20		
Spike Volume Used in MSD (mL):	0.20		
MS Aliquot (L, g, F):	0.253		
MS Target Conc.(pCi/L, g, F):	19.016		
MSD Aliquot (L, g, F):	0.251		
MSD Target Conc. (pCi/L, g, F):	19.134		
MS Spike Uncertainty (calculated):	0.228		
MSD Spike Uncertainty (calculated):	0.230		
Sample Result:	0.139		
Sample Matrix Spike Result:	0.153		
Sample Result Counting Uncertainty (pCi/L, g, F):	20.651		
Sample Matrix Spike Result:	1.359		
Sample Matrix Spike Duplicate Result:	17.738		
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	1.289		
MS Numerical Performance Indicator:	2.114		
MS Percent Recovery:	-2.317		
MSD Percent Recovery:	107.87%		
MS Status vs Numerical Indicator:	91.98%		
MSD Status vs Numerical Indicator:	N/A		
MS Status vs Recovery:	N/A		
MSD Status vs Recovery:	Pass		
MS/MSD Upper % Recovery Limits:	Pass		
MS/MSD Lower % Recovery Limits:	125%		
	75%		

Matrix Spike/Matrix Spike Duplicate Sample Assessment		MS/MSD 1	MS/MSD 2
Sample I.D.:	30467365002		
Sample MS I.D.:	30467365005		
Sample MSD I.D.:	30467365006		
Sample Matrix Spike Result:	20.651		
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	1.359		
Sample Matrix Spike Duplicate Result:	17.738		
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	1.269		
Duplicate Numerical Performance Indicator:	3.071		
(Based on the Percent Recoveries) MS/MSD Duplicate RPD:	15.90%		
MS/MSD Duplicate Status vs Numerical Indicator:	N/A		
MS/MSD Duplicate Status vs RPD:	Pass		
MS/MSD Duplicate Status vs RPD:	25%		
% RPD Limit:			

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.
 Comments:

3/11/22

AM 3/14/22



Quality Control Sample Performance Assessment

Test: Ra-228
Analyst: JC2
Date: 2/23/2022
Worklist: 65174
Matrix: WT

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment		
MB Sample ID	2344490	
MB concentration:	0.157	
M/B 2 Sigma CSU:	0.263	
MB MDC:	0.573	
MB Numerical Performance Indicator:	1.17	
MB Status vs Numerical Indicator:	Pass	
MB Status vs. MDC:	Pass	

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
		LCS65174
Count Date:	2/25/2022	
Spike I.D.:	21-029	
Decay Corrected Spike Concentration (pCi/mL):	36.211	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.817	
Target Conc. (pCi/L, g, F):	4.434	
Uncertainty (Calculated):	0.217	
Result (pCi/L, g, F):	3.636	
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	0.863	
Numerical Performance Indicator:	-1.76	
Percent Recovery:	82.00%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	135%	
Lower % Recovery Limits:	60%	

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Sample Collection Date:	1/31/2022	
Sample I.D.:	30465804002	
Sample MS I.D.:	30465804022	
Sample MSD I.D.:	30465804023	
Spike I.D.:	21-029	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	36.511	
Spike Volume Used in MS (mL):	0.20	
Spike Volume Used in MSD (mL):	0.20	
MS Aliquot (L, g, F):	0.806	
MS Target Conc. (pCi/L, g, F):	9.059	
MSD Aliquot (L, g, F):	0.813	
MSD Target Conc. (pCi/L, g, F):	8.982	
MS Spike Uncertainty (calculated):	0.444	
MSD Spike Uncertainty (calculated):	0.440	
Sample Result:	0.511	
Sample Result 2 Sigma CSU (pCi/L, g, F):	0.343	
Sample Matrix Spike Result:	8.746	
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):	1.760	
Sample Matrix Spike Duplicate Result:	7.673	
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.558	
MS Numerical Performance Indicator:	-0.873	
MSD Numerical Performance Indicator:	-2.156	
MS Percent Recovery:	90.91%	
MSD Percent Recovery:	79.74%	
MS Status vs Numerical Indicator:	Pass	
MSD Status vs Numerical Indicator:	Warning	
MS Status vs Recovery:	Pass	
MSD Status vs Recovery:	Pass	
MS/MSD Upper % Recovery Limits:	135%	
MS/MSD Lower % Recovery Limits:	60%	

Duplicate Sample Assessment		
Sample I.D.:		Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
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?	See Below ##	
Duplicate Numerical Performance Indicator:		
Duplicate RPD:		
Duplicate Status vs Numerical Indicator:		
Duplicate Status vs RPD:		
% RPD Limit:		

Matrix Spike/Matrix Spike Duplicate Sample Assessment		
Sample I.D.:	30465804002	
Sample MS I.D.:	30465804022	
Sample MSD I.D.:	30465804023	
Sample Matrix Spike Result:	8.746	
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):	1.760	
Sample Matrix Spike Duplicate Result:	7.673	
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.558	
Duplicate Numerical Performance Indicator:	0.895	
(Based on the Percent Recoveries) MS/MSD Duplicate RPD:	13.10%	
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:

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

Analytical Report



Sample Group : WMWGORPU_1347

Project/Site : Gorgas Pooled Upgradient
Parrish, AL 35580

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

Attention : Dustin Brooks & Greg Dyer

Released By : Laura Midkiff
lbmidkif@southernco.com
(205) 664-6197

February 28, 2022

Dear Dustin Brooks,

Enclosed are the analytical results for sample(s) received by the laboratory on January 26, 2022. 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, 2022

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

Sincerely,

Quality Control: **Laura Midkiff**
Digitally signed by Laura Midkiff
DN: cn=Laura Midkiff, o=Alabama Power
Company, ou=Environmental Affairs,
email=lmidkif@southernco.com, c=US
Date: 2022.02.28 13:48:03 -0600

Supervision: **T. Durant Maske**
Digitally signed by T. Durant Maske
DN: cn=T. Durant Maske, o=Alabama
Power Company, ou=Environmental
Affairs, email=tdmaske@southernco.com,
c=US
Date: 2022.03.02 14:46:25 -0600



REPORT OF LABORATORY ANALYSIS

This Certificate states the physical and/or chemical characteristics of the sample as submitted.
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Alabama Power's General Test Laboratory.



Total Metals ICP

Gorgas Pooled Upgradient

WMWGORPU_1347

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>
BC01605	716882	WMWGORPU_1347
BC01606	716882	WMWGORPU_1347
BC01607	716882	WMWGORPU_1347
BC01608	716882	WMWGORPU_1347
BC01609	716882	WMWGORPU_1347
BC01610	716882	WMWGORPU_1347
BC01611	716882	WMWGORPU_1347

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.
 - 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>
BC01605	Calcium, Magnesium	20.3
BC01606	Calcium, Magnesium	20.3
BC01607	Calcium, Magnesium	20.3
BC01608	Calcium, Magnesium, Sodium	20.3
BC01610	Calcium, Magnesium	20.3

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

Dissolved Metals ICP

Gorgas Pooled Upgradient

WMWGORPU_1347

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>
BC01605	716857	WMWGORPU_1347
BC01606	716857	WMWGORPU_1347
BC01607	716857	WMWGORPU_1347
BC01608	716857	WMWGORPU_1347
BC01610	716857	WMWGORPU_1347

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:
 - BC01610 Calcium and Magnesium MS/MSD spike levels were <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>
BC01605	Calcium, Magnesium	20.3
BC01606	Calcium, Magnesium	20.3
BC01607	Calcium, Magnesium	20.3
BC01608	Calcium, Magnesium, Sodium	20.3
BC01610	Calcium, Magnesium	20.3

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

Total Metals ICPMS

Gorgas Pooled Upgradient

WMWGORPU_1347

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>
BC01605	717096	WMWGORPU_1347
BC01606	717096	WMWGORPU_1347
BC01607	717096	WMWGORPU_1347
BC01608	717096	WMWGORPU_1347
BC01609	717096	WMWGORPU_1347
BC01610	717096	WMWGORPU_1347
BC01611	717096	WMWGORPU_1347

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>
BC01605	Manganese	10.15
BC01606	Manganese	10.15
BC01607	Manganese	10.15

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

Dissolved Metals ICPMS

Gorgas Pooled Upgradient

WMWGORPU_1347

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>
BC01605	717031	WMWGORPU_1347
BC01606	717031	WMWGORPU_1347
BC01607	717031	WMWGORPU_1347
BC01608	717031	WMWGORPU_1347
BC01610	717031	WMWGORPU_1347

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.
 - 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>
BC01605	Manganese	10.15
BC01606	Manganese	10.15
BC01607	Manganese	10.15

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

Mercury

Gorgas Pooled Upgradient

WMWGORPU_1347

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>
BC01605	716790	WMWGORPU_1347
BC01606	716790	WMWGORPU_1347
BC01607	716790	WMWGORPU_1347
BC01608	716790	WMWGORPU_1347
BC01609	716790	WMWGORPU_1347
BC01610	716790	WMWGORPU_1347
BC01611	716790	WMWGORPU_1347

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.
7. All samples were analyzed without a dilution.

TDS

Gorgas Pooled Upgradient

WMWGORPU_1347

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>
BC01605	716903	WMWGORPU_1347
BC01606	716903	WMWGORPU_1347
BC01607	716903	WMWGORPU_1347
BC01608	716903	WMWGORPU_1347
BC01609	716903	WMWGORPU_1347
BC01610	716903	WMWGORPU_1347
BC01611	716903	WMWGORPU_1347

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 $< 2.5\text{mg}$ had the maximum volume of 150mL filtered. Affected samples are as follows:
 - BC01609
 - BC01611

Anions

Gorgas Pooled Upgradient

WMWGORPU_1347

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>
BC01605	716855, 716997, & 717660	WMWGORPU_1347
BC01606	716855, 716997, & 717660	WMWGORPU_1347
BC01607	716855, 716997, & 717660	WMWGORPU_1347
BC01608	716855, 716997, & 717660	WMWGORPU_1347
BC01609	716855, 716997, & 717660	WMWGORPU_1347
BC01610	716855, 716997, & 717660	WMWGORPU_1347
BC01611	716855, 716997, & 717660	WMWGORPU_1347

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 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 was analyzed with each batch. Acceptance criteria for accuracy were met.
- A sample duplicate was analyzed with each batch. 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>
BC01605	Sulfate	40
BC01606	Sulfate	40
BC01607	Sulfate	40
BC01608	Sulfate	80
BC01610	Sulfate	80

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

Alkalinity

Gorgas Pooled Upgradient

WMWGORPU_1347

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>
BC01605	717127 & 717128	WMWGORPU_1347
BC01606	717127 & 717128	WMWGORPU_1347
BC01607	717127 & 717128	WMWGORPU_1347
BC01608	717127 & 717128	WMWGORPU_1347
BC01610	717127 & 717128	WMWGORPU_1347

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.

- The QC point used for batches 717127 & 717128 was from another project.

Nitrate-Nitrite

Gorgas Pooled Upgradient

WMWGORPU_1347

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>
BC01605	717152	WMWGORPU_1347
BC01606	717152	WMWGORPU_1347
BC01607	717152	WMWGORPU_1347
BC01608	717152	WMWGORPU_1347
BC01609	717152	WMWGORPU_1347
BC01610	717152	WMWGORPU_1347
BC01611	717152	WMWGORPU_1347

4. All of the above samples were prepared and analyzed for NO_x 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 by High Temperature Combustion

Gorgas Pooled Upgradient

WMWGORPU_1347

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>
BC01605	717527	WMWGORPU_1347
BC01606	717527	WMWGORPU_1347
BC01607	717527	WMWGORPU_1347
BC01608	717527	WMWGORPU_1347
BC01609	717527	WMWGORPU_1347
BC01610	717527	WMWGORPU_1347
BC01611	717527	WMWGORPU_1347

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 Pooled Upgradient - MW-1

Location Code: WMWGORPU

Collected: 1/25/22 10:15

Customer ID:

Submittal Date: 1/26/22 09:58

Laboratory ID Number: BC01605

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: EPA 200.7			Analyst: RDA		Preparation Method: EPA 1638				
* Boron, Total	1/27/22 10:03	1/28/22 10:37		1.015	Not Detected	mg/L	0.030000	0.1015	U
* Calcium, Total	1/27/22 10:03	1/28/22 11:18		20.3	150	mg/L	1.4007	8.12	
* Iron, Total	1/27/22 10:03	1/28/22 10:37		1.015	Not Detected	mg/L	0.008120	0.0406	U
* Lithium, Total	1/27/22 10:03	1/28/22 10:37		1.015	0.0239	mg/L	0.007105	0.01999956	
* Magnesium, Total	1/27/22 10:03	1/28/22 11:18		20.3	281	mg/L	0.4263	8.12	
Silica, Total (calc.)	1/27/22 10:03	1/28/22 10:37		1	24.8	mg/L			
Silicon, Total	1/27/22 10:03	1/28/22 10:37		1.015	11.6	mg/L	0.02030	0.25375	
* Sodium, Total	1/27/22 10:03	1/28/22 10:37		1.015	33.8	mg/L	0.03045	0.406	
Analytical Method: EPA 200.7			Analyst: RDA		Preparation Method: EPA 1638				
* Boron, Dissolved	1/27/22 09:52	1/28/22 09:22		1.015	Not Detected	mg/L	0.030000	0.1015	U
* Calcium, Dissolved	1/27/22 09:52	1/28/22 09:57		20.3	159	mg/L	1.4007	8.12	
* Iron, Dissolved	1/27/22 09:52	1/28/22 09:22		1.015	0.00966	mg/L	0.008120	0.0406	J
* Lithium, Dissolved	1/27/22 09:52	1/28/22 09:22		1.015	0.0237	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	1/27/22 09:52	1/28/22 09:57		20.3	294	mg/L	0.4263	8.12	
Silica, Dissolved (calc.)	1/27/22 09:52	1/28/22 09:22		1	25.3	mg/L			
Silicon, Dissolved	1/27/22 09:52	1/28/22 09:22		1.015	11.8	mg/L	0.02030	0.25375	
* Sodium, Dissolved	1/27/22 09:52	1/28/22 09:22		1.015	33.2	mg/L	0.03045	0.406	
Analytical Method: EPA 200.8			Analyst: ABB		Preparation Method: EPA 1638				
* Antimony, Total	1/27/22 09:55	1/27/22 15:16		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	1/27/22 09:55	1/27/22 15:16		1.015	0.123	mg/L	0.004060	0.01015	
* Arsenic, Total	1/27/22 09:55	1/27/22 15:16		1.015	0.000248	mg/L	0.000068	0.000203	
* Barium, Total	1/27/22 09:55	1/27/22 15:16		1.015	0.00980	mg/L	0.000102	0.000203	
* Beryllium, Total	1/27/22 09:55	1/27/22 15:16		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	1/27/22 09:55	1/27/22 15:16		1.015	0.00196	mg/L	0.000068	0.000203	
* Chromium, Total	1/27/22 09:55	1/27/22 15:16		1.015	0.000434	mg/L	0.000203	0.001015	J
* Cobalt, Total	1/27/22 09:55	1/27/22 15:16		1.015	0.0654	mg/L	0.000068	0.000203	
* Lead, Total	1/27/22 09:55	1/27/22 15:16		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	1/27/22 09:55	2/1/22 12:25		10.15	10.4	mg/L	0.000680	0.00203	
* Molybdenum, Total	1/27/22 09:55	1/27/22 15:16		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Potassium, Total	1/27/22 09:55	1/27/22 15:16		1.015	6.85	mg/L	0.169505	0.5075	

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Pooled Upgradient - MW-1

Location Code: WMWGORPU

Collected: 1/25/22 10:15

Customer ID:

Submittal Date: 1/26/22 09:58

Laboratory ID Number: BC01605

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	1/27/22 09:55	1/27/22 15:16		1.015	0.00216	mg/L	0.000508	0.001015	
* Thallium, Total	1/27/22 09:55	1/27/22 15:16		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 200.8		Analyst: ABB							
* Antimony, Dissolved	1/27/22 10:10	1/27/22 12:59		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	1/27/22 10:10	1/27/22 12:59		1.015	0.121	mg/L	0.004060	0.01015	
* Arsenic, Dissolved	1/27/22 10:10	1/27/22 12:59		1.015	0.000274	mg/L	0.000068	0.000203	
* Barium, Dissolved	1/27/22 10:10	1/27/22 12:59		1.015	0.00926	mg/L	0.000102	0.000203	
* Beryllium, Dissolved	1/27/22 10:10	1/27/22 12:59		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	1/27/22 10:10	1/27/22 12:59		1.015	0.00221	mg/L	0.000068	0.000203	
* Chromium, Dissolved	1/27/22 10:10	1/27/22 12:59		1.015	0.000354	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	1/27/22 10:10	1/27/22 12:59		1.015	0.0671	mg/L	0.000068	0.000203	
* Lead, Dissolved	1/27/22 10:10	1/27/22 12:59		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	1/27/22 10:10	2/1/22 11:43		10.15	10.1	mg/L	0.000680	0.00203	
* Molybdenum, Dissolved	1/27/22 10:10	1/27/22 12:59		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Potassium, Dissolved	1/27/22 10:10	1/27/22 12:59		1.015	7.10	mg/L	0.169505	0.5075	
* Selenium, Dissolved	1/27/22 10:10	1/27/22 12:59		1.015	0.00216	mg/L	0.000508	0.001015	
* Thallium, Dissolved	1/27/22 10:10	1/27/22 12:59		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	1/26/22 15:24	1/26/22 19:51		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: CES							
* Nitrogen, Nitrate/Nitrite	2/1/22 13:45	2/1/22 13:45		1	1.13	mg/L as N	0.20	0.3	
Analytical Method: SM 2320 B		Analyst: ALH							
Alkalinity, Total as CaCO3	1/31/22 09:50	1/31/22 13:00		1	21.6	mg/L		0.1	
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	1/27/22 11:00	1/28/22 13:33		1	2150	mg/L		100	
Analytical Method: SM 4500CO2 D		Analyst: ALH							
Bicarbonate Alkalinity, (calc.)	1/31/22 09:50	1/31/22 13:00		1	21.6	mg/L			
Carbonate Alkalinity, (calc.)	1/31/22 09:50	1/31/22 13:00		1	0.00	mg/L			
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	2/4/22 15:46	2/4/22 15:46		1	1.00	mg/L	1.00	2	J

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Pooled Upgradient - MW-1

Location Code: WMWGORPU

Collected: 1/25/22 10:15

Customer ID:

Submittal Date: 1/26/22 09:58

Laboratory ID Number: BC01605

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	1/26/22 15:15	1/26/22 15:15		1	2.09	mg/L	0.50	1	
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	1/27/22 11:04	1/27/22 11:04		1	0.101	mg/L	0.06	0.1	
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	2/7/22 13:09	2/7/22 13:09		40	1430	mg/L	20.00	40	
Analytical Method: Field Measurements		Analyst: TJD							
Conductivity	1/25/22 10:08	1/25/22 10:08			2248.18	uS/cm			FA
pH	1/25/22 10:08	1/25/22 10:08			5.11	SU			FA
Temperature	1/25/22 10:08	1/25/22 10:08			20.40	C			FA
Turbidity	1/25/22 10:08	1/25/22 10:08			1.07	NTU			FA

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORPU
Sample Date: 1/25/22 10:15
Customer ID:
Delivery Date: 1/26/22 09:58

Description: Gorgas Pooled Upgradient - MW-1

Laboratory ID Number: BC01605

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Prec		
BC01610	Aluminum, Dissolved	mg/L	0.000300	0.00880	0.100	0.104	0.103	0.104	0.0850 to 0.115	104	70.0 to 130	0.966	20.0
BC01611	Aluminum, Total	mg/L	0.000849	0.00880	0.100	0.100	0.104	0.104	0.0850 to 0.115	100	70.0 to 130	3.92	20.0
BC01610	Antimony, Dissolved	mg/L	0.0000892	0.00100	0.100	0.0984	0.0981	0.0977	0.0850 to 0.115	98.4	70.0 to 130	0.305	20.0
BC01611	Antimony, Total	mg/L	0.0000707	0.00100	0.100	0.0970	0.101	0.0957	0.0850 to 0.115	97.0	70.0 to 130	4.04	20.0
BC01610	Arsenic, Dissolved	mg/L	0.0000136	0.000147	0.100	0.106	0.105	0.105	0.0850 to 0.115	106	70.0 to 130	0.948	20.0
BC01611	Arsenic, Total	mg/L	0.0000151	0.000147	0.100	0.103	0.107	0.105	0.0850 to 0.115	103	70.0 to 130	3.81	20.0
BC01610	Barium, Dissolved	mg/L	-0.0000179	0.000200	0.100	0.102	0.106	0.0997	0.0850 to 0.115	92.1	70.0 to 130	3.85	20.0
BC01611	Barium, Total	mg/L	0.0000264	0.000200	0.100	0.0910	0.0910	0.0953	0.0850 to 0.115	91.0	70.0 to 130	0.00	20.0
BC01610	Beryllium, Dissolved	mg/L	0.0000412	0.000880	0.100	0.0870	0.0866	0.0983	0.0850 to 0.115	87.0	70.0 to 130	0.461	20.0
BC01611	Beryllium, Total	mg/L	0.000044	0.000880	0.100	0.0830	0.0889	0.0945	0.0850 to 0.115	83.0	70.0 to 130	6.86	20.0
BC01610	Boron, Dissolved	mg/L	-0.0004	0.0650	1.00	1.10	1.09	0.998	0.850 to 1.15	106	70.0 to 130	0.913	20.0
BC01611	Boron, Total	mg/L	-0.000624	0.0650	1.00	0.995	0.982	0.987	0.850 to 1.15	99.5	70.0 to 130	1.32	20.0
BC01610	Cadmium, Dissolved	mg/L	0.0000271	0.000147	0.100	0.107	0.107	0.105	0.0850 to 0.115	107	70.0 to 130	0.00	20.0
BC01611	Cadmium, Total	mg/L	0.0000127	0.000147	0.100	0.104	0.108	0.107	0.0850 to 0.115	104	70.0 to 130	3.77	20.0
BC01610	Calcium, Dissolved	mg/L	-0.0126	0.152	5.00	276	262	4.87	4.25 to 5.75	240	70.0 to 130	5.20	20.0
BC01611	Calcium, Total	mg/L	-0.0181	0.152	5.00	4.79	4.75	4.80	4.25 to 5.75	95.8	70.0 to 130	0.839	20.0
BC01610	Chromium, Dissolved	mg/L	-0.0000049	0.000440	0.100	0.105	0.103	0.105	0.0850 to 0.115	105	70.0 to 130	1.92	20.0
BC01611	Chromium, Total	mg/L	0.0000174	0.000440	0.100	0.101	0.105	0.104	0.0850 to 0.115	101	70.0 to 130	3.88	20.0
BC01610	Cobalt, Dissolved	mg/L	0.0000104	0.000147	0.100	0.102	0.0999	0.103	0.0850 to 0.115	102	70.0 to 130	2.08	20.0
BC01611	Cobalt, Total	mg/L	0.0000076	0.000147	0.100	0.0991	0.102	0.101	0.0850 to 0.115	99.1	70.0 to 130	2.88	20.0
BC01610	Iron, Dissolved	mg/L	-0.000395	0.0176	0.2	0.201	0.200	0.201	0.170 to 0.230	100	70.0 to 130	0.499	20.0
BC01611	Iron, Total	mg/L	-0.000334	0.0176	0.2	0.199	0.196	0.197	0.170 to 0.230	99.5	70.0 to 130	1.52	20.0
BC01610	Lead, Dissolved	mg/L	0.0000136	0.000147	0.100	0.110	0.107	0.110	0.0850 to 0.115	110	70.0 to 130	2.76	20.0
BC01611	Lead, Total	mg/L	0.000013	0.000147	0.100	0.105	0.110	0.115	0.0850 to 0.115	105	70.0 to 130	4.65	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORPU
Sample Date: 1/25/22 10:15
Customer ID:
Delivery Date: 1/26/22 09:58

Description: Gorgas Pooled Upgradient - MW-1

Laboratory ID Number: BC01605

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC01610	Lithium, Dissolved	mg/L	-0.000047	0.0154	0.200	0.252	0.250	0.194	0.170 to 0.230	104	70.0 to 130	0.797	20.0
BC01611	Lithium, Total	mg/L	-0.000265	0.0154	0.200	0.200	0.202	0.200	0.170 to 0.230	100	70.0 to 130	0.995	20.0
BC01610	Magnesium, Dissolved	mg/L	-0.00921	0.0462	5.00	441	425	5.01	4.25 to 5.75	240	70.0 to 130	3.70	20.0
BC01611	Magnesium, Total	mg/L	-0.00243	0.0462	5.00	5.05	5.03	4.99	4.25 to 5.75	101	70.0 to 130	0.397	20.0
BC01610	Manganese, Dissolved	mg/L	0.0000192	0.000147	0.100	0.102	0.101	0.102	0.0850 to 0.115	102	70.0 to 130	0.985	20.0
BC01611	Manganese, Total	mg/L	0.0000277	0.000147	0.100	0.0999	0.103	0.102	0.0850 to 0.115	99.9	70.0 to 130	3.06	20.0
BC01611	Mercury, Total by CVAA	mg/L	-8.000E-05	0.000500	0.004	0.00394	0.00392	0.00393	0.00340 to 0.00460	98.5	70.0 to 130	0.509	20.0
BC01610	Molybdenum, Dissolved	mg/L	0.0000298	0.000147	0.100	0.101	0.0987	0.0998	0.0850 to 0.115	101	70.0 to 130	2.30	20.0
BC01611	Molybdenum, Total	mg/L	-0.0000003	0.000147	0.100	0.0980	0.102	0.101	0.0850 to 0.115	98.0	70.0 to 130	4.00	20.0
BC01610	Potassium, Dissolved	mg/L	-0.0112	0.367	10.0	17.4	17.2	9.82	8.50 to 11.5	100	70.0 to 130	1.16	20.0
BC01611	Potassium, Total	mg/L	-0.0160	0.367	10.0	9.56	9.91	9.85	8.50 to 11.5	95.6	70.0 to 130	3.60	20.0
BC01610	Selenium, Dissolved	mg/L	0.0000355	0.00100	0.100	0.108	0.107	0.108	0.0850 to 0.115	106	70.0 to 130	0.930	20.0
BC01611	Selenium, Total	mg/L	0.0000422	0.00100	0.100	0.105	0.107	0.107	0.0850 to 0.115	105	70.0 to 130	1.89	20.0
BC01610	Silicon, Dissolved	mg/L	0.000078	0.0440	1.00	6.97	6.94	1.01	0.850 to 1.15	103	70.0 to 130	0.431	20.0
BC01611	Silicon, Total	mg/L	0.000194	0.0440	1.00	1.02	0.998	1.01	0.850 to 1.15	102	70.0 to 130	2.18	20.0
BC01610	Sodium, Dissolved	mg/L	-0.000372	0.0660	5.00	36.9	36.9	4.84	4.25 to 5.75	76.0	70.0 to 130	0.00	20.0
BC01611	Sodium, Total	mg/L	0.00428	0.0660	5.00	4.96	5.01	4.97	4.25 to 5.75	99.2	70.0 to 130	1.00	20.0
BC01610	Thallium, Dissolved	mg/L	0.0000134	0.000147	0.100	0.103	0.104	0.105	0.0850 to 0.115	103	70.0 to 130	0.966	20.0
BC01611	Thallium, Total	mg/L	0.0000134	0.000147	0.100	0.106	0.105	0.108	0.0850 to 0.115	106	70.0 to 130	0.948	20.0
BC01605	Total Organic Carbon	mg/L	0.220	1.00	10.0	10.5	10.8	23.7		95.0	80.0 to 120	2.82	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORPU

Sample Date: 1/25/22 10:15

Customer ID:

Delivery Date: 1/26/22 09:58

Description: Gorgas Pooled Upgradient - MW-1

Laboratory ID Number: BC01605

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC01773	Alkalinity, Total as CaCO3	mg/L					89.2	50.5	45.0 to 55.0			4.59	10.0
BC01611	Chloride	mg/L	-0.0356	1.00	10.0	9.89	0.183	10.1	9.00 to 11.0	98.9	80.0 to 120	0.00	20.0
BC01611	Fluoride	mg/L	0.0112	0.100	2.50	2.48	0.00933	2.48	2.25 to 2.75	99.2	80.0 to 120	0.00	20.0
BC01611	Nitrogen, Nitrate/Nitrite	mg/L as N	0.03	0.200	2.00	2.07	0.038	1.97	1.80 to 2.20	104	90.0 to 110	0.00	15.0
BC01610	Solids, Dissolved	mg/L	0.0000	25.0			3110	50.0	40.0 to 60.0			2.23	10.0
BC01611	Sulfate	mg/L	-0.682	1.00	20.0	17.9	-0.531	18.5	18.0 to 22.0	89.5	80.0 to 120	0.00	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Pooled Upgradient - MW-2

Location Code: WMWGORPU
Collected: 1/25/22 11:33
Customer ID:
Submittal Date: 1/26/22 09:58

Laboratory ID Number: BC01606

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: EPA 200.7			Analyst: RDA		Preparation Method: EPA 1638				
* Boron, Total	1/27/22 10:03	1/28/22 10:39		1.015	Not Detected	mg/L	0.030000	0.1015	U
* Calcium, Total	1/27/22 10:03	1/28/22 11:20		20.3	179	mg/L	1.4007	8.12	
* Iron, Total	1/27/22 10:03	1/28/22 10:39		1.015	1.18	mg/L	0.008120	0.0406	
* Lithium, Total	1/27/22 10:03	1/28/22 10:39		1.015	0.0510	mg/L	0.007105	0.01999956	
* Magnesium, Total	1/27/22 10:03	1/28/22 11:20		20.3	194	mg/L	0.4263	8.12	
Silica, Total (calc.)	1/27/22 10:03	1/28/22 10:39		1	11.1	mg/L			
Silicon, Total	1/27/22 10:03	1/28/22 10:39		1.015	5.20	mg/L	0.02030	0.25375	
* Sodium, Total	1/27/22 10:03	1/28/22 10:39		1.015	20.1	mg/L	0.03045	0.406	
Analytical Method: EPA 200.7			Analyst: RDA		Preparation Method: EPA 1638				
* Boron, Dissolved	1/27/22 09:52	1/28/22 09:24		1.015	Not Detected	mg/L	0.030000	0.1015	U
* Calcium, Dissolved	1/27/22 09:52	1/28/22 09:59		20.3	195	mg/L	1.4007	8.12	
* Iron, Dissolved	1/27/22 09:52	1/28/22 09:24		1.015	1.06	mg/L	0.008120	0.0406	
* Lithium, Dissolved	1/27/22 09:52	1/28/22 09:24		1.015	0.0490	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	1/27/22 09:52	1/28/22 09:59		20.3	207	mg/L	0.4263	8.12	
Silica, Dissolved (calc.)	1/27/22 09:52	1/28/22 09:24		1	11.1	mg/L			
Silicon, Dissolved	1/27/22 09:52	1/28/22 09:24		1.015	5.18	mg/L	0.02030	0.25375	
* Sodium, Dissolved	1/27/22 09:52	1/28/22 09:24		1.015	19.2	mg/L	0.03045	0.406	
Analytical Method: EPA 200.8			Analyst: ABB		Preparation Method: EPA 1638				
* Antimony, Total	1/27/22 09:55	1/27/22 15:19		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	1/27/22 09:55	1/27/22 15:19		1.015	Not Detected	mg/L	0.004060	0.01015	U
* Arsenic, Total	1/27/22 09:55	1/27/22 15:19		1.015	0.000334	mg/L	0.000068	0.000203	
* Barium, Total	1/27/22 09:55	1/27/22 15:19		1.015	0.0122	mg/L	0.000102	0.000203	
* Beryllium, Total	1/27/22 09:55	1/27/22 15:19		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	1/27/22 09:55	1/27/22 15:19		1.015	0.0000812	mg/L	0.000068	0.000203	J
* Chromium, Total	1/27/22 09:55	1/27/22 15:19		1.015	0.000216	mg/L	0.000203	0.001015	J
* Cobalt, Total	1/27/22 09:55	1/27/22 15:19		1.015	0.0166	mg/L	0.000068	0.000203	
* Lead, Total	1/27/22 09:55	1/27/22 15:19		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	1/27/22 09:55	2/1/22 12:29		10.15	4.05	mg/L	0.000680	0.00203	
* Molybdenum, Total	1/27/22 09:55	1/27/22 15:19		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Potassium, Total	1/27/22 09:55	1/27/22 15:19		1.015	5.80	mg/L	0.169505	0.5075	

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Pooled Upgradient - MW-2

Location Code: WMWGORPU
Collected: 1/25/22 11:33
Customer ID:
Submittal Date: 1/26/22 09:58

Laboratory ID Number: BC01606

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	1/27/22 09:55	1/27/22 15:19		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	1/27/22 09:55	1/27/22 15:19		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 200.8		Analyst: ABB							
* Antimony, Dissolved	1/27/22 10:10	1/27/22 13:02		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	1/27/22 10:10	1/27/22 13:02		1.015	Not Detected	mg/L	0.004060	0.01015	U
* Arsenic, Dissolved	1/27/22 10:10	1/27/22 13:02		1.015	0.000254	mg/L	0.000068	0.000203	
* Barium, Dissolved	1/27/22 10:10	1/27/22 13:02		1.015	0.0134	mg/L	0.000102	0.000203	
* Beryllium, Dissolved	1/27/22 10:10	1/27/22 13:02		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	1/27/22 10:10	1/27/22 13:02		1.015	0.000120	mg/L	0.000068	0.000203	J
* Chromium, Dissolved	1/27/22 10:10	1/27/22 13:02		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	1/27/22 10:10	1/27/22 13:02		1.015	0.0170	mg/L	0.000068	0.000203	
* Lead, Dissolved	1/27/22 10:10	1/27/22 13:02		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	1/27/22 10:10	2/1/22 11:46		10.15	4.01	mg/L	0.000680	0.00203	
* Molybdenum, Dissolved	1/27/22 10:10	1/27/22 13:02		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Potassium, Dissolved	1/27/22 10:10	1/27/22 13:02		1.015	6.07	mg/L	0.169505	0.5075	
* Selenium, Dissolved	1/27/22 10:10	1/27/22 13:02		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	1/27/22 10:10	1/27/22 13:02		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	1/26/22 15:24	1/26/22 19:55		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: CES							
* Nitrogen, Nitrate/Nitrite	2/1/22 13:47	2/1/22 13:47		1	Not Detected	mg/L as N	0.20	0.3	U
Analytical Method: SM 2320 B		Analyst: ALH							
Alkalinity, Total as CaCO3	1/31/22 09:50	1/31/22 13:00		1	344	mg/L		0.1	
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	1/27/22 11:00	1/28/22 13:33		1	1500	mg/L		100	
Analytical Method: SM 4500CO2 D		Analyst: ALH							
Bicarbonate Alkalinity, (calc.)	1/31/22 09:50	1/31/22 13:00		1	344	mg/L			
Carbonate Alkalinity, (calc.)	1/31/22 09:50	1/31/22 13:00		1	0.08	mg/L			
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	2/4/22 16:40	2/4/22 16:40		1	1.84	mg/L	1.00	2	J

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Pooled Upgradient - MW-2

Location Code: WMWGORPU

Collected: 1/25/22 11:33

Customer ID:

Submittal Date: 1/26/22 09:58

Laboratory ID Number: BC01606

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	1/26/22 15:16	1/26/22 15:16		1	2.14	mg/L	0.50	1	
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	1/27/22 11:05	1/27/22 11:05		1	0.204	mg/L	0.06	0.1	
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	2/7/22 13:10	2/7/22 13:10		40	842	mg/L	20.00	40	
Analytical Method: Field Measurements		Analyst: TJD							
Conductivity	1/25/22 11:28	1/25/22 11:28			1777.69	uS/cm			FA
pH	1/25/22 11:28	1/25/22 11:28			6.22	SU			FA
Temperature	1/25/22 11:28	1/25/22 11:28			20.03	C			FA
Turbidity	1/25/22 11:28	1/25/22 11:28			1.13	NTU			FA

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORPU
Sample Date: 1/25/22 11:33
Customer ID:
Delivery Date: 1/26/22 09:58

Description: Gorgas Pooled Upgradient - MW-2

Laboratory ID Number: BC01606

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BC01610	Aluminum, Dissolved	mg/L	0.000300	0.00880	0.100	0.104	0.103	0.104	0.0850 to 0.115	104	70.0 to 130	0.966	20.0
BC01611	Aluminum, Total	mg/L	0.000849	0.00880	0.100	0.100	0.104	0.104	0.0850 to 0.115	100	70.0 to 130	3.92	20.0
BC01610	Antimony, Dissolved	mg/L	0.0000892	0.00100	0.100	0.0984	0.0981	0.0977	0.0850 to 0.115	98.4	70.0 to 130	0.305	20.0
BC01611	Antimony, Total	mg/L	0.0000707	0.00100	0.100	0.0970	0.101	0.0957	0.0850 to 0.115	97.0	70.0 to 130	4.04	20.0
BC01610	Arsenic, Dissolved	mg/L	0.0000136	0.000147	0.100	0.106	0.105	0.105	0.0850 to 0.115	106	70.0 to 130	0.948	20.0
BC01611	Arsenic, Total	mg/L	0.0000151	0.000147	0.100	0.103	0.107	0.105	0.0850 to 0.115	103	70.0 to 130	3.81	20.0
BC01610	Barium, Dissolved	mg/L	-0.0000179	0.000200	0.100	0.102	0.106	0.0997	0.0850 to 0.115	92.1	70.0 to 130	3.85	20.0
BC01611	Barium, Total	mg/L	0.0000264	0.000200	0.100	0.0910	0.0910	0.0953	0.0850 to 0.115	91.0	70.0 to 130	0.00	20.0
BC01610	Beryllium, Dissolved	mg/L	0.0000412	0.000880	0.100	0.0870	0.0866	0.0983	0.0850 to 0.115	87.0	70.0 to 130	0.461	20.0
BC01611	Beryllium, Total	mg/L	0.000044	0.000880	0.100	0.0830	0.0889	0.0945	0.0850 to 0.115	83.0	70.0 to 130	6.86	20.0
BC01610	Boron, Dissolved	mg/L	-0.0004	0.0650	1.00	1.10	1.09	0.998	0.850 to 1.15	106	70.0 to 130	0.913	20.0
BC01611	Boron, Total	mg/L	-0.000624	0.0650	1.00	0.995	0.982	0.987	0.850 to 1.15	99.5	70.0 to 130	1.32	20.0
BC01610	Cadmium, Dissolved	mg/L	0.0000271	0.000147	0.100	0.107	0.107	0.105	0.0850 to 0.115	107	70.0 to 130	0.00	20.0
BC01611	Cadmium, Total	mg/L	0.0000127	0.000147	0.100	0.104	0.108	0.107	0.0850 to 0.115	104	70.0 to 130	3.77	20.0
BC01610	Calcium, Dissolved	mg/L	-0.0126	0.152	5.00	276	262	4.87	4.25 to 5.75	240	70.0 to 130	5.20	20.0
BC01611	Calcium, Total	mg/L	-0.0181	0.152	5.00	4.79	4.75	4.80	4.25 to 5.75	95.8	70.0 to 130	0.839	20.0
BC01610	Chromium, Dissolved	mg/L	-0.0000049	0.000440	0.100	0.105	0.103	0.105	0.0850 to 0.115	105	70.0 to 130	1.92	20.0
BC01611	Chromium, Total	mg/L	0.0000174	0.000440	0.100	0.101	0.105	0.104	0.0850 to 0.115	101	70.0 to 130	3.88	20.0
BC01610	Cobalt, Dissolved	mg/L	0.0000104	0.000147	0.100	0.102	0.0999	0.103	0.0850 to 0.115	102	70.0 to 130	2.08	20.0
BC01611	Cobalt, Total	mg/L	0.0000076	0.000147	0.100	0.0991	0.102	0.101	0.0850 to 0.115	99.1	70.0 to 130	2.88	20.0
BC01610	Iron, Dissolved	mg/L	-0.000395	0.0176	0.2	0.201	0.200	0.201	0.170 to 0.230	100	70.0 to 130	0.499	20.0
BC01611	Iron, Total	mg/L	-0.000334	0.0176	0.2	0.199	0.196	0.197	0.170 to 0.230	99.5	70.0 to 130	1.52	20.0
BC01610	Lead, Dissolved	mg/L	0.0000136	0.000147	0.100	0.110	0.107	0.110	0.0850 to 0.115	110	70.0 to 130	2.76	20.0
BC01611	Lead, Total	mg/L	0.000013	0.000147	0.100	0.105	0.110	0.115	0.0850 to 0.115	105	70.0 to 130	4.65	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORPU
Sample Date: 1/25/22 11:33
Customer ID:
Delivery Date: 1/26/22 09:58

Description: Gorgas Pooled Upgradient - MW-2

Laboratory ID Number: BC01606

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC01610	Lithium, Dissolved	mg/L	-0.000047	0.0154	0.200	0.252	0.250	0.194	0.170 to 0.230	104	70.0 to 130	0.797	20.0
BC01611	Lithium, Total	mg/L	-0.000265	0.0154	0.200	0.200	0.202	0.200	0.170 to 0.230	100	70.0 to 130	0.995	20.0
BC01610	Magnesium, Dissolved	mg/L	-0.00921	0.0462	5.00	441	425	5.01	4.25 to 5.75	240	70.0 to 130	3.70	20.0
BC01611	Magnesium, Total	mg/L	-0.00243	0.0462	5.00	5.05	5.03	4.99	4.25 to 5.75	101	70.0 to 130	0.397	20.0
BC01610	Manganese, Dissolved	mg/L	0.0000192	0.000147	0.100	0.102	0.101	0.102	0.0850 to 0.115	102	70.0 to 130	0.985	20.0
BC01611	Manganese, Total	mg/L	0.0000277	0.000147	0.100	0.0999	0.103	0.102	0.0850 to 0.115	99.9	70.0 to 130	3.06	20.0
BC01611	Mercury, Total by CVAA	mg/L	-8.000E-05	0.000500	0.004	0.00394	0.00392	0.00393	0.00340 to 0.00460	98.5	70.0 to 130	0.509	20.0
BC01610	Molybdenum, Dissolved	mg/L	0.0000298	0.000147	0.100	0.101	0.0987	0.0998	0.0850 to 0.115	101	70.0 to 130	2.30	20.0
BC01611	Molybdenum, Total	mg/L	-0.0000003	0.000147	0.100	0.0980	0.102	0.101	0.0850 to 0.115	98.0	70.0 to 130	4.00	20.0
BC01610	Potassium, Dissolved	mg/L	-0.0112	0.367	10.0	17.4	17.2	9.82	8.50 to 11.5	100	70.0 to 130	1.16	20.0
BC01611	Potassium, Total	mg/L	-0.0160	0.367	10.0	9.56	9.91	9.85	8.50 to 11.5	95.6	70.0 to 130	3.60	20.0
BC01610	Selenium, Dissolved	mg/L	0.0000355	0.00100	0.100	0.108	0.107	0.108	0.0850 to 0.115	106	70.0 to 130	0.930	20.0
BC01611	Selenium, Total	mg/L	0.0000422	0.00100	0.100	0.105	0.107	0.107	0.0850 to 0.115	105	70.0 to 130	1.89	20.0
BC01610	Silicon, Dissolved	mg/L	0.000078	0.0440	1.00	6.97	6.94	1.01	0.850 to 1.15	103	70.0 to 130	0.431	20.0
BC01611	Silicon, Total	mg/L	0.000194	0.0440	1.00	1.02	0.998	1.01	0.850 to 1.15	102	70.0 to 130	2.18	20.0
BC01610	Sodium, Dissolved	mg/L	-0.000372	0.0660	5.00	36.9	36.9	4.84	4.25 to 5.75	76.0	70.0 to 130	0.00	20.0
BC01611	Sodium, Total	mg/L	0.00428	0.0660	5.00	4.96	5.01	4.97	4.25 to 5.75	99.2	70.0 to 130	1.00	20.0
BC01610	Thallium, Dissolved	mg/L	0.0000134	0.000147	0.100	0.103	0.104	0.105	0.0850 to 0.115	103	70.0 to 130	0.966	20.0
BC01611	Thallium, Total	mg/L	0.0000134	0.000147	0.100	0.106	0.105	0.108	0.0850 to 0.115	106	70.0 to 130	0.948	20.0
BC01605	Total Organic Carbon	mg/L	0.220	1.00	10.0	10.5	10.8	23.7		95.0	80.0 to 120	2.82	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORPU

Sample Date: 1/25/22 11:33

Customer ID:

Delivery Date: 1/26/22 09:58

Description: Gorgas Pooled Upgradient - MW-2

Laboratory ID Number: BC01606

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Limit	Prec	Limit
BC01773	Alkalinity, Total as CaCO3	mg/L					89.2	50.5	45.0 to 55.0			4.59	10.0
BC01611	Chloride	mg/L	-0.0356	1.00	10.0	9.89	0.183	10.1	9.00 to 11.0	98.9	80.0 to 120	0.00	20.0
BC01611	Fluoride	mg/L	0.0112	0.100	2.50	2.48	0.00933	2.48	2.25 to 2.75	99.2	80.0 to 120	0.00	20.0
BC01611	Nitrogen, Nitrate/Nitrite	mg/L as N	0.03	0.200	2.00	2.07	0.038	1.97	1.80 to 2.20	104	90.0 to 110	0.00	15.0
BC01610	Solids, Dissolved	mg/L	0.0000	25.0			3110	50.0	40.0 to 60.0			2.23	10.0
BC01611	Sulfate	mg/L	-0.682	1.00	20.0	17.9	-0.531	18.5	18.0 to 22.0	89.5	80.0 to 120	0.00	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Pooled Upgradient - MW-2 DUP

Location Code: WMWGORPU
Collected: 1/25/22 11:33
Customer ID:
Submittal Date: 1/26/22 09:58

Laboratory ID Number: BC01607

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q	
Analytical Method: EPA 200.7		Analyst: RDA			Preparation Method: EPA 1638					
* Boron, Total	1/27/22 10:03	1/28/22 10:40		1.015	Not Detected	mg/L	0.030000	0.1015	U	
* Calcium, Total	1/27/22 10:03	1/28/22 11:22		20.3	180	mg/L	1.4007	8.12		
* Iron, Total	1/27/22 10:03	1/28/22 10:40		1.015	1.16	mg/L	0.008120	0.0406		
* Lithium, Total	1/27/22 10:03	1/28/22 10:40		1.015	0.0502	mg/L	0.007105	0.01999956		
* Magnesium, Total	1/27/22 10:03	1/28/22 11:22		20.3	197	mg/L	0.4263	8.12		
Silica, Total (calc.)	1/27/22 10:03	1/28/22 10:40		1	11.2	mg/L				
Silicon, Total	1/27/22 10:03	1/28/22 10:40		1.015	5.22	mg/L	0.02030	0.25375		
* Sodium, Total	1/27/22 10:03	1/28/22 10:40		1.015	19.8	mg/L	0.03045	0.406		
Analytical Method: EPA 200.7		Analyst: RDA			Preparation Method: EPA 1638					
* Boron, Dissolved	1/27/22 09:52	1/28/22 09:26		1.015	Not Detected	mg/L	0.030000	0.1015	U	
* Calcium, Dissolved	1/27/22 09:52	1/28/22 10:01		20.3	193	mg/L	1.4007	8.12		
* Iron, Dissolved	1/27/22 09:52	1/28/22 09:26		1.015	1.10	mg/L	0.008120	0.0406		
* Lithium, Dissolved	1/27/22 09:52	1/28/22 09:26		1.015	0.0486	mg/L	0.007105	0.01999956		
* Magnesium, Dissolved	1/27/22 09:52	1/28/22 10:01		20.3	207	mg/L	0.4263	8.12		
Silica, Dissolved (calc.)	1/27/22 09:52	1/28/22 09:26		1	11.5	mg/L				
Silicon, Dissolved	1/27/22 09:52	1/28/22 09:26		1.015	5.37	mg/L	0.02030	0.25375		
* Sodium, Dissolved	1/27/22 09:52	1/28/22 09:26		1.015	19.2	mg/L	0.03045	0.406		
Analytical Method: EPA 200.8		Analyst: ABB			Preparation Method: EPA 1638					
* Antimony, Total	1/27/22 09:55	1/27/22 15:23		1.015	Not Detected	mg/L	0.000508	0.001015	U	
* Aluminum, Total	1/27/22 09:55	1/27/22 15:23		1.015	Not Detected	mg/L	0.004060	0.01015	U	
* Arsenic, Total	1/27/22 09:55	1/27/22 15:23		1.015	0.000334	mg/L	0.000068	0.000203		
* Barium, Total	1/27/22 09:55	1/27/22 15:23		1.015	0.0127	mg/L	0.000102	0.000203		
* Beryllium, Total	1/27/22 09:55	1/27/22 15:23		1.015	Not Detected	mg/L	0.000406	0.001015	U	
* Cadmium, Total	1/27/22 09:55	1/27/22 15:23		1.015	0.0000931	mg/L	0.000068	0.000203	J	
* Chromium, Total	1/27/22 09:55	1/27/22 15:23		1.015	0.000258	mg/L	0.000203	0.001015	J	
* Cobalt, Total	1/27/22 09:55	1/27/22 15:23		1.015	0.0167	mg/L	0.000068	0.000203		
* Lead, Total	1/27/22 09:55	1/27/22 15:23		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Manganese, Total	1/27/22 09:55	2/1/22 12:32		10.15	4.01	mg/L	0.000680	0.00203		
* Molybdenum, Total	1/27/22 09:55	1/27/22 15:23		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Potassium, Total	1/27/22 09:55	1/27/22 15:23		1.015	5.95	mg/L	0.169505	0.5075		

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Pooled Upgradient - MW-2 DUP

Location Code: WMWGORPU
Collected: 1/25/22 11:33
Customer ID:
Submittal Date: 1/26/22 09:58

Laboratory ID Number: BC01607

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	1/27/22 09:55	1/27/22 15:23		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	1/27/22 09:55	1/27/22 15:23		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 200.8		Analyst: ABB							
* Antimony, Dissolved	1/27/22 10:10	1/27/22 13:06		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	1/27/22 10:10	1/27/22 13:06		1.015	Not Detected	mg/L	0.004060	0.01015	U
* Arsenic, Dissolved	1/27/22 10:10	1/27/22 13:06		1.015	0.000290	mg/L	0.000068	0.000203	
* Barium, Dissolved	1/27/22 10:10	1/27/22 13:06		1.015	0.0121	mg/L	0.000102	0.000203	
* Beryllium, Dissolved	1/27/22 10:10	1/27/22 13:06		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	1/27/22 10:10	1/27/22 13:06		1.015	0.000125	mg/L	0.000068	0.000203	J
* Chromium, Dissolved	1/27/22 10:10	1/27/22 13:06		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	1/27/22 10:10	1/27/22 13:06		1.015	0.0171	mg/L	0.000068	0.000203	
* Lead, Dissolved	1/27/22 10:10	1/27/22 13:06		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	1/27/22 10:10	2/1/22 11:50		10.15	4.05	mg/L	0.000680	0.00203	
* Molybdenum, Dissolved	1/27/22 10:10	1/27/22 13:06		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Potassium, Dissolved	1/27/22 10:10	1/27/22 13:06		1.015	5.84	mg/L	0.169505	0.5075	
* Selenium, Dissolved	1/27/22 10:10	1/27/22 13:06		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	1/27/22 10:10	1/27/22 13:06		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	1/26/22 15:24	1/26/22 19:59		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: CES							
* Nitrogen, Nitrate/Nitrite	2/1/22 13:48	2/1/22 13:48		1	Not Detected	mg/L as N	0.20	0.3	U
Analytical Method: SM 2320 B		Analyst: ALH							
Alkalinity, Total as CaCO3	1/31/22 09:50	1/31/22 13:00		1	326	mg/L		0.1	
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	1/27/22 11:00	1/28/22 13:33		1	1550	mg/L		100	
Analytical Method: SM 4500CO2 D		Analyst: ALH							
Bicarbonate Alkalinity, (calc.)	1/31/22 09:50	1/31/22 13:00		1	326	mg/L			
Carbonate Alkalinity, (calc.)	1/31/22 09:50	1/31/22 13:00		1	0.08	mg/L			
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	2/4/22 16:59	2/4/22 16:59		1	1.57	mg/L	1.00	2	J

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Pooled Upgradient - MW-2 DUP

Location Code: WMWGORPU

Collected: 1/25/22 11:33

Customer ID:

Submittal Date: 1/26/22 09:58

Laboratory ID Number: BC01607

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	1/26/22 15:17	1/26/22 15:17		1	2.28	mg/L	0.50	1	
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	1/27/22 11:07	1/27/22 11:07		1	0.239	mg/L	0.06	0.1	
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	2/7/22 13:11	2/7/22 13:11		40	847	mg/L	20.00	40	
Analytical Method: Field Measurements		Analyst: TJD							
Conductivity	1/25/22 11:28	1/25/22 11:28			1777.69	uS/cm			FA
pH	1/25/22 11:28	1/25/22 11:28			6.22	SU			FA
Temperature	1/25/22 11:28	1/25/22 11:28			20.03	C			FA
Turbidity	1/25/22 11:28	1/25/22 11:28			1.13	NTU			FA

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORPU
Sample Date: 1/25/22 11:33
Customer ID:
Delivery Date: 1/26/22 09:58

Description: Gorgas Pooled Upgradient - MW-2 DUP

Laboratory ID Number: BC01607

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC01610	Aluminum, Dissolved	mg/L	0.000300	0.00880	0.100	0.104	0.103	0.104	0.0850 to 0.115	104	70.0 to 130	0.966	20.0
BC01611	Aluminum, Total	mg/L	0.000849	0.00880	0.100	0.100	0.104	0.104	0.0850 to 0.115	100	70.0 to 130	3.92	20.0
BC01610	Antimony, Dissolved	mg/L	0.0000892	0.00100	0.100	0.0984	0.0981	0.0977	0.0850 to 0.115	98.4	70.0 to 130	0.305	20.0
BC01611	Antimony, Total	mg/L	0.0000707	0.00100	0.100	0.0970	0.101	0.0957	0.0850 to 0.115	97.0	70.0 to 130	4.04	20.0
BC01610	Arsenic, Dissolved	mg/L	0.0000136	0.000147	0.100	0.106	0.105	0.105	0.0850 to 0.115	106	70.0 to 130	0.948	20.0
BC01611	Arsenic, Total	mg/L	0.0000151	0.000147	0.100	0.103	0.107	0.105	0.0850 to 0.115	103	70.0 to 130	3.81	20.0
BC01610	Barium, Dissolved	mg/L	-0.0000179	0.000200	0.100	0.102	0.106	0.0997	0.0850 to 0.115	92.1	70.0 to 130	3.85	20.0
BC01611	Barium, Total	mg/L	0.0000264	0.000200	0.100	0.0910	0.0910	0.0953	0.0850 to 0.115	91.0	70.0 to 130	0.00	20.0
BC01610	Beryllium, Dissolved	mg/L	0.0000412	0.000880	0.100	0.0870	0.0866	0.0983	0.0850 to 0.115	87.0	70.0 to 130	0.461	20.0
BC01611	Beryllium, Total	mg/L	0.000044	0.000880	0.100	0.0830	0.0889	0.0945	0.0850 to 0.115	83.0	70.0 to 130	6.86	20.0
BC01610	Boron, Dissolved	mg/L	-0.0004	0.0650	1.00	1.10	1.09	0.998	0.850 to 1.15	106	70.0 to 130	0.913	20.0
BC01611	Boron, Total	mg/L	-0.000624	0.0650	1.00	0.995	0.982	0.987	0.850 to 1.15	99.5	70.0 to 130	1.32	20.0
BC01610	Cadmium, Dissolved	mg/L	0.0000271	0.000147	0.100	0.107	0.107	0.105	0.0850 to 0.115	107	70.0 to 130	0.00	20.0
BC01611	Cadmium, Total	mg/L	0.0000127	0.000147	0.100	0.104	0.108	0.107	0.0850 to 0.115	104	70.0 to 130	3.77	20.0
BC01610	Calcium, Dissolved	mg/L	-0.0126	0.152	5.00	276	262	4.87	4.25 to 5.75	240	70.0 to 130	5.20	20.0
BC01611	Calcium, Total	mg/L	-0.0181	0.152	5.00	4.79	4.75	4.80	4.25 to 5.75	95.8	70.0 to 130	0.839	20.0
BC01610	Chromium, Dissolved	mg/L	-0.0000049	0.000440	0.100	0.105	0.103	0.105	0.0850 to 0.115	105	70.0 to 130	1.92	20.0
BC01611	Chromium, Total	mg/L	0.0000174	0.000440	0.100	0.101	0.105	0.104	0.0850 to 0.115	101	70.0 to 130	3.88	20.0
BC01610	Cobalt, Dissolved	mg/L	0.0000104	0.000147	0.100	0.102	0.0999	0.103	0.0850 to 0.115	102	70.0 to 130	2.08	20.0
BC01611	Cobalt, Total	mg/L	0.0000076	0.000147	0.100	0.0991	0.102	0.101	0.0850 to 0.115	99.1	70.0 to 130	2.88	20.0
BC01610	Iron, Dissolved	mg/L	-0.000395	0.0176	0.2	0.201	0.200	0.201	0.170 to 0.230	100	70.0 to 130	0.499	20.0
BC01611	Iron, Total	mg/L	-0.000334	0.0176	0.2	0.199	0.196	0.197	0.170 to 0.230	99.5	70.0 to 130	1.52	20.0
BC01610	Lead, Dissolved	mg/L	0.0000136	0.000147	0.100	0.110	0.107	0.110	0.0850 to 0.115	110	70.0 to 130	2.76	20.0
BC01611	Lead, Total	mg/L	0.000013	0.000147	0.100	0.105	0.110	0.115	0.0850 to 0.115	105	70.0 to 130	4.65	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORPU
Sample Date: 1/25/22 11:33
Customer ID:
Delivery Date: 1/26/22 09:58

Description: Gorgas Pooled Upgradient - MW-2 DUP

Laboratory ID Number: BC01607

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC01610	Lithium, Dissolved	mg/L	-0.000047	0.0154	0.200	0.252	0.250	0.194	0.170 to 0.230	104	70.0 to 130	0.797	20.0
BC01611	Lithium, Total	mg/L	-0.000265	0.0154	0.200	0.200	0.202	0.200	0.170 to 0.230	100	70.0 to 130	0.995	20.0
BC01610	Magnesium, Dissolved	mg/L	-0.00921	0.0462	5.00	441	425	5.01	4.25 to 5.75	240	70.0 to 130	3.70	20.0
BC01611	Magnesium, Total	mg/L	-0.00243	0.0462	5.00	5.05	5.03	4.99	4.25 to 5.75	101	70.0 to 130	0.397	20.0
BC01610	Manganese, Dissolved	mg/L	0.0000192	0.000147	0.100	0.102	0.101	0.102	0.0850 to 0.115	102	70.0 to 130	0.985	20.0
BC01611	Manganese, Total	mg/L	0.0000277	0.000147	0.100	0.0999	0.103	0.102	0.0850 to 0.115	99.9	70.0 to 130	3.06	20.0
BC01611	Mercury, Total by CVAA	mg/L	-8.000E-05	0.000500	0.004	0.00394	0.00392	0.00393	0.00340 to 0.00460	98.5	70.0 to 130	0.509	20.0
BC01610	Molybdenum, Dissolved	mg/L	0.0000298	0.000147	0.100	0.101	0.0987	0.0998	0.0850 to 0.115	101	70.0 to 130	2.30	20.0
BC01611	Molybdenum, Total	mg/L	-0.0000003	0.000147	0.100	0.0980	0.102	0.101	0.0850 to 0.115	98.0	70.0 to 130	4.00	20.0
BC01610	Potassium, Dissolved	mg/L	-0.0112	0.367	10.0	17.4	17.2	9.82	8.50 to 11.5	100	70.0 to 130	1.16	20.0
BC01611	Potassium, Total	mg/L	-0.0160	0.367	10.0	9.56	9.91	9.85	8.50 to 11.5	95.6	70.0 to 130	3.60	20.0
BC01610	Selenium, Dissolved	mg/L	0.0000355	0.00100	0.100	0.108	0.107	0.108	0.0850 to 0.115	106	70.0 to 130	0.930	20.0
BC01611	Selenium, Total	mg/L	0.0000422	0.00100	0.100	0.105	0.107	0.107	0.0850 to 0.115	105	70.0 to 130	1.89	20.0
BC01610	Silicon, Dissolved	mg/L	0.000078	0.0440	1.00	6.97	6.94	1.01	0.850 to 1.15	103	70.0 to 130	0.431	20.0
BC01611	Silicon, Total	mg/L	0.000194	0.0440	1.00	1.02	0.998	1.01	0.850 to 1.15	102	70.0 to 130	2.18	20.0
BC01610	Sodium, Dissolved	mg/L	-0.000372	0.0660	5.00	36.9	36.9	4.84	4.25 to 5.75	76.0	70.0 to 130	0.00	20.0
BC01611	Sodium, Total	mg/L	0.00428	0.0660	5.00	4.96	5.01	4.97	4.25 to 5.75	99.2	70.0 to 130	1.00	20.0
BC01610	Thallium, Dissolved	mg/L	0.0000134	0.000147	0.100	0.103	0.104	0.105	0.0850 to 0.115	103	70.0 to 130	0.966	20.0
BC01611	Thallium, Total	mg/L	0.0000134	0.000147	0.100	0.106	0.105	0.108	0.0850 to 0.115	106	70.0 to 130	0.948	20.0
BC01605	Total Organic Carbon	mg/L	0.220	1.00	10.0	10.5	10.8	23.7		95.0	80.0 to 120	2.82	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORPU

Sample Date: 1/25/22 11:33

Customer ID:

Delivery Date: 1/26/22 09:58

Description: Gorgas Pooled Upgradient - MW-2 DUP

Laboratory ID Number: BC01607

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Limit	Prec	Prec Limit
BC01773	Alkalinity, Total as CaCO3	mg/L					89.2	50.5	45.0 to 55.0			4.59	10.0
BC01611	Chloride	mg/L	-0.0356	1.00	10.0	9.89	0.183	10.1	9.00 to 11.0	98.9	80.0 to 120	0.00	20.0
BC01611	Fluoride	mg/L	0.0112	0.100	2.50	2.48	0.00933	2.48	2.25 to 2.75	99.2	80.0 to 120	0.00	20.0
BC01611	Nitrogen, Nitrate/Nitrite	mg/L as N	0.03	0.200	2.00	2.07	0.038	1.97	1.80 to 2.20	104	90.0 to 110	0.00	15.0
BC01610	Solids, Dissolved	mg/L	0.0000	25.0			3110	50.0	40.0 to 60.0			2.23	10.0
BC01611	Sulfate	mg/L	-0.682	1.00	20.0	17.9	-0.531	18.5	18.0 to 22.0	89.5	80.0 to 120	0.00	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Pooled Upgradient - MW-3

Location Code: WMWGORPU
Collected: 1/25/22 12:58
Customer ID:
Submittal Date: 1/26/22 09:58

Laboratory ID Number: BC01608

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: EPA 200.7			Analyst: RDA		Preparation Method: EPA 1638				
* Boron, Total	1/27/22 10:03	1/28/22 10:42		1.015	Not Detected	mg/L	0.030000	0.1015	U
* Calcium, Total	1/27/22 10:03	1/28/22 11:24		20.3	285	mg/L	1.4007	8.12	
* Iron, Total	1/27/22 10:03	1/28/22 10:42		1.015	0.0451	mg/L	0.008120	0.0406	
* Lithium, Total	1/27/22 10:03	1/28/22 10:42		1.015	0.0770	mg/L	0.007105	0.01999956	
* Magnesium, Total	1/27/22 10:03	1/28/22 11:24		20.3	542	mg/L	0.4263	8.12	
Silica, Total (calc.)	1/27/22 10:03	1/28/22 10:42		1	23.5	mg/L			
Silicon, Total	1/27/22 10:03	1/28/22 10:42		1.015	11.0	mg/L	0.02030	0.25375	
* Sodium, Total	1/27/22 10:03	1/28/22 11:24		20.3	49.9	mg/L	0.609	8.12	
Analytical Method: EPA 200.7			Analyst: RDA		Preparation Method: EPA 1638				
* Boron, Dissolved	1/27/22 09:52	1/28/22 09:27		1.015	Not Detected	mg/L	0.030000	0.1015	U
* Calcium, Dissolved	1/27/22 09:52	1/28/22 10:03		20.3	305	mg/L	1.4007	8.12	
* Iron, Dissolved	1/27/22 09:52	1/28/22 09:27		1.015	Not Detected	mg/L	0.008120	0.0406	U
* Lithium, Dissolved	1/27/22 09:52	1/28/22 09:27		1.015	0.0732	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	1/27/22 09:52	1/28/22 10:03		20.3	566	mg/L	0.4263	8.12	
Silica, Dissolved (calc.)	1/27/22 09:52	1/28/22 09:27		1	23.8	mg/L			
Silicon, Dissolved	1/27/22 09:52	1/28/22 09:27		1.015	11.1	mg/L	0.02030	0.25375	
* Sodium, Dissolved	1/27/22 09:52	1/28/22 10:03		20.3	52.7	mg/L	0.609	8.12	
Analytical Method: EPA 200.8			Analyst: ABB		Preparation Method: EPA 1638				
* Antimony, Total	1/27/22 09:55	1/27/22 15:26		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	1/27/22 09:55	1/27/22 15:26		1.015	0.0419	mg/L	0.004060	0.01015	
* Arsenic, Total	1/27/22 09:55	1/27/22 15:26		1.015	0.000275	mg/L	0.000068	0.000203	
* Barium, Total	1/27/22 09:55	1/27/22 15:26		1.015	0.00821	mg/L	0.000102	0.000203	
* Beryllium, Total	1/27/22 09:55	1/27/22 15:26		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	1/27/22 09:55	1/27/22 15:26		1.015	0.00178	mg/L	0.000068	0.000203	
* Chromium, Total	1/27/22 09:55	1/27/22 15:26		1.015	0.000509	mg/L	0.000203	0.001015	J
* Cobalt, Total	1/27/22 09:55	1/27/22 15:26		1.015	0.00510	mg/L	0.000068	0.000203	
* Lead, Total	1/27/22 09:55	1/27/22 15:26		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	1/27/22 09:55	1/27/22 15:26		1.015	0.466	mg/L	0.000068	0.000203	
* Molybdenum, Total	1/27/22 09:55	1/27/22 15:26		1.015	0.0000801	mg/L	0.000068	0.000203	J
* Potassium, Total	1/27/22 09:55	1/27/22 15:26		1.015	7.05	mg/L	0.169505	0.5075	

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Pooled Upgradient - MW-3

Location Code: WMWGORPU
Collected: 1/25/22 12:58
Customer ID:
Submittal Date: 1/26/22 09:58

Laboratory ID Number: BC01608

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	1/27/22 09:55	1/27/22 15:26		1.015	0.0154	mg/L	0.000508	0.001015	
* Thallium, Total	1/27/22 09:55	1/27/22 15:26		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 200.8		Analyst: ABB							
* Antimony, Dissolved	1/27/22 10:10	1/27/22 13:10		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	1/27/22 10:10	1/27/22 13:10		1.015	0.0317	mg/L	0.004060	0.01015	
* Arsenic, Dissolved	1/27/22 10:10	1/27/22 13:10		1.015	0.000240	mg/L	0.000068	0.000203	
* Barium, Dissolved	1/27/22 10:10	1/27/22 13:10		1.015	0.00871	mg/L	0.000102	0.000203	
* Beryllium, Dissolved	1/27/22 10:10	1/27/22 13:10		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	1/27/22 10:10	1/27/22 13:10		1.015	0.00174	mg/L	0.000068	0.000203	
* Chromium, Dissolved	1/27/22 10:10	1/27/22 13:10		1.015	0.000340	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	1/27/22 10:10	1/27/22 13:10		1.015	0.00535	mg/L	0.000068	0.000203	
* Lead, Dissolved	1/27/22 10:10	1/27/22 13:10		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	1/27/22 10:10	1/27/22 13:10		1.015	0.499	mg/L	0.000068	0.000203	
* Molybdenum, Dissolved	1/27/22 10:10	1/27/22 13:10		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Potassium, Dissolved	1/27/22 10:10	1/27/22 13:10		1.015	7.16	mg/L	0.169505	0.5075	
* Selenium, Dissolved	1/27/22 10:10	1/27/22 13:10		1.015	0.0163	mg/L	0.000508	0.001015	
* Thallium, Dissolved	1/27/22 10:10	1/27/22 13:10		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	1/26/22 15:24	1/26/22 20:03		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: CES							
* Nitrogen, Nitrate/Nitrite	2/1/22 13:49	2/1/22 13:49		1	3.70	mg/L as N	0.20	0.3	
Analytical Method: SM 2320 B		Analyst: ALH							
Alkalinity, Total as CaCO3	1/31/22 09:50	1/31/22 13:00		1	71.5	mg/L		0.1	
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	1/27/22 11:00	1/28/22 13:33		1	3950	mg/L		208.3	
Analytical Method: SM 4500CO2 D		Analyst: ALH							
Bicarbonate Alkalinity, (calc.)	1/31/22 09:50	1/31/22 13:00		1	71.5	mg/L			
Carbonate Alkalinity, (calc.)	1/31/22 09:50	1/31/22 13:00		1	0.01	mg/L			
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	2/4/22 17:17	2/4/22 17:17		1	1.01	mg/L	1.00	2	J

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Pooled Upgradient - MW-3

Location Code: WMWGORPU

Collected: 1/25/22 12:58

Customer ID:

Submittal Date: 1/26/22 09:58

Laboratory ID Number: BC01608

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	1/26/22 15:18	1/26/22 15:18		1	2.12	mg/L	0.50	1	
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	1/27/22 11:08	1/27/22 11:08		1	0.325	mg/L	0.06	0.1	
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	2/7/22 13:13	2/7/22 13:13		80	2550	mg/L	40.00	80	
Analytical Method: Field Measurements		Analyst: TJD							
Conductivity	1/25/22 12:53	1/25/22 12:53			3139.08	uS/cm			FA
pH	1/25/22 12:53	1/25/22 12:53			5.90	SU			FA
Temperature	1/25/22 12:53	1/25/22 12:53			20.01	C			FA
Turbidity	1/25/22 12:53	1/25/22 12:53			2.05	NTU			FA

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORPU
Sample Date: 1/25/22 12:58
Customer ID:
Delivery Date: 1/26/22 09:58

Description: Gorgas Pooled Upgradient - MW-3

Laboratory ID Number: BC01608

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Prec		
BC01610	Aluminum, Dissolved	mg/L	0.000300	0.00880	0.100	0.104	0.103	0.104	0.0850 to 0.115	104	70.0 to 130	0.966	20.0
BC01611	Aluminum, Total	mg/L	0.000849	0.00880	0.100	0.100	0.104	0.104	0.0850 to 0.115	100	70.0 to 130	3.92	20.0
BC01610	Antimony, Dissolved	mg/L	0.0000892	0.00100	0.100	0.0984	0.0981	0.0977	0.0850 to 0.115	98.4	70.0 to 130	0.305	20.0
BC01611	Antimony, Total	mg/L	0.0000707	0.00100	0.100	0.0970	0.101	0.0957	0.0850 to 0.115	97.0	70.0 to 130	4.04	20.0
BC01610	Arsenic, Dissolved	mg/L	0.0000136	0.000147	0.100	0.106	0.105	0.105	0.0850 to 0.115	106	70.0 to 130	0.948	20.0
BC01611	Arsenic, Total	mg/L	0.0000151	0.000147	0.100	0.103	0.107	0.105	0.0850 to 0.115	103	70.0 to 130	3.81	20.0
BC01610	Barium, Dissolved	mg/L	-0.0000179	0.000200	0.100	0.102	0.106	0.0997	0.0850 to 0.115	92.1	70.0 to 130	3.85	20.0
BC01611	Barium, Total	mg/L	0.0000264	0.000200	0.100	0.0910	0.0910	0.0953	0.0850 to 0.115	91.0	70.0 to 130	0.00	20.0
BC01610	Beryllium, Dissolved	mg/L	0.0000412	0.000880	0.100	0.0870	0.0866	0.0983	0.0850 to 0.115	87.0	70.0 to 130	0.461	20.0
BC01611	Beryllium, Total	mg/L	0.000044	0.000880	0.100	0.0830	0.0889	0.0945	0.0850 to 0.115	83.0	70.0 to 130	6.86	20.0
BC01610	Boron, Dissolved	mg/L	-0.0004	0.0650	1.00	1.10	1.09	0.998	0.850 to 1.15	106	70.0 to 130	0.913	20.0
BC01611	Boron, Total	mg/L	-0.000624	0.0650	1.00	0.995	0.982	0.987	0.850 to 1.15	99.5	70.0 to 130	1.32	20.0
BC01610	Cadmium, Dissolved	mg/L	0.0000271	0.000147	0.100	0.107	0.107	0.105	0.0850 to 0.115	107	70.0 to 130	0.00	20.0
BC01611	Cadmium, Total	mg/L	0.0000127	0.000147	0.100	0.104	0.108	0.107	0.0850 to 0.115	104	70.0 to 130	3.77	20.0
BC01610	Calcium, Dissolved	mg/L	-0.0126	0.152	5.00	276	262	4.87	4.25 to 5.75	240	70.0 to 130	5.20	20.0
BC01611	Calcium, Total	mg/L	-0.0181	0.152	5.00	4.79	4.75	4.80	4.25 to 5.75	95.8	70.0 to 130	0.839	20.0
BC01610	Chromium, Dissolved	mg/L	-0.0000049	0.000440	0.100	0.105	0.103	0.105	0.0850 to 0.115	105	70.0 to 130	1.92	20.0
BC01611	Chromium, Total	mg/L	0.0000174	0.000440	0.100	0.101	0.105	0.104	0.0850 to 0.115	101	70.0 to 130	3.88	20.0
BC01610	Cobalt, Dissolved	mg/L	0.0000104	0.000147	0.100	0.102	0.0999	0.103	0.0850 to 0.115	102	70.0 to 130	2.08	20.0
BC01611	Cobalt, Total	mg/L	0.0000076	0.000147	0.100	0.0991	0.102	0.101	0.0850 to 0.115	99.1	70.0 to 130	2.88	20.0
BC01610	Iron, Dissolved	mg/L	-0.000395	0.0176	0.2	0.201	0.200	0.201	0.170 to 0.230	100	70.0 to 130	0.499	20.0
BC01611	Iron, Total	mg/L	-0.000334	0.0176	0.2	0.199	0.196	0.197	0.170 to 0.230	99.5	70.0 to 130	1.52	20.0
BC01610	Lead, Dissolved	mg/L	0.0000136	0.000147	0.100	0.110	0.107	0.110	0.0850 to 0.115	110	70.0 to 130	2.76	20.0
BC01611	Lead, Total	mg/L	0.000013	0.000147	0.100	0.105	0.110	0.115	0.0850 to 0.115	105	70.0 to 130	4.65	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORPU
Sample Date: 1/25/22 12:58
Customer ID:
Delivery Date: 1/26/22 09:58

Description: Gorgas Pooled Upgradient - MW-3

Laboratory ID Number: BC01608

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC01610	Lithium, Dissolved	mg/L	-0.000047	0.0154	0.200	0.252	0.250	0.194	0.170 to 0.230	104	70.0 to 130	0.797	20.0
BC01611	Lithium, Total	mg/L	-0.000265	0.0154	0.200	0.200	0.202	0.200	0.170 to 0.230	100	70.0 to 130	0.995	20.0
BC01610	Magnesium, Dissolved	mg/L	-0.00921	0.0462	5.00	441	425	5.01	4.25 to 5.75	240	70.0 to 130	3.70	20.0
BC01611	Magnesium, Total	mg/L	-0.00243	0.0462	5.00	5.05	5.03	4.99	4.25 to 5.75	101	70.0 to 130	0.397	20.0
BC01610	Manganese, Dissolved	mg/L	0.0000192	0.000147	0.100	0.102	0.101	0.102	0.0850 to 0.115	102	70.0 to 130	0.985	20.0
BC01611	Manganese, Total	mg/L	0.0000277	0.000147	0.100	0.0999	0.103	0.102	0.0850 to 0.115	99.9	70.0 to 130	3.06	20.0
BC01611	Mercury, Total by CVAA	mg/L	-8.000E-05	0.000500	0.004	0.00394	0.00392	0.00393	0.00340 to 0.00460	98.5	70.0 to 130	0.509	20.0
BC01610	Molybdenum, Dissolved	mg/L	0.0000298	0.000147	0.100	0.101	0.0987	0.0998	0.0850 to 0.115	101	70.0 to 130	2.30	20.0
BC01611	Molybdenum, Total	mg/L	-0.0000003	0.000147	0.100	0.0980	0.102	0.101	0.0850 to 0.115	98.0	70.0 to 130	4.00	20.0
BC01610	Potassium, Dissolved	mg/L	-0.0112	0.367	10.0	17.4	17.2	9.82	8.50 to 11.5	100	70.0 to 130	1.16	20.0
BC01611	Potassium, Total	mg/L	-0.0160	0.367	10.0	9.56	9.91	9.85	8.50 to 11.5	95.6	70.0 to 130	3.60	20.0
BC01610	Selenium, Dissolved	mg/L	0.0000355	0.00100	0.100	0.108	0.107	0.108	0.0850 to 0.115	106	70.0 to 130	0.930	20.0
BC01611	Selenium, Total	mg/L	0.0000422	0.00100	0.100	0.105	0.107	0.107	0.0850 to 0.115	105	70.0 to 130	1.89	20.0
BC01610	Silicon, Dissolved	mg/L	0.000078	0.0440	1.00	6.97	6.94	1.01	0.850 to 1.15	103	70.0 to 130	0.431	20.0
BC01611	Silicon, Total	mg/L	0.000194	0.0440	1.00	1.02	0.998	1.01	0.850 to 1.15	102	70.0 to 130	2.18	20.0
BC01610	Sodium, Dissolved	mg/L	-0.000372	0.0660	5.00	36.9	36.9	4.84	4.25 to 5.75	76.0	70.0 to 130	0.00	20.0
BC01611	Sodium, Total	mg/L	0.00428	0.0660	5.00	4.96	5.01	4.97	4.25 to 5.75	99.2	70.0 to 130	1.00	20.0
BC01610	Thallium, Dissolved	mg/L	0.0000134	0.000147	0.100	0.103	0.104	0.105	0.0850 to 0.115	103	70.0 to 130	0.966	20.0
BC01611	Thallium, Total	mg/L	0.0000134	0.000147	0.100	0.106	0.105	0.108	0.0850 to 0.115	106	70.0 to 130	0.948	20.0
BC01605	Total Organic Carbon	mg/L	0.220	1.00	10.0	10.5	10.8	23.7		95.0	80.0 to 120	2.82	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORPU

Sample Date: 1/25/22 12:58

Customer ID:

Delivery Date: 1/26/22 09:58

Description: Gorgas Pooled Upgradient - MW-3

Laboratory ID Number: BC01608

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC01773	Alkalinity, Total as CaCO3	mg/L					89.2	50.5	45.0 to 55.0			4.59	10.0
BC01611	Chloride	mg/L	-0.0356	1.00	10.0	9.89	0.183	10.1	9.00 to 11.0	98.9	80.0 to 120	0.00	20.0
BC01611	Fluoride	mg/L	0.0112	0.100	2.50	2.48	0.00933	2.48	2.25 to 2.75	99.2	80.0 to 120	0.00	20.0
BC01611	Nitrogen, Nitrate/Nitrite	mg/L as N	0.03	0.200	2.00	2.07	0.038	1.97	1.80 to 2.20	104	90.0 to 110	0.00	15.0
BC01610	Solids, Dissolved	mg/L	0.0000	25.0			3110	50.0	40.0 to 60.0			2.23	10.0
BC01611	Sulfate	mg/L	-0.682	1.00	20.0	17.9	-0.531	18.5	18.0 to 22.0	89.5	80.0 to 120	0.00	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Pooled Upgradient Field Blank-1

Location Code: WMWGORPUFB
Collected: 1/25/22 13:45
Customer ID:
Submittal Date: 1/26/22 09:58

Laboratory ID Number: BC01609

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: EPA 200.7			Analyst: RDA			Preparation Method: EPA 1638			
* Boron, Total	1/27/22 10:03	1/28/22 10:44		1.015	Not Detected	mg/L	0.030000	0.1015	U
* Calcium, Total	1/27/22 10:03	1/28/22 10:44		1.015	Not Detected	mg/L	0.070035	0.406	U
* Iron, Total	1/27/22 10:03	1/28/22 10:44		1.015	Not Detected	mg/L	0.008120	0.0406	U
* Lithium, Total	1/27/22 10:03	1/28/22 10:44		1.015	Not Detected	mg/L	0.007105	0.01999956	U
* Magnesium, Total	1/27/22 10:03	1/28/22 10:44		1.015	Not Detected	mg/L	0.021315	0.406	U
Silica, Total (calc.)	1/27/22 10:03	1/28/22 10:44		1	Not Detected	mg/L			
Silicon, Total	1/27/22 10:03	1/28/22 10:44		1.015	Not Detected	mg/L	0.02030	0.25375	U
* Sodium, Total	1/27/22 10:03	1/28/22 10:44		1.015	Not Detected	mg/L	0.03045	0.406	U
Analytical Method: EPA 200.8			Analyst: ABB			Preparation Method: EPA 1638			
* Antimony, Total	1/27/22 09:55	1/27/22 15:30		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	1/27/22 09:55	1/27/22 15:30		1.015	Not Detected	mg/L	0.004060	0.01015	U
* Arsenic, Total	1/27/22 09:55	1/27/22 15:30		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Barium, Total	1/27/22 09:55	1/27/22 15:30		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Beryllium, Total	1/27/22 09:55	1/27/22 15:30		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	1/27/22 09:55	1/27/22 15:30		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	1/27/22 09:55	1/27/22 15:30		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Total	1/27/22 09:55	1/27/22 15:30		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Lead, Total	1/27/22 09:55	1/27/22 15:30		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	1/27/22 09:55	1/27/22 15:30		1.015	0.000110	mg/L	0.000068	0.000203	J
* Molybdenum, Total	1/27/22 09:55	1/27/22 15:30		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Potassium, Total	1/27/22 09:55	1/27/22 15:30		1.015	Not Detected	mg/L	0.169505	0.5075	U
* Selenium, Total	1/27/22 09:55	1/27/22 15:30		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	1/27/22 09:55	1/27/22 15:30		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 245.1			Analyst: CRB						
* Mercury, Total by CVAA	1/26/22 15:24	1/26/22 20:07		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2			Analyst: CES						
* Nitrogen, Nitrate/Nitrite	2/1/22 13:50	2/1/22 13:50		1	Not Detected	mg/L as N	0.20	0.3	U
Analytical Method: SM 2540C			Analyst: CNJ						
* Solids, Dissolved	1/27/22 11:00	1/28/22 13:33		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 Pooled Upgradient Field Blank-1

Location Code: WMWGORPUFB

Collected: 1/25/22 13:45

Customer ID:

Submittal Date: 1/26/22 09:58

Laboratory ID Number: BC01609

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	2/4/22 17:34	2/4/22 17:34		1	Not Detected	mg/L	1.00	2	U
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	1/26/22 15:20	1/26/22 15:20		1	Not Detected	mg/L	0.50	1	U
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	1/27/22 11:09	1/27/22 11:09		1	Not Detected	mg/L	0.06	0.1	U
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	2/7/22 13:14	2/7/22 13:14		1	Not Detected	mg/L	0.50	1	U

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

Comments:

Batch QC Summary

Customer Account: WMWGORPUFB

Sample Date: 1/25/22 13:45

Customer ID:

Delivery Date: 1/26/22 09:58

Description: Gorgas Pooled Upgradient Field Blank-1

Laboratory ID Number: BC01609

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC01611	Aluminum, Total	mg/L	0.000849	0.00880	0.100	0.100	0.104	0.104	0.0850 to 0.115	100	70.0 to 130	3.92	20.0
BC01611	Antimony, Total	mg/L	0.0000707	0.00100	0.100	0.0970	0.101	0.0957	0.0850 to 0.115	97.0	70.0 to 130	4.04	20.0
BC01611	Arsenic, Total	mg/L	0.0000151	0.000147	0.100	0.103	0.107	0.105	0.0850 to 0.115	103	70.0 to 130	3.81	20.0
BC01611	Barium, Total	mg/L	0.0000264	0.000200	0.100	0.0910	0.0910	0.0953	0.0850 to 0.115	91.0	70.0 to 130	0.00	20.0
BC01611	Beryllium, Total	mg/L	0.000044	0.000880	0.100	0.0830	0.0889	0.0945	0.0850 to 0.115	83.0	70.0 to 130	6.86	20.0
BC01611	Boron, Total	mg/L	-0.000624	0.0650	1.00	0.995	0.982	0.987	0.850 to 1.15	99.5	70.0 to 130	1.32	20.0
BC01611	Cadmium, Total	mg/L	0.0000127	0.000147	0.100	0.104	0.108	0.107	0.0850 to 0.115	104	70.0 to 130	3.77	20.0
BC01611	Calcium, Total	mg/L	-0.0181	0.152	5.00	4.79	4.75	4.80	4.25 to 5.75	95.8	70.0 to 130	0.839	20.0
BC01611	Chromium, Total	mg/L	0.0000174	0.000440	0.100	0.101	0.105	0.104	0.0850 to 0.115	101	70.0 to 130	3.88	20.0
BC01611	Cobalt, Total	mg/L	0.0000076	0.000147	0.100	0.0991	0.102	0.101	0.0850 to 0.115	99.1	70.0 to 130	2.88	20.0
BC01611	Iron, Total	mg/L	-0.000334	0.0176	0.2	0.199	0.196	0.197	0.170 to 0.230	99.5	70.0 to 130	1.52	20.0
BC01611	Lead, Total	mg/L	0.000013	0.000147	0.100	0.105	0.110	0.115	0.0850 to 0.115	105	70.0 to 130	4.65	20.0
BC01611	Lithium, Total	mg/L	-0.000265	0.0154	0.200	0.200	0.202	0.200	0.170 to 0.230	100	70.0 to 130	0.995	20.0
BC01611	Magnesium, Total	mg/L	-0.00243	0.0462	5.00	5.05	5.03	4.99	4.25 to 5.75	101	70.0 to 130	0.397	20.0
BC01611	Manganese, Total	mg/L	0.0000277	0.000147	0.100	0.0999	0.103	0.102	0.0850 to 0.115	99.9	70.0 to 130	3.06	20.0
BC01611	Mercury, Total by CVAA	mg/L	-8.000E-05	0.000500	0.004	0.00394	0.00392	0.00393	0.00340 to 0.00460	98.5	70.0 to 130	0.509	20.0
BC01611	Molybdenum, Total	mg/L	-0.0000003	0.000147	0.100	0.0980	0.102	0.101	0.0850 to 0.115	98.0	70.0 to 130	4.00	20.0
BC01611	Potassium, Total	mg/L	-0.0160	0.367	10.0	9.56	9.91	9.85	8.50 to 11.5	95.6	70.0 to 130	3.60	20.0
BC01611	Selenium, Total	mg/L	0.0000422	0.00100	0.100	0.105	0.107	0.107	0.0850 to 0.115	105	70.0 to 130	1.89	20.0
BC01611	Silicon, Total	mg/L	0.000194	0.0440	1.00	1.02	0.998	1.01	0.850 to 1.15	102	70.0 to 130	2.18	20.0
BC01611	Sodium, Total	mg/L	0.00428	0.0660	5.00	4.96	5.01	4.97	4.25 to 5.75	99.2	70.0 to 130	1.00	20.0
BC01611	Thallium, Total	mg/L	0.0000134	0.000147	0.100	0.106	0.105	0.108	0.0850 to 0.115	106	70.0 to 130	0.948	20.0
BC01605	Total Organic Carbon	mg/L	0.220	1.00	10.0	10.5	10.8	23.7		95.0	80.0 to 120	2.82	20.0

Comments:

Batch QC Summary

Customer Account: WMWGORPUFB

Sample Date: 1/25/22 13:45

Customer ID:

Delivery Date: 1/26/22 09:58

Description: Gorgas Pooled Upgradient Field Blank-1

Laboratory ID Number: BC01609

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC01611	Chloride	mg/L	-0.0356	1.00	10.0	9.89	0.183	10.1	9.00 to 11.0	98.9	80.0 to 120	0.00	20.0
BC01611	Fluoride	mg/L	0.0112	0.100	2.50	2.48	0.00933	2.48	2.25 to 2.75	99.2	80.0 to 120	0.00	20.0
BC01611	Nitrogen, Nitrate/Nitrite	mg/L as N	0.03	0.200	2.00	2.07	0.038	1.97	1.80 to 2.20	104	90.0 to 110	0.00	15.0
BC01610	Solids, Dissolved	mg/L	0.0000	25.0			3110	50.0	40.0 to 60.0			2.23	10.0
BC01611	Sulfate	mg/L	-0.682	1.00	20.0	17.9	-0.531	18.5	18.0 to 22.0	89.5	80.0 to 120	0.00	20.0

Comments:

Certificate Of Analysis

Description: Gorgas Pooled Upgradient - MW-4

Location Code: WMWGORPU

Collected: 1/25/22 14:40

Customer ID:

Submittal Date: 1/26/22 09:58

Laboratory ID Number: BC01610

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: EPA 200.7		Analyst: RDA			Preparation Method: EPA 1638				
* Boron, Total	1/27/22 10:03	1/28/22 10:46		1.015	0.0408	mg/L	0.030000	0.1015	J
* Calcium, Total	1/27/22 10:03	1/28/22 11:25		20.3	259	mg/L	1.4007	8.12	
* Iron, Total	1/27/22 10:03	1/28/22 10:46		1.015	Not Detected	mg/L	0.008120	0.0406	U
* Lithium, Total	1/27/22 10:03	1/28/22 10:46		1.015	0.0433	mg/L	0.007105	0.01999956	
* Magnesium, Total	1/27/22 10:03	1/28/22 11:25		20.3	424	mg/L	0.4263	8.12	
Silica, Total (calc.)	1/27/22 10:03	1/28/22 10:46		1	12.4	mg/L			
Silicon, Total	1/27/22 10:03	1/28/22 10:46		1.015	5.80	mg/L	0.02030	0.25375	
* Sodium, Total	1/27/22 10:03	1/28/22 10:46		1.015	33.1	mg/L	0.03045	0.406	
Analytical Method: EPA 200.7		Analyst: RDA			Preparation Method: EPA 1638				
* Boron, Dissolved	1/27/22 09:52	1/28/22 09:29		1.015	0.0432	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	1/27/22 09:52	1/28/22 10:05		20.3	264	mg/L	1.4007	8.12	RA
* Iron, Dissolved	1/27/22 09:52	1/28/22 09:29		1.015	Not Detected	mg/L	0.008120	0.0406	U
* Lithium, Dissolved	1/27/22 09:52	1/28/22 09:29		1.015	0.0434	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	1/27/22 09:52	1/28/22 10:05		20.3	429	mg/L	0.4263	8.12	RA
Silica, Dissolved (calc.)	1/27/22 09:52	1/28/22 09:29		1	12.7	mg/L			
Silicon, Dissolved	1/27/22 09:52	1/28/22 09:29		1.015	5.94	mg/L	0.02030	0.25375	
* Sodium, Dissolved	1/27/22 09:52	1/28/22 09:29		1.015	33.1	mg/L	0.03045	0.406	
Analytical Method: EPA 200.8		Analyst: ABB			Preparation Method: EPA 1638				
* Antimony, Total	1/27/22 09:55	1/27/22 15:33		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	1/27/22 09:55	1/27/22 15:33		1.015	0.00905	mg/L	0.004060	0.01015	J
* Arsenic, Total	1/27/22 09:55	1/27/22 15:33		1.015	0.0000875	mg/L	0.000068	0.000203	J
* Barium, Total	1/27/22 09:55	1/27/22 15:33		1.015	0.00908	mg/L	0.000102	0.000203	
* Beryllium, Total	1/27/22 09:55	1/27/22 15:33		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	1/27/22 09:55	1/27/22 15:33		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	1/27/22 09:55	1/27/22 15:33		1.015	0.000208	mg/L	0.000203	0.001015	J
* Cobalt, Total	1/27/22 09:55	1/27/22 15:33		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Lead, Total	1/27/22 09:55	1/27/22 15:33		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	1/27/22 09:55	1/27/22 15:33		1.015	0.000745	mg/L	0.000068	0.000203	
* Molybdenum, Total	1/27/22 09:55	1/27/22 15:33		1.015	0.000114	mg/L	0.000068	0.000203	J
* Potassium, Total	1/27/22 09:55	1/27/22 15:33		1.015	7.45	mg/L	0.169505	0.5075	

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Pooled Upgradient - MW-4

Location Code: WMWGORPU
Collected: 1/25/22 14:40
Customer ID:
Submittal Date: 1/26/22 09:58

Laboratory ID Number: BC01610

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	1/27/22 09:55	1/27/22 15:33		1.015	0.00224	mg/L	0.000508	0.001015	
* Thallium, Total	1/27/22 09:55	1/27/22 15:33		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 200.8		Analyst: ABB							
* Antimony, Dissolved	1/27/22 10:10	1/27/22 13:13		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	1/27/22 10:10	1/27/22 13:13		1.015	Not Detected	mg/L	0.004060	0.01015	U
* Arsenic, Dissolved	1/27/22 10:10	1/27/22 13:13		1.015	0.0000697	mg/L	0.000068	0.000203	J
* Barium, Dissolved	1/27/22 10:10	1/27/22 13:13		1.015	0.00991	mg/L	0.000102	0.000203	
* Beryllium, Dissolved	1/27/22 10:10	1/27/22 13:13		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	1/27/22 10:10	1/27/22 13:13		1.015	0.0000859	mg/L	0.000068	0.000203	J
* Chromium, Dissolved	1/27/22 10:10	1/27/22 13:13		1.015	0.000216	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	1/27/22 10:10	1/27/22 13:13		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Lead, Dissolved	1/27/22 10:10	1/27/22 13:13		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	1/27/22 10:10	1/27/22 13:13		1.015	0.000284	mg/L	0.000068	0.000203	
* Molybdenum, Dissolved	1/27/22 10:10	1/27/22 13:13		1.015	0.000110	mg/L	0.000068	0.000203	J
* Potassium, Dissolved	1/27/22 10:10	1/27/22 13:13		1.015	7.38	mg/L	0.169505	0.5075	
* Selenium, Dissolved	1/27/22 10:10	1/27/22 13:13		1.015	0.00227	mg/L	0.000508	0.001015	
* Thallium, Dissolved	1/27/22 10:10	1/27/22 13:13		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	1/26/22 15:24	1/26/22 20:11		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: CES							
* Nitrogen, Nitrate/Nitrite	2/1/22 13:51	2/1/22 13:51		1	0.226	mg/L as N	0.20	0.3	J
Analytical Method: SM 2320 B		Analyst: ALH							
Alkalinity, Total as CaCO3	1/31/22 09:50	1/31/22 13:00		1	174	mg/L		0.1	
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	1/27/22 11:00	1/28/22 13:33		1	3180	mg/L		147.1	
Analytical Method: SM 4500CO2 D		Analyst: ALH							
Bicarbonate Alkalinity, (calc.)	1/31/22 09:50	1/31/22 13:00		1	174	mg/L			
Carbonate Alkalinity, (calc.)	1/31/22 09:50	1/31/22 13:00		1	0.05	mg/L			
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	2/4/22 17:52	2/4/22 17:52		1	Not Detected	mg/L	1.00	2	U

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Pooled Upgradient - MW-4

Location Code: WMWGORPU

Collected: 1/25/22 14:40

Customer ID:

Submittal Date: 1/26/22 09:58

Laboratory ID Number: BC01610

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	1/26/22 15:21	1/26/22 15:21		1	1.54	mg/L	0.50	1	
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	1/27/22 11:10	1/27/22 11:10		1	0.364	mg/L	0.06	0.1	
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	2/7/22 13:15	2/7/22 13:15		80	1930	mg/L	40.00	80	
Analytical Method: Field Measurements		Analyst: TJD							
Conductivity	1/25/22 14:35	1/25/22 14:35			2843.39	uS/cm			FA
pH	1/25/22 14:35	1/25/22 14:35			6.30	SU			FA
Temperature	1/25/22 14:35	1/25/22 14:35			21.37	C			FA
Turbidity	1/25/22 14:35	1/25/22 14:35			1.1	NTU			FA

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

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORPU
Sample Date: 1/25/22 14:40
Customer ID:
Delivery Date: 1/26/22 09:58

Description: Gorgas Pooled Upgradient - MW-4

Laboratory ID Number: BC01610

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC01610	Aluminum, Dissolved	mg/L	0.000300	0.00880	0.100	0.104	0.103	0.104	0.0850 to 0.115	104	70.0 to 130	0.966	20.0
BC01611	Aluminum, Total	mg/L	0.000849	0.00880	0.100	0.100	0.104	0.104	0.0850 to 0.115	100	70.0 to 130	3.92	20.0
BC01610	Antimony, Dissolved	mg/L	0.0000892	0.00100	0.100	0.0984	0.0981	0.0977	0.0850 to 0.115	98.4	70.0 to 130	0.305	20.0
BC01611	Antimony, Total	mg/L	0.0000707	0.00100	0.100	0.0970	0.101	0.0957	0.0850 to 0.115	97.0	70.0 to 130	4.04	20.0
BC01610	Arsenic, Dissolved	mg/L	0.0000136	0.000147	0.100	0.106	0.105	0.105	0.0850 to 0.115	106	70.0 to 130	0.948	20.0
BC01611	Arsenic, Total	mg/L	0.0000151	0.000147	0.100	0.103	0.107	0.105	0.0850 to 0.115	103	70.0 to 130	3.81	20.0
BC01610	Barium, Dissolved	mg/L	-0.0000179	0.000200	0.100	0.102	0.106	0.0997	0.0850 to 0.115	92.1	70.0 to 130	3.85	20.0
BC01611	Barium, Total	mg/L	0.0000264	0.000200	0.100	0.0910	0.0910	0.0953	0.0850 to 0.115	91.0	70.0 to 130	0.00	20.0
BC01610	Beryllium, Dissolved	mg/L	0.0000412	0.000880	0.100	0.0870	0.0866	0.0983	0.0850 to 0.115	87.0	70.0 to 130	0.461	20.0
BC01611	Beryllium, Total	mg/L	0.000044	0.000880	0.100	0.0830	0.0889	0.0945	0.0850 to 0.115	83.0	70.0 to 130	6.86	20.0
BC01610	Boron, Dissolved	mg/L	-0.0004	0.0650	1.00	1.10	1.09	0.998	0.850 to 1.15	106	70.0 to 130	0.913	20.0
BC01611	Boron, Total	mg/L	-0.000624	0.0650	1.00	0.995	0.982	0.987	0.850 to 1.15	99.5	70.0 to 130	1.32	20.0
BC01610	Cadmium, Dissolved	mg/L	0.0000271	0.000147	0.100	0.107	0.107	0.105	0.0850 to 0.115	107	70.0 to 130	0.00	20.0
BC01611	Cadmium, Total	mg/L	0.0000127	0.000147	0.100	0.104	0.108	0.107	0.0850 to 0.115	104	70.0 to 130	3.77	20.0
BC01610	Calcium, Dissolved	mg/L	-0.0126	0.152	5.00	276	262	4.87	4.25 to 5.75	240	70.0 to 130	5.20	20.0
BC01611	Calcium, Total	mg/L	-0.0181	0.152	5.00	4.79	4.75	4.80	4.25 to 5.75	95.8	70.0 to 130	0.839	20.0
BC01610	Chromium, Dissolved	mg/L	-0.0000049	0.000440	0.100	0.105	0.103	0.105	0.0850 to 0.115	105	70.0 to 130	1.92	20.0
BC01611	Chromium, Total	mg/L	0.0000174	0.000440	0.100	0.101	0.105	0.104	0.0850 to 0.115	101	70.0 to 130	3.88	20.0
BC01610	Cobalt, Dissolved	mg/L	0.0000104	0.000147	0.100	0.102	0.0999	0.103	0.0850 to 0.115	102	70.0 to 130	2.08	20.0
BC01611	Cobalt, Total	mg/L	0.0000076	0.000147	0.100	0.0991	0.102	0.101	0.0850 to 0.115	99.1	70.0 to 130	2.88	20.0
BC01610	Iron, Dissolved	mg/L	-0.000395	0.0176	0.2	0.201	0.200	0.201	0.170 to 0.230	100	70.0 to 130	0.499	20.0
BC01611	Iron, Total	mg/L	-0.000334	0.0176	0.2	0.199	0.196	0.197	0.170 to 0.230	99.5	70.0 to 130	1.52	20.0
BC01610	Lead, Dissolved	mg/L	0.0000136	0.000147	0.100	0.110	0.107	0.110	0.0850 to 0.115	110	70.0 to 130	2.76	20.0
BC01611	Lead, Total	mg/L	0.000013	0.000147	0.100	0.105	0.110	0.115	0.0850 to 0.115	105	70.0 to 130	4.65	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORPU
Sample Date: 1/25/22 14:40
Customer ID:
Delivery Date: 1/26/22 09:58

Description: Gorgas Pooled Upgradient - MW-4

Laboratory ID Number: BC01610

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC01610	Lithium, Dissolved	mg/L	-0.000047	0.0154	0.200	0.252	0.250	0.194	0.170 to 0.230	104	70.0 to 130	0.797	20.0
BC01611	Lithium, Total	mg/L	-0.000265	0.0154	0.200	0.200	0.202	0.200	0.170 to 0.230	100	70.0 to 130	0.995	20.0
BC01610	Magnesium, Dissolved	mg/L	-0.00921	0.0462	5.00	441	425	5.01	4.25 to 5.75	240	70.0 to 130	3.70	20.0
BC01611	Magnesium, Total	mg/L	-0.00243	0.0462	5.00	5.05	5.03	4.99	4.25 to 5.75	101	70.0 to 130	0.397	20.0
BC01610	Manganese, Dissolved	mg/L	0.0000192	0.000147	0.100	0.102	0.101	0.102	0.0850 to 0.115	102	70.0 to 130	0.985	20.0
BC01611	Manganese, Total	mg/L	0.0000277	0.000147	0.100	0.0999	0.103	0.102	0.0850 to 0.115	99.9	70.0 to 130	3.06	20.0
BC01611	Mercury, Total by CVAA	mg/L	-8.000E-05	0.000500	0.004	0.00394	0.00392	0.00393	0.00340 to 0.00460	98.5	70.0 to 130	0.509	20.0
BC01610	Molybdenum, Dissolved	mg/L	0.0000298	0.000147	0.100	0.101	0.0987	0.0998	0.0850 to 0.115	101	70.0 to 130	2.30	20.0
BC01611	Molybdenum, Total	mg/L	-0.0000003	0.000147	0.100	0.0980	0.102	0.101	0.0850 to 0.115	98.0	70.0 to 130	4.00	20.0
BC01610	Potassium, Dissolved	mg/L	-0.0112	0.367	10.0	17.4	17.2	9.82	8.50 to 11.5	100	70.0 to 130	1.16	20.0
BC01611	Potassium, Total	mg/L	-0.0160	0.367	10.0	9.56	9.91	9.85	8.50 to 11.5	95.6	70.0 to 130	3.60	20.0
BC01610	Selenium, Dissolved	mg/L	0.0000355	0.00100	0.100	0.108	0.107	0.108	0.0850 to 0.115	106	70.0 to 130	0.930	20.0
BC01611	Selenium, Total	mg/L	0.0000422	0.00100	0.100	0.105	0.107	0.107	0.0850 to 0.115	105	70.0 to 130	1.89	20.0
BC01610	Silicon, Dissolved	mg/L	0.000078	0.0440	1.00	6.97	6.94	1.01	0.850 to 1.15	103	70.0 to 130	0.431	20.0
BC01611	Silicon, Total	mg/L	0.000194	0.0440	1.00	1.02	0.998	1.01	0.850 to 1.15	102	70.0 to 130	2.18	20.0
BC01610	Sodium, Dissolved	mg/L	-0.000372	0.0660	5.00	36.9	36.9	4.84	4.25 to 5.75	76.0	70.0 to 130	0.00	20.0
BC01611	Sodium, Total	mg/L	0.00428	0.0660	5.00	4.96	5.01	4.97	4.25 to 5.75	99.2	70.0 to 130	1.00	20.0
BC01610	Thallium, Dissolved	mg/L	0.0000134	0.000147	0.100	0.103	0.104	0.105	0.0850 to 0.115	103	70.0 to 130	0.966	20.0
BC01611	Thallium, Total	mg/L	0.0000134	0.000147	0.100	0.106	0.105	0.108	0.0850 to 0.115	106	70.0 to 130	0.948	20.0
BC01605	Total Organic Carbon	mg/L	0.220	1.00	10.0	10.5	10.8	23.7		95.0	80.0 to 120	2.82	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Batch QC Summary

Customer Account: WMWGORPU

Sample Date: 1/25/22 14:40

Customer ID:

Delivery Date: 1/26/22 09:58

Description: Gorgas Pooled Upgradient - MW-4

Laboratory ID Number: BC01610

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC01773	Alkalinity, Total as CaCO3	mg/L					89.2	50.5	45.0 to 55.0			4.59	10.0
BC01611	Chloride	mg/L	-0.0356	1.00	10.0	9.89	0.183	10.1	9.00 to 11.0	98.9	80.0 to 120	0.00	20.0
BC01611	Fluoride	mg/L	0.0112	0.100	2.50	2.48	0.00933	2.48	2.25 to 2.75	99.2	80.0 to 120	0.00	20.0
BC01611	Nitrogen, Nitrate/Nitrite	mg/L as N	0.03	0.200	2.00	2.07	0.038	1.97	1.80 to 2.20	104	90.0 to 110	0.00	15.0
BC01610	Solids, Dissolved	mg/L	0.0000	25.0			3110	50.0	40.0 to 60.0			2.23	10.0
BC01611	Sulfate	mg/L	-0.682	1.00	20.0	17.9	-0.531	18.5	18.0 to 22.0	89.5	80.0 to 120	0.00	20.0

Comments: The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified.

Certificate Of Analysis

Description: Gorgas Pooled Upgradient Equipment Blank-1

Location Code: WMWGORPUEB
Collected: 1/25/22 15:10
Customer ID:
Submittal Date: 1/26/22 09:58

Laboratory ID Number: BC01611

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: EPA 200.7			Analyst: RDA		Preparation Method: EPA 1638				
* Boron, Total	1/27/22 10:03	1/28/22 10:48		1.015	Not Detected	mg/L	0.030000	0.1015	U
* Calcium, Total	1/27/22 10:03	1/28/22 10:48		1.015	Not Detected	mg/L	0.070035	0.406	U
* Iron, Total	1/27/22 10:03	1/28/22 10:48		1.015	Not Detected	mg/L	0.008120	0.0406	U
* Lithium, Total	1/27/22 10:03	1/28/22 10:48		1.015	Not Detected	mg/L	0.007105	0.01999956	U
* Magnesium, Total	1/27/22 10:03	1/28/22 10:48		1.015	Not Detected	mg/L	0.021315	0.406	U
Silica, Total (calc.)	1/27/22 10:03	1/28/22 10:48		1	Not Detected	mg/L			
Silicon, Total	1/27/22 10:03	1/28/22 10:48		1.015	Not Detected	mg/L	0.02030	0.25375	U
* Sodium, Total	1/27/22 10:03	1/28/22 10:48		1.015	Not Detected	mg/L	0.03045	0.406	U
Analytical Method: EPA 200.8			Analyst: ABB		Preparation Method: EPA 1638				
* Antimony, Total	1/27/22 09:55	1/27/22 15:37		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	1/27/22 09:55	1/27/22 15:37		1.015	Not Detected	mg/L	0.004060	0.01015	U
* Arsenic, Total	1/27/22 09:55	1/27/22 15:37		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Barium, Total	1/27/22 09:55	1/27/22 15:37		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Beryllium, Total	1/27/22 09:55	1/27/22 15:37		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	1/27/22 09:55	1/27/22 15:37		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	1/27/22 09:55	1/27/22 15:37		1.015	0.000207	mg/L	0.000203	0.001015	J
* Cobalt, Total	1/27/22 09:55	1/27/22 15:37		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Lead, Total	1/27/22 09:55	1/27/22 15:37		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	1/27/22 09:55	1/27/22 15:37		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Molybdenum, Total	1/27/22 09:55	1/27/22 15:37		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Potassium, Total	1/27/22 09:55	1/27/22 15:37		1.015	Not Detected	mg/L	0.169505	0.5075	U
* Selenium, Total	1/27/22 09:55	1/27/22 15:37		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	1/27/22 09:55	1/27/22 15:37		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 245.1			Analyst: CRB						
* Mercury, Total by CVAA	1/26/22 15:24	1/26/22 20:15		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2			Analyst: CES						
* Nitrogen, Nitrate/Nitrite	2/1/22 13:52	2/1/22 13:52		1	Not Detected	mg/L as N	0.20	0.3	U
Analytical Method: SM 2540C			Analyst: CNJ						
* Solids, Dissolved	1/27/22 11:00	1/28/22 13:33		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 Pooled Upgradient Equipment Blank-1

Location Code: WMWGORPUEB

Collected: 1/25/22 15:10

Customer ID:

Submittal Date: 1/26/22 09:58

Laboratory ID Number: BC01611

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	2/4/22 18:09	2/4/22 18:09		1	Not Detected	mg/L	1.00	2	U
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	1/26/22 15:22	1/26/22 15:22		1	Not Detected	mg/L	0.50	1	U
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	1/27/22 11:11	1/27/22 11:11		1	Not Detected	mg/L	0.06	0.1	U
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	2/7/22 13:16	2/7/22 13:16		1	Not Detected	mg/L	0.50	1	U

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

Comments:

Batch QC Summary

Customer Account: WMWGORPUEB

Sample Date: 1/25/22 15:10

Customer ID:

Delivery Date: 1/26/22 09:58

Description: Gorgas Pooled Upgradient Equipment Blank-1

Laboratory ID Number: BC01611

Sample	Analysis	Units	MB					Standard		Rec		Prec	Limit
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC01611	Aluminum, Total	mg/L	0.000849	0.00880	0.100	0.100	0.104	0.104	0.0850 to 0.115	100	70.0 to 130	3.92	20.0
BC01611	Antimony, Total	mg/L	0.0000707	0.00100	0.100	0.0970	0.101	0.0957	0.0850 to 0.115	97.0	70.0 to 130	4.04	20.0
BC01611	Arsenic, Total	mg/L	0.0000151	0.000147	0.100	0.103	0.107	0.105	0.0850 to 0.115	103	70.0 to 130	3.81	20.0
BC01611	Barium, Total	mg/L	0.0000264	0.000200	0.100	0.0910	0.0910	0.0953	0.0850 to 0.115	91.0	70.0 to 130	0.00	20.0
BC01611	Beryllium, Total	mg/L	0.000044	0.000880	0.100	0.0830	0.0889	0.0945	0.0850 to 0.115	83.0	70.0 to 130	6.86	20.0
BC01611	Boron, Total	mg/L	-0.000624	0.0650	1.00	0.995	0.982	0.987	0.850 to 1.15	99.5	70.0 to 130	1.32	20.0
BC01611	Cadmium, Total	mg/L	0.0000127	0.000147	0.100	0.104	0.108	0.107	0.0850 to 0.115	104	70.0 to 130	3.77	20.0
BC01611	Calcium, Total	mg/L	-0.0181	0.152	5.00	4.79	4.75	4.80	4.25 to 5.75	95.8	70.0 to 130	0.839	20.0
BC01611	Chromium, Total	mg/L	0.0000174	0.000440	0.100	0.101	0.105	0.104	0.0850 to 0.115	101	70.0 to 130	3.88	20.0
BC01611	Cobalt, Total	mg/L	0.0000076	0.000147	0.100	0.0991	0.102	0.101	0.0850 to 0.115	99.1	70.0 to 130	2.88	20.0
BC01611	Iron, Total	mg/L	-0.000334	0.0176	0.2	0.199	0.196	0.197	0.170 to 0.230	99.5	70.0 to 130	1.52	20.0
BC01611	Lead, Total	mg/L	0.000013	0.000147	0.100	0.105	0.110	0.115	0.0850 to 0.115	105	70.0 to 130	4.65	20.0
BC01611	Lithium, Total	mg/L	-0.000265	0.0154	0.200	0.200	0.202	0.200	0.170 to 0.230	100	70.0 to 130	0.995	20.0
BC01611	Magnesium, Total	mg/L	-0.00243	0.0462	5.00	5.05	5.03	4.99	4.25 to 5.75	101	70.0 to 130	0.397	20.0
BC01611	Manganese, Total	mg/L	0.0000277	0.000147	0.100	0.0999	0.103	0.102	0.0850 to 0.115	99.9	70.0 to 130	3.06	20.0
BC01611	Mercury, Total by CVAA	mg/L	-8.000E-05	0.000500	0.004	0.00394	0.00392	0.00393	0.00340 to 0.00460	98.5	70.0 to 130	0.509	20.0
BC01611	Molybdenum, Total	mg/L	-0.0000003	0.000147	0.100	0.0980	0.102	0.101	0.0850 to 0.115	98.0	70.0 to 130	4.00	20.0
BC01611	Potassium, Total	mg/L	-0.0160	0.367	10.0	9.56	9.91	9.85	8.50 to 11.5	95.6	70.0 to 130	3.60	20.0
BC01611	Selenium, Total	mg/L	0.0000422	0.00100	0.100	0.105	0.107	0.107	0.0850 to 0.115	105	70.0 to 130	1.89	20.0
BC01611	Silicon, Total	mg/L	0.000194	0.0440	1.00	1.02	0.998	1.01	0.850 to 1.15	102	70.0 to 130	2.18	20.0
BC01611	Sodium, Total	mg/L	0.00428	0.0660	5.00	4.96	5.01	4.97	4.25 to 5.75	99.2	70.0 to 130	1.00	20.0
BC01611	Thallium, Total	mg/L	0.0000134	0.000147	0.100	0.106	0.105	0.108	0.0850 to 0.115	106	70.0 to 130	0.948	20.0
BC01605	Total Organic Carbon	mg/L	0.220	1.00	10.0	10.5	10.8	23.7		95.0	80.0 to 120	2.82	20.0

Comments:

Batch QC Summary

Customer Account: WMWGORPUEB

Sample Date: 1/25/22 15:10

Customer ID:

Delivery Date: 1/26/22 09:58

Description: Gorgas Pooled Upgradient Equipment Blank-1

Laboratory ID Number: BC01611

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC01611	Chloride	mg/L	-0.0356	1.00	10.0	9.89	0.183	10.1	9.00 to 11.0	98.9	80.0 to 120	0.00	20.0
BC01611	Fluoride	mg/L	0.0112	0.100	2.50	2.48	0.00933	2.48	2.25 to 2.75	99.2	80.0 to 120	0.00	20.0
BC01611	Nitrogen, Nitrate/Nitrite	mg/L as N	0.03	0.200	2.00	2.07	0.038	1.97	1.80 to 2.20	104	90.0 to 110	0.00	15.0
BC01610	Solids, Dissolved	mg/L	0.0000	25.0			3110	50.0	40.0 to 60.0			2.23	10.0
BC01611	Sulfate	mg/L	-0.682	1.00	20.0	17.9	-0.531	18.5	18.0 to 22.0	89.5	80.0 to 120	0.00	20.0

Comments:

Definitions

Project Number: WMWGORPU_1347

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
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
		Location	Gorgas Pooled Upgradient

Bottles	1	Metals	500 mL	3	Hg	250 mL	5	TDS	500 mL	7	Alkalinity	250 mL
	2	Dissolved Metals	500 mL	4	Nitrate/Nitrite, TOC	250 mL	6	Anions	250 mL	8	N/A	N/A

Comments: Nitrate/nitrite, TOC pH<2. LBM 1/26/22

Sample #	Date	Time	Bottle Count	Description	Lab Filter	Lab Id
MW-1	01/25/2022	10:15	7	Groundwater		BC01605
MW-2	01/25/2022	11:33	7	Groundwater		BC01606
MW-2 Dup	01/25/2022	11:33	7	Sample Duplicate		BC01607
MW-3	01/25/2022	12:58	7	Groundwater		BC01608
FB-1	01/25/2022	13:45	5	Field Blank		BC01609
MW-4	01/25/2022	14:40	7	Groundwater		BC01610
EB-1	01/25/2022	15:10	5	Equipment Blank		BC01611

Relinquished By	Received By	Date/Time
		01/25/2022 16:45
		01/26/2022 08:09

SmarTroll ID	7586-41445-5-4	All metals and radiological bottles have pH < 2 <input checked="" type="checkbox"/>
Turbidity ID	4677-23342-4-1	
Sample Event	1347	
	Cooler Temp	0.2 degrees C
	Thermometer ID	5408-27568-2-2
	pH Strip ID	8440-53679-10-5

Bottles/Pre-Preserved Bottles are provided by the GTL



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
		Location	Gorgas Pooled Upgradient

Bottles	1	Radium	1 L	3	N/A	N/A	5	N/A	N/A	7	N/A	N/A
	2	Sulfide	250 mL	4	N/A	N/A	6	N/A	N/A	8	N/A	N/A

Comments: Rad MS/MSD @ MW-1
 Sulfide bottles pH>9. LBM 1/26/22 Adding date/time per inhouse COC. LBM 1/27/22

Sample #	Date	Time	Bottle Count	Description	Lab Filter	Lab Id
MW-1	01/25/2022	10:15	4	Groundwater		BC01612
MW-2	01/25/2022	11:33	2	Groundwater		BC01613
MW-2 Dup	01/25/2022	11:33	2	Sample Duplicate		BC01614
MW-3	01/25/2022	12:58	2	Groundwater		BC01615
FB-1	01/25/2022	13:45	2	Field Blank		BC01616
MW-4	01/25/2022	14:40	2	Groundwater		BC01617
EB-1	01/25/2022	15:10	2	Equipment Blank		BC01618

Relinquished By	Received By	Date/Time
		01/25/2022 16:45
		01/26/2022 08:09

SmarTroll ID	7586-41445-5-4	All metals and radiological bottles have pH < 2 <input checked="" type="checkbox"/>
Turbidity ID	4677-23342-4-1	
Sample Event	1347	
	Cooler Temp	0.2 degrees C
	Thermometer ID	5408-27568-2-2
	pH Strip ID	8440-53679-10-5

Bottles/Pre-Preserved Bottles are provided by the GTL

January 31, 2022

Laura Midkiff
Alabama Power
744 Highway 87
GSC 8
Calera, AL 35040

RE: Project: WMWGORPU_1347
Pace Project No.: 20233139

Dear Laura Midkiff:

Enclosed are the analytical results for sample(s) received by the laboratory on January 27, 2022. 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 - New Orleans

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

Sincerely,



Karen Brown
karen.brown@pacelabs.com
(504)469-0333
Project Manager

Enclosures

cc: Renee Jernigan, Alabama Power
Trinity B. Williams, Alabama Power



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: WMWGORPU_1347

Pace Project No.: 20233139

Pace Analytical Services New Orleans

Florida Department of Health (NELAC): E87595

Illinois Environmental Protection Agency: 0025721

Kansas Department of Health and Environment (NELAC):

E-10266

Louisiana Dept. of Environmental Quality (NELAC/LELAP):
02006

Texas Commission on Env. Quality (NELAC):

T104704405-09-TX

U.S. Dept. of Agriculture Foreign Soil Import: P330-10-
00119

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: WMWGORPU_1347

Pace Project No.: 20233139

Lab ID	Sample ID	Matrix	Date Collected	Date Received
20233139001	BC01612 MW-1	Water	01/25/22 10:15	01/27/22 10:15
20233139002	BC01613 MW-2	Water	01/25/22 11:33	01/27/22 10:15
20233139003	BC01614 MW-2 DUP	Water	01/25/22 11:33	01/27/22 10:15
20233139004	BC01615 MW-3	Water	01/25/22 12:58	01/27/22 10:15
20233139005	BC01616 FB-1	Water	01/25/22 13:45	01/27/22 10:15
20233139006	BC01617 MW-4	Water	01/25/22 14:40	01/27/22 10:15
20233139007	BC01618 EB-1	Water	01/25/22 15:10	01/27/22 10:15

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: WMWGORPU_1347

Pace Project No.: 20233139

Lab ID	Sample ID	Method	Analysts	Analytes Reported
20233139001	BC01612 MW-1	SM 4500-S-2 D	RVJ	1
20233139002	BC01613 MW-2	SM 4500-S-2 D	RVJ	1
20233139003	BC01614 MW-2 DUP	SM 4500-S-2 D	RVJ	1
20233139004	BC01615 MW-3	SM 4500-S-2 D	RVJ	1
20233139005	BC01616 FB-1	SM 4500-S-2 D	RVJ	1
20233139006	BC01617 MW-4	SM 4500-S-2 D	RVJ	1
20233139007	BC01618 EB-1	SM 4500-S-2 D	RVJ	1

PASI-N = Pace Analytical Services - New Orleans

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: WMWGORPU_1347

Pace Project No.: 20233139

Method: SM 4500-S-2 D

Description: 4500S2D Sulfide, Total

Client: Alabama Power

Date: January 31, 2022

General Information:

7 samples were analyzed for SM 4500-S-2 D by Pace Analytical Services New Orleans. 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.

Duplicate Sample:

All duplicate sample results were within method 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

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ANALYTICAL RESULTS

Project: WMWGORPU_1347

Pace Project No.: 20233139

Sample: BC01612 MW-1		Lab ID: 20233139001		Collected: 01/25/22 10:15	Received: 01/27/22 10:15	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total		Analytical Method: SM 4500-S-2 D Pace Analytical Services - New Orleans							
Sulfide, Total	ND	mg/L	0.020	0.012	1		01/30/22 10:39	18496-25-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: WMWGORPU_1347

Pace Project No.: 20233139

Sample: BC01613 MW-2 **Lab ID: 20233139002** Collected: 01/25/22 11:33 Received: 01/27/22 10:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total									
Analytical Method: SM 4500-S-2 D									
Pace Analytical Services - New Orleans									
Sulfide, Total	ND	mg/L	0.020	0.012	1		01/30/22 11:54	18496-25-8	

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ANALYTICAL RESULTS

Project: WMWGORPU_1347

Pace Project No.: 20233139

Sample: BC01614 MW-2 DUP **Lab ID: 20233139003** Collected: 01/25/22 11:33 Received: 01/27/22 10:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total									
Analytical Method: SM 4500-S-2 D									
Pace Analytical Services - New Orleans									
Sulfide, Total	ND	mg/L	0.020	0.012	1		01/30/22 11:55	18496-25-8	

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ANALYTICAL RESULTS

Project: WMWGORPU_1347

Pace Project No.: 20233139

Sample: BC01615 MW-3 **Lab ID: 20233139004** Collected: 01/25/22 12:58 Received: 01/27/22 10:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total									
Analytical Method: SM 4500-S-2 D									
Pace Analytical Services - New Orleans									
Sulfide, Total	ND	mg/L	0.020	0.012	1		01/30/22 11:55	18496-25-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: WMWGORPU_1347

Pace Project No.: 20233139

Sample: BC01616 FB-1 **Lab ID: 20233139005** Collected: 01/25/22 13:45 Received: 01/27/22 10:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total									
Analytical Method: SM 4500-S-2 D									
Pace Analytical Services - New Orleans									
Sulfide, Total	ND	mg/L	0.020	0.012	1		01/30/22 11:56	18496-25-8	

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ANALYTICAL RESULTS

Project: WMWGORPU_1347

Pace Project No.: 20233139

Sample: BC01617 MW-4 **Lab ID: 20233139006** Collected: 01/25/22 14:40 Received: 01/27/22 10:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total									
Analytical Method: SM 4500-S-2 D									
Pace Analytical Services - New Orleans									
Sulfide, Total	ND	mg/L	0.020	0.012	1		01/30/22 11:56	18496-25-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: WMWGORPU_1347

Pace Project No.: 20233139

Sample: BC01618 EB-1 **Lab ID: 20233139007** Collected: 01/25/22 15:10 Received: 01/27/22 10:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total									
Analytical Method: SM 4500-S-2 D									
Pace Analytical Services - New Orleans									
Sulfide, Total	ND	mg/L	0.020	0.012	1		01/30/22 12:26	18496-25-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: WMWGORPU_1347
Pace Project No.: 20233139

QC Batch:	246301	Analysis Method:	SM 4500-S-2 D
QC Batch Method:	SM 4500-S-2 D	Analysis Description:	4500S2D Sulfide, Total
		Laboratory:	Pace Analytical Services - New Orleans

Associated Lab Samples: 20233139001, 20233139002, 20233139003, 20233139004, 20233139005, 20233139006, 20233139007

METHOD BLANK: 1169481 Matrix: Water
Associated Lab Samples: 20233139001, 20233139002, 20233139003, 20233139004, 20233139005, 20233139006, 20233139007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	ND	0.020	0.012	01/30/22 10:24	

LABORATORY CONTROL SAMPLE: 1169482

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.2	0.20	98	90-110	

MATRIX SPIKE SAMPLE: 1169484

Parameter	Units	20233139001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	ND	0.2	0.16	78	75-125	

SAMPLE DUPLICATE: 1169483

Parameter	Units	20233139001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	ND	ND		20	

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

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QUALIFIERS

Project: WMWGORPU_1347
Pace Project No.: 20233139

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.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The Nelac Institute

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WMWGORPU_1347
Pace Project No.: 20233139

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
20233139001	BC01612 MW-1	SM 4500-S-2 D	246301		
20233139002	BC01613 MW-2	SM 4500-S-2 D	246301		
20233139003	BC01614 MW-2 DUP	SM 4500-S-2 D	246301		
20233139004	BC01615 MW-3	SM 4500-S-2 D	246301		
20233139005	BC01616 FB-1	SM 4500-S-2 D	246301		
20233139006	BC01617 MW-4	SM 4500-S-2 D	246301		
20233139007	BC01618 EB-1	SM 4500-S-2 D	246301		

REPORT OF LABORATORY ANALYSIS

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WO#: 20233139



20233139

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 C** Invoice Information:

Company: Alabama Power Company	Report To: Laura Midkiff	Attention: Laura Midkiff
Address: 744 Highway 87 GSC Bldg #8 Calera, AL 35040	Copy To: Brooke Caton & Renee Jernigan	Company Name: Alabama Power Co
Email To: lbmidkif@southernco.com	Purchase Order #: APC10700668	Address: 744 Highway 87 GSC Bldg #8 CCR
Phone: 205-664-6197 Fax	Project Name: Plant Gorgas Pooled Upgradient	Regulatory Agency
Requested Due Date: Normal	Project Number: WMWGORPU_1347	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		# OF CONTAINERS	Unpreserved	NaOH+ZnAcetate	HNO3	Preservatives	Y/N	Requested Analysis Filtered (Y/N)	EPA 9315	EPA 9320	Total Radium Sum	Total Sulfide	Residual Chrome (Y/N)	TEMP in C	Received on	Ice (Y/N)	Custody Sealed (Y/N)	Cooler (Y/N)	Samples Intact (Y/N)				
									DATE	TIME																						
1	BC01612	APCO-GS-UP-MW-1	APCO_Gorgas_Pooled_Upgradient				GW	G	1/25/2022	10:15	1	X																				
2	BC01613	APCO-GS-UP-MW-2	APCO_Gorgas_Pooled_Upgradient				GW	G	1/25/2022	11:33	1	X																				
3	BC01614	APCO-GS-UP-MW-2	APCO_Gorgas_Pooled_Upgradient	X			GW	G	1/25/2022	11:33	1	X																				
4	BC01615	APCO-GS-UP-MW-3	APCO_Gorgas_Pooled_Upgradient				GW	G	1/25/2022	12:58	1	X																				
5	BC01616	APCO-GS-UP-FB-01	APCO_Gorgas_Pooled_Upgradient				GW	G	1/25/2022	13:45	1	X																				
6	BC01617	APCO-GS-UP-MW-4	APCO_Gorgas_Pooled_Upgradient				GW	G	1/25/2022	14:40	1	X																				
7	BC01618	APCO-GS-UP-EB-01	APCO_Gorgas_Pooled_Upgradient				GW	G	1/25/2022	15:10	1	X																				
8																																
9																																
10																																
11																																
12																																

ADDITIONAL COMMENTS

RELINQUISHED BY / AFFILIATION: Laura Midkiff/ APC GTL
DATE: 1/26/2022
TIME: 15:50

ACCEPTED BY / AFFILIATION: *J. Smith / Pace*
DATE: 1-27-22
TIME: 10:15

SAMPLER NAME AND SIGNATURE: *J. Smith*
PRINT Name of SAMPLER:
SIGNATURE of SAMPLER:

DATE Signed:

WO#: 20233139

PM: KHB

Due Date: 02/08/22

Sample Condition Upon Receipt CLIENT: 20-Alabama



1000 Riverbend Blvd., Suite F
St. Rose, LA 70087

Project #: 2U

Courier: Pace Courier Hired Courier Fed X UPS DHL USPS Customer Other

Custody Seal on Cooler/Box Present: [see COC]

Custody Seals intact: Yes No

Thermometer Used: Therm Fisher IR 7 Therm Fisher IR 10

Type of Ice: Wet Blue None

Samples on ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 1-27-22

Temp must be measured from Temperature blank when present

Comments:

Temperature Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	1	
Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2	
Chain of Custody Complete:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3	
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4	
Sampler Name & Signature on COC:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	5	
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6	
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7	
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8	
Filtered vol. Rec. for Diss. tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	9	
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10	
All containers received within manufacture's precautionary and/or expiration dates.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11	
All containers needing chemical preservation have been checked (except VOA, coliform, & O&G).	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12	
All containers preservation checked found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13	If No, was preservative added? <input type="checkbox"/> Yes <input type="checkbox"/> No If added record lot no.: HNO3 _____ H2SO4 _____
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14	
Trip Blank Present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15	

Client Notification/ Resolution:

Person Contacted:

Date/Time:

Comments/ Resolution:

March 22, 2022

Laura Midkiff
Alabama Power
744 Highway 87
Calera, AL 35040

RE: Project: WMWGORPU_1347-Revised Report
Pace Project No.: 30461864

Dear Laura Midkiff:

Enclosed are the analytical results for sample(s) received by the laboratory between January 31, 2022 and February 08, 2022. 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

This report replaces the March, 11, 2022 report. This project was revised to update the lab qualifiers.

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: Brooke Caton, Alabama Power
Renee Jernigan, Alabama Power



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: WMWGORPU_1347-Revised Report
Pace Project No.: 30461864

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
Guam Certification
Florida: Cert E871149 SEKS WET
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

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SAMPLE SUMMARY

Project: WMWGORPU_1347-Revised Report
Pace Project No.: 30461864

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30461864001	BC01612 MW-1	Water	01/25/22 10:15	01/31/22 09:35
30461864002	BC01613 MW-2	Water	01/25/22 11:33	01/31/22 09:35
30461864003	BC01614 MW-2 DUP	Water	01/25/22 11:33	01/31/22 09:35
30461864004	BC01615 MW-3	Water	01/25/22 12:58	01/31/22 09:35
30461864005	BC01616 FB-1	Water	01/25/22 13:45	01/31/22 09:35
30461864006	BC01617 MW-4	Water	01/25/22 14:40	01/31/22 09:35
30461864007	BC01618 EB-1	Water	01/25/22 15:10	01/31/22 09:35
30461864008	-	Water	01/25/22 11:33	02/08/22 12:44
30461864009	BC01612 MW-1 MS	Water	01/25/22 10:15	02/08/22 13:37
30461864010	BC01612 MW-1 MSD	Water	01/25/22 10:15	02/08/22 13:37

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SAMPLE ANALYTE COUNT

Project: WMWGORPU_1347-Revised Report
Pace Project No.: 30461864

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30461864001	BC01612 MW-1	EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30461864002	BC01613 MW-2	EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30461864003	BC01614 MW-2 DUP	EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30461864004	BC01615 MW-3	EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30461864005	BC01616 FB-1	EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30461864006	BC01617 MW-4	EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30461864007	BC01618 EB-1	EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30461864009	BC01612 MW-1 MS	EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
30461864010	BC01612 MW-1 MSD	EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: WMWGORPU_1347-Revised Report

Pace Project No.: 30461864

Method: EPA 9315

Description: 9315 Total Radium

Client: Alabama Power

Date: March 22, 2022

General Information:

9 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

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PROJECT NARRATIVE

Project: WMWGORPU_1347-Revised Report

Pace Project No.: 30461864

Method: EPA 9320

Description: 9320 Radium 228

Client: Alabama Power

Date: March 22, 2022

General Information:

9 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

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PROJECT NARRATIVE

Project: WMWGORPU_1347-Revised Report
Pace Project No.: 30461864

Method: Total Radium Calculation
Description: Total Radium 228+226
Client: Alabama Power
Date: March 22, 2022

General Information:

7 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

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORPU_1347-Revised Report

Pace Project No.: 30461864

Sample: BC01612 MW-1 **Lab ID: 30461864001** Collected: 01/25/22 10:15 Received: 01/31/22 09:35 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	0.344 ± 0.226 (0.340) C:99% T:NA	pCi/L	03/07/22 08:05	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	0.667U ± 0.559 (1.12) C:78% T:59%	pCi/L	02/16/22 15:14	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.01U ± 0.785 (1.46)	pCi/L	03/07/22 14:26	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORPU_1347-Revised Report

Pace Project No.: 30461864

Sample: BC01613 MW-2 **Lab ID: 30461864002** Collected: 01/25/22 11:33 Received: 01/31/22 09:35 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	0.292U ± 0.213 (0.335) C:97% T:NA	pCi/L	03/07/22 08:05	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	0.371U ± 0.301 (0.595) C:81% T:92%	pCi/L	02/16/22 15:14	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.663U ± 0.514 (0.930)	pCi/L	03/07/22 14:26	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORPU_1347-Revised Report

Pace Project No.: 30461864

Sample: BC01614 MW-2 DUP **Lab ID: 30461864003** Collected: 01/25/22 11:33 Received: 01/31/22 09:35 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	0.326U ± 0.225 (0.355) C:98% T:NA	pCi/L	03/07/22 08:05	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	0.215U ± 0.323 (0.697) C:70% T:87%	pCi/L	02/16/22 15:14	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.541U ± 0.548 (1.05)	pCi/L	03/07/22 14:26	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORPU_1347-Revised Report

Pace Project No.: 30461864

Sample: BC01615 MW-3 **Lab ID: 30461864004** Collected: 01/25/22 12:58 Received: 01/31/22 09:35 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	0.109U ± 0.154 (0.323) C:97% T:NA	pCi/L	03/07/22 08:05	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	0.309U ± 0.328 (0.679) C:76% T:83%	pCi/L	02/16/22 15:14	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.418U ± 0.482 (1.00)	pCi/L	03/07/22 14:26	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORPU_1347-Revised Report

Pace Project No.: 30461864

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: BC01616 FB-1 Lab ID: 30461864005 Collected: 01/25/22 13:45 Received: 01/31/22 09:35 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	0.0474U ± 0.159 (0.398) C:93% T:NA	pCi/L	03/07/22 08:05	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.227U ± 0.307 (0.657) C:79% T:92%	pCi/L	02/16/22 15:14	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.274U ± 0.466 (1.06)	pCi/L	03/07/22 14:26	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORPU_1347-Revised Report

Pace Project No.: 30461864

Sample: BC01617 MW-4 **Lab ID: 30461864006** Collected: 01/25/22 14:40 Received: 01/31/22 09:35 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	0.184U ± 0.229 (0.483) C:96% T:NA	pCi/L	03/07/22 08:05	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	0.700 ± 0.379 (0.671) C:76% T:90%	pCi/L	02/16/22 15:15	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.884U ± 0.608 (1.15)	pCi/L	03/07/22 14:26	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORPU_1347-Revised Report

Pace Project No.: 30461864

Sample: BC01618 EB-1 **Lab ID: 30461864007** Collected: 01/25/22 15:10 Received: 01/31/22 09:35 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	0.194U ± 0.215 (0.426) C:85% T:NA	pCi/L	03/07/22 08:05	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.385U ± 0.373 (0.757) C:74% T:73%	pCi/L	02/16/22 15:15	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.579U ± 0.588 (1.18)	pCi/L	03/07/22 14:26	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORPU_1347-Revised Report

Pace Project No.: 30461864

Sample: BC01612 MW-1 MS **Lab ID: 30461864009** Collected: 01/25/22 10:15 Received: 02/08/22 13:37 Matrix: Water
PWS: Site ID: Sample Type:
Comments: • Sample is an MS of 30461864 001.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	90.02 %REC ± NA (NA) C:NA T:NA	pCi/L	03/07/22 08:05	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	76.40 %REC ± NA (NA) C:NA T:NA	pCi/L	02/16/22 15:15	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORPU_1347-Revised Report

Pace Project No.: 30461864

Sample: BC01612 MW-1 MSD **Lab ID: 30461864010** Collected: 01/25/22 10:15 Received: 02/08/22 13:37 Matrix: Water

PWS: Site ID: Sample Type:

Comments: • Sample is an MSD of 30461864 001.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	101.91 %REC ± NA (NA) C:NA T:NA	pCi/L	03/07/22 08:05	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	86.53 %REC 12.43 RPD ± NA (NA) C:NA T:NA	pCi/L	02/16/22 15:16	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: WMWGORPU_1347-Revised Report

Pace Project No.: 30461864

QC Batch: 482647

Analysis Method: EPA 9320

QC Batch Method: EPA 9320

Analysis Description: 9320 Radium 228

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 30461864001, 30461864002, 30461864003, 30461864004, 30461864005, 30461864006, 30461864007, 30461864009, 30461864010

METHOD BLANK: 2332794

Matrix: Water

Associated Lab Samples: 30461864001, 30461864002, 30461864003, 30461864004, 30461864005, 30461864006, 30461864007, 30461864009, 30461864010

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.113 ± 0.297 (0.666) C:81% T:74%	pCi/L	02/16/22 15:14	

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

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QUALITY CONTROL - RADIOCHEMISTRY

Project: WMWGORPU_1347-Revised Report

Pace Project No.: 30461864

QC Batch: 482099

Analysis Method: EPA 9315

QC Batch Method: EPA 9315

Analysis Description: 9315 Total Radium

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 30461864001, 30461864002, 30461864003, 30461864004, 30461864005, 30461864006, 30461864007, 30461864009, 30461864010

METHOD BLANK: 2330654

Matrix: Water

Associated Lab Samples: 30461864001, 30461864002, 30461864003, 30461864004, 30461864005, 30461864006, 30461864007, 30461864009, 30461864010

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.218 ± 0.189 (0.326) C:97% T:NA	pCi/L	03/07/22 08:05	

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

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QUALIFIERS

Project: WMWGORPU_1347-Revised Report
Pace Project No.: 30461864

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

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WMWGORPU_1347-Revised Report
Pace Project No.: 30461864

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30461864001	BC01612 MW-1	EPA 9315	482099		
30461864002	BC01613 MW-2	EPA 9315	482099		
30461864003	BC01614 MW-2 DUP	EPA 9315	482099		
30461864004	BC01615 MW-3	EPA 9315	482099		
30461864005	BC01616 FB-1	EPA 9315	482099		
30461864006	BC01617 MW-4	EPA 9315	482099		
30461864007	BC01618 EB-1	EPA 9315	482099		
30461864009	BC01612 MW-1 MS	EPA 9315	482099		
30461864010	BC01612 MW-1 MSD	EPA 9315	482099		
30461864001	BC01612 MW-1	EPA 9320	482647		
30461864002	BC01613 MW-2	EPA 9320	482647		
30461864003	BC01614 MW-2 DUP	EPA 9320	482647		
30461864004	BC01615 MW-3	EPA 9320	482647		
30461864005	BC01616 FB-1	EPA 9320	482647		
30461864006	BC01617 MW-4	EPA 9320	482647		
30461864007	BC01618 EB-1	EPA 9320	482647		
30461864009	BC01612 MW-1 MS	EPA 9320	482647		
30461864010	BC01612 MW-1 MSD	EPA 9320	482647		
30461864001	BC01612 MW-1	Total Radium Calculation	488597		
30461864002	BC01613 MW-2	Total Radium Calculation	488597		
30461864003	BC01614 MW-2 DUP	Total Radium Calculation	488597		
30461864004	BC01615 MW-3	Total Radium Calculation	488597		
30461864005	BC01616 FB-1	Total Radium Calculation	488597		
30461864006	BC01617 MW-4	Total Radium Calculation	488597		
30461864007	BC01618 EB-1	Total Radium Calculation	488597		

REPORT OF LABORATORY ANALYSIS

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Pittsburgh Lab Sample Condition Upon Receipt



Client Name: Alabama Paver Company

Project # _____

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Tracking #: 5557 2008 5857

Label	<u>2a</u>
LIMS Login	<u>VPI</u>

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:	Yes	No	N/A	pH paper Lot#	Date and Initials of person examining contents:
				<u>10D2811</u>	<u>2-2-22 JA</u>
Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.	
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.	
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.	
Sampler Name & Signature on COC:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4.	
Sample Labels match COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.	
-Includes date/time/ID Matrix: <u>WT</u>					
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.	
Short Hold Time Analysis (<72hr remaining):	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.	
Rush Turn Around Time Requested:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8.	
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.	
Correct Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10.	
-Pace Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.	
Orthophosphate field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12.	
Hex Cr Aqueous sample field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13.	
Organic Samples checked for dechlorination:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14.	
Filtered volume received for Dissolved tests <u>2.00 L</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15.	
All containers have been checked for preservation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16.	
exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix					<u>pH < 2</u>
All containers meet method preservation requirements.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Initial when completed	Date/time of preservation
				<u>JA</u>	
				Lot # of added preservative	
Headspace in VOA Vials (>6mm):	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	17.	
Trip Blank Present:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	18.	
Trip Blank Custody Seals Present	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Rad Samples Screened < 0.5 mrem/hr	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Initial when completed	Date: <u>2-2-22</u> Survey Meter SN: <u>1563</u>

Client Notification/ Resolution:
 Person Contacted: _____ Date/Time: _____ Contacted By: _____
 Comments/ Resolution: _____

A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)
 *PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

MO#: 30461864
 PM: AES
 CLIENT: ALABAMA PWR
 Due Date: 02/21/22



Pace

Container Count

WO#: 30461864

PM: AES

Due Date: 02/21/22

CLIENT: ALABAMA PMR

Profile Number 16788

Notes

Client

Alabama Power Company
Plant Gorgas Feed Upgrade

Site

Sample Line Item	Matrix	AG1H	AG1S	AG1T	AG2U	AG3S	AG3U	AG5U	AG5T	BG1U	BG2U	BP1N	BP1U	BP2S	BP2U	BP3C	BP3N	BP3S	BP3U	DG9S	GCUB	VG9H	VG9T	VG9U	VOAK	WGFU	WGKU	ZPLC
1	WT											3																
2	WT											1																
3	WT											1																
4	WT											1																
5	WT											1																
6	WT											1																
7	WT											1																
8																												
9																												
10																												
11																												
12																												

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
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
WGFU	4oz wide jar unpreserved
BG2U	500mL clear glass unpreserved
AG2U	500mL amber glass unpreserved
WGKU	8oz wide jar 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 for Volatile Solid
I	Wipe/Swab
ZPLC	Ziploc Bag
WT	Water
SL	Solid
OL	Non-aqueous liquid
WP	Wipe



Quality Control Sample Performance Assessment

Test: Ra-226
Analyst: JJY
Date: 2/14/2022
Worklist: 64954
Matrix: DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2330654
MB concentration:	0.218
M/B Counting Uncertainty:	0.186
MB MDC:	0.326
MB Numerical Performance Indicator:	2.30
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCS/D (Y or N)?	N
	LCS64954	LCS/D64954
Count Date:	3/7/2022	
Spike I.D.:	19-033	
Decay Corrected Spike Concentration (pCi/mL):	24.029	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.213	
Target Conc. (pCi/L, g, F):	11.304	
Uncertainty (Calculated):	0.136	
Result (pCi/L, g, F):	11.019	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	1.067	
Numerical Performance Indicator:	-0.52	
Percent Recovery:	97.48%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	125%	
Lower % Recovery Limits:	75%	

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Sample Collection Date:	1/25/2022	1/25/2022
Sample I.D.	30461864001	30462100003
Sample MS I.D.	30461864009	30462100025
Sample MSD I.D.	30461864010	30462100026
Spike I.D.:	19-033	19-033
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	24.030	24.030
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):	0.204	0.203
MS Target Conc. (pCi/L, g, F):	23.508	23.703
MSD Aliquot (L, g, F):	0.204	0.202
MSD Target Conc. (pCi/L, g, F):	23.538	23.844
MS Spike Uncertainty (calculated):	0.282	0.284
MSD Spike Uncertainty (calculated):	0.282	0.286
Sample Result:	0.344	0.135
Sample Result Counting Uncertainty (pCi/L, g, F):	0.221	0.183
Sample Matrix Spike Result:	21.507	21.835
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	1.510	1.546
Sample Matrix Spike Duplicate Result:	24.332	24.899
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	1.610	1.632
MS Numerical Performance Indicator:	-2.963	-2.481
MSD Numerical Performance Indicator:	0.534	1.081
MS Percent Recovery:	90.02%	91.55%
MSD Percent Recovery:	101.91%	103.86%
MS Status vs Numerical Indicator:	N/A	N/A
MSD Status vs Numerical Indicator:	N/A	N/A
MS Status vs Recovery:	Pass	Pass
MSD Status vs Recovery:	Pass	Pass
MS/MSD Upper % Recovery Limits:	125%	125%
MS/MSD Lower % Recovery Limits:	75%	75%

Duplicate Sample Assessment		
Sample I.D.:		
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?	See Below ##	
Duplicate Numerical Performance Indicator:		
Duplicate RPD:		
Duplicate Status vs Numerical Indicator:		
Duplicate Status vs RPD:		
% RPD Limit:		

Matrix Spike/Matrix Spike Duplicate Sample Assessment		
Sample I.D.	30461864001	30462100003
Sample MS I.D.	30461864009	30462100025
Sample MSD I.D.	30461864010	30462100026
Sample Matrix Spike Result:	21.507	21.835
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	1.510	1.546
Sample Matrix Spike Duplicate Result:	24.332	24.899
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	1.610	1.632
Duplicate Numerical Performance Indicator:	-2.509	-2.671
(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:	12.39%	12.60%
MS/ MSD Duplicate Status vs Numerical Indicator:	N/A	N/A
MS/ MSD Duplicate Status vs RPD:	Pass	Pass
% RPD Limit:	25%	25%

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

Quality Control Sample Performance Assessment

Analyst Must Manually Enter All Fields Highlighted in Yellow.



Test: Ra-228
Analyst: VAL
Date: 2/14/2022
Worklist: 64977
Matrix: WI

Method Blank Assessment

MB Sample ID: 2332794
MB concentration: 0.113
MB 2 Sigma CSU: 0.297
MB MDC: 0.666
MB Numerical Performance Indicator: 0.75
MB Status vs Numerical Indicator: Pass
MB Status vs. MDC: Pass

Laboratory Control Sample Assessment

LCSID (Y or N)?	N
LCS64977	LCS064977
2/16/2022	
21-029	
36.317	
0.10	
0.805	
4.511	
0.221	
3.017	
0.809	
-3.49	
66.89%	
N/A	
Pass	
135%	
60%	

Count Date: 2/16/2022
Spike I.D.: 21-029
Decay Corrected Spike Concentration (pCi/mL): 36.317
Volume Used (mL): 0.10
Aliquot Volume (L, g, F): 0.805
Target Conc. (pCi/L, g, F): 4.511
Uncertainty (Calculated): 0.221
Result (pCi/L, g, F): 3.017
LCS/LCSD 2 Sigma CSU (pCi/L, g, F): 0.809
Numerical Performance Indicator: -3.49
Percent Recovery: 66.89%
Status vs Numerical Indicator: N/A
Status vs Recovery: Pass
Upper % Recovery Limits: 135%
Lower % Recovery Limits: 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

Sample Collection Date:	MS/MSD 1	MS/MSD 2
Sample I.D.	1/25/2022	1/25/2022
Sample MS I.D.	30461864001	30462100003
Sample MSD I.D.	30461864009	30462100025
Spike I.D.:	21-029	21-029
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	36.584	36.584
Spike Volume Used in MS (mL):	0.20	0.20
MS Aliquot (L, g, F):	0.803	0.808
MS Target Conc. (pCi/L, g, F):	9.111	9.059
MSD Aliquot (L, g, F):	0.812	0.807
MSD Target Conc. (pCi/L, g, F):	9.008	9.068
MS Spike Uncertainty (calculated):	0.446	0.444
MSD Spike Uncertainty (calculated):	0.441	0.444
Sample Result: 2 Sigma CSU (pCi/L, g, F):	0.667	-0.358
Sample Matrix Spike Result:	0.559	0.371
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):	7.628	7.865
Sample Matrix Spike Duplicate Result:	1.654	1.643
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):	8.461	7.496
MS Numerical Performance Indicator:	1.807	1.575
MSD Numerical Performance Indicator:	-2.339	-0.940
MS Percent Recovery:	76.40%	90.78%
MSD Percent Recovery:	86.53%	86.62%
MS Status vs Numerical Indicator:	Warning	Pass
MSD Status vs Numerical Indicator:	Pass	Pass
MS Status vs Recovery:	Pass	Pass
MSD Status vs Recovery:	Pass	Pass
MS/MSD Upper % Recovery Limits:	135%	135%
MS/MSD Lower % Recovery Limits:	60%	60%

Matrix Spike/Matrix Spike Duplicate Sample Assessment

Sample I.D.	30461864001	30462100003
Sample MS I.D.	30461864009	30462100025
Sample MSD I.D.	30461864010	30462100026
Sample Matrix Spike Result:	7.628	7.865
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):	1.654	1.643
Sample Matrix Spike Duplicate Result:	8.461	7.496
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.807	1.575
Duplicate Numerical Performance Indicator:	-0.667	0.317
Duplicate Numerical Performance Indicator:	12.43%	4.68%
MS/MSD Duplicate Status vs Numerical Indicator:	Pass	Pass
MS/MSD Duplicate Status vs RPD:	Pass	Pass
% RPD Limit:	36%	36%

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

Handwritten notes: *212127* and *OW*

Appendix D



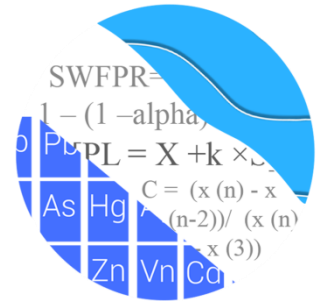
Appendix D. Horizontal Groundwater Flow Velocity Calculations
Plant Gorgas CCR Landfill

2022 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
	h₁ (ft)	h₂ (ft)	Δl (ft)	Δh/Δl (ft/ft)	K	n	(ft/d)	(ft/yr)
1/24/2022	418.40	313.47	3507.0	0.030	8.01	0.15	1.60	583.17
Date of Measurement	MW-3	MW-6	Distance	Hydraulic Gradient	Hydraulic Conductivity	Effective Porosity	Calculated Groundwater Flow Velocity	Calculated Groundwater Flow Velocity
	h₁ (ft)	h₂ (ft)	Δl (ft)	Δh/Δl (ft/ft)	K	n	(ft/d)	(ft/yr)
1/24/2022	418.99	312.53	2970.0	0.036	8.01	0.15	1.91	698.66
Date of Measurement	MW-14	MW-19	Distance	Hydraulic Gradient	Hydraulic Conductivity	Effective Porosity	Calculated Groundwater Flow Velocity	Calculated Groundwater Flow Velocity
	h₁ (ft)	h₂ (ft)	Δl (ft)	Δh/Δl (ft/ft)	K	n	(ft/d)	(ft/yr)
1/24/2022	340.81	298.40	1890.0	0.022	8.01	0.15	1.20	437.36

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



April 26, 2022

Southern Company Services
Attn: Mr. Greg Dyer
3535 Colonnade Parkway
Birmingham, AL 35243

Re: Plant Gorgas CCR Landfill
1st Semi-Annual Statistical Analysis – January/February 2022

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 January/February 2022 1st 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): 100
- # 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 in background, 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 careful 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 updated by testing for the appropriateness of consolidating new sampling observations with the screened background data and were last updated in September 2019. 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. 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 careful screening for new outliers. 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 – January/February 2022

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 carefully 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 January/February 2021 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 E). Interwell prediction limits pool upgradient well data through February 2022 to establish a background limit for an individual constituent. The January/February 2022 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:

- None

Interwell:

- Chloride: MW-5, MW-6, 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 (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. No statistically significant decreasing trends were identified. Statistically significant trends were identified for the following well/constituent pairs:

Increasing

- Chloride: MW-6
- pH: MW-2 (upgradient) and MW-8

Decreasing

- Chloride: MW-8

Evaluation of Appendix IV Parameters – January/February 2022

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 analysis, 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. 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 2nd semi-annual statistical analysis. The GWPS will be updated again during the 2023 2nd 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.

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) 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 January/February 2022 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, which use the highest and lowest values in background as interval limits, were constructed when data did not follow a normal or transformed-normal distribution or when there were greater than 50% non-detects.

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.

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,

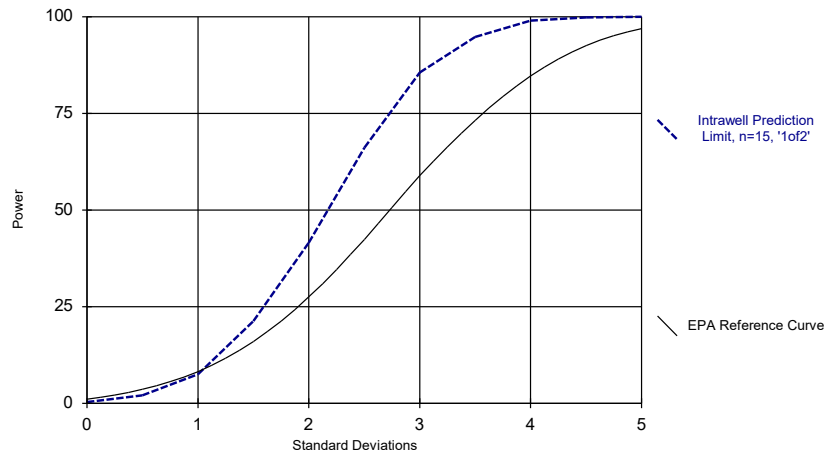


Andrew Collins
Project Manager



Kristina Rayner
Senior Statistician

Intrawell Power Curve

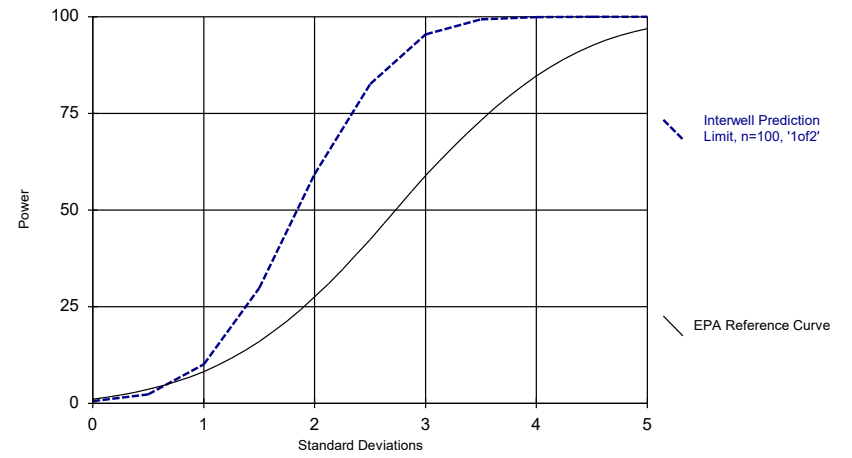


Kappa = 2.115, based on 4 compliance wells and 7 constituents, evaluated semi-annually (this report reflects annual total).

Analysis Run 4/25/2022 1:23 PM

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Interwell Power Curve



Kappa = 1.748, based on 4 compliance wells and 7 constituents, evaluated semi-annually (this report reflects annual total).

Analysis Run 4/25/2022 1:24 PM

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

100% Non-Detects: Appendix IV Downgradient

Analysis Run 4/22/2022 10:42 AM 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-6, MW-7

Mercury (mg/L)
MW-5, MW-6, MW-7, MW-8

Selenium (mg/L)
MW-6, MW-7, MW-8

Thallium (mg/L)
MW-7, MW-8

Appendix III Intrawell Prediction Limits - All Results (No Significant)

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF Printed 4/22/2022, 9:06 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg	NB	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron, total (mg/L)	MW-1	0.05075	n/a	1/25/2022	0.05075ND	No	23	n/a	n/a	n/a	26.09	n/a	n/a	0.003415	NP Intra (normality) 1 of 2
Boron, total (mg/L)	MW-2	0.04152	n/a	1/25/2022	0.05075ND	No	23	0.1724	0.01607	21.74	Kaplan-Meier	sqrt(x)	0.00188	Param Intra 1 of 2	
Boron, total (mg/L)	MW-3	0.05868	n/a	1/25/2022	0.05075ND	No	23	0.04304	0.008019	21.74	Kaplan-Meier	No	0.00188	Param Intra 1 of 2	
Boron, total (mg/L)	MW-4	0.05253	n/a	1/25/2022	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	1/31/2022	0.0314J	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	1/31/2022	0.0648J	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	1/31/2022	0.0689J	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	2/1/2022	0.0639J	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	1/25/2022	150	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	1/25/2022	179	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	1/25/2022	285	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	1/25/2022	259	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	1/31/2022	398	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	1/31/2022	385	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	1/31/2022	278	No	16	85434	15683	0	None	x^2	0.00188	Param Intra 1 of 2	
Calcium, total (mg/L)	MW-8	340	n/a	2/1/2022	284	No	16	303.1	17.76	0	None	No	0.00188	Param Intra 1 of 2	
Fluoride, total (mg/L)	MW-1	0.1878	n/a	1/25/2022	0.101	No	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	1/25/2022	0.204	No	24	0.1456	0.05538	0	None	No	0.00188	Param Intra 1 of 2	
Fluoride, total (mg/L)	MW-3	0.5886	n/a	1/25/2022	0.325	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	1/25/2022	0.364	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	1/31/2022	0.291	No	17	0.3204	0.0485	0	None	No	0.00188	Param Intra 1 of 2	
Fluoride, total (mg/L)	MW-6	0.1576	n/a	1/31/2022	0.121	No	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	1/31/2022	0.173	No	17	0.1848	0.01443	0	None	No	0.00188	Param Intra 1 of 2	
Fluoride, total (mg/L)	MW-8	0.2341	n/a	2/1/2022	0.177	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	1/25/2022	1430	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	1/25/2022	842	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	1/25/2022	2550	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	1/25/2022	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	1/31/2022	2310	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	1/31/2022	2080	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	1/31/2022	1370	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	2/1/2022	1500	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	1/25/2022	2150	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	1/25/2022	1500	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	1/25/2022	3950	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	1/25/2022	3180	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	1/31/2022	3560	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	1/31/2022	3050	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	1/31/2022	2140	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	2/1/2022	2420	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 4/22/2022, 9:15 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg	NB	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Chloride, Total (mg/L)	MW-5	3.82	n/a	1/31/2022	6.87	Yes	100	0.744	0.3411	3	None	In(x)	0.00188	Param Inter 1 of 2	
Chloride, Total (mg/L)	MW-6	3.82	n/a	1/31/2022	4.53	Yes	100	0.744	0.3411	3	None	In(x)	0.00188	Param Inter 1 of 2	
Chloride, Total (mg/L)	MW-7	3.82	n/a	1/31/2022	6.4	Yes	100	0.744	0.3411	3	None	In(x)	0.00188	Param Inter 1 of 2	
Chloride, Total (mg/L)	MW-8	3.82	n/a	2/1/2022	8.56	Yes	100	0.744	0.3411	3	None	In(x)	0.00188	Param Inter 1 of 2	
pH, Field (SU)	MW-5	6.35	4.51	1/31/2022	6.52	Yes	101	n/a	n/a	0	n/a	n/a	0.0003812	NP Inter (normality) 1 of 2	
pH, Field (SU)	MW-7	6.35	4.51	1/31/2022	6.48	Yes	101	n/a	n/a	0	n/a	n/a	0.0003812	NP Inter (normality) 1 of 2	
pH, Field (SU)	MW-8	6.35	4.51	2/1/2022	6.77	Yes	101	n/a	n/a	0	n/a	n/a	0.0003812	NP Inter (normality) 1 of 2	

Appendix III Interwell Prediction Limits - All Results

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF Printed 4/22/2022, 9:15 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg	NB	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Chloride, Total (mg/L)	MW-5	3.82	n/a	1/31/2022	6.87	Yes	100	0.744		0.3411	3	None	ln(x)	0.00188	Param Inter 1 of 2
Chloride, Total (mg/L)	MW-6	3.82	n/a	1/31/2022	4.53	Yes	100	0.744		0.3411	3	None	ln(x)	0.00188	Param Inter 1 of 2
Chloride, Total (mg/L)	MW-7	3.82	n/a	1/31/2022	6.4	Yes	100	0.744		0.3411	3	None	ln(x)	0.00188	Param Inter 1 of 2
Chloride, Total (mg/L)	MW-8	3.82	n/a	2/1/2022	8.56	Yes	100	0.744		0.3411	3	None	ln(x)	0.00188	Param Inter 1 of 2
pH, Field (SU)	MW-5	6.35	4.51	1/31/2022	6.52	Yes	101	n/a		n/a	0	n/a	n/a	0.0003812	NP Inter (normality) 1 of 2
pH, Field (SU)	MW-6	6.35	4.51	1/31/2022	6.1	No	101	n/a		n/a	0	n/a	n/a	0.0003812	NP Inter (normality) 1 of 2
pH, Field (SU)	MW-7	6.35	4.51	1/31/2022	6.48	Yes	101	n/a		n/a	0	n/a	n/a	0.0003812	NP Inter (normality) 1 of 2
pH, Field (SU)	MW-8	6.35	4.51	2/1/2022	6.77	Yes	101	n/a		n/a	0	n/a	n/a	0.0003812	NP Inter (normality) 1 of 2

Appendix III Trend Tests - Significant Results

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF Printed 4/22/2022, 9:23 AM

<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-6	0.3403	77	68	Yes	18	0	n/a	n/a	0.01	NP
Chloride, Total (mg/L)	MW-8	-28.2	-71	-68	Yes	18	0	n/a	n/a	0.01	NP
pH, Field (SU)	MW-2 (bg)	0.04513	126	111	Yes	25	0	n/a	n/a	0.01	NP
pH, Field (SU)	MW-8	0.05546	123	74	Yes	19	0	n/a	n/a	0.01	NP

Appendix III Trend Tests - All Results

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF Printed 4/22/2022, 9:23 AM

<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-1 (bg)	-0.02361	-32	-111	No	25	0	n/a	n/a	0.01	NP
Chloride, Total (mg/L)	MW-2 (bg)	-0.09448	-33	-111	No	25	0	n/a	n/a	0.01	NP
Chloride, Total (mg/L)	MW-3 (bg)	0.08238	73	111	No	25	8	n/a	n/a	0.01	NP
Chloride, Total (mg/L)	MW-4 (bg)	-0.0711	-82	-111	No	25	4	n/a	n/a	0.01	NP
Chloride, Total (mg/L)	MW-5	-0.1248	-32	-68	No	18	0	n/a	n/a	0.01	NP
Chloride, Total (mg/L)	MW-6	0.3403	77	68	Yes	18	0	n/a	n/a	0.01	NP
Chloride, Total (mg/L)	MW-7	-5.844	-44	-68	No	18	0	n/a	n/a	0.01	NP
Chloride, Total (mg/L)	MW-8	-28.2	-71	-68	Yes	18	0	n/a	n/a	0.01	NP
pH, Field (SU)	MW-1 (bg)	-0.01456	-107	-111	No	25	0	n/a	n/a	0.01	NP
pH, Field (SU)	MW-2 (bg)	0.04513	126	111	Yes	25	0	n/a	n/a	0.01	NP
pH, Field (SU)	MW-3 (bg)	0.01346	14	111	No	25	0	n/a	n/a	0.01	NP
pH, Field (SU)	MW-4 (bg)	0.01606	80	118	No	26	0	n/a	n/a	0.01	NP
pH, Field (SU)	MW-5	0.01655	57	74	No	19	0	n/a	n/a	0.01	NP
pH, Field (SU)	MW-7	-0.01581	-39	-74	No	19	0	n/a	n/a	0.01	NP
pH, Field (SU)	MW-8	0.05546	123	74	Yes	19	0	n/a	n/a	0.01	NP

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

GORGAS CCR LANDFILL GWPS			
Analyte	Units	Background	GWPS
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.

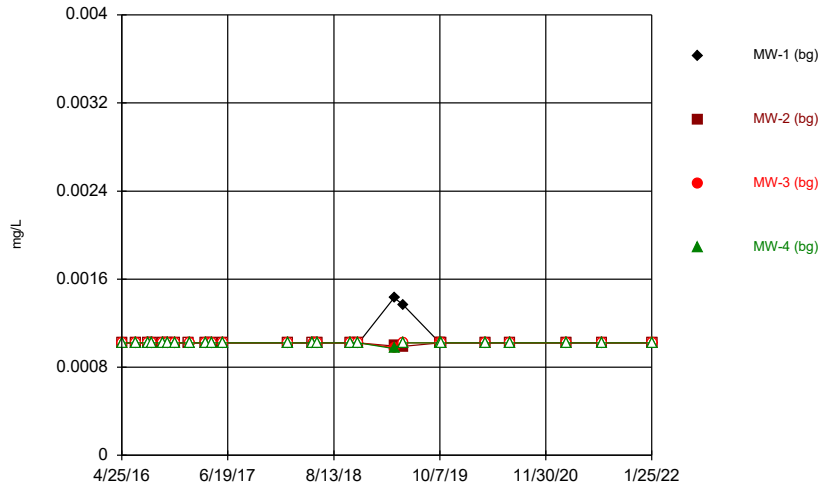
Confidence Intervals - All Results (No Significant)

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF Printed 4/22/2022, 10:45 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Arsenic (mg/L)	MW-5	0.0025	0.00019	0.01	No	8	0.001452	0.001015	37.5	None	No	0.004	NP (normality)
Arsenic (mg/L)	MW-6	0.005274	0.003516	0.01	No	8	0.004393	0.0009544	0	None	x^2	0.01	Param.
Arsenic (mg/L)	MW-7	0.001562	0.001338	0.01	No	8	0.00145	0.0001053	0	None	No	0.01	Param.
Arsenic (mg/L)	MW-8	0.001789	0.001021	0.01	No	8	0.001405	0.0003623	0	None	No	0.01	Param.
Barium (mg/L)	MW-5	0.01268	0.01027	2	No	8	0.01148	0.001136	0	None	No	0.01	Param.
Barium (mg/L)	MW-6	0.01503	0.01229	2	No	8	0.01366	0.001291	0	None	No	0.01	Param.
Barium (mg/L)	MW-7	0.01463	0.01182	2	No	8	0.01323	0.001325	0	None	No	0.01	Param.
Barium (mg/L)	MW-8	0.01428	0.01266	2	No	8	0.01348	0.0007978	0	None	x^3	0.01	Param.
Beryllium (mg/L)	MW-6	0.001015	0.00044	0.004	No	8	0.0008056	0.0002484	50	None	No	0.004	NP (normality)
Cadmium (mg/L)	MW-6	0.00204	0.000203	0.005	No	8	0.0005988	0.0006303	50	None	No	0.004	NP (normality)
Chromium (mg/L)	MW-5	0.00102	0.00027	0.1	No	8	0.0009262	0.0002652	87.5	None	No	0.004	NP (NDs)
Chromium (mg/L)	MW-6	0.00102	0.00024	0.1	No	8	0.0009225	0.0002758	87.5	None	No	0.004	NP (NDs)
Chromium (mg/L)	MW-7	0.00102	0.00032	0.1	No	8	0.0009325	0.0002475	87.5	None	No	0.004	NP (NDs)
Chromium (mg/L)	MW-8	0.00102	0.00025	0.1	No	8	0.0009237	0.0002722	87.5	None	No	0.004	NP (NDs)
Cobalt (mg/L)	MW-5	0.005	0.00094	0.49	No	8	0.003529	0.002033	62.5	None	No	0.004	NP (NDs)
Cobalt (mg/L)	MW-6	0.3307	0.01376	0.49	No	8	0.1722	0.1495	0	None	No	0.01	Param.
Cobalt (mg/L)	MW-7	0.005818	0.002672	0.49	No	8	0.004245	0.001484	0	None	No	0.01	Param.
Cobalt (mg/L)	MW-8	0.008447	0.006306	0.49	No	8	0.007376	0.00101	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-5	0.7956	0.4094	5	No	8	0.5893	0.2461	0	None	x^2	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-6	1.598	0.4072	5	No	8	1.003	0.5618	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-7	0.6127	0.2985	5	No	8	0.4556	0.1482	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-8	0.9475	0.3021	5	No	8	0.6149	0.3453	0	None	sqrt(x)	0.01	Param.
Fluoride, total (mg/L)	MW-5	0.3326	0.2361	4	No	8	0.2844	0.04551	0	None	No	0.01	Param.
Fluoride, total (mg/L)	MW-6	0.1383	0.1199	4	No	8	0.1291	0.008676	0	None	No	0.01	Param.
Fluoride, total (mg/L)	MW-7	0.2316	0.1563	4	No	8	0.1934	0.04032	0	None	ln(x)	0.01	Param.
Fluoride, total (mg/L)	MW-8	0.262	0.177	4	No	8	0.2033	0.02596	0	None	No	0.004	NP (normality)
Lead (mg/L)	MW-8	0.000203	0.00009	0.015	No	8	0.0001748	0.00005231	75	None	No	0.004	NP (NDs)
Lithium (mg/L)	MW-5	0.1281	0.09652	0.419	No	8	0.1123	0.01488	0	None	No	0.01	Param.
Lithium (mg/L)	MW-6	0.2632	0.1153	0.419	No	8	0.1892	0.06979	0	None	No	0.01	Param.
Lithium (mg/L)	MW-7	0.1314	0.09757	0.419	No	8	0.1145	0.01594	0	None	No	0.01	Param.
Lithium (mg/L)	MW-8	0.1732	0.1383	0.419	No	8	0.1558	0.01649	0	None	No	0.01	Param.
Molybdenum (mg/L)	MW-5	0.01	0.00126	0.1	No	8	0.00674	0.004499	62.5	None	No	0.004	NP (NDs)
Molybdenum (mg/L)	MW-6	0.01	0.00007	0.1	No	8	0.006303	0.005103	62.5	None	No	0.004	NP (NDs)
Molybdenum (mg/L)	MW-7	0.01	0.00086	0.1	No	8	0.006607	0.004682	62.5	None	No	0.004	NP (NDs)
Molybdenum (mg/L)	MW-8	0.0129	0.00031	0.1	No	8	0.007942	0.00481	62.5	None	No	0.004	NP (NDs)
Selenium (mg/L)	MW-5	0.01	0.00178	0.05	No	8	0.00706	0.004061	62.5	None	No	0.004	NP (NDs)
Thallium (mg/L)	MW-5	0.0002	0.00007	0.002	No	8	0.0001837	0.00004596	87.5	None	No	0.004	NP (NDs)
Thallium (mg/L)	MW-6	0.0002	0.00011	0.002	No	8	0.0001887	0.00003182	87.5	None	No	0.004	NP (NDs)

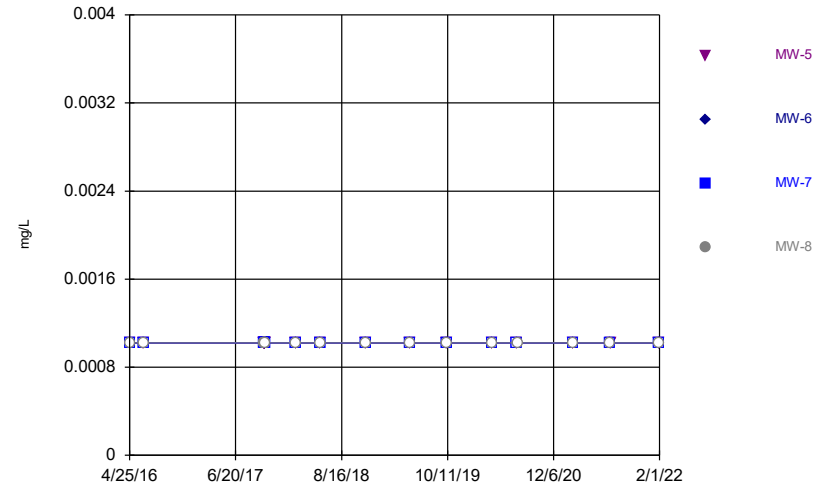
FIGURE A.

Time Series



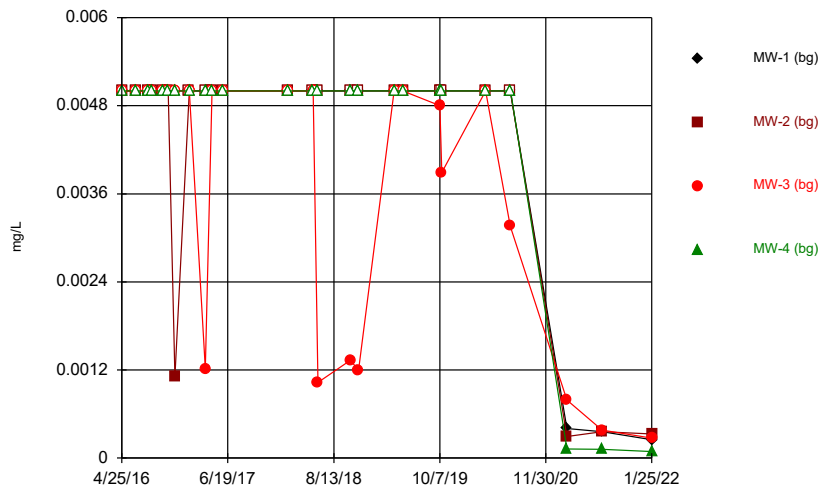
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 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



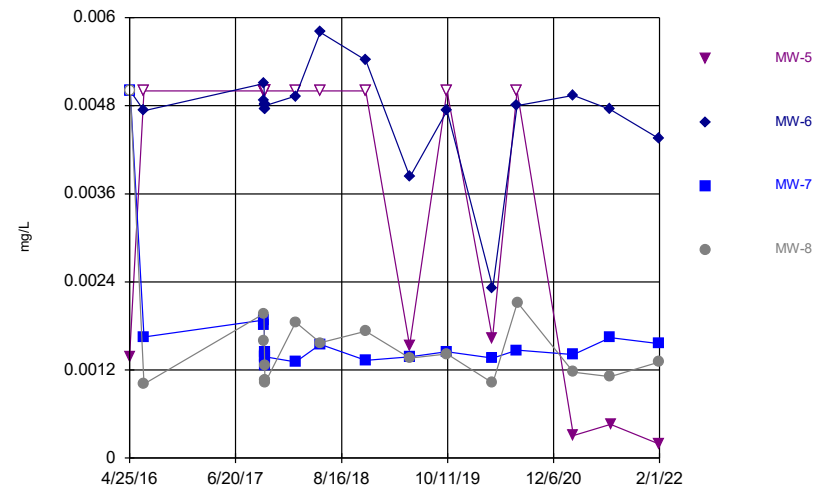
Constituent: Antimony Analysis Run 4/22/2022 8:42 AM
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



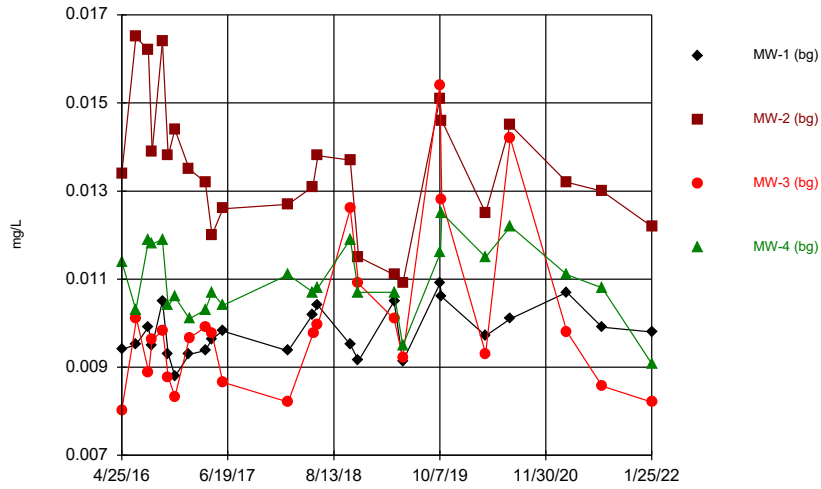
Constituent: Arsenic Analysis Run 4/22/2022 8:42 AM
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



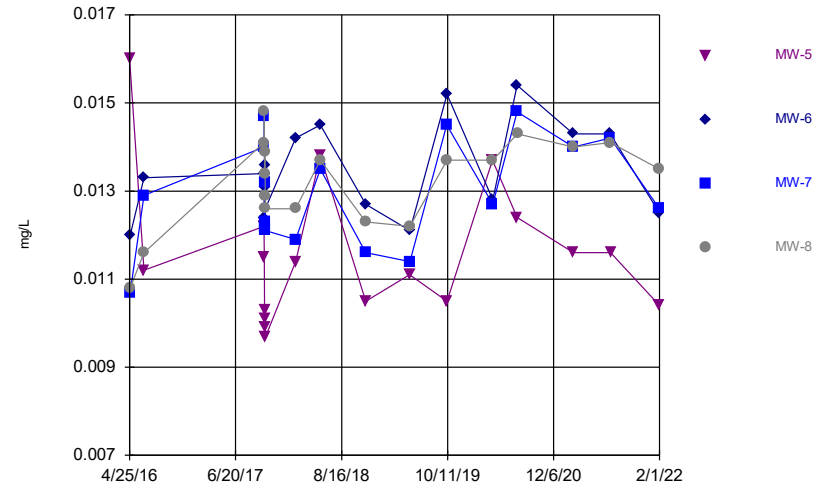
Constituent: Arsenic Analysis Run 4/22/2022 8:42 AM
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



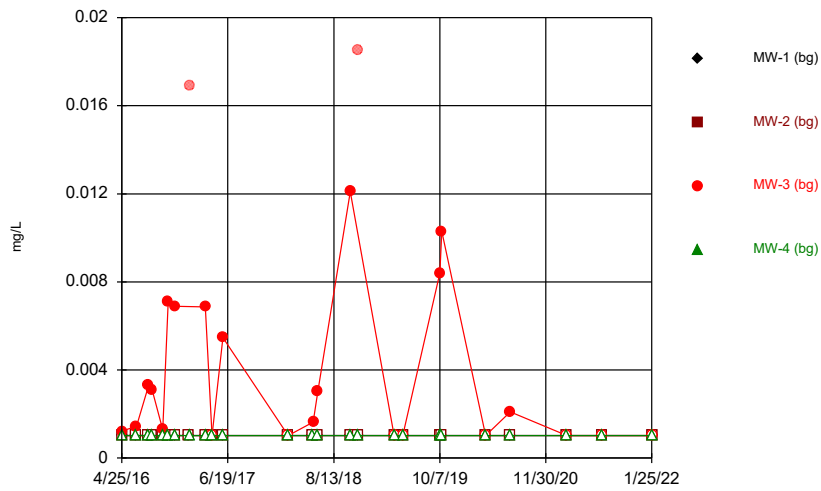
Constituent: Barium Analysis Run 4/22/2022 8:42 AM
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



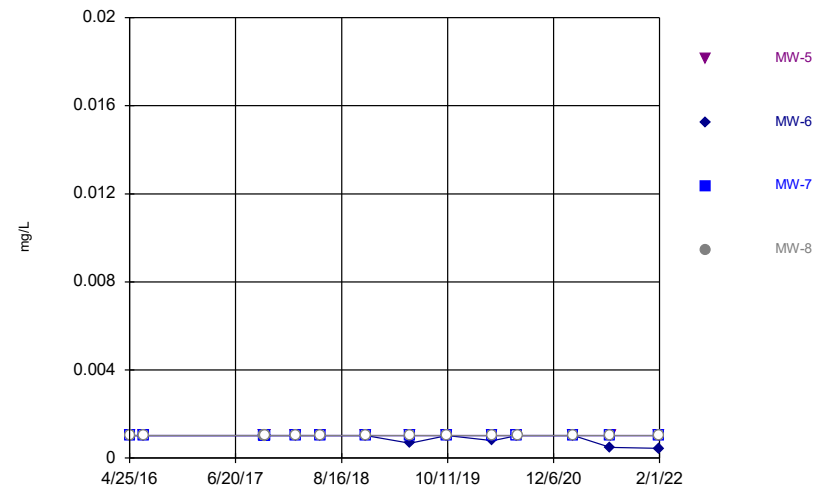
Constituent: Barium Analysis Run 4/22/2022 8:42 AM
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



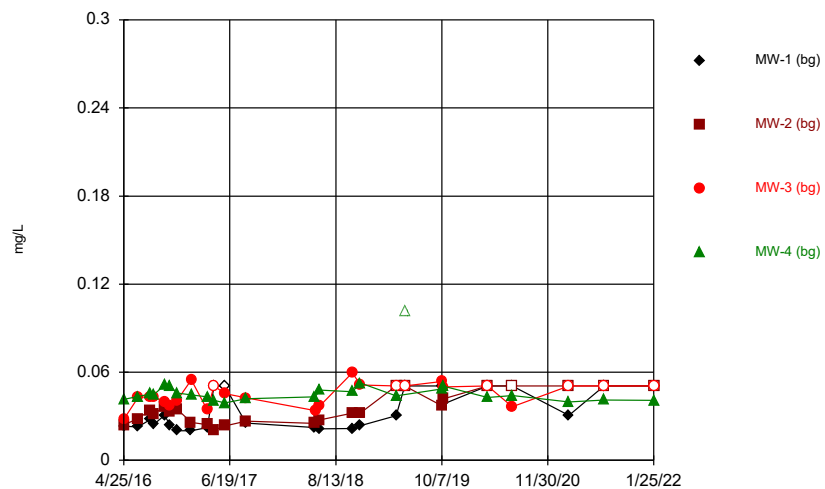
Constituent: Beryllium Analysis Run 4/22/2022 8:42 AM
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



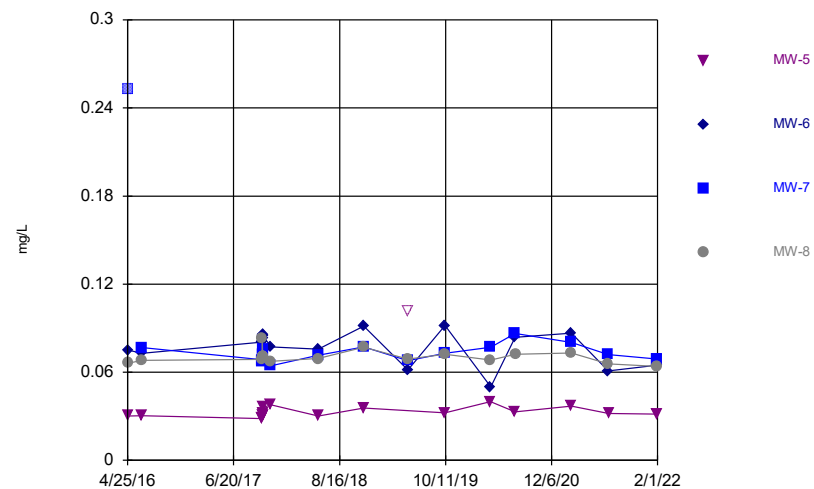
Constituent: Beryllium Analysis Run 4/22/2022 8:42 AM
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



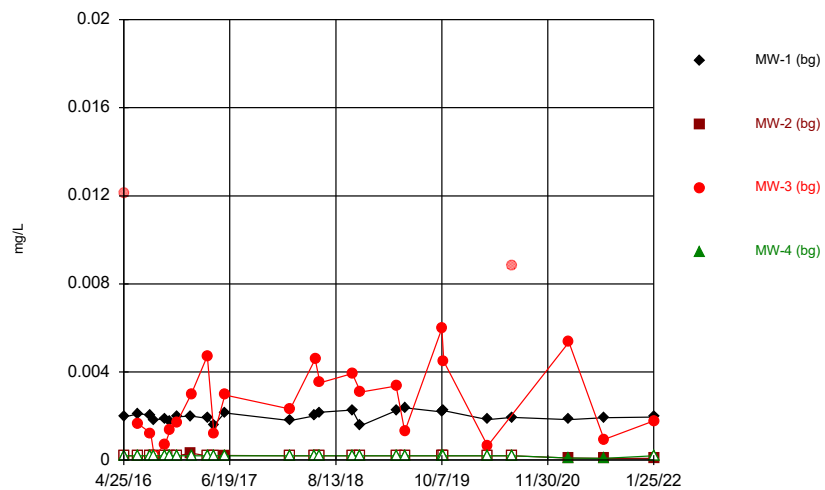
Constituent: Boron, total Analysis Run 4/22/2022 8:42 AM
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



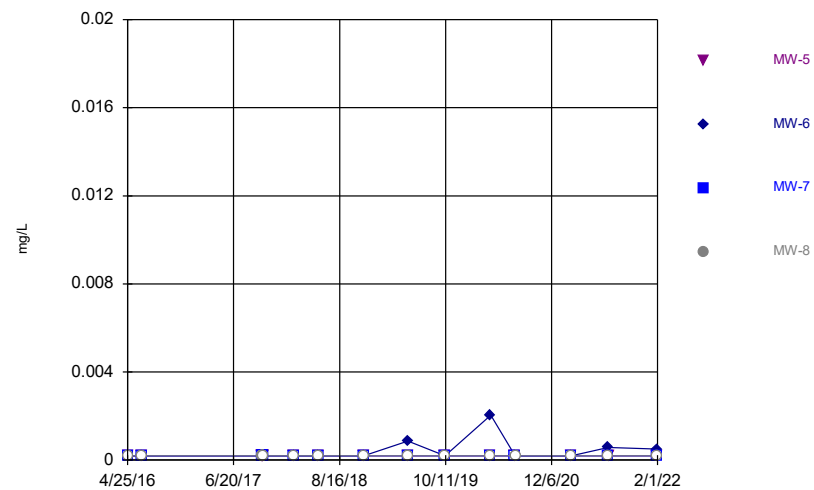
Constituent: Boron, total Analysis Run 4/22/2022 8:42 AM
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



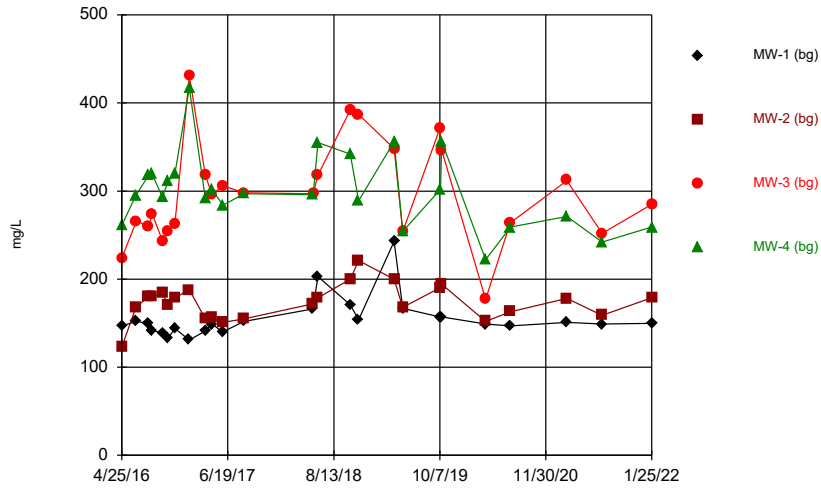
Constituent: Cadmium Analysis Run 4/22/2022 8:42 AM
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



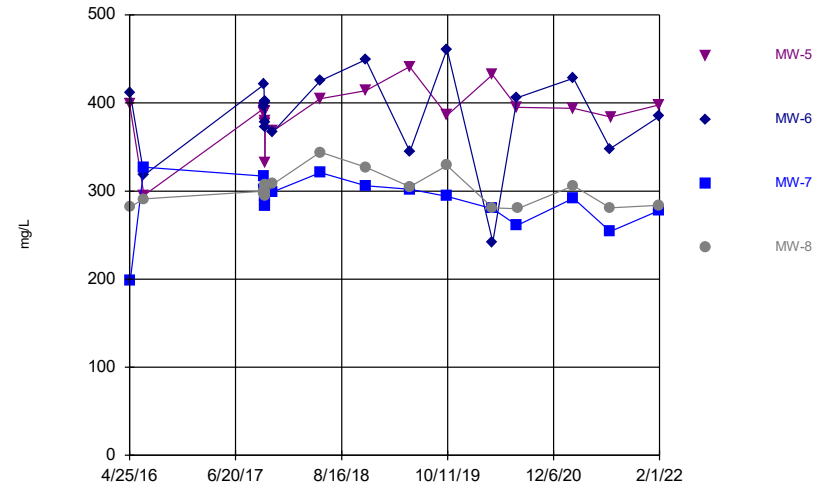
Constituent: Cadmium Analysis Run 4/22/2022 8:42 AM
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



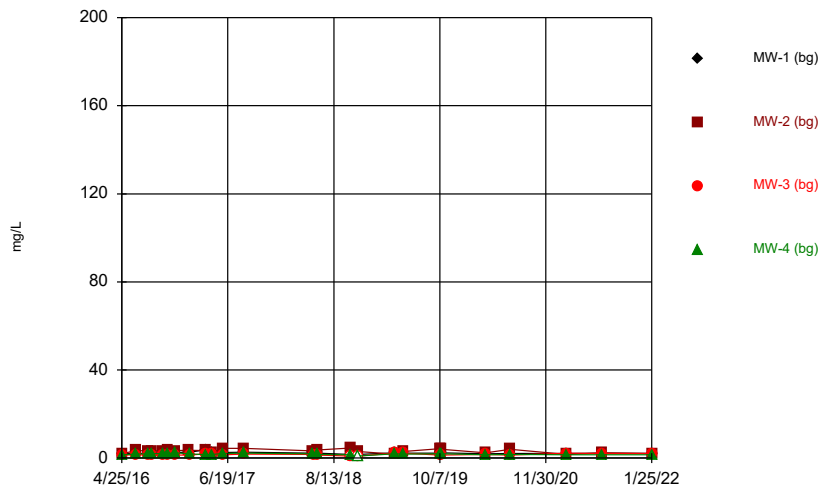
Constituent: Calcium, total Analysis Run 4/22/2022 8:42 AM
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



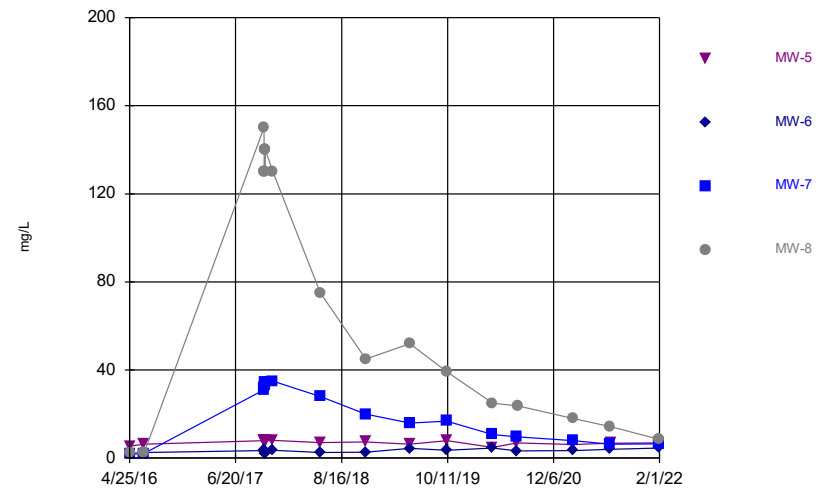
Constituent: Calcium, total Analysis Run 4/22/2022 8:42 AM
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



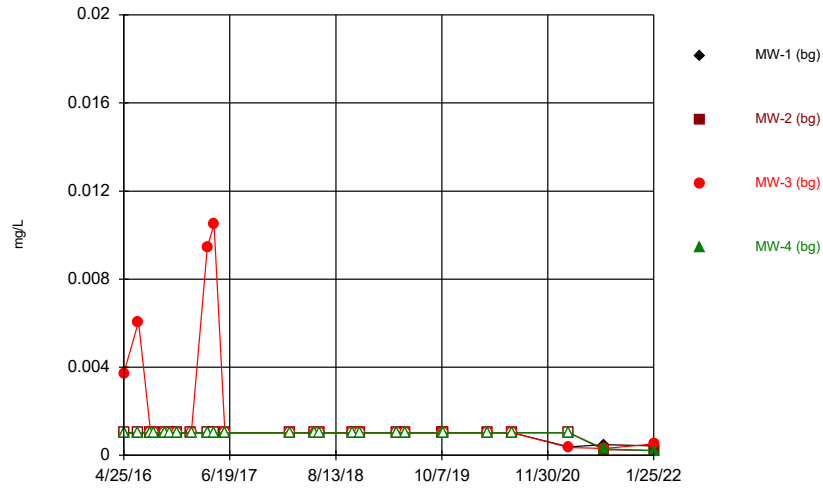
Constituent: Chloride, Total Analysis Run 4/22/2022 8:42 AM
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



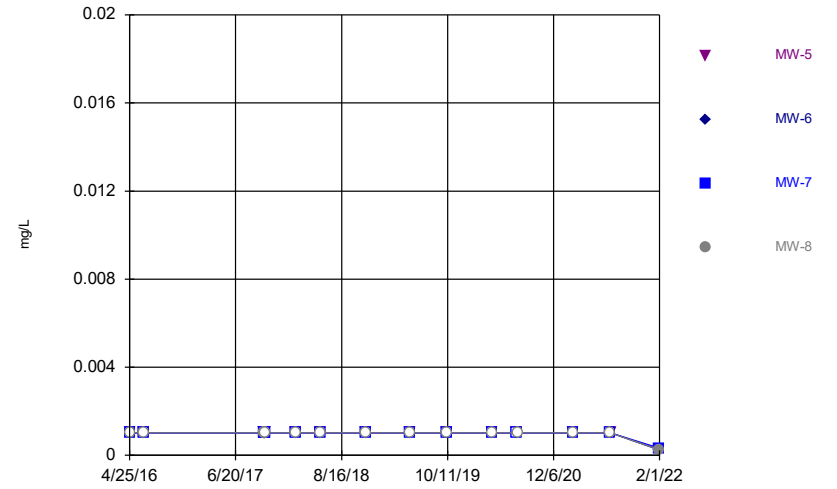
Constituent: Chloride, Total Analysis Run 4/22/2022 8:42 AM
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



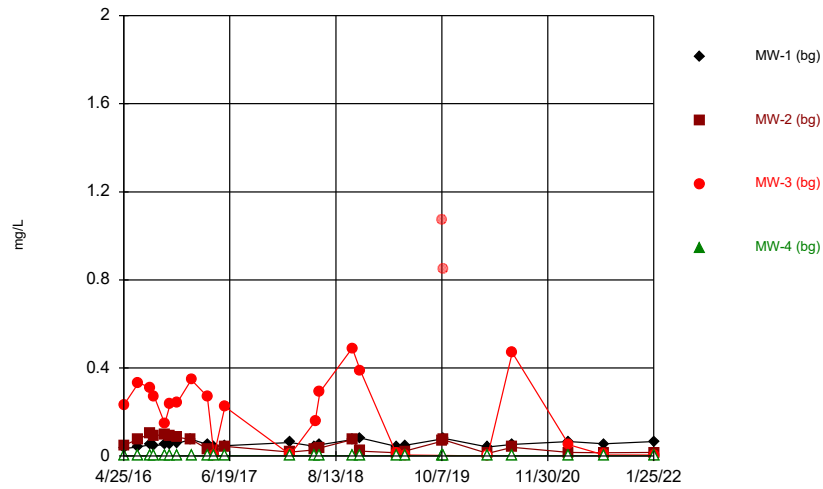
Constituent: Chromium Analysis Run 4/22/2022 8:42 AM
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



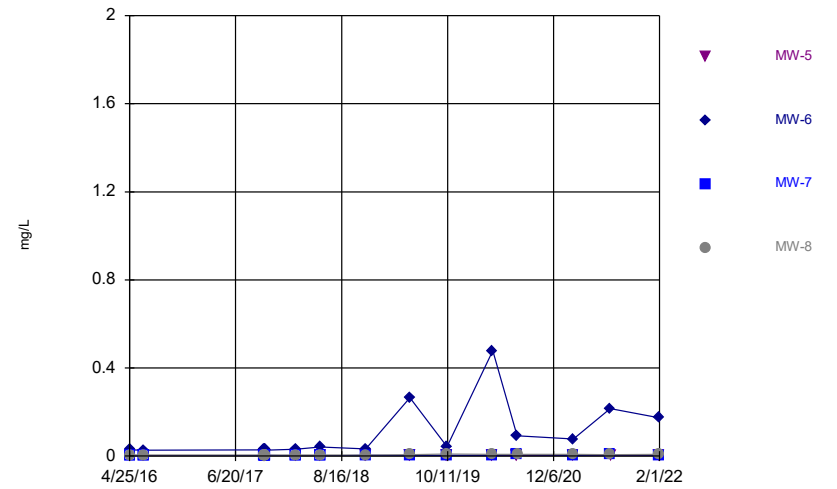
Constituent: Chromium Analysis Run 4/22/2022 8:42 AM
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



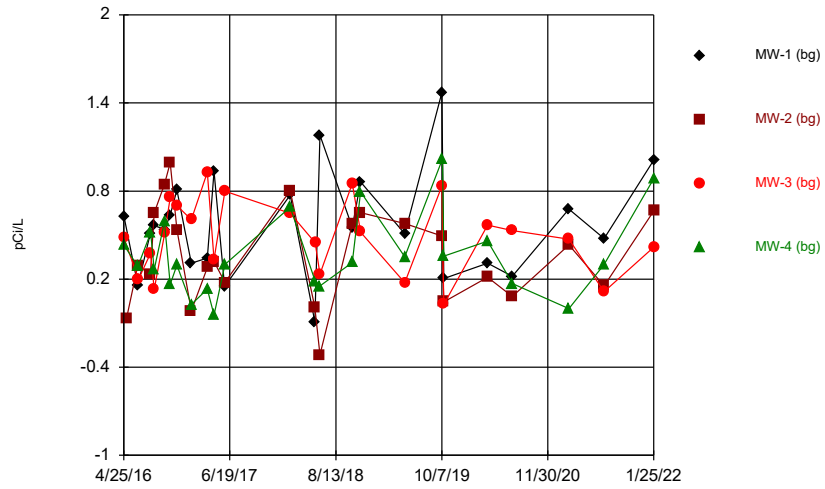
Constituent: Cobalt Analysis Run 4/22/2022 8:42 AM
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



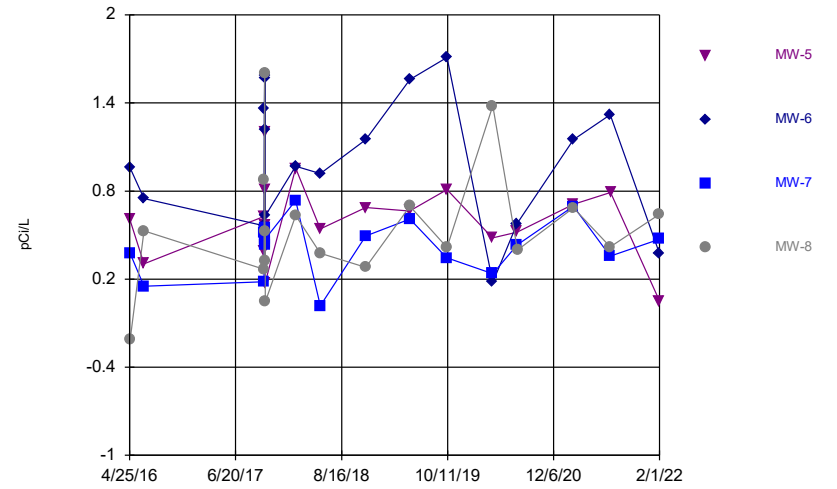
Constituent: Cobalt Analysis Run 4/22/2022 8:42 AM
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



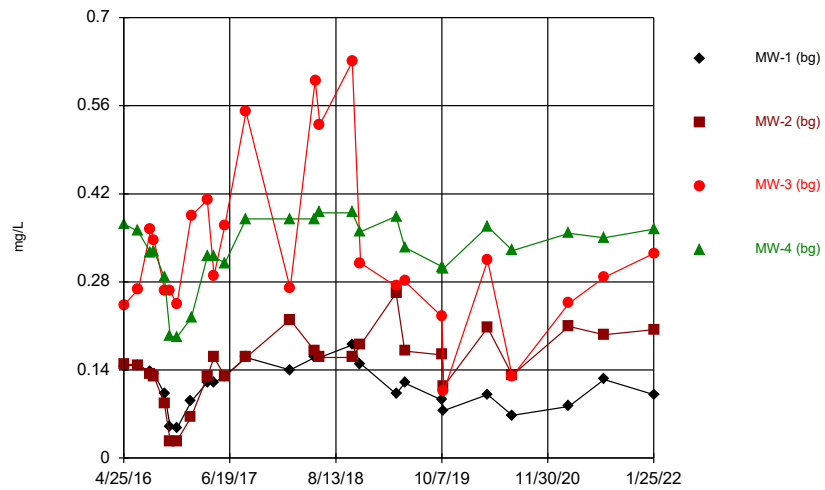
Constituent: Combined Radium 226 + 228 Analysis Run 4/22/2022 8:42 AM
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



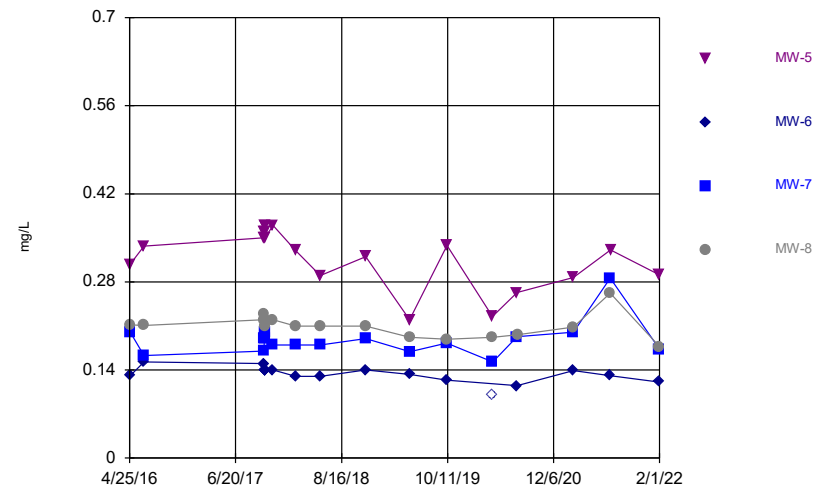
Constituent: Combined Radium 226 + 228 Analysis Run 4/22/2022 8:42 AM
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



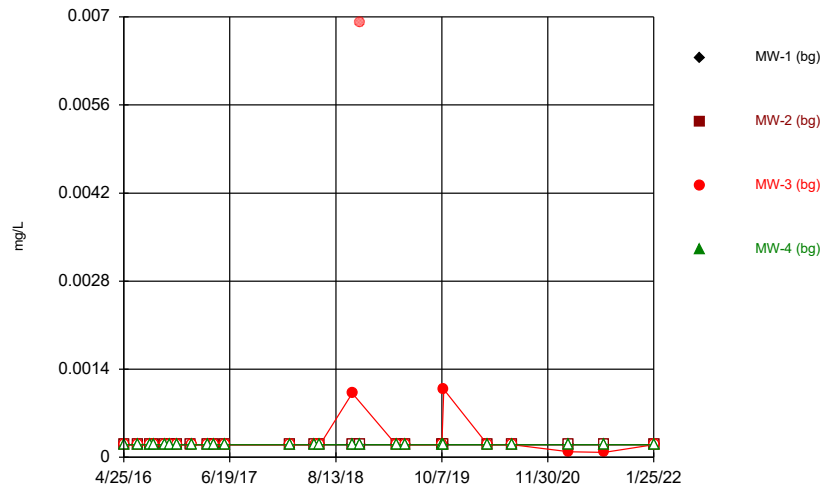
Constituent: Fluoride, total Analysis Run 4/22/2022 8:42 AM
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



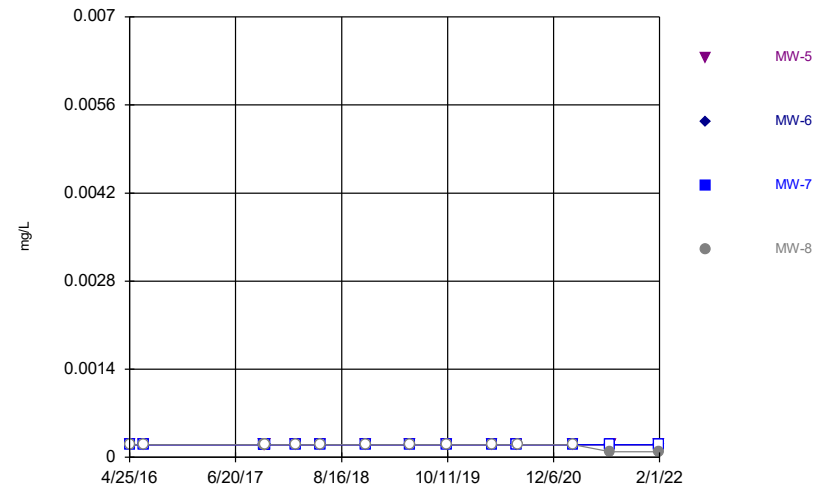
Constituent: Fluoride, total Analysis Run 4/22/2022 8:42 AM
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



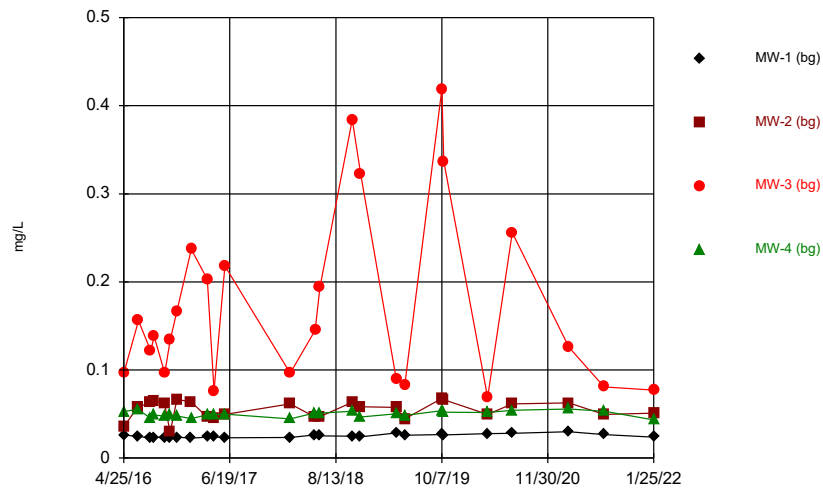
Constituent: Lead Analysis Run 4/22/2022 8:42 AM
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



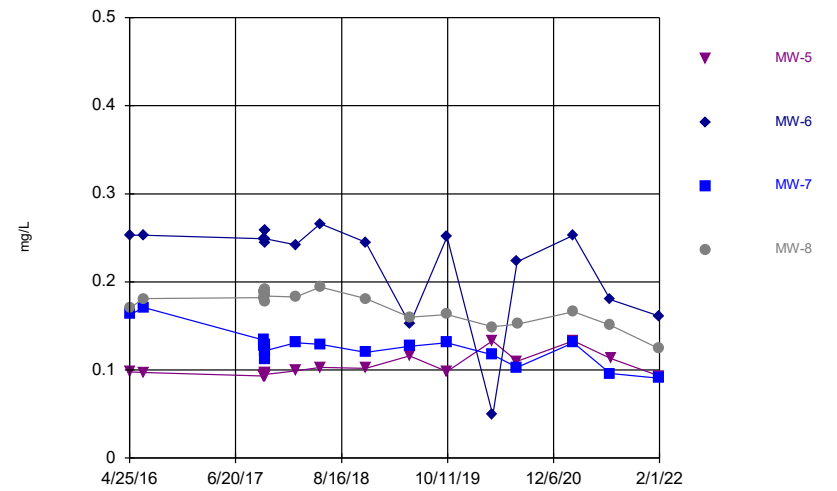
Constituent: Lead Analysis Run 4/22/2022 8:42 AM
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



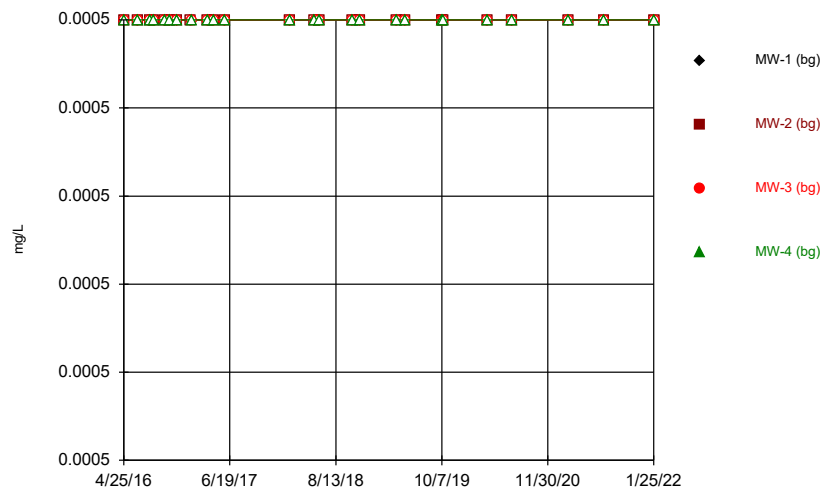
Constituent: Lithium Analysis Run 4/22/2022 8:42 AM
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



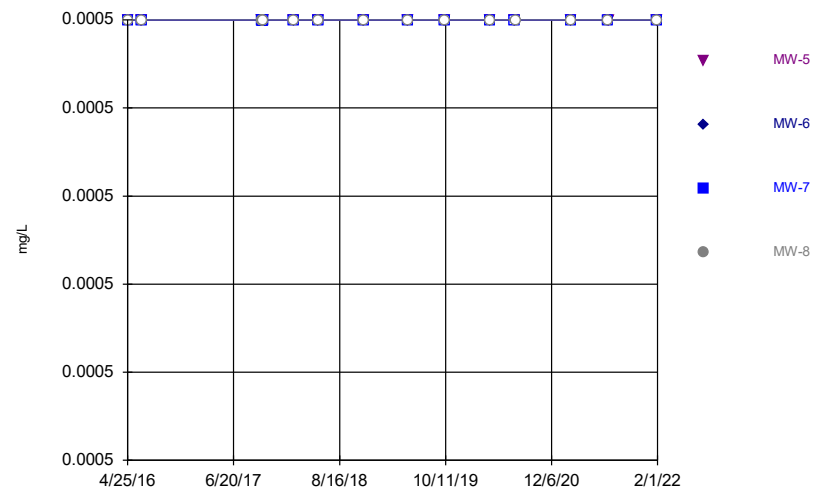
Constituent: Lithium Analysis Run 4/22/2022 8:42 AM
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



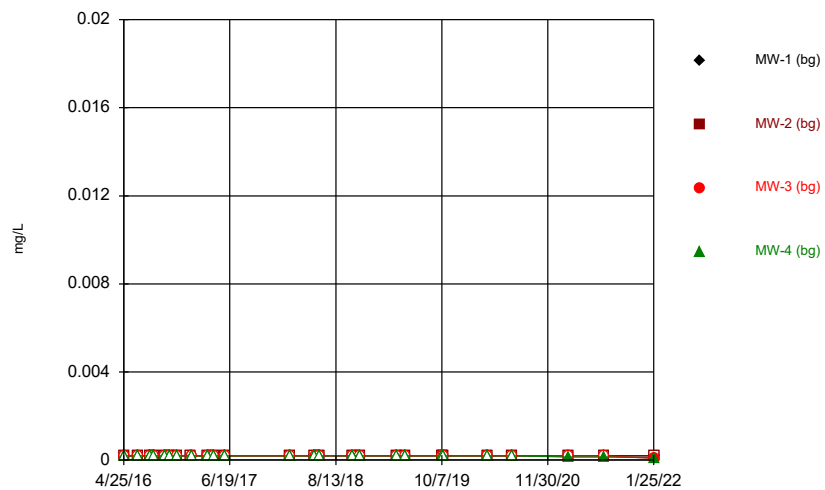
Constituent: Mercury Analysis Run 4/22/2022 8:42 AM
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



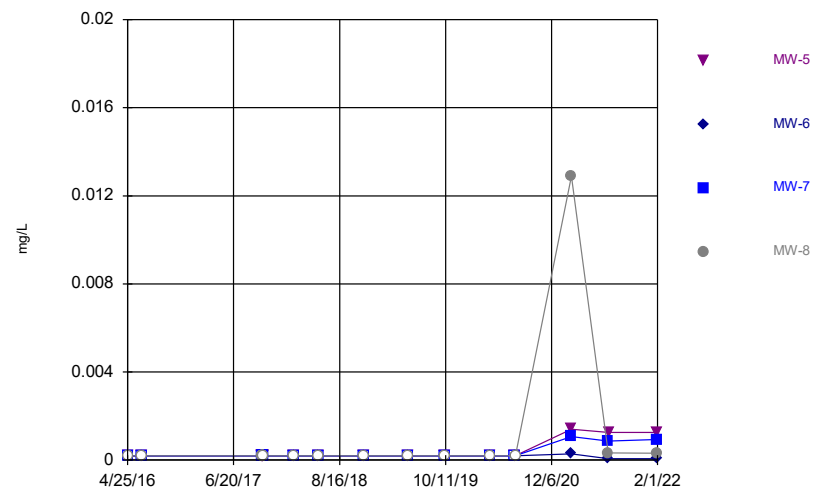
Constituent: Mercury Analysis Run 4/22/2022 8:42 AM
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



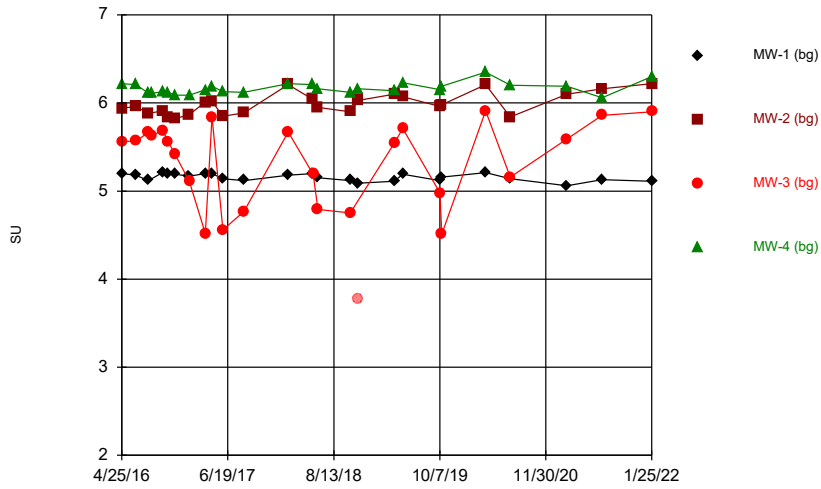
Constituent: Molybdenum Analysis Run 4/22/2022 8:42 AM
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



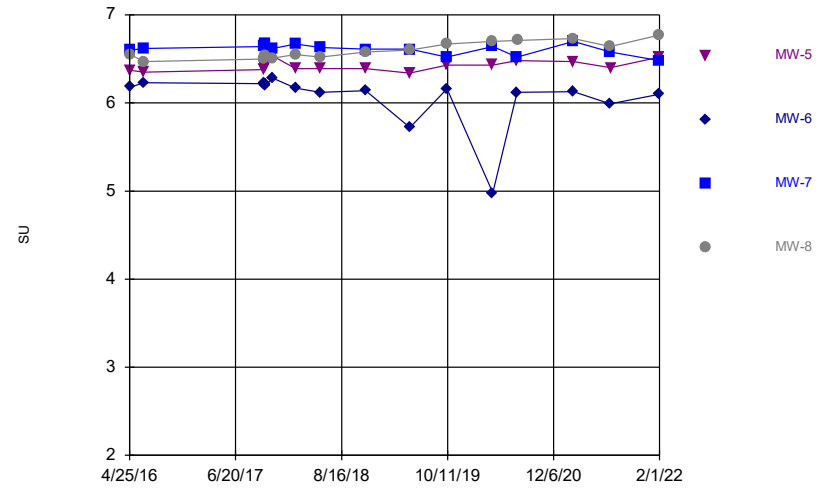
Constituent: Molybdenum Analysis Run 4/22/2022 8:42 AM
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



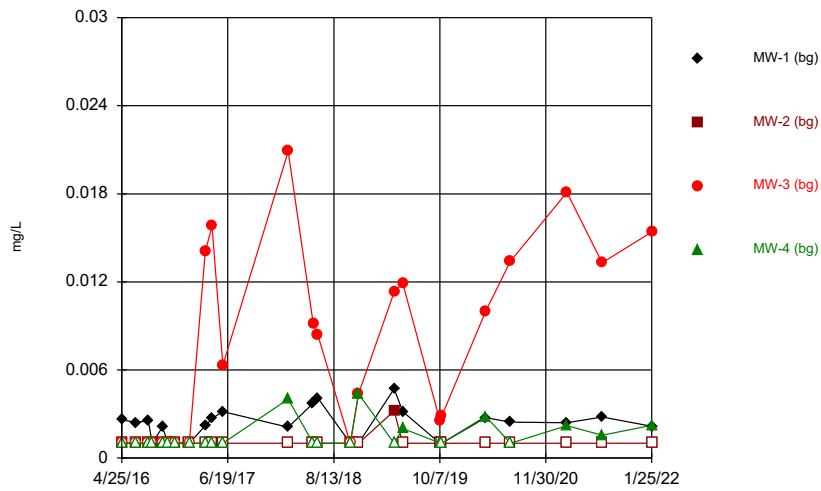
Constituent: pH, Field Analysis Run 4/22/2022 8:42 AM
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



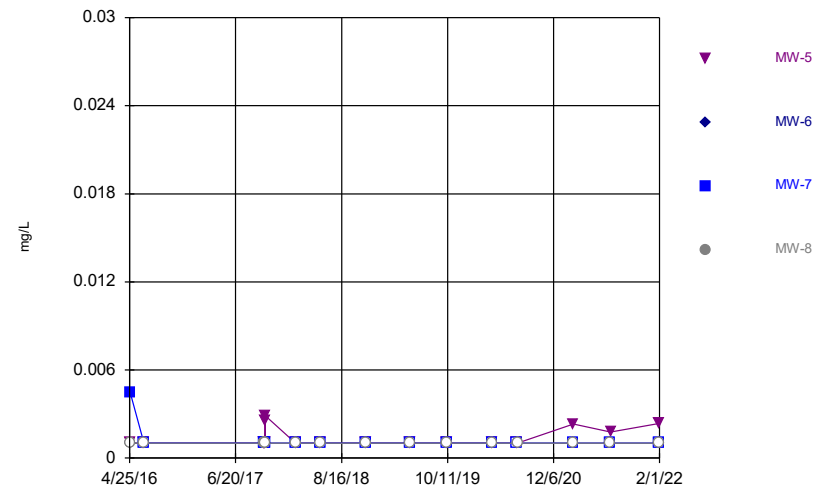
Constituent: pH, Field Analysis Run 4/22/2022 8:42 AM
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



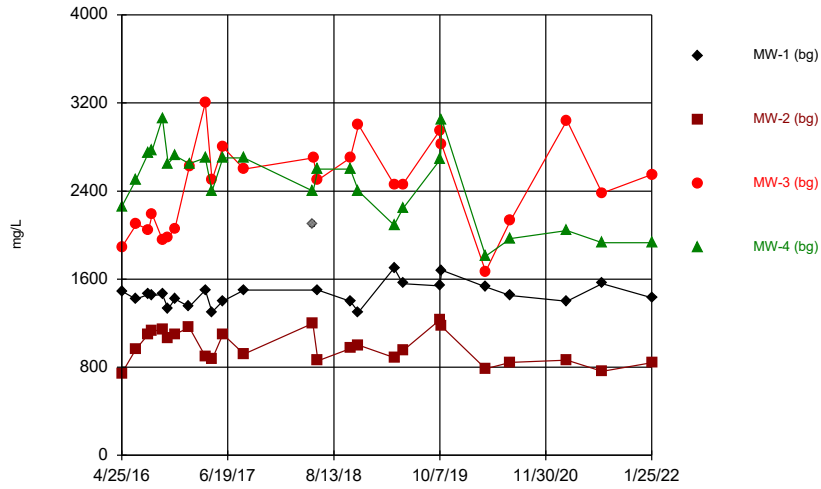
Constituent: Selenium Analysis Run 4/22/2022 8:42 AM
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



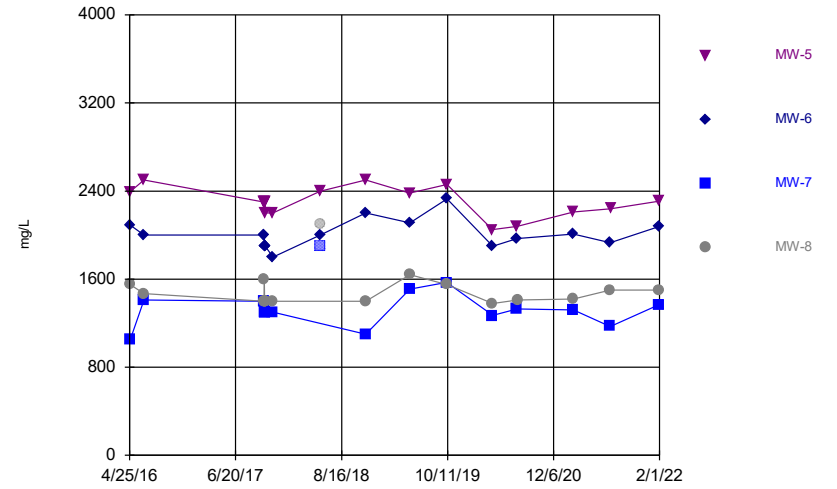
Constituent: Selenium Analysis Run 4/22/2022 8:42 AM
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



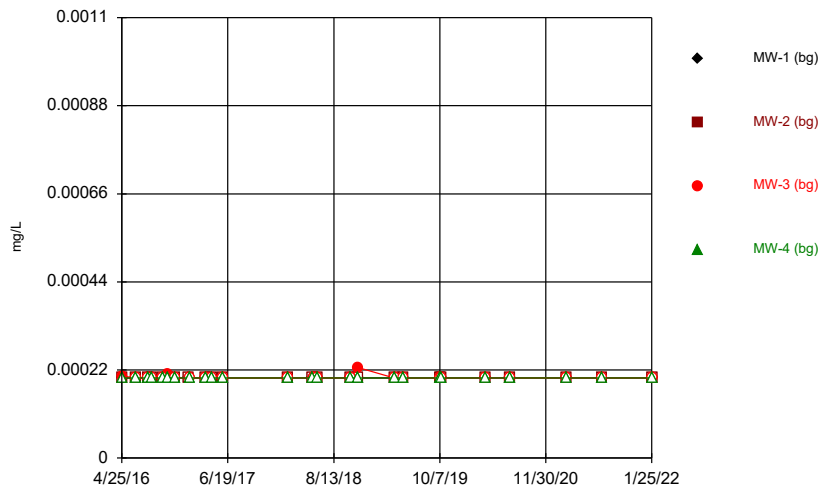
Constituent: Sulfate as SO4 Analysis Run 4/22/2022 8:42 AM
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



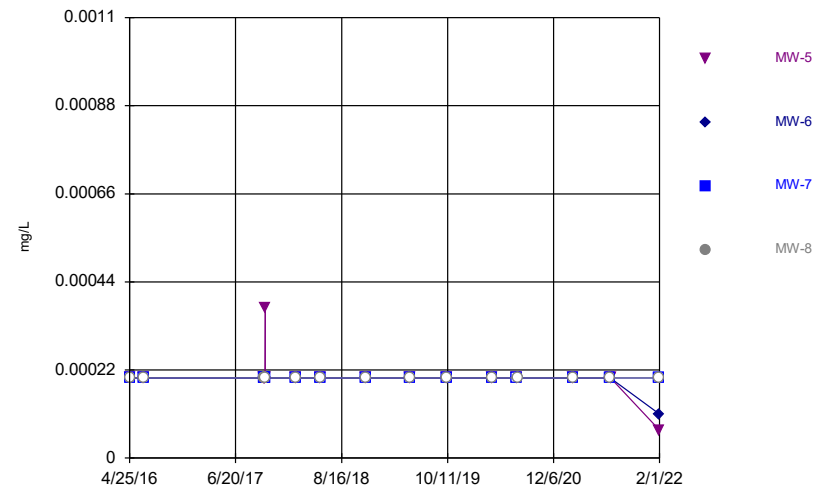
Constituent: Sulfate as SO4 Analysis Run 4/22/2022 8:42 AM
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



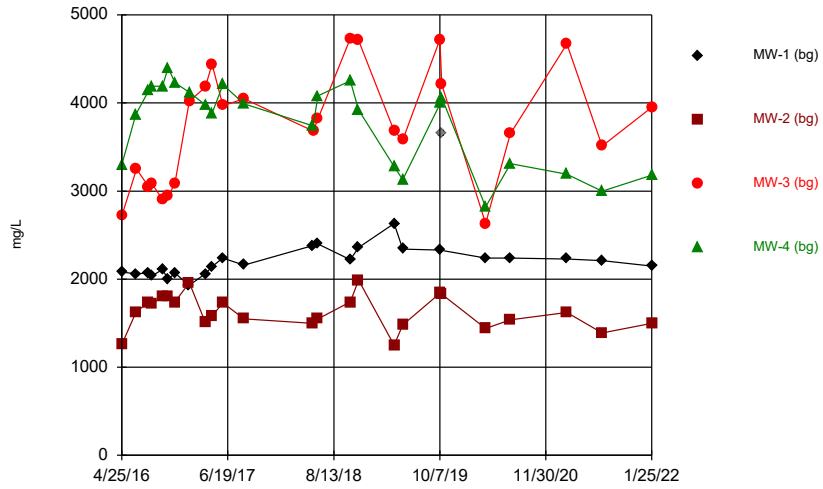
Constituent: Thallium Analysis Run 4/22/2022 8:42 AM
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



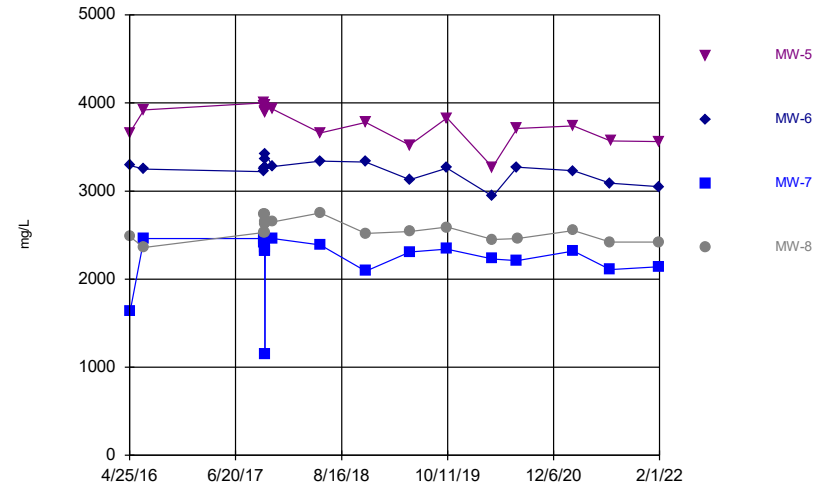
Constituent: Thallium Analysis Run 4/22/2022 8:42 AM
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



Constituent: Total Dissolved Solids [TDS] Analysis Run 4/22/2022 8:42 AM
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series



Constituent: Total Dissolved Solids [TDS] Analysis Run 4/22/2022 8:42 AM
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Time Series

Constituent: Antimony (mg/L) Analysis Run 4/22/2022 8:43 AM

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	<0.00102	<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

Time Series

Constituent: Antimony (mg/L) Analysis Run 4/22/2022 8:43 AM
Plant Gorgas Client: Southern Company 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

Time Series

Constituent: Arsenic (mg/L) Analysis Run 4/22/2022 8:43 AM
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	<0.005
4/26/2016	<0.005			
6/20/2016	<0.005	<0.005		<0.005
6/22/2016			<0.005	
8/8/2016	<0.005	<0.005		
8/9/2016			<0.005	<0.005
8/24/2016	<0.005	<0.005	<0.005	<0.005
10/3/2016	<0.005	<0.005		<0.005
10/4/2016			<0.005	
10/26/2016	<0.005	<0.005	<0.005	<0.005
11/21/2016	<0.005	0.00111 (J)	<0.005	<0.005
1/17/2017	<0.005	<0.005		
1/18/2017			<0.005	<0.005
3/22/2017	<0.005	<0.005	0.00122 (J)	<0.005
4/18/2017	<0.005	<0.005	<0.005	<0.005
5/30/2017	<0.005			
5/31/2017		<0.005	<0.005	<0.005
2/13/2018	<0.005	<0.005	<0.005	<0.005
5/22/2018	<0.005	<0.005		
5/23/2018				<0.005
5/24/2018			<0.005	
6/12/2018	<0.005	<0.005	0.00103 (J)	<0.005
10/17/2018	<0.005	<0.005	0.00133 (J)	<0.005
11/19/2018	<0.005	<0.005	0.0012 (J)	<0.005
4/10/2019	<0.005	<0.005	<0.005	<0.005
5/14/2019	<0.005	<0.005	<0.005	<0.005
10/8/2019	<0.005	<0.005	0.0048 (J)	
10/10/2019				<0.005
10/16/2019	<0.005	<0.005	0.00389 (J)	<0.005
4/6/2020	<0.005	<0.005	<0.005	<0.005
7/13/2020	<0.005	<0.005	0.00316 (J)	
7/14/2020				<0.005
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)

Time Series

Constituent: Arsenic (mg/L) Analysis Run 4/22/2022 8:43 AM
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

Time Series

Constituent: Barium (mg/L) Analysis Run 4/22/2022 8:43 AM
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

Time Series

Constituent: Barium (mg/L) Analysis Run 4/22/2022 8:43 AM
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

Time Series

Constituent: Beryllium (mg/L) Analysis Run 4/22/2022 8:43 AM

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	0.00122 (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	<0.00102	<0.00102
5/30/2017	<0.00102			
5/31/2017		<0.00102	0.00547	<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			0.00164 (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	<0.00102	<0.00102
5/14/2019	<0.00102	<0.00102	<0.00102	<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	<0.00102	<0.00102
7/13/2020	<0.00102	<0.00102	0.0021 (J)	
7/14/2020				<0.00102
2/22/2021	<0.00102	<0.00102	<0.00102	<0.00102
7/12/2021	<0.00102	<0.00102	<0.00102	<0.00102
1/25/2022	<0.00102	<0.00102	<0.00102	<0.00102

Time Series

Constituent: Beryllium (mg/L) Analysis Run 4/22/2022 8:43 AM
Plant Gorgas Client: Southern Company 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

Time Series

Constituent: Boron, total (mg/L) Analysis Run 4/22/2022 8:43 AM
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)

Time Series

Constituent: Boron, total (mg/L) Analysis Run 4/22/2022 8:43 AM
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)

Time Series

Constituent: Cadmium (mg/L) Analysis Run 4/22/2022 8:43 AM
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)	<0.0002
4/26/2016	0.00196			
6/20/2016	0.0021	<0.0002		<0.0002
6/22/2016			0.00163	
8/8/2016	0.00206	<0.0002		
8/9/2016			0.00122	<0.0002
8/24/2016	0.00182	<0.0002	<0.0002	<0.0002
10/3/2016	0.00188	<0.0002		<0.0002
10/4/2016			0.000689 (J)	
10/26/2016	0.00175	<0.0002	0.00136	<0.0002
11/21/2016	0.00197	<0.0002	0.00171	<0.0002
1/17/2017	0.002	0.000311 (J)		
1/18/2017			0.003	<0.0002
3/22/2017	0.0019	<0.0002	0.00473	<0.0002
4/18/2017	0.00159	<0.0002	0.00117	<0.0002
5/30/2017	0.00214			
5/31/2017		0.000212 (J)	0.00296	<0.0002
2/13/2018	0.0018	<0.0002	0.00232	<0.0002
5/22/2018	0.00201	<0.0002		
5/23/2018				<0.0002
5/24/2018			0.00459	
6/12/2018	0.00217	<0.0002	0.00351	<0.0002
10/17/2018	0.00228	<0.0002	0.00393	<0.0002
11/19/2018	0.00156	<0.0002	0.00309	<0.0002
4/10/2019	0.00224	<0.0002	0.00337	<0.0002
5/14/2019	0.00238	<0.0002	0.0013	<0.0002
10/8/2019	0.00218	<0.0002	0.00598	
10/10/2019				<0.0002
10/16/2019	0.00225	<0.0002	0.00448	<0.0002
4/6/2020	0.00184	<0.0002	0.000645 (J)	<0.0002
7/13/2020	0.00194	<0.0002	0.00885 (O)	
7/14/2020				<0.0002
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	<0.0002

Time Series

Constituent: Cadmium (mg/L) Analysis Run 4/22/2022 8:43 AM
Plant Gorgas Client: Southern Company 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

Time Series

Constituent: Calcium, total (mg/L) Analysis Run 4/22/2022 8:43 AM

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

Time Series

Constituent: Calcium, total (mg/L) Analysis Run 4/22/2022 8:43 AM

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

Time Series

Constituent: Chloride, Total (mg/L) Analysis Run 4/22/2022 8:43 AM

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

Time Series

Constituent: Chloride, Total (mg/L) Analysis Run 4/22/2022 8:43 AM

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

Time Series

Constituent: Chromium (mg/L) Analysis Run 4/22/2022 8:43 AM
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	0.00373 (J)	<0.00102
4/26/2016	<0.00102			
6/20/2016	<0.00102	<0.00102		<0.00102
6/22/2016			0.00606 (J)	
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	0.00945 (J)	<0.00102
4/18/2017	<0.00102	<0.00102	0.0105	<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	<0.00102	<0.00102	<0.00102	<0.00102
5/14/2019	<0.00102	<0.00102	<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	0.000382 (J)	<0.00102	0.00035 (J)	<0.00102
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)

Time Series

Constituent: Chromium (mg/L) Analysis Run 4/22/2022 8:43 AM
Plant Gorgas Client: Southern Company 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	0.00027 (J)	0.00024 (J)	0.00032 (J)	
2/1/2022				0.00025 (J)

Time Series

Constituent: Cobalt (mg/L) Analysis Run 4/22/2022 8:43 AM
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	<0.0002
4/26/2016	0.0343			
6/20/2016	0.0413	0.0767		<0.0002
6/22/2016			0.332	
8/8/2016	0.0513	0.103		
8/9/2016			0.311	<0.0002
8/24/2016	0.0471	0.093	0.271	<0.0002
10/3/2016	0.0525	0.0964		<0.0002
10/4/2016			0.148	
10/26/2016	0.0527	0.0904	0.236	<0.0002
11/21/2016	0.0569	0.0857	0.241	<0.0002
1/17/2017	0.0768	0.0745		
1/18/2017			0.347	<0.0002
3/22/2017	0.0535	0.0328	0.271	<0.0002
4/18/2017	0.0442	0.0242	0.00324 (J)	<0.0002
5/30/2017	0.0465			
5/31/2017		0.0441	0.225	<0.0002
2/13/2018	0.062	0.0179	0.00661 (J)	<0.0002
5/22/2018	0.0443	0.028		
5/23/2018				<0.0002
5/24/2018			0.158	
6/12/2018	0.0512	0.0366	0.291	<0.0002
10/17/2018	0.0751	0.0745	0.49	<0.0002
11/19/2018	0.0825	0.0225	0.386	<0.0002
4/10/2019	0.0445	0.0152	0.0144	<0.0002
5/14/2019	0.0485	0.0222	0.00536	<0.0002
10/8/2019	0.0778	0.0674	1.07 (o)	
10/10/2019				<0.0002
10/16/2019	0.08	0.073	0.848 (o)	<0.0002
4/6/2020	0.0417	0.0116	<0.0002	<0.0002
7/13/2020	0.0532	0.0405	0.47	
7/14/2020				<0.0002
2/22/2021	0.0657	0.0161	0.0515	<0.0002
7/12/2021	0.0556	0.0155	0.00567	<0.0002
1/25/2022	0.0654	0.0166	0.0051	<0.0002

Time Series

Constituent: Cobalt (mg/L) Analysis Run 4/22/2022 8:43 AM
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	<0.0002	0.00436 (J)
6/21/2016	0.00228 (J)	0.0269	<0.0002	0.00484 (J)
10/12/2017	<0.0002	0.0279	0.00269 (J)	0.005 (J)
10/13/2017	<0.0002	0.0271	0.00341 (J)	0.0052 (J)
10/14/2017	<0.0002	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	<0.0002	0.0274	0.00371 (J)	0.00453 (J)
10/17/2017	<0.0002	0.0274	0.0035 (J)	0.00463 (J)
2/14/2018	<0.0002	0.0305	<0.0002	0.00441 (J)
5/23/2018	<0.0002	0.0409	<0.0002	0.00466 (J)
11/20/2018	<0.0002	0.0327	0.00306 (J)	0.00551
5/14/2019	<0.0002			
5/15/2019		0.265	0.00234 (J)	0.00643
10/8/2019			0.00408 (J)	
10/9/2019				0.00864
10/10/2019	<0.0002	0.0425		
4/7/2020	<0.0002			
4/8/2020		0.479	0.00394 (J)	0.00762
7/14/2020	<0.0002	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

Time Series

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 4/22/2022 8:43 AM

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)

Time Series

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 4/22/2022 8:43 AM

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)

Time Series

Constituent: Fluoride, total (mg/L) Analysis Run 4/22/2022 8:43 AM

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

Time Series

Constituent: Fluoride, total (mg/L) Analysis Run 4/22/2022 8:43 AM

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

Time Series

Constituent: Lead (mg/L) Analysis Run 4/22/2022 8:43 AM
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	<0.0002
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	<0.0002	<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	0.00102 (J)	<0.0002
11/19/2018	<0.0002	<0.0002	0.00692 (o)	<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	0.00108 (J)	<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	8.8E-05 (J)	<0.0002
7/12/2021	<0.0002	<0.0002	8E-05 (J)	<0.0002
1/25/2022	<0.0002	<0.0002	<0.0002	<0.0002

Time Series

Constituent: Lead (mg/L) Analysis Run 4/22/2022 8:43 AM
Plant Gorgas Client: Southern Company 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		<0.0002	<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		<0.0002	<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		<0.0002	<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)

Time Series

Constituent: Lithium (mg/L) Analysis Run 4/22/2022 8:43 AM
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

Time Series

Constituent: Lithium (mg/L) Analysis Run 4/22/2022 8:43 AM
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

Time Series

Constituent: Mercury (mg/L) Analysis Run 4/22/2022 8:43 AM
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

Time Series

Constituent: Mercury (mg/L) Analysis Run 4/22/2022 8:43 AM
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

Time Series

Constituent: Molybdenum (mg/L) Analysis Run 4/22/2022 8:43 AM

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	<0.0002
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	<0.0002	<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	<0.0002	<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	0.000131 (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)

Time Series

Constituent: Molybdenum (mg/L) Analysis Run 4/22/2022 8:43 AM

Plant Gorgas Client: Southern Company 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		<0.0002	<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		<0.0002	<0.0002	<0.0002
7/14/2020	<0.0002	<0.0002	<0.0002	
7/15/2020				<0.0002
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

Time Series

Constituent: pH, Field (SU) Analysis Run 4/22/2022 8:44 AM
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

Time Series

Constituent: pH, Field (SU) Analysis Run 4/22/2022 8:44 AM
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

Time Series

Constituent: Selenium (mg/L) Analysis Run 4/22/2022 8:44 AM
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	<0.00102	<0.00102
4/26/2016	0.00261 (J)			
6/20/2016	0.00242 (J)	<0.00102		<0.00102
6/22/2016			<0.00102	
8/8/2016	0.00253 (J)	<0.00102		
8/9/2016			<0.00102	<0.00102
8/24/2016	<0.00102	<0.00102	<0.00102	<0.00102
10/3/2016	0.00211 (J)	<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	0.0022 (J)	<0.00102	0.0141	<0.00102
4/18/2017	0.0027 (J)	<0.00102	0.0158	<0.00102
5/30/2017	0.00316 (J)			
5/31/2017		<0.00102	0.00632 (J)	<0.00102
2/13/2018	0.00211 (J)	<0.00102	0.0209	0.00403 (J)
5/22/2018	0.00372 (J)	<0.00102		
5/23/2018				<0.00102
5/24/2018			0.00918 (J)	
6/12/2018	0.00409 (J)	<0.00102	0.00836 (J)	<0.00102
10/17/2018	<0.00102	<0.00102	<0.00102	<0.00102
11/19/2018	<0.00102	<0.00102	0.00439 (J)	0.00436 (J)
4/10/2019	0.00471 (J)	0.00322 (J)	0.0113	<0.00102
5/14/2019	0.00316 (J)	<0.00102	0.0119	0.00201 (J)
10/8/2019	<0.00102	<0.00102	0.00256 (J)	
10/10/2019				<0.00102
10/16/2019	<0.00102	<0.00102	0.00286 (J)	<0.00102
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				<0.00102
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

Time Series

Constituent: Selenium (mg/L) Analysis Run 4/22/2022 8:44 AM

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
4/25/2016	<0.00102			
4/27/2016		<0.00102	0.00445 (J)	<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	0.00254 (J)	<0.00102	<0.00102	<0.00102
10/16/2017	<0.00102	<0.00102	<0.00102	<0.00102
10/17/2017	0.00288 (J)	<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	0.00233	<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

Time Series

Constituent: Sulfate as SO4 (mg/L) Analysis Run 4/22/2022 8:44 AM

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

Time Series

Constituent: Sulfate as SO4 (mg/L) Analysis Run 4/22/2022 8:44 AM

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

Time Series

Constituent: Thallium (mg/L) Analysis Run 4/22/2022 8:44 AM

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)	<0.0002
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

Time Series

Constituent: Thallium (mg/L) Analysis Run 4/22/2022 8:44 AM
Plant Gorgas Client: Southern Company 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	0.000375 (J)	<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		<0.0002	<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		<0.0002	<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		<0.0002	<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

Time Series

Constituent: Total Dissolved Solids [TDS] (mg/L) Analysis Run 4/22/2022 8:44 AM

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

Time Series

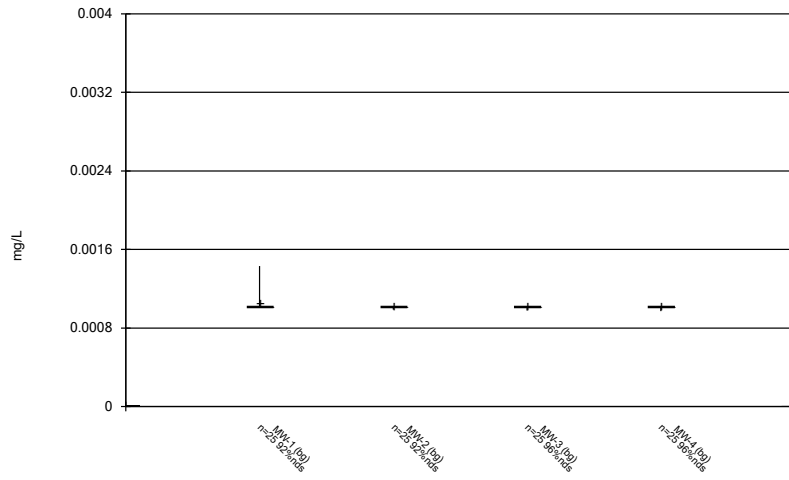
Constituent: Total Dissolved Solids [TDS] (mg/L) Analysis Run 4/22/2022 8:44 AM

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

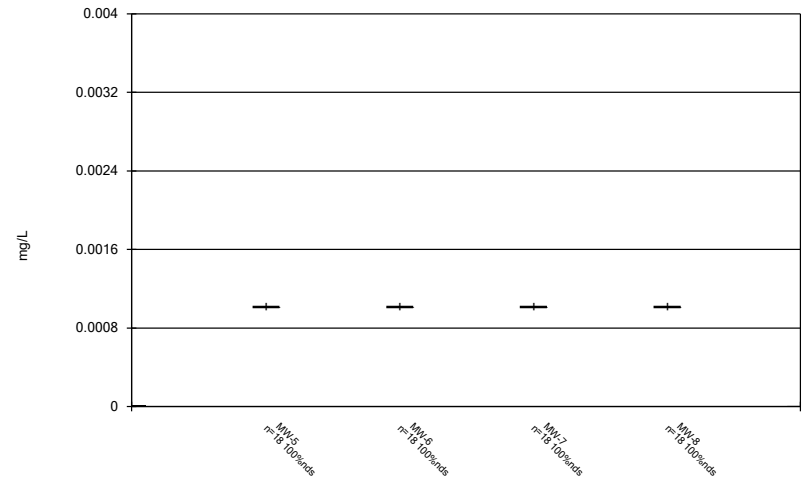
FIGURE B.

Box & Whiskers Plot



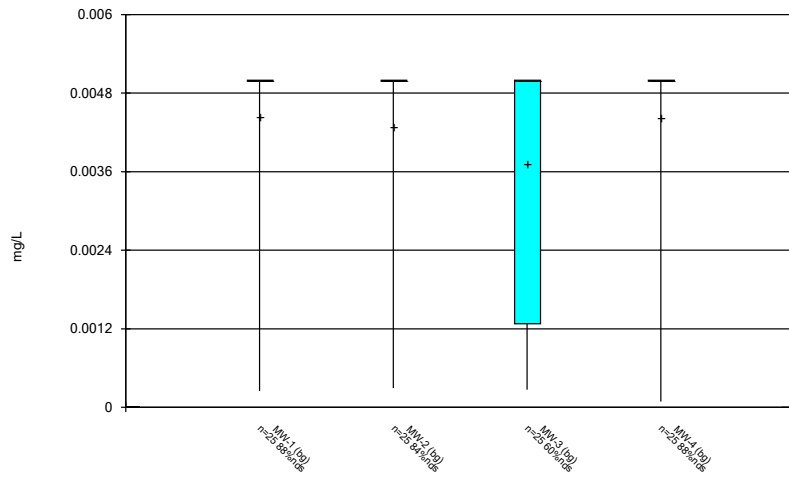
Constituent: Antimony Analysis Run 4/22/2022 8:44 AM
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



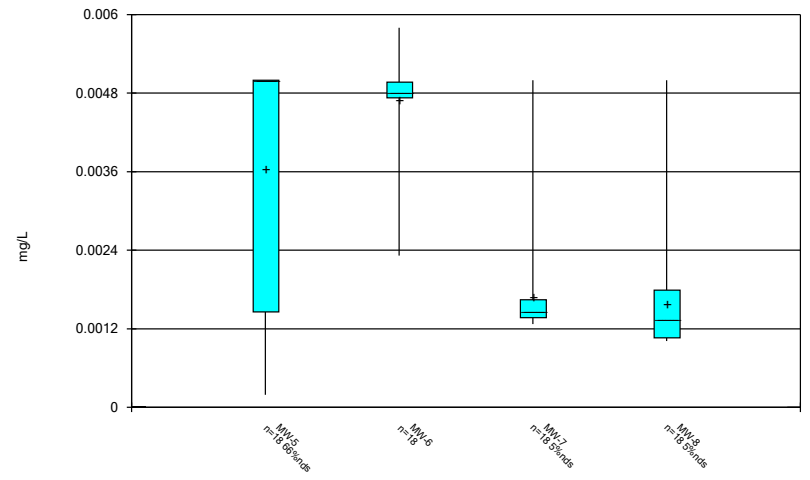
Constituent: Antimony Analysis Run 4/22/2022 8:44 AM
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



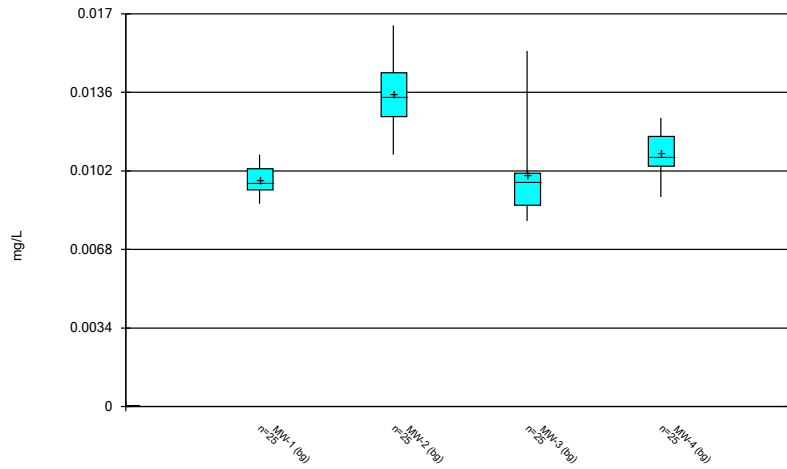
Constituent: Arsenic Analysis Run 4/22/2022 8:44 AM
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



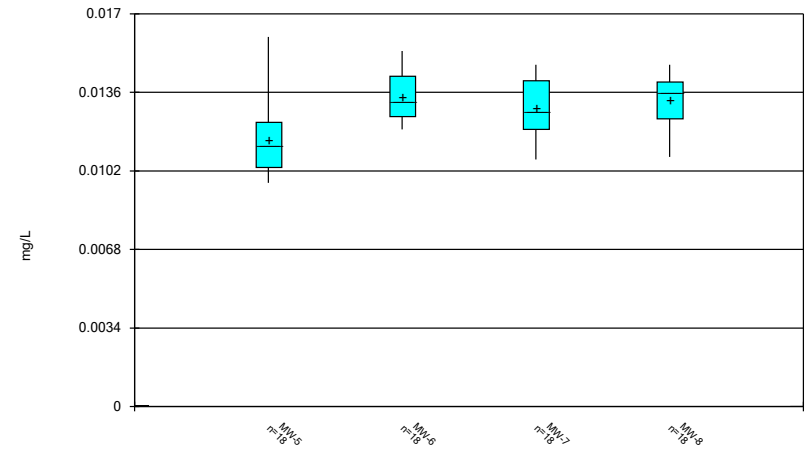
Constituent: Arsenic Analysis Run 4/22/2022 8:44 AM
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



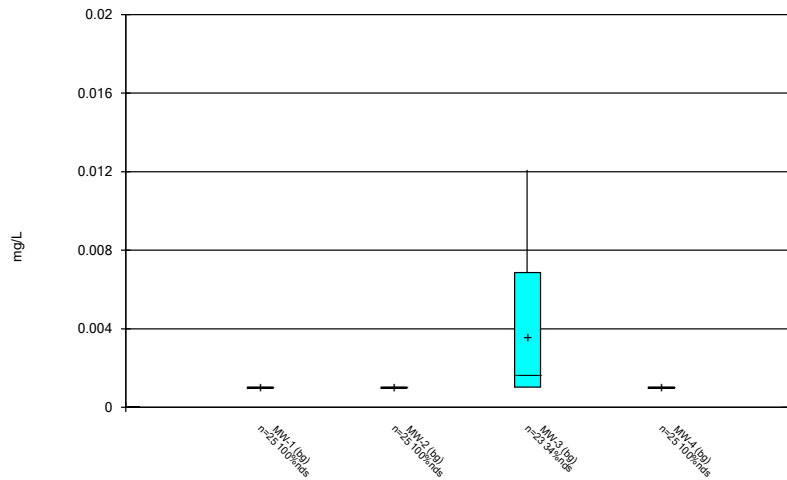
Constituent: Barium Analysis Run 4/22/2022 8:44 AM
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



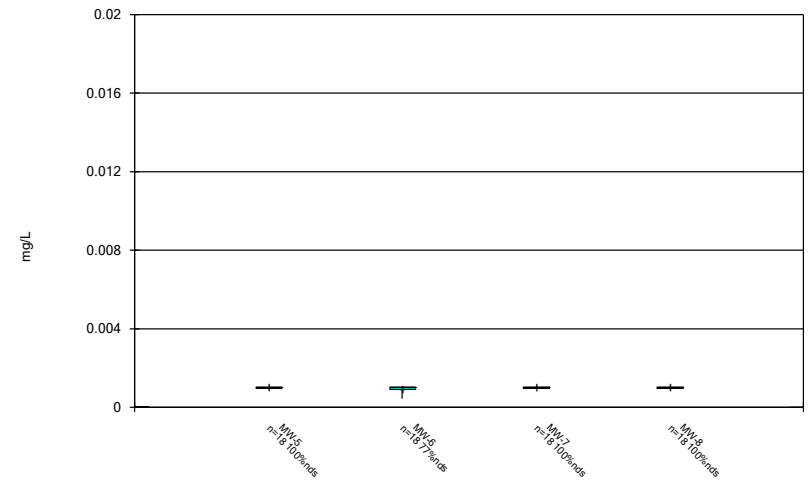
Constituent: Barium Analysis Run 4/22/2022 8:44 AM
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



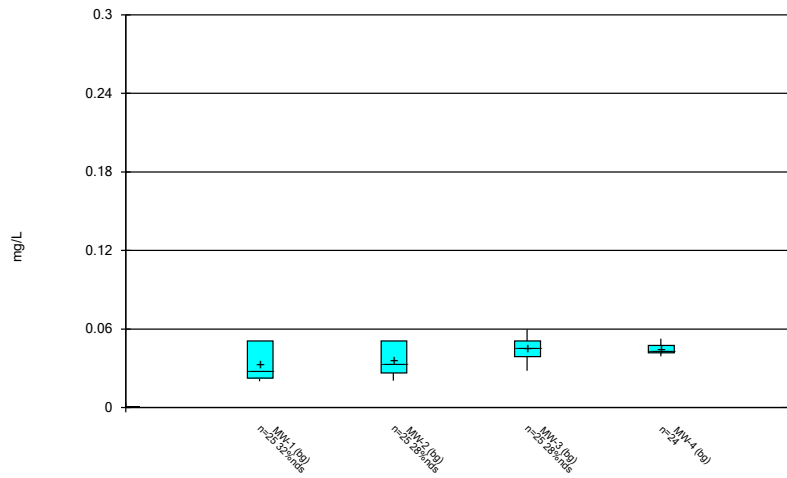
Constituent: Beryllium Analysis Run 4/22/2022 8:44 AM
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



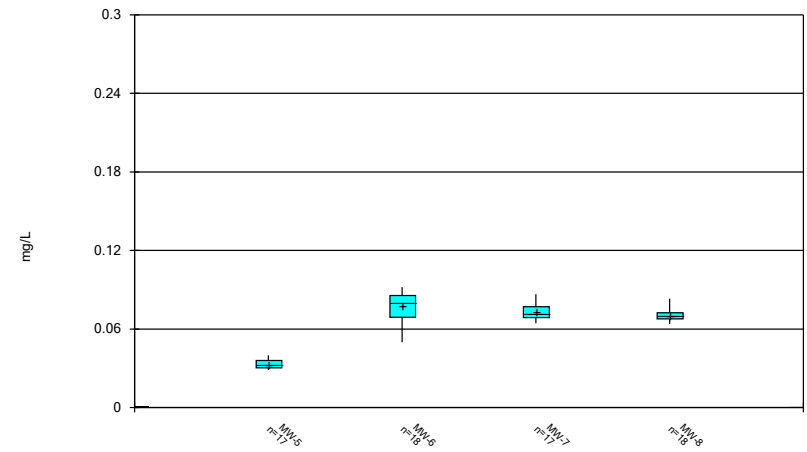
Constituent: Beryllium Analysis Run 4/22/2022 8:44 AM
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



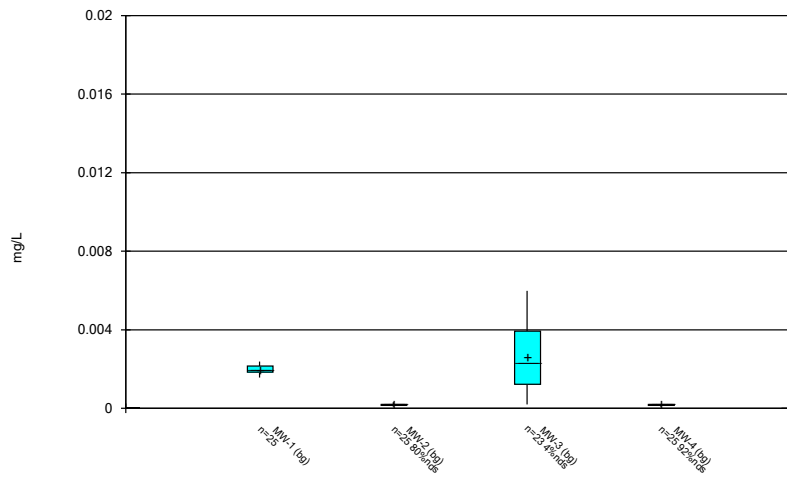
Constituent: Boron, total Analysis Run 4/22/2022 8:44 AM
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



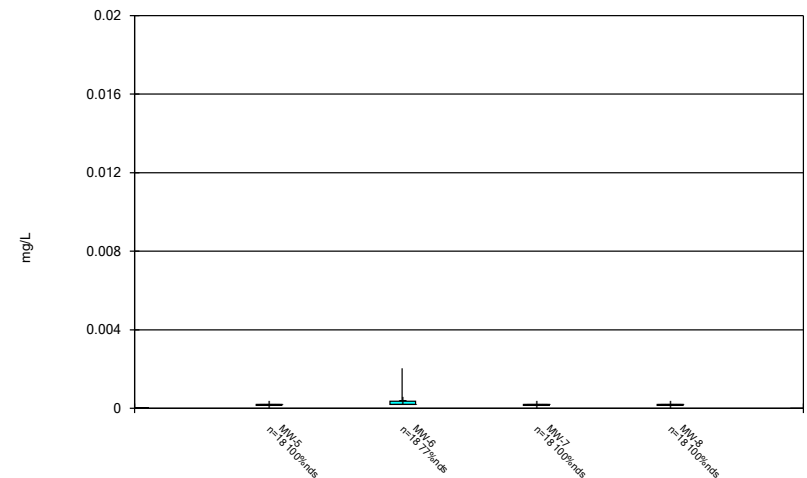
Constituent: Boron, total Analysis Run 4/22/2022 8:44 AM
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



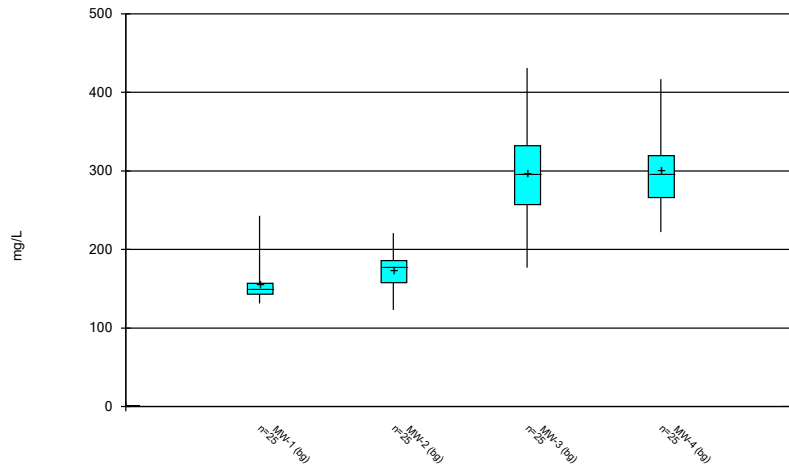
Constituent: Cadmium Analysis Run 4/22/2022 8:44 AM
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



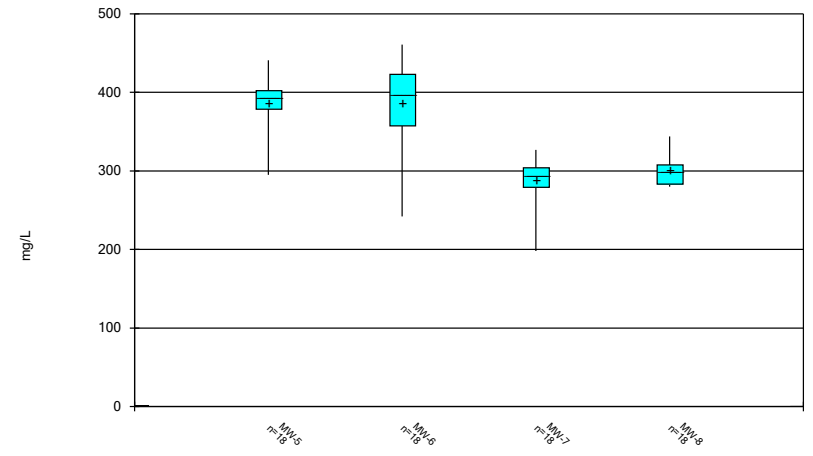
Constituent: Cadmium Analysis Run 4/22/2022 8:44 AM
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



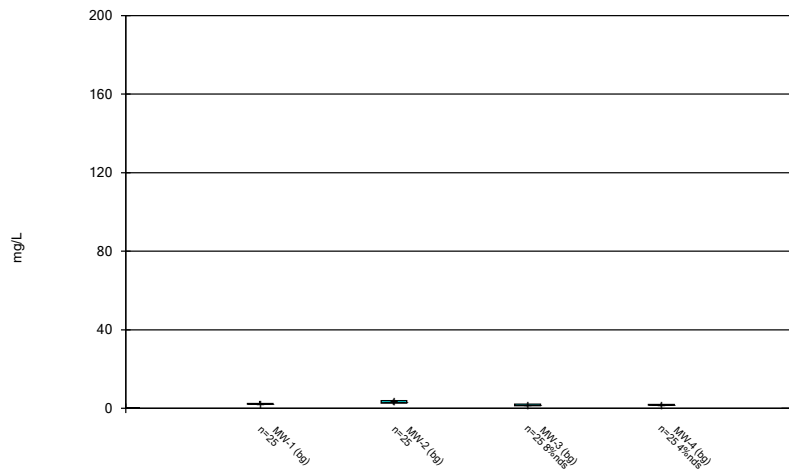
Constituent: Calcium, total Analysis Run 4/22/2022 8:44 AM
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



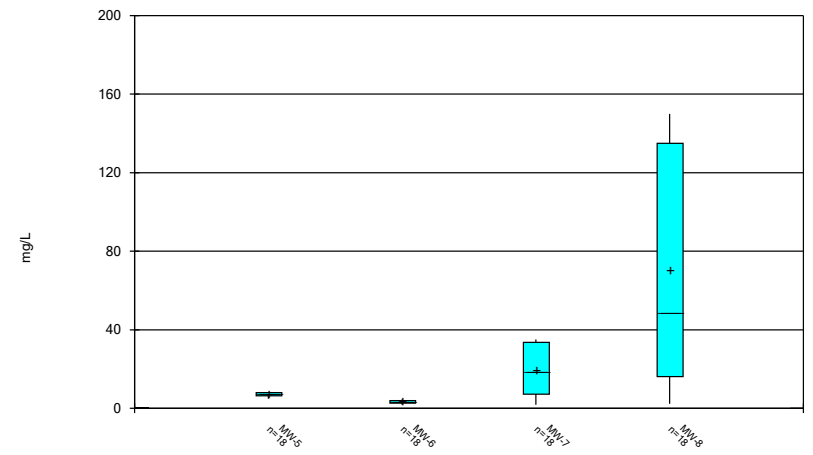
Constituent: Calcium, total Analysis Run 4/22/2022 8:44 AM
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



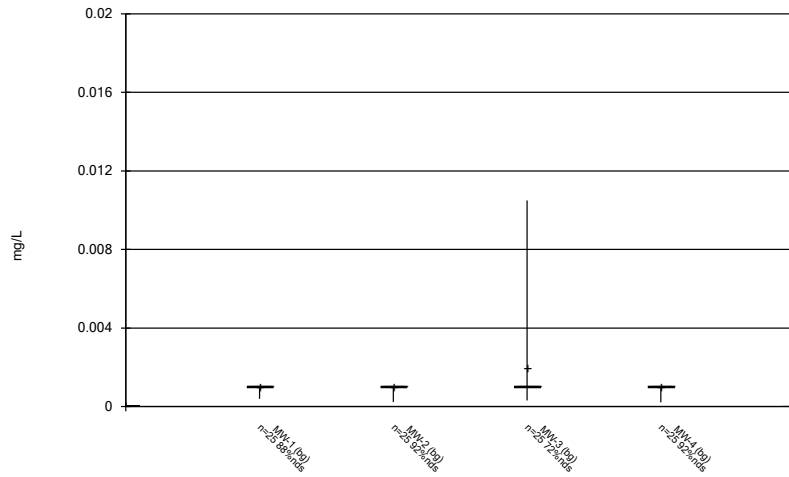
Constituent: Chloride, Total Analysis Run 4/22/2022 8:44 AM
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



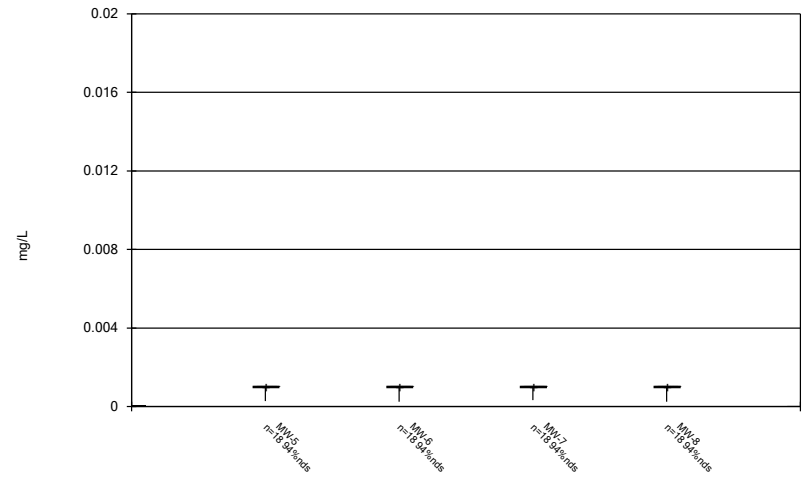
Constituent: Chloride, Total Analysis Run 4/22/2022 8:44 AM
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



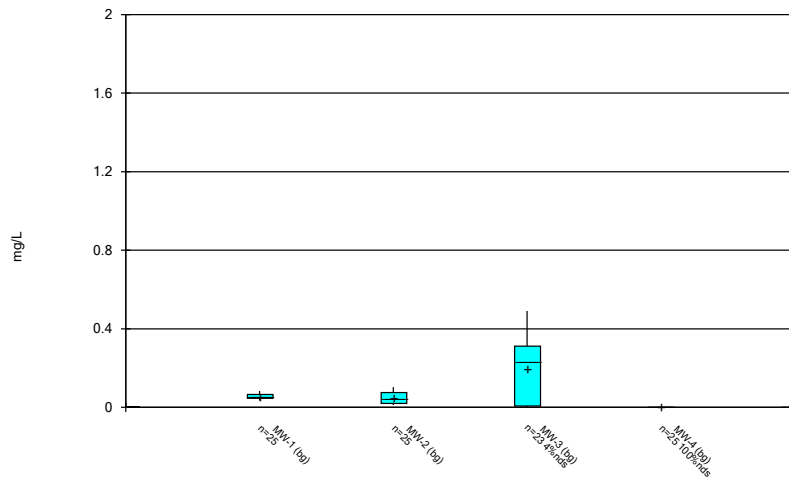
Constituent: Chromium Analysis Run 4/22/2022 8:44 AM
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



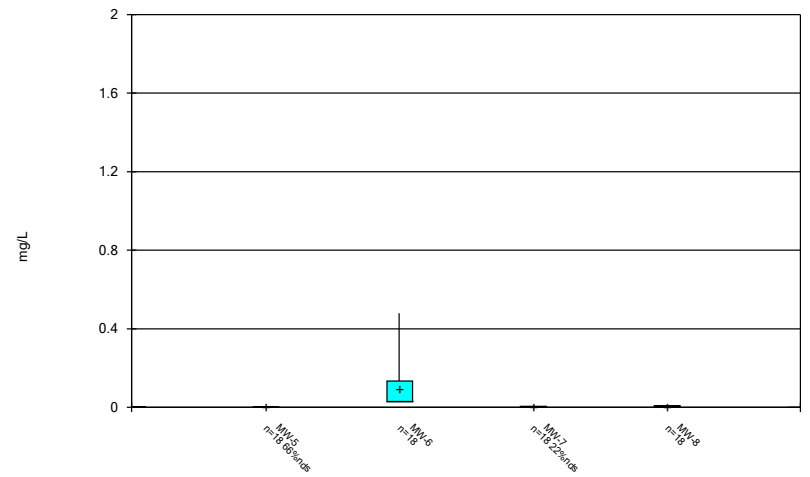
Constituent: Chromium Analysis Run 4/22/2022 8:44 AM
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



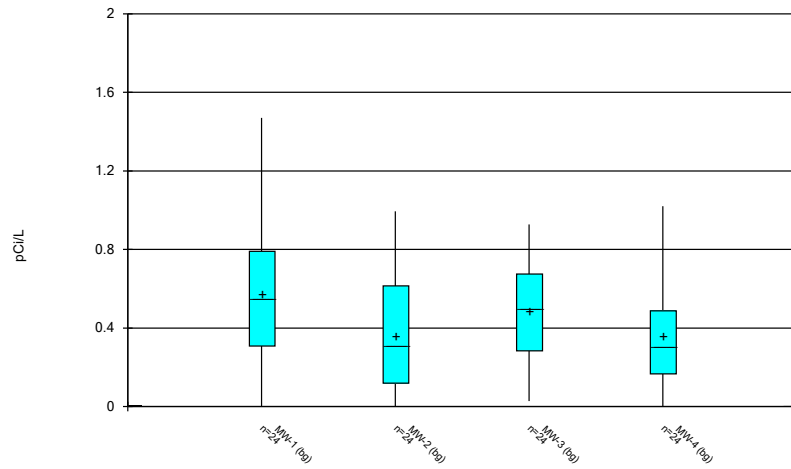
Constituent: Cobalt Analysis Run 4/22/2022 8:44 AM
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



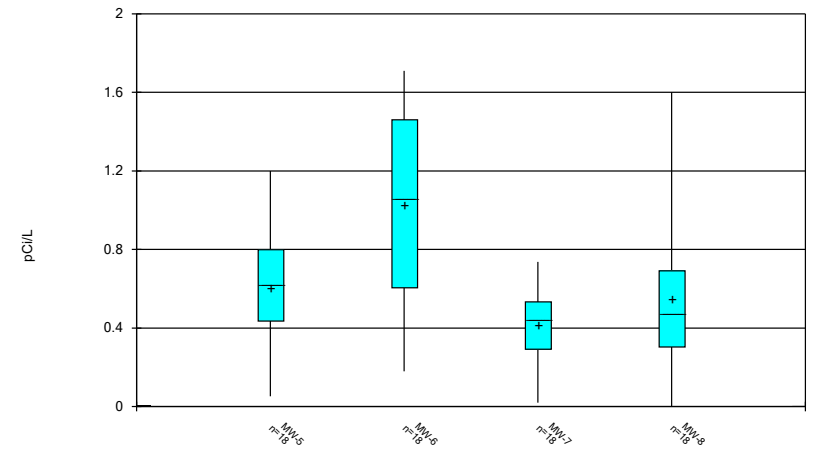
Constituent: Cobalt Analysis Run 4/22/2022 8:44 AM
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



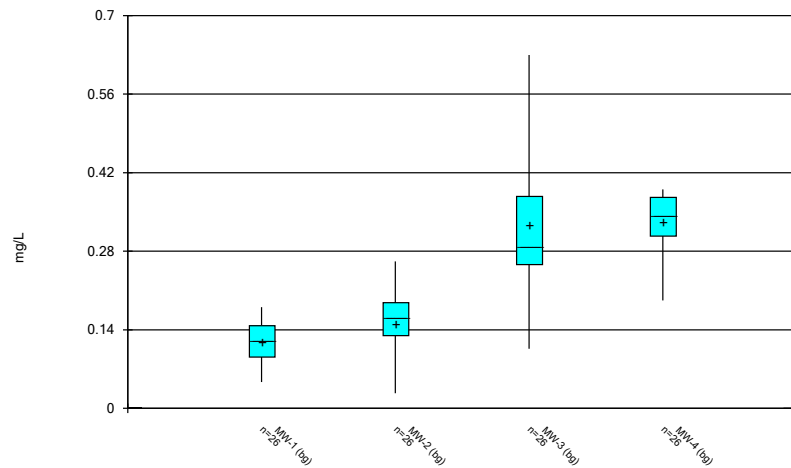
Constituent: Combined Radium 226 + 228 Analysis Run 4/22/2022 8:44 AM
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



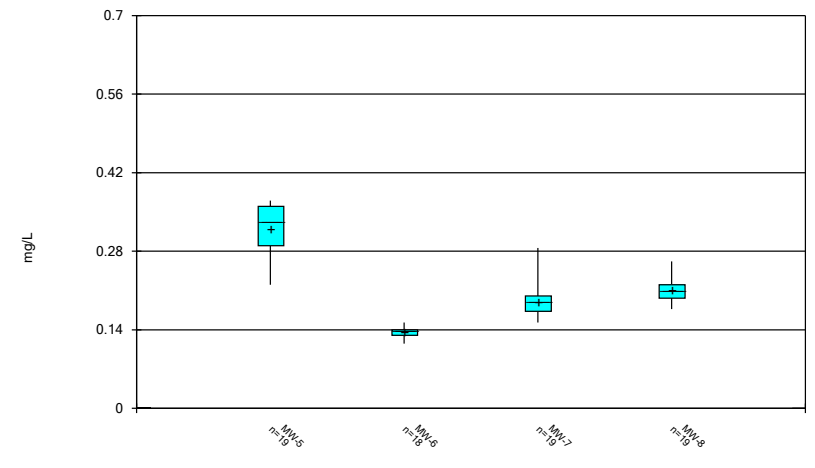
Constituent: Combined Radium 226 + 228 Analysis Run 4/22/2022 8:44 AM
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



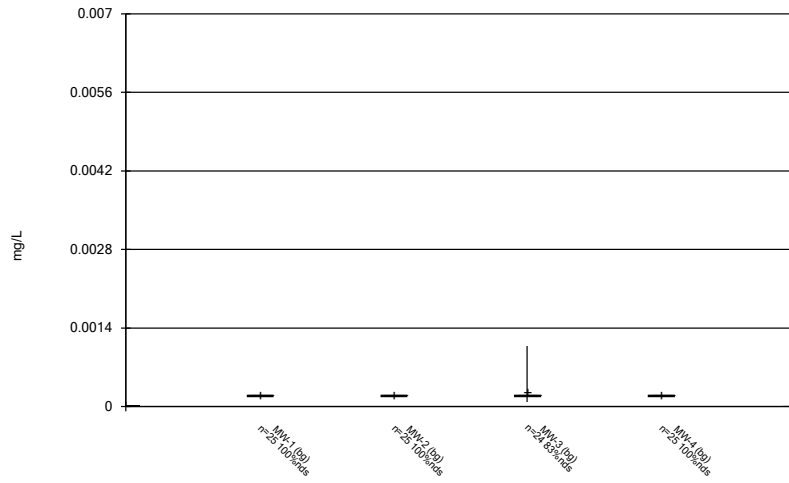
Constituent: Fluoride, total Analysis Run 4/22/2022 8:45 AM
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



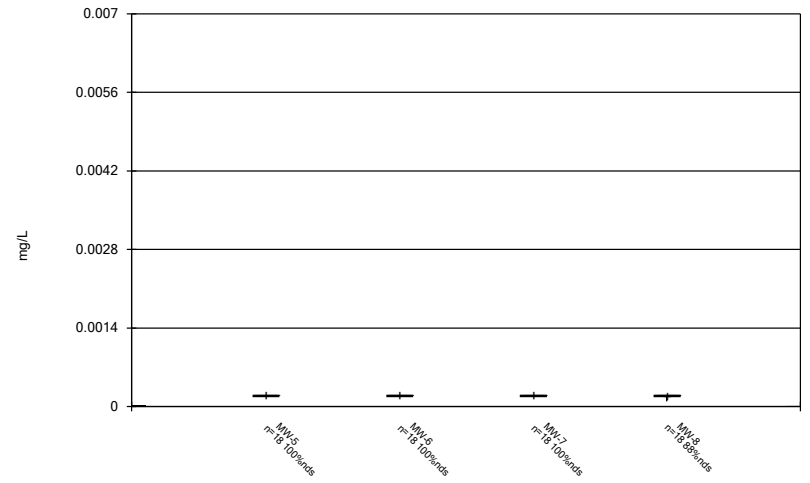
Constituent: Fluoride, total Analysis Run 4/22/2022 8:45 AM
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



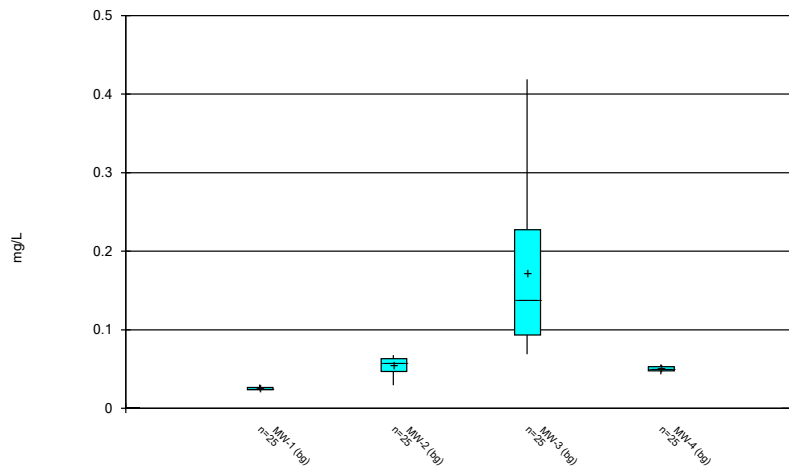
Constituent: Lead Analysis Run 4/22/2022 8:45 AM
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



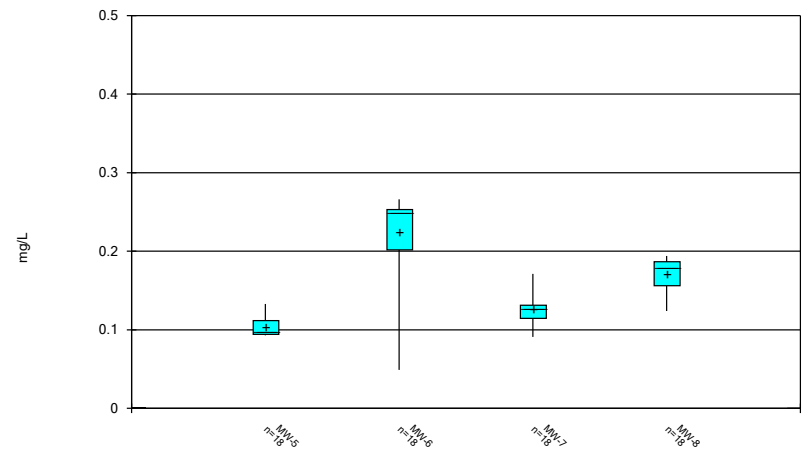
Constituent: Lead Analysis Run 4/22/2022 8:45 AM
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



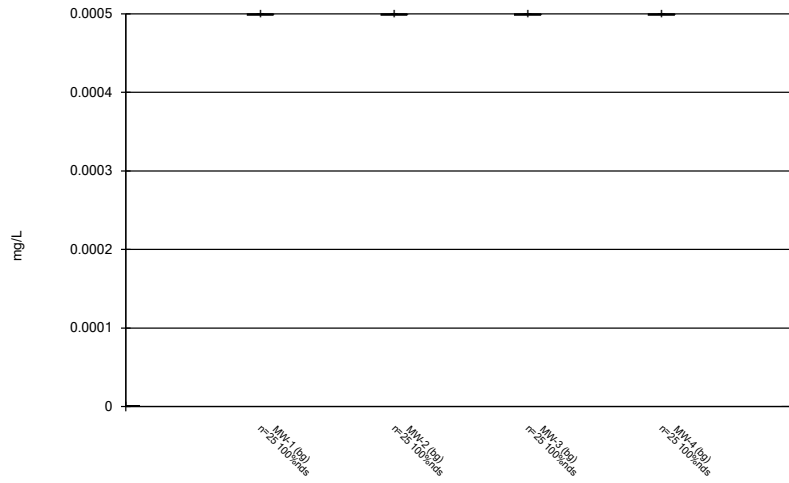
Constituent: Lithium Analysis Run 4/22/2022 8:45 AM
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



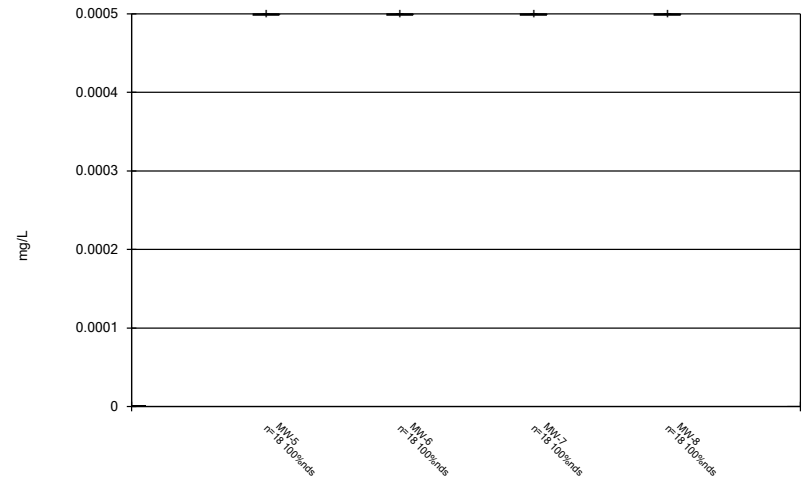
Constituent: Lithium Analysis Run 4/22/2022 8:45 AM
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



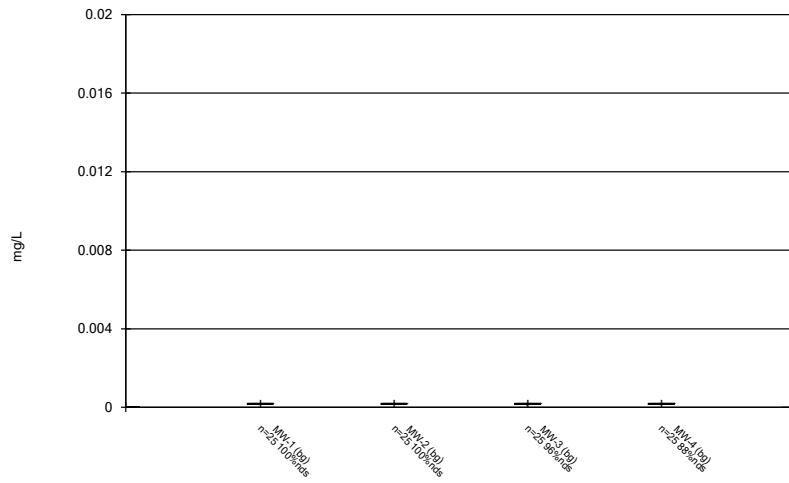
Constituent: Mercury Analysis Run 4/22/2022 8:45 AM
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



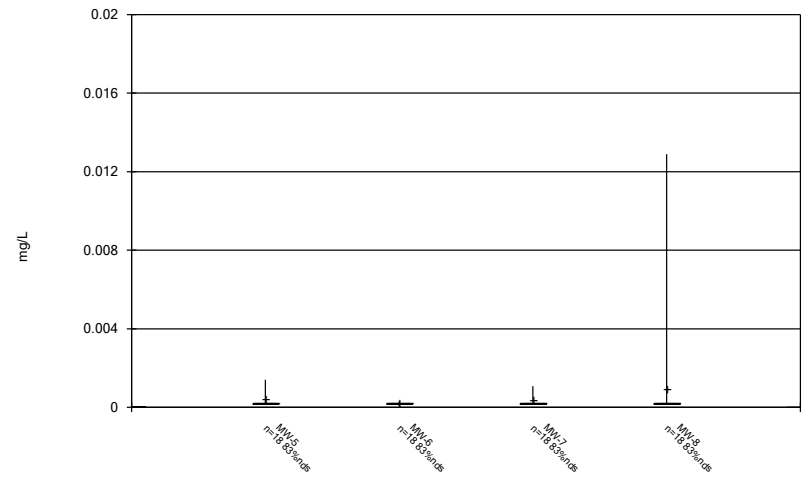
Constituent: Mercury Analysis Run 4/22/2022 8:45 AM
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



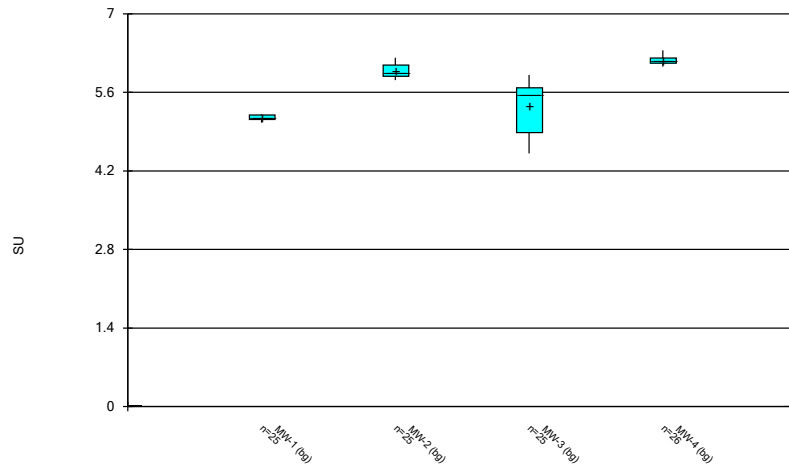
Constituent: Molybdenum Analysis Run 4/22/2022 8:45 AM
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



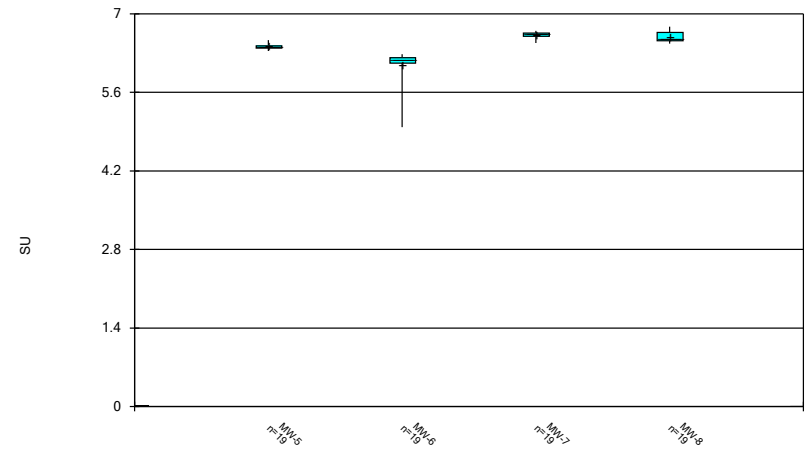
Constituent: Molybdenum Analysis Run 4/22/2022 8:45 AM
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



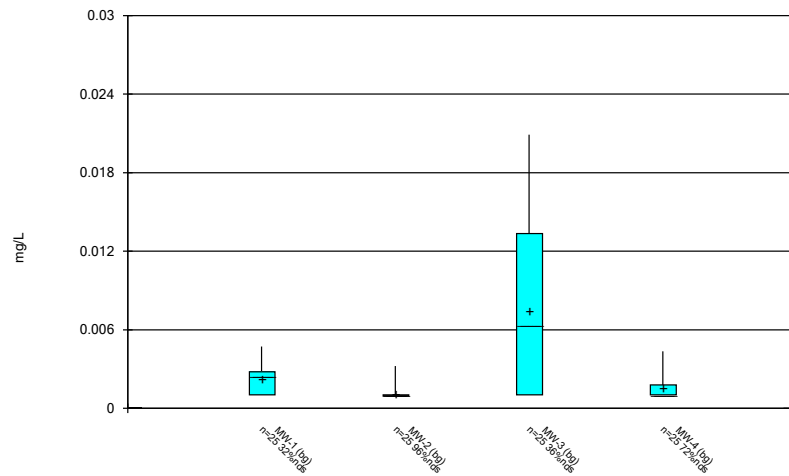
Constituent: pH, Field Analysis Run 4/22/2022 8:45 AM
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



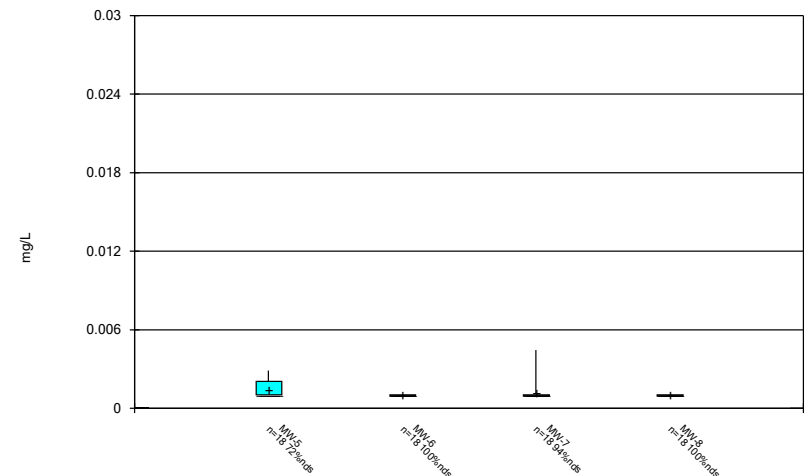
Constituent: pH, Field Analysis Run 4/22/2022 8:45 AM
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



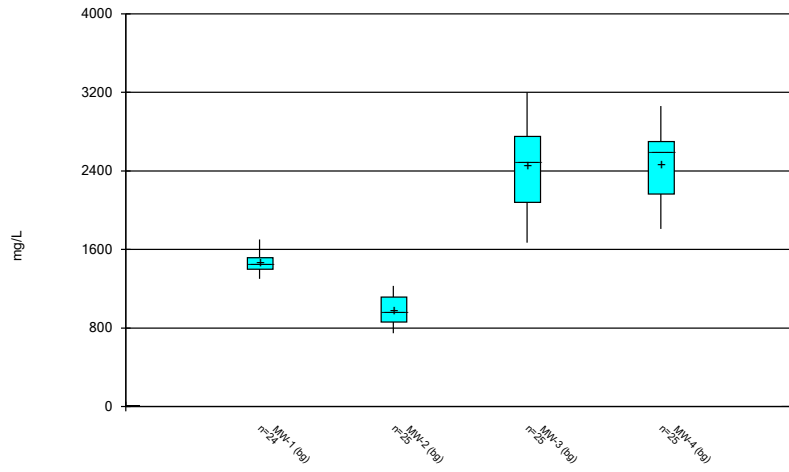
Constituent: Selenium Analysis Run 4/22/2022 8:45 AM
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



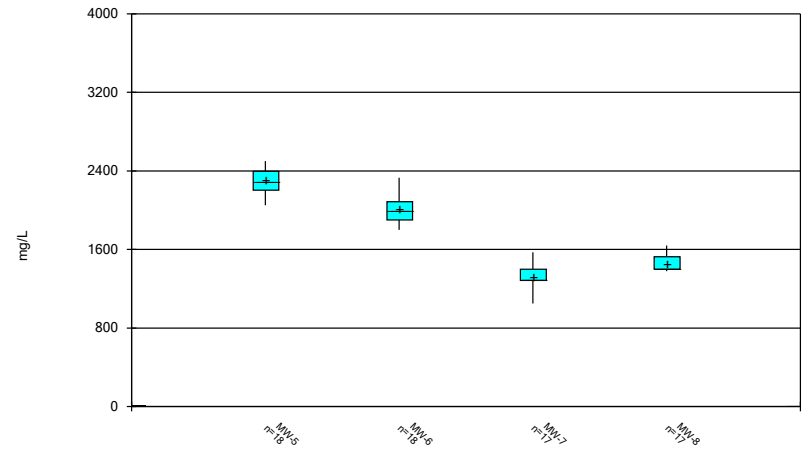
Constituent: Selenium Analysis Run 4/22/2022 8:45 AM
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



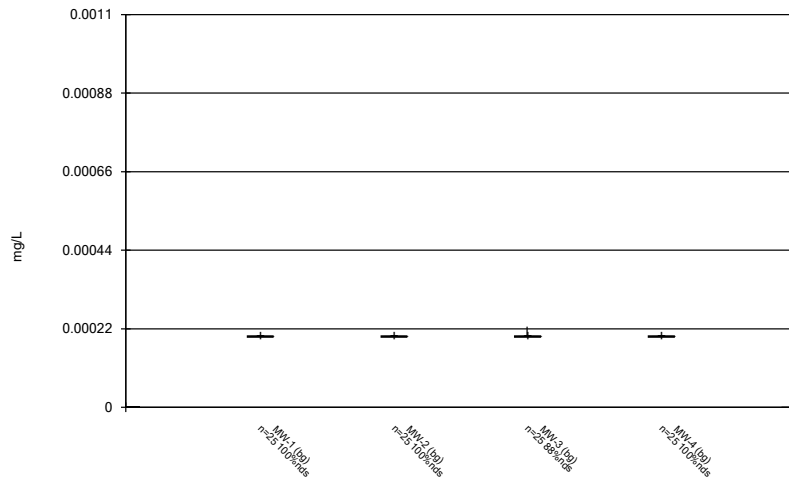
Constituent: Sulfate as SO4 Analysis Run 4/22/2022 8:45 AM
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



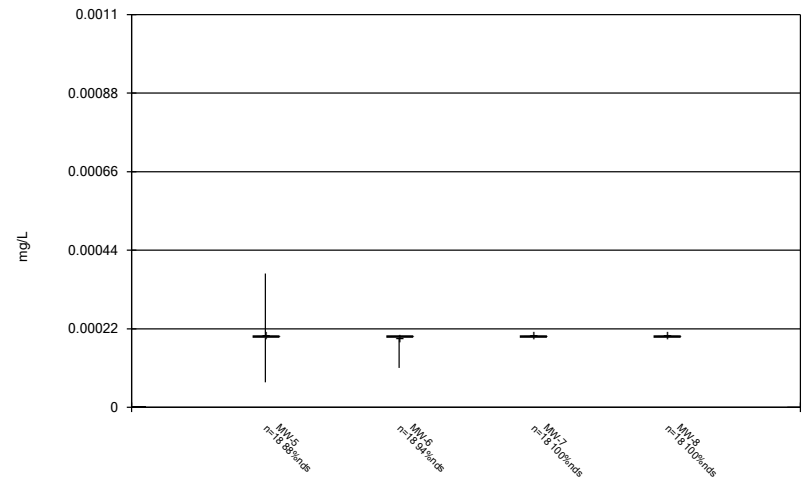
Constituent: Sulfate as SO4 Analysis Run 4/22/2022 8:45 AM
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



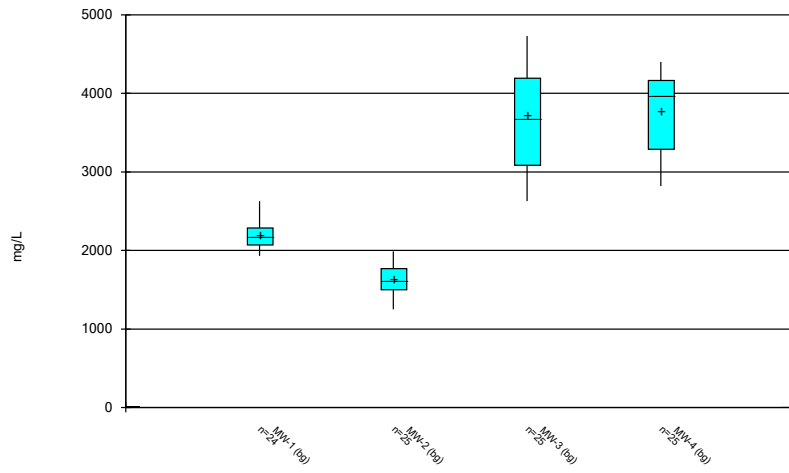
Constituent: Thallium Analysis Run 4/22/2022 8:45 AM
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



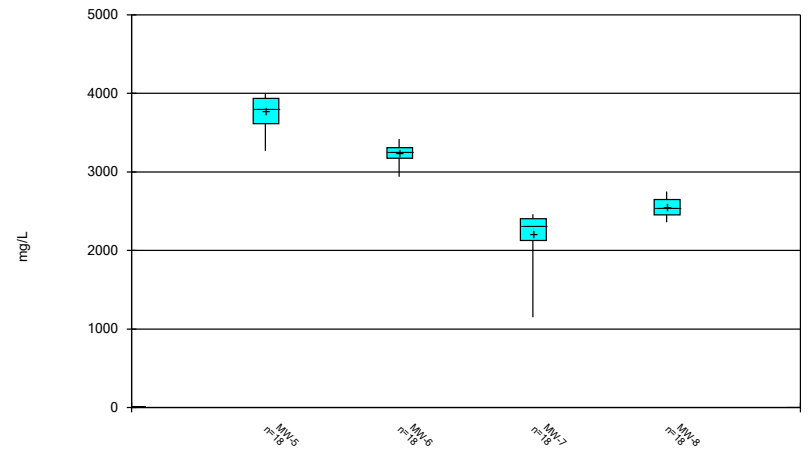
Constituent: Thallium Analysis Run 4/22/2022 8:45 AM
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



Constituent: Total Dissolved Solids [TDS] Analysis Run 4/22/2022 8:45 AM
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Box & Whiskers Plot



Constituent: Total Dissolved Solids [TDS] Analysis Run 4/22/2022 8:45 AM
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

FIGURE C.

Outlier Summary

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF Printed 4/22/2022, 8:47 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)		
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.

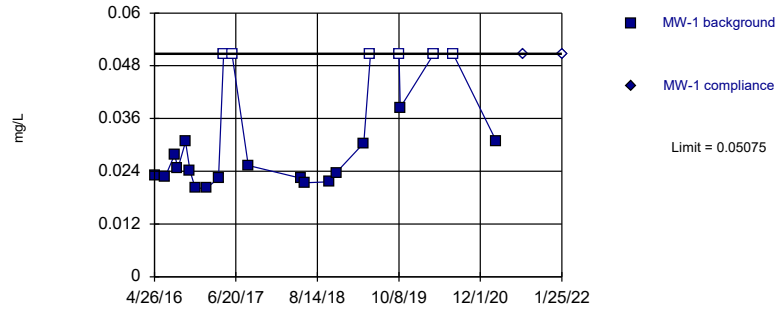
Appendix III Intrawell Prediction Limits - All Results (No Significant)

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF Printed 4/22/2022, 9:06 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg	NB	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron, total (mg/L)	MW-1	0.05075	n/a	1/25/2022	0.05075ND	No	23	n/a	n/a	n/a	26.09	n/a	n/a	0.003415	NP Intra (normality) 1 of 2
Boron, total (mg/L)	MW-2	0.04152	n/a	1/25/2022	0.05075ND	No	23	0.1724	0.01607	21.74	Kaplan-Meier	sqrt(x)	0.00188	Param Intra 1 of 2	
Boron, total (mg/L)	MW-3	0.05868	n/a	1/25/2022	0.05075ND	No	23	0.04304	0.008019	21.74	Kaplan-Meier	No	0.00188	Param Intra 1 of 2	
Boron, total (mg/L)	MW-4	0.05253	n/a	1/25/2022	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	1/31/2022	0.0314J	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	1/31/2022	0.0648J	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	1/31/2022	0.0689J	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	2/1/2022	0.0639J	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	1/25/2022	150	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	1/25/2022	179	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	1/25/2022	285	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	1/25/2022	259	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	1/31/2022	398	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	1/31/2022	385	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	1/31/2022	278	No	16	85434	15683	0	None	x^2	0.00188	Param Intra 1 of 2	
Calcium, total (mg/L)	MW-8	340	n/a	2/1/2022	284	No	16	303.1	17.76	0	None	No	0.00188	Param Intra 1 of 2	
Fluoride, total (mg/L)	MW-1	0.1878	n/a	1/25/2022	0.101	No	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	1/25/2022	0.204	No	24	0.1456	0.05538	0	None	No	0.00188	Param Intra 1 of 2	
Fluoride, total (mg/L)	MW-3	0.5886	n/a	1/25/2022	0.325	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	1/25/2022	0.364	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	1/31/2022	0.291	No	17	0.3204	0.0485	0	None	No	0.00188	Param Intra 1 of 2	
Fluoride, total (mg/L)	MW-6	0.1576	n/a	1/31/2022	0.121	No	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	1/31/2022	0.173	No	17	0.1848	0.01443	0	None	No	0.00188	Param Intra 1 of 2	
Fluoride, total (mg/L)	MW-8	0.2341	n/a	2/1/2022	0.177	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	1/25/2022	1430	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	1/25/2022	842	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	1/25/2022	2550	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	1/25/2022	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	1/31/2022	2310	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	1/31/2022	2080	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	1/31/2022	1370	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	2/1/2022	1500	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	1/25/2022	2150	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	1/25/2022	1500	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	1/25/2022	3950	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	1/25/2022	3180	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	1/31/2022	3560	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	1/31/2022	3050	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	1/31/2022	2140	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	2/1/2022	2420	No	16	2573	113.3	0	None	No	0.00188	Param Intra 1 of 2	

Within Limit

Prediction Limit
 Intrawell Non-parametric

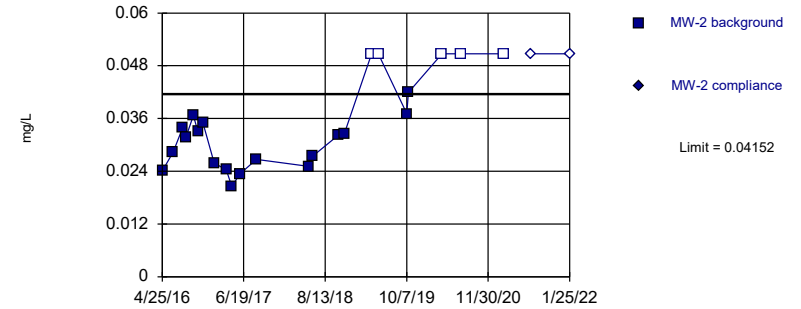


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 23 background values. 26.09% NDs. Well-constituent pair annual alpha = 0.006819. Individual comparison alpha = 0.003415 (1 of 2).

Constituent: Boron, total Analysis Run 4/22/2022 9:02 AM View: Appendix III - Intrawell
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit
 Intrawell Parametric

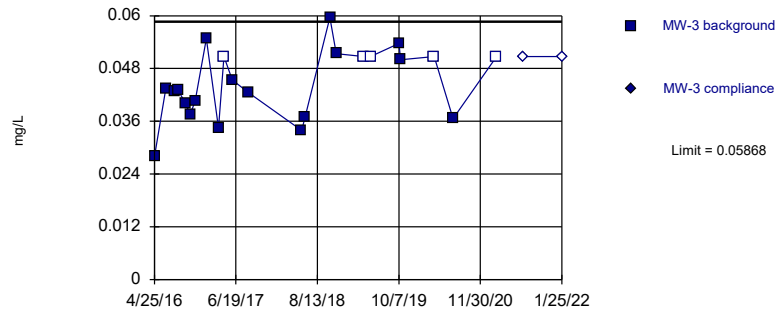


Background Data Summary (based on square root transformation) (after Kaplan-Meier Adjustment): Mean=0.1724, Std. Dev.=0.01607, n=23, 21.74% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9025, critical = 0.881. Kappa = 1.95 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Boron, total Analysis Run 4/22/2022 9:02 AM View: Appendix III - Intrawell
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit
 Intrawell Parametric

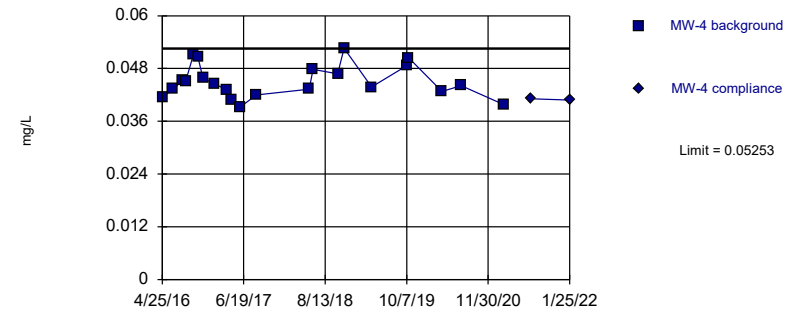


Background Data Summary (after Kaplan-Meier Adjustment): Mean=0.04304, Std. Dev.=0.008019, n=23, 21.74% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9637, critical = 0.881. Kappa = 1.95 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Boron, total Analysis Run 4/22/2022 9:02 AM View: Appendix III - Intrawell
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit
 Intrawell Parametric

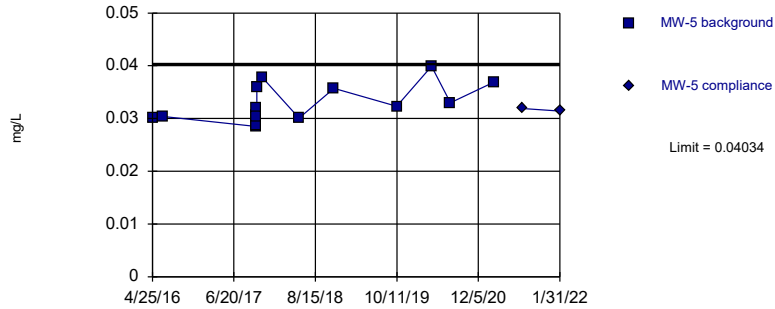


Background Data Summary: Mean=0.04512, Std. Dev.=0.003776, n=22. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9555, critical = 0.878. Kappa = 1.962 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Boron, total Analysis Run 4/22/2022 9:02 AM View: Appendix III - Intrawell
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit
Intrawell Parametric

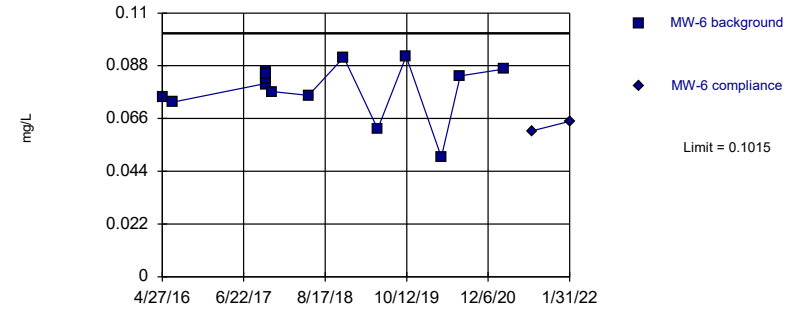


Background Data Summary: Mean=0.03281, Std. Dev.=0.003562, n=15. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9042, critical = 0.835. Kappa = 2.115 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Boron, total Analysis Run 4/22/2022 9:02 AM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit
Intrawell Parametric

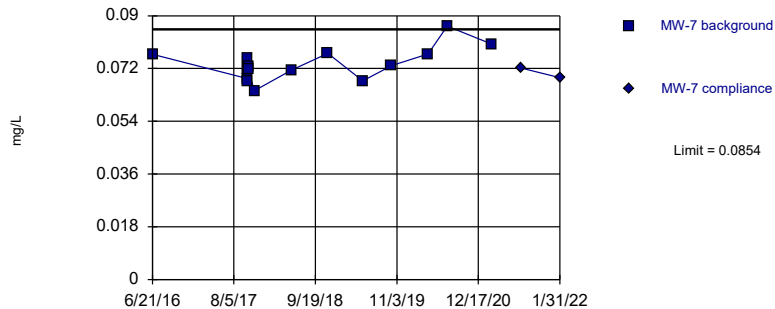


Background Data Summary: Mean=0.07909, Std. Dev.=0.01082, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8862, critical = 0.844. Kappa = 2.076 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Boron, total Analysis Run 4/22/2022 9:02 AM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit
Intrawell Parametric

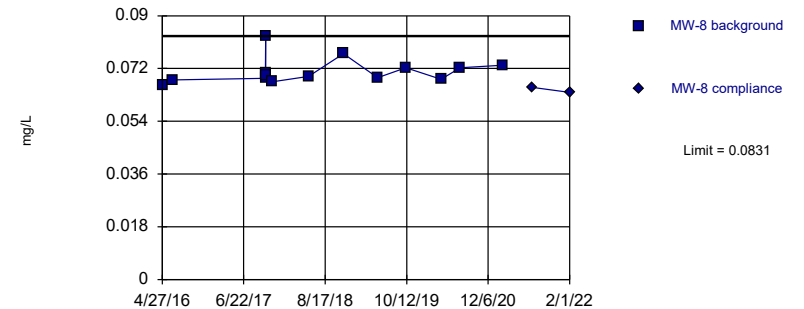


Background Data Summary: Mean=0.07347, Std. Dev.=0.005639, n=15. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9629, critical = 0.835. Kappa = 2.115 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Boron, total Analysis Run 4/22/2022 9:02 AM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit
Intrawell Non-parametric

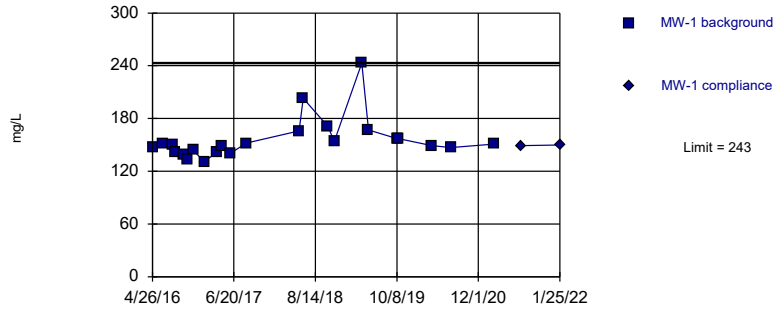


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 16 background values. Well-constituent pair annual alpha = 0.01287. Individual comparison alpha = 0.006456 (1 of 2).

Constituent: Boron, total Analysis Run 4/22/2022 9:02 AM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit
Intrawell Non-parametric

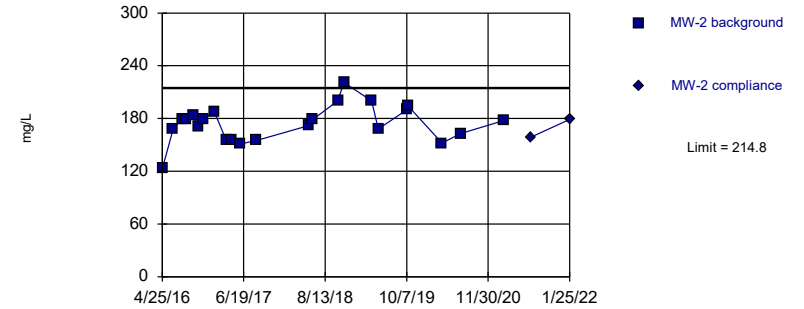


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 23 background values. Well-constituent pair annual alpha = 0.006819. Individual comparison alpha = 0.003415 (1 of 2).

Constituent: Calcium, total Analysis Run 4/22/2022 9:02 AM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit
Intrawell Parametric

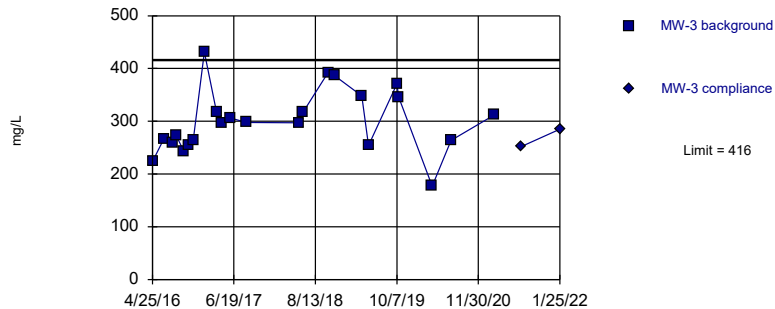


Background Data Summary: Mean=174.2, Std. Dev.=20.8, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9781, critical = 0.881. Kappa = 1.95 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Calcium, total Analysis Run 4/22/2022 9:02 AM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit
Intrawell Parametric

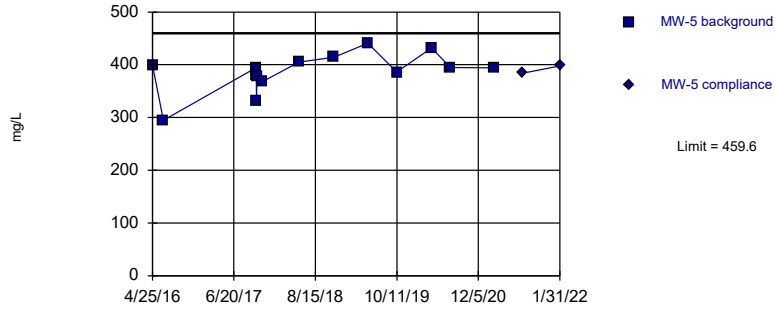


Background Data Summary: Mean=300, Std. Dev.=59.54, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9749, critical = 0.881. Kappa = 1.95 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Calcium, total Analysis Run 4/22/2022 9:02 AM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit
Intrawell Parametric

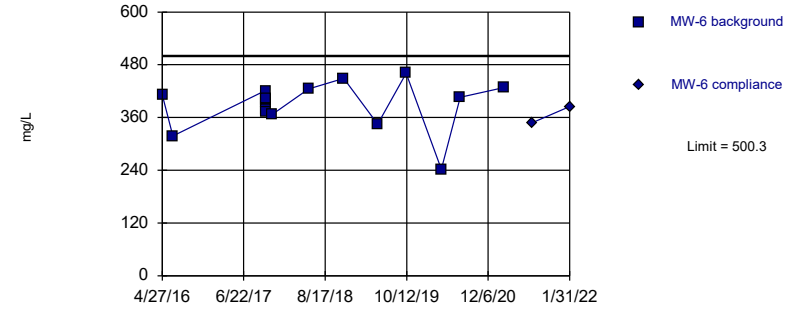


Background Data Summary: Mean=387, Std. Dev.=34.95, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8909, critical = 0.844. Kappa = 2.076 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Calcium, total Analysis Run 4/22/2022 9:02 AM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit
Intrawell Parametric

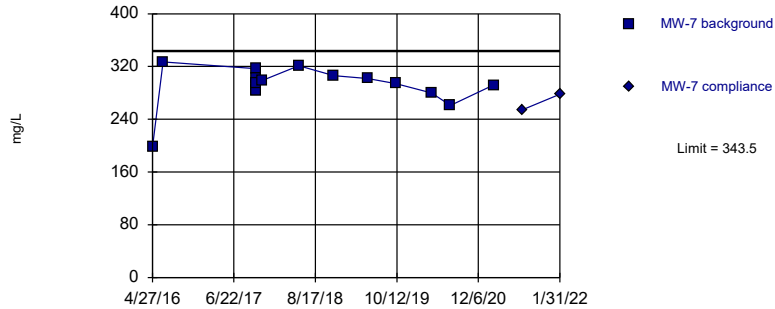


Background Data Summary: Mean=388.9, Std. Dev.=53.66, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8977, critical = 0.844. Kappa = 2.076 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Calcium, total Analysis Run 4/22/2022 9:02 AM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit
Intrawell Parametric

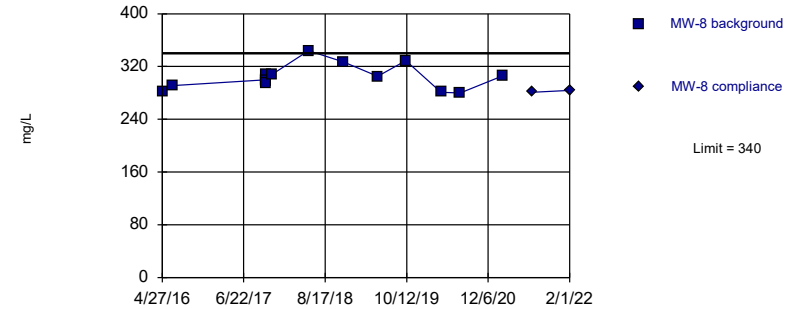


Background Data Summary (based on square transformation): Mean=85434, Std. Dev.=15683, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8569, critical = 0.844. Kappa = 2.076 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Calcium, total Analysis Run 4/22/2022 9:02 AM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit
Intrawell Parametric

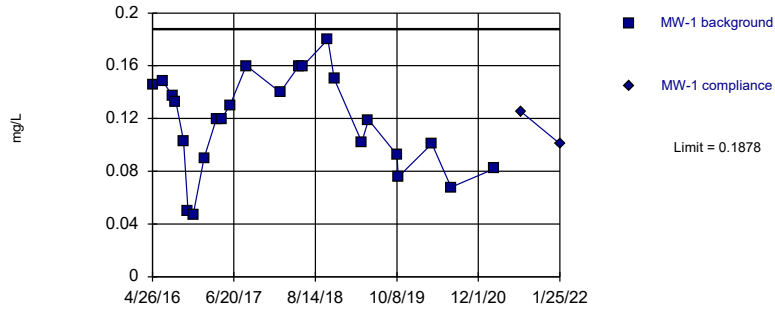


Background Data Summary: Mean=303.1, Std. Dev.=17.76, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9165, critical = 0.844. Kappa = 2.076 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Calcium, total Analysis Run 4/22/2022 9:02 AM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit
Intrawell Parametric

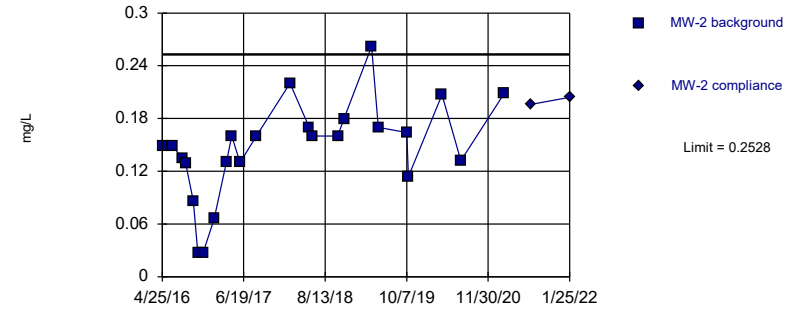


Background Data Summary: Mean=0.1172, Std. Dev.=0.03644, n=24. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9658, critical = 0.884. Kappa = 1.937 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Fluoride, total Analysis Run 4/22/2022 9:02 AM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit
Intrawell Parametric

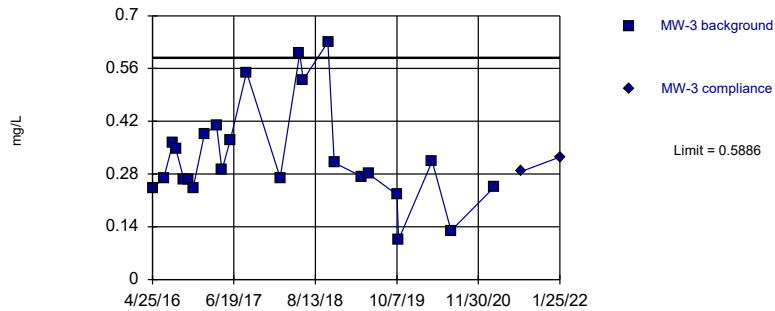


Background Data Summary: Mean=0.1456, Std. Dev.=0.05538, n=24. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9466, critical = 0.884. Kappa = 1.937 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Fluoride, total Analysis Run 4/22/2022 9:02 AM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit
Intrawell Parametric

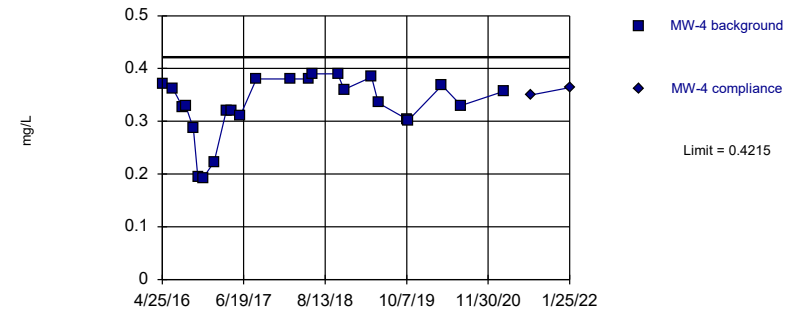


Background Data Summary: Mean=0.3299, Std. Dev.=0.1336, n=24. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9032, critical = 0.884. Kappa = 1.937 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Fluoride, total Analysis Run 4/22/2022 9:02 AM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit
Intrawell Parametric

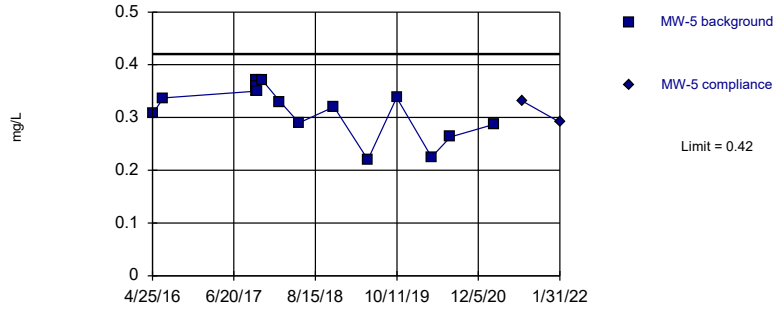


Background Data Summary (based on square transformation): Mean=0.1114, Std. Dev.=0.03425, n=24. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.897, critical = 0.884. Kappa = 1.937 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Fluoride, total Analysis Run 4/22/2022 9:02 AM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit
Intrawell Parametric

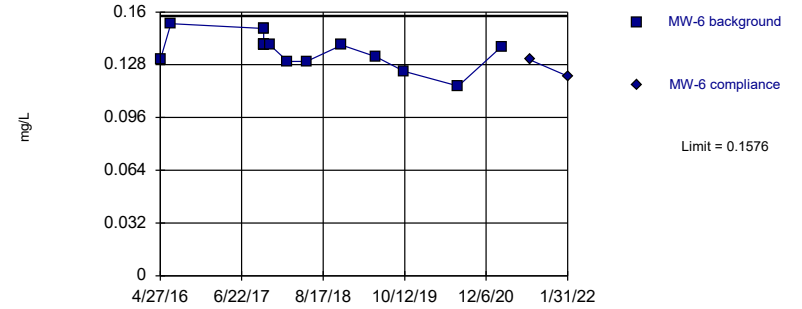


Background Data Summary: Mean=0.3204, Std. Dev.=0.0485, n=17. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8758, critical = 0.851. Kappa = 2.054 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Fluoride, total Analysis Run 4/22/2022 9:02 AM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit
Intrawell Parametric

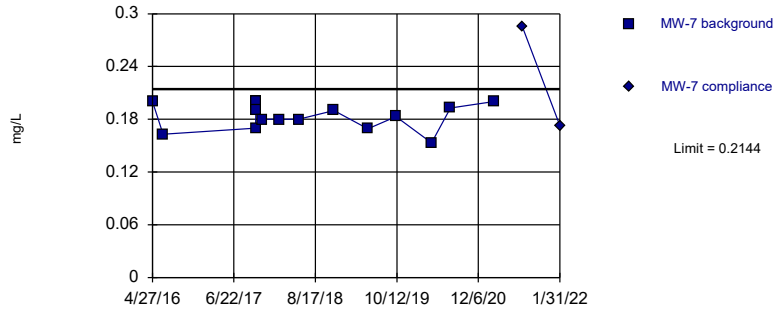


Background Data Summary: Mean=0.1372, Std. Dev.=0.009847, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9318, critical = 0.844. Kappa = 2.076 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Fluoride, total Analysis Run 4/22/2022 9:02 AM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit
Intrawell Parametric

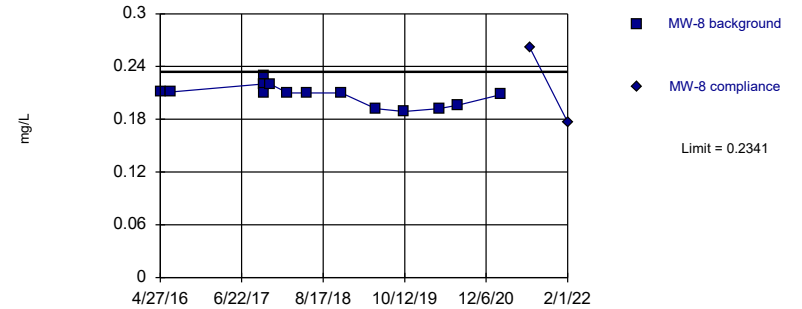


Background Data Summary: Mean=0.1848, Std. Dev.=0.01443, n=17. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9003, critical = 0.851. Kappa = 2.054 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Fluoride, total Analysis Run 4/22/2022 9:02 AM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit
Intrawell Parametric

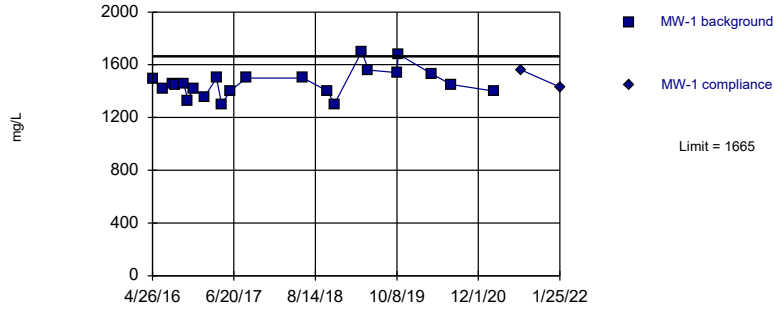


Background Data Summary: Mean=0.21, Std. Dev.=0.01171, n=17. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.904, critical = 0.851. Kappa = 2.054 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Fluoride, total Analysis Run 4/22/2022 9:02 AM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit
Intrawell Parametric

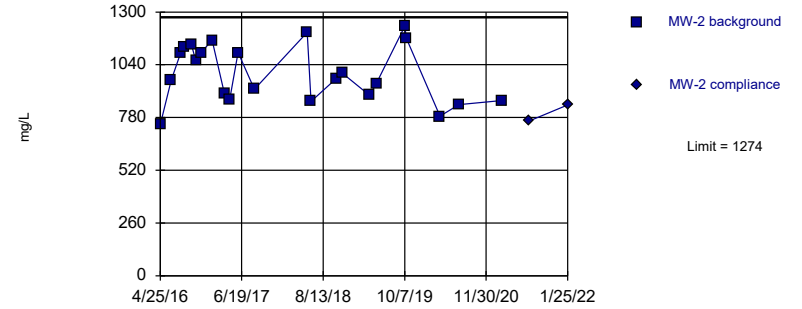


Background Data Summary: Mean=1461, Std. Dev.=104.1, n=22. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9462, critical = 0.878. Kappa = 1.962 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Sulfate as SO4 Analysis Run 4/22/2022 9:02 AM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit
Intrawell Parametric

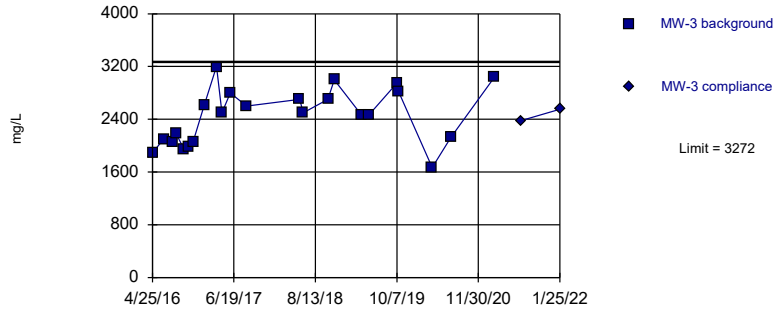


Background Data Summary: Mean=997.8, Std. Dev.=141.7, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9515, critical = 0.881. Kappa = 1.95 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Sulfate as SO4 Analysis Run 4/22/2022 9:02 AM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit
Intrawell Parametric

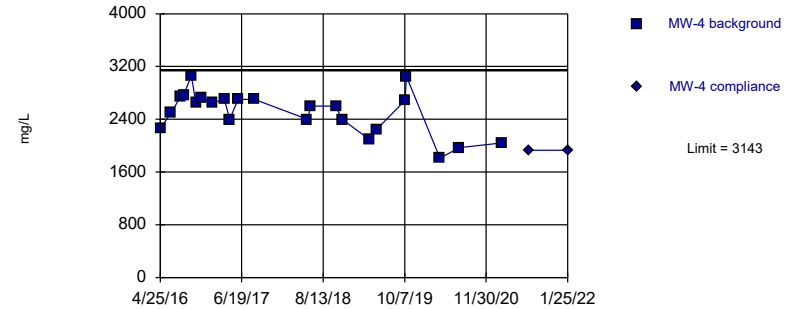


Background Data Summary: Mean=2451, Std. Dev.=421.1, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9657, critical = 0.881. Kappa = 1.95 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Sulfate as SO4 Analysis Run 4/22/2022 9:02 AM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit
Intrawell Parametric

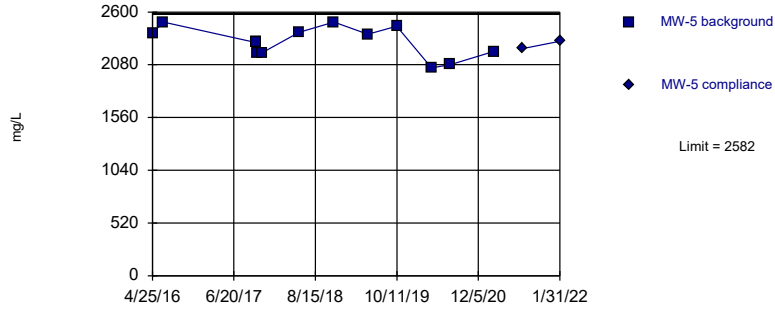


Background Data Summary: Mean=2511, Std. Dev.=324, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9443, critical = 0.881. Kappa = 1.95 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Sulfate as SO4 Analysis Run 4/22/2022 9:02 AM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit
Intrawell Parametric

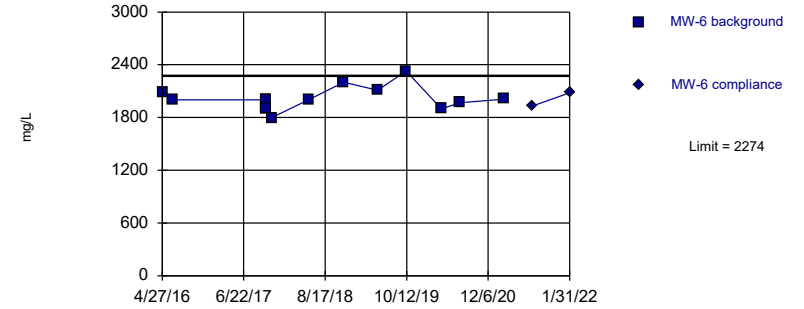


Background Data Summary: Mean=2304, Std. Dev.=133.9, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9454, critical = 0.844. Kappa = 2.076 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Sulfate as SO4 Analysis Run 4/22/2022 9:02 AM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit
Intrawell Parametric

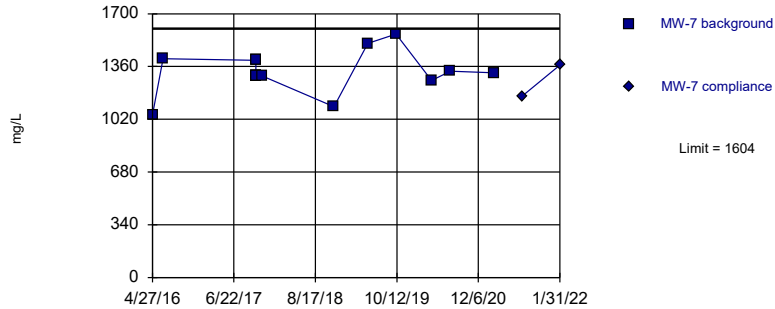


Background Data Summary: Mean=2001, Std. Dev.=131.7, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9014, critical = 0.844. Kappa = 2.076 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Sulfate as SO4 Analysis Run 4/22/2022 9:02 AM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit
Intrawell Parametric

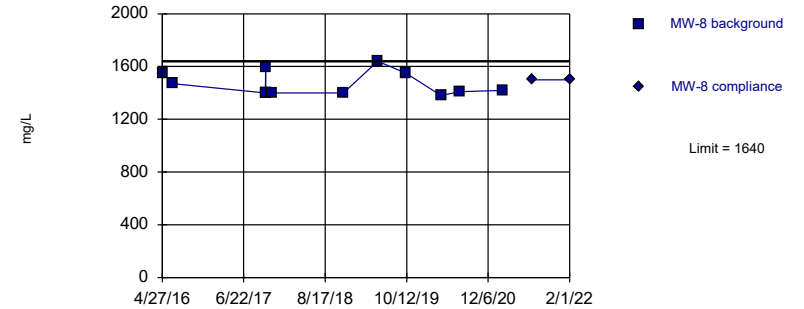


Background Data Summary: Mean=1324, Std. Dev.=132.3, n=15. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9168, critical = 0.835. Kappa = 2.115 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Sulfate as SO4 Analysis Run 4/22/2022 9:02 AM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit
Intrawell Non-parametric

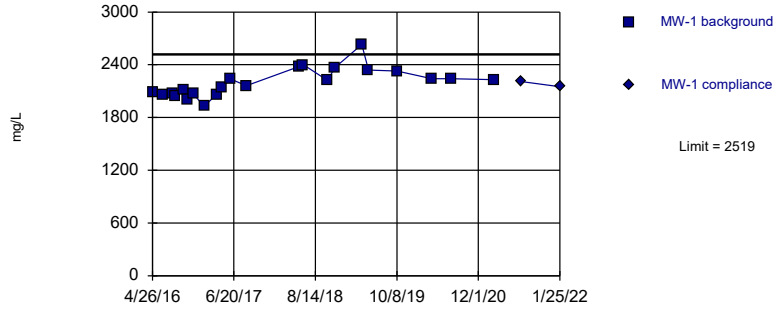


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 15 background values. Well-constituent pair annual alpha = 0.01501. Individual comparison alpha = 0.007533 (1 of 2).

Constituent: Sulfate as SO4 Analysis Run 4/22/2022 9:02 AM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit
Intrawell Parametric

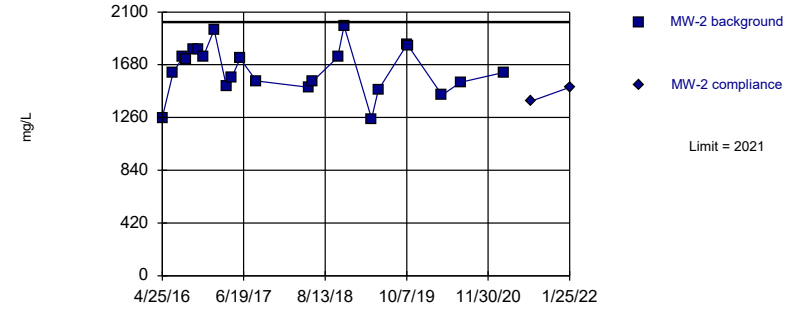


Background Data Summary: Mean=2197, Std. Dev.=164, n=22. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9479, critical = 0.878. Kappa = 1.962 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Total Dissolved Solids [TDS] Analysis Run 4/22/2022 9:02 AM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit
Intrawell Parametric

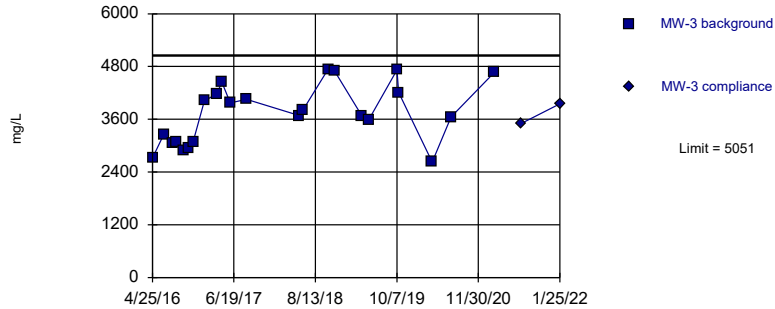


Background Data Summary: Mean=1643, Std. Dev.=193.7, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9661, critical = 0.881. Kappa = 1.95 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Total Dissolved Solids [TDS] Analysis Run 4/22/2022 9:02 AM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit
Intrawell Parametric

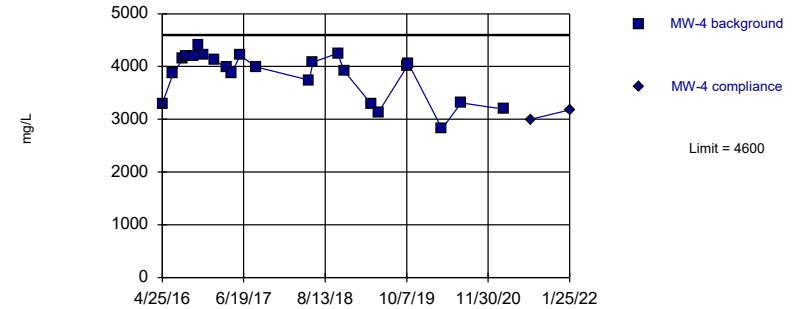


Background Data Summary: Mean=3729, Std. Dev.=678.1, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9398, critical = 0.881. Kappa = 1.95 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Total Dissolved Solids [TDS] Analysis Run 4/22/2022 9:02 AM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit
Intrawell Parametric

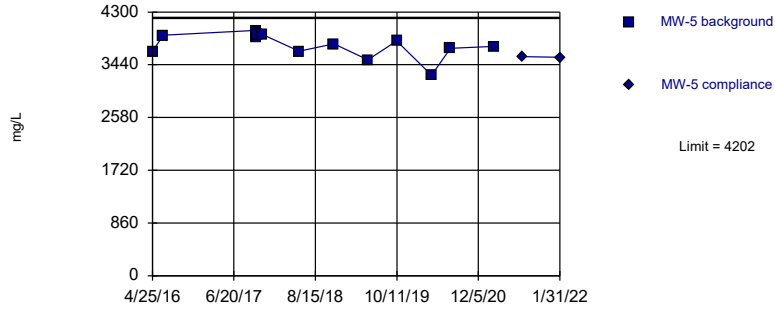


Background Data Summary (based on square transformation): Mean=1.5e7, Std. Dev.=3201096, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8861, critical = 0.881. Kappa = 1.95 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Total Dissolved Solids [TDS] Analysis Run 4/22/2022 9:02 AM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit
Intrawell Parametric

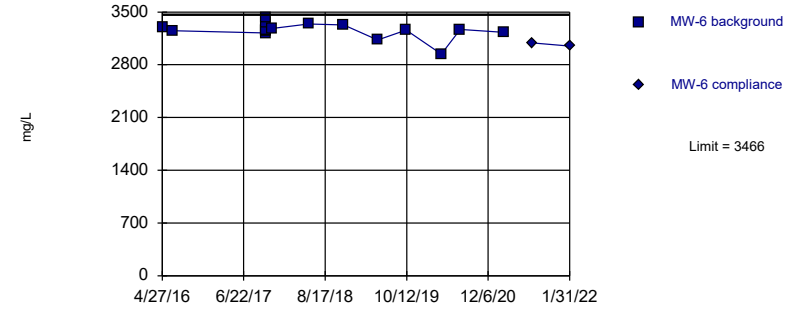


Background Data Summary: Mean=3794, Std. Dev.=196.6, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8671, critical = 0.844. Kappa = 2.076 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Total Dissolved Solids [TDS] Analysis Run 4/22/2022 9:02 AM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit
Intrawell Parametric

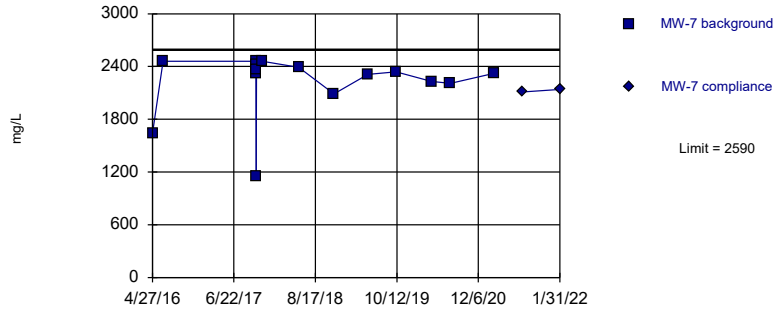


Background Data Summary (based on square transformation): Mean=1.1e7, Std. Dev.=676605, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.854, critical = 0.844. Kappa = 2.076 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Total Dissolved Solids [TDS] Analysis Run 4/22/2022 9:02 AM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Within Limit

Prediction Limit
Intrawell Parametric

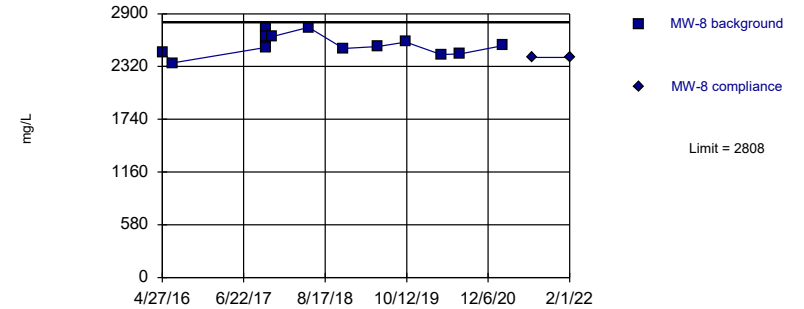


Background Data Summary (based on x^5 transformation): Mean=6.3e16, Std. Dev.=2.6e16, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8587, critical = 0.844. Kappa = 2.076 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: Total Dissolved Solids [TDS] Analysis Run 4/22/2022 9:02 AM 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 4/22/2022 9:02 AM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Prediction Limit

Constituent: Boron, total (mg/L) Analysis Run 4/22/2022 9:06 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

Prediction Limit

Constituent: Boron, total (mg/L) Analysis Run 4/22/2022 9:06 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

Prediction Limit

Constituent: Boron, total (mg/L) Analysis Run 4/22/2022 9:06 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

Prediction Limit

Constituent: Boron, total (mg/L) Analysis Run 4/22/2022 9:06 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)

Prediction Limit

Constituent: Boron, total (mg/L) Analysis Run 4/22/2022 9:06 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)

Prediction Limit

Constituent: Boron, total (mg/L) Analysis Run 4/22/2022 9:06 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)

Prediction Limit

Constituent: Boron, total (mg/L) Analysis Run 4/22/2022 9:06 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)

Prediction Limit

Constituent: Boron, total (mg/L) Analysis Run 4/22/2022 9:06 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)

Prediction Limit

Constituent: Calcium, total (mg/L) Analysis Run 4/22/2022 9:06 AM 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

Prediction Limit

Constituent: Calcium, total (mg/L) Analysis Run 4/22/2022 9:06 AM 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

Prediction Limit

Constituent: Calcium, total (mg/L) Analysis Run 4/22/2022 9:06 AM 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

Prediction Limit

Constituent: Calcium, total (mg/L) Analysis Run 4/22/2022 9:06 AM 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

Prediction Limit

Constituent: Calcium, total (mg/L) Analysis Run 4/22/2022 9:06 AM 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

Prediction Limit

Constituent: Calcium, total (mg/L) Analysis Run 4/22/2022 9:06 AM 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

Prediction Limit

Constituent: Calcium, total (mg/L) Analysis Run 4/22/2022 9:06 AM 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

Prediction Limit

Constituent: Calcium, total (mg/L) Analysis Run 4/22/2022 9:06 AM 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

Prediction Limit

Constituent: Fluoride, total (mg/L) Analysis Run 4/22/2022 9:06 AM 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

Prediction Limit

Constituent: Fluoride, total (mg/L) Analysis Run 4/22/2022 9:06 AM 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

Prediction Limit

Constituent: Fluoride, total (mg/L) Analysis Run 4/22/2022 9:06 AM 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

Prediction Limit

Constituent: Fluoride, total (mg/L) Analysis Run 4/22/2022 9:06 AM 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

Prediction Limit

Constituent: Fluoride, total (mg/L) Analysis Run 4/22/2022 9:06 AM 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

Prediction Limit

Constituent: Fluoride, total (mg/L) Analysis Run 4/22/2022 9:06 AM 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

Prediction Limit

Constituent: Fluoride, total (mg/L) Analysis Run 4/22/2022 9:06 AM 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

Prediction Limit

Constituent: Fluoride, total (mg/L) Analysis Run 4/22/2022 9:06 AM 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

Prediction Limit

Constituent: Sulfate as SO4 (mg/L) Analysis Run 4/22/2022 9:06 AM 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

Prediction Limit

Constituent: Sulfate as SO4 (mg/L) Analysis Run 4/22/2022 9:06 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

Prediction Limit

Constituent: Sulfate as SO4 (mg/L) Analysis Run 4/22/2022 9:06 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

Prediction Limit

Constituent: Sulfate as SO4 (mg/L) Analysis Run 4/22/2022 9:06 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

Prediction Limit

Constituent: Sulfate as SO4 (mg/L) Analysis Run 4/22/2022 9:06 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

Prediction Limit

Constituent: Sulfate as SO4 (mg/L) Analysis Run 4/22/2022 9:06 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

Prediction Limit

Constituent: Sulfate as SO4 (mg/L) Analysis Run 4/22/2022 9:06 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

Prediction Limit

Constituent: Sulfate as SO4 (mg/L) Analysis Run 4/22/2022 9:06 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

Prediction Limit

Constituent: Total Dissolved Solids [TDS] (mg/L) Analysis Run 4/22/2022 9:06 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

Prediction Limit

Constituent: Total Dissolved Solids [TDS] (mg/L) Analysis Run 4/22/2022 9:06 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

Prediction Limit

Constituent: Total Dissolved Solids [TDS] (mg/L) Analysis Run 4/22/2022 9:06 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

Prediction Limit

Constituent: Total Dissolved Solids [TDS] (mg/L) Analysis Run 4/22/2022 9:06 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

Prediction Limit

Constituent: Total Dissolved Solids [TDS] (mg/L) Analysis Run 4/22/2022 9:06 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

Prediction Limit

Constituent: Total Dissolved Solids [TDS] (mg/L) Analysis Run 4/22/2022 9:06 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

Prediction Limit

Constituent: Total Dissolved Solids [TDS] (mg/L) Analysis Run 4/22/2022 9:06 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

Prediction Limit

Constituent: Total Dissolved Solids [TDS] (mg/L) Analysis Run 4/22/2022 9:06 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

FIGURE E.

Appendix III Interwell Prediction Limits - Significant Results

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF Printed 4/22/2022, 9:15 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg	NB	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Chloride, Total (mg/L)	MW-5	3.82	n/a	1/31/2022	6.87	Yes	100	0.744	0.3411	3	None	In(x)	0.00188	Param Inter 1 of 2	
Chloride, Total (mg/L)	MW-6	3.82	n/a	1/31/2022	4.53	Yes	100	0.744	0.3411	3	None	In(x)	0.00188	Param Inter 1 of 2	
Chloride, Total (mg/L)	MW-7	3.82	n/a	1/31/2022	6.4	Yes	100	0.744	0.3411	3	None	In(x)	0.00188	Param Inter 1 of 2	
Chloride, Total (mg/L)	MW-8	3.82	n/a	2/1/2022	8.56	Yes	100	0.744	0.3411	3	None	In(x)	0.00188	Param Inter 1 of 2	
pH, Field (SU)	MW-5	6.35	4.51	1/31/2022	6.52	Yes	101	n/a	n/a	0	n/a	n/a	0.0003812	NP Inter (normality) 1 of 2	
pH, Field (SU)	MW-7	6.35	4.51	1/31/2022	6.48	Yes	101	n/a	n/a	0	n/a	n/a	0.0003812	NP Inter (normality) 1 of 2	
pH, Field (SU)	MW-8	6.35	4.51	2/1/2022	6.77	Yes	101	n/a	n/a	0	n/a	n/a	0.0003812	NP Inter (normality) 1 of 2	

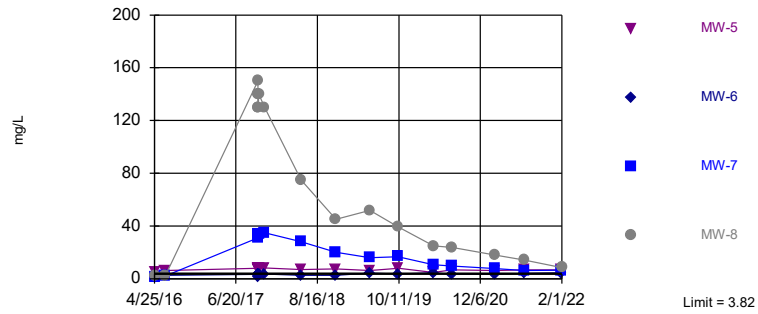
Appendix III Interwell Prediction Limits - All Results

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF Printed 4/22/2022, 9:15 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg	NB	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Chloride, Total (mg/L)	MW-5	3.82	n/a	1/31/2022	6.87	Yes	100	0.744		0.3411	3	None	ln(x)	0.00188	Param Inter 1 of 2
Chloride, Total (mg/L)	MW-6	3.82	n/a	1/31/2022	4.53	Yes	100	0.744		0.3411	3	None	ln(x)	0.00188	Param Inter 1 of 2
Chloride, Total (mg/L)	MW-7	3.82	n/a	1/31/2022	6.4	Yes	100	0.744		0.3411	3	None	ln(x)	0.00188	Param Inter 1 of 2
Chloride, Total (mg/L)	MW-8	3.82	n/a	2/1/2022	8.56	Yes	100	0.744		0.3411	3	None	ln(x)	0.00188	Param Inter 1 of 2
pH, Field (SU)	MW-5	6.35	4.51	1/31/2022	6.52	Yes	101	n/a		n/a	0	n/a	n/a	0.0003812	NP Inter (normality) 1 of 2
pH, Field (SU)	MW-6	6.35	4.51	1/31/2022	6.1	No	101	n/a		n/a	0	n/a	n/a	0.0003812	NP Inter (normality) 1 of 2
pH, Field (SU)	MW-7	6.35	4.51	1/31/2022	6.48	Yes	101	n/a		n/a	0	n/a	n/a	0.0003812	NP Inter (normality) 1 of 2
pH, Field (SU)	MW-8	6.35	4.51	2/1/2022	6.77	Yes	101	n/a		n/a	0	n/a	n/a	0.0003812	NP Inter (normality) 1 of 2

Exceeds Limit: MW-5, MW-6, MW-7, MW-8

Prediction Limit
Interwell Parametric

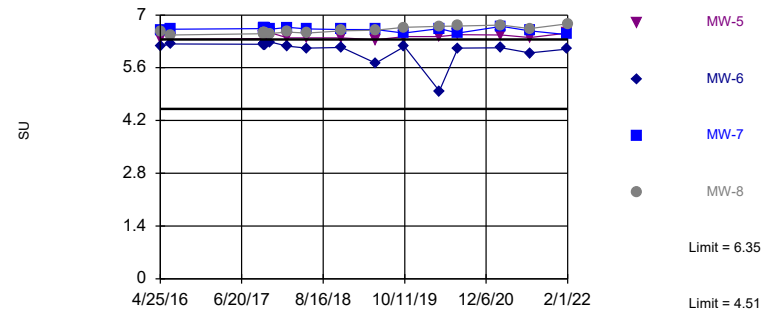


Background Data Summary (based on natural log transformation): Mean=0.744, Std. Dev.=0.3411, n=100, 3% NDs. Normality test: Chi Squared @alpha = 0.01, calculated = 11.8, critical = 14.07. Kappa = 1.748 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.00188. Comparing 4 points to limit.

Constituent: Chloride, Total Analysis Run 4/22/2022 9:08 AM 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 101 background values. Annual per-constituent alpha = 0.003047. Individual comparison alpha = 0.0003812 (1 of 2). Comparing 4 points to limit.

Constituent: pH, Field Analysis Run 4/22/2022 9:08 AM View: Appendix III - Interwell
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Prediction Limit

Constituent: Chloride, Total (mg/L) Analysis Run 4/22/2022 9:15 AM View: Appendix III - Interwell

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-3 (bg)	MW-4 (bg)	MW-2 (bg)	MW-5	MW-1 (bg)	MW-6	MW-8	MW-7
4/25/2016	1.32	1.53	1.9	5.44				
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	1.35	1.95						
8/24/2016	1.47	2.07	3.23		2.22			
10/3/2016		2.02	3.21		2.34			
10/4/2016	1.59							
10/26/2016	1.27	2.07	3.35		2.34			
11/21/2016	1.38	2.39	3.34		2.5			
1/17/2017			3.58		2.68			
1/18/2017	1.34	1.9						
3/22/2017	2	1.5 (J)	3.4		3.7			
4/18/2017	2.2	1.6 (J)	2.6		2.4			
5/30/2017					2.6			
5/31/2017	1.5 (J)	2.1	4.4					
8/23/2017	1.8 (J)	2.3	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	1.4 (J)	1.7 (J)	3.7		2.3			
10/17/2018	<2	1.5 (J)	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	2.25	1.88	1.76		2.36			
5/14/2019	2.28	1.82	2.98	6.24	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	1.4	1.92	4.04		2.42			
4/6/2020	1.72	1.5	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	2.22	1.52	1.72		2.16			
2/23/2021				6.19		3.47	17.9	7.85
7/12/2021	2.13	1.56	2.36		2.19			
7/20/2021						4.04	14.3	6.35
7/21/2021				6.73				

Prediction Limit

Constituent: pH, Field (SU) Analysis Run 4/22/2022 9:15 AM 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-7	MW-6	MW-8
4/25/2016	6.37	6.22	5.56	5.94				
4/26/2016					5.2			
4/27/2016						6.6	6.18	6.55
6/20/2016		6.21		5.96	5.18			
6/21/2016	6.35					6.62	6.23	6.47
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					6.64	6.22	6.5
10/13/2017	6.43					6.64	6.23	6.51
10/14/2017	6.41					6.66	6.22	6.53
10/15/2017	6.42					6.67	6.22	6.53
10/16/2017	6.42					6.67	6.21	6.54
10/17/2017	6.41					6.66	6.2	6.54
11/16/2017	6.53					6.62	6.28	6.51
2/13/2018		6.22	5.67	6.21	5.18			
2/14/2018	6.39					6.67	6.17	6.55
5/22/2018				6.04	5.2			
5/23/2018	6.39	6.21				6.63	6.12	6.52
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					6.61	6.14	6.58
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						6.61	5.72	6.6
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						6.64	4.98	6.7
7/13/2020			5.16	5.84	5.14			
7/14/2020	6.48	6.2				6.52	6.12	
7/15/2020								6.71
2/22/2021		6.19	5.59	6.1	5.06			
2/23/2021	6.47					6.7	6.13	6.73
7/12/2021		6.06	5.86	6.16	5.13			

FIGURE F.

Appendix III Trend Tests - Significant Results

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF Printed 4/22/2022, 9:23 AM

<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-6	0.3403	77	68	Yes	18	0	n/a	n/a	0.01	NP
Chloride, Total (mg/L)	MW-8	-28.2	-71	-68	Yes	18	0	n/a	n/a	0.01	NP
pH, Field (SU)	MW-2 (bg)	0.04513	126	111	Yes	25	0	n/a	n/a	0.01	NP
pH, Field (SU)	MW-8	0.05546	123	74	Yes	19	0	n/a	n/a	0.01	NP

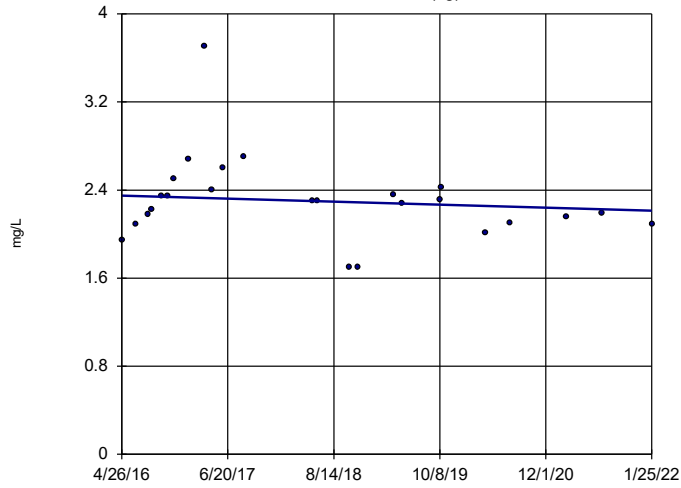
Appendix III Trend Tests - All Results

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF Printed 4/22/2022, 9:23 AM

<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-1 (bg)	-0.02361	-32	-111	No	25	0	n/a	n/a	0.01	NP
Chloride, Total (mg/L)	MW-2 (bg)	-0.09448	-33	-111	No	25	0	n/a	n/a	0.01	NP
Chloride, Total (mg/L)	MW-3 (bg)	0.08238	73	111	No	25	8	n/a	n/a	0.01	NP
Chloride, Total (mg/L)	MW-4 (bg)	-0.0711	-82	-111	No	25	4	n/a	n/a	0.01	NP
Chloride, Total (mg/L)	MW-5	-0.1248	-32	-68	No	18	0	n/a	n/a	0.01	NP
Chloride, Total (mg/L)	MW-6	0.3403	77	68	Yes	18	0	n/a	n/a	0.01	NP
Chloride, Total (mg/L)	MW-7	-5.844	-44	-68	No	18	0	n/a	n/a	0.01	NP
Chloride, Total (mg/L)	MW-8	-28.2	-71	-68	Yes	18	0	n/a	n/a	0.01	NP
pH, Field (SU)	MW-1 (bg)	-0.01456	-107	-111	No	25	0	n/a	n/a	0.01	NP
pH, Field (SU)	MW-2 (bg)	0.04513	126	111	Yes	25	0	n/a	n/a	0.01	NP
pH, Field (SU)	MW-3 (bg)	0.01346	14	111	No	25	0	n/a	n/a	0.01	NP
pH, Field (SU)	MW-4 (bg)	0.01606	80	118	No	26	0	n/a	n/a	0.01	NP
pH, Field (SU)	MW-5	0.01655	57	74	No	19	0	n/a	n/a	0.01	NP
pH, Field (SU)	MW-7	-0.01581	-39	-74	No	19	0	n/a	n/a	0.01	NP
pH, Field (SU)	MW-8	0.05546	123	74	Yes	19	0	n/a	n/a	0.01	NP

Sen's Slope Estimator

MW-1 (bg)

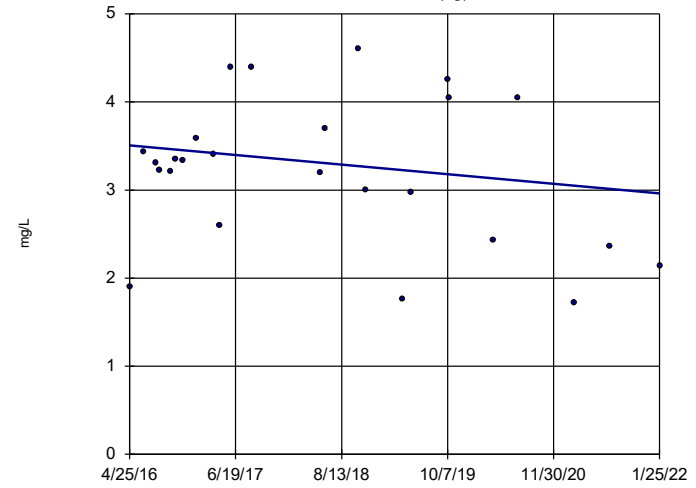


n = 25
 Slope = -0.02361
 units per year.
 Mann-Kendall
 statistic = -32
 critical = -111
 Trend not sig-
 nificant at 99%
 confidence level
 ($\alpha = 0.005$ per
 tail).

Constituent: Chloride, Total Analysis Run 4/22/2022 9:22 AM View: Appendix III - Trend Tests
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Sen's Slope Estimator

MW-2 (bg)

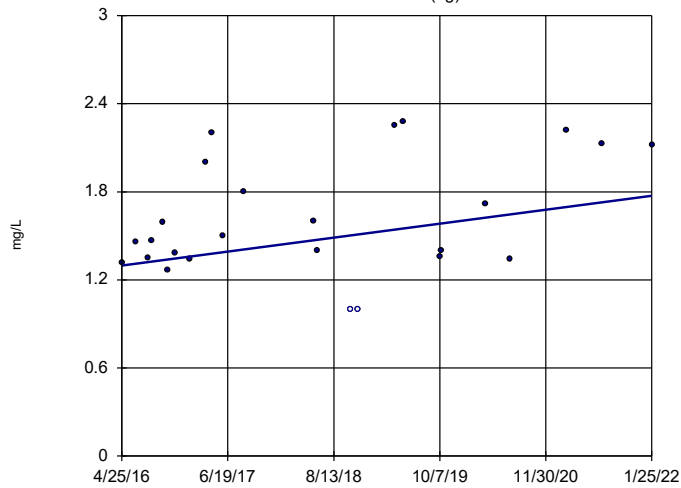


n = 25
 Slope = -0.09448
 units per year.
 Mann-Kendall
 statistic = -33
 critical = -111
 Trend not sig-
 nificant at 99%
 confidence level
 ($\alpha = 0.005$ per
 tail).

Constituent: Chloride, Total Analysis Run 4/22/2022 9:22 AM View: Appendix III - Trend Tests
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Sen's Slope Estimator

MW-3 (bg)

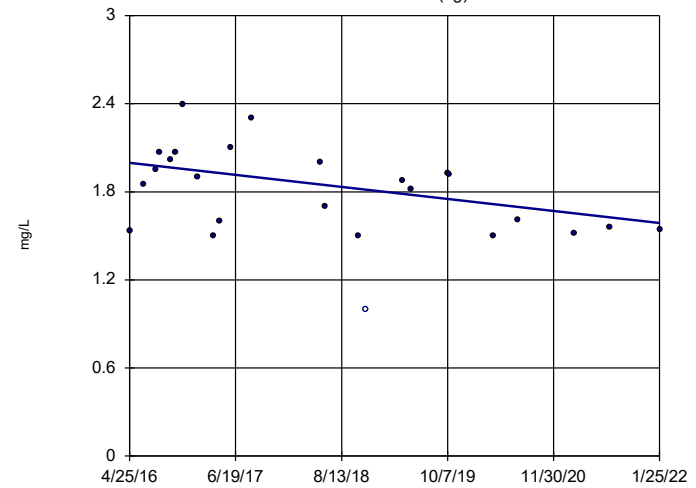


n = 25
 Slope = 0.08238
 units per year.
 Mann-Kendall
 statistic = 73
 critical = 111
 Trend not sig-
 nificant at 99%
 confidence level
 ($\alpha = 0.005$ per
 tail).

Constituent: Chloride, Total Analysis Run 4/22/2022 9:22 AM View: Appendix III - Trend Tests
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Sen's Slope Estimator

MW-4 (bg)

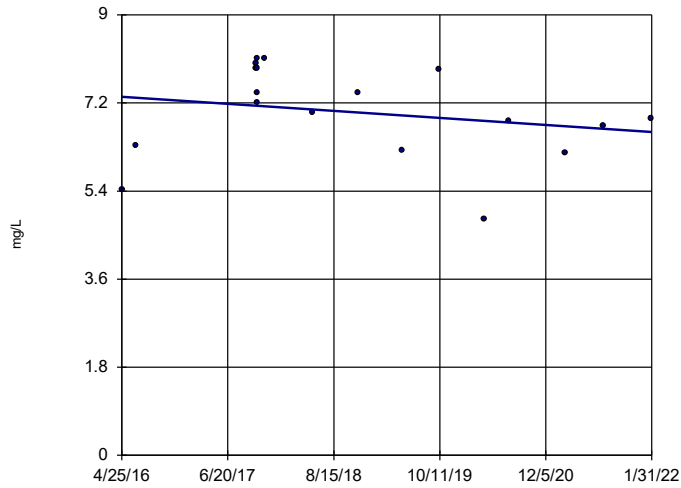


n = 25
 Slope = -0.0711
 units per year.
 Mann-Kendall
 statistic = -82
 critical = -111
 Trend not sig-
 nificant at 99%
 confidence level
 ($\alpha = 0.005$ per
 tail).

Constituent: Chloride, Total Analysis Run 4/22/2022 9:22 AM View: Appendix III - Trend Tests
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Sen's Slope Estimator

MW-5

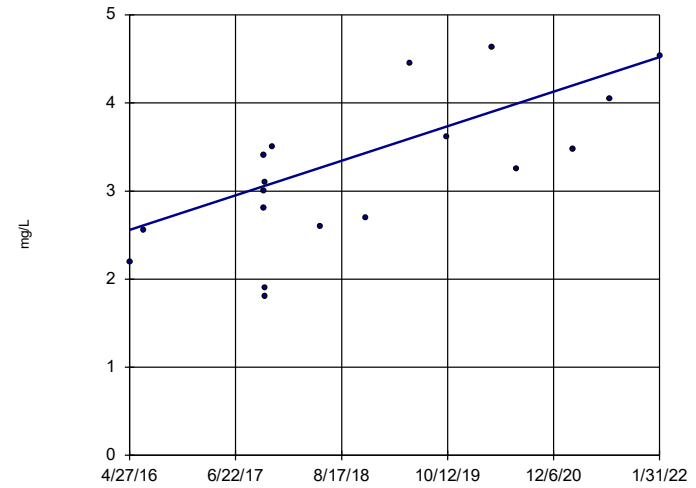


n = 18
 Slope = -0.1248
 units per year.
 Mann-Kendall
 statistic = -32
 critical = -68
 Trend not sig-
 nificant at 99%
 confidence level
 (α = 0.005 per
 tail).

Constituent: Chloride, Total Analysis Run 4/22/2022 9:22 AM View: Appendix III - Trend Tests
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Sen's Slope Estimator

MW-6

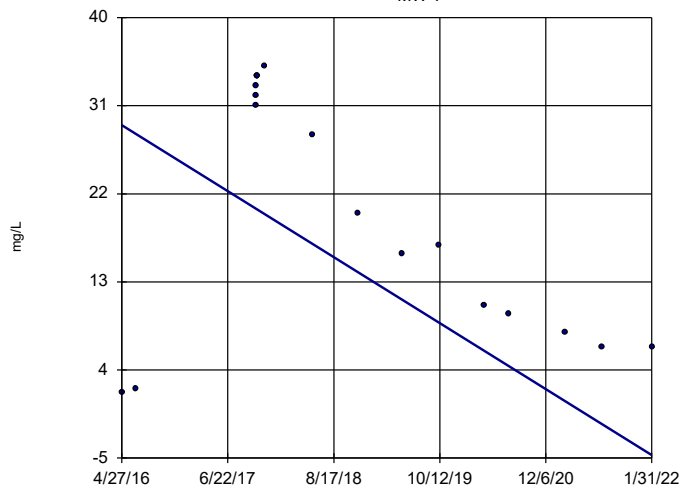


n = 18
 Slope = 0.3403
 units per year.
 Mann-Kendall
 statistic = 77
 critical = 68
 Increasing trend
 significant at 99%
 confidence level
 (α = 0.005 per
 tail).

Constituent: Chloride, Total Analysis Run 4/22/2022 9:22 AM View: Appendix III - Trend Tests
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Sen's Slope Estimator

MW-7

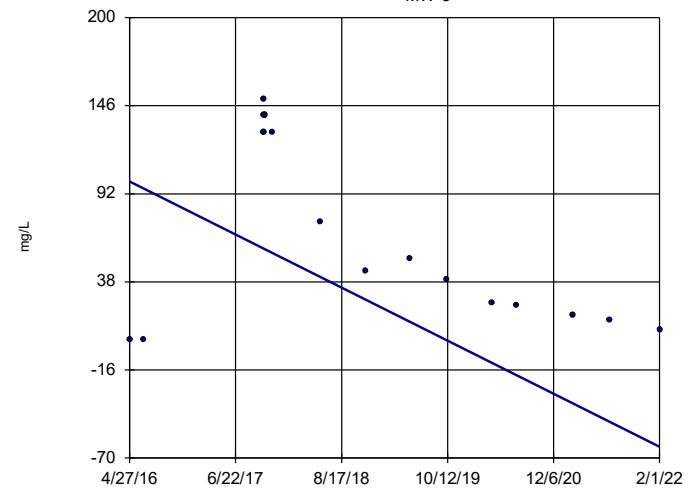


n = 18
 Slope = -5.844
 units per year.
 Mann-Kendall
 statistic = -44
 critical = -68
 Trend not sig-
 nificant at 99%
 confidence level
 (α = 0.005 per
 tail).

Constituent: Chloride, Total Analysis Run 4/22/2022 9:22 AM View: Appendix III - Trend Tests
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Sen's Slope Estimator

MW-8

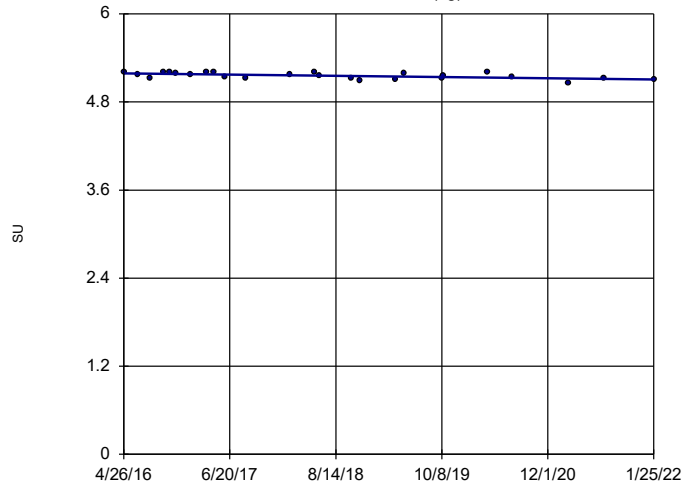


n = 18
 Slope = -28.2
 units per year.
 Mann-Kendall
 statistic = -71
 critical = -68
 Decreasing trend
 significant at 99%
 confidence level
 (α = 0.005 per
 tail).

Constituent: Chloride, Total Analysis Run 4/22/2022 9:22 AM View: Appendix III - Trend Tests
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Sen's Slope Estimator

MW-1 (bg)

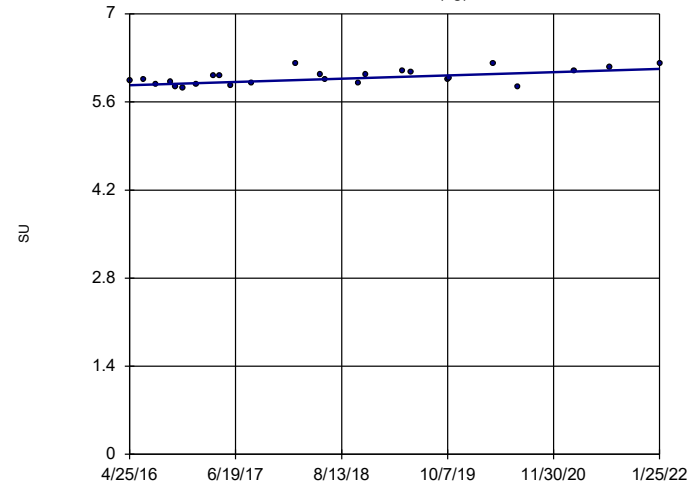


n = 25
 Slope = -0.01456
 units per year.
 Mann-Kendall
 statistic = -107
 critical = -111
 Trend not sig-
 nificant at 99%
 confidence level
 ($\alpha = 0.005$ per
 tail).

Constituent: pH, Field Analysis Run 4/22/2022 9:22 AM View: Appendix III - Trend Tests
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Sen's Slope Estimator

MW-2 (bg)

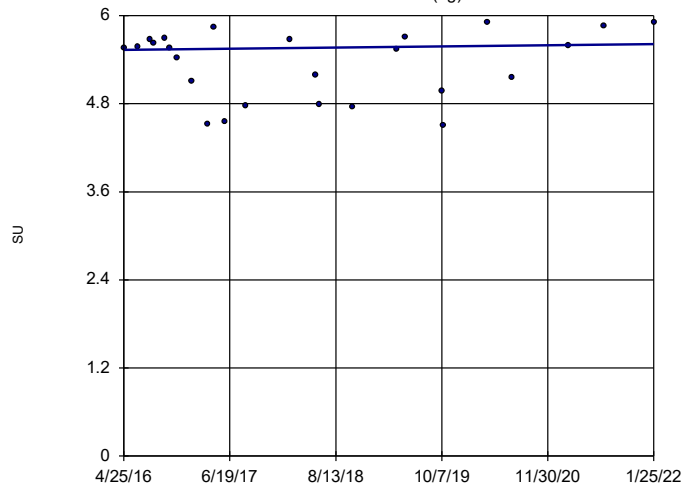


n = 25
 Slope = 0.04513
 units per year.
 Mann-Kendall
 statistic = 126
 critical = 111
 Increasing trend
 significant at 99%
 confidence level
 ($\alpha = 0.005$ per
 tail).

Constituent: pH, Field Analysis Run 4/22/2022 9:22 AM View: Appendix III - Trend Tests
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Sen's Slope Estimator

MW-3 (bg)

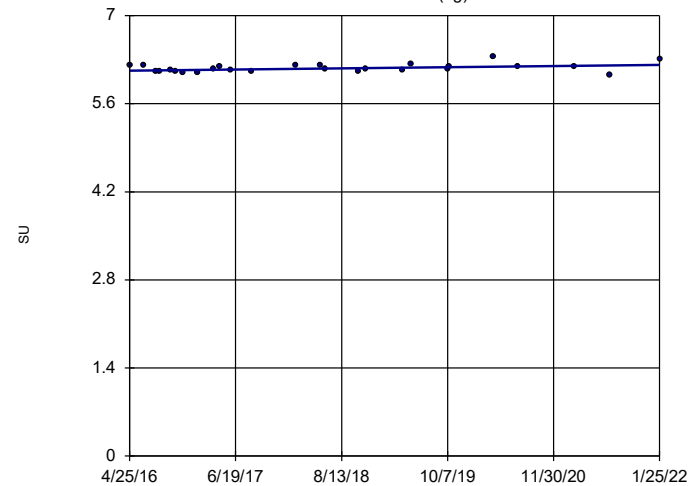


n = 25
 Slope = 0.01346
 units per year.
 Mann-Kendall
 statistic = 14
 critical = 111
 Trend not sig-
 nificant at 99%
 confidence level
 ($\alpha = 0.005$ per
 tail).

Constituent: pH, Field Analysis Run 4/22/2022 9:22 AM View: Appendix III - Trend Tests
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Sen's Slope Estimator

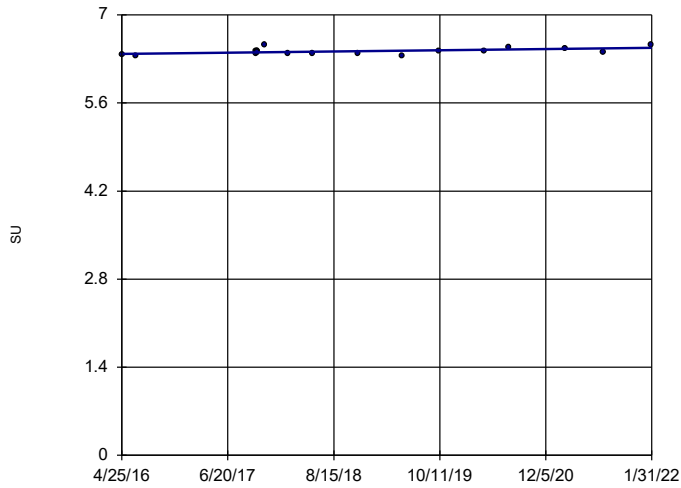
MW-4 (bg)



n = 26
 Slope = 0.01606
 units per year.
 Mann-Kendall
 statistic = 80
 critical = 118
 Trend not sig-
 nificant at 99%
 confidence level
 ($\alpha = 0.005$ per
 tail).

Constituent: pH, Field Analysis Run 4/22/2022 9:22 AM View: Appendix III - Trend Tests
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

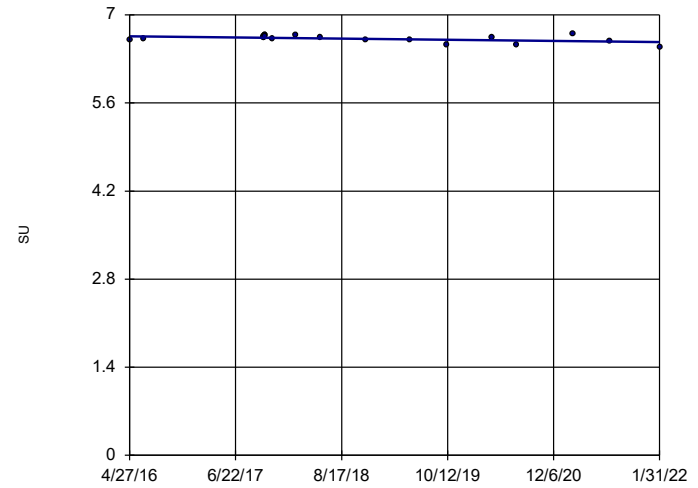
Sen's Slope Estimator MW-5



n = 19
 Slope = 0.01655
 units per year.
 Mann-Kendall
 statistic = 57
 critical = 74
 Trend not sig-
 nificant at 99%
 confidence level
 ($\alpha = 0.005$ per
 tail).

Constituent: pH, Field Analysis Run 4/22/2022 9:22 AM View: Appendix III - Trend Tests
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

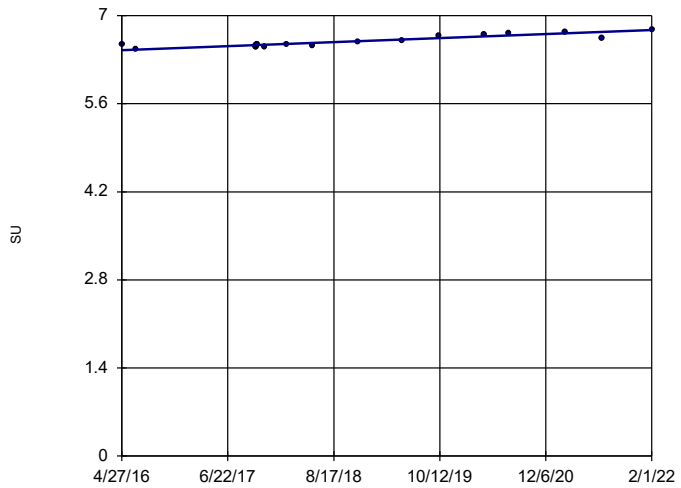
Sen's Slope Estimator MW-7



n = 19
 Slope = -0.01581
 units per year.
 Mann-Kendall
 statistic = -39
 critical = -74
 Trend not sig-
 nificant at 99%
 confidence level
 ($\alpha = 0.005$ per
 tail).

Constituent: pH, Field Analysis Run 4/22/2022 9:22 AM View: Appendix III - Trend Tests
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Sen's Slope Estimator MW-8



n = 19
 Slope = 0.05546
 units per year.
 Mann-Kendall
 statistic = 123
 critical = 74
 Increasing trend
 significant at 99%
 confidence level
 ($\alpha = 0.005$ per
 tail).

Constituent: pH, Field Analysis Run 4/22/2022 9:22 AM 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.

GORGAS CCR LANDFILL GWPS			
Analyte	Units	Background	GWPS
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.

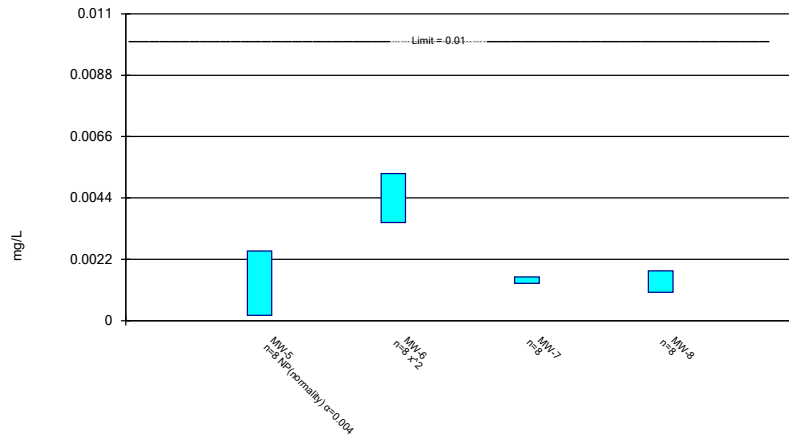
Confidence Intervals - All Results (No Significant)

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF Printed 4/22/2022, 10:45 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Arsenic (mg/L)	MW-5	0.0025	0.00019	0.01	No	8	0.001452	0.001015	37.5	None	No	0.004	NP (normality)
Arsenic (mg/L)	MW-6	0.005274	0.003516	0.01	No	8	0.004393	0.0009544	0	None	x^2	0.01	Param.
Arsenic (mg/L)	MW-7	0.001562	0.001338	0.01	No	8	0.00145	0.0001053	0	None	No	0.01	Param.
Arsenic (mg/L)	MW-8	0.001789	0.001021	0.01	No	8	0.001405	0.0003623	0	None	No	0.01	Param.
Barium (mg/L)	MW-5	0.01268	0.01027	2	No	8	0.01148	0.001136	0	None	No	0.01	Param.
Barium (mg/L)	MW-6	0.01503	0.01229	2	No	8	0.01366	0.001291	0	None	No	0.01	Param.
Barium (mg/L)	MW-7	0.01463	0.01182	2	No	8	0.01323	0.001325	0	None	No	0.01	Param.
Barium (mg/L)	MW-8	0.01428	0.01266	2	No	8	0.01348	0.0007978	0	None	x^3	0.01	Param.
Beryllium (mg/L)	MW-6	0.001015	0.00044	0.004	No	8	0.0008056	0.0002484	50	None	No	0.004	NP (normality)
Cadmium (mg/L)	MW-6	0.00204	0.000203	0.005	No	8	0.0005988	0.0006303	50	None	No	0.004	NP (normality)
Chromium (mg/L)	MW-5	0.00102	0.00027	0.1	No	8	0.0009262	0.0002652	87.5	None	No	0.004	NP (NDs)
Chromium (mg/L)	MW-6	0.00102	0.00024	0.1	No	8	0.0009225	0.0002758	87.5	None	No	0.004	NP (NDs)
Chromium (mg/L)	MW-7	0.00102	0.00032	0.1	No	8	0.0009325	0.0002475	87.5	None	No	0.004	NP (NDs)
Chromium (mg/L)	MW-8	0.00102	0.00025	0.1	No	8	0.0009237	0.0002722	87.5	None	No	0.004	NP (NDs)
Cobalt (mg/L)	MW-5	0.005	0.00094	0.49	No	8	0.003529	0.002033	62.5	None	No	0.004	NP (NDs)
Cobalt (mg/L)	MW-6	0.3307	0.01376	0.49	No	8	0.1722	0.1495	0	None	No	0.01	Param.
Cobalt (mg/L)	MW-7	0.005818	0.002672	0.49	No	8	0.004245	0.001484	0	None	No	0.01	Param.
Cobalt (mg/L)	MW-8	0.008447	0.006306	0.49	No	8	0.007376	0.00101	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-5	0.7956	0.4094	5	No	8	0.5893	0.2461	0	None	x^2	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-6	1.598	0.4072	5	No	8	1.003	0.5618	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-7	0.6127	0.2985	5	No	8	0.4556	0.1482	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-8	0.9475	0.3021	5	No	8	0.6149	0.3453	0	None	sqrt(x)	0.01	Param.
Fluoride, total (mg/L)	MW-5	0.3326	0.2361	4	No	8	0.2844	0.04551	0	None	No	0.01	Param.
Fluoride, total (mg/L)	MW-6	0.1383	0.1199	4	No	8	0.1291	0.008676	0	None	No	0.01	Param.
Fluoride, total (mg/L)	MW-7	0.2316	0.1563	4	No	8	0.1934	0.04032	0	None	ln(x)	0.01	Param.
Fluoride, total (mg/L)	MW-8	0.262	0.177	4	No	8	0.2033	0.02596	0	None	No	0.004	NP (normality)
Lead (mg/L)	MW-8	0.000203	0.00009	0.015	No	8	0.0001748	0.00005231	75	None	No	0.004	NP (NDs)
Lithium (mg/L)	MW-5	0.1281	0.09652	0.419	No	8	0.1123	0.01488	0	None	No	0.01	Param.
Lithium (mg/L)	MW-6	0.2632	0.1153	0.419	No	8	0.1892	0.06979	0	None	No	0.01	Param.
Lithium (mg/L)	MW-7	0.1314	0.09757	0.419	No	8	0.1145	0.01594	0	None	No	0.01	Param.
Lithium (mg/L)	MW-8	0.1732	0.1383	0.419	No	8	0.1558	0.01649	0	None	No	0.01	Param.
Molybdenum (mg/L)	MW-5	0.01	0.00126	0.1	No	8	0.00674	0.004499	62.5	None	No	0.004	NP (NDs)
Molybdenum (mg/L)	MW-6	0.01	0.00007	0.1	No	8	0.006303	0.005103	62.5	None	No	0.004	NP (NDs)
Molybdenum (mg/L)	MW-7	0.01	0.00086	0.1	No	8	0.006607	0.004682	62.5	None	No	0.004	NP (NDs)
Molybdenum (mg/L)	MW-8	0.0129	0.00031	0.1	No	8	0.007942	0.00481	62.5	None	No	0.004	NP (NDs)
Selenium (mg/L)	MW-5	0.01	0.00178	0.05	No	8	0.00706	0.004061	62.5	None	No	0.004	NP (NDs)
Thallium (mg/L)	MW-5	0.0002	0.00007	0.002	No	8	0.0001837	0.00004596	87.5	None	No	0.004	NP (NDs)
Thallium (mg/L)	MW-6	0.0002	0.00011	0.002	No	8	0.0001887	0.00003182	87.5	None	No	0.004	NP (NDs)

Parametric and Non-Parametric (NP) Confidence Interval

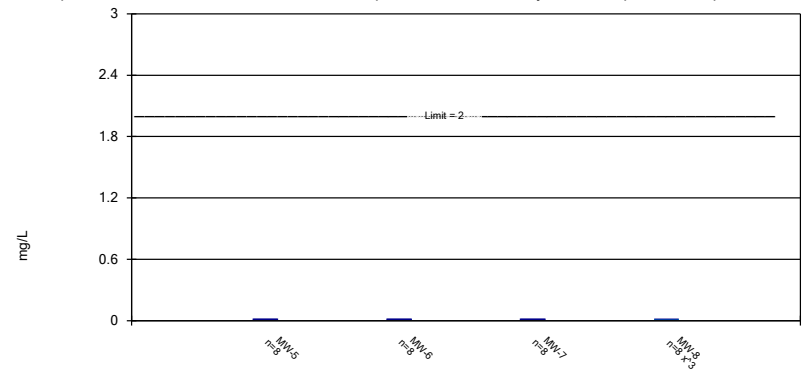
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Arsenic Analysis Run 4/22/2022 10:43 AM View: Appendix IV
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Parametric Confidence Interval

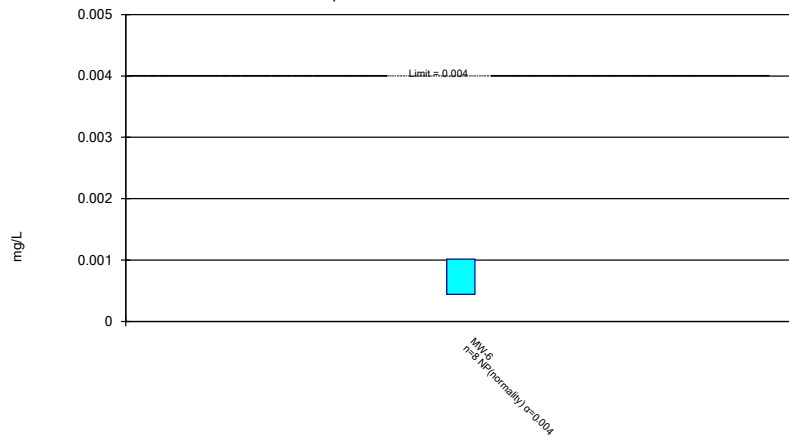
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Barium Analysis Run 4/22/2022 10:43 AM View: Appendix IV
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Non-Parametric Confidence Interval

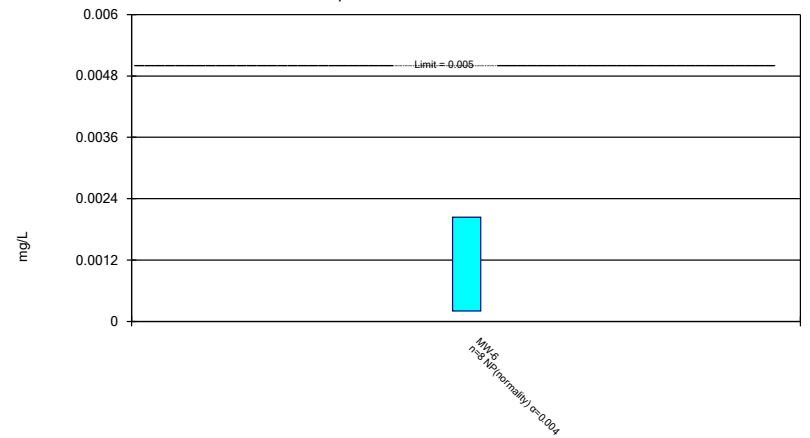
Compliance Limit is not exceeded.



Constituent: Beryllium Analysis Run 4/22/2022 10:43 AM View: Appendix IV
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Non-Parametric Confidence Interval

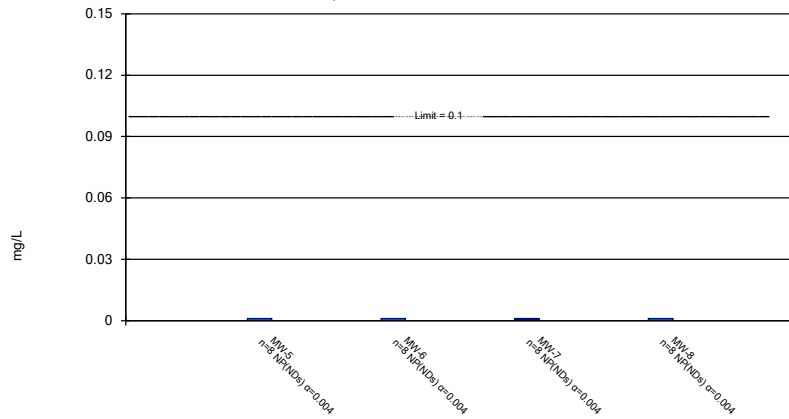
Compliance Limit is not exceeded.



Constituent: Cadmium Analysis Run 4/22/2022 10:43 AM View: Appendix IV
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Non-Parametric Confidence Interval

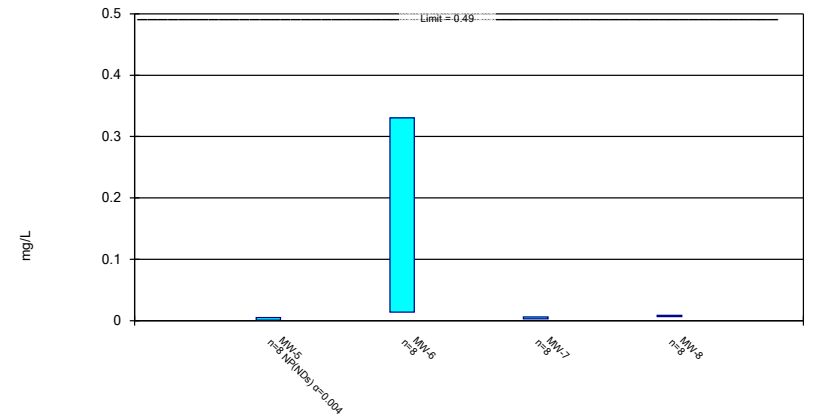
Compliance Limit is not exceeded.



Constituent: Chromium Analysis Run 4/22/2022 10:43 AM View: Appendix IV
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Parametric and Non-Parametric (NP) Confidence Interval

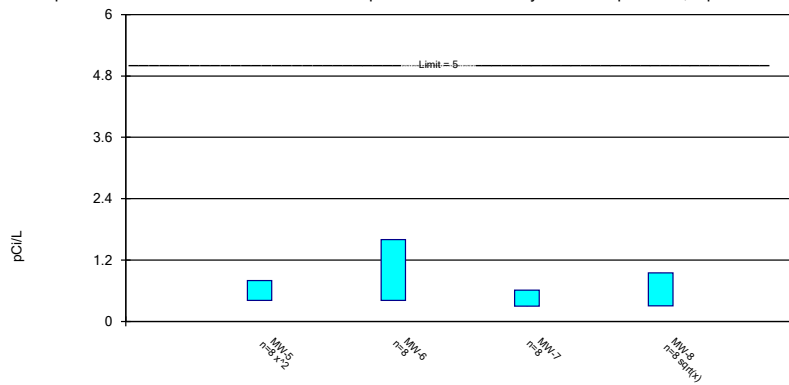
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cobalt Analysis Run 4/22/2022 10:43 AM View: Appendix IV
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Parametric Confidence Interval

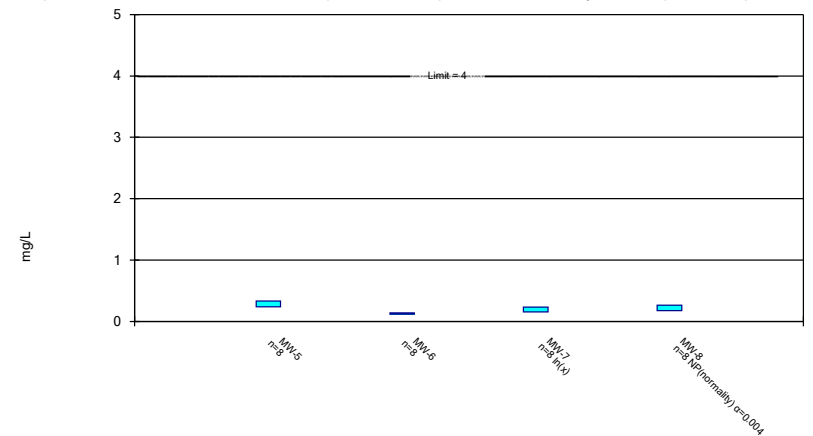
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Combined Radium 226 + 228 Analysis Run 4/22/2022 10:43 AM View: Appendix IV
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Parametric and Non-Parametric (NP) Confidence Interval

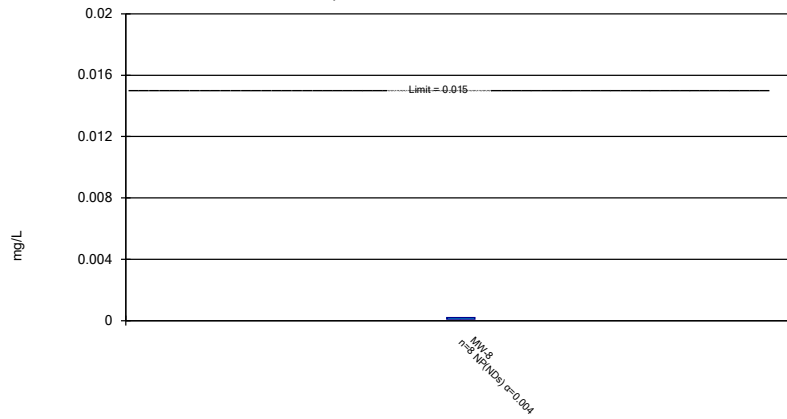
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Fluoride, total Analysis Run 4/22/2022 10:43 AM View: Appendix IV
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Non-Parametric Confidence Interval

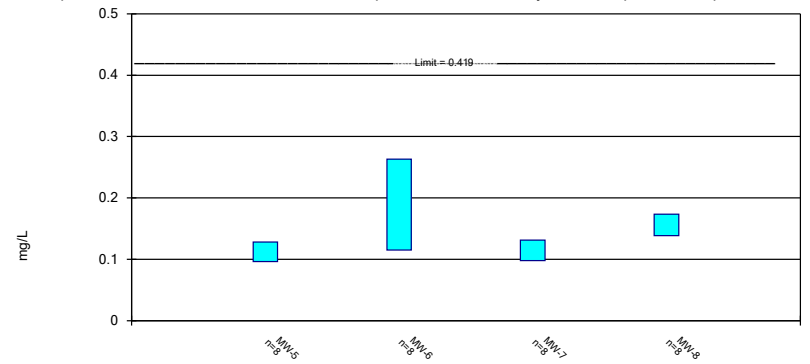
Compliance Limit is not exceeded.



Constituent: Lead Analysis Run 4/22/2022 10:43 AM View: Appendix IV
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Parametric Confidence Interval

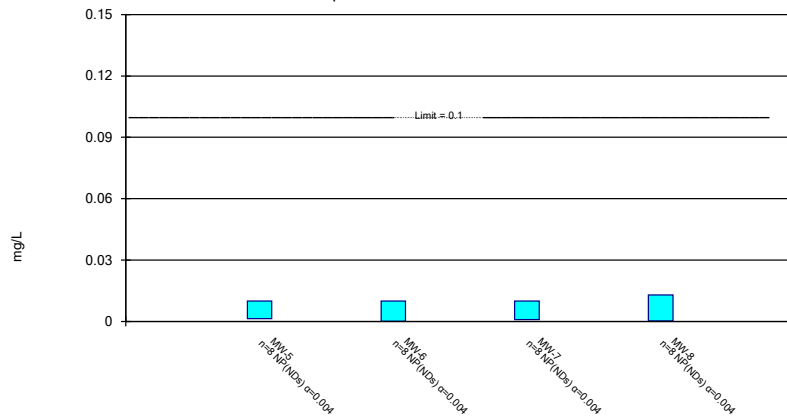
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lithium Analysis Run 4/22/2022 10:43 AM View: Appendix IV
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Non-Parametric Confidence Interval

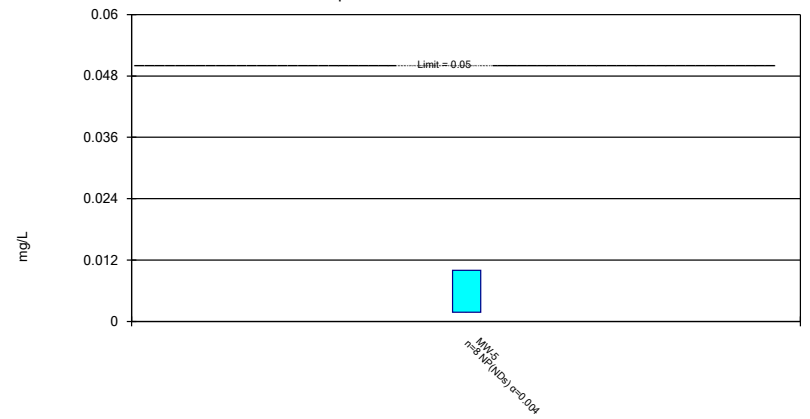
Compliance Limit is not exceeded.



Constituent: Molybdenum Analysis Run 4/22/2022 10:43 AM View: Appendix IV
 Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Non-Parametric Confidence Interval

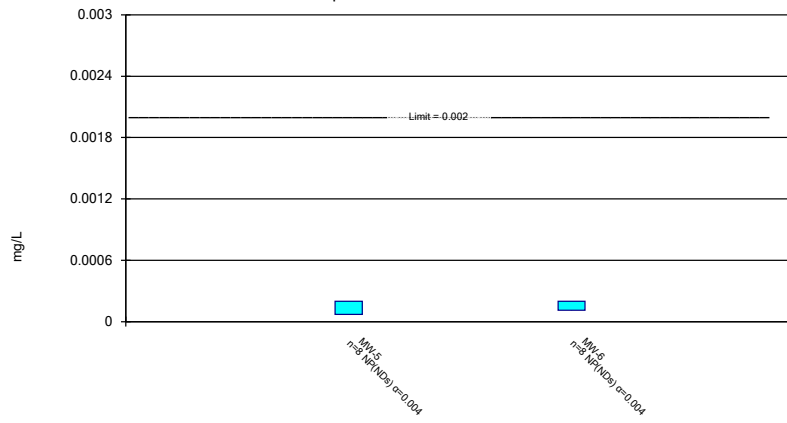
Compliance Limit is not exceeded.



Constituent: Selenium Analysis Run 4/22/2022 10:43 AM 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 4/22/2022 10:43 AM View: Appendix IV
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

Confidence Interval

Constituent: Arsenic (mg/L) Analysis Run 4/22/2022 10:45 AM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
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
Mean	0.001452	0.004393	0.00145	0.001405
Std. Dev.	0.001015	0.0009544	0.0001053	0.0003623
Upper Lim.	0.0025	0.005274	0.001562	0.001789
Lower Lim.	0.00019	0.003516	0.001338	0.001021

Confidence Interval

Constituent: Barium (mg/L) Analysis Run 4/22/2022 10:45 AM View: Appendix IV
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
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
Mean	0.01148	0.01366	0.01323	0.01348
Std. Dev.	0.001136	0.001291	0.001325	0.0007978
Upper Lim.	0.01268	0.01503	0.01463	0.01428
Lower Lim.	0.01027	0.01229	0.01182	0.01266

Confidence Interval

Constituent: Beryllium (mg/L) Analysis Run 4/22/2022 10:45 AM View: Appendix IV
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-6
11/20/2018	<0.001015
5/15/2019	0.000677 (J)
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)
Mean	0.0008056
Std. Dev.	0.0002484
Upper Lim.	0.001015
Lower Lim.	0.00044

Confidence Interval

Constituent: Cadmium (mg/L) Analysis Run 4/22/2022 10:45 AM View: Appendix IV
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-6
11/20/2018	<0.000203
5/15/2019	0.000858 (J)
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
Mean	0.0005988
Std. Dev.	0.0006303
Upper Lim.	0.00204
Lower Lim.	0.000203

Confidence Interval

Constituent: Chromium (mg/L) Analysis Run 4/22/2022 10:45 AM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
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	0.00027 (J)	0.00024 (J)	0.00032 (J)	
2/1/2022				0.00025 (J)
Mean	0.0009262	0.0009225	0.0009325	0.0009237
Std. Dev.	0.0002652	0.0002758	0.0002475	0.0002722
Upper Lim.	0.00102	0.00102	0.00102	0.00102
Lower Lim.	0.00027	0.00024	0.00032	0.00025

Confidence Interval

Constituent: Cobalt (mg/L) Analysis Run 4/22/2022 10:45 AM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
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
Mean	0.003529	0.1722	0.004245	0.007376
Std. Dev.	0.002033	0.1495	0.001484	0.00101
Upper Lim.	0.005	0.3307	0.005818	0.008447
Lower Lim.	0.00094	0.01376	0.002672	0.006306

Confidence Interval

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 4/22/2022 10:45 AM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
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)
Mean	0.5893	1.003	0.4556	0.6149
Std. Dev.	0.2461	0.5618	0.1482	0.3453
Upper Lim.	0.7956	1.598	0.6127	0.9475
Lower Lim.	0.4094	0.4072	0.2985	0.3021

Confidence Interval

Constituent: Fluoride, total (mg/L) Analysis Run 4/22/2022 10:45 AM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
5/23/2018		0.13		
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
Mean	0.2844	0.1291	0.1934	0.2033
Std. Dev.	0.04551	0.008676	0.04032	0.02596
Upper Lim.	0.3326	0.1383	0.2316	0.262
Lower Lim.	0.2361	0.1199	0.1563	0.177

Confidence Interval

Constituent: Lead (mg/L) Analysis Run 4/22/2022 10:45 AM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-8
11/20/2018	<0.000203
5/15/2019	<0.000203
10/9/2019	<0.000203
4/8/2020	<0.000203
7/15/2020	<0.000203
2/23/2021	<0.000203
7/20/2021	9E-05 (J)
2/1/2022	9E-05 (J)
Mean	0.0001748
Std. Dev.	5.231E-05
Upper Lim.	0.000203
Lower Lim.	9E-05

Confidence Interval

Constituent: Lithium (mg/L) Analysis Run 4/22/2022 10:45 AM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
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
Mean	0.1123	0.1892	0.1145	0.1558
Std. Dev.	0.01488	0.06979	0.01594	0.01649
Upper Lim.	0.1281	0.2632	0.1314	0.1732
Lower Lim.	0.09652	0.1153	0.09757	0.1383

Confidence Interval

Constituent: Molybdenum (mg/L) Analysis Run 4/22/2022 10:45 AM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-5	MW-6	MW-7	MW-8
11/20/2018	<0.01	<0.01	<0.01	<0.01
5/14/2019	<0.01			
5/15/2019		<0.01	<0.01	<0.01
10/8/2019			<0.01	
10/9/2019				<0.01
10/10/2019	<0.01	<0.01		
4/7/2020	<0.01			
4/8/2020		<0.01	<0.01	<0.01
7/14/2020	<0.01	<0.01	<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
Mean	0.00674	0.006303	0.006607	0.007942
Std. Dev.	0.004499	0.005103	0.004682	0.00481
Upper Lim.	0.01	0.01	0.01	0.0129
Lower Lim.	0.00126	7E-05	0.00086	0.00031

Confidence Interval

Constituent: Selenium (mg/L) Analysis Run 4/22/2022 10:45 AM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-5
11/20/2018	<0.01
5/14/2019	<0.01
10/10/2019	<0.01
4/7/2020	<0.01
7/14/2020	<0.01
2/23/2021	0.00233
7/21/2021	0.00178
1/31/2022	0.00237
Mean	0.00706
Std. Dev.	0.004061
Upper Lim.	0.01
Lower Lim.	0.00178

Confidence Interval

Constituent: Thallium (mg/L) Analysis Run 4/22/2022 10:45 AM View: Appendix IV
Plant Gorgas Client: Southern Company Data: Gorgas CCR LF

	MW-5	MW-6
11/20/2018	<0.0002	<0.0002
5/14/2019	<0.0002	
5/15/2019		<0.0002
10/10/2019	<0.0002	<0.0002
4/7/2020	<0.0002	
4/8/2020		<0.0002
7/14/2020	<0.0002	<0.0002
2/23/2021	<0.0002	<0.0002
7/20/2021		<0.0002
7/21/2021	<0.0002	
1/31/2022	7E-05 (J)	0.00011 (J)
Mean	0.0001837	0.0001887
Std. Dev.	4.596E-05	3.182E-05
Upper Lim.	0.0002	0.0002
Lower Lim.	7E-05	0.00011