

**2022 ANNUAL GROUNDWATER MONITORING AND  
CORRECTIVE ACTION REPORT**

**ALABAMA POWER COMPANY  
PLANT GORGAS  
GYPSUM POND**

**January 31, 2023**

Prepared for

Alabama Power Company  
Birmingham, Alabama

By

Southern Company Services  
Earth Science and Environmental Engineering



## CERTIFICATION STATEMENT

This 2022 Annual Groundwater Monitoring and Corrective Action Report, Alabama Power Company - Plant Gorgas Gypsum Pond 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.



1/31/2023

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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 Annual Groundwater Monitoring and Corrective Action Report has been prepared to document 2022 semi-annual groundwater monitoring activities at the Plant Gorgas Gypsum Pond and to satisfy the requirements of § 257.90(e), ADEM Admin. Code r. 335-13-15-.06(1)(e), and Part E of AO No. 18-096-GW. Semi-annual monitoring and associated reporting for Plant Gorgas Gypsum Pond is performed in accordance with the monitoring requirements § 257.90 through § 257.98 and ADEM Admin. Code r. 335-13-15-.06(1) through r. 335-13-15-.06(9).

The CCR unit began the monitoring period in corrective action. Statistically significant increases (SSI) of Appendix III constituents over background were identified in the results of the first detection monitoring event and assessment monitoring was initiated in January 2018. Statistically significant levels (SSL) of Appendix IV parameters above groundwater protection standards (GWPS) were identified while in assessment monitoring. Consequently, an assessment of corrective measures (ACM) was initiated on January 13, 2019, and completed on June 12, 2019, according to the requirements of § 257.96, ADEM Admin. Code r. 335-13-15-.06(7), and AO No. 18-096-GW.

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, based upon historical SSLs.

The following summarizes results and activities conducted during the semi-annual monitoring events of 2022:

- Statistical evaluation of the assessment monitoring data did not identify SSLs for Appendix IV constituents in Site compliance wells during the first or second semi-annual events.
- Began implementation of MNA with the acquisition of MNA parameters required for establishment of baseline conditions and as elements of geochemical modeling and monitoring.
- Submitted the Corrective Action Groundwater Monitoring Program on March 15, 2022, which described the selected remedy (MNA) and monitoring requirements.
- Performed an Alternate Source Demonstration (ASD) in site monitoring wells exhibiting elevated concentrations of lithium. The ASD concluded that lithium is naturally occurring in groundwater at the Site and is not related to a release from the CCR unit.

- Conducted a presentation and discussion with ADEM centered upon natural lithium occurrences and mobilization to Site groundwater as discussed in the results of the ASD submitted with the first semi-annual monitoring report and included in this report.

The CCR unit concluded the monitoring period in corrective action although the SSLs that triggered corrective action have decreased below the GWPS. Currently, there are no SSLs in Site groundwater; however, based on previous SSLs of lithium, an ASD was prepared and presented in the first semi-annual monitoring report for 2022 and this 2022 Annual Report. Although not currently needed to address an SSL for lithium, the ASD details the evidence showing that apparently elevated lithium concentrations in Site groundwater are naturally occurring and originate from Site earth materials.

Based upon SSLs that occurred early during the Site closure and monitoring period, 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. This 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.

However, the pending ASD review decision by the Department has implications on future actions for the Site. If approved, the Site will return to assessment monitoring.

The following future actions are planned for the Site:

- Continue 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.
- Continue discussions with ADEM regarding the status of the lithium ASD and the natural occurrence and mobilization of lithium at the Site.
- Conduct the semi-annual assessment monitoring events in 2023 and submit the semi-annual and annual groundwater monitoring and corrective action reports summarizing the findings to ADEM by July 31, 2023 and January 31, 2024, respectively.

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Monitoring Period Summary  
Plant Gorgas - Gypsum Pond**

Assessment Monitoring Initiated: January 15, 2018  
 Monitoring Period: January 1 - December 31, 2022  
 Beginning Status: Corrective Action  
 Ending Status: Corrective Action

**Statistical Analysis Results \***

**Appendix III SSIs**

Parameter	Wells
Boron	GS-GSA-MW-3, GS-GSA-MW-4, GS-GSA-MW-8.
Calcium	GS-GSA-MW-3, GS-GSA-MW-8.
Chloride	GS-GSA-MW-3, GS-GSA-MW-4, GS-GSA-MW-8.
Fluoride	None.
pH	MW-1 (upgradient), MW-2 (upgradient), GS-GSA-MW-4.
Sulfate	GS-GSA-MW-3, GS-GSA-MW-4.
TDS	GS-GSA-MW-4.

**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  
 Public Meeting Date: July 1, 2020

**Groundwater Remedy**

Remedy 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
AL	Alabama
APC	Alabama Power Company
APCEL	APC Environmental Laboratory
ASD	Alternate Source Demonstration
ASTM	American Society for Testing and Materials
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
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

## **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 Annual Groundwater Monitoring and Corrective Action Report* has been prepared to document 2022 semi-annual assessment groundwater monitoring activities at the Plant Gorgas Gypsum Pond (Gypsum Pond) and to satisfy the requirements of § 257.90(e), ADEM Admin. Code r. 335-13-15-.06(1)(e), and Part E of AO 18-096-GW. Semi-annual assessment monitoring and associated reporting for the Gypsum Pond is performed in accordance with the monitoring requirements § 257.90 through § 257.98 and ADEM Admin. Code r. 335-13-15-.06(1) through r. 335-13-15-.06(9).

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

## **2.0 MONITORING PROGRAM STATUS**

The Site is currently in corrective action. 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 parameters and SSLs of Appendix IV parameters were identified at the Gorgas Gypsum Pond during sampling events conducted in 2018. Pursuant to § 257.95(g)(3)(i) and ADEM Admin. Code r. 335-13-15-.06(6)(g)4(i), APC completed an Assessment of Corrective Measures (ACM) in accordance with § 257.96, ADEM Admin. Code r. 335-13-15-.06(7), and AO No. 18-096-GW. The ACM was completed June 12, 2019, and a public meeting was held to solicit public input regarding the proposed groundwater remedies on July 1, 2020.

A Groundwater Remedy Selection Report was prepared and submitted on December 17, 2021, to meet the requirements of 40 CFR § 257.97, ADEM Admin. Code r. 335-13-15-.06(8), and Part C of ADEM Administrative Order AO 18-096-GW. Subsequently, within 90 days of remedy selection, a Corrective Action Groundwater Monitoring Program was developed and submitted to ADEM on March 15, 2022.

APC will continue semi-annual corrective action monitoring, including all monitoring wells in the certified groundwater monitoring system and any well installed to characterize the horizontal and vertical extent of SSLs.

### 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. Plant Gorgas lies in 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. Section/Township/Range data are based on visual inspection of USGS topographic quadrangle maps (USGS, 1975; USGS, 1983) and GIS project boundary files provided by SCS.

The Gypsum Pond is located west-northwest of the main plant and to the north of the Black Warrior River. **Figure 1, Site Location Map**, depicts the location of the Plant and Gypsum Pond 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. Generally, the land surface 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. 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 Upper 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) of the Upper Pottsville Formation. In general, the Pratt 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. **Figure 3, Site Geologic Map**, illustrates the surface geology at the Site and neighboring areas.

Strip mining was conducted over a large portion of the area down to the American seam. As a result, the overburden around the Gypsum Pond 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 20 feet (un-mined areas) to as much as 155 feet below ground surface (BGS). Beneath the Gypsum Pond, 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. **Figures 4A-4E, Geologic Cross-Sections**, illustrate the geologic layering beneath the Site.

Two water-bearing zones are present beneath the Site: (1) the mine overburden/top-of-rock interface, and (2) the underlying Pottsville aquifer system. 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 parts per million (ppm)) in the Pottsville coal strata is three times the average of other coal basins (Bragg et al., 1997). Of the U.S. coal analyses for arsenic where there 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 Data System (NRCDS) 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 Coal Quality Database.

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 system. The Pottsville aquifer system is the uppermost aquifer beneath the Site. In the Pottsville aquifer system, 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.

Beneath and adjacent to the Gypsum Pond, groundwater yielding zones are now generalized into 5 discrete flow systems. They are the: (1) Upper Water-Table Flow System, (2) Intermediate Flow System 1, (3) Intermediate Flow System 2, (4) Intermediate Flow System 3, and (5) Deep Flow System.

The Upper-Water Table Flow System exists only across central and southern portions of the Site and generally is comprised of shallow, saturated overburden, overburden-rock transition zone, or upper weathered rock (~ 20 to 40 feet below ground surface). Where present, this flow system appears to be

vertically located lateral to or above the base of the Gypsum Pond. To the north and east of the Gypsum Pond, this flow system may not be present due to historical mining activities (lack of recharge, lack of overburden materials).

Intermediate and deep flow systems at the Site generally are comprised of discrete fracture intervals, bedding planes, and minor coal seams in the lower Pratt Coal Group and Gillespy Coal Group. Characteristics of these flow systems are: (1) variable, sporadic groundwater saturation and yield, (2) appearance of semi-confining to confining conditions between flow systems, (3) vertical downward gradients across northern and central areas of the Site, and (4) the converge of groundwater elevations south of the Gypsum Pond near “Blue Pond”.

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**

With the addition of piezometers and delineation wells to the Site monitoring program, groundwater flow is now grouped into five flow systems: (1) Upper Water-Table Flow System, (2) Intermediate Flow System 1, (3) Intermediate Flow System 2, (4) Intermediate Flow System 3, and (5) Deep Flow System.

For the Upper Water-Table Flow System, groundwater flow at the Site is a subdued replica of the natural topography where gravity is the dominant force driving flow. The general direction of groundwater flow in this system is towards the south. However, locally, flow may also occur towards the southeast and southwest mimicking the natural topography of the Site. West of the gypsum pond, flow is (A) towards northern and central portions of the gypsum pond or (B) lateral to southern portions of the gypsum pond. Flow converges towards “Blue Pond” south of the gypsum pond and to the Black Warrior River further south.

Intermediate flow systems and the deep flow system beneath the Site display similar flow patterns. Each system is interpreted to generally flow south to south-southeast across the Site. Hydraulically, these systems appear semi-confined to confined as groundwater elevations display vertical separation and downward vertical gradients. Flow through these systems likely converge to similar hydraulic potential near “Blue Pond” south of the Plant Gorgas Gypsum Pond.

### **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 system to monitor groundwater within the uppermost aquifer. The certified groundwater monitoring system for the Plant Gorgas Gypsum Pond is designed to monitor groundwater passing the waste boundary of the CCR unit within the uppermost aquifer. Wells were located 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, piezometer (water-level only), vertical delineation, and horizontal delineation. The following subsections provide a summary of well designations and, if applicable, changes or modifications to the well network designations. As described in the Site Groundwater Monitoring Plan, modifications to the well network or designation must first be approved by ADEM.

The location and designation of Site wells are presented on **Figure 5, Monitoring Well Location Map**.

##### **3.3.1.1 Upgradient Wells**

To evaluate upgradient well locations at the Site, groundwater elevations and CCR indicator parameters were reviewed. Attempts at installing upgradient well locations west, north, and east of the Gypsum Pond were unsuccessful because water-bearing zones were not encountered. Therefore, four locations upgradient of the nearby Plant Gorgas landfills were selected to provide background groundwater quality data. These locations were selected based on the facts that the wells are proximal to the Site, have not been affected by a CCR unit release, and are installed in similar geology. Each of these sites is located within the same coal group sequence of the Pottsville and contains backfilled mine material overburden. Monitoring well locations MW-1, MW-2, MW-3, and MW-4 serve as upgradient locations for the Gypsum Pond. **Table 1a**,

**Compliance Monitoring Well Network Details**, summarizes the monitoring well construction details and the lithology (flow system) adjacent to the screened interval for upgradient compliance wells at the Plant Gorgas Gypsum Pond

#### **3.3.1.2 Downgradient Wells**

The absence of water-bearing zones at the Site during Site investigation influenced the number and location of downgradient monitoring wells. Monitoring well locations GS-GSA-MW-3, GS-GSA-MW-4, and GS-GSA-MW-8 are used as downgradient locations for the Gypsum Pond. The three downgradient monitoring well locations were installed in the valley south of the Gypsum Pond and at lower elevations. These locations capture groundwater draining through the valley occupied by the Gypsum Pond. Because the valley is narrow from west to east (approximately 800 to 1,200 feet across), these wells intercept preferential draining for the Site and are sufficient to monitor groundwater downgradient of the Gypsum Pond. **Table 1a** summarizes the monitoring well construction details and the lithology (flow system) adjacent to the screened interval for downgradient compliance wells at the Plant Gorgas Gypsum Pond

#### **3.3.1.3 Delineation Wells**

Pursuant to § 257.95(g)(1), ADEM Admin. Code r. 335-13-15-.06(6)(g)2., and AO 18-096-GW, additional wells were installed to characterize the horizontal and vertical extent of groundwater protection standard (GWPS) exceedances identified during assessment monitoring. Three phases of field investigation have occurred since late 2018 to explore potential impacts to groundwater. Field work for Phase III efforts concluded in early July 2020.

Delineation wells are identified on **Figure 5**. All delineation wells are sampled semi-annually as part of the semi-annual groundwater monitoring program. **Table 1b, Delineation Well Network Details**, summarizes construction details and the lithology (flow system) adjacent to the screened interval.

#### **3.3.1.4 Piezometers**

Horizontal delineation well GS-GSA-MW-10H was converted from delineation location to piezometer. This well location did not produce sufficient groundwater yield for well development and low-flow sampling methods. Locations GS-GSA-PZ-2A, GS-GSA-MW-1, and GS-GSA-MW-2 recently changed to water-level only piezometers for the purpose of better depicting groundwater flow direction. These locations were installed in 2015 but did not produce sufficient groundwater yield for well development or low-flow sampling methods.

Locations GS-GSA-PZ-16 through GS-GSA-PZ-22 were installed in May 2020 to be used as water-level only piezometers. However, locations GS-GSA-PZ-17 through GS-GSA-PZ-22 have been sampled semi-

annual since August 2020 as part of the semi-annual monitoring events for purposes of evaluating as potential upgradient locations. Some of these piezometers were installed in the vicinity of a previously unknown strip-mined coal storage area, and further historical use research of the area is ongoing. These locations will continue to be sampled and evaluated. It is anticipated that after 4 or 5 sampling events and further study, a recommendation will be made to continue with water-level only monitoring or potentially request permission to redesignate subsets that appear as suitable upgradient locations.

Piezometers are presented on **Figure 5**. Well construction and flow system details are summarized in **Table 1c, Piezometer Well Network Details**.

### **3.3.1.5 Monitoring Well Replacement and Abandonment**

During the current monitoring period, no monitoring well replacement or abandonment activities occurred.

## **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 background and downgradient well and analyzed for the constituents listed in Appendix III and IV prior to October 17, 2017. Background sampling was performed over the period of August 2016 to June 2017. Groundwater sampling for the first detection monitoring event after the background period was performed in August 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 sampling continues to the present.

The Gypsum Pond entered an assessment monitoring program pursuant to 40 CFR § 257.95(a) and ADEM Admin. Code r. 335-13-15-.06(6)(a) in January 2018. Statistical evaluations of 2018 assessment monitoring data identified SSLs of Appendix IV constituents above the GWPS, and the Site performed an Assessment of Corrective Measures. Pursuant to § 257.95(g)(1), ADEM Admin. Code r. 335-13-15-.06(6)(g)2., and AO No. 18-096-GW, delineation wells were installed to characterize the horizontal and vertical extent of GWPS exceedances identified during assessment monitoring in three phases of groundwater investigations between January 2019 and July 2020. These wells, along with the compliance monitoring well network, are sampled semi-annually.

### **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 Analytical Summary Data**.

### **3.4.2 Historical Groundwater Flow**

Groundwater flow systems and flow pattern interpretations in the complex hydrogeologic system have changed over the years as additional hydrogeologic data has become available in the form of piezometers and delineation wells. The following factors result in a fairly complex hydrogeologic that must be interpreted and presented: (1) Historic strip mining of uppermost aquifer (Pratt and American Coals), (2) potential dewatering of historic mine sites, (3) limited area of local recharge and disturbance of recharge zone, (4) variability of overburden material type (mine spoil vs natural), layering, and thickness, (5) variability in groundwater yield/production, (6) overall relatively low groundwater recharge rates to wells, (7) overall lack of groundwater yield north and east of the Gypsum Pond, and (8) ongoing closure-by-removal of the Gypsum Pond. Groundwater data and the discretization of intermediate flow systems will continue to be evaluated over the coming sampling events. 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 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 and groundwater samples are 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 Nephelometric Turbidity Units (NTU).
- Temperature and Oxidation Reduction Potential (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 events 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 monitoring constituents analyzed from Site groundwater. Groundwater data and COC records for the monitoring events 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)(e), the following describes monitoring-related activities performed during the monitoring period. The first semi-annual monitoring event took place between January 24, 2022 and January 27, 2022, and the second semi-annual monitoring event took place between July 5, 2022 and July 13, 2022. A re-sampling event for lithium took place on May 19, 2022 at well GS-GSA-MW-4 where a potential outlier was observed in results from the January 2022 sampling event.

Groundwater samples were analyzed for the full list of Appendix III and Appendix IV parameters during monitoring period sampling events. During the 2022 sampling events, additional general chemistry and monitored natural attenuation monitoring parameters were sampled and analyzed. These analytes have been incorporated for continued evaluations of geochemical facies and their evolution over time. These analytes



will also support geochemical modeling and evaluations associated with monitored natural attenuation.

These parameters include:

- Calcium (filtered)
- Iron (total and dissolved)
- Silicon (total and dissolved)
- Silica (total and dissolved)
- Sodium (total and dissolved)
- Sulfide
- Potassium
- Aluminum (total and dissolved)
- Manganese
- Magnesium (total and filtered)
- Nitrate-Nitrite
- Total Alkalinity, Carbonate Alkalinity, Bicarbonate Alkalinity
- Total Organic Carbon.

All groundwater sampling activities were conducted by APC Field and Water Services. Pace Analytical Services (Greensburg) performed the laboratory analyses of Radium-226 and Radium-228 (reported combined) as well as the MNA parameter sulfide (Pace – New Orleans). Analytical data from the groundwater monitoring events 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)(e)3.

#### 4.0 GROUNDWATER ELEVATIONS AND FLOW

During the first semi-annual sampling event, groundwater elevations ranged from 256.45 to 430.40 feet NAVD88 (feet above reference 1988 North American Vertical Datum). **Figure 6A, Potentiometric Surface Contour Map – Water Table (January 24, 2022), Figure 6B, Potentiometric Surface Contour Map – Intermediate Flow System 1 (January 24, 2022), Figure 6C, Potentiometric Surface Contour Map – Intermediate Flow System 2 (January 24, 2022), Figure 6D, Potentiometric Surface Contour Map – Intermediate Flow System 3 (January 24, 2022), and Figure 6E, Potentiometric Surface Contour Map – Deep Interval (January 24, 2022)** depict groundwater elevations and inferred groundwater flow direction from higher elevation to lower.

During the second semi-annual sampling event, groundwater elevations ranged from 256.10 to 429.60 feet NAVD88. **Figure 7A, Potentiometric Surface Contour Map – Water Table (July 11, 2022), Figure 7B, Potentiometric Surface Contour Map – Intermediate Flow System 1 (July 11, 2022), Figure 7C, Potentiometric Surface Contour Map – Intermediate Flow System 2 (July 11, 2022), Figure 7D, Potentiometric Surface Contour Map – Intermediate Flow System 3 (July 11, 2022), and Figure 7E, Potentiometric Surface Contour Map – Deep Interval (July 11, 2022)**

As shown on **Figures 6A and 7A**, groundwater appears to flow towards the narrow valley occupied by the Gypsum Pond from the north, west, and east of the Site as well as in a general south to south-southeast pattern. Groundwater in the valley flows southward. Groundwater in this upper flow system likely seeps slowly downward (recharges) into underlying Pottsville Strata.

As shown on **Figures 6B through 6E and Figures 7B through 7E** the groundwater flow patterns in lower Pratt Coal Group and Gillespy Coal Group strata are interpreted to be less influenced by local topographic relief displaying a south-southeast flow pattern converging on “Blue Pond” and likely, the Black Warrior River further south. Groundwater flow patterns in Intermediate Flow Systems 1 and 2 likely display some degree of localized westerly and easterly flow towards the southern Gypsum Pond as compliance well GS-GSA-MW-3 as well as piezometers GS-GSA-MW-1 and GS-GSA-MW-2 could also potentially be grouped into Intermediate Flow System 1 based upon stratigraphy and elevations screened (previous report interpretation and presentation).

Groundwater elevations and vertical gradients between flow systems at the Site suggest semi-confining to confining conditions with downward vertical gradients further north and some upward vertical gradients notable in south of the sedimentation pond and proximal to “Blue Pond”. This data indicates that areas south of the sedimentation pond and around “Blue Pond” are mixing zones where shallow flow systems

mix with older, more mineralized groundwater discharging from deeper flow systems. Sources of deeper upwelling groundwater may include underground Mary Lee and American coal mines upgradient and adjacent to the Site.

Piezometer, GS-GSA-PZ-21, appears to fit a 6<sup>th</sup> discrete zone between the Water Table Flow System and Intermediate Flow System 1 and was not factored into contours. Piezometer, GS-GSA-PZ-2A, was not used in groundwater elevation contouring as it was effectively dry.

Recent available groundwater elevation data 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 CALCULATION

Because the geology at the Gypsum Pond is not homogeneous or isotropic with respect to groundwater flow, groundwater velocity calculations using derivations of Darcy's Law or other methods are not applicable to groundwater at the Site. The hydrogeologic characteristics of fractured rock typically produce preferential groundwater flow paths, so groundwater velocity is much more variable than in uniform porous media such as sand.

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. Lateral or vertical transitions from mine spoils to natural overburden materials also adds complexity to groundwater velocity and flow paths. For mine spoil materials, slug testing provided horizontal hydraulic conductivities for the uppermost aquifer between  $5.11 \times 10^{-3}$  centimeters per second (cm/sec) and  $2.47 \times 10^{-4}$  cm/sec.

At the Gorgas Ash Pond, slug testing provided horizontal hydraulic conductivities in flow zones of the Pratt Coal Group between  $1.19 \times 10^{-3}$  cm/sec and  $1.22 \times 10^{-5}$  cm/sec with an average of  $4.52 \times 10^{-4}$  cm/sec. A total of 43 packer tests resulted in a range of hydraulic conductivity (k) values from an estimated low of  $7 \times 10^{-7}$  cm/sec to a high of  $4 \times 10^{-3}$  cm/sec, with most tests (31) in the moderate range ( $10^{-5}$  cm/sec to  $10^{-4}$  cm/sec), 2 test results in the more permeable range ( $10^{-3}$  to  $10^{-2}$  cm/sec), and 10 test results in the less permeable range ( $10^{-6}$  cm/sec).

Slug and packer testing results included in this discussion, as a whole, provide a bias towards higher permeability. This is because intervals tested were largely selected based upon observations of yield in borehole geophysics, hydrophysics, or field observations (i.e., no yield or poor yielding zones not often tested/quantified). The data reviewed suggests that typical Pottsville flow zones will have hydraulic conductivities between  $10^{-4}$  or  $10^{-5}$  cm/sec and will be separated vertically (and sometimes laterally) by lower permeability mudstones, shales, and channel sandstones which will typically provide hydraulic conductivities in the range of  $10^{-6}$  and  $10^{-7}$  cm/sec. Therefore, groundwater flow velocity at the Site will be highly variable.

## 5.0 EVALUATION OF GROUNDWATER QUALITY DATA

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

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

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

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

Where:

RPD = Relative Percent Difference (%)

Conc1 = Higher concentration of the sample or field duplicate

Conc2 = Lower concentration of the sample or field duplicate

Where the RPD is below 20%, the difference is considered acceptable, and no further action is needed. Where an RPD is greater than 20%, further evaluation is required to attempt to determine the cause of the difference and potentially result in qualified data. **Table 4a, Relative Percent Difference (RPD) Calculations**, provides the RPDs for sample and sample duplicates during the semi-annual sampling events of 2022. RPDs were below 20% for the first semi-annual sampling event of 2022. During the second semi-annual sampling event, and RPD greater than 20% was observed for fluoride in the sample and duplicate sample collected from GS-GSA-PZ-19. The concentrations observed in the sample (0.31 mg/L) and duplicate sample (0.214 mg/L) are less than 5 times the laboratory reporting limit (0.125 mg/L) and the

difference between the sample and duplicate concentrations (0.096 mg/L) is less than the laboratory reporting limit. Therefore, further lab validation is not required. All other RPDs were below 20% for the second semi-annual sampling event of 2022.

Analytical data reviewed provided low-level or trace detections in field and/or equipment blanks during monitoring period sampling events for arsenic and chromium. **Table 4b, Field QC: Blank Detections** provides a summary of low-level detections observed during the semi-annual monitoring events of 2022. Each of these detections were estimated concentrations, above the MDL but below the RL, and qualified in the laboratory analytical reports with “J flags.” However, if concentrations are detected above the MDL in field QC samples, original results on the (1) date of a blank detection and (2) with a value less than 5 times the field QC detection are flagged with a (+) U\* and MDL/RL values modified based upon the blank concentration. A summary of data validation results is included in **Table 4c, Field QC: Data Validation Results (Blanks)**.

Validated flags do not have an impact on possible statistical analyses due to: (1) low-level concentrations flagged during validation and/or (2) constituents flagged are not Site COI. The extent of trace chromium detections in blanks can be explained by a low MDL value of 0.000203 mg/L.

## 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 strategy, were constructed for pH, sulfate, and TDS to determine whether there has been an SSI over background groundwater quality. Interwell prediction limits, combined with a 1-of-2 verification strategy were constructed for boron, calcium, chloride, and fluoride. 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 are formally tested using Tukey's box plot method when applicable, and when identified, are flagged in the computer database and deselected prior to construction of statistical limits.

The following adjustments are also applicable to the statistical analysis at the Site:

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

### **5.2.2 Appendix IV Evaluation**

When in corrective action, Appendix IV constituents are sampled semi-annually, and concentrations are compared to the 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 corrective action, 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. The most recent GWPS update was after the second semi-annual sampling event in the fall of 2021. Data from upgradient wells collected between updates may still be used to support Alternate Source Demonstration (ASDs) if merited.

### **5.3 STATISTICAL EXCEEDANCES**

Analytical data from the 2022 semi-annual monitoring events were statistically analyzed in accordance with the Professional Engineer (PE)-certified Statistical Analysis Plan (October 2017) and updated in the August 2020 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 monitoring parameters were evaluated to determine if concentrations statistically exceeded the established GWPS.

#### **5.3.1 Appendix III Constituents**

Based on review of the Appendix III statistical analyses presented in **Appendix D, Statistical Analyses**, 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 D**. As discussed in **Section 5.2.2**, Site GWPS were updated after the Fall 2021 sampling event.

#### 5.3.2.1 First Semi-Annual Monitoring Event

Statistical analysis of Appendix IV data did not identify any Appendix IV SSLs during the first semi-annual monitoring event of 2022 in Site compliance wells. **Table 6, First Semi-Annual Monitoring Event Analytical Results Summary** provides a summary of all constituents for the first semi-annual sampling event of 2022.

Limited groundwater analytical data are available for delineation wells installed at the Site. Therefore, groundwater quality is simply compared to the GWPS. A review of analytical data derived from delineation wells identified the following concentrations over Site GWPS during the first semi-annual sampling event:

- GS-GSA-MW-13H: Arsenic
- GS-GSA-MW-14H: Lithium

#### 5.3.2.2 Second Semi-Annual Monitoring Event

Statistical analysis of Appendix IV data did not identify any Appendix IV SSLs during the second semi-annual monitoring event of 2022 in Site compliance wells. **Table 7, Second Semi-Annual Monitoring Event Analytical Results Summary** provides a summary of all constituents for the second semi-annual sampling event of 2022.

Limited groundwater analytical data are available for delineation wells installed at the Site. Therefore, groundwater quality is simply compared to the GWPS. A review of analytical data derived from delineation wells identified the following concentrations over Site GWPS during the second semi-annual sampling event:

- GS-GSA-MW-13H: Arsenic
- GS-GSA-MW-14H: Lithium

Elevated arsenic has historically been encountered in well GS-GSA-MW-13H during semi-annual sampling events. However, these elevated concentrations and GWPS exceedances are not the result of an impact to

groundwater from the Gypsum Pond. Wells immediately downgradient of the Gypsum Pond, as well as delineation wells between the Gypsum Pond and GS-GSA-MW-13H, have historically been non-detect or detected at only trace concentrations. This absence of arsenic in other wells is notable, because if an arsenic impact were related to the Gypsum Pond, the highest concentrations would be expected closer to the Gypsum Pond and diminish to the south in the direction of groundwater flow away from the facility. The observation described in this report is the opposite of that scenario.

Elevated lithium has historically been encountered in well GS-GSA-MW-14H during semi-annual sampling events. However, these elevated concentrations and GWPS exceedances are not the result of a release from the Gypsum Pond. As part of delineation efforts at the Site, an ASD was prepared and submitted in July 2022 to address the occurrence of lithium in groundwater at the site, including at horizontal delineation well GS-GSA-MW-14H. As discussed in the ASD, included as **Appendix E, Alternate Source Demonstration – Lithium**, boron isotope analysis was performed at GS-GSA-MW-14H in addition to a number of other wells at the site. Boron isotopic signatures have been successfully demonstrated to fingerprint CCR sources in groundwater with positive (enriched)  $\delta^{11}\text{B}$  signatures typically indicating meteoric or natural sources of boron (e.g., 1997, Nigro et al., 2016, Ruhl et al., 2014, Williams and Hervig, 2014). As described in the ASD, boron isotopic composition demonstrates a fingerprint of meteoric waters rather than migration of CCR leachate with GS-GSA-MW-14H exhibiting a  $\delta^{11}\text{B}$  signature of 11.6‰. In addition to boron isotopic signatures, GS-GSA-MW-14H also exhibits relatively low pH and high ORP compared to other wells at the site. Analysis performed on rock core samples collected at the site as part of the ASD included sequential extraction procedure, whole rock analysis, total metals analysis, and other methods which identified lithium as most commonly associated with the exchangeable fraction (i.e., mobilized under low pH conditions) and the oxidizable (iron-manganese) fraction (i.e., mobilized by oxidation). The conditions in this well suggest that lithium is derived from natural sources. A full detailed analysis is included in **Appendix E**.

### 5.3.2.3 Additional Upgradient Piezometers

Piezometers GS-GSA-PZ-16 through GS-GSA-PZ-22 were installed in May 2020 as part of Phase III delineation efforts. These wells were intended to serve as potentially upgradient wells for the Site. A review of historical aerial photography indicated that the wells were installed in the vicinity of a former strip-mined coal storage area. Analytical results compare with previously referenced publications that document elevated trace metals in Pottsville and Pottsville coal strata as discussed in **Section 3.2.1**. Additional historical land use research of the area needs to be completed prior to further recommendations.

During the first and second 2022 semi-annual monitoring events, exceedances for arsenic were observed in GS-GSA-PZ-22. Arsenic concentrations at this location have increased each of the last five sample events indicating that there is likely an existing source of arsenic upgradient of the Gypsum Pond that is leaching to groundwater. Arsenic concentrations in upgradient piezometers are otherwise stable or decreasing in concentration.

Average lithium concentrations from these upgradient piezometers show that lithium is either naturally occurring at elevated concentrations and/or historic mining related activities enhanced lithium concentrations. Average lithium concentrations observed in upgradient piezometers are:

- GS-GSA-PZ-17: 0.7620 mg/L
- GS-GSA-PZ-18: 0.3700 mg/L
- GS-GSA-PZ-19: 0.0860 mg/L
- GS-GSA-PZ-20: 0.1180 mg/L
- GS-GSA-PZ-22: 0.0680 mg/L
- GS-GSA-PZ-21: 0.0200 mg/L.

Limited data from these wells tend to show seasonality where concentrations are higher during late summer sampling events and lower during the late winter/early spring. This pattern is most easily observed in wells GS-GSA-PZ-17 and GS-GSA-PZ-18 and may reflect a delayed response to elevated rainfall during the wetter season months in the spring. Lithium concentrations in GS-GSA-PZ-17 range from 0.78 to 1.39 mg/L in the late summer and 0.20 to 0.29 mg/L in the late winter. Similarly, though less pronounced, lithium concentrations in GS-GSA-PZ-18 range from 0.39 to 0.44 mg/L in the late summer and 0.25 to 0.35 mg/L in the late winter. Aside from GS-GSA-PZ-17, lithium concentrations in upgradient piezometers appear to be relatively stable.

**Figure 8A, Arsenic and Lithium GWPS Exceedances Map (January 2022)** and **Figure 8B, Arsenic and Lithium GWPS Exceedances Map (July 2022)** depict GWPS exceedances in Site delineation wells from the first and second semi-annual sampling events of 2022, respectively.

## 6.0 ALTERNATE SOURCE DEMONSTRATION

As part of a comprehensive study into the occurrence of lithium in site groundwater, and ASD was conducted that demonstrated that the SSLs for lithium in Site monitoring wells are the result of natural variation in groundwater quality driven by naturally occurring lithium in clay minerals in aquifer solids. Mobilization of lithium to groundwater primarily occurs with the weathering of mudstone and clay-rich mine spoils that constitute significant portions of the subsurface overburden profile at the Site. The ASD report was prepared to address historical SSLs for lithium in the following downgradient compliance monitoring wells:

- GS-GSA-MW-3
- GS-GSA-MW-4

The ASD report was also prepared to address the GWPS exceedances for lithium in the following vertical and horizontal delineation wells:

- GS-GSA-MW-3V
- GS-GSA-MW-9V
- GS-GSA-MW-12H
- GS-GSA-MW-14H

During the 2022 monitoring period, no SSLs for lithium were observed in downgradient monitoring wells, and lithium GWPS exceedances were observed in horizontal delineation well GS-GSA-MW-14H during the January 2022 and July 2022 sampling events (0.430 and 0.428 mg/L, respectively). Thus, lithium concentrations reflect temporal variability in groundwater flow conditions in the overburden mine spoils.

Based on evaluation of site data, lithium occurs in the overburden and bedrock aquifers at concentrations significantly greater than the range of average reported concentration in the earth's crust and groundwater conditions support the mobility of lithium from the aquifer solids into groundwater at the Site. As such, this ASD demonstrates that the SSLs for lithium in the aforementioned wells are not the result of a release from the Plant Gorgas Gypsum Pond. Therefore, routine groundwater monitoring will continue at the Site and no further action, such as implementing corrective action or further delineation in these areas, is necessary.

In addition to serving as an ASD for historical SSLs in compliance wells and exceedances in delineation wells, this report also provides a comprehensive study documenting geogenic sources of lithium at the Site

and Pottsville Formation, as well as mechanisms for mobilization of lithium to groundwater. As such, this ASD report may be referenced in explanation or guidance for potential future SSLs or GWPS exceedances.

The ASD report, along with additional analytical data, is included as **Appendix E** to this annual groundwater monitoring and corrective action report.

## **7.0 GROUNDWATER ASSESSMENT AND CORRECTIVE ACTION**

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 and subsequent phases of work were to identify the horizontal and vertical extent of groundwater impacts defined by EPA Appendix IV groundwater protection standards.

A comprehensive groundwater delineation report summarizing findings was submitted to ADEM in September 2020. The conclusions and results presented indicate that groundwater delineation have been completed to a sufficient degree to define the spatial extent of groundwater impacts and to inform a groundwater remedy selection plan.

### **7.1 CHRONOLOGY OF DELINEATION ACTIVITIES**

Beginning in 2019, Semi-Annual Progress Reports have routinely been provided to ADEM in March and September, annually. APC requested approval to combine information typically provided in the Semi-Annual Progress Reports with Semi-Annual Groundwater Monitoring and Corrective Action Reports on March 15, 2021. ADEM approved this approach and revised timeline for submittals on March 16, 2021. APC will now provide the Department with a discussion of delineation results and activities in each Semi-Annual Groundwater Monitoring and Corrective Action Report until released in writing.

#### **7.1.1 Delineation Wells**

Part B of the Order required the installation of additional wells as necessary to define the extent of groundwater impacts. The following sections describe monitoring wells installed to delineate impacts to groundwater.

##### **Phase I – Groundwater Investigation (February 2019 – August 2019)**

Phase I was conducted between February 2019 and August 2019. **Table 1c** and **Figure 5** present details and locations of delineation wells installed during this phase. The following summarizes all activities that were completed during Phase I of groundwater delineation at the Site:

- Installed three horizontal delineation wells (GS-GSA-MW-9H, GS-GSA-MW-10H, and GS-GSA-MW-11H) and two vertical delineation wells (GS-GSA-MW-3V and GS-GSA-MW-4V) between February 3, 2019, and February 25, 2019.

- Developed new delineation wells between February and March 2019. Horizontal delineation wells MW-10H did not yield sufficient water and did not meet successful criteria for well development or sampling.
- Sampled groundwater from four successfully developed delineation wells between March 4, 2019, and March 5, 2019.
- Submitted a Groundwater Investigation Report to the Department on May 13, 2019. This report recommended a second phase of groundwater investigation to complete delineation of groundwater impacts as required by Part B of the Order.
- Submitted an Assessment of Corrective Measures to the Department on July 11, 2019, as required by Part C of the Order.
- Submitted a Phase II – Groundwater Delineation Plan to the Department on August 15, 2019. This plan documented planned activities associated with proposed Phase II delineation efforts.
- On December 30, 2019, provided the Department with a response to comments received from the Department on November 14, 2019.

#### **Phase II – Groundwater Investigation (September 2019 – March 2020)**

Following a review of data gathered from the Phase I Investigation, additional groundwater investigation was proposed to the Department in a Phase II Delineation Plan submitted August 15, 2019, to further delineate extent of groundwater impacts. Phase II was conducted between the dates of October 2019 to March 2020. The following summarizes all activities that were complete during Phase II of groundwater delineation at the Site:

- Completed semi-annual assessment sampling events in October 2019 and February 2020.
- Installation of two horizontal delineation wells south-southwest of the Gypsum Pond (GS-GSA-MW-12H and GS-GSA-MW-13H).
- Installation of one vertical delineation well (GS-GSA-MW-8V) off-set from existing compliance well GS-GSA-MW-8.
- Sampling of compliance wells, Phase I delineation wells, and Phase II delineation wells in October and November 2019.
- Survey of eleven (11) piezometers previously installed at the Site in 2015 or prior to help constrain Site groundwater flow conditions. Eight of these locations were dry or had less than 1 foot of groundwater and were not included on maps to improve readability.

- A preliminary review of potentiometric data and analytical data revealed the need for a Phase III investigation to expand delineation efforts and provide additional Site characterization data.
- Submitted a Semi-Annual Progress Report documenting groundwater investigation activities on March 30, 2020.

### **Phase III – Groundwater Investigation (February 2020 – August 2020)**

Following a review of data gathered from the Phase I and Phase II Investigations, additional groundwater investigation was necessary to delineate Appendix IV constituents at the Gypsum Pond. Phase III was conducted between the dates of May 2, 2020, and June 11, 2020. The following summarizes all activities that were complete during Phase II of groundwater delineation at the Site:

- Installed three vertical delineation wells (GS-GSA-MW-9V, GS-GSA-MW-12V, and GS-GSA-MW-23VA) between May 12 and June 11, 2020.
- Installed two horizontal delineation wells (GS-GSA-MW-14H and GS-GSA-MW-15H) between May 4, 2020, and May 5, 2020. Horizontal delineation well GS-GSA-MW-15H did not yield sufficient water for development and sampling and will be utilized as water-level only piezometer.
- Installed seven additional piezometers (GS-GSA-PZ-16, GS-GSA-PZ-17, GS-GSA-PZ-178, GS-GSA-PZ-19, GS-GSA-PZ-20, GS-GSA-PZ-21, and GS-GSA-PZ-22) between May 2, 2020, and May 31, 2020.
- Completed semi-annual assessment groundwater sampling event between August 3, 2020, and August 5, 2020.
- Submitted a Semi-Annual Progress Report documenting groundwater Investigation Activities on September 30, 2020.

APC responded to the February 3, 2021, ADEM Semi-Annual Progress and Groundwater Delineation Reports comments on March 5, 2021. Additionally, APC responded to the January 20, 2021, ADEM Groundwater Monitoring plan comments letter and included a Supplemental Site Hydrogeologic Characterization Report on March 8, 2021. The second revised Groundwater Monitoring plan was submitted to ADEM on March 15, 2021.

#### **7.1.2 Nature and Quantity of Release**

Part B of the Order also required collecting data on the nature and estimated quantity of material released. To collect data regarding the nature of the source and estimated quantity of material released, sampling of



gypsum material was conducted from near the surface of the Gypsum Pond. Samples were collected based upon physical characteristics and subject to leaching using the Toxicity Characteristic Leaching Procedure (TCLP) and the Synthetic Precipitation Leaching Procedure (SPLP). The extract from each leach test was analyzed for arsenic, barium, cadmium, chromium, mercury, lead, and selenium. Results from the sample collected did not exceed GWPS for analyzed constituents.

Results from leachability testing were included in the *Semi-Annual Progress and Delineation Report* for the Plant Gorgas Gypsum Pond, submitted September 30, 2020.

In October 2021, samples were collected from the sedimentation pond, the clear pool, and the emergency storage pond downgradient of the Gypsum Pond. Leachate from the dewatering of the Gypsum Pond is transported downgradient to the sedimentation pond for settlement and treatment. While it is not a direct comparison to porewater or the gypsum material itself, leachate from the Gypsum Pond can be used as a proxy to evaluate the nature of the source and what constituents may be leachable from the gypsum. These samples were collected in support of the ASD for lithium at the Site.

Samples from the three ponds were analyzed for Appendix III and Appendix IV constituents besides combined radium. Because of the treatment process, the sample collected from the sedimentation pond (GS-GSA-SP-3) is most representative of leachate from the Gypsum Pond. Results from these samples did not exceed GWPS for analyzed constituents with the exception of arsenic in the samples collected from the sedimentation pond (GS-GSA-SP-3 at a concentration of 0.0344 mg/L) and the clear pool (GS-GSA-SP-2 at a concentration of 0.0566 mg/L).

Results from the ASD are described in Section 6.0 and in later sections, and the ASD is attached as **Appendix E**.

### **7.1.3 Discussion of Delineation Results**

Previous Groundwater Monitoring and Corrective Action Reports for the Plant Gorgas Gypsum Pond have identified SSLs in groundwater for lithium; the most recent SSL for lithium was during the second semi-annual monitoring event of 2020 when an SSL for lithium was observed in downgradient well GS-GSA-MW-3. Lithium concentrations are increasing in downgradient monitoring well GS-GSA-MW-4, but the concentrations have not resulted in an SSL. Concentrations slightly decreased from January 2022 to May 2022 from 0.647 mg/L to 0.582 mg/L, and then increased again to 1.89 mg/L. This general increase in concentration appears to have initiated with increasing well turbidity which occurred between October 2019 and March 2021 as described in the ASD study included as **Appendix E**. The highest turbidity value of

8.94 nephelometric turbidity units (NTUs) occurred in October 2020 which is notable due to the fact that it was the first sampling event after the February 2020 well solids and precipitate sampling event, a sampling event which retrieved and disturbed well solids and precipitates in the wells (MNA Evaluation). Minerals identified during the ASD study in GS-GSA-MW-4 were dominated by muscovite and illite (61% by weight percentage) and lesser percentages of quartz (36.8 %), zeolite (2.0%), and vermiculite (0.2%). In fine-grained sediments, lithium and boron are known to be hosted by smectite, illite, or chlorite clay minerals, and this was experimentally demonstrated showing lithium and boron are adsorbed in the interlayers of smectite and incorporated into illite during diagenetic alteration of smectite (Williams and Hervig, 2005). Other studies have shown that illitic clays and claystone/mudstones are enriched in lithium (Castor and Henry, 2020). Additionally, elevated aluminum, a common constituent associated with clay minerals and micas, was observed in groundwater samples collected from GS-GSA-MW-4 during January and May, 2022 (29.70 and 27.00 mg/L, respectively). Additionally, as summarized below in Section 7.3.1, closure activities are ongoing at the Site. The majority of gypsum has been removed, which increases the availability of recharge upgradient of GS-GSA-MW-4 and the further weathering of native clays and mine spoils underlying the Gypsum Pond. Therefore, it is reasonable to attribute increases in lithium and boron to disruption of physical and geochemical equilibria caused by stirring and suctioning of muscovite-illite dominated well sediments as well as closure activities and increased potential for recharge upgradient of GS-GSA-MW-4. **Figures 8A** and **8B** depict arsenic and lithium concentrations at the Gypsum Pond during the first and second semi-annual monitoring events of 2022, respectively.

The location and spacing of delineation wells are largely based upon the following goals and Site factors:

- 1) Determine if impacts to groundwater could extend off-Site in the direction of groundwater flow away from the facility.
- 2) Evaluate potential for vertical migration adjacent to compliance wells with SSLs and within the context of Site hydrogeology.
- 3) Address key data gaps between phases – working in from property line or off-Site depending on gaps.
- 4) Ability to safely access locations with drill rig and supporting equipment.
- 5) Occurrence of groundwater and sufficient groundwater yield/recharge at locations.
- 6) Delineate extent of impacts and capture additional hydrogeologic data necessary to evaluate the feasibility of groundwater remediation technologies.

As shown on **Table 1b**, eleven (11) delineation wells have been installed at the Site to assess potential impacts. Additionally, two (2) delineation wells were installed (GS-GSA-MW-10H and GS-GSA-MW-15H) were installed but did not produce sufficient groundwater yield to sample (**Table 1c**).

At the Site, SSLs for lithium have been historically observed at compliance well GS-GSA-MW-3, though no SSLs were noted during the 2022 monitoring period. Lithium exceeded the GWPS at downgradient well GS-GSA-MW-4 at a concentration of 0.671 mg/L in January 2022, and 1.89 mg/L in July 2022, but the concentrations did not result in SSLs. Additionally, exceedances for lithium were noted at horizontal delineation well GS-GSA-MW-14H during the first and second semi-annual sampling events of 2022, both concentrations being 0.430 mg/L.

Lithium exceedances are common at the site and have been suspected to be related to natural sources of lithium in mine spoils and native geologic material rather than a release from the CCR unit. To address these lithium exceedances, a year-long study was conducted at the site to characterize geochemical signatures in groundwater and to assess the occurrence and nature of lithium in site materials. This study included boron isotopic analysis of groundwater, source characterization as described in **Section 7.1.2**, and rock core sampling and analysis. As part of this analysis, an ASD was performed that concluded lithium concentrations observed at the following monitoring wells are not the result of a release from the Gypsum Pond but rather natural variation in site groundwater due to naturally occurring lithium:

- GS-GSA-MW-3
- GS-GSA-MW-4
- GS-GSA-MW-3V
- GS-GSA-MW-9V
- GS-GSA-MW-12H
- GS-GSA-MW-14H

The ASD concluded that lithium in groundwater is associated with the mobilization of lithium from mine spoils, clay minerals commonly found in shales and mudstones, and mineralized fractures and is not the result of a release from the CCR unit. The ASD is included as **Appendix E** to this report.

## **7.2 STATUS OF DELINEATION**

Elevated concentrations of lithium previously attributed to the CCR unit have been horizontally delineated in the direction of groundwater flow away from the facility in multiple flow systems. These elevated

concentrations do not extend off-Site as shown on **Figures 8A and 8B**. As shown on **Figure 9A, Lithium Concentrations Along Geologic Cross Section D-D' (January 2022)** and **Figure 9B, Lithium Concentrations Along Geologic Cross Section D-D' (July 2022)**, elevated lithium primarily occur in discrete zones that correspond to shale and mudstone or mine spoil lithologies.

As discussed in **Section 7.1.3** and in the attached ASD in **Appendix E**, lithium occurs in these discrete zones due to the infiltration of meteoric water and the weathering of shale, mudstone, and mine spoils which mobilizes abundant lithium associated with clay minerals and native coal seams. Because lithium has been attributed to natural sources and not a release from the CCR unit, delineation of lithium in groundwater is considered complete at the site.

### 7.3 GROUNDWATER REMEDY AND CORRECTIVE ACTION

Although concentrations resulting in SSLs that triggered corrective action have declined below the GWPS, and an ASD has been prepared documenting a natural source, groundwater corrective action monitoring is proceeding as planned pending ADEM approval of the ASD. An ACM for groundwater impacts was conducted and submitted to ADEM in June 2019. Additional data analyses and investigations conducted since the ACM culminated with a more detailed Groundwater Remedy Selection Report, submitted in December 2021, and a Corrective Action Groundwater Monitoring Program document submitted in March 2022.

Submittal	Submittal Date	Purpose
Assessment of Corrective Measures	06/2019	Initial evaluation of the feasibility, performance, and implementation of known and emerging groundwater remediation technologies against site conditions and factors.
Groundwater Remedy Selection Report	12/2021	Formal selection and detailed description of groundwater remedies selected for implementation at the site.
Corrective Action Groundwater Monitoring Program	03/2022	Plan document to describe process and program for implementation and monitoring of groundwater remedies selected at the site.

### **7.3.1 Groundwater Remedy Selection**

The Groundwater Remedy Selection Report described the selected remedies for groundwater corrective actions at the site:

- Source control which includes the clean closure and removal of the Gypsum Pond.
  - Majority of gypsum was removed from 2021-2022.
  - Remaining liner, remaining gypsum, and underlying fill material removal likely to be completed in early 2023.
  - Civil site work and final grading likely to be completed in mid- to late 2023.
- Monitored natural attenuation (MNA) over the entire Site.

Source control at the Gypsum Pond will be accomplished by complete removal of the CCR material from the unit and regrading of the area as needed to facilitate stormwater management. The Gypsum Pond is lined with a 60-mil high-density polyethylene (HDPE) geomembrane liner, which was installed after existing soils/mine spoils were graded, the subgrade proof rolled, and a granular fill placed beneath the liner. During closure activities, the liner reduced the potential for source contributions to groundwater. MNA was selected based upon the evidence gathered during initial investigations - which highlighted that these processes are already occurring.

### **7.3.2 Corrective Action – Groundwater Monitoring Program**

The Corrective Action Groundwater Monitoring Program describes early plans for implementation and monitoring of groundwater remedies described above. Construction activities associated with closure reached substantial completion in late 2022 with the majority of CCR material removed from the Site. Site closure included removal of free water, dewatering the CCR material, grading the Site to promote drainage, and removing gypsum material. As described in Section 7.3.1., final grading and civil site work is scheduled to be completed in 2023.

In addition to continued rule-required monitoring, the objectives of this Monitoring Program are to demonstrate that horizontal and vertical delineation remain complete, demonstrate that natural attenuation is occurring, evaluate groundwater remedy performance against groundwater protection standards, evaluate groundwater constituent of interest concentrations with respect to standards protective of potential human and ecological receptors, and evaluate system performance against adaptive triggers to determine if adaptation or change to the remedy system is necessary.

Selected Remedy	Implementation Task(s)
Monitored Natural Attenuation	1. Implementation of expanded MNA sampling parameters.  2. Further assessment of MNA monitoring network.

**Implementation of Monitored Natural Attenuation**

MNA sampling parameters were added to the sampling plans and analyzed in the laboratory during the January and July 2022 sampling events (**Tables 6 and 7**). These parameters, in addition to field parameters, Appendix III parameters, and Appendix IV parameters, are utilized to study the processes that govern or facilitate MNA as well as changes in geochemical conditions. Parameters will be included into the site geochemical model.

Wells are sampled for the following additional parameters:

- 1) Alkalinity (total as CaCO<sub>3</sub>)
- 2) Aluminum (total and dissolved)
- 3) Bicarbonate alkalinity (calculated)
- 4) Carbonate alkalinity (calculated)
- 5) Iron (total and dissolved)
- 6) Magnesium (dissolved)
- 7) Manganese (total and dissolved)
- 8) Nitrogen as nitrate/nitrite
- 9) Potassium (dissolved)
- 10) Silica (dissolved)
- 11) Sodium (dissolved)
- 12) Sulfide
- 13) Total organic carbon.

## 8.0 SUMMARY AND CONCLUSIONS

Although SSLs are no longer observed at the site and an ASD has been prepared to demonstrate a natural source for apparently elevated constituent concentrations, the Gypsum Pond remains in corrective action pending ADEM approval of the ASD. The selected remedy at the site is MNA.

The certified compliance monitoring well network is sampled on a semi-annual basis. The groundwater samples were analyzed for all Appendix III and IV parameters in addition to other parameters selected to evaluate remedy performance. Statistical evaluations of the January and July 2022 monitoring events did not identify SSLs of Appendix IV constituents in any of the Site monitoring wells. GWPS exceedances were noted in two of the Site delineation wells during both the January and July 2022 monitoring events: GS-GSA-MW-13H (arsenic) and GS-GSA-MW-14H (lithium).

An ASD was performed to address the occurrence of lithium at the Site and submitted in July 2022. The ASD is attached to this report as **Appendix E**. The ASD concluded that lithium concentrations exceeding the GWPS in site monitoring wells are likely associated with mobilization of lithium from mine spoils, clay minerals commonly found in shales and mudstones, and mineralized fractures and is not the result of a release from the CCR unit. Therefore, delineation is considered complete at the site.

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

- Continue 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.
- Continue discussions with ADEM regarding the status of the lithium ASD and the natural occurrence and mobilization of lithium at the Site.
- Conduct semi-annual assessment and corrective action monitoring in 2023 and submit the semi-annual and annual groundwater monitoring and corrective action reports summarizing the findings to ADEM by July 31, 2023 and January 31, 2024, respectively

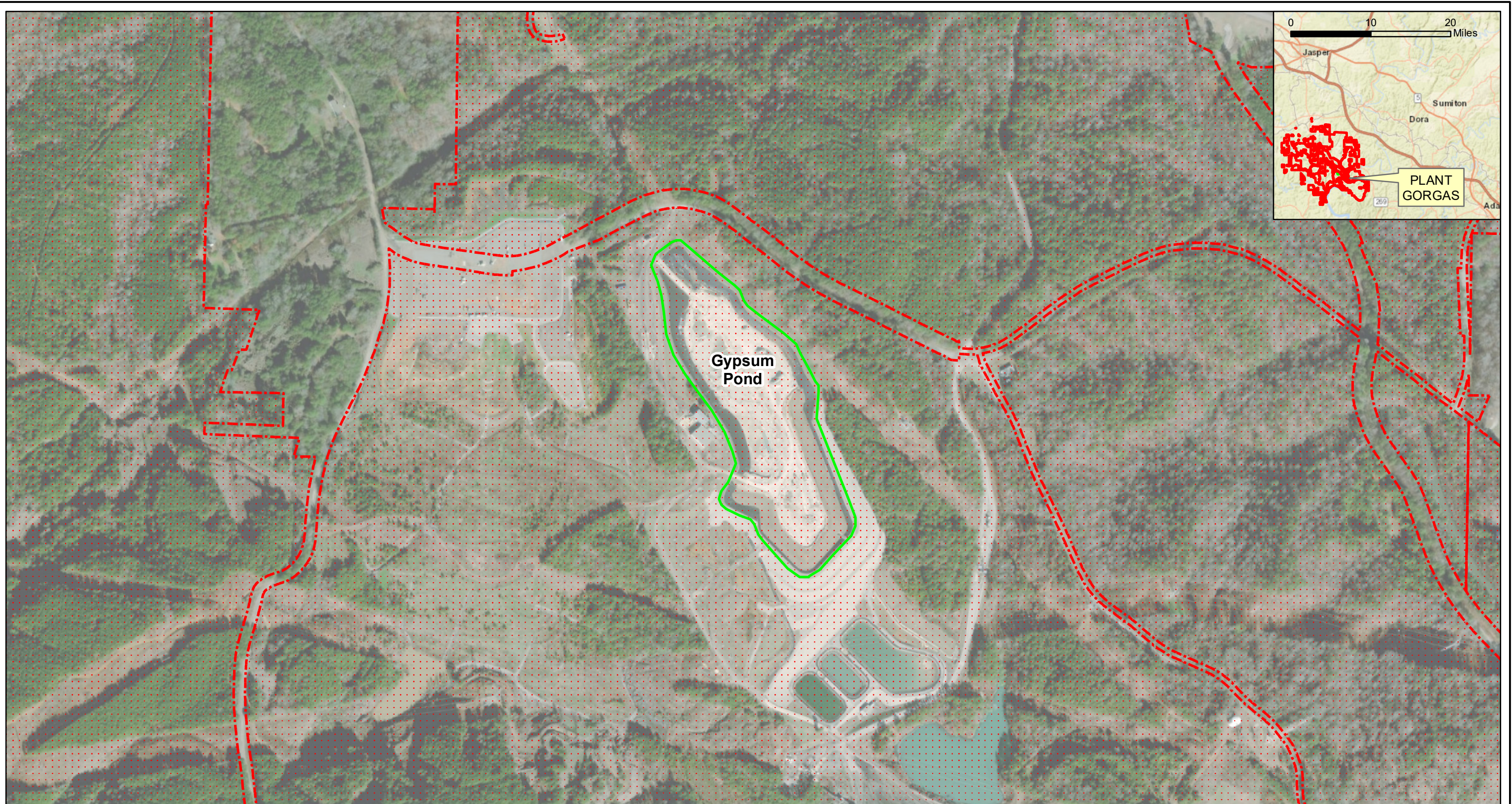
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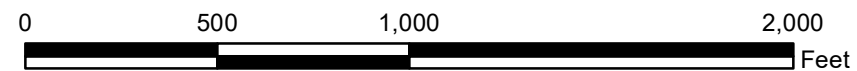
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# Figures



**Legend**

- Gypsum Pond Boundary
- Property Boundary (Approximate)

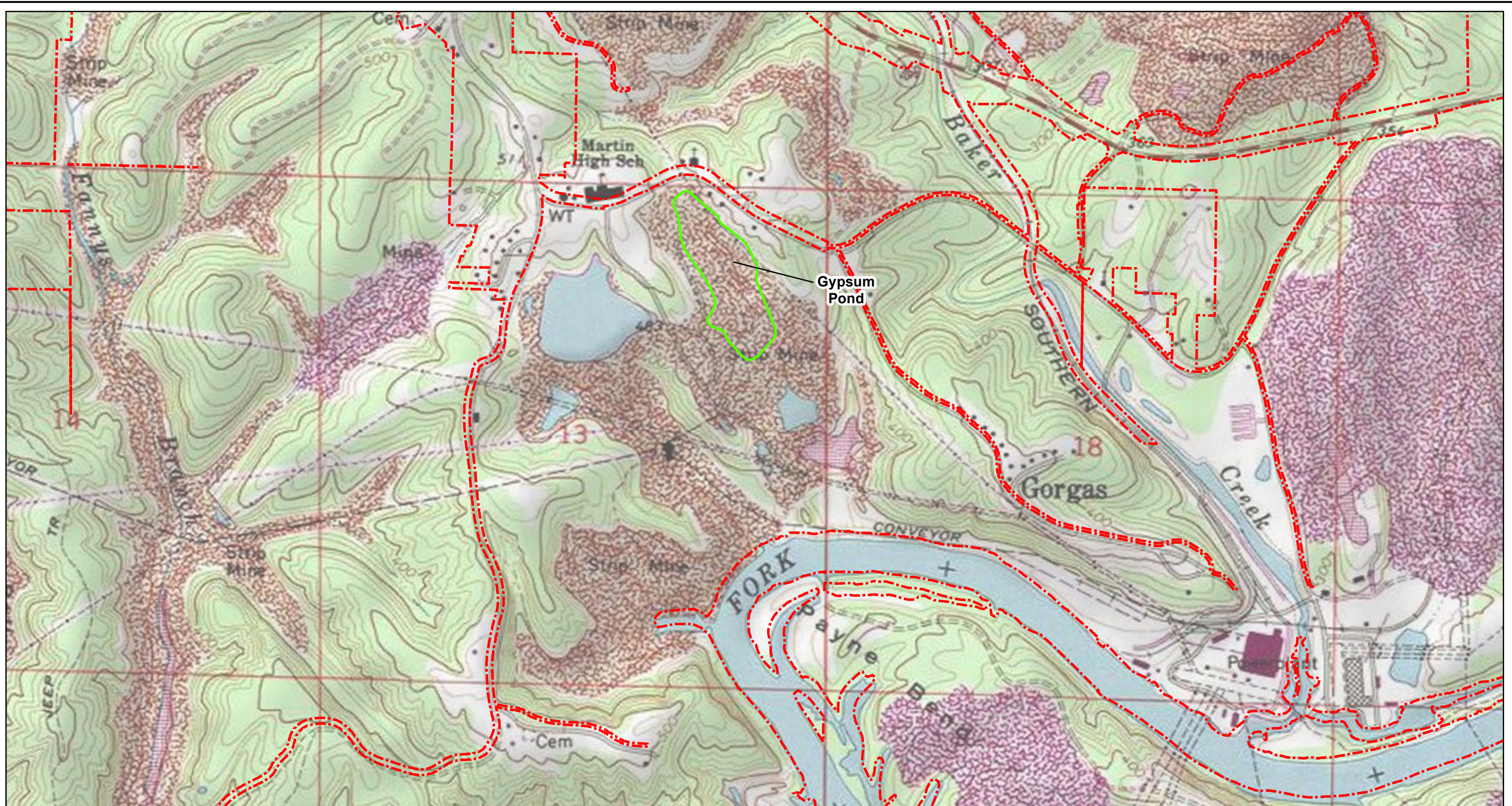


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CHECKED BY	GBD

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 PLANT GORGAS GYPSUM POND**

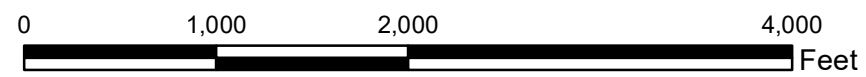
FIGURE NO  
**FIGURE 1**





**Legend**

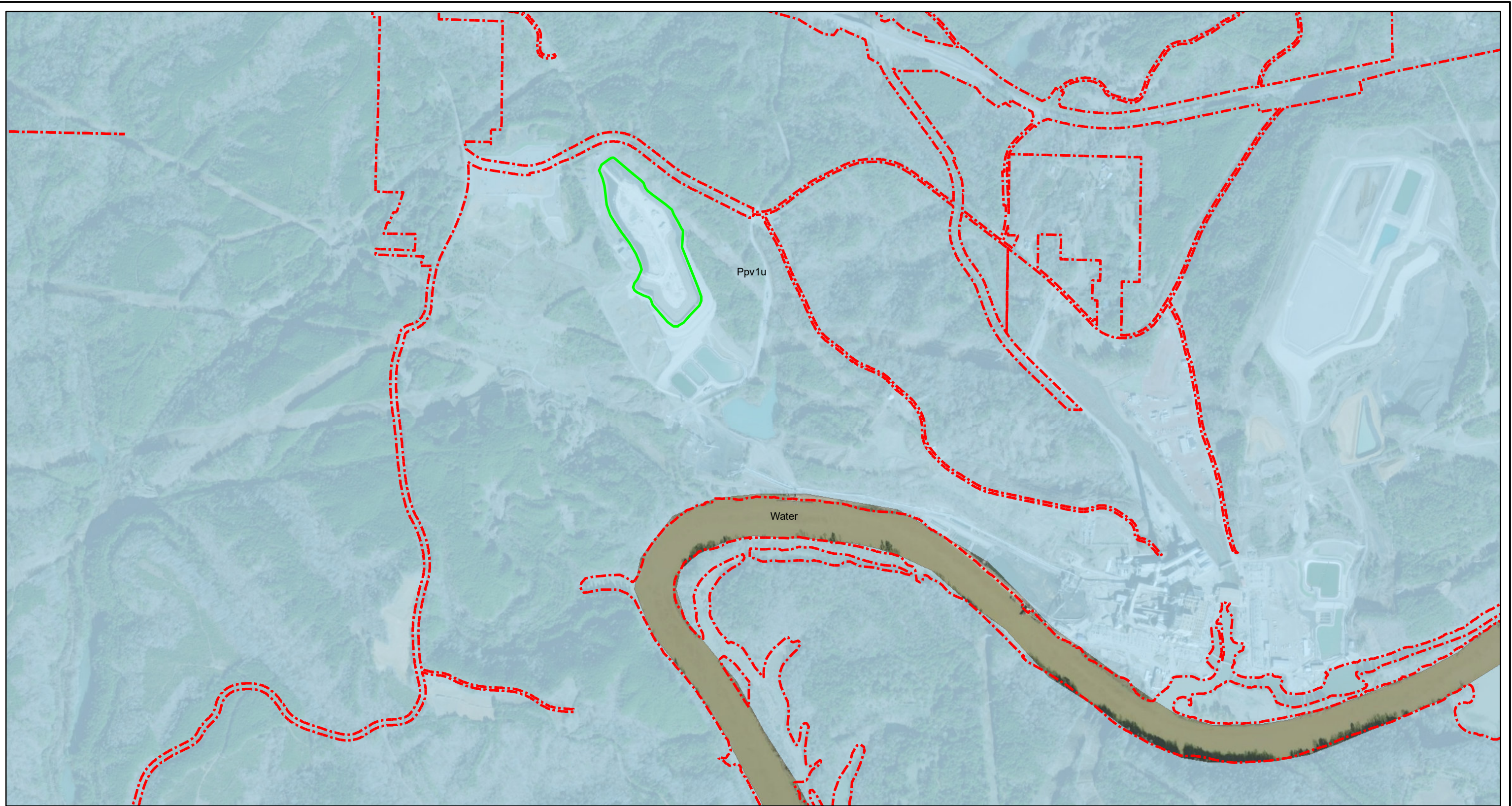
- Gypsum Pond Boundary
- Property Boundary (Approximate)



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CHECKED BY	GBD

DRAWING TITLE	
<b>SITE TOPOGRAPHIC MAP PLANT GORGAS GYPSUM POND</b>	
FIGURE NO	<b>FIGURE 2</b>





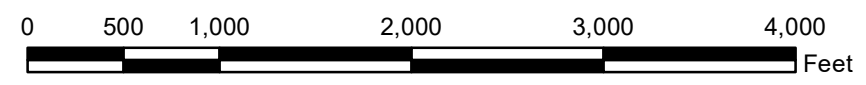
**Legend**

Gypsum Pond Boundary

Property Boundary (Approximate)

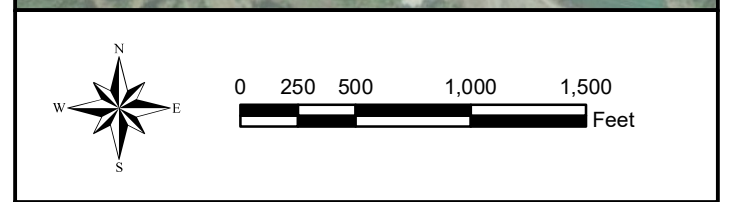
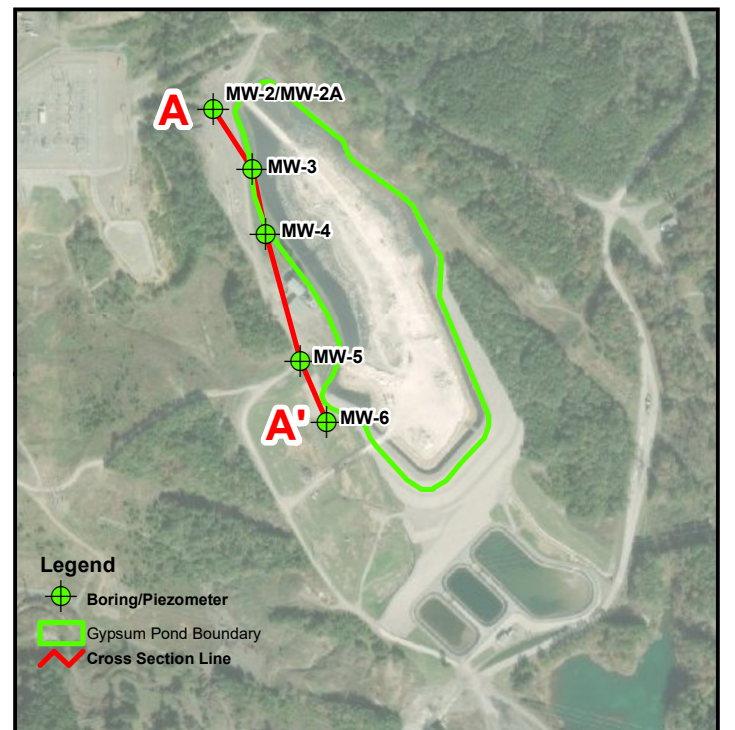
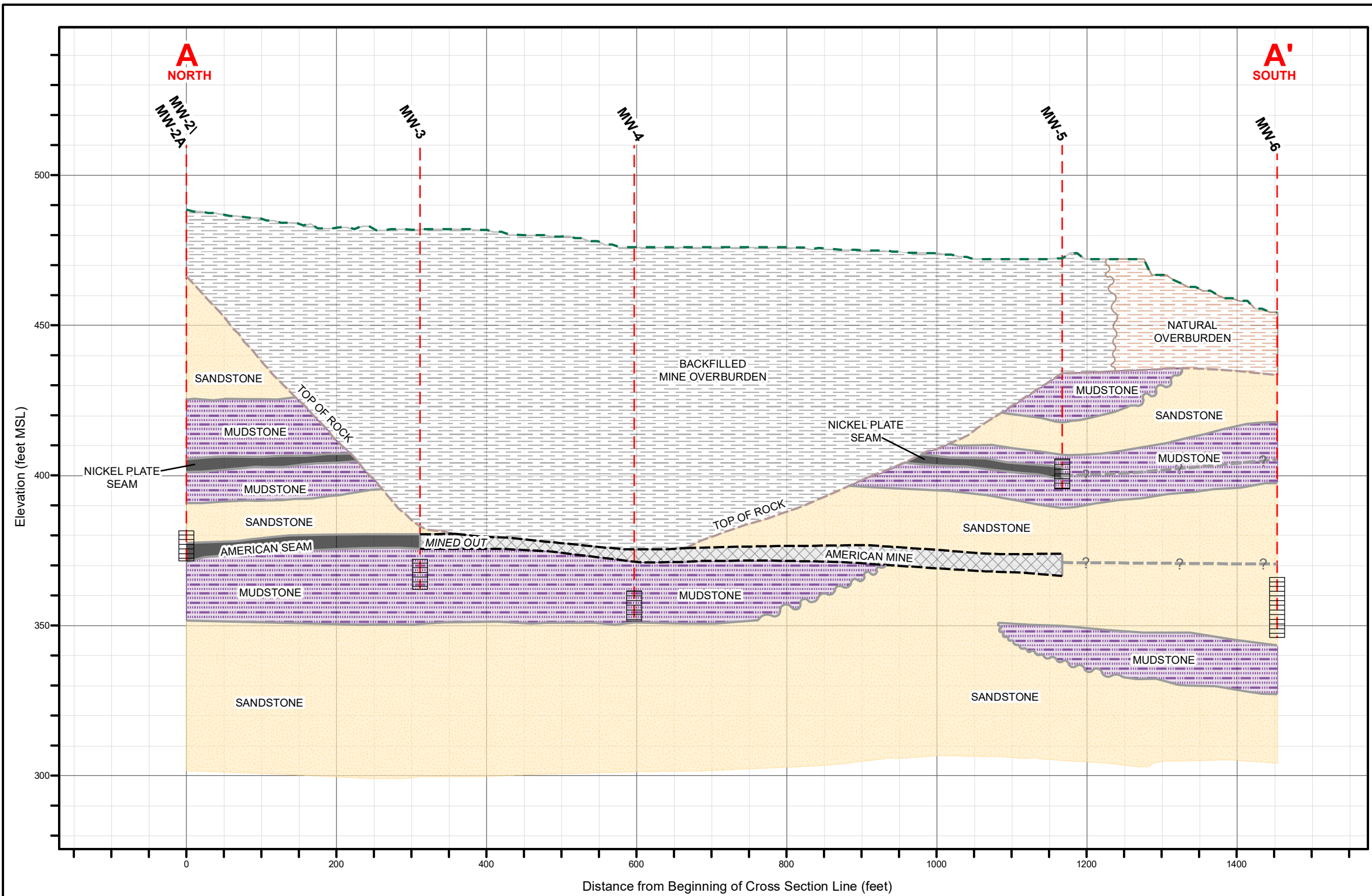
**Geologic Units**

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



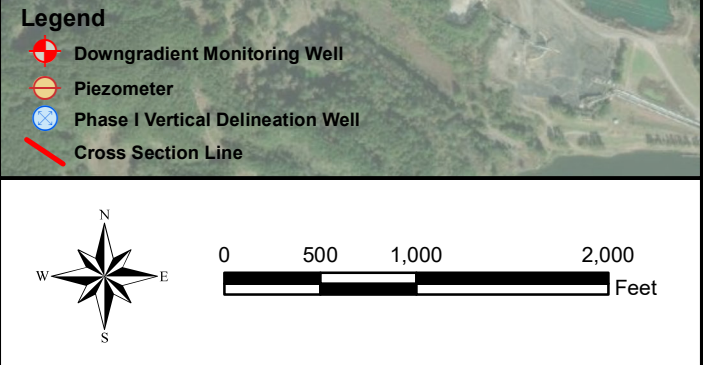
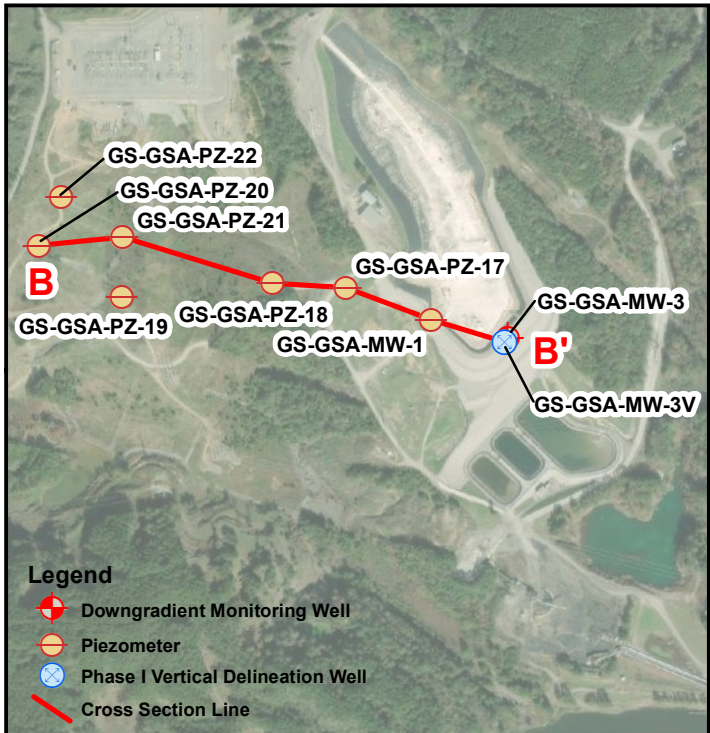
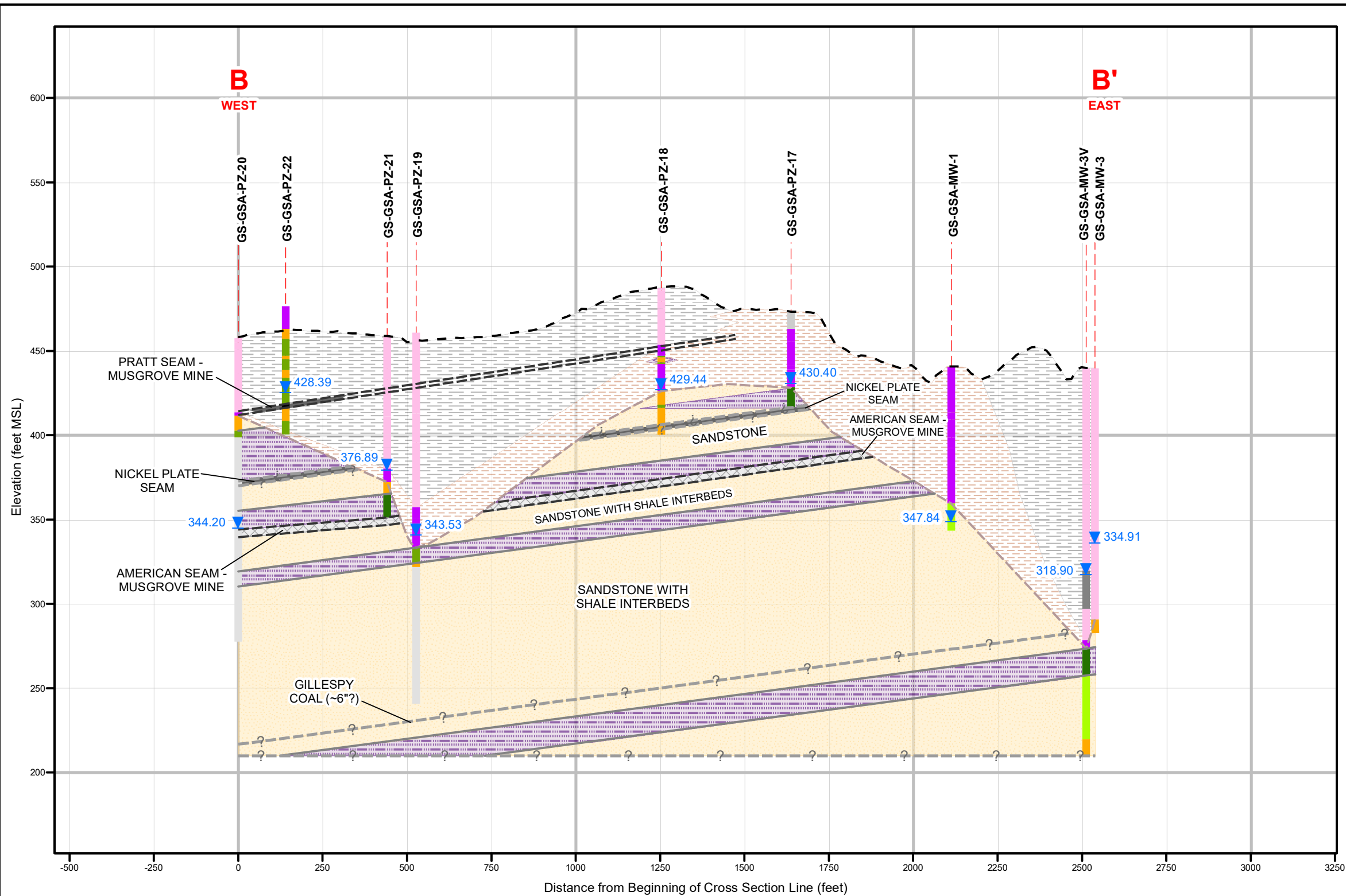
SCALE	1:12,000
DATE	11/10/2020
DRAWN BY	KWR
CHECKED BY	GBD

DRAWING TITLE	
<b>SITE GEOLOGIC MAP PLANT GORGAS GYPSUM POND</b>	
FIGURE NO	<b>FIGURE 3</b>
Southern Company	



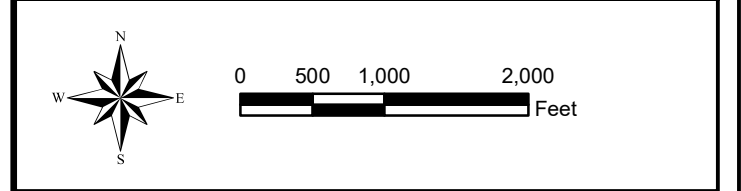
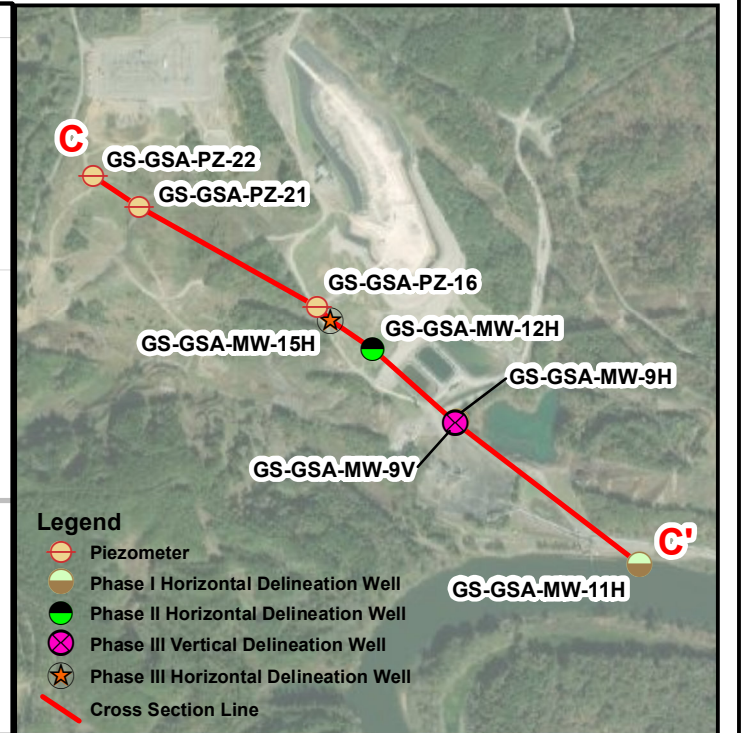
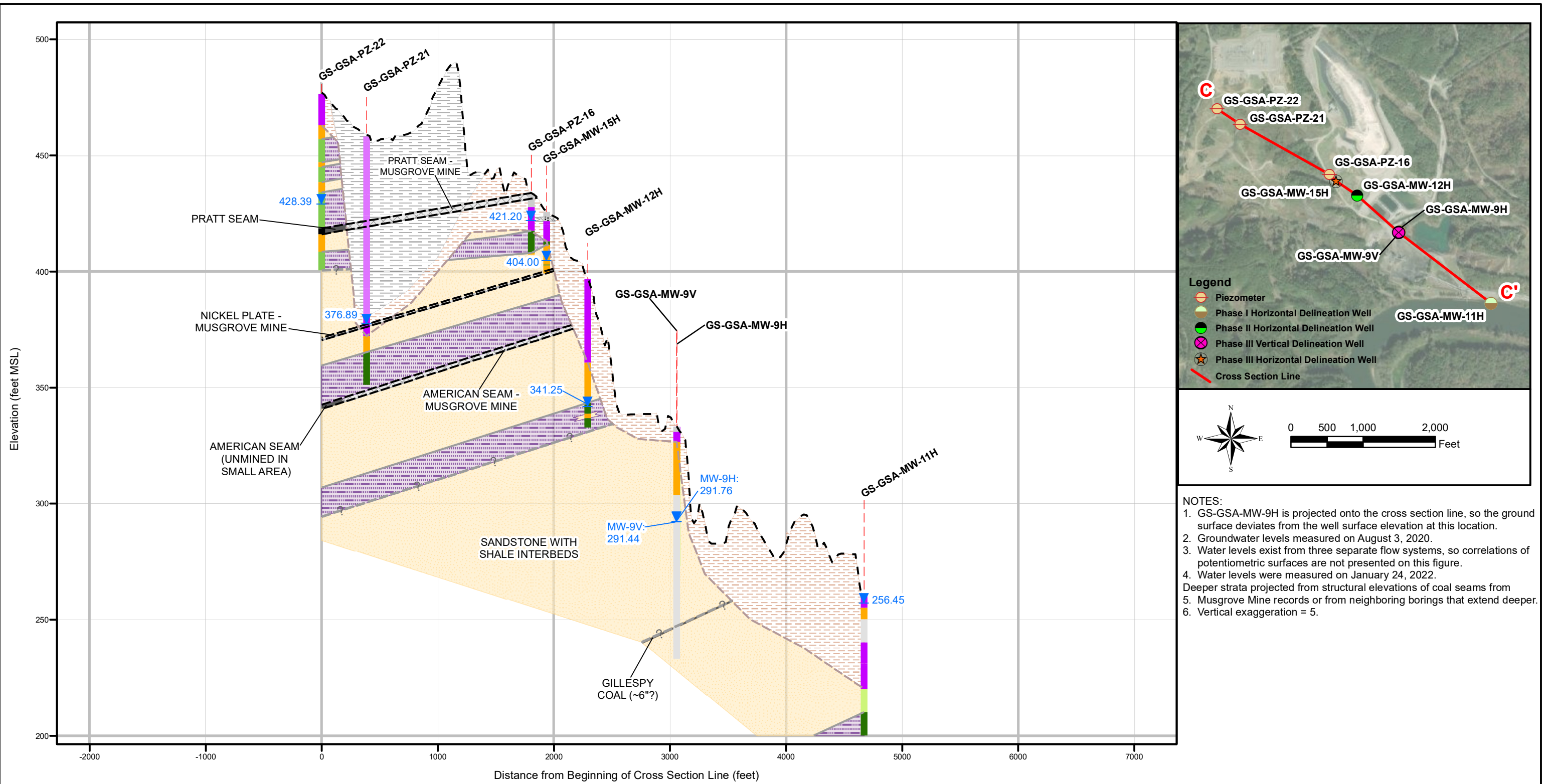
- NOTES:
1. Stratigraphic layers were correlated using a combination of boring data and gamma logs.
  2. Vertical exaggeration = 4.
  3. Wells included in this cross section were installed in 2015 and did not produce enough groundwater to develop and sample.

<b>Legend</b> 	<b>Geologic Units</b> 		SCALE AS SHOWN	DRAWING TITLE <b>GEOLOGIC CROSS SECTION A - A'</b> <b>PLANT GORGAS GYPSUM POND</b>	
			DATE 7/22/2022		
			DRAWN BY KAR	FIGURE NO <b>FIGURE 4A</b>	
			CHECKED BY GBD		



- NOTES:**
1. GS-GSA-PZ-22 and PZ-19 are projected onto the cross section line, so the ground surface deviates from the well surface elevation at these locations.
  2. NM indicates water level not measured.
  3. Water levels measured on January 24, 2022.
  4. Water levels exist from three separate flow systems, so correlations of potentiometric surfaces are not presented on this figure.
  5. Vertical exaggeration = 5.

Legend		Borehole Description		Geologic Units		SCALE	DRAWING TITLE	
	Ground Surface Elevation		Top of Rock		CCR Fill	AS SHOWN	<b>GEOLOGIC CROSS SECTION B - B'</b> <b>PLANT GORGAS GYPSUM POND</b>	
	Water Level Elevation		Strata Boundary		No Recovery	DATE		
	Screened Interval		Inferred Strata		Sandstone	DRAWN BY	KAR	FIGURE NO <b>FIGURE 4B</b>
	Borehole Location		Mine		Sandstone and Siltstone	CHECKED BY	GBD	
			Fill Materials		Natural Overburden			
			Overburden		Mudstone/Shale			
			COAL		Mine			
			Siltstone		Coal			
			Shale					



NOTES:

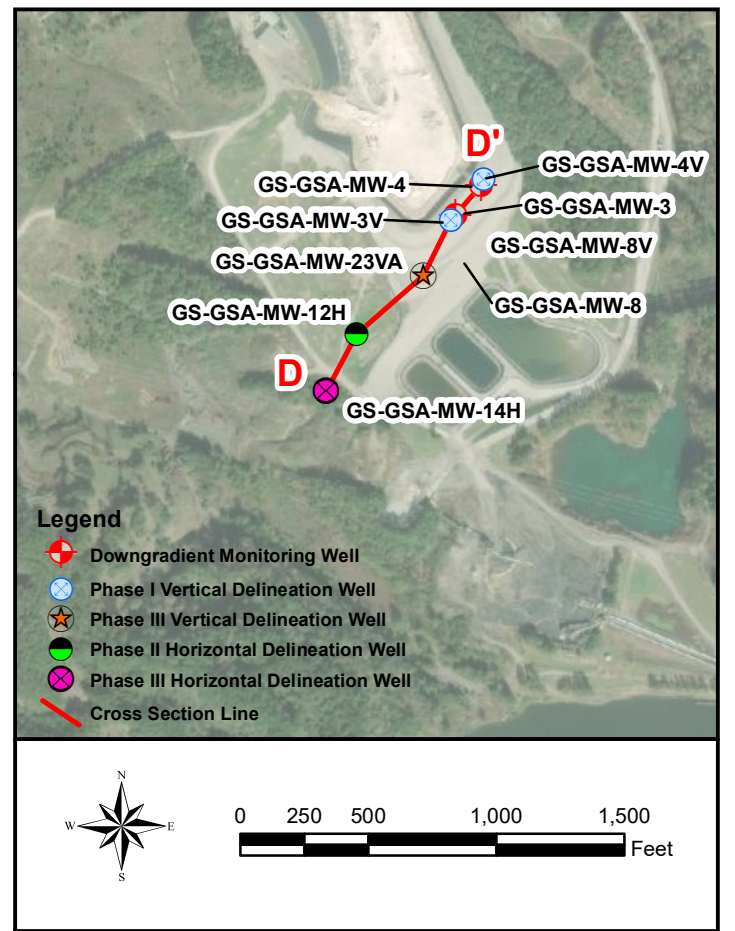
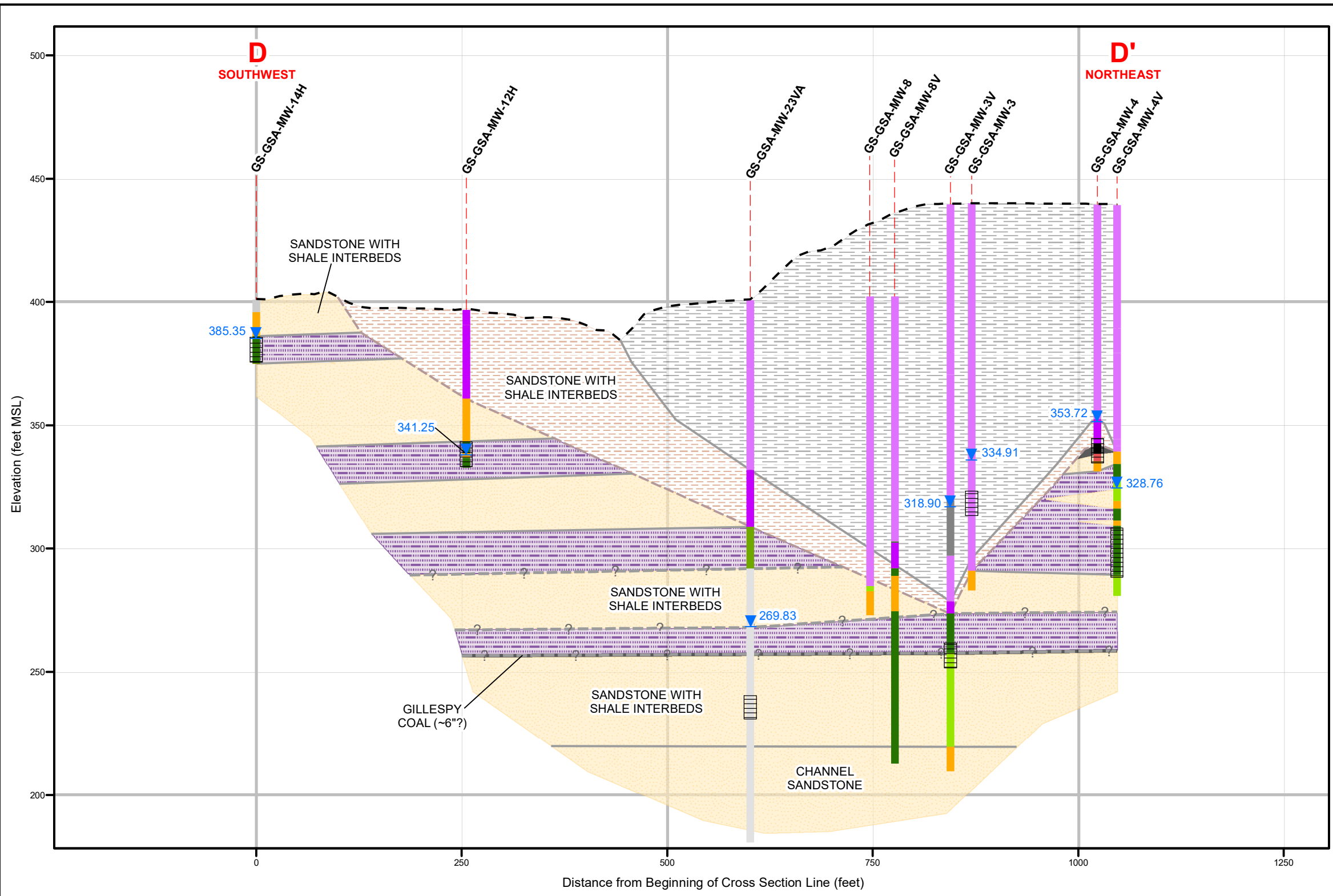
- GS-GSA-MW-9H is projected onto the cross section line, so the ground surface deviates from the well surface elevation at this location.
- Groundwater levels measured on August 3, 2020.
- Water levels exist from three separate flow systems, so correlations of potentiometric surfaces are not presented on this figure.
- Water levels were measured on January 24, 2022.

Deeper strata projected from structural elevations of coal seams from Musgrove Mine records or from neighboring borings that extend deeper.

6. Vertical exaggeration = 5.

<b>Legend</b>			<b>Borehole Description</b>			<b>Geologic Units</b>			SCALE AS SHOWN	DRAWING TITLE	
Ground Surface Elevation	Top of Rock	CCR Fill	COAL	Sandstone and Siltstone	Backfilled Mine Overburden	DATE 7/25/2022	GEOLOGIC CROSS SECTION C - C' PLANT GORGAS GYPSUM POND				
Water Level Elevation	Strata Boundary	Fill Materials	Hydroexcavated	Siltstone	Natural Overburden	DRAWN BY KAR					
Borehole Location	Inferred Strata	Overburden	No Recovery	Shale	Mudstone/Shale	CHECKED BY GBD	FIGURE NO	FIGURE 4C			
Screened Interval	Mine	MINESPOILS	Sandstone	Coal	Sandstone with Shale Interbeds						

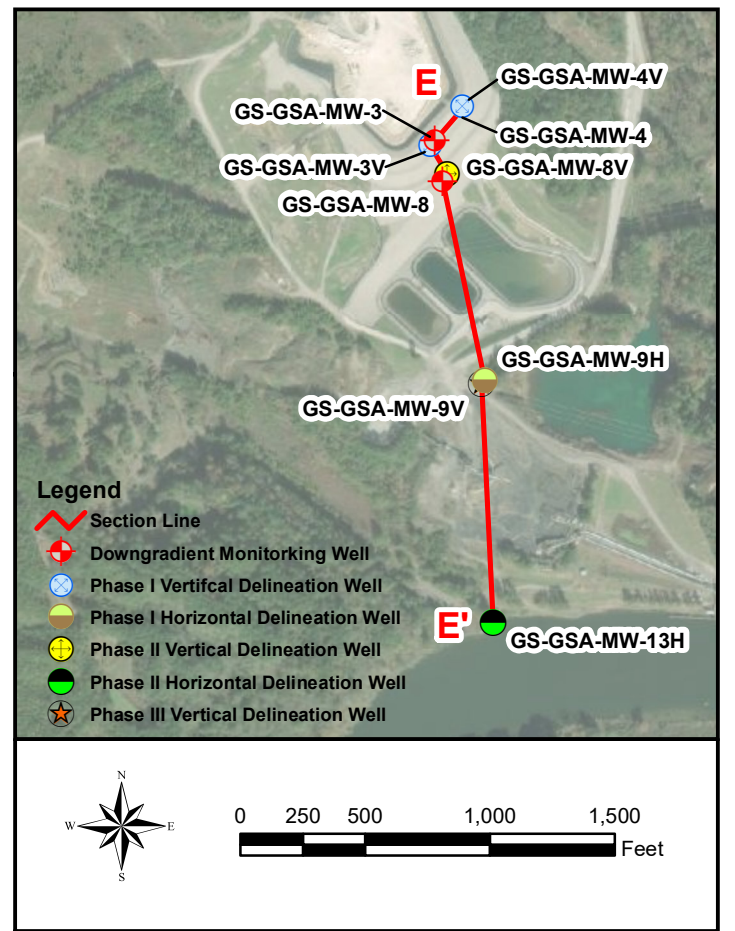
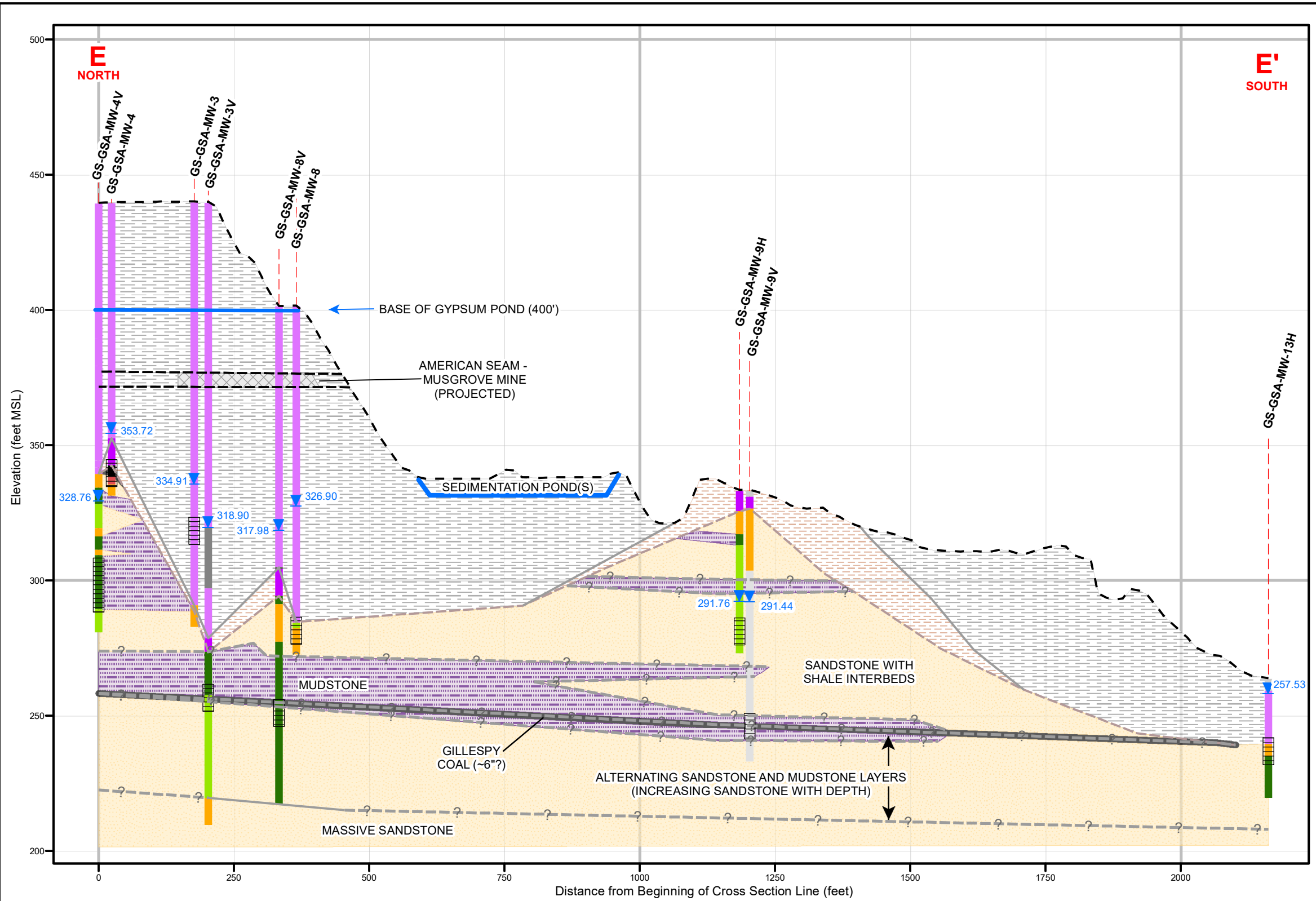




NOTES:

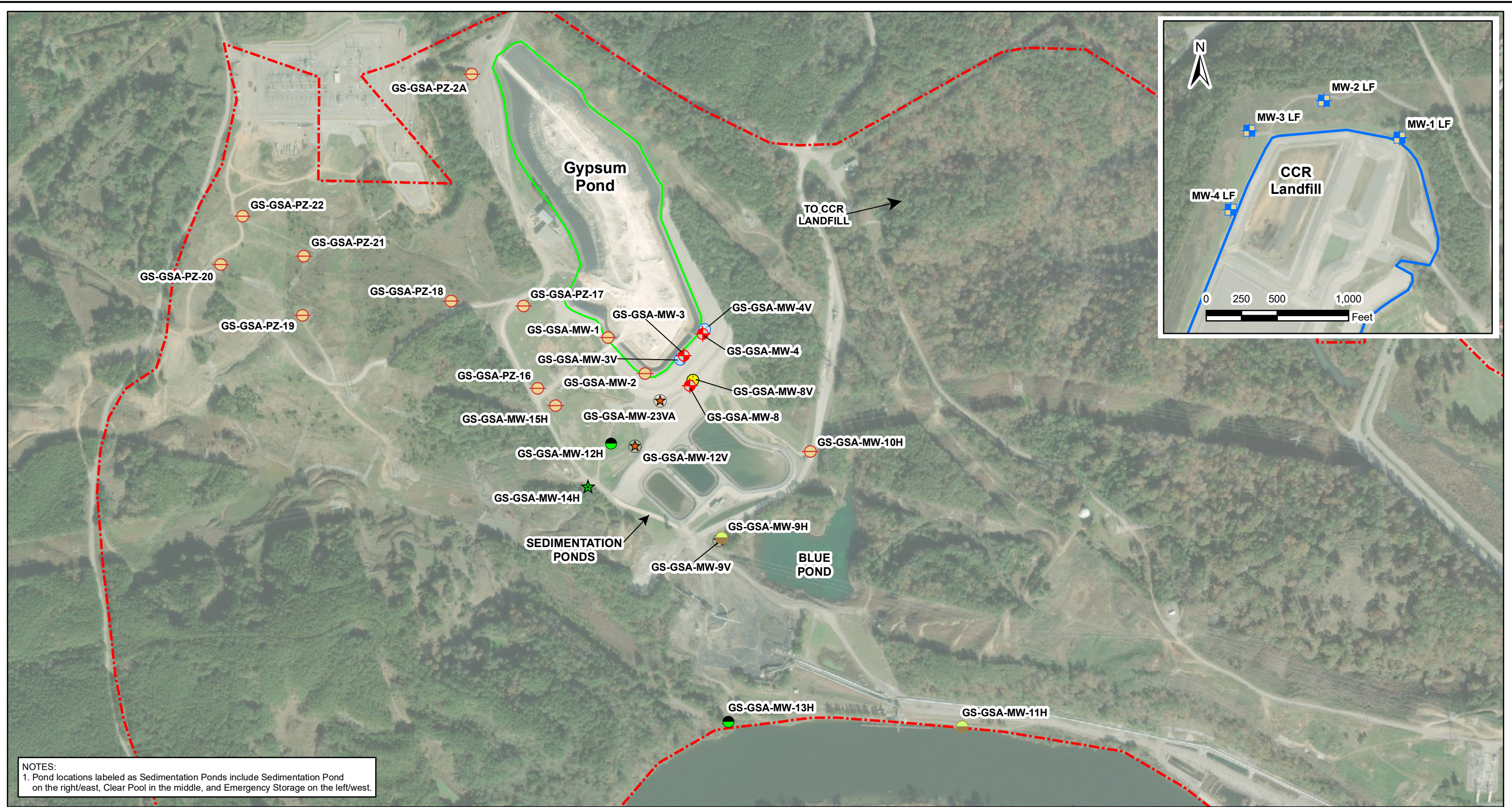
1. Groundwater levels measured on January 24, 2022.
2. NM indicates water level not measured.
3. Water levels exist from three separate flow systems, so correlations of potentiometric surfaces are not presented on this figure.
4. Deeper strata projected from structural elevations of coal seams from Musgrove Mine records or from neighboring borings that extend deeper.
5. Vertical exaggeration = 5.

<b>Legend</b> 	<b>Borehole Description</b> --- Top of Rock --- Strata Boundary -? Inferred Strata --- Mine ■ CCR Fill ■ COAL ■ Hydroexcavated ■ No Recovery ■ Partially Weathered Rock ■ Fill Materials ■ Overburden ■ MINESPOILS ■ Sandstone ■ Sandstone and Siltstone ■ Siltstone ■ Shale		<b>Geologic Units</b> ■ Backfilled Mine Overburden ■ Natural Overburden ■ Mudstone/Shale ■ Sandstone ■ Mine ■ Coal		SCALE AS SHOWN DATE 7/25/2022 DRAWN BY KAR CHECKED BY RFS	DRAWING TITLE <b>GEOLOGIC CROSS SECTION D - D'</b> <b>PLANT GORGAS GYPSUM POND</b>	
	<b>Figure No</b> <b>FIGURE 4D</b>						
















NOTES:  
 1. Groundwater levels measured on January 24, 2022.  
 2. Water levels exist from three separate flow systems, so correlations of potentiometric surfaces are not presented on this figure.  
 3. Vertical exaggeration = 5.

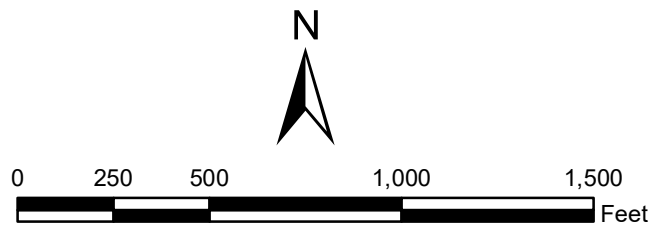
<b>Legend</b> 	<b>Borehole Description</b>		<b>Geologic Units</b>		SCALE AS SHOWN	DRAWING TITLE <b>GEOLOGIC CROSS SECTION E - E' PLANT GORGAS GYPSUM POND</b>
	DATE 7/26/2022		DRAWN BY KAR		FIGURE NO <b>FIGURE 4E</b>	
	DRAWN BY KAR		CHECKED BY RFS			
	CHECKED BY RFS					



NOTES:  
 1. Pond locations labeled as Sedimentation Ponds include Sedimentation Pond on the right/east, Clear Pool in the middle, and Emergency Storage on the left/west.

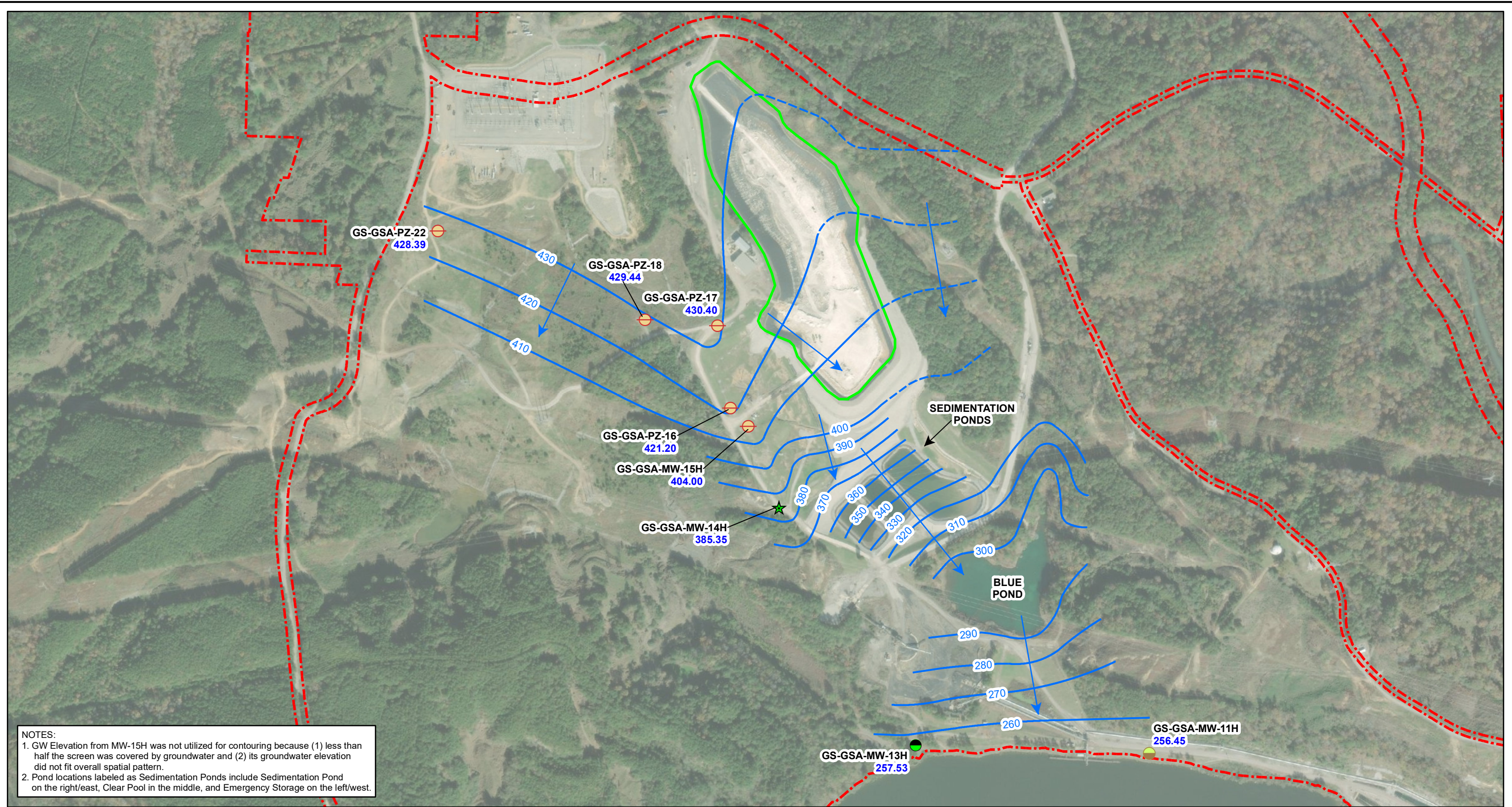
**Legend**

-  Downgradient Monitoring Well
-  Upgradient Monitoring Well
-  Piezometer; Piezometer
-  Phase I Horizontal Delineation Well
-  Phase II Horizontal Delineation Well
-  Phase III Horizontal Delineation Well
-  Phase I Vertical Delineation Well
-  Phase II Vertical Delineation Well
-  Phase III Vertical Delineation Well
-  Upgradient Monitoring Well
-  Property Boundary (Approximate)
-  Gypsum Pond Boundary
-  Gypsum CCR Landfill Boundary



SCALE	1:6,000
DATE	6/8/2022
DRAWN BY	KAR
CHECKED BY	RFS

DRAWING TITLE	
<b>MONITORING WELL LOCATION MAP PLANT GORGAS GYPSUM POND</b>	
FIGURE NO	<b>FIGURE 5</b>
	



NOTES:  
 1. GW Elevation from MW-15H was not utilized for contouring because (1) less than half the screen was covered by groundwater and (2) its groundwater elevation did not fit overall spatial pattern.  
 2. Pond locations labeled as Sedimentation Ponds include Sedimentation Pond on the right/east, Clear Pool in the middle, and Emergency Storage on the left/west.

- Legend**
- Phase I Horizontal Delineation Well
  - Phase II Horizontal Delineation Well
  - ★ Phase III Horizontal Delineation Well
  - Piezometer
  - Potentiometric Surface Contour (ft NAVD88)
  - - - Inferred Potentiometric Surface Contour (ft NAVD 88)
  - Approximate Groundwater Flow Direction
  - · - · - Property Boundary (Approximate)
  - Gypsum Pond Boundary
- GS-GSA-PZ-17 Well ID  
 430.40 Groundwater Elevation

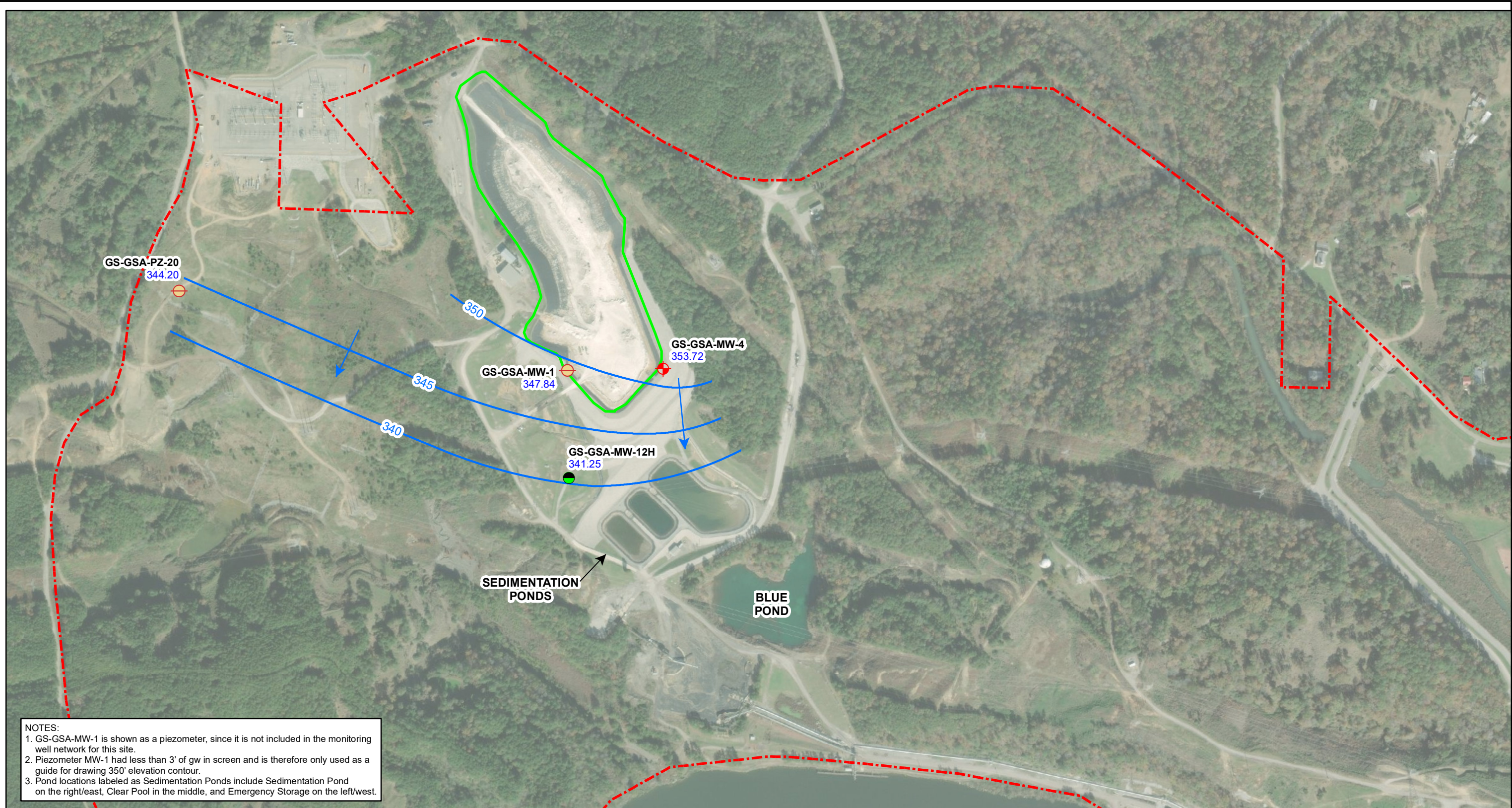


SCALE	1:6,000
DATE	6/8/2022
DRAWN BY	KAR
CHECKED BY	RFS

DRAWING TITLE  
 POTENTIOMETRIC SURFACE CONTOUR MAP  
 JANUARY 24, 2022  
 WATER TABLE  
 PLANT GORGAS GYPSUM POND

FIGURE NO  
**FIGURE 6A**





NOTES:  
 1. GS-GSA-MW-1 is shown as a piezometer, since it is not included in the monitoring well network for this site.  
 2. Piezometer MW-1 had less than 3' of gw in screen and is therefore only used as a guide for drawing 350' elevation contour.  
 3. Pond locations labeled as Sedimentation Ponds include Sedimentation Pond on the right/east, Clear Pool in the middle, and Emergency Storage on the left/west.

<b>Legend</b>			
Downgradient Monitoring Well Piezometer Phase II Horizontal Delineation Well <small>GS-GSA-MW-4 Well ID 353.72 Groundwater Elevation</small>	Potentiometric Surface Contour (ft NAVD88) Approximate Groundwater Flow Direction Property Boundary (Approximate) Gypsum Pond Boundary		







SCALE	1:6,000
DATE	6/8/2022
DRAWN BY	KAR
CHECKED BY	RFS

DRAWING TITLE	
POTENTIOMETRIC SURFACE CONTOUR MAP JANUARY 24, 2022 INTERMEDIATE FLOW SYSTEM 1 PLANT GORGAS GYPSUM POND	
FIGURE NO	<b>FIGURE 6B</b>
Southern Company	




NOTES:  
 1. Pond locations labeled as Sedimentation Ponds include Sedimentation Pond on the right/east, Clear Pool in the middle, and Emergency Storage on the left/west.

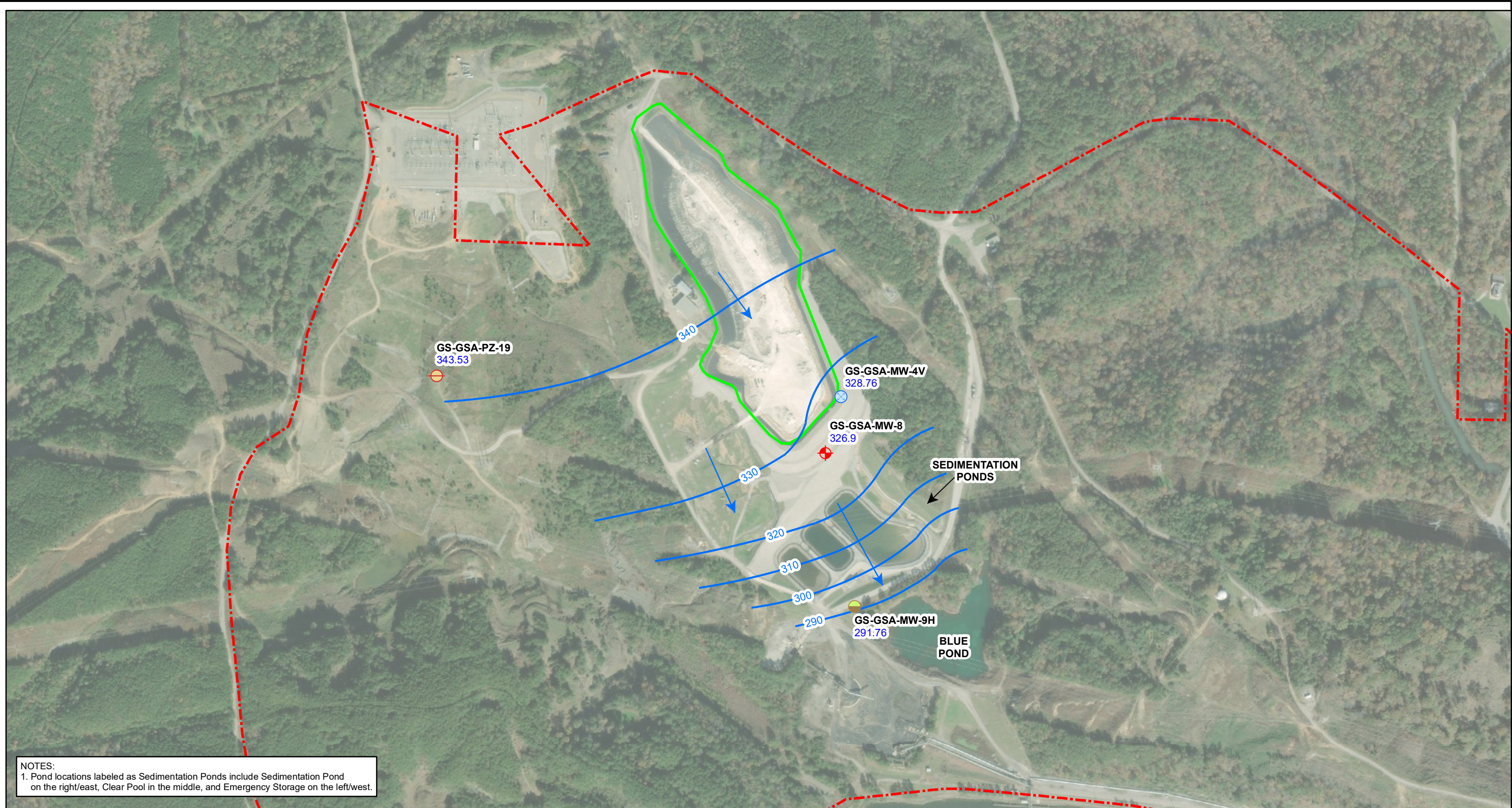
**Legend**

-  Downgradient Monitoring Well
  -  Piezometer
  -  Potentiometric Surface Contour (ft NAVD88)
  -  Approximate Groundwater Flow Direction
  -  Property Boundary (Approximate)
  -  Gypsum Pond Boundary
- GS-GSA-MW-2 Well ID  
 334.91 Groundwater Elevation



SCALE	1:6,000
DATE	6/8/2022
DRAWN BY	KAR
CHECKED BY	RFS

DRAWING TITLE	
POTENTIOMETRIC SURFACE CONTOUR MAP JANUARY 24, 2022 INTERMEDIATE FLOW SYSTEM 2 PLANT GORGAS GYPSUM POND	
FIGURE NO	<b>FIGURE 6C</b>
	



NOTES:  
 1. Pond locations labeled as Sedimentation Ponds include Sedimentation Pond on the right/east, Clear Pool in the middle, and Emergency Storage on the left/west.

<b>Legend</b> Downgradient Monitoring Well Piezometer Phase I Horizontal Delineation Well Phase I Vertical Delineation Well GS-GSA-MW-9H Well ID 291.76 Groundwater Elevation	Potentiometric Surface Contour (ft NAVD88) Approximate Groundwater Flow Direction Property Boundary (Approximate) Gypsum Pond Boundary	 		SCALE 1:6,000		DRAWING TITLE POTENTIOMETRIC SURFACE CONTOUR MAP JANUARY 24, 2022 INTERMEDIATE FLOW SYSTEM 3 PLANT GORGAS GYPSUM POND	
				DATE 6/8/2022		FIGURE NO	
				DRAWN BY KAR		<b>FIGURE 6D</b>	
				CHECKED BY RFS		Southern Company	



**NOTES:**  
 1. Pond locations labeled as Sedimentation Ponds include Sedimentation Pond on the right/east, Clear Pool in the middle, and Emergency Storage on the left/west.

**Legend**

- Phase I Vertical Delineation Well
- Phase II Vertical Delineation Well
- Phase III Vertical Delineation Well
- Potentiometric Surface Contour (ft NAVD88)
- Approximate Groundwater Flow Direction
- Property Boundary (Approximate)
- Gypsum Pond Boundary

GS-GSA-MW-3V Well ID  
 318.90 Groundwater Elevation



SCALE 1:6,000

DATE 6/8/2022

DRAWN BY KAR

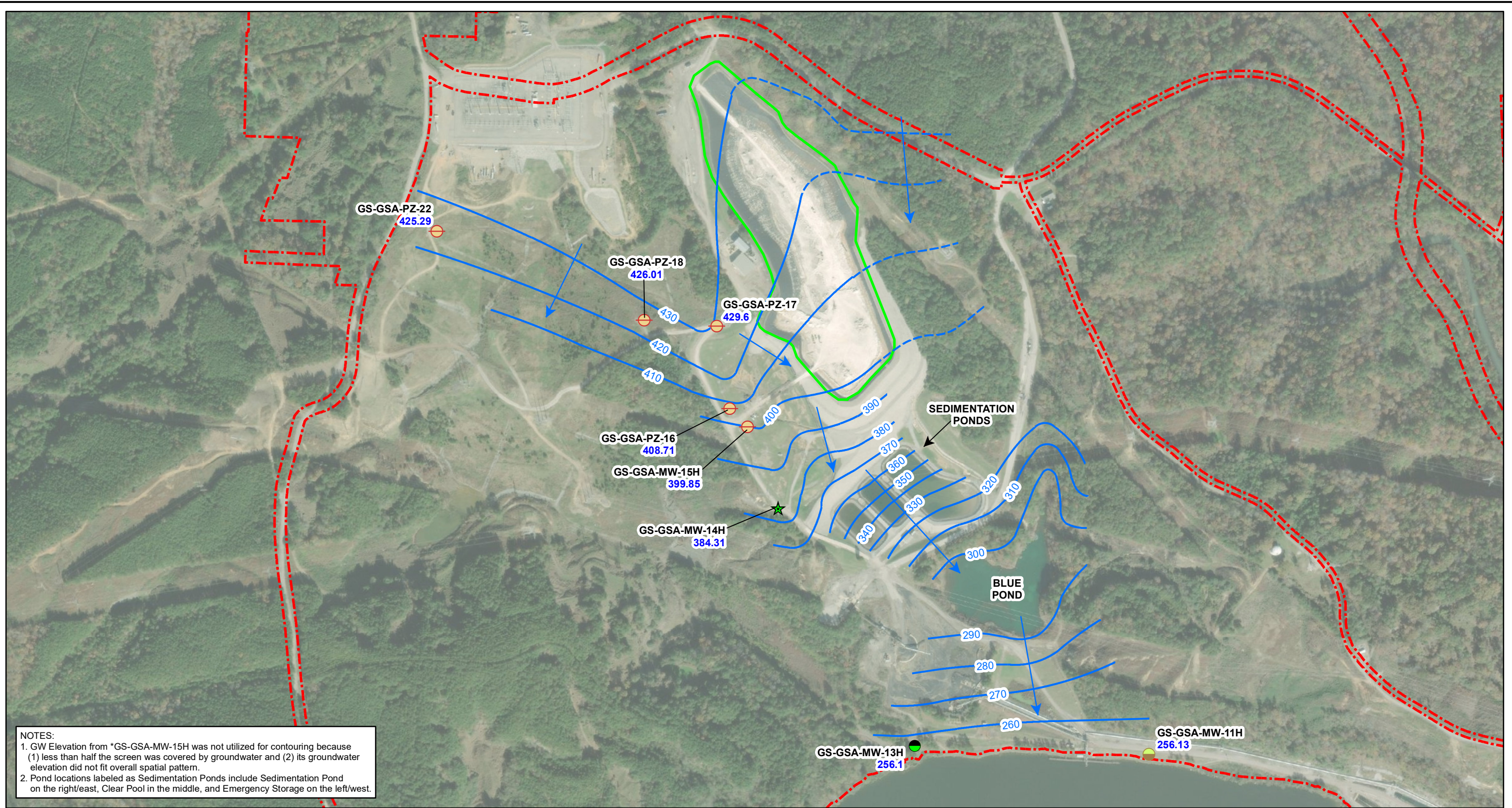
CHECKED BY RFS

DRAWING TITLE  
 POTENTIOMETRIC SURFACE CONTOUR MAP  
 JANUARY 24, 2022  
 DEEP INTERVAL  
 PLANT GORGAS GYPSUM POND

FIGURE NO  
**FIGURE 6E**





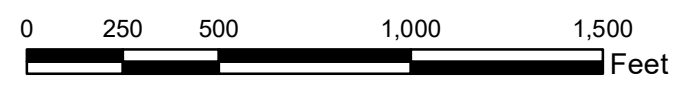


NOTES:  
 1. GW Elevation from \*GS-GSA-MW-15H was not utilized for contouring because (1) less than half the screen was covered by groundwater and (2) its groundwater elevation did not fit overall spatial pattern.  
 2. Pond locations labeled as Sedimentation Ponds include Sedimentation Pond on the right/east, Clear Pool in the middle, and Emergency Storage on the left/west.

**Legend**

- Phase I Horizontal Delineation Well
- Phase II Horizontal Delineation Well
- ★ Phase III Horizontal Delineation Well
- Piezometer
- Potentiometric Surface Contour (ft NAVD88)
- - - Inferred Potentiometric Surface Contour (ft NAVD 88)
- Approximate Groundwater Flow Direction
- · - · - Property Boundary (Approximate)
- Gypsum Pond Boundary

GS-GSA-PZ-17 Well ID  
 429.60 Groundwater Elevation










SCALE	1:6,000
DATE	11/4/2022
DRAWN BY	KAR
CHECKED BY	ACP

DRAWING TITLE	
POTENTIOMETRIC SURFACE CONTOUR MAP JULY 11, 2022 WATER TABLE PLANT GORGAS GYPSUM POND	
FIGURE NO	<b>FIGURE 7A</b>
Southern Company	



**NOTES:**  
 1. GS-GSA-MW-1 is shown as a piezometer, since it is not included in the monitoring well network for this site.  
 2. Piezometer MW-1 had less than 3' of gw in screen and is therefore only used as a guide for drawing 350' elevation contour.  
 3. Pond locations labeled as Sedimentation Ponds include Sedimentation Pond on the right/east, Clear Pool in the middle, and Emergency Storage on the left/west.

**Legend**

-  Downgradient Monitoring Well
-  Piezometer
-  Phase II Horizontal Delineation Well
-  Property Boundary (Approximate)
-  Gypsum Pond Boundary
-  Potentiometric Surface Contour (ft NAVD88)
-  Approximate Groundwater Flow Direction

GS-GSA-MW-4 Well ID  
 351.22 Groundwater Elevation

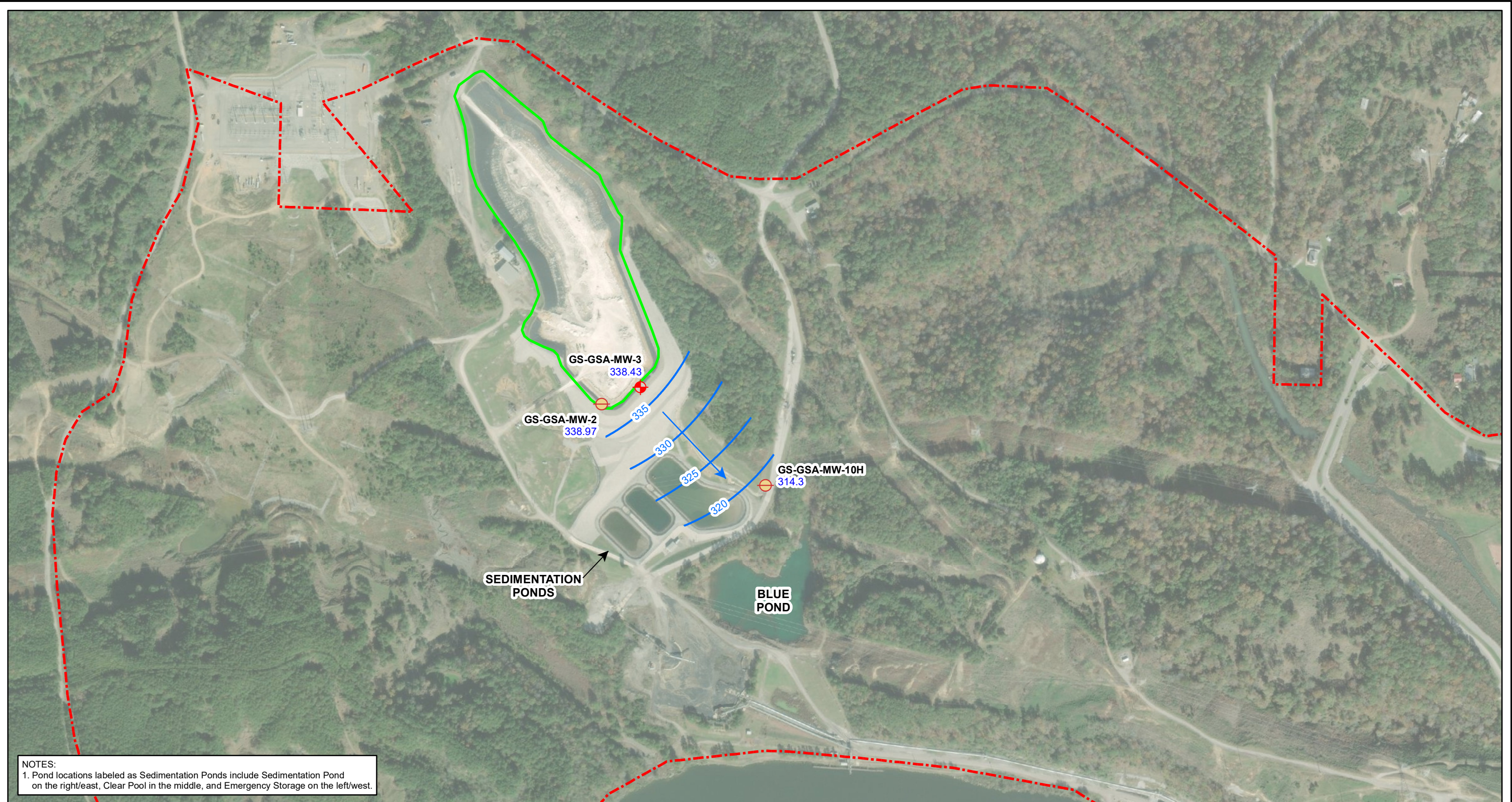


SCALE	1:6,000
DATE	11/4/2022
DRAWN BY	KAR
CHECKED BY	RFS

DRAWING TITLE  
**POTENTIOMETRIC SURFACE CONTOUR MAP**  
 JULY 11, 2022  
 INTERMEDIATE FLOW SYSTEM 1  
 PLANT GORGAS GYPSUM POND







FIGURE NO  
**FIGURE 7B**

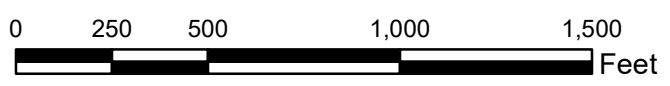





NOTES:  
 1. Pond locations labeled as Sedimentation Ponds include Sedimentation Pond on the right/east, Clear Pool in the middle, and Emergency Storage on the left/west.

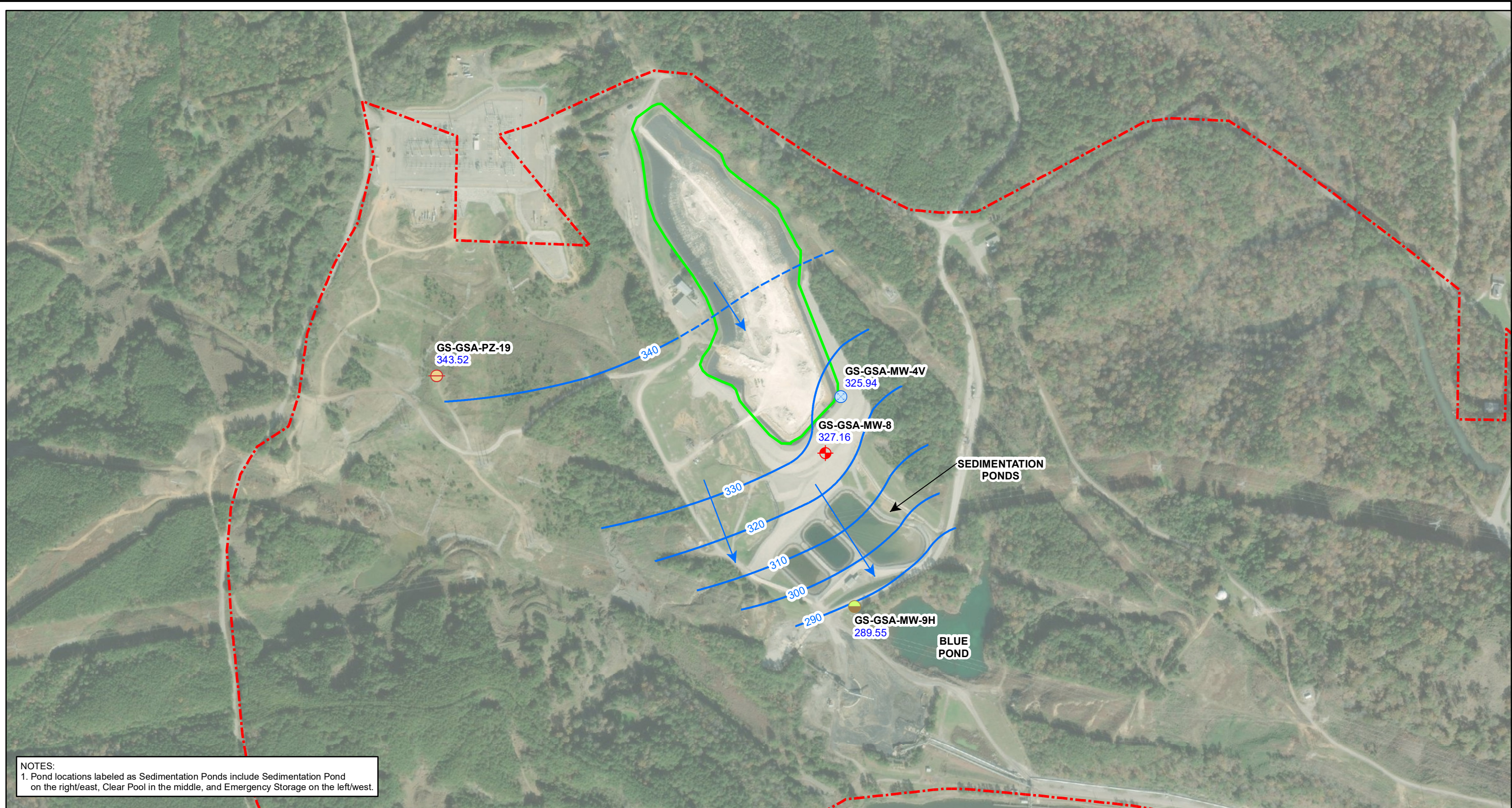
**Legend**

-  Downgradient Monitoring Well
  -  Piezometer
  -  Potentiometric Surface Contour (ft NAVD88)
  -  Approximate Groundwater Flow Direction
  -  Property Boundary (Approximate)
  -  Gypsum Pond Boundary
- GS-GSA-MW-2 Well ID  
 338.97 Groundwater Elevation



SCALE	1:6,000
DATE	11/4/2022
DRAWN BY	KAR
CHECKED BY	ACP

DRAWING TITLE	
POTENTIOMETRIC SURFACE CONTOUR MAP JULY 11, 2022 INTERMEDIATE FLOW SYSTEM 2 PLANT GORGAS GYPSUM POND	
FIGURE NO	<b>FIGURE 7C</b>
	










NOTES:  
 1. Pond locations labeled as Sedimentation Ponds include Sedimentation Pond on the right/east, Clear Pool in the middle, and Emergency Storage on the left/west.

<b>Legend</b> Downgradient Monitoring Well Piezometer Phase I Horizontal Delineation Well Phase I Vertical Delineation Well <b>GS-GSA-MW-9H</b> Well ID <b>289.55</b> Groundwater Elevation	Potentiometric Surface Contour (ft NAVD88) Inferred Potentiometric Surface Contour (ft NAVD 88) Approximate Groundwater Flow Direction Property Boundary (Approximate) Gypsum Pond Boundary	  0 250 500 1,000 1,500 Feet	SCALE 1:6,000	DRAWING TITLE POTENTIOMETRIC SURFACE CONTOUR MAP JULY11, 2022 INTERMEDIATE FLOW SYSTEM 3 PLANT GORGAS GYPSUM POND
			DATE 11/4/2022	
			DRAWN BY KAR	<b>FIGURE 7D</b>
			CHECKED BY ACP	



**NOTES:**  
 1. Pond locations labeled as Sedimentation Ponds include Sedimentation Pond on the right/east, Clear Pool in the middle, and Emergency Storage on the left/west.


**Legend**

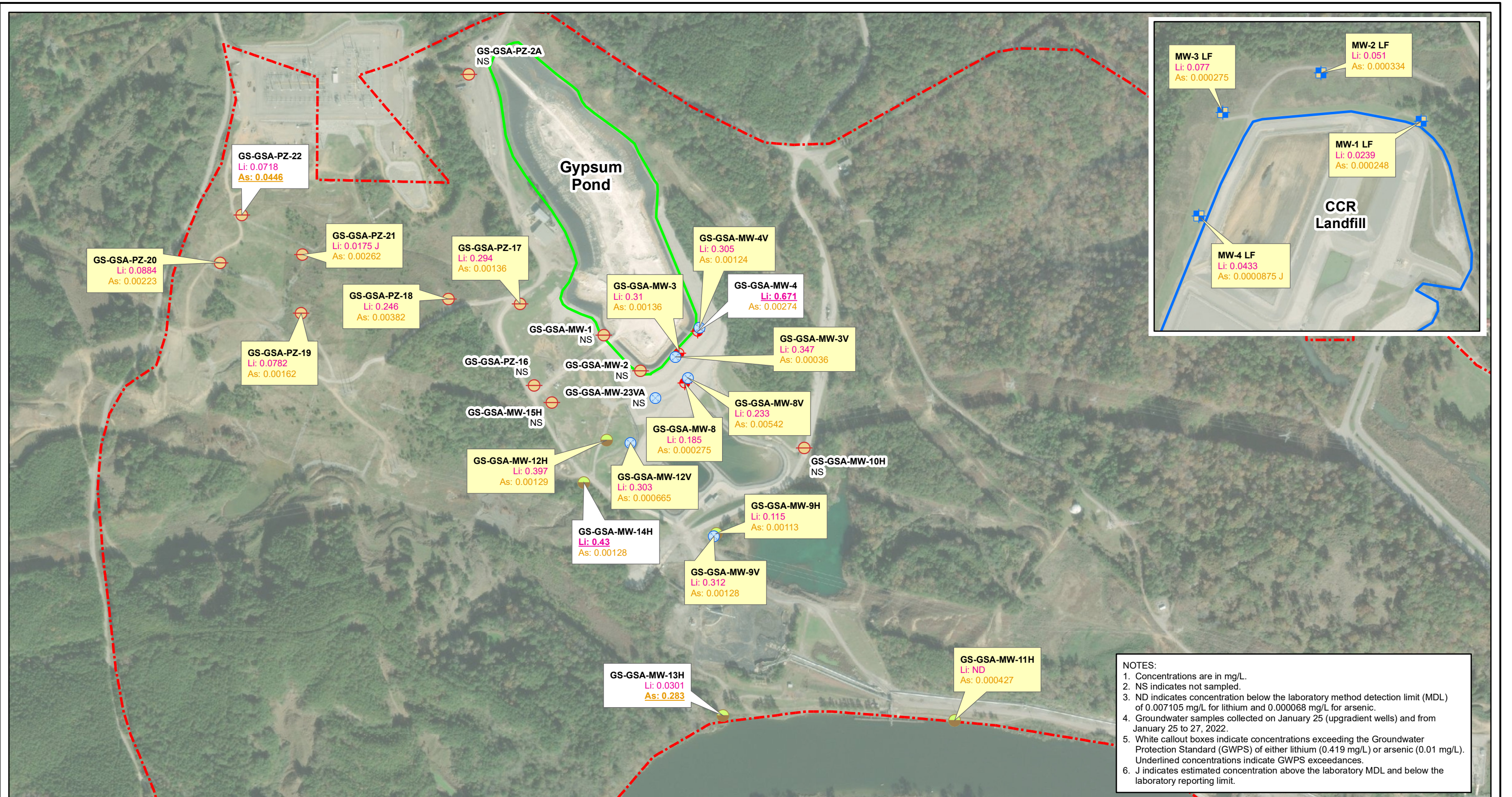
-  Phase I Vertical Delineation Well
-  Phase II Vertical Delineation Well
-  Phase III Vertical Delineation Well
-  Potentiometric Surface Contour (ft NAVD88)
-  Approximate Groundwater Flow Direction
-  Property Boundary (Approximate)
-  Gypsum Pond Boundary

GS-GSA-MW-3V Well ID  
 317.86 Groundwater Elevation



SCALE	1:6,000
DATE	11/7/2022
DRAWN BY	KAR
CHECKED BY	ACP

DRAWING TITLE	
POTENTIOMETRIC SURFACE CONTOUR MAP JULY 11, 2022 DEEP INTERVAL PLANT GORGAS GYPSUM POND	
FIGURE NO	<b>FIGURE 7E</b>
	

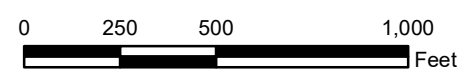


NOTES:

1. Concentrations are in mg/L.
2. NS indicates not sampled.
3. ND indicates concentration below the laboratory method detection limit (MDL) of 0.007105 mg/L for lithium and 0.000068 mg/L for arsenic.
4. Groundwater samples collected on January 25 (upgradient wells) and from January 25 to 27, 2022.
5. White callout boxes indicate concentrations exceeding the Groundwater Protection Standard (GWPS) of either lithium (0.419 mg/L) or arsenic (0.01 mg/L). Underlined concentrations indicate GWPS exceedances.
6. J indicates estimated concentration above the laboratory MDL and below the laboratory reporting limit.

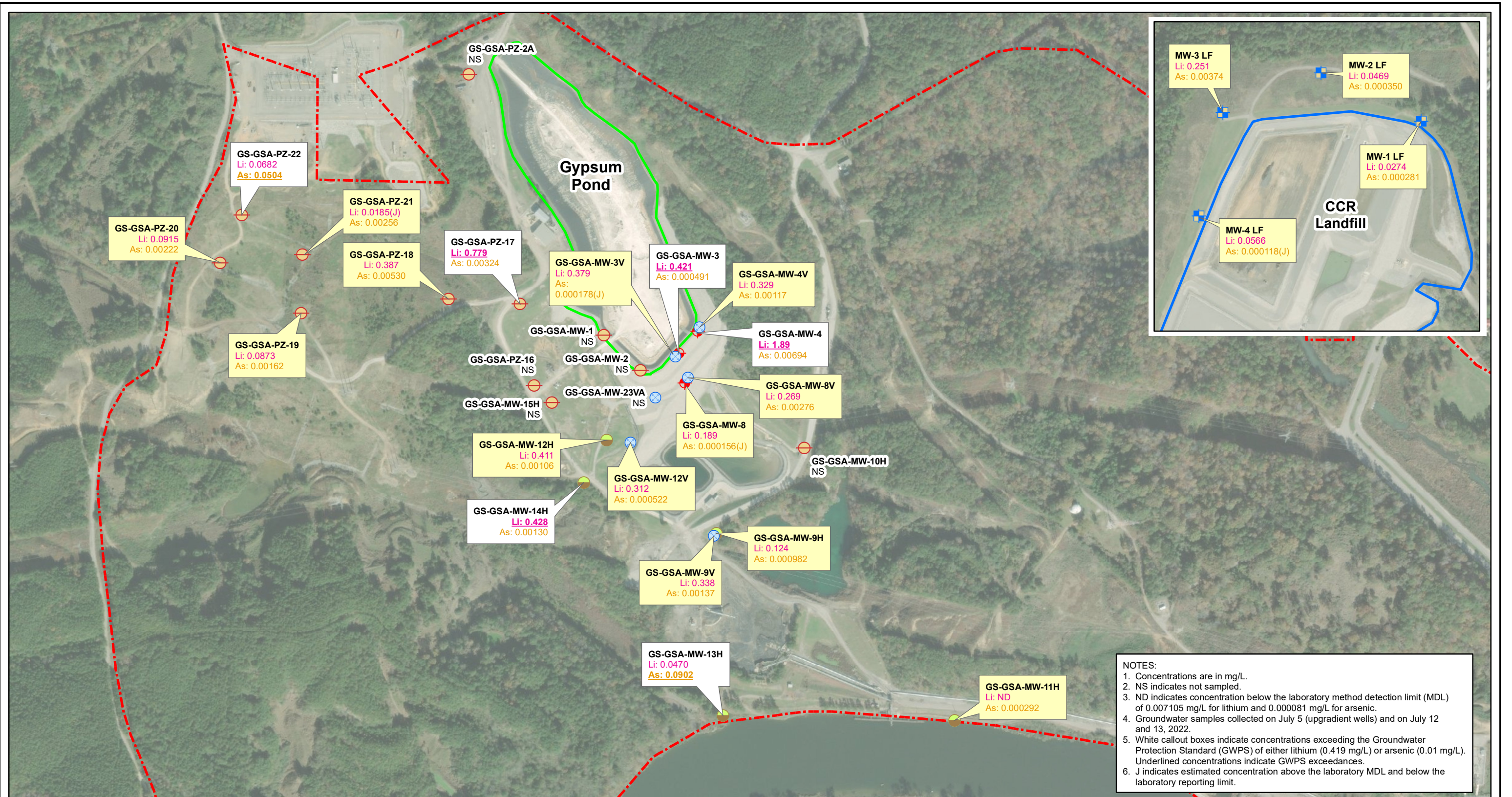
Legend	
	Upgradient Monitoring Well
	Downgradient Monitoring Well
	Horizontal Delineation Well
	Vertical Delineation Well
	Piezometer
	Property Boundary (Approximate)
	Gypsum Pond Boundary
	Gypsum CCR Landfill Boundary

**GS-GSA-MW-9H** Well ID  
 Li: 0.115 Lithium Concentration (mg/L)  
 As: 0.00103 Arsenic Concentration (mg/L)



SCALE	1:6,000
DATE	7/6/2022
DRAWN BY	KWR
CHECKED BY	RFS

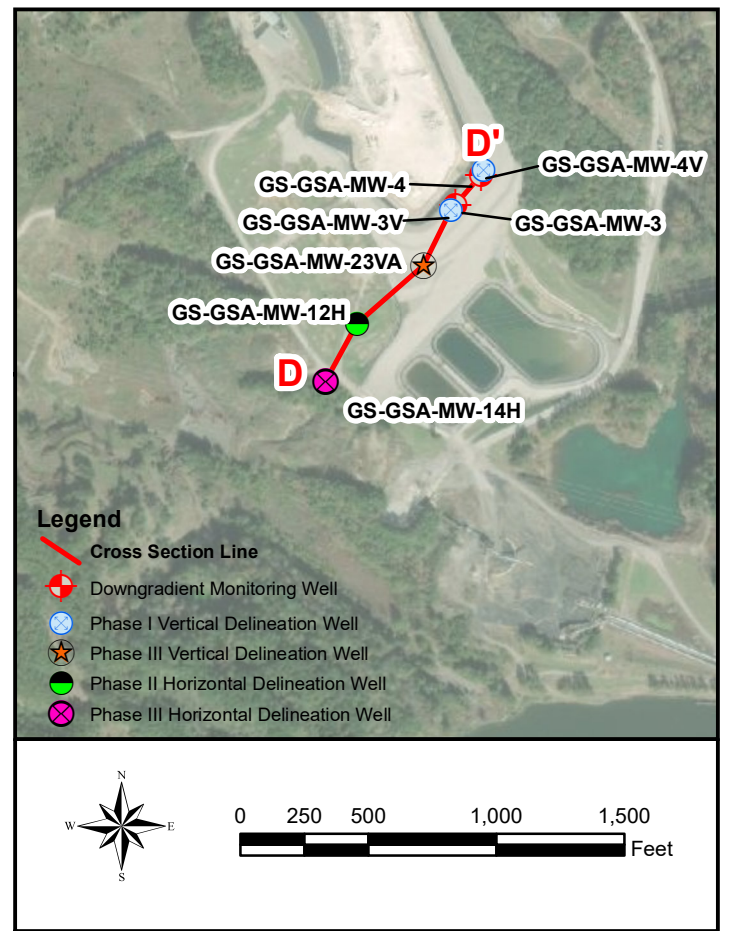
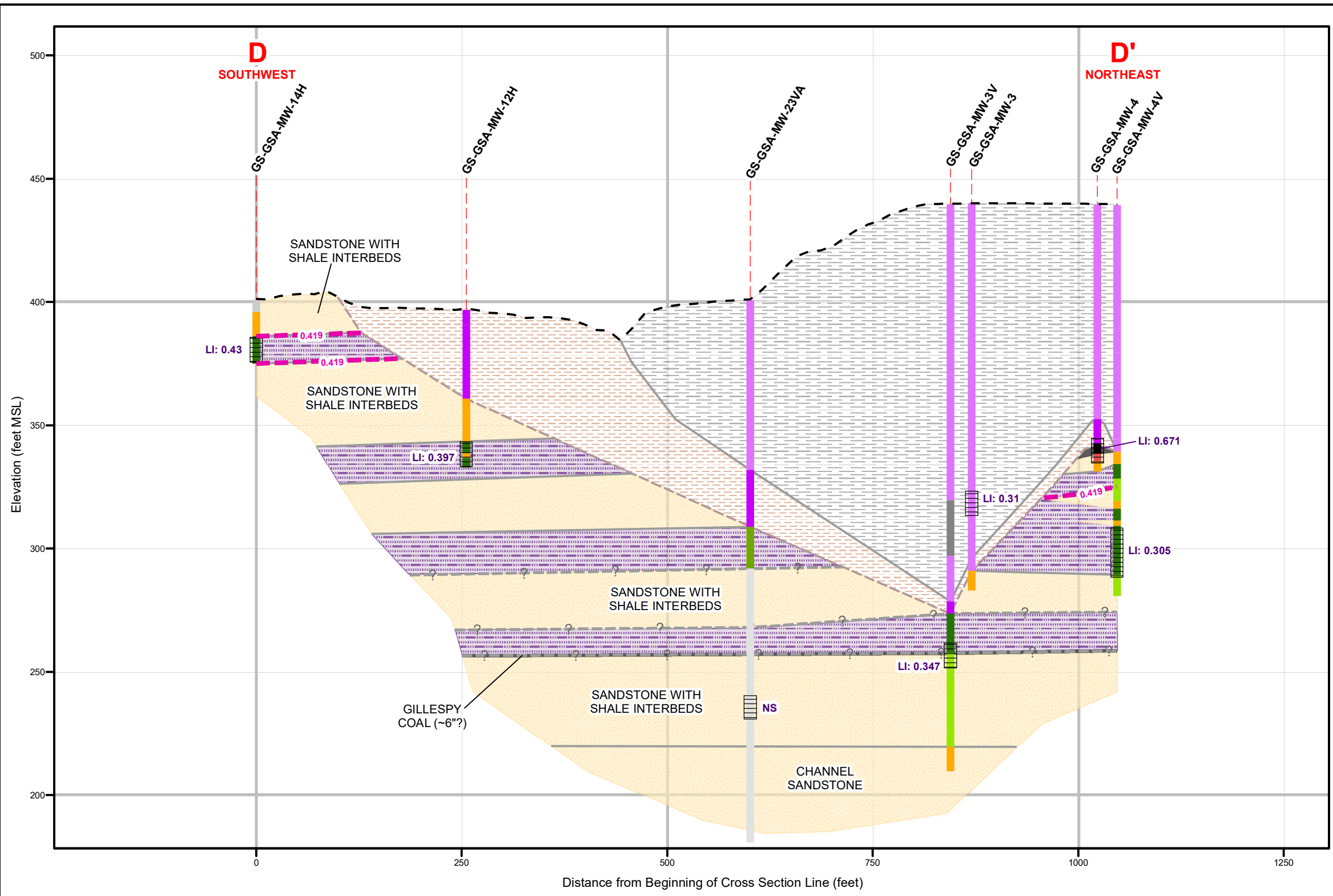
DRAWING TITLE	
GWPS EXCEEDANCES MAP ARSENIC, LITHIUM JANUARY 2022 PLANT GORGAS GYPSUM POND	
FIGURE NO	<b>FIGURE 8A</b>



NOTES:

1. Concentrations are in mg/L.
2. NS indicates not sampled.
3. ND indicates concentration below the laboratory method detection limit (MDL) of 0.007105 mg/L for lithium and 0.000081 mg/L for arsenic.
4. Groundwater samples collected on July 5 (upgradient wells) and on July 12 and 13, 2022.
5. White callout boxes indicate concentrations exceeding the Groundwater Protection Standard (GWPS) of either lithium (0.419 mg/L) or arsenic (0.01 mg/L). Underlined concentrations indicate GWPS exceedances.
6. J indicates estimated concentration above the laboratory MDL and below the laboratory reporting limit.

<b>Legend</b> Upgradient Monitoring Well Downgradient Monitoring Well Horizontal Delineation Well Vertical Delineation Well Piezometer Property Boundary (Approximate) Gypsum Pond Boundary Gypsum CCR Landfill Boundary <b>GS-GSA-MW-9H</b> Li: 0.124 As: 0.000982 Well ID Lithium Concentration (mg/L) Arsenic Concentration (mg/L)	 	SCALE 1:6,000	DRAWING TITLE <b>GWPS EXCEEDANCES MAP          ARSENIC, LITHIUM          JULY 2022          PLANT GORGAS GYPSUM POND</b>
		DATE 11/8/2022	FIGURE NO <b>FIGURE 8B</b>
		DRAWN BY KAR	Southern Company
		CHECKED BY ACP	

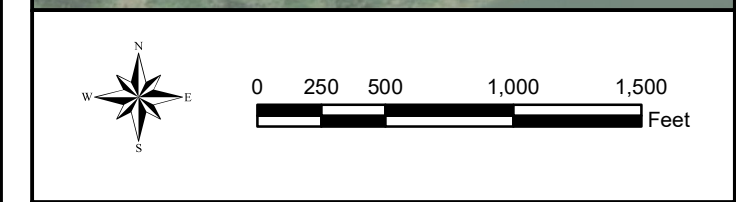
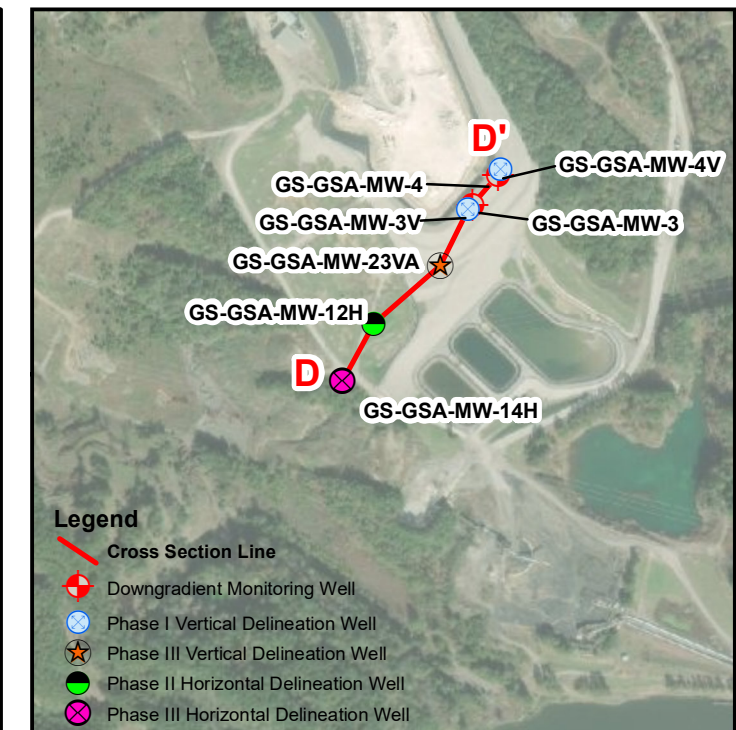
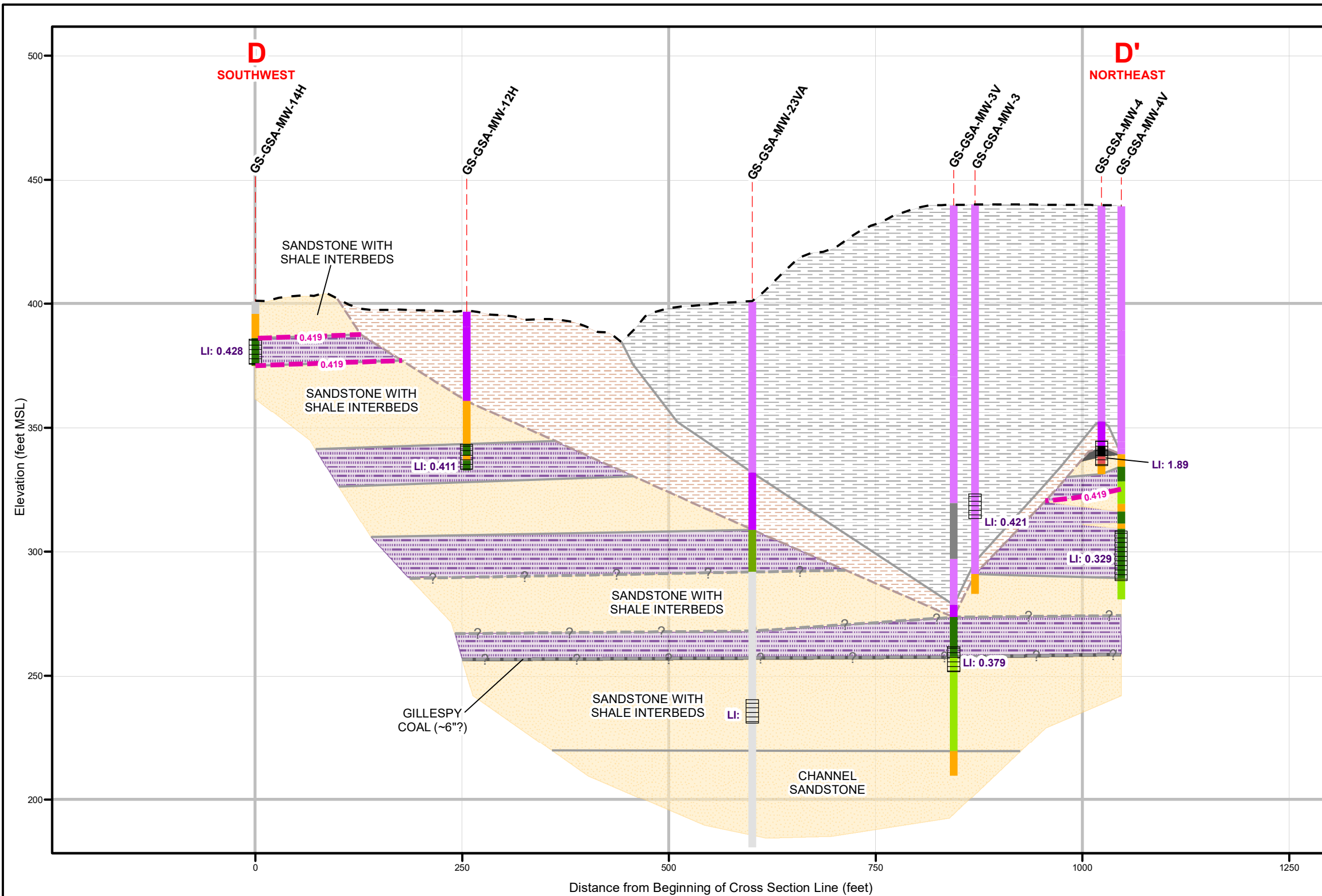


- NOTES:
1. Groundwater samples collected from January 25 to 27, 2022.
  2. Deeper strata projected from structural elevations of coal seams from Musgrove Mine records or from neighboring borings that extend deeper.
  3. NS indicates not sampled due to lack of water sufficient for well development (GS-GSA-MW-23VA was not sampled).
  4. Vertical exaggeration = 5.
  5. Li indicates lithium concentration in mg/L.
  6. GWPS indicated Groundwater Protection Standard.
  7. GS-GSA-MW-4 exceeds the GWPS but did not exceed statistical confidence intervals and thus is not a SSL.
  8. Elevated lithium concentrations in wells GS-GSA-MW-12H and GS-GSA-MW-14H appear to be unrelated to the Gypsum Pond.
  9. Lithium exceedances in groundwater likely occur in discrete zones within shale/mudstone interbeds and coal seams.

Legend		Borehole Description		Geologic Units	
	Ground Surface Elevation		Top of Rock		Sandstone
	GWPS Isoconcentration for Lithium (0.419 mg/L)		CCR Fill		Sandstone and Siltstone
	Borehole Location		Strata Boundary		Siltstone
	Screened Interval		Inferred Strata		Mudstone/Shale
			Mine		Sandstone
			COAL		Mine
			Hydroexcavated		Coal
			No Recovery		
			Partially Weathered Rock		
			Fill Materials		
			Overburden		
			Mine Spoils		
					Backfilled Mine Overburden
					Natural Overburden

SCALE	AS SHOWN	DRAWING TITLE <b>LITHIUM CONCENTRATIONS ALONG GEOLOGIC CROSS SECTION D - D' PLANT GORGAS GYPSUM POND</b>
DATE	7/6/2022	
DRAWN BY	KAR	
CHECKED BY	RFS	
FIGURE NO		<b>FIGURE 9A</b>
		Southern Company





- NOTES:
1. Groundwater samples collected one June 12 and 13, 2022.
  3. Deeper strata are projected from structural elevations of coal seams from Musgrove Mine records or from neighboring borings that extend deeper.
  4. NS indicates not sampled due to lack of water sufficient for well development (GS-GSA-MW-23VA was not sampled).
  5. Vertical exaggeration = 5.
  6. Li indicates lithium concentration in mg/L.
  7. GWPS indicates Groundwater Protection Standard.
  8. An alternate-source demonstration (ASD) was performed at GS-GSA-MW-4 and was submitted in March 2022..
  9. Elevated lithium concentrations in wells GS-GSA-MW-12H appear to be unrelated to the Gypsum Pond.
  10. Lithium exceedances in groundwater likely occur in discrete zones within shale/mudstone interbeds and coal seams.

<b>Legend</b> Ground Surface Elevation GWPS Isoconcentration for Lithium (0.419 mg/L) Screened Interval  0.397 Lithium Concentration (mg/L)	<b>Borehole Description</b> Sandstone Sandstone and Siltstone Siltstone Shale Borehole Location  CCR Fill Fill Materials Overburden Mine Spoils	<b>Geologic Units</b> Top of Rock Strata Boundary Inferred Strata Mine  Backfilled Mine Overburden Natural Overburden Mudstone/Shale Sandstone Mine Coal	SCALE AS SHOWN	DRAWING TITLE LITHIUM CONCENTRATIONS ALONG GEOLOGIC CROSS SECTION D - D' PLANT GORGAS GYPSUM POND	
			DATE 11/10/2022	FIGURE NO <b>FIGURE 9B</b> Southern Company	
			DRAWN BY KAR		
			CHECKED BY RFS		

# Tables



**Table 1a. - Compliance Monitoring Well Network Details  
Plant Gorgas Gypsum Storage Pond (Old)**

Well ID	Hydraulic Location	Geologic Unit	Latitude	Longitude	Ground Surface Elevation (ft NAVD)	Top Of Casing Elevation (ft NAVD)	Well Depth (ft BTOC)	Top Of Screen Elevation (ft NAVD)	Bottom Of Screen Elevation (ft NAVD)	Screen Length (ft)	Date Of Installation
<b>WELL NETWORK</b>											
MW-1	Upgradient	Mine Spoil - Pottsville Fm Interface	33.65827	-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
GS-GSA-MW-3	Downgradient	Pottsville Fm	33.65344	-87.2165	439.75	442.63	129.7	323.35	313.35	10	12/8/2015
GS-GSA-MW-4	Downgradient	Pottsville Fm	33.65376	-87.21617	439.44	442.10	107.9	344.64	334.64	10	12/9/2015
GS-GSA-MW-8	Downgradient	Pottsville Fm	33.653	-87.21639	401.33	404.38	128.5	286.33	276.33	10	12/20/2015

**Notes:**

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

(1) Coordinates have been transformed into WGS 84 from NAD 27/83, State Plane, Alabama, feet.

(2) Vertical elevations are in feet relative to the North American Vertical Datum (NAVD) 1988.

(3) Total well depth accounts for sump if data provided on well construction logs.



**Table 1b. - Delineation Well Network Details  
Plant Gorgas Gypsum Storage Pond (Old)**

Well ID	Hydraulic Location	Geologic Unit	Latitude	Longitude	Ground Surface Elevation (ft NAVD)	Top Of Casing Elevation (ft NAVD)	Well Depth (ft BTOC)	Top Of Screen Elevation (ft NAVD)	Bottom Of Screen Elevation (ft NAVD)	Screen Length (ft)	Date Of Installation
<b>WELL NETWORK</b>											
GS-GSA-MW-12H	Vertical Delineation	Pottsville Fm	33.65216	-87.21777	396.73	399.73	67.5	342.23	332.23	10	10/28/2019
GS-GSA-MW-12V	Vertical Delineation	Pottsville Fm	33.65213	-87.21735	376.76	379.50	132.7	257.16	247.16	10	5/31/2020
GS-GSA-MW-23VA	Vertical Delineation	Pottsville Fm	33.65278	-87.2169	400.84	403.60	173.2	240.80	230.80	10	6/11/2020
GS-GSA-MW-3V	Vertical Delineation	Pottsville Fm	33.65339	-87.21655	439.60	442.68	192.7	260.43	250.43	10	2/25/2019
GS-GSA-MW-4V	Vertical Delineation	Pottsville Fm	33.65381	-87.21613	439.29	442.18	155.5	307.08	287.08	20	2/25/2019
GS-GSA-MW-8V	Vertical Delineation	Pottsville Fm	33.65308	-87.21634	401.24	404.43	158.5	256.33	246.33	10	10/25/2019
GS-GSA-MW-9V	Vertical Delineation	Pottsville Fm	33.65075	-87.21589	333.32	336.22	95.1	251.55	241.55	10	5/12/2020
GS-GSA-MW-11H	Horizontal Delineation	Overburden-Pottsville Fm	33.64804	-87.21168	260.13	263.02	49.4	224.03	214.03	10	2/6/2019
GS-GSA-MW-13H	Horizontal Delineation	Overburden-Pottsville Fm	33.64812	-87.21574	263.63	266.46	34.9	241.96	231.96	10	10/29/2019
GS-GSA-MW-14H	Horizontal Delineation	Overburden-Pottsville Fm	33.65154	-87.21816	400.86	403.66	28.5	385.56	375.56	10	5/4/2020
GS-GSA-MW-15H	Horizontal Delineation	Overburden-Pottsville Fm	33.65271	-87.21872	425.62	428.16	28.3	410.26	400.26	10	5/5/2020
GS-GSA-MW-9H	Horizontal Delineation	Pottsville Fm	33.65079	-87.21584	333.04	335.83	60.3	285.94	275.94	10	2/3/2019

**Notes:**  
ft = feet; ft NAVD = elevation in feet, referenced to North American Vertical Datum; ft BTOC = depth, referenced in feet below top of casing  
(1) Coordinates have been transformed into WGS 84 from NAD 27/83, State Plane, Alabama, feet.  
(2) Vertical elevations are in feet relative to the North American Vertical Datum (NAVD) 1988.  
(3) Total well depth accounts for sump if data provided on well construction logs.



**Table 1c. - Piezometer Well Network Details  
Plant Gorgas Gypsum Storage Pond (Old)**

Well ID	Hydraulic Location	Geologic Unit	Latitude	Longitude	Ground Surface Elevation (ft NAVD)	Top Of Casing Elevation (ft NAVD)	Well Depth (ft BTOC)	Top Of Screen Elevation (ft NAVD)	Bottom Of Screen Elevation (ft NAVD)	Screen Length (ft)	Date Of Installation
<b>WELL NETWORK</b>											
GS-GSA-MW-01	Piezometer	Pottsville Fm	33.65371	-87.2178	440.48	442.96	97.7	355.66	345.66	10	12/17/2015
GS-GSA-MW-02	Piezometer	Pottsville Fm	33.65318	-87.21716	440.04	442.84	121.8	331.41	321.41	10	12/16/2015
GS-GSA-MW-05	Piezometer	Pottsville Fm - Mine Spoil	33.65471	-87.21648	439.92	440.32	40.6	410.12	400.12	10	12/18/2015
GS-GSA-MW-06	Piezometer	Pottsville Fm - Open Hole Piezometer	33.65535	-87.2168	440.52	440.88	207.0				11/4/2015
GS-GSA-MW-07	Piezometer	Pottsville Fm - Mine Spoil Interface	33.65276	-87.21705	399.57	399.85	67.4	342.87	332.87	10	1/12/2016
GS-GSA-MW-09	Piezometer	Pottsville Fm	33.65363	-87.21574	400.16	403.23	69.6	344.06	334.06	10	1/11/2016
GS-GSA-MW-10H	Piezometer	Overburden-Pottsville Fm	33.65204	-87.2143	336.56	339.52	29.5	320.56	310.56	10	2/4/2019
GS-GSA-PZ-04	Piezometer	Pottsville Fm	33.65604	-87.21907	474.96	477.79	127.2	360.96	350.96	10	10/22/2015
GS-GSA-PZ-05	Piezometer	Pottsville Fm - Pratt Coal	33.65461	-87.21869	472.40	472.45	79.0	403.90	393.90	10	10/27/2015
GS-GSA-PZ-16	Piezometer	Overburden-Pottsville Fm	33.65297	-87.21902	433.79	436.40	27.9	418.90	408.90	10	5/3/2020
GS-GSA-PZ-17	Piezometer	Overburden-Pottsville Fm	33.65416	-87.21927	475.94	475.94	57.7	428.64	418.64	10	5/2/2020
GS-GSA-PZ-18	Piezometer	Overburden-Pottsville Fm	33.65424	-87.22053	489.93	489.93	78.2	422.13	412.13	10	5/19/2020
GS-GSA-PZ-19	Piezometer	Pottsville Fm	33.65403	-87.22311	463.50	463.50	162.6	311.30	301.30	10	5/29/2020
GS-GSA-PZ-20	Piezometer	Pottsville Fm	33.65478	-87.22453	460.34	460.34	124.8	345.94	335.94	10	5/18/2020
GS-GSA-PZ-21	Piezometer	Pottsville Fm	33.6549	-87.22308	458.21	460.94	70.2	401.14	391.14	10	5/14/2020
GS-GSA-PZ-22	Piezometer	Overburden-Pottsville Fm	33.65548	-87.22414	476.56	479.46	76.0	413.86	403.86	10	5/16/2020
GS-GSA-PZ-2A	Piezometer	Pottsville Fm	33.65753	-87.22016	488.67	491.52	122.4	379.52	369.52	10	11/14/2015

- Notes:**  
 ft = feet; ft NAVD = elevation in feet, referenced to North American Vertical Datum; ft BTOC = depth, referenced in feet below top of casing  
 (1) Coordinates have been transformed into WGS 84 from NAD 27/83, State Plane, Alabama, feet.  
 (2) Vertical elevations are in feet relative to the North American Vertical Datum (NAVD) 1988.  
 (3) Total well depth accounts for sump if data provided on well construction logs.

## Table 2. Parameters And Reporting Limits

Plant Gorgas Gypsum Storage Pond  
07/05/2022 - 07/13/2022

Appendix III Parameters			
Parameters	Analytical Methods	Reporting Limits	Units of Measure
Boron	EPA 200.7	0.1015	mg/L
Calcium	EPA 200.7	0.406-40.599998	mg/L
Chloride	SM4500Cl E	1-50	mg/L
Fluoride	SM4500F G 2017	0.125	mg/L
pH_Field	Field Sampling	NA	SU
Sulfate	SM4500SO4 E 2011	2-400	mg/L
TDS	NA	NA	mg/L
Appendix IV Parameters			
Parameters	Analytical Methods	Reporting Limits	Units of Measure
Antimony	EPA 200.8	0.001015	mg/L
Arsenic	EPA 200.8	0.000203	mg/L
Barium	EPA 200.8	0.001015	mg/L
Beryllium	EPA 200.8	0.001015	mg/L
Cadmium	EPA 200.8	0.000203	mg/L
Chromium	EPA 200.8	0.001015	mg/L
Cobalt	EPA 200.8	0.000203	mg/L
Fluoride	SM4500F G 2017	0.125	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	0.961-1.41	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 Gypsum Storage Pond (Old)  
01/24/2022 - 07/11/2022

Measurement Date		01/24/2022		07/11/2022	
Well	TOC Elevation (ft. NAVD)	Depth To Water (ft. BTOC)	Groundwater Elevation (ft. NAVD)	Depth To Water (ft. BTOC)	Groundwater Elevation (ft. NAVD)
GS-GSA-MW-01	442.96	95.12	347.84	N/A	N/A
GS-GSA-MW-02	442.84	107.69	335.15	N/A	N/A
GS-GSA-MW-05	440.32	Dry	N/A	Dry	N/A
GS-GSA-MW-06	440.88	Dry	N/A	Dry	N/A
GS-GSA-MW-07	399.85	67.27	332.58	67.51	332.34
GS-GSA-MW-09	403.23	Dry	N/A	Dry	N/A
GS-GSA-MW-10H	339.52	19.41	320.11	25.22	314.30
GS-GSA-MW-11H	263.02	6.57	256.45	6.89	256.13
GS-GSA-MW-12H	399.73	58.48	341.25	62.20	337.53
GS-GSA-MW-12V	379.50	61.59	317.91	63.42	316.08
GS-GSA-MW-13H	266.46	8.93	257.53	10.36	256.10
GS-GSA-MW-14H	403.66	18.31	385.35	19.35	384.31
GS-GSA-MW-15H	428.16	24.16	404.00	28.31	399.85
GS-GSA-MW-23VA	403.60	133.77	269.83	121.22	282.38
GS-GSA-MW-3	442.63	107.72	334.91	104.20	338.43
GS-GSA-MW-3V	442.68	123.78	318.90	124.82	317.86
GS-GSA-MW-4	442.10	88.38	353.72	90.88	351.22
GS-GSA-MW-4V	442.18	113.42	328.76	116.24	325.94
GS-GSA-MW-8	404.38	77.48	326.90	77.22	327.16
GS-GSA-MW-8V	404.43	86.45	317.98	88.27	316.16
GS-GSA-MW-9H	335.83	44.07	291.76	46.28	289.55
GS-GSA-MW-9V	336.22	44.78	291.44	46.14	290.08
GS-GSA-PZ-04	477.79	126.81	350.98	126.53	351.26
GS-GSA-PZ-05	472.45	Dry	N/A	Dry	N/A
GS-GSA-PZ-16	436.40	15.20	421.20	27.69	408.71
GS-GSA-PZ-17	475.94	45.54	430.40	46.34	429.60
GS-GSA-PZ-18	489.93	60.49	429.44	63.92	426.01
GS-GSA-PZ-19	463.50	119.97	343.53	119.98	343.52
GS-GSA-PZ-20	460.34	116.14	344.20	116.18	344.16
GS-GSA-PZ-21	460.94	84.05	376.89	83.64	377.30
GS-GSA-PZ-22	479.46	51.07	428.39	54.17	425.29
GS-GSA-PZ-2A	491.52	119.96	371.56	119.87	371.65
MW-1	502.38	90.76	411.62	90.86*	411.52
MW-2	502.17	83.72	418.45	84.38*	417.79
MW-3	525.90	106.91	418.99	109.88*	416.02
MW-4	517.89	116.11	401.78	116.64*	401.25

\* Depth to Water measurements for upgradient wells (MW-1 through MW-4) during SA02 collected on 07/05/2022

Notes:

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



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

Plant Gorgas Gypsum Storage Pond (Old)

01/25/2022 - 07/12/2022

GS-GSA-PZ-19				
Sample Date = 7/12/2022				
Analyte	Units	Original Result	Duplicate Result	RPD (%)
Calcium	mg/L	123	117	5.00%
Chloride	mg/L	13	12.9	0.77%
Fluoride	mg/L	0.31	0.214	36.64%
Sulfate	mg/L	331	331	0.00%
Arsenic	mg/L	0.00162	0.00151	7.03%
Barium	mg/L	0.0334	0.0335	0.30%
Cobalt	mg/L	0.00217	0.00221	1.83%
Lithium	mg/L	0.0873	0.0888	1.70%
Molybdenum	mg/L	0.00051	0.00053	4.03%
GS-GSA-MW-4				
Sample Date = 5/19/2022				
Analyte	Units	Original Result	Duplicate Result	RPD (%)
Boron	mg/L	4.53	4.51	0.44%
Calcium	mg/L	166	177	6.41%
Chloride	mg/L	83.5	88.8	6.15%
Sulfate	mg/L	986	1030	4.37%
Arsenic	mg/L	0.00185	0.00187	1.08%
Barium	mg/L	0.0106	0.00987	7.13%
Beryllium	mg/L	0.00898	0.00922	2.64%
Cadmium	mg/L	0.00277	0.00282	1.79%
Cobalt	mg/L	0.394	0.395	0.25%
Lead	mg/L	0.00096	0.00099	2.66%
Lithium	mg/L	0.582	0.57	2.08%
Selenium	mg/L	0.00573	0.00563	1.76%
Thallium	mg/L	0.00024	0.00023	3.01%
GS-GSA-MW-13H				
Sample Date = 1/26/2022				
Analyte	Units	Original Result	Duplicate Result	RPD (%)
Boron	mg/L	0.206	0.205	0.49%
Calcium	mg/L	158	161	1.88%
Chloride	mg/L	10.2	10.2	0.00%
Fluoride	mg/L	0.208	0.212	1.91%
Sulfate	mg/L	883	918	3.89%
Arsenic	mg/L	0.283	0.283	0.00%





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

Plant Gorgas Gypsum Storage Pond (Old)

01/25/2022 - 07/12/2022

GS-GSA-MW-13H				
Sample Date = 1/26/2022				
Analyte	Units	Original Result	Duplicate Result	RPD (%)
Barium	mg/L	0.0334	0.0351	4.96%
Cobalt	mg/L	0.228	0.23	0.87%
Lithium	mg/L	0.0301	0.0298	1.00%
Molybdenum	mg/L	0.00126	0.00145	14.02%
Sample Date = 7/12/2022				
Analyte	Units	Original Result	Duplicate Result	RPD (%)
Boron	mg/L	0.209	0.21	0.48%
Calcium	mg/L	177	181	2.24%
Chloride	mg/L	10.8	10.9	0.92%
Fluoride	mg/L	0.207	0.21	1.44%
Sulfate	mg/L	857	879	2.54%
Arsenic	mg/L	0.0902	0.0901	0.11%
Barium	mg/L	0.021	0.0206	1.92%
Cobalt	mg/L	0.153	0.154	0.65%
Lithium	mg/L	0.047	0.0462	1.72%
Molybdenum	mg/L	0.00034	0.0003	13.33%
GS-GSA-MW-12H				
Sample Date = 1/25/2022				
Analyte	Units	Original Result	Duplicate Result	RPD (%)
Calcium	mg/L	124	123	0.81%
Chloride	mg/L	1.83	1.86	1.63%
Sulfate	mg/L	903	895	0.89%
Arsenic	mg/L	0.00129	0.00118	8.91%
Barium	mg/L	0.013	0.013	0.00%
Beryllium	mg/L	0.00729	0.00693	5.06%
Cadmium	mg/L	0.00333	0.00333	0.00%
Cobalt	mg/L	0.315	0.316	0.32%
Lead	mg/L	0.0052	0.00506	2.73%
Lithium	mg/L	0.397	0.4	0.75%
Selenium	mg/L	0.00311	0.00311	0.00%
Thallium	mg/L	0.00032	0.00033	2.80%



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

Plant Gorgas Gypsum Storage Pond (Old)  
01/25/2022 - 07/12/2022

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%
Sample Date = 7/5/2022				
Analyte	Units	Original Result	Duplicate Result	RPD (%)
Calcium	mg/L	172	174	1.16%
Chloride	mg/L	2.53	2.62	3.50%
Fluoride	mg/L	0.2	0.183	8.88%
Sulfate	mg/L	819	844	3.01%
Arsenic	mg/L	0.00035	0.00035	0.57%
Barium	mg/L	0.0116	0.0128	9.84%
Cobalt	mg/L	0.0184	0.0186	1.08%
Lithium	mg/L	0.0469	0.0475	1.27%

**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 Gypsum Storage Pond (Old)  
01/25/2022 - 07/13/2022

Parameters Detected Above MDL					
Sample Date	QC Location	Parameter	Blank Concentration	Units	MDL
01/27/2022	FB-2	Arsenic	0.00011 J	mg/L	7E-05
07/13/2022	FB-2	Chromium	0.00025 J	mg/L	0.0002
07/13/2022	EB-1	Chromium	0.00028 J	mg/L	0.0002
07/12/2022	FB-1	Chromium	0.00033 J	mg/L	0.0002
01/27/2022	EB-1	Chromium	0.00025 J	mg/L	0.0002
01/27/2022	FB-2	Chromium	0.00027 J	mg/L	0.0002
01/25/2022	EB-1	Chromium	0.00021 J	mg/L	0.0002

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 Gypsum Storage Pond (Old)  
01/25/2022 - 07/13/2022

List of Compliance Sample Concentrations < 5x Blank Concentrations							
Sample Date	QC Sample	Parameter	QC Sample Result (5x)	Sample Location	Result	Units	Validation Flag
01/25/2022	EB-1	Chromium	0.00104	GS-GSA-PZ-21	0.00058 J	mg/L	+(U)*
01/25/2022	EB-1	Chromium	0.00104	GS-GSA-MW-12H	0.00033 J	mg/L	+(U)*
01/25/2022	EB-1	Chromium	0.00104	GS-GSA-PZ-22	0.0003 J	mg/L	+(U)*
01/25/2022	EB-1	Chromium	0.00104	MW-4	0.00021 J	mg/L	+(U)*
01/25/2022	EB-1	Chromium	0.00104	GS-GSA-PZ-20	0.00026 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-2	0.00022 J	mg/L	+(U)*
01/25/2022	EB-1	Chromium	0.00104	MW-1	0.00043 J	mg/L	+(U)*
01/27/2022	FB-2	Arsenic	0.00053	GS-GSA-MW-8	0.00027 v	mg/L	+(U)*
07/12/2022	FB-1	Chromium	0.00164	GS-GSA-MW-11H	0.00043 J	mg/L	+(U)*
07/12/2022	FB-1	Chromium	0.00164	GS-GSA-MW-13H	0.00033 J	mg/L	+(U)*
07/12/2022	FB-1	Chromium	0.00164	GS-GSA-MW-9H	0.00027 J	mg/L	+(U)*
07/12/2022	FB-1	Chromium	0.00164	GS-GSA-PZ-20	0.00027 J	mg/L	+(U)*
07/12/2022	FB-1	Chromium	0.00164	GS-GSA-MW-8	0.00026 J	mg/L	+(U)*
07/12/2022	FB-1	Chromium	0.00164	GS-GSA-PZ-19	0.00033 J	mg/L	+(U)*
07/12/2022	FB-1	Chromium	0.00164	GS-GSA-MW-9V	0.00031 J	mg/L	+(U)*
07/12/2022	FB-1	Chromium	0.00164	GS-GSA-PZ-21	0.00029 J	mg/L	+(U)*
01/27/2022	EB-1	Chromium	0.00123	GS-GSA-MW-8	0.00046 J	mg/L	+(U)*
01/27/2022	EB-1	Chromium	0.00123	GS-GSA-MW-4	0.00107 v	mg/L	+(U)*
01/27/2022	EB-1	Chromium	0.00123	GS-GSA-MW-14H	0.0005 J	mg/L	+(U)*
01/27/2022	EB-1	Chromium	0.00123	GS-GSA-MW-12V	0.00025 J	mg/L	+(U)*
01/27/2022	EB-1	Chromium	0.00123	GS-GSA-PZ-17	0.0009 J	mg/L	+(U)*
01/27/2022	EB-1	Chromium	0.00123	GS-GSA-MW-4V	0.00029 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 4c – Field QC: Data Validation Results (Blanks)

Plant Gorgas Gypsum Storage Pond (Old)  
01/25/2022 - 07/13/2022

List of Compliance Sample Concentrations < 5x Blank Concentrations							
Sample Date	QC Sample	Parameter	QC Sample Result (5x)	Sample Location	Result	Units	Validation Flag
01/27/2022	FB-2	Chromium	0.00133	GS-GSA-MW-8	0.00046 J	mg/L	+(U)*
01/27/2022	FB-2	Chromium	0.00133	GS-GSA-MW-4	0.00107 v	mg/L	+(U)*
01/27/2022	FB-2	Chromium	0.00133	GS-GSA-MW-14H	0.0005 J	mg/L	+(U)*
01/27/2022	FB-2	Chromium	0.00133	GS-GSA-MW-12V	0.00025 J	mg/L	+(U)*
01/27/2022	FB-2	Chromium	0.00133	GS-GSA-PZ-17	0.0009 J	mg/L	+(U)*
01/27/2022	FB-2	Chromium	0.00133	GS-GSA-MW-4V	0.00029 J	mg/L	+(U)*
07/13/2022	EB-1	Chromium	0.00139	GS-GSA-MW-12H	0.00033 J	mg/L	+(U)*
07/13/2022	EB-1	Chromium	0.00139	GS-GSA-PZ-22	0.00024 J	mg/L	+(U)*
07/13/2022	EB-1	Chromium	0.00139	GS-GSA-MW-14H	0.00053 J	mg/L	+(U)*
07/13/2022	EB-1	Chromium	0.00139	GS-GSA-MW-3V	0.00025 J	mg/L	+(U)*
07/13/2022	EB-1	Chromium	0.00139	GS-GSA-MW-12V	0.00033 J	mg/L	+(U)*
07/13/2022	EB-1	Chromium	0.00139	GS-GSA-MW-4V	0.00039 J	mg/L	+(U)*
07/13/2022	EB-1	Chromium	0.00139	GS-GSA-MW-3	0.00034 J	mg/L	+(U)*
07/13/2022	FB-2	Chromium	0.00125	GS-GSA-MW-12H	0.00033 J	mg/L	+(U)*
07/13/2022	FB-2	Chromium	0.00125	GS-GSA-PZ-22	0.00024 J	mg/L	+(U)*
07/13/2022	FB-2	Chromium	0.00125	GS-GSA-MW-14H	0.00053 J	mg/L	+(U)*
07/13/2022	FB-2	Chromium	0.00125	GS-GSA-MW-3V	0.00025 J	mg/L	+(U)*
07/13/2022	FB-2	Chromium	0.00125	GS-GSA-MW-12V	0.00033 J	mg/L	+(U)*
07/13/2022	FB-2	Chromium	0.00125	GS-GSA-MW-4V	0.00039 J	mg/L	+(U)*
07/13/2022	FB-2	Chromium	0.00125	GS-GSA-MW-3	0.00034 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 Gypsum Storage Pond (Old)

Appendix IV Analytes			
Analyte	Units	Background	GWPS
Antimony	mg/L	0.00143	0.006
Arsenic	mg/L	0.005	0.01
Barium	mg/L	0.0166	2
Beryllium	mg/L	0.0121	0.004
Cadmium	mg/L	0.00652	0.005
Chromium	mg/L	0.0105	0.1
Cobalt	mg/L	0.64	0.64
Fluoride	mg/L	0.63	4
Lead	mg/L	0.00692	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	0.0181	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).

## Table 6. First Semi-Annual Monitoring Event

### Analytical Results Summary Plant Gorgas Gypsum Storage Pond (Old) 01/25/2022 - 01/27/2022

Field Parameters								
Hydraulic Location	Well	Sample Date	Conductivity uS/cm	DO mg/L	ORP mv	pH_Field SU	Field Temperature C	Turbidity NTU
Upgradient	MW-1	01/25/2022	2248.18	0.96	342.61	5.11	20.4	1.07
Upgradient	MW-2	01/25/2022	1777.69	0.9	76.06	6.22	20.03	1.13
Upgradient	MW-3	01/25/2022	3139.08	6.2	262.48	5.9	20.01	2.05
Upgradient	MW-4	01/25/2022	2843.39	2.8	241.8	6.3	21.37	1.1
Downgradient	GS-GSA-MW-3	01/26/2022	4478	0.25	9.36	6.52	19.18	9.2
Downgradient	GS-GSA-MW-4	01/27/2022	2062.07	0.43	304.11	3.73	19.63	1.54
Downgradient	GS-GSA-MW-8	01/27/2022	3489.16	0.29	-83.27	6.85	21.13	2.64
Vert. Delineation	GS-GSA-MW-12H	01/25/2022	1495.64	0.17	326.12	4.11	19.14	8
Vert. Delineation	GS-GSA-MW-12V	01/27/2022	3900.53	0.17	-42.11	6.19	20.23	0.58
Vert. Delineation	GS-GSA-MW-3V	01/26/2022	3876.99	1.21	-14.84	6.61	15.02	2.45
Vert. Delineation	GS-GSA-MW-4V	01/27/2022	1619.95	0.3	0.56	6.17	18.5	9.53
Vert. Delineation	GS-GSA-MW-8V	01/26/2022	1722.53	0.8	-190.65	8.18	19.12	1.06
Vert. Delineation	GS-GSA-MW-9V	01/26/2022	3210.84	0.84	-58.64	6.89	19	0.42
Horiz. Delineation	GS-GSA-MW-11H	01/26/2022	1445.07	0.28	88.54	5.95	19.79	8.2
Horiz. Delineation	GS-GSA-MW-13H	01/26/2022	1543.63	0.14	-26.49	6.08	20.26	2.51
Horiz. Delineation	GS-GSA-MW-14H	01/27/2022	1290.46	0.22	303.51	4.1	18.9	4.14
Horiz. Delineation	GS-GSA-MW-9H	01/26/2022	2589.92	0.2	146.63	5.35	20.94	1.99
Piezometer	GS-GSA-PZ-17	01/27/2022	756.96	0.34	134.92	4.63	18.64	0.97
Piezometer	GS-GSA-PZ-18	01/27/2022	958.69	0.37	182.99	3.89	16.16	0.73
Piezometer	GS-GSA-PZ-19	01/25/2022	1292.6	0.19	-0.85	6.68	17.58	1.05

Notes:

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

## Table 6. First Semi-Annual Monitoring Event

### Analytical Results Summary Plant Gorgas Gypsum Storage Pond (Old) 01/25/2022 - 01/27/2022

Field Parameters								
Hydraulic Location	Well	Sample Date	Conductivity uS/cm	DO mg/L	ORP mv	pH_Field SU	Field Temperature C	Turbidity NTU
Piezometer	GS-GSA-PZ-20	01/25/2022	1181.7	0.28	20.64	6.33	17.62	4.6
Piezometer	GS-GSA-PZ-21	01/25/2022	797.36	0.31	-58.36	6.94	16.15	0.89
Piezometer	GS-GSA-PZ-22	01/25/2022	921.21	0.3	-29.31	5.99	17.45	7.59

Notes:

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



## Table 6. First Semi-Annual Monitoring Event

### Analytical Results Summary Plant Gorgas Gypsum Storage Pond (Old) 01/25/2022 - 01/27/2022

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	GS-GSA-MW-3	01/26/2022	2.5	517	255	0.447	6.52	2620
Downgradient	GS-GSA-MW-4	01/27/2022	6.1	181	103	<0.06	3.73	1130
Downgradient	GS-GSA-MW-8	01/27/2022	2.76	491	122	0.179	6.85	2000
Vert. Delineation	GS-GSA-MW-12H	01/25/2022	0.0645 J	124	1.83	<0.06	4.11	903
Vert. Delineation	GS-GSA-MW-12V	01/27/2022	1.52	347	171	0.329	6.19	1990
Vert. Delineation	GS-GSA-MW-3V	01/26/2022	2.81	448	238	0.516	6.61	2010
Vert. Delineation	GS-GSA-MW-4V	01/27/2022	3.47	172	51.9	0.373	6.17	825
Vert. Delineation	GS-GSA-MW-8V	01/26/2022	0.153	31.5	18.9	0.306	8.18	199
Vert. Delineation	GS-GSA-MW-9V	01/26/2022	0.11	417	57.2	0.155	6.89	1820
Horiz. Delineation	GS-GSA-MW-11H	01/26/2022	<0.03	143	5.4	0.0809 J	5.95	745
Horiz. Delineation	GS-GSA-MW-13H	01/26/2022	0.206	158	10.2	0.208	6.08	883
Horiz. Delineation	GS-GSA-MW-14H	01/27/2022	0.148	124	3.75	<0.06	4.1	784
Horiz. Delineation	GS-GSA-MW-9H	01/26/2022	5.87	300	59.3	0.117	5.35	1660
Piezometer	GS-GSA-PZ-17	01/27/2022	0.064 J	73.5	1.64	<0.06	4.63	379
Piezometer	GS-GSA-PZ-18	01/27/2022	0.0539 J	84.8	1.92	<0.06	3.89	532
Piezometer	GS-GSA-PZ-19	01/25/2022	0.0561 J	117	13.2	0.194	6.68	344
Piezometer	GS-GSA-PZ-20	01/25/2022	0.0765 J	96.7	13	0.191	6.33	437

Notes:

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

## Table 6. First Semi-Annual Monitoring Event

Analytical Results Summary  
Plant Gorgas Gypsum Storage Pond (Old)  
01/25/2022 - 01/27/2022

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
Piezometer	GS-GSA-PZ-21	01/25/2022	<0.03	39	12.8	0.354	6.94	32.8
Piezometer	GS-GSA-PZ-22	01/25/2022	0.0754 J	74.6	5.76	0.169	5.99	440

Notes:

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

### Analytical Results Summary Plant Gorgas Gypsum Storage Pond (Old) 01/25/2022 - 01/27/2022

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	GS-GSA-MW-3	01/26/2022	0.000658 J	0.00136	0.0148	0.00179	<6.8e-005	0.00048 J	0.0794	0.447
Downgradient	GS-GSA-MW-4	01/27/2022	<0.000508	0.00274	0.0131	0.00768	0.00336	0.00107	0.406	<0.06
Downgradient	GS-GSA-MW-8	01/27/2022	<0.000508	0.000275	0.0238	<0.000406	<6.8e-005	0.000456 J	0.000674	0.179
Vert. Delineation	GS-GSA-MW-12H	01/25/2022	<0.000508	0.00129	0.013	0.00729	0.00333	0.000334 J	0.315	<0.06
Vert. Delineation	GS-GSA-MW-12V	01/27/2022	<0.000508	0.000665	0.0125	<0.000406	<6.8e-005	0.000252 J	0.000216	0.329
Vert. Delineation	GS-GSA-MW-3V	01/26/2022	0.00052 J	0.00036	0.0161	<0.000406	<6.8e-005	0.000497 J	0.012	0.516
Vert. Delineation	GS-GSA-MW-4V	01/27/2022	0.000544 J	0.00124	0.0108	0.00431	<6.8e-005	0.000291 J	0.124	0.373
Vert. Delineation	GS-GSA-MW-8V	01/26/2022	<0.000508	0.00542	0.137	<0.000406	<6.8e-005	0.000229 J	<6.8e-005	0.306
Vert. Delineation	GS-GSA-MW-9V	01/26/2022	<0.000508	0.00128	0.012	<0.000406	<6.8e-005	<0.000203	0.000541	0.155
Horiz. Delineation	GS-GSA-MW-11H	01/26/2022	<0.000508	0.000427	0.0139	<0.000406	0.000294	0.000524 J	0.00479	0.0809 J
Horiz. Delineation	GS-GSA-MW-13H	01/26/2022	<0.000508	0.283	0.0334	<0.000406	7e-005 J	0.000232 J	0.228	0.208
Horiz. Delineation	GS-GSA-MW-14H	01/27/2022	<0.000508	0.00128	0.0122	0.00718	0.00137	0.000502 J	0.178	<0.06
Horiz. Delineation	GS-GSA-MW-9H	01/26/2022	<0.000508	0.00113	0.0146	0.00063 J	0.00024	0.000243 J	0.141	0.117
Piezometer	GS-GSA-PZ-17	01/27/2022	0.000508 J	0.00136	0.0177	0.00456	0.00151	0.000896 J	0.129	<0.06
Piezometer	GS-GSA-PZ-18	01/27/2022	<0.000508	0.00382	0.0107	0.00491	0.000272	0.00157	0.0845	<0.06
Piezometer	GS-GSA-PZ-19	01/25/2022	<0.000508	0.00162	0.0373	<0.000406	<6.8e-005	<0.000203	0.000689	0.194
Piezometer	GS-GSA-PZ-20	01/25/2022	<0.000508	0.00223	0.0201	<0.000406	<6.8e-005	0.000256 J	0.00273	0.191

**Notes:**

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

## Table 6. First Semi-Annual Monitoring Event

Analytical Results Summary  
Plant Gorgas Gypsum Storage Pond (Old)  
01/25/2022 - 01/27/2022

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	GS-GSA-MW-3	01/26/2022	0.00014 J	0.31	<0.0003	0.000225	0.00117	<6.8e-005
Downgradient	GS-GSA-MW-4	01/27/2022	0.00103	0.671	<0.0003	<6.8e-005	0.00817	0.000223
Downgradient	GS-GSA-MW-8	01/27/2022	0.00015 J	0.185	<0.0003	0.000122 J	<0.000508	<6.8e-005
Vert. Delineation	GS-GSA-MW-12H	01/25/2022	0.0052	0.397	<0.0003	<6.8e-005	0.00311	0.000317
Vert. Delineation	GS-GSA-MW-12V	01/27/2022	<6.8e-005	0.303	<0.0003	0.00268	<0.000508	<6.8e-005
Vert. Delineation	GS-GSA-MW-3V	01/26/2022	<6.8e-005	0.347	<0.0003	0.00012 J	<0.000508	<6.8e-005
Vert. Delineation	GS-GSA-MW-4V	01/27/2022	7.43e-005 J	0.305	<0.0003	9.08e-005 J	0.00101 J	<6.8e-005
Vert. Delineation	GS-GSA-MW-8V	01/26/2022	<6.8e-005	0.233	<0.0003	0.000782	<0.000508	<6.8e-005
Vert. Delineation	GS-GSA-MW-9V	01/26/2022	<6.8e-005	0.312	<0.0003	0.000299	<0.000508	<6.8e-005
Horiz. Delineation	GS-GSA-MW-11H	01/26/2022	0.000231	<0.007105	<0.0003	0.000112 J	<0.000508	<6.8e-005
Horiz. Delineation	GS-GSA-MW-13H	01/26/2022	<6.8e-005	0.0301	<0.0003	0.00126	0.000694 J	<6.8e-005
Horiz. Delineation	GS-GSA-MW-14H	01/27/2022	0.000865	0.43	<0.0003	9.4e-005 J	0.00401	6.81e-005 J
Horiz. Delineation	GS-GSA-MW-9H	01/26/2022	0.000125 J	0.115	<0.0003	<6.8e-005	0.00129	0.000222
Piezometer	GS-GSA-PZ-17	01/27/2022	0.00362	0.294	<0.0003	<6.8e-005	0.00269	0.000184 J
Piezometer	GS-GSA-PZ-18	01/27/2022	0.000229	0.246	<0.0003	<6.8e-005	0.00298	7.96e-005 J
Piezometer	GS-GSA-PZ-19	01/25/2022	<6.8e-005	0.0782	<0.0003	0.00068	<0.000508	<6.8e-005
Piezometer	GS-GSA-PZ-20	01/25/2022	0.000143 J	0.0884	<0.0003	0.000973	0.00273	0.000208

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- DO - Dissolved Oxygen, ORP - Oxidation Reduction Potential, TDS - Total Dissolved Solids.
- mg/L - milligrams per liter, mv - millivolts, NTU - nephelometric turbidity unit, C - celsius, SU - standard unit, uS/cm - microseimens per centimeter, pCi/L - picocuries per liter.
- NC = value not detected with alkalinity calculation

## Table 6. First Semi-Annual Monitoring Event

### Analytical Results Summary Plant Gorgas Gypsum Storage Pond (Old) 01/25/2022 - 01/27/2022

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
Piezometer	GS-GSA-PZ-21	01/25/2022	<0.000508	0.00262	0.151	<0.000406	<6.8e-005	0.000585 J	0.00257	0.354
Piezometer	GS-GSA-PZ-22	01/25/2022	<0.000508	0.0446	0.0176	<0.000406	<6.8e-005	0.000303 J	0.00294	0.169

Notes:

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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.
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## Table 6. First Semi-Annual Monitoring Event

### Analytical Results Summary Plant Gorgas Gypsum Storage Pond (Old) 01/25/2022 - 01/27/2022

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
Piezometer	GS-GSA-PZ-21	01/25/2022	0.000251	0.0175 J	<0.0003	0.00297	<0.000508	<6.8e-005
Piezometer	GS-GSA-PZ-22	01/25/2022	9.04e-005 J	0.0718	<0.0003	0.000931	<0.000508	<6.8e-005

Notes:

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

### Analytical Results Summary Plant Gorgas Gypsum Storage Pond (Old) 01/25/2022 - 01/27/2022

General Chemistry and MNA Parameters										
Hydraulic Location	Well	Sample Date	Chloride mg/L	Nitrate Nitrite mg/L as N	Sulfate mg/L	Aluminum mg/L	Calcium mg/L	Iron Total mg/L	Potassium mg/L	Magnesium Total mg/L
Upgradient	MW-1	01/25/2022	2.09	1.13	1430	0.123	150	<0.00812	6.85	281
Upgradient	MW-2	01/25/2022	2.14	<0.2	842	<0.00406	179	1.18	5.8	194
Upgradient	MW-3	01/25/2022	2.12	3.7	2550	0.0419	285	0.0451	7.05	542
Upgradient	MW-4	01/25/2022	1.54	0.226 J	1930	0.00905 J	259	<0.00812	7.45	424
Downgradient	GS-GSA-MW-3	01/26/2022	255	0.32	2620	0.245	517	144	9.04	337
Downgradient	GS-GSA-MW-4	01/27/2022	103	<0.2	1130	29.7	181	20.6	5.18	160
Downgradient	GS-GSA-MW-8	01/27/2022	122	<0.2	2000	0.176	491	27.9	8.22	301
Vert. Delineation	GS-GSA-MW-12H	01/25/2022	1.83	0.248 J	903	11.9	124	0.856	4.76	129
Vert. Delineation	GS-GSA-MW-12V	01/27/2022	171	<0.2	1990	0.006 J	347	33.2	7.49	213
Vert. Delineation	GS-GSA-MW-3V	01/26/2022	238	<0.2	2010	0.013	448	33	7.52	239
Vert. Delineation	GS-GSA-MW-4V	01/27/2022	51.9	<0.2	825	2.9	172	40	4.62	116
Vert. Delineation	GS-GSA-MW-8V	01/26/2022	18.9	<0.2	199	0.0178	31.5	0.107	4.34	13.7
Vert. Delineation	GS-GSA-MW-9V	01/26/2022	57.2	<0.2	1820	<0.00406	417	1.09	7.74	169
Horiz. Delineation	GS-GSA-MW-11H	01/26/2022	5.4	<0.2	745	0.348	143	1.53	1.02	126
Horiz. Delineation	GS-GSA-MW-13H	01/26/2022	10.2	0.291 J	883	0.122	158	55.8	9.67	113
Horiz. Delineation	GS-GSA-MW-14H	01/27/2022	3.75	<0.2	784	11.8	124	12.1	3.79	90.3
Horiz. Delineation	GS-GSA-MW-9H	01/26/2022	59.3	<0.2	1660	0.223	300	16	7.96	205
Piezometer	GS-GSA-PZ-17	01/27/2022	1.64	<0.2	379	12.4	73.5	3.1	4.62	46.9
Piezometer	GS-GSA-PZ-18	01/27/2022	1.92	<0.2	532	13.9	84.8	9.92	2.99	55.3
Piezometer	GS-GSA-PZ-19	01/25/2022	13.2	<0.2	344	0.0058 J	117	2.82	4.11	53

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- NC = value not detected with alkalinity calculation

## Table 6. First Semi-Annual Monitoring Event

### Analytical Results Summary Plant Gorgas Gypsum Storage Pond (Old) 01/25/2022 - 01/27/2022

General Chemistry and MNA Parameters										
Hydraulic Location	Well	Sample Date	Manganese Total mg/L	Sodium mg/L	Silica mg/L	Silicon mg/L	Carbon, Total Organic mg/L	Alkalinity Total as CaCO <sub>3</sub> mg/L	Carbonate Alkalinity as CaCO <sub>3</sub> mg/L	Bicarbonate Alkalinity as CaCO <sub>3</sub> mg/L
Upgradient	MW-1	01/25/2022	10.4	33.8	24.8	11.6	1 J	21.6	0	21.6
Upgradient	MW-2	01/25/2022	4.05	20.1	11.1	5.2	1.84 J	344	0.08	344
Upgradient	MW-3	01/25/2022	0.466	49.9	23.5	11	1.01 J	71.5	0.01	71.5
Upgradient	MW-4	01/25/2022	0.000745	33.1	12.4	5.8	<1	174	0.05	174
Downgradient	GS-GSA-MW-3	01/26/2022	51.7	205	22.7	10.6	1.32 J	197	0.02	197
Downgradient	GS-GSA-MW-4	01/27/2022	18.9	25.2	56.7	26.5	1.14 J	--	--	--
Downgradient	GS-GSA-MW-8	01/27/2022	17.5	164	15.3	7.13	2.82	523	1.91	521
Vert. Delineation	GS-GSA-MW-12H	01/25/2022	14	27	41.7	19.5	1.22 J	--	--	--
Vert. Delineation	GS-GSA-MW-12V	01/27/2022	22.1	390	27.4	12.8	1.31 J	307	0.74	306
Vert. Delineation	GS-GSA-MW-3V	01/26/2022	13.7	230	24.2	11.3	1.34 J	173	0.03	173
Vert. Delineation	GS-GSA-MW-4V	01/27/2022	5.1	27.4	31.5	14.7	<1	41.4	0	41.4
Vert. Delineation	GS-GSA-MW-8V	01/26/2022	0.209	365	19.9	9.32	2.6	791	4.56	786
Vert. Delineation	GS-GSA-MW-9V	01/26/2022	1.55	290	29.7	13.9	<1	329	0.59	328
Horiz. Delineation	GS-GSA-MW-11H	01/26/2022	1.94	45.3	19.4	9.05	<1	85.2	0.02	85.2
Horiz. Delineation	GS-GSA-MW-13H	01/26/2022	20.4	57.2	25.7	12	3.54	197	0.08	197
Horiz. Delineation	GS-GSA-MW-14H	01/27/2022	8.52	21.5	58.6	27.4	<1	--	--	--
Horiz. Delineation	GS-GSA-MW-9H	01/26/2022	20.6	118	20.5	9.56	1.29 J	49.1	0.12	49
Piezometer	GS-GSA-PZ-17	01/27/2022	4.83	7.37	30.4	14.2	1.34 J	--	--	--
Piezometer	GS-GSA-PZ-18	01/27/2022	3.14	13.6	38.1	17.8	<1	--	--	--
Piezometer	GS-GSA-PZ-19	01/25/2022	0.875	125	21.6	10.1	1.51 J	431	0.23	431

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- NC = value not detected with alkalinity calculation



## Table 6. First Semi-Annual Monitoring Event

### Analytical Results Summary Plant Gorgas Gypsum Storage Pond (Old) 01/25/2022 - 01/27/2022

General Chemistry and MNA Parameters										
Hydraulic Location	Well	Sample Date	Chloride mg/L	Nitrate Nitrite mg/L as N	Sulfate mg/L	Aluminum mg/L	Calcium mg/L	Iron Total mg/L	Potassium mg/L	Magnesium Total mg/L
Piezometer	GS-GSA-PZ-20	01/25/2022	13	<0.2	437	0.0655	96.7	5.37	4.87	53.6
Piezometer	GS-GSA-PZ-21	01/25/2022	12.8	<0.2	32.8	0.301	39	3.63	2.4	37.7
Piezometer	GS-GSA-PZ-22	01/25/2022	5.76	<0.2	440	0.0445	74.6	51.2	6.55	38

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- DO - Dissolved Oxygen, ORP - Oxidation Reduction Potential, TDS - Total Dissolved Solids.
- mg/L - milligrams per liter, mv - millivolts, NTU - nephelometric turbidity unit, C - celsius, SU - standard unit, uS/cm - microseimens per centimeter, pCi/L - picocuries per liter.
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## Table 6. First Semi-Annual Monitoring Event

Analytical Results Summary  
 Plant Gorgas Gypsum Storage Pond (Old)  
 01/25/2022 - 01/27/2022

General Chemistry and MNA Parameters										
Hydraulic Location	Well	Sample Date	Manganese Total mg/L	Sodium mg/L	Silica mg/L	Silicon mg/L	Carbon, Total Organic mg/L	Alkalinity Total as CaCO3 mg/L	Carbonate Alkalinity as CaCO3 mg/L	Bicarbonate Alkalinity as CaCO3 mg/L
Piezometer	GS-GSA-PZ-20	01/25/2022	0.304	107	19.7	9.21	1.71 J	212	0.07	212
Piezometer	GS-GSA-PZ-21	01/25/2022	1.6	95.8	18.8	8.79	3.67	427	0.5	426
Piezometer	GS-GSA-PZ-22	01/25/2022	2.25	37.1	21.3	9.97	1.46 J	79.1	0.02	79.1

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6. NC = value not detected with alkalinity calculation

## Table 7. Second Semi-Annual Monitoring Event

### Analytical Results Summary Plant Gorgas Gypsum Storage Pond (Old) 07/05/2022 - 07/13/2022

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	07/05/2022	0.88	259.28	0.23	20.8	5.01	2312.33
Upgradient	MW-2	07/05/2022	0.68	78.73	1.76	20.66	6.15	1626.22
Upgradient	MW-3	07/05/2022	4.25	210.81	4.93	29.15	5.34	3672.69
Upgradient	MW-4	07/05/2022	2.32	184.48	0.89	21.75	6.12	3243.59
Downgradient	GS-GSA-MW-3	07/13/2022	0.37	2.13	4.61	21.82	5.92	5084.48
Downgradient	GS-GSA-MW-4	07/13/2022	0.26	280.25	4.72	21.18	3.43	4505.26
Downgradient	GS-GSA-MW-8	07/12/2022	0.52	-111.78	3.55	24.04	6.49	3642.75
Vert. Delineation	GS-GSA-MW-12H	07/13/2022	0.24	373.83	4.49	20.22	4.15	1438.58
Vert. Delineation	GS-GSA-MW-12V	07/13/2022	0.28	-51.2	0.17	19.93	6.26	3907.36
Vert. Delineation	GS-GSA-MW-3V	07/13/2022	1.48	-35.99	1.29	25.21	5.98	3030.91
Vert. Delineation	GS-GSA-MW-4V	07/13/2022	0.33	21.7	9.71	20.44	5.66	1664.39
Vert. Delineation	GS-GSA-MW-8V	07/12/2022	0.74	-271.47	1.86	24.24	7.44	1545.82
Vert. Delineation	GS-GSA-MW-9V	07/12/2022	0.56	-76.45	0.36	24.41	6.79	3386.34
Horiz. Delineation	GS-GSA-MW-11H	07/12/2022	0.41	80.7	4.83	19.86	5.97	1458.19
Horiz. Delineation	GS-GSA-MW-13H	07/12/2022	0.11	10.77	9.94	19.94	5.82	1580.5
Horiz. Delineation	GS-GSA-MW-14H	07/13/2022	0.33	313.91	2.78	20.39	3.94	1288.81
Horiz. Delineation	GS-GSA-MW-9H	07/12/2022	0.28	132.57	2.2	22.14	5.3	2796.05
Piezometer	GS-GSA-PZ-17	07/13/2022	0.63	20.37	1.84	22.32	4.48	1423.88
Piezometer	GS-GSA-PZ-18	07/12/2022	1.31	92.49	0.77	21.65	4.03	1101.69
Piezometer	GS-GSA-PZ-19	07/12/2022	0.34	-22.56	2.06	19.19	6.58	1180.88

Notes:

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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.
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6. NC = value not detected with alkalinity calculation

## Table 7. Second Semi-Annual Monitoring Event

Analytical Results Summary  
Plant Gorgas Gypsum Storage Pond (Old)  
07/05/2022 - 07/13/2022

Field Parameters								
Hydraulic Location	Well	Sample Date	DO mg/L	ORP mv	Turbidity NTU	Field Temperature C	pH_Field SU	Conductivity uS/cm
Piezometer	GS-GSA-PZ-20	07/12/2022	0.47	7.83	4.61	20.23	6.41	1084.1
Piezometer	GS-GSA-PZ-21	07/12/2022	0.45	-62.22	3.88	21.45	6.96	797.16
Piezometer	GS-GSA-PZ-22	07/13/2022	0.34	-43.54	1.68	19.76	5.8	773.37

Notes:

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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.
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## Table 7. Second Semi-Annual Monitoring Event

### Analytical Results Summary Plant Gorgas Gypsum Storage Pond (Old) 07/05/2022 - 07/13/2022

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	07/05/2022	<0.03	168	2.07	0.11 J	5.01	1600
Upgradient	MW-2	07/05/2022	<0.03	172	2.53	0.2	6.15	819
Upgradient	MW-3	07/05/2022	0.0374 J	369	1.59	0.386	5.34	3110
Upgradient	MW-4	07/05/2022	0.0433 J	294	1.63	0.362	6.12	2380
Downgradient	GS-GSA-MW-3	07/13/2022	1.29	549	228	0.324	5.92	3180
Downgradient	GS-GSA-MW-4	07/13/2022	7.29	385	199	<0.06	3.43	3040
Downgradient	GS-GSA-MW-8	07/12/2022	2.3	451	120	0.112 J	6.49	1740
Vert. Delineation	GS-GSA-MW-12H	07/13/2022	0.0687 J	130	1.77	<0.06	4.15	839
Vert. Delineation	GS-GSA-MW-12V	07/13/2022	1.61	374	199	0.301	6.26	1980
Vert. Delineation	GS-GSA-MW-3V	07/13/2022	2.85	442	285	0.374	5.98	2040
Vert. Delineation	GS-GSA-MW-4V	07/13/2022	3.15	165	47.2	0.536	5.66	858
Vert. Delineation	GS-GSA-MW-8V	07/12/2022	0.148	30.4	15.5	0.19	7.44	177
Vert. Delineation	GS-GSA-MW-9V	07/12/2022	0.118	460	62.5	0.165	6.79	1780
Horiz. Delineation	GS-GSA-MW-11H	07/12/2022	<0.03	137	5.18	0.156	5.97	807
Horiz. Delineation	GS-GSA-MW-13H	07/12/2022	0.209	177	10.8	0.207	5.82	857
Horiz. Delineation	GS-GSA-MW-14H	07/13/2022	0.106	124	2.15	<0.06	3.94	707
Horiz. Delineation	GS-GSA-MW-9H	07/12/2022	5.04	311	51.9	0.191	5.3	1720
Piezometer	GS-GSA-PZ-17	07/13/2022	0.0974 J	152	1.73	<0.06	4.48	923
Piezometer	GS-GSA-PZ-18	07/12/2022	0.0535 J	105	1.77	<0.06	4.03	578
Piezometer	GS-GSA-PZ-19	07/12/2022	0.0555 J	123	13	0.31	6.58	331
Piezometer	GS-GSA-PZ-20	07/12/2022	0.0887 J	98.3	11.5	0.177	6.41	404

Notes:

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- DO - Dissolved Oxygen, ORP - Oxidation Reduction Potential, TDS - Total Dissolved Solids.
- mg/L - milligrams per liter, mv - millivolts, NTU - nephelometric turbidity unit, C - celsius, SU - standard unit, uS/cm - microseimens per centimeter, pCi/L - picocuries per liter.
- NC = value not detected with alkalinity calculation

## Table 7. Second Semi-Annual Monitoring Event

Analytical Results Summary  
Plant Gorgas Gypsum Storage Pond (Old)  
07/05/2022 - 07/13/2022

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
Piezometer	GS-GSA-PZ-21	07/12/2022	<0.03	44.2	13.2	0.306	6.96	36.6
Piezometer	GS-GSA-PZ-22	07/13/2022	0.0664 J	72.8	5.52	0.0953 J	5.8	410

Notes:

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4. DO - Dissolved Oxygen, ORP - Oxidation Reduction Potential, TDS - Total Dissolved Solids.
5. mg/L - milligrams per liter, mv - millivolts, NTU - nephelometric turbidity unit, C - celsius, SU - standard unit, uS/cm - microseimens per centimeter, pCi/L - picocuries per liter.
6. NC = value not detected with alkalinity calculation

## Table 7. Second Semi-Annual Monitoring Event

### Analytical Results Summary Plant Gorgas Gypsum Storage Pond (Old) 07/05/2022 - 07/13/2022

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	07/05/2022	<0.000508	0.000281	0.01	<0.000406	0.00211	0.000364 J	0.0627	0.11 J
Upgradient	MW-2	07/05/2022	<0.000508	0.00035	0.0116	<0.000406	8.4e-005 J	<0.000203	0.0184	0.2
Upgradient	MW-3	07/05/2022	<0.000508	0.00374	0.0155	0.00139	0.00835	0.00025 J	0.195	0.386
Upgradient	MW-4	07/05/2022	<0.000508	0.000118 J	0.0113	<0.000406	7.46e-005 J	<0.000203	<6.8e-005	0.362
Downgradient	GS-GSA-MW-3	07/13/2022	<0.000508	0.000491	0.0118	0.00204	<6.8e-005	0.000341 J	0.046	0.324
Downgradient	GS-GSA-MW-4	07/13/2022	<0.000508	0.00694	0.00947	0.0228	0.00687	0.00355	0.878	<0.06
Downgradient	GS-GSA-MW-8	07/12/2022	<0.000508	0.000156 J	0.022	<0.000406	<6.8e-005	0.000258 J	0.000233	0.112 J
Vert. Delineation	GS-GSA-MW-12H	07/13/2022	<0.000508	0.00106	0.0129	0.00817	0.00293	0.000329 J	0.34	<0.06
Vert. Delineation	GS-GSA-MW-12V	07/13/2022	<0.000508	0.000522	0.0103	<0.000406	<6.8e-005	0.000325 J	0.000166 J	0.301
Vert. Delineation	GS-GSA-MW-3V	07/13/2022	<0.000508	0.000178 J	0.0145	<0.000406	<6.8e-005	0.000255 J	0.0115	0.374
Vert. Delineation	GS-GSA-MW-4V	07/13/2022	<0.000508	0.00117	0.00969	0.00607	<6.8e-005	0.00039 J	0.137	0.536
Vert. Delineation	GS-GSA-MW-8V	07/12/2022	<0.000508	0.00276	0.0967	<0.000406	<6.8e-005	<0.000203	<6.8e-005	0.19
Vert. Delineation	GS-GSA-MW-9V	07/12/2022	<0.000508	0.00137	0.012	<0.000406	<6.8e-005	0.000313 J	0.000425	0.165
Horiz. Delineation	GS-GSA-MW-11H	07/12/2022	<0.000508	0.000292	0.0115	<0.000406	0.000327	0.000425 J	0.00494	0.156
Horiz. Delineation	GS-GSA-MW-13H	07/12/2022	<0.000508	0.0902	0.021	<0.000406	<6.8e-005	0.000331 J	0.153	0.207
Horiz. Delineation	GS-GSA-MW-14H	07/13/2022	<0.000508	0.0013	0.0104	0.00896	0.00128	0.000526 J	0.192	<0.06
Horiz. Delineation	GS-GSA-MW-9H	07/12/2022	<0.000508	0.000982	0.0134	0.000599 J	0.000309	0.000265 J	0.148	0.191
Piezometer	GS-GSA-PZ-17	07/13/2022	<0.000508	0.00324	0.0165	0.00901	0.00124	0.00159	0.26	<0.06
Piezometer	GS-GSA-PZ-18	07/12/2022	<0.000508	0.0053	0.00944	0.00757	0.000374	0.00191	0.125	<0.06

Notes:

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4. DO - Dissolved Oxygen, ORP - Oxidation Reduction Potential, TDS - Total Dissolved Solids.
5. mg/L - milligrams per liter, mv - millivolts, NTU - nephelometric turbidity unit, C - celsius, SU - standard unit, uS/cm - microseimens per centimeter, pCi/L - picocuries per liter.
6. NC = value not detected with alkalinity calculation

## Table 7. Second Semi-Annual Monitoring Event

Analytical Results Summary  
Plant Gorgas Gypsum Storage Pond (Old)  
07/05/2022 - 07/13/2022

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	Combined Radium 226 + 228 pCi/L
Upgradient	MW-1	07/05/2022	<6.8e-005	0.0274	<0.0003	<0.000102	0.00269	<6.8e-005	1.49
Upgradient	MW-2	07/05/2022	<6.8e-005	0.0469	<0.0003	<0.000102	<0.000508	<6.8e-005	1.31
Upgradient	MW-3	07/05/2022	7.33e-005 J	0.251	<0.0003	<0.000102	0.0205	<6.8e-005	1.33
Upgradient	MW-4	07/05/2022	<6.8e-005	0.0566	<0.0003	0.000108 J	0.000961 J	<6.8e-005	1.1
Downgradient	GS-GSA-MW-3	07/13/2022	9.53e-005 J	0.421	<0.0003	0.000257	0.00151	<6.8e-005	0.239 U
Downgradient	GS-GSA-MW-4	07/13/2022	0.00228	1.89	<0.0003	<0.000102	0.0226	0.000447	1.37
Downgradient	GS-GSA-MW-8	07/12/2022	<6.8e-005	0.189	<0.0003	0.000122 J	<0.000508	<6.8e-005	0.745 U
Vert. Delineation	GS-GSA-MW-12H	07/13/2022	0.00406	0.411	<0.0003	<0.000102	0.0039	0.000311	1.55
Vert. Delineation	GS-GSA-MW-12V	07/13/2022	<6.8e-005	0.312	<0.0003	0.00241	<0.000508	<6.8e-005	0.373 U
Vert. Delineation	GS-GSA-MW-3V	07/13/2022	<6.8e-005	0.379	<0.0003	<0.000102	<0.000508	<6.8e-005	1.12
Vert. Delineation	GS-GSA-MW-4V	07/13/2022	7.96e-005 J	0.329	<0.0003	<0.000102	0.00111	<6.8e-005	0.62 U
Vert. Delineation	GS-GSA-MW-8V	07/12/2022	8.13e-005 J	0.269	<0.0003	0.000186 J	<0.000508	<6.8e-005	1.04 U
Vert. Delineation	GS-GSA-MW-9V	07/12/2022	<6.8e-005	0.338	<0.0003	0.000457	<0.000508	<6.8e-005	0.718 U
Horiz. Delineation	GS-GSA-MW-11H	07/12/2022	0.000175 J	<0.007105	<0.0003	<0.000102	<0.000508	<6.8e-005	0.997 U
Horiz. Delineation	GS-GSA-MW-13H	07/12/2022	<6.8e-005	0.047	<0.0003	0.000344	<0.000508	<6.8e-005	0.669 U
Horiz. Delineation	GS-GSA-MW-14H	07/13/2022	0.000874	0.428	<0.0003	<0.000102	0.00436	7.66e-005 J	1 U
Horiz. Delineation	GS-GSA-MW-9H	07/12/2022	0.00011 J	0.124	<0.0003	<0.000102	0.000944 J	0.000242	0.818 U
Piezometer	GS-GSA-PZ-17	07/13/2022	0.0026	0.779	<0.0003	<0.000102	0.00663	0.000102 J	0.792 U
Piezometer	GS-GSA-PZ-18	07/12/2022	0.0004	0.387	<0.0003	<0.000102	0.00398	9.48e-005 J	0.234 U

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- NC = value not detected with alkalinity calculation



## Table 7. Second Semi-Annual Monitoring Event

### Analytical Results Summary Plant Gorgas Gypsum Storage Pond (Old) 07/05/2022 - 07/13/2022

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
Piezometer	GS-GSA-PZ-19	07/12/2022	<0.000508	0.00162	0.0334	<0.000406	7.39e-005 J	0.000327 J	0.00217	0.31
Piezometer	GS-GSA-PZ-20	07/12/2022	<0.000508	0.00222	0.0187	<0.000406	<6.8e-005	0.000267 J	0.00278	0.177
Piezometer	GS-GSA-PZ-21	07/12/2022	<0.000508	0.00256	0.141	<0.000406	<6.8e-005	0.000293 J	0.00307	0.306
Piezometer	GS-GSA-PZ-22	07/13/2022	<0.000508	0.0504	0.017	<0.000406	<6.8e-005	0.000244 J	0.00178	0.0953 J

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## Table 7. Second Semi-Annual Monitoring Event

### Analytical Results Summary Plant Gorgas Gypsum Storage Pond (Old) 07/05/2022 - 07/13/2022

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	Combined Radium 226 + 228 pCi/L
Piezometer	GS-GSA-PZ-19	07/12/2022	<6.8e-005	0.0873	<0.0003	0.000511	<0.000508	<6.8e-005	0.533 U
Piezometer	GS-GSA-PZ-20	07/12/2022	<6.8e-005	0.0915	<0.0003	0.00134	0.00254	0.000212	0.665 U
Piezometer	GS-GSA-PZ-21	07/12/2022	<6.8e-005	0.0185 J	<0.0003	0.00279	<0.000508	<6.8e-005	0.936 U
Piezometer	GS-GSA-PZ-22	07/13/2022	<6.8e-005	0.0682	<0.0003	0.0014	<0.000508	<6.8e-005	0.739 U

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4. DO - Dissolved Oxygen, ORP - Oxidation Reduction Potential, TDS - Total Dissolved Solids.
5. mg/L - milligrams per liter, mv - millivolts, NTU - nephelometric turbidity unit, C - celsius, SU - standard unit, uS/cm - microseimens per centimeter, pCi/L - picocuries per liter.
6. NC = value not detected with alkalinity calculation

### Analytical Results Summary Plant Gorgas Gypsum Storage Pond (Old) 07/05/2022 - 07/13/2022

General Chemistry and MNA Parameters										
Hydraulic Location	Well	Sample Date	Sulfate mg/L	Chloride mg/L	Sulfide mg/L	Carbonate Alkalinity as CaCO <sub>3</sub> mg/L	Bicarbonate Alkalinity as CaCO <sub>3</sub> mg/L	Aluminum mg/L	Iron Total mg/L	Magnesium Total mg/L
Upgradient	MW-1	07/05/2022	1600	2.07	0	NC	25.7	0.114	<0.00812	307
Upgradient	MW-2	07/05/2022	819	2.53	0	NC	360	<0.00609	1.24	181
Upgradient	MW-3	07/05/2022	3110	1.59	0	NC	11.3	1.28	0.7	587
Upgradient	MW-4	07/05/2022	2380	1.63	0	0.64	190	0.00913 J	0.0217 J	451
Downgradient	GS-GSA-MW-3	07/13/2022	3180	228	0	NC	69.9	0.161	239	319
Downgradient	GS-GSA-MW-4	07/13/2022	3040	199	0	--	--	98.3	208	347
Downgradient	GS-GSA-MW-8	07/12/2022	1740	120	0	0.64	524	0.0328	26.2	270
Vert. Delineation	GS-GSA-MW-12H	07/13/2022	839	1.77	0	--	--	11	1.27	122
Vert. Delineation	GS-GSA-MW-12V	07/13/2022	1980	199	0	NC	326	<0.00609	38.3	229
Vert. Delineation	GS-GSA-MW-3V	07/13/2022	2040	285	0	NC	150	0.00969 J	31.4	232
Vert. Delineation	GS-GSA-MW-4V	07/13/2022	858	47.2	0	NC	35.4	4.5	38.8	109
Vert. Delineation	GS-GSA-MW-8V	07/12/2022	177	15.5	8	4.06	701	0.0126	0.0456	15.1
Vert. Delineation	GS-GSA-MW-9V	07/12/2022	1780	62.5	0	0.7	370	<0.00609	1.18	185
Horiz. Delineation	GS-GSA-MW-11H	07/12/2022	807	5.18	0	NC	95.1	0.0725	1.53	117
Horiz. Delineation	GS-GSA-MW-13H	07/12/2022	857	10.8	0	NC	140	0.0161	38.3	108
Horiz. Delineation	GS-GSA-MW-14H	07/13/2022	707	2.15	0	--	--	13.6	11	86.2
Horiz. Delineation	GS-GSA-MW-9H	07/12/2022	1720	51.9	0	NC	54.6	0.182	16.4	209
Piezometer	GS-GSA-PZ-17	07/13/2022	923	1.73	0	--	--	19.2	37.2	102
Piezometer	GS-GSA-PZ-18	07/12/2022	578	1.77	0	--	--	18.6	13.4	67.3
Piezometer	GS-GSA-PZ-19	07/12/2022	331	13	0	0.58	454	0.0918	3.21	53.8

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## Table 7. Second Semi-Annual Monitoring Event

### Analytical Results Summary Plant Gorgas Gypsum Storage Pond (Old) 07/05/2022 - 07/13/2022

General Chemistry and MNA Parameters										
Hydraulic Location	Well	Sample Date	Manganese Total mg/L	Potassium mg/L	Silicon mg/L	Sodium mg/L	Carbon, Total Organic mg/L	Calcium mg/L	Silica mg/L	Nitrate Nitrite mg/L as N
Upgradient	MW-1	07/05/2022	10.4	7.28	11.9	38.2	1.14 J	168	25.5	1.57
Upgradient	MW-2	07/05/2022	5.62	5.86	5.57	20.2	1.59 J	172	11.9	<0.2
Upgradient	MW-3	07/05/2022	5.11	8.78	20.3	54.9	<1	369	43.4	0.582
Upgradient	MW-4	07/05/2022	0.00082	8.2	6.3	39.2	1.07 J	294	13.5	<0.2
Downgradient	GS-GSA-MW-3	07/13/2022	25.4	11.8	9.39	238	<1	549	20.1	0.428
Downgradient	GS-GSA-MW-4	07/13/2022	38.3	5.34	32.3	77.2	1.53 J	385	69.1	0.412
Downgradient	GS-GSA-MW-8	07/12/2022	15.3	8	6.81	154	3.25	451	14.6	0.255 J
Vert. Delineation	GS-GSA-MW-12H	07/13/2022	14.3	4.89	19.5	22.6	1.14 J	130	41.7	<0.2
Vert. Delineation	GS-GSA-MW-12V	07/13/2022	22.2	7.3	12.7	381	1.63 J	374	27.2	0.274 J
Vert. Delineation	GS-GSA-MW-3V	07/13/2022	13.2	7.35	11.2	212	1.75 J	442	24	0.273 J
Vert. Delineation	GS-GSA-MW-4V	07/13/2022	5.22	4.64	14.7	25.1	<1	165	31.5	0.287 J
Vert. Delineation	GS-GSA-MW-8V	07/12/2022	0.114	3.65	9.12	341	3.13	30.4	19.5	<0.2
Vert. Delineation	GS-GSA-MW-9V	07/12/2022	1.39	7.51	13.9	301	1.22 J	460	29.7	0.345
Horiz. Delineation	GS-GSA-MW-11H	07/12/2022	1.85	0.891	8.93	41.7	<1	137	19.1	<0.2
Horiz. Delineation	GS-GSA-MW-13H	07/12/2022	15.8	6.26	11.4	47.8	2.38	177	24.4	0.314
Horiz. Delineation	GS-GSA-MW-14H	07/13/2022	7.96	3.47	25.9	16.2	<1	124	55.4	<0.2
Horiz. Delineation	GS-GSA-MW-9H	07/12/2022	20.3	7.58	9.6	128	1.15 J	311	20.5	0.21 J
Piezometer	GS-GSA-PZ-17	07/13/2022	8.15	4.95	14.5	13.6	1.39 J	152	31	0.282 J
Piezometer	GS-GSA-PZ-18	07/12/2022	3.94	2.78	20.7	14.7	1.16 J	105	44.3	<0.2
Piezometer	GS-GSA-PZ-19	07/12/2022	0.933	3.87	10.6	123	3.03	123	22.7	<0.2

Notes:

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

## Table 7. Second Semi-Annual Monitoring Event

Analytical Results Summary  
Plant Gorgas Gypsum Storage Pond (Old)  
07/05/2022 - 07/13/2022

General Chemistry and MNA Parameters			
Hydraulic Location	Well	Sample Date	Alkalinity Total as CaCO3 mg/L
Upgradient	MW-1	07/05/2022	25.7
Upgradient	MW-2	07/05/2022	360
Upgradient	MW-3	07/05/2022	11.3
Upgradient	MW-4	07/05/2022	191
Downgradient	GS-GSA-MW-3	07/13/2022	69.9
Downgradient	GS-GSA-MW-4	07/13/2022	--
Downgradient	GS-GSA-MW-8	07/12/2022	525
Vert. Delineation	GS-GSA-MW-12H	07/13/2022	--
Vert. Delineation	GS-GSA-MW-12V	07/13/2022	326
Vert. Delineation	GS-GSA-MW-3V	07/13/2022	150
Vert. Delineation	GS-GSA-MW-4V	07/13/2022	35.4
Vert. Delineation	GS-GSA-MW-8V	07/12/2022	705
Vert. Delineation	GS-GSA-MW-9V	07/12/2022	371
Horiz. Delineation	GS-GSA-MW-11H	07/12/2022	95.2
Horiz. Delineation	GS-GSA-MW-13H	07/12/2022	140
Horiz. Delineation	GS-GSA-MW-14H	07/13/2022	--
Horiz. Delineation	GS-GSA-MW-9H	07/12/2022	54.6
Piezometer	GS-GSA-PZ-17	07/13/2022	--
Piezometer	GS-GSA-PZ-18	07/12/2022	--
Piezometer	GS-GSA-PZ-19	07/12/2022	455

Notes:

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

## Table 7. Second Semi-Annual Monitoring Event

### Analytical Results Summary Plant Gorgas Gypsum Storage Pond (Old) 07/05/2022 - 07/13/2022

General Chemistry and MNA Parameters										
Hydraulic Location	Well	Sample Date	Sulfate mg/L	Chloride mg/L	Sulfide mg/L	Carbonate Alkalinity as CaCO3 mg/L	Bicarbonate Alkalinity as CaCO3 mg/L	Aluminum mg/L	Iron Total mg/L	Magnesium Total mg/L
Piezometer	GS-GSA-PZ-20	07/12/2022	404	11.5	0	NC	262	0.0156	5.64	52.9
Piezometer	GS-GSA-PZ-21	07/12/2022	36.6	13.2	0	0.71	442	0.00959 J	2.87	38
Piezometer	GS-GSA-PZ-22	07/13/2022	410	5.52	0	NC	80.9	<0.00609	44.8	38.8

Notes:

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

## Table 7. Second Semi-Annual Monitoring Event

### Analytical Results Summary Plant Gorgas Gypsum Storage Pond (Old) 07/05/2022 - 07/13/2022

General Chemistry and MNA Parameters										
Hydraulic Location	Well	Sample Date	Manganese Total mg/L	Potassium mg/L	Silicon mg/L	Sodium mg/L	Carbon, Total Organic mg/L	Calcium mg/L	Silica mg/L	Nitrate Nitrite mg/L as N
Piezometer	GS-GSA-PZ-20	07/12/2022	0.333	4.85	9.22	104	2.08	98.3	19.7	0.262 J
Piezometer	GS-GSA-PZ-21	07/12/2022	1.31	2.66	8.66	90.5	3.5	44.2	18.5	<0.2
Piezometer	GS-GSA-PZ-22	07/13/2022	2.24	6.87	8.44	34.5 J	2.48	72.8	18.1	0.333

Notes:

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

## Table 7. Second Semi-Annual Monitoring Event

Analytical Results Summary  
Plant Gorgas Gypsum Storage Pond (Old)  
07/05/2022 - 07/13/2022

General Chemistry and MNA Parameters			
Hydraulic Location	Well	Sample Date	Alkalinity Total as CaCO <sub>3</sub> mg/L
Piezometer	GS-GSA-PZ-20	07/12/2022	262
Piezometer	GS-GSA-PZ-21	07/12/2022	443
Piezometer	GS-GSA-PZ-22	07/13/2022	80.9

Notes:

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



# Appendix A



**Appendix A.  
Historical Analytical Summary Data  
Plant Gorgas Gypsum Pond**

Analyte	Well	GS-GSA-MW-11H								GS-GSA-MW-12H								GS-GSA-MW-12V	
	Unit	03/04/2019	10/16/2019	02/04/2020	08/04/2020	03/02/2021	07/14/2021	01/26/2022	07/12/2022	11/26/2019	01/23/2020	02/04/2020	08/05/2020	03/02/2021	07/14/2021	01/25/2022	07/13/2022	08/05/2020	03/03/2021
<b>Appendix III</b>																			
Boron	mg/L	<0.02	0.0352 J	<0.03	<0.03	0.0305 J	<0.03	<0.03	0.0301 J	0.0798 J	--	0.0748 J	0.0748 J	0.0875 J	0.0742 J	0.0656 J	0.0687 J	1.55	1.54
Calcium	mg/L	160	143	163	139	139	133	144	137	144	--	158	126	124	124	124	131	350	353
Chloride	mg/L	3.84	4.45	4.27	4.51	4.63	4.7	5.4	5.18	2.43	--	2.34	2	2.28	1.69	1.83	1.77	159	152
Fluoride	mg/L	0.0973 J	0.0875 J	0.0743 J	0.109	0.0758 J	0.0848 J	0.0809 J	0.156	<0.05	--	<0.05	<0.06	<0.06	<0.06	<0.06	<0.06	0.217	0.243
pH_Field	SU	6.04	6.07	6.02	5.74	5.89	5.72	5.95	5.97	4.37	--	4.57	4.13	4.11	4.04	4.11	4.15	6.15	6.11
Sulfate	mg/L	779	750	725	694	835	747	745	807	997	--	978	811	890	878	903	839	1830	1930
TDS	mg/L	1120	1150	1200	1230	1190	1190	1140	1180	1580	--	1580	1380	1390	1330	1310	1270	3330	3450
<b>Appendix IV</b>																			
Antimony	mg/L	0.00109 J	<0.0008	<0.0008	<0.0008	<0.000507	<0.000508	<0.000508	<0.000508	<0.0008	--	<0.0008	<0.0008	<0.000507	<0.000508	<0.000508	<0.000508	<0.0008	<0.000507
Arsenic	mg/L	<0.001	<0.001	<0.001	<0.001	0.00039	0.000406	0.000234	0.00023	0.00194 J	--	0.00157 J	0.00158 J	0.00138	0.00161	0.00129	0.00106	<0.001	0.000339
Barium	mg/L	0.0247	0.0192	0.0148	0.0138	0.0118	0.0127	0.0112	0.0115	0.0184	--	0.0141	0.016	0.0134	0.013	0.013	0.0129	0.0157	0.0126
Beryllium	mg/L	<0.0006	<0.0006	<0.0006	<0.0006	<0.000406	<0.000406	<0.000406	<0.000406	0.0084	--	0.00709	0.00747	0.00703	0.00755	0.0072	0.00813	<0.0006	<0.000406
Cadmium	mg/L	<0.0003	<0.0003	<0.0003	<0.0003	0.000366	0.000285	0.000294	0.000152 J	0.00351	--	0.00301	0.00393	0.00319	0.00301	0.00333	0.00293	<0.0003	<6.8e-005
Chromium	mg/L	<0.002	<0.002	<0.002	<0.002	0.000295 J	0.00034 J	0.000524 J	0.000425 J	<0.002	--	<0.002	<0.002	0.000242 J	0.000592 J	0.000334 J	0.000329 J	<0.002	<0.000203
Cobalt	mg/L	0.00664	0.00598	0.00582	0.0061	0.00512	0.00475	0.00479	0.00494	0.435	--	0.351	0.436	0.307	0.299	0.315	0.379	<0.002	0.00028
Combined Radium 226+228	pCi/L	0.135 U	0.189 U	0.319 U	0.0315 U	0.308 U	0.398 U	0.506 U	0.997 U	0.996	1.02	0.939	-0.306 U	2.18	1.42	1.22 U	1.55	-0.284 U	0.388 U
Lead	mg/L	<0.001	<0.001	<0.001	<0.001	0.000145 J	0.00014 J	0.000231	<6.8e-005	0.00271 J	--	0.00334 J	0.00329 J	0.00478	0.00557	0.00485	0.00404	<0.001	<6.8e-005
Lithium	mg/L	<0.01	<0.01	<0.01	<0.01	<0.007105	<0.007105	<0.007105	<0.007105	0.449	--	0.394	0.441	0.456	0.454	0.4	0.411	0.334	0.411
Mercury	mg/L	<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	<0.0003	<0.0003	<0.0003
Molybdenum	mg/L	<0.002	<0.002	<0.002	<0.002	<6.8e-005	<6.8e-005	<6.8e-005	<0.000102	<0.002	--	<0.002	<0.002	<6.8e-005	<6.8e-005	<6.8e-005	<0.000102	0.00247 J	0.00123
Selenium	mg/L	<0.002	<0.002	<0.002	<0.002	<0.000507	<0.000508	<0.000508	<0.000508	0.00614 J	--	<0.002	0.00417 J	0.00463	0.00441	0.00315	0.00361	<0.002	<0.000507
Thallium	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	0.000375 J	--	0.000491 J	0.000297 J	0.000371	0.000343	0.000317	0.000311	<0.0002	<6.8e-005

Notes:

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



**Appendix A.  
Historical Analytical Summary Data  
Plant Gorgas Gypsum Pond**

Analyte	Well	GS-GSA-MW-12V			GS-GSA-MW-13H								GS-GSA-MW-14H					GS-GSA-MW-3V	
	Unit	07/14/2021	01/27/2022	07/13/2022	11/26/2019	01/23/2020	02/04/2020	08/04/2020	03/02/2021	07/14/2021	01/26/2022	07/12/2022	08/05/2020	03/03/2021	07/13/2021	01/27/2022	07/13/2022	03/05/2019	10/14/2019
<b>Appendix III</b>																			
Boron	mg/L	1.55	1.52	1.61	0.201	--	0.202	0.263	0.206	0.229	0.222	0.21	0.158	0.203	0.139	0.148	0.106	0.895	2.38
Calcium	mg/L	338	347	374	166	--	171	192	164	179	161	192	141	137	135	125	130	329	368
Chloride	mg/L	189	171	199	13.1	--	12.9	12.7	10.9	11.4	10.2	10.9	3.28	4.8	2.41	3.75	2.15	194	298
Fluoride	mg/L	0.335	0.329	0.301	0.18	--	0.115	0.113	0.167	0.196	0.208	0.21	0.082 J	<0.06	<0.06	<0.06	<0.06	0.249	0.37
pH_Field	SU	6.21	6.19	6.26	6.03	--	6	5.89	5.85	5.55	6.08	5.82	3.83	4.02	3.8	4.1	3.94	6.7	6.39
Sulfate	mg/L	2000	1990	1980	731	--	720	773	861	857	918	857	796	803	787	784	707	1170	1710
TDS	mg/L	3360	3170	3380	1220	--	1200	1350	1450	1300	1360	1360	1280	1260	1180	1130	1120	2170	3200
<b>Appendix IV</b>																			
Antimony	mg/L	<0.000508	<0.000508	<0.000508	<0.0008	--	<0.0008	<0.0008	<0.000507	<0.000508	<0.000508	<0.000508	<0.0008	<0.000507	<0.000508	<0.000508	<0.000508	0.00179 J	<0.0008
Arsenic	mg/L	0.000475	0.000476	0.00046	0.075	--	0.16	0.103	0.293	0.104	0.283	0.0901	0.00181 J	0.00155	0.00191	0.0013	0.0013	<0.001	<0.001
Barium	mg/L	0.0116	0.0106	0.0114	0.0431	--	0.0296	0.0275	0.0315	0.0217	0.031	0.0206	0.0113	0.0109	0.0117	0.0122	0.0104	0.0956	0.0451
Beryllium	mg/L	<0.000406	<0.000406	<0.000406	<0.0006	--	<0.0006	<0.0006	<0.000406	<0.000406	<0.000406	<0.000406	0.00879	0.00818	0.00883	0.00718	0.00896	<0.0006	<0.0006
Cadmium	mg/L	<6.8e-005	<6.8e-005	<6.8e-005	<0.0003	--	<0.0003	<0.0003	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	0.0018	0.0016	0.00142	0.00134	0.00128	<0.0003	<0.0003
Chromium	mg/L	0.000252 J	0.000252 J	0.000325 J	<0.002	--	<0.002	<0.002	0.000285 J	0.000326 J	0.000292 J	0.000331 J	<0.002	<0.000203	0.000534 J	0.000502 J	0.000419 J	<0.002	<0.002
Cobalt	mg/L	0.000178 J	0.000162 J	0.000166 J	0.0488	--	0.0442	0.111	0.143	0.116	0.288	0.153	0.237	0.202	0.193	0.178	0.191	0.0059	0.00845
Combined Radium 226+228	pCi/L	0.657 U	0.361 U	0.373 U	0.559	0.55	0.624	-0.402 U	0.686 U	0.826 U	0.354 U	0.669 U	0.758 U	0.185 U	1.06 U	0.247 U	1 U	0.932	0.184 U
Lead	mg/L	<6.8e-005	<6.8e-005	<6.8e-005	<0.001	--	<0.001	<0.001	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	0.00122 J	0.000876	0.00095	0.000805	0.000874	<0.001	<0.001
Lithium	mg/L	0.374	0.303	0.313	0.0509	--	0.0506	0.0534	0.0439	0.0524	0.0298	0.047	0.512	0.54	0.514	0.43	0.428	0.309	0.38
Mercury	mg/L	<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	<0.0003	<0.0003	<0.0003
Molybdenum	mg/L	0.00203	0.00183	0.00241	<0.002	--	<0.002	<0.002	0.00138	0.0005	0.00145	0.000344	<0.002	7.06e-005 J	<6.8e-005	<6.8e-005	<0.000102	0.00347 J	<0.002
Selenium	mg/L	<0.000508	<0.000508	<0.000508	<0.002	--	<0.002	<0.002	<0.000507	<0.000508	0.000986 J	<0.000508	0.00571 J	0.00554	0.00628	0.00463	0.00419	<0.002	<0.002
Thallium	mg/L	<6.8e-005	<6.8e-005	<6.8e-005	<0.0002	--	<0.0002	<0.0002	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	<0.0002	7.98e-005 J	<6.8e-005	7.09e-005 J	6.89e-005 J	<0.0002	<0.0002

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



**Appendix A.  
Historical Analytical Summary Data  
Plant Gorgas Gypsum Pond**

Analyte	Well	GS-GSA-MW-3V						GS-GSA-MW-4V						GS-GSA-MW-8V					
	Unit	02/03/2020	08/04/2020	03/03/2021	07/15/2021	01/26/2022	07/13/2022	03/05/2019	10/14/2019	02/03/2020	08/05/2020	03/03/2021	07/14/2021	01/27/2022	07/13/2022	11/26/2019	01/22/2020	02/05/2020	08/05/2020
<b>Appendix III</b>																			
Boron	mg/L	3.06	2.8	2.99	3.04	2.81	2.85	7.15	5.64	5.25	4.41	4.09	3.68	3.47	3.1	0.134	--	0.136	0.131
Calcium	mg/L	504	443	466	453	481	464	249	173	184	167	161	162	172	165	37	--	37.3	31.9
Chloride	mg/L	338	305	307	294	238	285	191	122	101	80.9	70.8	68.4	51.9	47.2	6.88	--	9.05	13.9
Fluoride	mg/L	0.438	0.349	0.458	0.493	0.516	0.374	0.477	0.449	0.555	0.363	0.262	0.276	0.373	0.536	0.195	--	0.162	0.256
pH_Field	SU	5.88	5.9	5.76	5.92	6.61	5.98	6.19	5.89	5.84	5.81	5.75	5.75	6.17	5.66	7.54	--	7.48	7.58
Sulfate	mg/L	1970	1860	1930	1960	2010	2040	871	818	808	761	746	797	825	858	277	--	223	243
TDS	mg/L	3660	3530	3640	3430	3150	3340	1410	1340	1290	1330	1320	1340	1330	1380	1100	--	1100	1100
<b>Appendix IV</b>																			
Antimony	mg/L	<0.0008	<0.0008	<0.000507	<0.000508	<0.000508	<0.000508	<0.0008	<0.0008	<0.0008	<0.0008	<0.000507	<0.000508	<0.000508	<0.000508	<0.0008	--	<0.0008	<0.0008
Arsenic	mg/L	<0.001	<0.001	0.000296	0.000285	0.000208	0.000199 J	<0.001	<0.001	0.00101 J	0.00116 J	0.00107	0.00118	0.00108	0.00105	0.00737	--	0.00232 J	0.00476 J
Barium	mg/L	0.0215	0.017	0.0181	0.0157	0.0161	0.0145	0.0136	0.0123	0.0103	0.0112	0.0103	0.01	0.0108	0.00968	0.0904	--	0.096	0.125
Beryllium	mg/L	<0.0006	<0.0006	<0.000406	<0.000406	<0.000406	<0.000406	0.00155 J	0.00382	0.00362	0.00416	0.0032	0.00381	0.00335	0.00607	<0.0006	--	<0.0006	<0.0006
Cadmium	mg/L	<0.0003	<0.0003	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	<0.0003	<0.0003	<0.0003	<0.0003	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	<0.0003	--	<0.0003	<0.0003
Chromium	mg/L	<0.002	<0.002	<0.000203	0.00027 J	0.000497 J	0.000272 J	<0.002	<0.002	<0.002	<0.002	<0.000203	0.000266 J	0.000291 J	0.00039 J	<0.002	--	<0.002	<0.002
Cobalt	mg/L	0.0135	0.0133	0.0134	0.0121	0.012	0.0109	0.0836	0.12	0.108	0.141	0.118	0.12	0.124	0.137	<0.002	--	<0.002	<0.002
Combined Radium 226+228	pCi/L	0.408 U	-0.00668 U	1.11 U	0.362 U	0.546 U	1.12	0.364 U	0.369 U	0.758	0.533 U	0.325 U	0.917 U	0.624 U	0.62 U	0.569	0.524	0.576	1.85
Lead	mg/L	<0.001	<0.001	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	<0.001	<0.001	<0.001	<0.001	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	<0.001	--	<0.001	<0.001
Lithium	mg/L	0.46	0.395	0.455	0.441	0.352	0.379	0.369	0.317	0.332	0.322	0.345	0.337	0.305	0.329	0.28	--	0.327	0.275
Mercury	mg/L	<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	<0.0003	--	<0.0003	<0.0003
Molybdenum	mg/L	<0.002	<0.002	7.93e-005 J	8.72e-005 J	0.00012 J	<0.000102	<0.002	<0.002	<0.002	<0.002	<6.8e-005	<6.8e-005	<6.8e-005	<0.000102	<0.002	--	<0.002	<0.002
Selenium	mg/L	<0.002	<0.002	<0.000507	<0.000508	<0.000508	<0.000508	<0.002	<0.002	<0.002	<0.002	0.000749 J	0.000952 J	0.00101 J	0.00108	<0.002	--	<0.002	<0.002
Thallium	mg/L	<0.0002	<0.0002	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	<0.0002	<0.0002	<0.0002	<0.0002	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	<0.0002	--	<0.0002	<0.0002

Notes:

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



**Appendix A.  
Historical Analytical Summary Data  
Plant Gorgas Gypsum Pond**

Analyte	Well	GS-GSA-MW-8V				GS-GSA-MW-9H								GS-GSA-MW-9V				GS-GSA-	
	Unit	03/01/2021	07/14/2021	01/26/2022	07/12/2022	03/05/2019	10/16/2019	02/04/2020	08/04/2020	03/02/2021	07/13/2021	01/26/2022	07/12/2022	08/04/2020	03/01/2021	07/13/2021	01/26/2022	07/12/2022	08/04/2020
<b>Appendix III</b>																			
Boron	mg/L	0.145	0.147	0.153	0.145	12.8	10.7	9.63	8.53	6.68	5.84	5.87	4.8	0.149	0.147	0.125	0.11	0.133	0.168
Calcium	mg/L	26.2	29	32	30.4	578	363	413	346	333	312	318	332	434	428	408	438	460	218
Chloride	mg/L	19.4	16.7	18.9	15.5	313	145	139	109	84.7	78.6	59.3	51.9	58.6	58.7	62	57.2	62.5	1.7
Fluoride	mg/L	0.346	0.339	0.306	0.19	0.239	0.101	0.205	0.127	0.094 J	0.182	0.117	0.191	0.135	0.12	0.211	0.155	0.165	<0.06
pH_Field	SU	7.67	7.97	8.18	7.44	5.88	5.43	5.34	5.33	5.29	5.13	5.35	5.3	6.88	6.84	6.92	6.89	6.79	4.08
Sulfate	mg/L	183	196	199	177	2010	2020	1710	1790	1750	1750	1660	1720	1700	1680	1820	1820	1780	1310
TDS	mg/L	1060	1060	1050	1010	3240	3080	3110	2920	2860	2640	2490	2610	3080	3140	2870	2890	2940	2160
<b>Appendix IV</b>																			
Antimony	mg/L	<0.000507	<0.000508	<0.000508	<0.000508	0.000852 J	<0.0008	<0.0008	<0.0008	<0.000507	<0.000508	<0.000508	<0.000508	<0.0008	<0.000507	<0.000508	<0.000508	<0.000508	<0.0008
Arsenic	mg/L	0.0105	0.00692	0.00542	0.00276	<0.001	0.0019 J	0.00123 J	0.00137 J	0.00105	0.00113	0.00113	0.000996	<0.001	0.00136	0.00168	0.00128	0.00184	0.00495 J
Barium	mg/L	0.15	0.148	0.137	0.0904	0.0312	0.0163	0.0148	0.0153	0.0149	0.0141	0.0146	0.0128	0.0155	0.012	0.013	0.0104	0.012	0.0181
Beryllium	mg/L	<0.000406	<0.000406	<0.000406	<0.000406	<0.0006	0.000985 J	0.000929 J	0.000882 J	0.000724 J	0.000731 J	0.000683 J	0.000599 J	<0.0006	<0.000406	<0.000406	<0.000406	<0.000406	0.0145
Cadmium	mg/L	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	0.000336 J	0.000362 J	0.000349 J	0.000308 J	0.000338	0.000281	0.000304	0.000267	<0.0003	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	0.00197
Chromium	mg/L	<0.000203	<0.000203	0.000229 J	0.000233 J	<0.002	<0.002	<0.002	<0.002	0.000218 J	0.000264 J	0.000243 J	<0.000203	<0.002	<0.000203	0.000304 J	0.000221 J	0.000302 J	0.00254 J
Cobalt	mg/L	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	0.14	0.168	0.159	0.178	0.163	0.141	0.141	0.148	0.00412 J	0.000992	0.000774	0.000541	0.000533	0.471
Combined Radium 226+228	pCi/L	1.49	1.85	0.155 U	1.04 U	0.852	1.29	0.441 U	-0.385 U	0.87 U	0.877 U	1.06	0.818 U	0.837 U	0.686 U	0.194 U	0.53 U	0.718 U	0.407 U
Lead	mg/L	<6.8e-005	<6.8e-005	<6.8e-005	8.13e-005 J	<0.001	<0.001	<0.001	<0.001	0.000206	0.000155 J	0.000125 J	0.000123 J	<0.001	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	0.00582
Lithium	mg/L	0.292	0.286	0.233	0.269	0.169	0.184	0.203	0.166	0.178	0.166	0.115	0.124	0.364	0.424	0.408	0.312	0.314	1.39
Mercury	mg/L	<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	<0.0003	<0.0003	<0.0003	<0.0003
Molybdenum	mg/L	0.000654	0.000258	0.000177 J	<0.000102	<0.002	<0.002	<0.002	<0.002	<6.8e-005	<6.8e-005	<6.8e-005	<0.000102	0.00423 J	0.000532	0.000562	0.000189 J	0.000492	<0.002
Selenium	mg/L	<0.000507	<0.000508	<0.000508	<0.000508	<0.002	<0.002	<0.002	<0.002	0.00138	0.00141	0.00126	0.000944 J	<0.002	<0.000507	<0.000508	<0.000508	<0.000508	0.0135
Thallium	mg/L	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	0.00021 J	0.000262 J	0.000233 J	0.000265 J	0.000221	0.000131 J	0.000235	0.00024	<0.0002	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	0.000242 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 Quantitation Limit (PQL).



**Appendix A.  
Historical Analytical Summary Data  
Plant Gorgas Gypsum Pond**

Analyte	Well	GS-GSA-PZ-17				GS-GSA-PZ-18					GS-GSA-PZ-19					GS-GSA-PZ-20			
		Unit	03/03/2021	07/13/2021	01/27/2022	07/13/2022	08/03/2020	03/03/2021	07/13/2021	01/27/2022	07/12/2022	08/03/2020	03/02/2021	07/14/2021	01/25/2022	07/12/2022	08/03/2020	03/02/2021	07/14/2021
<b>Appendix III</b>																			
Boron	mg/L	0.0643 J	0.111	0.064 J	0.0974 J	0.0671 J	0.108	0.0557 J	0.0539 J	0.0579 J	0.0553 J	0.066 J	0.0597 J	0.057 J	0.0553 J	0.0833 J	0.0806 J	0.118	0.0781 J
Calcium	mg/L	54.3	165	73.5	152	106	98.9	109	84.8	105	88	112	122	124	117	76.9	89.1	132	96.7
Chloride	mg/L	1.58	1.39	1.64	1.73	4.55	4.48	2.01	1.92	1.77	21.7	15.8	14.3	13.2	12.9	15	11.6	19.7	13
Fluoride	mg/L	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	0.18	0.21	0.208	0.194	0.31	0.188	0.191	0.141	0.191
pH_Field	SU	4.21	4.36	4.63	4.48	4.09	3.83	3.94	3.89	4.03	6.32	6.46	6.57	6.68	6.58	6.03	6.23	5.9	6.33
Sulfate	mg/L	320	1010	379	923	729	597	675	532	578	210	243	369	344	331	379	344	711	437
TDS	mg/L	571	1550	648	1410	1210	974	1060	778	968	740	737	945	885	839	798	774	1170	840
<b>Appendix IV</b>																			
Antimony	mg/L	<0.000507	<0.000508	<0.000508	<0.000508	0.00113 J	<0.000507	<0.000508	<0.000508	<0.000508	<0.0008	<0.000507	<0.000508	<0.000508	<0.000508	<0.0008	<0.000507	<0.000508	<0.000508
Arsenic	mg/L	0.000966	0.00435	0.0011	0.00318	0.0114	0.00515	0.00611	0.0045	0.00603	0.00279 J	0.00218	0.00175	0.00162	0.00154	0.00214 J	0.00234	0.00136	0.00223
Barium	mg/L	0.0154	0.0144	0.0177	0.0165	0.0111	0.0114	0.0101	0.0107	0.00944	0.047	0.0409	0.0401	0.033	0.0334	0.0211	0.0205	0.018	0.0201
Beryllium	mg/L	0.00334	0.012	0.00489	0.00876	0.00829	0.006	0.00776	0.00491	0.00757	<0.0006	<0.000406	<0.000406	<0.000406	<0.000406	<0.0006	<0.000406	<0.000406	<0.000406
Cadmium	mg/L	0.000927	0.00231	0.00136	0.00124	0.0012	0.000128 J	0.000354	0.000272	0.000289	<0.0003	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	<0.0003	<6.8e-005	<6.8e-005	<6.8e-005
Chromium	mg/L	0.000525 J	0.002	0.000896 J	0.00165	0.00315 J	0.00196	0.00215	0.00153	0.00191	<0.002	<0.000203	0.000219 J	0.000205 J	0.000268 J	<0.002	0.000216 J	0.000297 J	0.000256 J
Cobalt	mg/L	0.0898	0.31	0.129	0.258	0.156	0.097	0.121	0.0845	0.128	<0.002	0.000808	0.001	0.000715	0.00241	0.00734	0.00254	0.0218	0.00273
Combined Radium 226+228	pCi/L	0.517 U	1.27 U	0.359 U	0.792 U	0.511 U	0.662 U	1.24 U	0.532 U	0.234 U	0.652 U	0.186 U	0.744 U	0.376 U	0.533 U	0.0893 U	0.52 U	0.347 U	0.135 U
Lead	mg/L	0.00178	0.00473	0.00362	0.00239	0.00366 J	0.00053	0.000624	0.000229	0.0004	<0.001	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	<0.001	<6.8e-005	0.000255	<6.8e-005
Lithium	mg/L	0.196	1.15	0.294	0.779	0.422	0.346	0.444	0.246	0.387	0.0753	0.0822	0.0994	0.0791	0.0888	0.102	0.0992	0.212	0.0884
Mercury	mg/L	<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	<0.0003	<0.0003	<0.0003	<0.0003
Molybdenum	mg/L	<6.8e-005	<6.8e-005	<6.8e-005	<0.000102	<0.002	0.000107 J	<6.8e-005	<6.8e-005	<0.000102	<0.002	0.000804	0.000842	0.00068	0.000508	<0.002	0.00125	0.000102 J	0.00101
Selenium	mg/L	0.00137	0.0121	0.00269	0.00593	0.00616 J	0.00404	0.00621	0.00298	0.00357	<0.002	<0.000507	<0.000508	<0.000508	<0.000508	<0.002	0.00222	0.00283	0.00308
Thallium	mg/L	0.000118 J	7.93e-005 J	0.000184 J	9.38e-005 J	<0.0002	0.000109 J	<6.8e-005	8.83e-005 J	8.72e-005 J	<0.0002	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	<0.0002	0.000206	0.000386	0.000208

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



**Appendix A.  
Historical Analytical Summary Data  
Plant Gorgas Gypsum Pond**

Analyte	Well	SA-PZ-20	GS-GSA-PZ-21					GS-GSA-PZ-22					MW-1						
	Unit	07/12/2022	08/04/2020	03/02/2021	07/14/2021	01/25/2022	07/12/2022	08/04/2020	03/02/2021	07/14/2021	01/25/2022	07/13/2022	04/26/2016	06/20/2016	08/08/2016	08/24/2016	10/03/2016	10/26/2016	11/21/2016
<b>Appendix III</b>																			
Boron	mg/L	0.0946 J	<0.03	<0.03	<0.03	<0.03	<0.03	0.108	0.0823 J	0.0841 J	0.0765 J	0.0743 J	0.0231 J	0.0227 J	0.0278 J	0.0247 J	0.0307 J	0.0241 J	0.0202 J
Calcium	mg/L	98.3	36.4	36.1	37.6	40.3	46.2	70.4	73	74.4	74.6	72.8	147	152	150	142	139	133	144
Chloride	mg/L	11.5	13.6	12.6	13.1	12.8	13.2	7.77	5.76	5.68	5.76	5.52	1.94	2.09	2.18	2.22	2.34	2.34	2.5
Fluoride	mg/L	0.177	0.323	0.319	0.331	0.354	0.306	0.167	0.117	0.145	0.169	0.0953 J	0.146 J	0.148 J	0.137 J	0.133 J	0.103 J	0.05 J	0.047 J
pH_Field	SU	6.41	6.94	6.87	6.67	6.94	6.96	6.42	6.24	6.1	5.99	5.8	5.2	5.18	5.12	--	5.21	5.2	5.19
Sulfate	mg/L	404	23.8	22.7	24.4	32.8	36.6	340	366	385	440	410	1490	1420	1460	1450	1460	1330	1420
TDS	mg/L	794	447	445	455	466	458	638	662	664	688	666	2080	2060	2070	2040	2110	2000	2070
<b>Appendix IV</b>																			
Antimony	mg/L	<0.000508	<0.0008	<0.000507	<0.000508	<0.000508	<0.000508	<0.0008	<0.000507	<0.000508	<0.000508	<0.000508	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006
Arsenic	mg/L	0.00222	0.00204 J	0.00237	0.00265	0.00256	0.00256	0.0297	0.0331	0.0429	0.0446	0.0542	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Barium	mg/L	0.0187	0.12	0.134	0.145	0.151	0.141	0.0243	0.0216	0.019	0.0164	0.017	0.00941 J	0.00951 J	0.00991 J	0.00949 J	0.0105	0.00931 J	0.00879 J
Beryllium	mg/L	<0.000406	<0.0006	<0.000406	<0.000406	<0.000406	<0.000406	<0.0006	<0.000406	<0.000406	<0.000406	<0.000406	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006
Cadmium	mg/L	<6.8e-005	<0.0003	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	<0.0003	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	0.00196	0.0021	0.00206	0.00182	0.00188	0.00175	0.00197
Chromium	mg/L	0.000267 J	<0.002	0.000244 J	0.000283 J	0.000585 J	0.000293 J	<0.002	<0.000203	0.000219 J	0.000303 J	<0.000203	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cobalt	mg/L	0.00277	<0.002	0.00193	0.0019	0.00247	0.00307	0.0021 J	0.00213	0.00141	0.00294	0.00178	0.0343	0.0413	0.0513	0.0471	0.0525	0.0527	0.0569
Combined Radium 226+228	pCi/L	0.665 U	0.839	0.776 U	1.29	0.409 U	0.936 U	0.114 U	0.607 U	0.806 U	0.778 U	0.739 U	0.622	0.159 U	0.511 U	0.566 U	0.537 U	0.636	0.807
Lead	mg/L	<6.8e-005	<0.001	<6.8e-005	<6.8e-005	0.000251	<6.8e-005	<0.001	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Lithium	mg/L	0.0915	0.0182 J	0.0168 J	0.0174 J	0.0171 J	0.0185 J	0.0558	0.0722	0.0683	0.0718	0.0636	0.0264 J	0.0246 J	0.0229 J	0.0236 J	0.0229 J	0.0227 J	0.0236 J
Mercury	mg/L	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025
Molybdenum	mg/L	0.00134	0.00347 J	0.00353	0.00353	0.00294	0.00279	0.00267 J	0.00146	0.00155	0.000931	0.0014	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Selenium	mg/L	0.00258	<0.002	<0.000507	<0.000508	<0.000508	<0.000508	<0.002	<0.000507	<0.000508	<0.000508	<0.000508	0.00261 J	0.00242 J	0.00253 J	<0.002	0.00211 J	<0.002	<0.002
Thallium	mg/L	0.000215	<0.0002	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	<0.0002	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002

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



**Appendix A.  
Historical Analytical Summary Data  
Plant Gorgas Gypsum Pond**

Analyte	Well	MW-1																	
	Unit	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
<b>Appendix III</b>																			
Boron	mg/L	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
Calcium	mg/L	131	141	149	140	152	--	166	203	171	154	167	157	157	172	149	147	148	151
Chloride	mg/L	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
Fluoride	mg/L	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
pH_Field	SU	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
Sulfate	mg/L	1350	1500	1300	1400	1500	--	2100	1500	--	1300	1560	1540	1680	1510	1530	1450	1370	1400
TDS	mg/L	1930	2060	2140	2240	2160	--	2380	2400	2220	2360	2340	2330	3650	2380	2240	2240	2200	2230
<b>Appendix IV</b>																			
Antimony	mg/L	<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
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	0.000403
Barium	mg/L	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
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
Cadmium	mg/L	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
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	0.000382 J
Cobalt	mg/L	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
Combined Radium 226+228	pCi/L	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
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
Lithium	mg/L	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
Mercury	mg/L	<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
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	<6.8e-005
Selenium	mg/L	<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
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

Notes:

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





**Appendix A.  
Historical Analytical Summary Data  
Plant Gorgas Gypsum Pond**

Analyte	Well	MW-1			MW-2														
		Unit	07/12/2021	01/25/2022	07/05/2022	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
<b>Appendix III</b>																			
Boron	mg/L	<0.03	<0.03	<0.03	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
Calcium	mg/L	152	159	158	123	--	168	180	180	184	171	179	188	155	156	151	155	--	172
Chloride	mg/L	2.25	2.09	2.07	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
Fluoride	mg/L	0.125	0.101	0.11 J	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
pH_Field	SU	5.13	5.11	5.01	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
Sulfate	mg/L	1560	1430	1600	745	--	964	1100	1130	1140	1060	1100	1160	900	870	1100	920	--	1200
TDS	mg/L	2210	2150	2100	1260	--	1620	1740	1720	1800	1800	1740	1960	1510	1580	1730	1550	--	1500
<b>Appendix IV</b>																			
Antimony	mg/L	<0.000508	<0.000508	<0.000508	<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
Arsenic	mg/L	0.0003	0.000274	0.000281	<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
Barium	mg/L	0.00991	0.0098	0.01	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
Beryllium	mg/L	<0.000406	<0.000406	<0.000406	<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
Cadmium	mg/L	0.00185	0.00221	0.00211	<0.0002	--	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.000311 J	<0.0002	<0.0002	0.000212 J	--	<0.0003	<0.0003
Chromium	mg/L	0.000389 J	0.000354 J	0.000359 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
Cobalt	mg/L	0.0556	0.0671	0.0631	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
Combined Radium 226+228	pCi/L	0.476 U	1.01 U	1.49	--	-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
Lead	mg/L	<6.8e-005	<6.8e-005	<6.8e-005	<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	0.0267	0.0239	0.0274	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
Mercury	mg/L	<0.0003	<0.0003	<0.0003	<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
Molybdenum	mg/L	<6.8e-005	<6.8e-005	<0.000102	<0.002	--	<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	0.0028	0.00216	0.00269	<0.002	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	<0.002	<0.002
Thallium	mg/L	<6.8e-005	<6.8e-005	<6.8e-005	<0.0002	--	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	--	<0.0002	<0.0002

Notes:

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



**Appendix A.  
Historical Analytical Summary Data  
Plant Gorgas Gypsum Pond**

Analyte	Well	MW-2														GS-GSA-MW-3			
	Unit	06/12/2018	10/17/2018	11/19/2018	05/14/2019	10/08/2019	10/16/2019	02/03/2020	04/06/2020	07/13/2020	08/03/2020	02/22/2021	07/12/2021	01/25/2022	07/05/2022	08/24/2016	10/03/2016	10/26/2016	11/21/2016
<b>Appendix III</b>																			
Boron	mg/L	0.0275 J	0.0321 J	0.0324 J	<0.0609	0.0371 J	0.0419 J	<0.03	<0.03	<0.03	0.0317 J	<0.03	<0.03	<0.03	<0.03	0.799	0.889	1.23	1.72
Calcium	mg/L	179	200	221	168	190	194	172	152	163	172	178	159	193	172	539	519.7	916	552
Chloride	mg/L	3.7	--	3	2.98	4.26	4.04	2.48	2.43	4.05	4.03	1.72	2.36	2.28	2.62	204	220	249	256
Fluoride	mg/L	0.16	--	0.18	0.17	0.164	0.114	0.182	0.207	0.132	0.122	0.209	0.196	0.239	0.2	0.264 J	0.276 J	0.182 J	0.238 J
pH_Field	SU	5.95	5.9	6.03	6.07	5.96	5.98	5.95	6.21	5.84	5.95	6.1	6.16	6.22	6.15	6.28	6.28	6.19	6.2
Sulfate	mg/L	860	--	1000	948	1230	1170	803	786	843	907	864	763	847	819	2910	2980	2790	2880
TDS	mg/L	1550	1740	1990	1480	1840	1830	1440	1440	1540	1650	1620	1390	1550	1260	5020	4880	5020	5090
<b>Appendix IV</b>																			
Antimony	mg/L	<0.0006	<0.0008	<0.0008	0.000989 J	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.000507	<0.000508	<0.000508	<0.000508	<0.0006	<0.0006	<0.0006	<0.0006
Arsenic	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.000295	0.000364	0.000334	0.00031	<0.001	<0.001	<0.001	<0.001
Barium	mg/L	0.0138	0.0137	0.0115	0.0109	0.0151	0.0146	0.0122	0.0125	0.0145	0.0147	0.0132	0.013	0.0122	0.013	0.0155	0.0156	0.0122	0.0128
Beryllium	mg/L	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.000406	<0.000406	<0.000406	<0.000406	<0.0006	<0.0006	0.000922 J	0.00133 J
Cadmium	mg/L	<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	9.62e-005 J	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	mg/L	<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	<0.000203	<0.002	<0.002	<0.002	<0.002
Cobalt	mg/L	0.0366	0.0745	0.0225	0.0222	0.0674	0.073	0.0193	0.0116	0.0405	0.0589	0.0161	0.0155	0.0171	0.0187	0.0303	0.041	0.0505	0.0617
Combined Radium 226+228	pCi/L	-0.315 U	--	0.654	0.579	0.493 U	0.046 U	-0.0245 U	0.212 U	0.0814 U	0.888 U	0.434 U	0.155 U	0.663 U	1.31	0.389 U	0.683	0.242 U	0.764
Lead	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	<0.001	<0.001	<0.001	<0.001
Lithium	mg/L	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	0.051	0.0469	0.362	0.371	0.416	0.401
Mercury	mg/L	<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	<0.00025	<0.00025	<0.00025	<0.00025
Molybdenum	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<6.8e-005	<6.8e-005	<6.8e-005	<0.000102	<0.002	<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	<0.000507	<0.000508	<0.000508	<0.000508	<0.002	<0.002	<0.002	<0.002
Thallium	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	<0.0002	<0.0002	<0.0002	<0.0002

Notes:

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



**Appendix A.  
Historical Analytical Summary Data  
Plant Gorgas Gypsum Pond**

Analyte	Well	GS-GSA-MW-3																MW-3	
	Unit	01/17/2017	03/20/2017	04/17/2017	05/30/2017	08/24/2017	02/13/2018	06/11/2018	10/17/2018	04/10/2019	10/14/2019	02/03/2020	08/04/2020	03/01/2021	07/14/2021	01/26/2022	07/13/2022	04/25/2016	06/22/2016
<b>Appendix III</b>																			
Boron	mg/L	2.63	3.11	4.51	2.9	2.83	--	3.09	0.0596 J	3.35	2.48	2.13	1.82	2.55	1.47	2.54	1.29	0.028 J	0.0433 J
Calcium	mg/L	572	817	476	515	598	--	558	533	659	552	589	545	514	533	518	549	224	266
Chloride	mg/L	301	320	340	310	290	--	260	--	249	228	267	222	250	207	255	228	1.32	1.46
Fluoride	mg/L	0.34	0.39	0.57	0.38	0.54	0.57	0.63	--	0.738	0.619	0.427	0.389	0.449	0.556	0.447	0.324	0.243 J	0.269 J
pH_Field	SU	6.13	6.17	5.6	6.07	5.99	5.88	5.91	4.75	5.83	6.04	5.98	6.09	5.82	5.93	6.52	5.92	5.56	5.57
Sulfate	mg/L	2950	<14	2400	2900	2900	--	2900	--	2980	3110	2840	2820	2320	2880	2620	3180	1890	2100
TDS	mg/L	4330	2690	4780	5170	5140	--	4960	4730	5090	5110	4920	5110	4390	4920	4260	4960	2720	3250
<b>Appendix IV</b>																			
Antimony	mg/L	<0.0006	<0.0006	<0.0006	<0.0006	--	<0.0006	<0.0006	<0.0008	0.00111 J	<0.0008	<0.0008	<0.0008	<0.000507	<0.000508	<0.000508	<0.000508	<0.0006	<0.0006
Arsenic	mg/L	<0.001	<0.001	0.00405 J	<0.001	--	<0.001	<0.001	0.00133 J	0.00121 J	<0.001	<0.001	<0.001	0.0014	0.000572	0.00104	0.000512	<0.001	<0.001
Barium	mg/L	0.0125	0.0124	0.0149	0.0121	--	0.0118	0.0127	0.0126	0.0153	0.0122	0.0141	0.0139	0.0154	0.0136	0.0118	0.0118	0.00803 J	0.0101
Beryllium	mg/L	0.0017 J	0.00191 J	0.00655	0.00204 J	--	0.00387	0.00244 J	0.00345	0.00257 J	0.00162 J	0.00141 J	0.00174 J	0.00157	0.00175	0.00196	0.00196	0.00122 J	0.00144 J
Cadmium	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	--	<0.0003	<0.0003	0.00393	<0.0003	<0.0003	<0.0003	<0.0003	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	0.0121	0.00163
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	0.000386 J	0.000392 J	0.00048 J	0.000341 J	0.00373 J	0.00606 J
Cobalt	mg/L	0.0793	0.0726	0.294	0.0832	--	0.124	0.138	0.138	0.151	0.102	0.0843	0.0862	0.119	0.0555	0.0794	0.046	0.232	0.332
Combined Radium 226+228	pCi/L	0.191 U	-0.0158 U	0.307 U	0.724	--	0.633	0.773	--	--	0.297 U	--	0.45 U	0.57 U	0.668 U	0.335 U	0.239 U	0.484 U	0.2 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	0.000157 J	0.00018 J	<6.8e-005	<6.8e-005	<0.001	<0.001
Lithium	mg/L	0.497	0.533	0.47	0.479	--	0.508	0.425	0.384	0.425	0.459	0.474	0.468	0.353	0.485	0.31	0.421	0.0964	0.156
Mercury	mg/L	<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	<0.00025	<0.00025
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	0.00022	0.000264	0.000225	0.000257	<0.002	<0.002
Selenium	mg/L	<0.002	<0.002	0.00521 J	<0.002	--	0.00267 J	0.00236 J	<0.002	0.00234 J	<0.002	<0.002	<0.002	0.00141	0.00151	0.00209	0.00146	<0.002	<0.002
Thallium	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	--	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	0.000205 J	<0.0002

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



**Appendix A.  
Historical Analytical Summary Data  
Plant Gorgas Gypsum Pond**

Analyte	Well	MW-3																	
	Unit	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
<b>Appendix III</b>																			
Boron	mg/L	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
Calcium	mg/L	260	274	243	254	263	431	318	296	306	298	--	297	318	387	348	254	371	346
Chloride	mg/L	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
Fluoride	mg/L	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
pH_Field	SU	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
Sulfate	mg/L	2050	2190	1950	1980	2060	2620	3200	2500	2800	2600	--	2700	2500	3000	2460	2460	2950	2820
TDS	mg/L	3050	3080	2900	2940	3090	4020	4180	4440	3970	4050	--	3680	3820	4710	3680	3580	4720	4210
<b>Appendix IV</b>																			
Antimony	mg/L	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	--	<0.0006	<0.0006	<0.0006	<0.0008	0.000978 J	<0.0008	<0.0008	<0.0008
Arsenic	mg/L	<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
Barium	mg/L	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
Beryllium	mg/L	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
Cadmium	mg/L	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
Chromium	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.00945 J	0.0105	<0.002	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cobalt	mg/L	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
Combined Radium 226+228	pCi/L	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
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	0.00692	<0.001	<0.001	<0.001	0.00108 J
Lithium	mg/L	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
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	<0.0003	<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
Selenium	mg/L	<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
Thallium	mg/L	<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

Notes:

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



**Appendix A.  
Historical Analytical Summary Data  
Plant Gorgas Gypsum Pond**

Analyte	Well	MW-3								GS-GSA-MW-4									
	Unit	02/03/2020	04/06/2020	07/13/2020	08/03/2020	02/22/2021	07/12/2021	01/25/2022	07/05/2022	08/24/2016	10/03/2016	10/26/2016	11/21/2016	01/17/2017	03/21/2017	04/17/2017	05/30/2017	08/24/2017	02/13/2018
<b>Appendix III</b>																			
Boron	mg/L	--	<0.03	0.0366 J	0.0424 J	<0.03	<0.03	<0.03	0.035 J	4.88	4.75	4.96	4.82	3.97	3.39	3.46	3.79	4.19	--
Calcium	mg/L	--	177	264	285	312	252	305	369	102	98.4	88.7	104	102	94.7	97.9	93.9	105	--
Chloride	mg/L	--	1.72	1.34	1.17	2.22	2.13	2.12	1.59	112	115	115	117	99.3	79	85	99	110	--
Fluoride	mg/L	--	0.314	0.13	0.0766 J	0.246	0.287	0.325	0.386	0.793	0.769	0.578	0.562	0.571	0.54	0.54	0.49	0.7	0.63
pH_Field	SU	--	5.91	5.16	5.06	5.59	5.86	5.9	5.34	3.83	3.82	3.81	3.81	3.78	3.76	3.76	3.76	3.7	3.73
Sulfate	mg/L	--	1670	2130	2330	3040	2380	2550	3110	567	596	585	593	637	530	530	530	530	--
TDS	mg/L	--	2630	3650	3760	4670	3510	3950	4220	992	988	1030	1020	988	990	884	1060	1060	--
<b>Appendix IV</b>																			
Antimony	mg/L	--	<0.0008	<0.0008	<0.0008	<0.000507	<0.000508	<0.000508	<0.000508	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	--	<0.0006
Arsenic	mg/L	--	<0.001	0.0032 J	0.00426 J	0.000789	0.000376	0.00024	0.00374	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	--	<0.001
Barium	mg/L	--	0.00931 J	0.0142	0.0166	0.00981	0.00857	0.00871	0.0155	0.0135	0.0127	0.0118	0.012	0.0119	0.0116	0.0112	0.0117	--	0.0121
Beryllium	mg/L	--	<0.0006	0.0021 J	0.00405	<0.000406	<0.000406	<0.000406	0.00139	0.00576	0.00469	0.00459	0.00502	0.00488	0.00521	0.0058	0.00517	--	0.00544
Cadmium	mg/L	--	0.000645 J	0.0089	0.00652	0.00536	0.000937	0.00174	0.00848	0.00148	0.00147	0.00157	0.00154	0.00131	0.00134	0.00122	0.00167	--	0.00145
Chromium	mg/L	--	<0.002	<0.002	<0.002	0.00035 J	0.000307 J	0.000509 J	0.00025 J	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	<0.002
Cobalt	mg/L	--	<0.002	0.47	0.64	0.0515	0.00567	0.00535	0.263	0.151	0.143	0.154	0.155	0.16	0.158	0.159	0.159	--	0.19
Combined Radium 226+228	pCi/L	0.0246 U	0.569 U	0.53	0.765 U	0.472 U	0.114 U	0.418 U	1.33	0.741	0.648	0.632	1.57	0.493	0.604 U	0.252 U	0.925	--	0.382
Lead	mg/L	--	<0.001	<0.001	0.002 J	8.8e-005 J	8.42e-005 J	<6.8e-005	0.000185 J	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	--	<0.001
Lithium	mg/L	--	0.0689	0.256	0.27	0.126	0.0808	0.0732	0.217	0.291	0.287	0.298	0.294	0.27	0.258	0.274	0.285	--	0.274
Mercury	mg/L	--	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	--	<0.00025
Molybdenum	mg/L	--	<0.002	<0.002	<0.002	<6.8e-005	<6.8e-005	<6.8e-005	<0.000102	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	<0.002
Selenium	mg/L	--	0.01	0.0134	0.0146	0.0181	0.0133	0.0154	0.0205	0.00234 J	0.00739 J	0.00266 J	0.00212 J	0.00263 J	0.00588 J	0.00579 J	0.00471 J	--	0.00498 J
Thallium	mg/L	--	<0.0002	<0.0002	<0.0002	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	--	<0.0002

Notes:

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



**Appendix A.  
Historical Analytical Summary Data  
Plant Gorgas Gypsum Pond**

Analyte	Well	GS-GSA-MW-4											MW-4							
	Unit	06/11/2018	10/17/2018	10/14/2019	02/03/2020	02/04/2020	08/05/2020	03/03/2021	07/14/2021	01/27/2022	05/19/2022	07/13/2022	04/25/2016	06/20/2016	08/09/2016	08/24/2016	10/03/2016	10/26/2016	11/21/2016	
<b>Appendix III</b>																				
Boron	mg/L	3.96	0.0468 J	3.37	0.0433 J	2.74	2.51	2.42	4.78	5.99	4.51	7.29	0.0414 J	0.0434 J	0.0453 J	0.0451 J	0.0511 J	0.0507 J	0.0458 J	
Calcium	mg/L	105	342	93.5	265	116	94.7	100	130	177	166	406	261	295	318	319	293	311	320	
Chloride	mg/L	81	--	59.1	1.72	43.2	41	40.3	102	103	88.8	199	1.53	1.85	1.95	2.07	2.02	2.07	2.39	
Fluoride	mg/L	0.39	--	<0.05	0.37	<0.05	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	0.372	0.361	0.326	0.329	0.287 J	0.194 J	0.192 J	
pH_Field	SU	3.8	6.12	3.91	6.14	3.83	3.86	3.76	3.74	3.73	3.6	3.43	6.22	6.21	6.11	6.11	6.13	6.12	6.09	
Sulfate	mg/L	540	--	641	1920	571	519	609	752	1130	1030	3040	2260	2500	2750	2770	3060	2650	2720	
TDS	mg/L	944	928	967	3240	978	938	1040	1300	1840	1740	4700	3300	3870	4140	4190	4190	4400	4230	
<b>Appendix IV</b>																				
Antimony	mg/L	<0.0006	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.000507	<0.000508	<0.000508	<0.000508	<0.000508	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	
Arsenic	mg/L	<0.001	<0.001	0.0012 J	<0.001	0.00128 J	0.00115 J	0.00116	0.00174	0.0025	0.00185	0.00713	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
Barium	mg/L	0.0139	0.0125	0.0147	0.0103	0.0124	0.0142	0.0117	0.0115	0.0131	0.0106	0.0102	0.0114	0.0103	0.0119	0.0118	0.0119	0.0104	0.0106	
Beryllium	mg/L	0.00463	0.00369	0.00403	<0.0006	0.00415	0.00385	0.00406	0.00577	0.00821	0.00898	0.0228	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	
Cadmium	mg/L	0.00171	<0.0003	0.0015	<0.0003	0.00143	0.00157	0.00162	0.00246	0.00336	0.00282	0.00687	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Chromium	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.000567 J	0.000701 J	0.00105	0.000763 J	0.00355	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
Cobalt	mg/L	0.166	0.154	0.213	<0.002	0.217	0.235	0.24	0.296	0.406	0.395	0.848	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
Combined Radium 226+228	pCi/L	0.796	--	0.317 U	--	0.324 U	0.389 U	0.836 U	1.58	0.791 U	--	1.37	0.434 U	0.287 U	0.516 U	0.266 U	0.59 U	0.164 U	0.296 U	
Lead	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.000609	0.000792	0.00108	0.000989	0.00231	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
Lithium	mg/L	0.266	0.0532	0.262	0.0556	0.29	0.273	0.313	0.487	0.671	0.57	1.89	0.0528	0.0554	0.0452 J	0.0488 J	0.0476 J	0.049 J	0.0477 J	
Mercury	mg/L	<0.00025	<0.00025	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	
Molybdenum	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<6.8e-005	<6.8e-005	<6.8e-005	<0.000102	<0.000102	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
Selenium	mg/L	0.00388 J	<0.002	<0.002	0.00212 J	<0.002	0.00298 J	0.00294	0.00563	0.00817	0.00573	0.0226	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
Thallium	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.000205 J	0.000178 J	8.68e-005 J	0.000238	0.000229	0.000447	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	

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



**Appendix A.  
Historical Analytical Summary Data  
Plant Gorgas Gypsum Pond**

Analyte	Well	MW-4																	
	Unit	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
<b>Appendix III</b>																			
Boron	mg/L	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
Calcium	mg/L	417	292	302	284	297	--	296	355	289	356	254	302	356	--	222	259	271	242
Chloride	mg/L	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
Fluoride	mg/L	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
pH_Field	SU	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
Sulfate	mg/L	2650	2700	2400	2700	2700	--	2400	2600	2400	2090	2240	2690	3050	--	1810	1970	2040	1930
TDS	mg/L	4120	3980	3880	4210	3990	--	3740	4080	3920	3280	3130	4000	4060	--	2820	3310	3190	3000
<b>Appendix IV</b>																			
Antimony	mg/L	<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
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	0.000125 J	0.000116 J
Barium	mg/L	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
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	<0.000406	<0.000406
Cadmium	mg/L	<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
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	<0.000203	0.000302 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	<6.8e-005	<6.8e-005
Combined Radium 226+228	pCi/L	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
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	<6.8e-005	<6.8e-005
Lithium	mg/L	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
Mercury	mg/L	<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
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	0.000131 J	0.000138 J
Selenium	mg/L	<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
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	<6.8e-005	<6.8e-005

Notes:

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



**Appendix A.  
Historical Analytical Summary Data  
Plant Gorgas Gypsum Pond**

Analyte	Well	MW-4							GS-GSA-MW-8											
	Unit	01/25/2022	07/05/2022	08/24/2016	10/03/2016	10/26/2016	11/21/2016	01/17/2017	03/20/2017	04/18/2017	05/30/2017	08/24/2017	02/13/2018	06/12/2018	10/17/2018	04/10/2019	10/14/2019	02/04/2020	08/05/2020	
<b>Appendix III</b>																				
Boron	mg/L	0.0432 J	0.0417 J	0.0898 J	0.0821 J	0.0889 J	0.0788 J	0.0607 J	0.114	0.108	0.105	0.12	--	0.181	0.616	0.944	2.11	1.47	2.16	
Calcium	mg/L	264	294	263	253	235	246	231	298	317	316	391	--	442	514	533	524	461	497	
Chloride	mg/L	1.54	1.63	4.03	3.87	4.08	4.39	7.22	5.7	4.7	15	93	--	140	--	174	207	94.1	146	
Fluoride	mg/L	0.364	0.362	0.165 J	0.114 J	0.056 J	0.059 J	0.07 J	0.18	0.17	0.16	0.18	0.15	0.15	--	0.156	0.118	0.132	0.119	
pH_Field	SU	6.3	6.12	6.78	6.71	6.65	6.7	6.25	7.04	6.99	6.98	6.89	6.85	6.83	6.81	6.71	6.88	6.85	6.76	
Sulfate	mg/L	1930	2380	1250	1270	1240	1210	1150	1400	1300	1500	1800	--	1800	--	2150	2090	1570	1880	
TDS	mg/L	3180	3240	2280	2370	2350	2530	2380	2630	2700	2980	3390	--	3510	3550	3580	3730	3190	3610	
<b>Appendix IV</b>																				
Antimony	mg/L	<0.000508	<0.000508	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	--	<0.0006	<0.0006	<0.0008	0.00102 J	<0.0008	<0.0008	<0.0008	
Arsenic	mg/L	6.97e-005 J	9.56e-005 J	0.00119 J	0.00114 J	0.0011 J	<0.001	0.00103 J	<0.001	<0.001	<0.001	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
Barium	mg/L	0.00991	0.0113	0.0536	0.0681	0.0562	0.0604	0.0402	0.0305	0.0276	0.0272	--	0.0249	0.0234	0.0236	0.02	0.0215	0.0209	0.0216	
Beryllium	mg/L	<0.000406	<0.000406	<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	
Cadmium	mg/L	8.59e-005 J	6.94e-005 J	<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	
Chromium	mg/L	0.000216 J	<0.000203	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
Cobalt	mg/L	<6.8e-005	<6.8e-005	0.0201	0.0167	0.0253	0.0233	0.0708	0.00277 J	<0.002	<0.002	--	0.00492 J	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
Combined Radium 226+228	pCi/L	0.884 U	1.1	0.558 U	0.565	0.555 U	0.987	0.476 U	0.633 U	0.248 U	0.412 U	--	1.08	0.446 U	--	--	0.225 U	0.336 U	-0.115 U	
Lead	mg/L	<6.8e-005	<6.8e-005	<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	0.0434	0.0484	0.0683	0.0661	0.0681	0.0682	0.0516	0.135	0.139	0.141	--	0.163	0.166	0.188	0.195	0.209	0.188	0.206	
Mercury	mg/L	<0.0003	<0.0003	<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	
Molybdenum	mg/L	0.00011 J	<0.000102	0.0031 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	
Selenium	mg/L	0.00224	0.000967 J	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
Thallium	mg/L	<6.8e-005	<6.8e-005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	--	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	

Notes:

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





**Appendix A.  
Historical Analytical Summary Data  
Plant Gorgas Gypsum Pond**

Analyte	Well	GS-GSA-MW-8			
	Unit	03/01/2021	07/14/2021	01/27/2022	07/12/2022
<b>Appendix III</b>					
Boron	mg/L	1.85	2.07	2.76	2.3
Calcium	mg/L	386	444	494	451
Chloride	mg/L	92.5	129	122	120
Fluoride	mg/L	0.106	0.221	0.179	0.112 J
pH_Field	SU	6.48	6.88	6.85	6.49
Sulfate	mg/L	1450	1700	2000	1740
TDS	mg/L	2870	3150	3290	3090
<b>Appendix IV</b>					
Antimony	mg/L	<0.000507	<0.000508	<0.000508	<0.000508
Arsenic	mg/L	0.000633	0.000238	0.000275	0.000156 J
Barium	mg/L	0.0194	0.0232	0.0192	0.022
Beryllium	mg/L	<0.000406	<0.000406	<0.000406	<0.000406
Cadmium	mg/L	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005
Chromium	mg/L	0.000423 J	0.000302 J	0.000456 J	0.000266 J
Cobalt	mg/L	0.00546	0.000262	0.000187 J	8.36e-005 J
Combined Radium 226+228	pCi/L	0.902 U	1.23 U	0.28 U	0.745 U
Lead	mg/L	0.000145 J	<6.8e-005	<6.8e-005	<6.8e-005
Lithium	mg/L	0.149	0.213	0.179	0.189
Mercury	mg/L	<0.0003	<0.0003	<0.0003	<0.0003
Molybdenum	mg/L	0.00277	0.000151 J	0.000122 J	0.000122 J
Selenium	mg/L	<0.000507	<0.000508	<0.000508	<0.000508
Thallium	mg/L	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005

Notes:

1. mg/L - Milligrams per Liter

2. pCi/L - picocuries per Liter

3. J - Result is an estimated value. The result is greater than or equal to the Method Detection Limit (MDL) and less than the Practical Quantitation Limit (PQL).

# Appendix B

**Appendix B.**  
**Historical Groundwater Elevations Summary**  
**Plant Gorgas Gypsum Pond**

Well ID	Top of Casing Elevation	Groundwater Elevation											
		(ft. MSL)											
		8/24/2016	10/3/2016	10/26/2016	11/21/2016	1/17/2017	3/20/2017	4/17/2017	5/30/2017	8/23/2017	2/13/2018	6/11/2018	10/17/2018
MW-1 <sup>3</sup>	502.38	410.56	410.44	410.32	410.23	410.20	410.80	411.07	410.93	411.19	411.02	411.41	410.78
MW-2 <sup>3</sup>	502.17	416.47	416.26	416.13	416.03	416.67	417.29	417.39	416.99	417.07	419.34	417.08	416.44
MW-3 <sup>3</sup>	525.90	415.08	414.82	414.64	414.43	415.27	416.07	417.21	415.63	415.73	418.49	415.77	414.92
MW-4 <sup>3</sup>	517.89	399.83	399.35	399.09	398.79	399.77	401.28	401.59	400.94	401.03	401.93	401.27	399.56
GS-GSA-MW-3	442.63	332.11	331.71	331.53	331.33	331.02	333.43	334.12	334.72	336.19	332.79	336.36	332.37
GS-GSA-MW-4	442.10	350.00	349.10	348.71	348.26	349.61	351.50	352.75	351.17	351.02	353.06	351.52	349.56
GS-GSA-MW-8	404.38	318.89	317.35	316.33	315.43	315.89	320.12	322.22	321.64	323.71	320.01	324.40	319.03
GS-GSA-MW-3V	442.68	--	--	--	--	--	--	--	--	--	--	--	--
GS-GSA-MW-4V	442.18	--	--	--	--	--	--	--	--	--	--	--	--
GS-GSA-MW-9H	335.83	--	--	--	--	--	--	--	--	--	--	--	--
GS-GSA-MW-10H	339.52	--	--	--	--	--	--	--	--	--	--	--	--
GS-GSA-MW-11H	263.02	--	--	--	--	--	--	--	--	--	--	--	--
GS-GSA-MW-8V	404.43	--	--	--	--	--	--	--	--	--	--	--	--
GS-GSA-MW-12H	399.73	--	--	--	--	--	--	--	--	--	--	--	--
GS-GSA-MW-13H	266.46	--	--	--	--	--	--	--	--	--	--	--	--
GS-GSA-MW-1	442.96	--	--	--	--	--	--	--	--	--	--	--	--
GS-GSA-MW-2	442.84	--	--	--	--	--	--	--	--	--	--	--	--
GS-GSA-PZ-2A	491.52	--	--	--	--	--	--	--	--	--	--	--	--
GS-GSA-MW-9V	336.22	--	--	--	--	--	--	--	--	--	--	--	--
GS-GSA-MW-12V	379.50	--	--	--	--	--	--	--	--	--	--	--	--
GS-GSA-MW-14H	403.66	--	--	--	--	--	--	--	--	--	--	--	--
GS-GSA-MW-15H	428.16	--	--	--	--	--	--	--	--	--	--	--	--
GS-GSA-MW-23VA	403.60	--	--	--	--	--	--	--	--	--	--	--	--
GS-GSA-PZ-16	436.40	--	--	--	--	--	--	--	--	--	--	--	--
GS-GSA-PZ-17	475.94	--	--	--	--	--	--	--	--	--	--	--	--
GS-GSA-PZ-18	489.93	--	--	--	--	--	--	--	--	--	--	--	--
GS-GSA-PZ-19	463.50	--	--	--	--	--	--	--	--	--	--	--	--
GS-GSA-PZ-20	460.34	--	--	--	--	--	--	--	--	--	--	--	--
GS-GSA-PZ-22	479.46	--	--	--	--	--	--	--	--	--	--	--	--
GS-GSA-PZ-21	460.94	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

1. ft. AMSL - feet above mean sea level
2. -- Not Measured
3. Upgradient monitoring well located at the CCR Landfill - Water level measurements collected on 07/05/2022

**Appendix B.**  
**Historical Groundwater Elevations Summary**  
**Plant Gorgas Gypsum Pond**

Well ID	Top of Casing Elevation	Groundwater Elevation										
		(ft. MSL)										
		3/4/2019	3/13/2019	4/10/2019	10/14/2019	11/26/2019	2/3/2020	8/3/2020	2/22/2021	7/12/2021	1/24/2022	7/11/2022
MW-1 <sup>3</sup>	502.38	--	412.24	412.08	410.85	--	411.94	412.32	411.72	411.67	411.62	411.39
MW-2 <sup>3</sup>	502.17	--	417.75	421.20	416.67	--	417.57	417.15	418.55	417.80	418.45	417.74
MW-3 <sup>3</sup>	525.90	--	418.31	417.41	415.14	--	416.62	415.49	419.94	421.54	418.99	416.02
MW-4 <sup>3</sup>	517.89	--	401.94	402.12	399.59	--	401.68	400.63	402.38	401.56	401.78	401.99
GS-GSA-MW-3	442.63	--	341.46	341.33	332.37	--	339.32	335.10	334.59	339.17	334.91	338.43
GS-GSA-MW-4	442.10	--	353.06	353.00	349.08	--	352.42	350.66	354.32	352.12	353.72	351.22
GS-GSA-MW-8	404.38	--	334.46	330.27	319.20	--	329.85	323.91	325.87	328.28	326.90	327.16
GS-GSA-MW-3V	442.68	327.13	326.34	--	313.29	--	321.66	316.37	318.85	319.46	318.90	317.86
GS-GSA-MW-4V	442.18	333.31	332.35	--	322.28	--	328.85	323.88	328.55	327.27	328.76	325.94
GS-GSA-MW-9H	335.83	294.33	293.64	--	286.47	--	291.69	288.01	291.61	290.68	291.76	289.55
GS-GSA-MW-10H	339.52	--	321.80	--	--	--	319.09	312.41	319.60	318.68	320.11	314.30
GS-GSA-MW-11H	263.02	257.01	256.30	--	255.09	--	256.29	256.21	256.33	256.39	256.45	256.13
GS-GSA-MW-8V	404.43	--	--	--	--	310.82	319.53	313.99	318.10	318.06	317.98	316.16
GS-GSA-MW-12H	399.73	--	--	--	--	339.57	341.15	337.17	341.27	340.16	341.25	337.53
GS-GSA-MW-13H	266.46	--	--	--	--	257.06	257.03	256.50	257.65	256.48	257.53	256.10
GS-GSA-MW-1	442.96	--	--	--	--	--	347.96	347.74	347.81	347.88	347.84	347.76
GS-GSA-MW-2	442.84	--	--	--	--	--	340.10	335.87	334.94	339.92	335.15	338.97
GS-GSA-PZ-2A	491.52	--	--	--	--	--	372.06	371.55	371.55	371.82	371.56	371.65
GS-GSA-MW-9V	336.22	--	--	--	--	--	--	289.16	291.53	291.30	291.44	290.08
GS-GSA-MW-12V	379.50	--	--	--	--	--	--	294.01	318.04	317.98	317.91	316.08
GS-GSA-MW-14H	403.66	--	--	--	--	--	--	384.51	385.34	384.82	385.35	384.31
GS-GSA-MW-15H	428.16	--	--	--	--	--	--	401.88	404.14	402.77	404.00	399.85
GS-GSA-MW-23VA	403.60	--	--	--	--	--	--	--	240.62	253.93	269.83	282.38
GS-GSA-PZ-16	436.40	--	--	--	--	--	--	409.21	421.76	412.02	421.20	408.71
GS-GSA-PZ-17	475.94	--	--	--	--	--	--	429.97	430.61	429.91	430.40	429.60
GS-GSA-PZ-18	489.93	--	--	--	--	--	--	426.03	430.00	428.24	429.44	426.01
GS-GSA-PZ-19	463.50	--	--	--	--	--	--	339.96	341.27	341.82	343.53	343.52
GS-GSA-PZ-20	460.34	--	--	--	--	--	--	344.11	344.22	344.26	344.20	344.16
GS-GSA-PZ-22	479.46	--	--	--	--	--	--	424.21	428.41	427.17	428.39	425.29
GS-GSA-PZ-21	460.94	--	--	--	--	--	--	378.58	377.13	377.35	376.89	377.30

Notes:

1. ft. AMSL - feet above mean sea level
2. -- Not Measured
3. Upgradient monitoring well located at the CCR Landfill - Water level measurements collected on 07/05/2022

# 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***



## **E. C. Gaston Gypsum Storage Area**

### **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.



**Gorgas Gypsum Pond  
2022 Semi-Annual Event #1  
Field Parameter Readings**

# PARAMETER	SITE_NAME	WELL_ID	OPERATOR_NAME	END_DATE	READING_DATETIME	VALUE	UNIT	DESCRIPTION
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-3	Dallas Gentry	1/26/2022 14:35	1/26/2022 14:40	4467.2	uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-3	Dallas Gentry	1/26/2022 14:35	1/26/2022 14:40	0.33	mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-3	Dallas Gentry	1/26/2022 14:35	1/26/2022 14:40	107.59	ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-3	Dallas Gentry	1/26/2022 14:35	1/26/2022 14:40	50.32	mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-3	Dallas Gentry	1/26/2022 14:35	1/26/2022 14:40	6.42	SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-3	Dallas Gentry	1/26/2022 14:35	1/26/2022 14:40	19.38	C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-3	Dallas Gentry	1/26/2022 14:35	1/26/2022 14:40	22.7	NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-3	Dallas Gentry	1/26/2022 14:35	1/26/2022 14:45	4486.03	uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-3	Dallas Gentry	1/26/2022 14:35	1/26/2022 14:45	0.29	mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-3	Dallas Gentry	1/26/2022 14:35	1/26/2022 14:45	107.59	ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-3	Dallas Gentry	1/26/2022 14:35	1/26/2022 14:45	33.07	mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-3	Dallas Gentry	1/26/2022 14:35	1/26/2022 14:45	6.49	SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-3	Dallas Gentry	1/26/2022 14:35	1/26/2022 14:45	19.32	C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-3	Dallas Gentry	1/26/2022 14:35	1/26/2022 14:45	15.8	NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-3	Dallas Gentry	1/26/2022 14:35	1/26/2022 14:50	4470.72	uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-3	Dallas Gentry	1/26/2022 14:35	1/26/2022 14:50	0.26	mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-3	Dallas Gentry	1/26/2022 14:35	1/26/2022 14:50	107.59	ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-3	Dallas Gentry	1/26/2022 14:35	1/26/2022 14:50	23.89	mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-3	Dallas Gentry	1/26/2022 14:35	1/26/2022 14:50	6.48	SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-3	Dallas Gentry	1/26/2022 14:35	1/26/2022 14:50	19.38	C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-3	Dallas Gentry	1/26/2022 14:35	1/26/2022 14:50	10.64	NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-3	Dallas Gentry	1/26/2022 14:35	1/26/2022 14:55	4473.74	uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-3	Dallas Gentry	1/26/2022 14:35	1/26/2022 14:55	0.25	mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-3	Dallas Gentry	1/26/2022 14:35	1/26/2022 14:55	107.59	ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-3	Dallas Gentry	1/26/2022 14:35	1/26/2022 14:55	17.44	mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-3	Dallas Gentry	1/26/2022 14:35	1/26/2022 14:55	6.5	SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-3	Dallas Gentry	1/26/2022 14:35	1/26/2022 14:55	19.51	C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-3	Dallas Gentry	1/26/2022 14:35	1/26/2022 14:55	10.52	NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-3	Dallas Gentry	1/26/2022 14:35	1/26/2022 15:00	4501.96	uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-3	Dallas Gentry	1/26/2022 14:35	1/26/2022 15:00	0.26	mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-3	Dallas Gentry	1/26/2022 14:35	1/26/2022 15:00	107.59	ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-3	Dallas Gentry	1/26/2022 14:35	1/26/2022 15:00	12.99	mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-3	Dallas Gentry	1/26/2022 14:35	1/26/2022 15:00	6.51	SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-3	Dallas Gentry	1/26/2022 14:35	1/26/2022 15:00	19.1	C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-3	Dallas Gentry	1/26/2022 14:35	1/26/2022 15:00	9.47	NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-3	Dallas Gentry	1/26/2022 14:35	1/26/2022 15:05	4478	uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-3	Dallas Gentry	1/26/2022 14:35	1/26/2022 15:05	0.25	mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-3	Dallas Gentry	1/26/2022 14:35	1/26/2022 15:05	107.59	ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-3	Dallas Gentry	1/26/2022 14:35	1/26/2022 15:05	9.36	mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-3	Dallas Gentry	1/26/2022 14:35	1/26/2022 15:05	6.52	SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-3	Dallas Gentry	1/26/2022 14:35	1/26/2022 15:05	19.18	C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-3	Dallas Gentry	1/26/2022 14:35	1/26/2022 15:05	9.2	NTU	Turbidity



**Gorgas Gypsum Pond  
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COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-3V	Dallas Gentry	1/26/2022 11:17	1/26/2022 11:22	3965.98 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-3V	Dallas Gentry	1/26/2022 11:17	1/26/2022 11:22	4.88 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-3V	Dallas Gentry	1/26/2022 11:17	1/26/2022 11:22	124.24 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-3V	Dallas Gentry	1/26/2022 11:17	1/26/2022 11:22	-85.24 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-3V	Dallas Gentry	1/26/2022 11:17	1/26/2022 11:22	7.2 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-3V	Dallas Gentry	1/26/2022 11:17	1/26/2022 11:22	15.56 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-3V	Dallas Gentry	1/26/2022 11:17	1/26/2022 11:22	3.17 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-3V	Dallas Gentry	1/26/2022 11:17	1/26/2022 11:27	4079.98 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-3V	Dallas Gentry	1/26/2022 11:17	1/26/2022 11:27	1.88 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-3V	Dallas Gentry	1/26/2022 11:17	1/26/2022 11:27	124.51 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-3V	Dallas Gentry	1/26/2022 11:17	1/26/2022 11:27	-73.68 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-3V	Dallas Gentry	1/26/2022 11:17	1/26/2022 11:27	6.86 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-3V	Dallas Gentry	1/26/2022 11:17	1/26/2022 11:27	15.97 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-3V	Dallas Gentry	1/26/2022 11:17	1/26/2022 11:27	7.26 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-3V	Dallas Gentry	1/26/2022 11:17	1/26/2022 11:32	4021.12 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-3V	Dallas Gentry	1/26/2022 11:17	1/26/2022 11:32	1.45 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-3V	Dallas Gentry	1/26/2022 11:17	1/26/2022 11:32	124.61 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-3V	Dallas Gentry	1/26/2022 11:17	1/26/2022 11:32	-47.21 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-3V	Dallas Gentry	1/26/2022 11:17	1/26/2022 11:32	6.71 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-3V	Dallas Gentry	1/26/2022 11:17	1/26/2022 11:32	16.03 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-3V	Dallas Gentry	1/26/2022 11:17	1/26/2022 11:32	5.83 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-3V	Dallas Gentry	1/26/2022 11:17	1/26/2022 11:37	3949.83 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-3V	Dallas Gentry	1/26/2022 11:17	1/26/2022 11:37	1.25 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-3V	Dallas Gentry	1/26/2022 11:17	1/26/2022 11:37	124.78 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-3V	Dallas Gentry	1/26/2022 11:17	1/26/2022 11:37	-32.79 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-3V	Dallas Gentry	1/26/2022 11:17	1/26/2022 11:37	6.64 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-3V	Dallas Gentry	1/26/2022 11:17	1/26/2022 11:37	16.11 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-3V	Dallas Gentry	1/26/2022 11:17	1/26/2022 11:37	3.66 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-3V	Dallas Gentry	1/26/2022 11:17	1/26/2022 11:42	3901.02 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-3V	Dallas Gentry	1/26/2022 11:17	1/26/2022 11:42	1.22 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-3V	Dallas Gentry	1/26/2022 11:17	1/26/2022 11:42	124.9 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-3V	Dallas Gentry	1/26/2022 11:17	1/26/2022 11:42	-24.81 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-3V	Dallas Gentry	1/26/2022 11:17	1/26/2022 11:42	6.59 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-3V	Dallas Gentry	1/26/2022 11:17	1/26/2022 11:42	15.74 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-3V	Dallas Gentry	1/26/2022 11:17	1/26/2022 11:42	4.13 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-3V	Dallas Gentry	1/26/2022 11:17	1/26/2022 11:47	3876.99 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-3V	Dallas Gentry	1/26/2022 11:17	1/26/2022 11:47	1.21 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-3V	Dallas Gentry	1/26/2022 11:17	1/26/2022 11:47	124.97 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-3V	Dallas Gentry	1/26/2022 11:17	1/26/2022 11:47	-14.84 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-3V	Dallas Gentry	1/26/2022 11:17	1/26/2022 11:47	6.61 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-3V	Dallas Gentry	1/26/2022 11:17	1/26/2022 11:47	15.02 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-3V	Dallas Gentry	1/26/2022 11:17	1/26/2022 11:47	2.45 NTU	Turbidity

**Gorgas Gypsum Pond  
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COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:27	1598.86 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:27	0.49 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:27	114.97 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:27	-8.53 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:27	6.05 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:27	17.92 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:27	104.7 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:32	1594.91 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:32	0.39 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:32	115.15 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:32	-8.34 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:32	6.1 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:32	18.05 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:32	63.4 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:37	1607.91 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:37	0.38 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:37	115.23 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:37	-8.81 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:37	6.1 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:37	18.12 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:37	71.2 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:42	1596.82 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:42	0.34 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:42	115.27 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:42	-8.04 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:42	6.1 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:42	18.47 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:42	47.5 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:47	1609 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:47	0.33 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:47	115.31 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:47	-4.38 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:47	6.06 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:47	18.35 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:47	31.9 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:52	1618.45 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:52	0.34 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:52	115.34 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:52	-3.24 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:52	6.05 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:52	17.93 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:52	23.6 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:57	1611.05 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:57	0.32 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:57	115.36 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:57	-2.78 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:57	6.09 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:57	18.22 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 8:57	19.9 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:02	1611.49 uS/cm	Conductivity

**Gorgas Gypsum Pond  
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DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:02	0.31 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:02	115.38 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:02	-3.03 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:02	6.11 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:02	18.23 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:02	20.9 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:07	1620.98 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:07	0.33 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:07	115.4 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:07	-2.47 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:07	6.13 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:07	18.16 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:07	14 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:12	1611.98 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:12	0.31 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:12	115.41 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:12	-2.94 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:12	6.13 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:12	18.35 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:12	12.5 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:17	1612.65 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:17	0.3 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:17	115.41 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:17	-2.49 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:17	6.16 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:17	18.3 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:17	15.7 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:22	1622.5 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:22	0.31 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:22	115.42 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:22	-1.48 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:22	6.14 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:22	18.26 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:22	13.4 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:27	1613.22 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:27	0.3 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:27	115.42 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:27	-1.06 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:27	6.13 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:27	18.43 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:27	12.25 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:32	1611.38 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:32	0.29 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:32	115.42 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:32	-0.1 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:32	6.14 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:32	18.38 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:32	10.92 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:37	1619.95 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:37	0.3 mg/L	DO

**Gorgas Gypsum Pond  
2022 Semi-Annual Event #1  
Field Parameter Readings**

DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:37	115.42 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:37	0.56 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:37	6.17 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:37	18.5 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-4V	Dallas Gentry	1/27/2022 8:22	1/27/2022 9:37	9.53 NTU	Turbidity

**Gorgas Gypsum Pond  
2022 Semi-Annual Event #1  
Field Parameter Readings**

COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-8V	Dallas Gentry	1/26/2022 13:26	1/26/2022 13:31	1756.47 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-8V	Dallas Gentry	1/26/2022 13:26	1/26/2022 13:31	0.86 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-8V	Dallas Gentry	1/26/2022 13:26	1/26/2022 13:31	97.18 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-8V	Dallas Gentry	1/26/2022 13:26	1/26/2022 13:31	-165.63 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-8V	Dallas Gentry	1/26/2022 13:26	1/26/2022 13:31	8.24 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-8V	Dallas Gentry	1/26/2022 13:26	1/26/2022 13:31	18.93 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-8V	Dallas Gentry	1/26/2022 13:26	1/26/2022 13:31	1.02 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-8V	Dallas Gentry	1/26/2022 13:26	1/26/2022 13:36	1749.39 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-8V	Dallas Gentry	1/26/2022 13:26	1/26/2022 13:36	0.86 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-8V	Dallas Gentry	1/26/2022 13:26	1/26/2022 13:36	97.29 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-8V	Dallas Gentry	1/26/2022 13:26	1/26/2022 13:36	-177.04 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-8V	Dallas Gentry	1/26/2022 13:26	1/26/2022 13:36	8.23 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-8V	Dallas Gentry	1/26/2022 13:26	1/26/2022 13:36	18.94 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-8V	Dallas Gentry	1/26/2022 13:26	1/26/2022 13:36	1.12 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-8V	Dallas Gentry	1/26/2022 13:26	1/26/2022 13:41	1736.14 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-8V	Dallas Gentry	1/26/2022 13:26	1/26/2022 13:41	0.82 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-8V	Dallas Gentry	1/26/2022 13:26	1/26/2022 13:41	97.41 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-8V	Dallas Gentry	1/26/2022 13:26	1/26/2022 13:41	-184.64 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-8V	Dallas Gentry	1/26/2022 13:26	1/26/2022 13:41	8.22 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-8V	Dallas Gentry	1/26/2022 13:26	1/26/2022 13:41	18.84 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-8V	Dallas Gentry	1/26/2022 13:26	1/26/2022 13:41	0.9 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-8V	Dallas Gentry	1/26/2022 13:26	1/26/2022 13:46	1722.53 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-8V	Dallas Gentry	1/26/2022 13:26	1/26/2022 13:46	0.8 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-8V	Dallas Gentry	1/26/2022 13:26	1/26/2022 13:46	97.5 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-8V	Dallas Gentry	1/26/2022 13:26	1/26/2022 13:46	-190.65 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-8V	Dallas Gentry	1/26/2022 13:26	1/26/2022 13:46	8.18 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-8V	Dallas Gentry	1/26/2022 13:26	1/26/2022 13:46	19.12 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-8V	Dallas Gentry	1/26/2022 13:26	1/26/2022 13:46	1.06 NTU	Turbidity

**Gorgas Gypsum Pond  
2022 Semi-Annual Event #1  
Field Parameter Readings**

COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-12H	Dallas Gentry	1/25/2022 15:20	1/25/2022 15:25	1580.07 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-12H	Dallas Gentry	1/25/2022 15:20	1/25/2022 15:25	0.15 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-12H	Dallas Gentry	1/25/2022 15:20	1/25/2022 15:25	59.13 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-12H	Dallas Gentry	1/25/2022 15:20	1/25/2022 15:25	240.61 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-12H	Dallas Gentry	1/25/2022 15:20	1/25/2022 15:25	4.17 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-12H	Dallas Gentry	1/25/2022 15:20	1/25/2022 15:25	19.28 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-12H	Dallas Gentry	1/25/2022 15:20	1/25/2022 15:25	16.5 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-12H	Dallas Gentry	1/25/2022 15:20	1/25/2022 15:30	1209.43 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-12H	Dallas Gentry	1/25/2022 15:20	1/25/2022 15:30	0.17 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-12H	Dallas Gentry	1/25/2022 15:20	1/25/2022 15:30	59.13 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-12H	Dallas Gentry	1/25/2022 15:20	1/25/2022 15:30	250.5 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-12H	Dallas Gentry	1/25/2022 15:20	1/25/2022 15:30	4.22 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-12H	Dallas Gentry	1/25/2022 15:20	1/25/2022 15:30	19.27 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-12H	Dallas Gentry	1/25/2022 15:20	1/25/2022 15:30	47.7 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-12H	Dallas Gentry	1/25/2022 15:20	1/25/2022 15:35	1563.98 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-12H	Dallas Gentry	1/25/2022 15:20	1/25/2022 15:35	0.16 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-12H	Dallas Gentry	1/25/2022 15:20	1/25/2022 15:35	59.13 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-12H	Dallas Gentry	1/25/2022 15:20	1/25/2022 15:35	274.37 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-12H	Dallas Gentry	1/25/2022 15:20	1/25/2022 15:35	4.18 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-12H	Dallas Gentry	1/25/2022 15:20	1/25/2022 15:35	19.21 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-12H	Dallas Gentry	1/25/2022 15:20	1/25/2022 15:35	17.9 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-12H	Dallas Gentry	1/25/2022 15:20	1/25/2022 15:40	1550.61 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-12H	Dallas Gentry	1/25/2022 15:20	1/25/2022 15:40	0.17 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-12H	Dallas Gentry	1/25/2022 15:20	1/25/2022 15:40	59.13 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-12H	Dallas Gentry	1/25/2022 15:20	1/25/2022 15:40	304.21 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-12H	Dallas Gentry	1/25/2022 15:20	1/25/2022 15:40	4.15 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-12H	Dallas Gentry	1/25/2022 15:20	1/25/2022 15:40	19.23 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-12H	Dallas Gentry	1/25/2022 15:20	1/25/2022 15:40	9.02 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-12H	Dallas Gentry	1/25/2022 15:20	1/25/2022 15:45	1495.64 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-12H	Dallas Gentry	1/25/2022 15:20	1/25/2022 15:45	0.17 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-12H	Dallas Gentry	1/25/2022 15:20	1/25/2022 15:45	59.13 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-12H	Dallas Gentry	1/25/2022 15:20	1/25/2022 15:45	326.12 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-12H	Dallas Gentry	1/25/2022 15:20	1/25/2022 15:45	4.11 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-12H	Dallas Gentry	1/25/2022 15:20	1/25/2022 15:45	19.14 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-12H	Dallas Gentry	1/25/2022 15:20	1/25/2022 15:45	8 NTU	Turbidity

**Gorgas Gypsum Pond  
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Field Parameter Readings**

COND	APCO_Gorgas_GypsumStore	GS-GSA-PZ-17	Dallas Gentry	1/27/2022 10:21	1/27/2022 10:26	840.79 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-PZ-17	Dallas Gentry	1/27/2022 10:21	1/27/2022 10:26	0.64 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-PZ-17	Dallas Gentry	1/27/2022 10:21	1/27/2022 10:26	46.41 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-17	Dallas Gentry	1/27/2022 10:21	1/27/2022 10:26	164.84 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-PZ-17	Dallas Gentry	1/27/2022 10:21	1/27/2022 10:26	4.41 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-17	Dallas Gentry	1/27/2022 10:21	1/27/2022 10:26	18.4 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-PZ-17	Dallas Gentry	1/27/2022 10:21	1/27/2022 10:26	2.18 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-PZ-17	Dallas Gentry	1/27/2022 10:21	1/27/2022 10:31	767.71 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-PZ-17	Dallas Gentry	1/27/2022 10:21	1/27/2022 10:31	0.71 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-PZ-17	Dallas Gentry	1/27/2022 10:21	1/27/2022 10:31	46.48 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-17	Dallas Gentry	1/27/2022 10:21	1/27/2022 10:31	173.93 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-PZ-17	Dallas Gentry	1/27/2022 10:21	1/27/2022 10:31	4.5 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-17	Dallas Gentry	1/27/2022 10:21	1/27/2022 10:31	18.47 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-PZ-17	Dallas Gentry	1/27/2022 10:21	1/27/2022 10:31	1.02 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-PZ-17	Dallas Gentry	1/27/2022 10:21	1/27/2022 10:36	742.8 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-PZ-17	Dallas Gentry	1/27/2022 10:21	1/27/2022 10:36	0.54 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-PZ-17	Dallas Gentry	1/27/2022 10:21	1/27/2022 10:36	46.51 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-17	Dallas Gentry	1/27/2022 10:21	1/27/2022 10:36	150.78 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-PZ-17	Dallas Gentry	1/27/2022 10:21	1/27/2022 10:36	4.61 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-17	Dallas Gentry	1/27/2022 10:21	1/27/2022 10:36	18.33 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-PZ-17	Dallas Gentry	1/27/2022 10:21	1/27/2022 10:36	1.08 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-PZ-17	Dallas Gentry	1/27/2022 10:21	1/27/2022 10:41	756.96 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-PZ-17	Dallas Gentry	1/27/2022 10:21	1/27/2022 10:41	0.34 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-PZ-17	Dallas Gentry	1/27/2022 10:21	1/27/2022 10:41	46.53 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-17	Dallas Gentry	1/27/2022 10:21	1/27/2022 10:41	134.92 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-PZ-17	Dallas Gentry	1/27/2022 10:21	1/27/2022 10:41	4.63 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-17	Dallas Gentry	1/27/2022 10:21	1/27/2022 10:41	18.64 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-PZ-17	Dallas Gentry	1/27/2022 10:21	1/27/2022 10:41	0.97 NTU	Turbidity

**Gorgas Gypsum Pond  
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COND	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 13:57	1759.71 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 13:57	0.16 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 13:57	123.41 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 13:57	12.87 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 13:57	6.77 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 13:57	17.29 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 13:57	1.98 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:02	1563.12 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:02	0.15 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:02	124.44 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:02	11.81 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:02	6.73 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:02	17.41 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:02	1.15 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:07	1445.28 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:07	0.17 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:07	124.91 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:07	8.77 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:07	6.69 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:07	17.5 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:07	1.45 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:12	1366.11 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:12	0.18 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:12	125.38 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:12	5.9 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:12	6.68 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:12	17.45 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:12	1.28 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:17	1321.23 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:17	0.18 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:17	125.73 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:17	3.72 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:17	6.66 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:17	17.32 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:17	1.07 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:22	1301.48 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:22	0.18 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:22	126.09 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:22	2.23 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:22	6.67 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:22	17.61 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:22	0.87 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:27	1301.96 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:27	0.19 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:27	126.36 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:27	1.25 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:27	6.66 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:27	17.22 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:27	1.12 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:32	1291.45 uS/cm	Conductivity



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DO	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:32	0.19 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:32	126.54 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:32	0.21 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:32	6.69 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:32	17.43 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:32	0.66 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:37	1284.75 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:37	0.19 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:37	126.7 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:37	-0.48 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:37	6.68 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:37	17.43 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:37	1.65 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:42	1292.6 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:42	0.19 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:42	126.8 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:42	-0.85 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:42	6.68 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:42	17.58 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-PZ-19	Dallas Gentry	1/25/2022 13:52	1/25/2022 14:42	1.05 NTU	Turbidity

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COND	APCO_Gorgas_GypsumStore	GS-GSA-PZ-20	Dallas Gentry	1/25/2022 12:32	1/25/2022 12:37	1170.03 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-PZ-20	Dallas Gentry	1/25/2022 12:32	1/25/2022 12:37	0.37 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-PZ-20	Dallas Gentry	1/25/2022 12:32	1/25/2022 12:37	116.6 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-20	Dallas Gentry	1/25/2022 12:32	1/25/2022 12:37	23.87 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-PZ-20	Dallas Gentry	1/25/2022 12:32	1/25/2022 12:37	6.29 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-20	Dallas Gentry	1/25/2022 12:32	1/25/2022 12:37	17.49 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-PZ-20	Dallas Gentry	1/25/2022 12:32	1/25/2022 12:37	9.85 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-PZ-20	Dallas Gentry	1/25/2022 12:32	1/25/2022 12:42	1202.55 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-PZ-20	Dallas Gentry	1/25/2022 12:32	1/25/2022 12:42	0.33 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-PZ-20	Dallas Gentry	1/25/2022 12:32	1/25/2022 12:42	116.6 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-20	Dallas Gentry	1/25/2022 12:32	1/25/2022 12:42	23.84 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-PZ-20	Dallas Gentry	1/25/2022 12:32	1/25/2022 12:42	6.28 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-20	Dallas Gentry	1/25/2022 12:32	1/25/2022 12:42	17.4 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-PZ-20	Dallas Gentry	1/25/2022 12:32	1/25/2022 12:42	7.73 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-PZ-20	Dallas Gentry	1/25/2022 12:32	1/25/2022 12:47	1192.62 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-PZ-20	Dallas Gentry	1/25/2022 12:32	1/25/2022 12:47	0.3 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-PZ-20	Dallas Gentry	1/25/2022 12:32	1/25/2022 12:47	116.6 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-20	Dallas Gentry	1/25/2022 12:32	1/25/2022 12:47	22.75 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-PZ-20	Dallas Gentry	1/25/2022 12:32	1/25/2022 12:47	6.31 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-20	Dallas Gentry	1/25/2022 12:32	1/25/2022 12:47	17.51 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-PZ-20	Dallas Gentry	1/25/2022 12:32	1/25/2022 12:47	4.35 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-PZ-20	Dallas Gentry	1/25/2022 12:32	1/25/2022 12:52	1181.7 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-PZ-20	Dallas Gentry	1/25/2022 12:32	1/25/2022 12:52	0.28 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-PZ-20	Dallas Gentry	1/25/2022 12:32	1/25/2022 12:52	116.6 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-20	Dallas Gentry	1/25/2022 12:32	1/25/2022 12:52	20.64 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-PZ-20	Dallas Gentry	1/25/2022 12:32	1/25/2022 12:52	6.33 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-20	Dallas Gentry	1/25/2022 12:32	1/25/2022 12:52	17.62 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-PZ-20	Dallas Gentry	1/25/2022 12:32	1/25/2022 12:52	4.6 NTU	Turbidity



**Gorgas Gypsum Pond  
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DO	APCO_Gorgas_GypsumStore	GS-GSA-PZ-21	Dallas Gentry	1/25/2022 9:55	1/25/2022 10:35	0.31 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-PZ-21	Dallas Gentry	1/25/2022 9:55	1/25/2022 10:35	88.32 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-21	Dallas Gentry	1/25/2022 9:55	1/25/2022 10:35	-58.36 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-PZ-21	Dallas Gentry	1/25/2022 9:55	1/25/2022 10:35	6.94 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-21	Dallas Gentry	1/25/2022 9:55	1/25/2022 10:35	16.15 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-PZ-21	Dallas Gentry	1/25/2022 9:55	1/25/2022 10:35	0.89 NTU	Turbidity

**Gorgas Gypsum Pond  
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Field Parameter Readings**

COND	APCO_Gorgas_GypsumStore	GS-GSA-PZ-22	Dallas Gentry	1/25/2022 11:24	1/25/2022 11:29	948.74 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-PZ-22	Dallas Gentry	1/25/2022 11:24	1/25/2022 11:29	0.59 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-PZ-22	Dallas Gentry	1/25/2022 11:24	1/25/2022 11:29	51.82 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-22	Dallas Gentry	1/25/2022 11:24	1/25/2022 11:29	-69.75 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-PZ-22	Dallas Gentry	1/25/2022 11:24	1/25/2022 11:29	6.42 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-22	Dallas Gentry	1/25/2022 11:24	1/25/2022 11:29	17.66 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-PZ-22	Dallas Gentry	1/25/2022 11:24	1/25/2022 11:29	13 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-PZ-22	Dallas Gentry	1/25/2022 11:24	1/25/2022 11:34	935.57 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-PZ-22	Dallas Gentry	1/25/2022 11:24	1/25/2022 11:34	0.43 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-PZ-22	Dallas Gentry	1/25/2022 11:24	1/25/2022 11:34	51.96 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-22	Dallas Gentry	1/25/2022 11:24	1/25/2022 11:34	-51.65 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-PZ-22	Dallas Gentry	1/25/2022 11:24	1/25/2022 11:34	6.17 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-22	Dallas Gentry	1/25/2022 11:24	1/25/2022 11:34	17.58 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-PZ-22	Dallas Gentry	1/25/2022 11:24	1/25/2022 11:34	13.3 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-PZ-22	Dallas Gentry	1/25/2022 11:24	1/25/2022 11:39	917.91 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-PZ-22	Dallas Gentry	1/25/2022 11:24	1/25/2022 11:39	0.37 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-PZ-22	Dallas Gentry	1/25/2022 11:24	1/25/2022 11:39	52.09 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-22	Dallas Gentry	1/25/2022 11:24	1/25/2022 11:39	-34.42 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-PZ-22	Dallas Gentry	1/25/2022 11:24	1/25/2022 11:39	5.99 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-22	Dallas Gentry	1/25/2022 11:24	1/25/2022 11:39	17.5 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-PZ-22	Dallas Gentry	1/25/2022 11:24	1/25/2022 11:39	11.3 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-PZ-22	Dallas Gentry	1/25/2022 11:24	1/25/2022 11:44	919.7 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-PZ-22	Dallas Gentry	1/25/2022 11:24	1/25/2022 11:44	0.34 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-PZ-22	Dallas Gentry	1/25/2022 11:24	1/25/2022 11:44	52.09 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-22	Dallas Gentry	1/25/2022 11:24	1/25/2022 11:44	-30.25 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-PZ-22	Dallas Gentry	1/25/2022 11:24	1/25/2022 11:44	5.99 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-22	Dallas Gentry	1/25/2022 11:24	1/25/2022 11:44	18.29 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-PZ-22	Dallas Gentry	1/25/2022 11:24	1/25/2022 11:44	10.45 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-PZ-22	Dallas Gentry	1/25/2022 11:24	1/25/2022 11:49	921.21 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-PZ-22	Dallas Gentry	1/25/2022 11:24	1/25/2022 11:49	0.3 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-PZ-22	Dallas Gentry	1/25/2022 11:24	1/25/2022 11:49	52.09 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-22	Dallas Gentry	1/25/2022 11:24	1/25/2022 11:49	-29.31 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-PZ-22	Dallas Gentry	1/25/2022 11:24	1/25/2022 11:49	5.99 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-22	Dallas Gentry	1/25/2022 11:24	1/25/2022 11:49	17.45 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-PZ-22	Dallas Gentry	1/25/2022 11:24	1/25/2022 11:49	7.59 NTU	Turbidity

**Gorgas Gypsum Pond  
2022 Semi-Annual Event #1  
Field Parameter Readings**

COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 9:36	1490.74 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 9:36	0.28 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 9:36	8.16 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 9:36	96.49 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 9:36	5.77 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 9:36	19.46 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 9:36	23.6 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 9:41	1480.79 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 9:41	0.36 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 9:41	8.22 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 9:41	97.88 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 9:41	5.83 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 9:41	18.9 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 9:41	26.4 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 9:46	1475.22 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 9:46	0.68 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 9:46	8.3 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 9:46	96.28 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 9:46	5.86 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 9:46	18.22 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 9:46	23.1 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 9:51	1475.49 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 9:51	0.26 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 9:51	8.38 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 9:51	95.57 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 9:51	5.86 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 9:51	19.73 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 9:51	14.5 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 9:56	1470.26 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 9:56	0.25 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 9:56	8.51 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 9:56	92.64 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 9:56	5.91 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 9:56	19.83 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 9:56	11.73 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 10:01	1458.94 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 10:01	0.27 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 10:01	8.6 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 10:01	90.97 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 10:01	5.94 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 10:01	19.87 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 10:01	11.14 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 10:06	1445.07 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 10:06	0.28 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 10:06	8.68 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 10:06	88.54 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 10:06	5.95 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 10:06	19.79 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-11H	TJ Daugherty	1/26/2022 9:31	1/26/2022 10:06	8.2 NTU	Turbidity

**Gorgas Gypsum Pond  
2022 Semi-Annual Event #1  
Field Parameter Readings**

COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-13H	TJ Daugherty	1/26/2022 10:49	1/26/2022 10:54	1452.34 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-13H	TJ Daugherty	1/26/2022 10:49	1/26/2022 10:54	0.15 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-13H	TJ Daugherty	1/26/2022 10:49	1/26/2022 10:54	9.52 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-13H	TJ Daugherty	1/26/2022 10:49	1/26/2022 10:54	-38.61 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-13H	TJ Daugherty	1/26/2022 10:49	1/26/2022 10:54	6.16 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-13H	TJ Daugherty	1/26/2022 10:49	1/26/2022 10:54	20.29 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-13H	TJ Daugherty	1/26/2022 10:49	1/26/2022 10:54	6.79 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-13H	TJ Daugherty	1/26/2022 10:49	1/26/2022 10:59	1466.11 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-13H	TJ Daugherty	1/26/2022 10:49	1/26/2022 10:59	0.14 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-13H	TJ Daugherty	1/26/2022 10:49	1/26/2022 10:59	9.56 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-13H	TJ Daugherty	1/26/2022 10:49	1/26/2022 10:59	-36.34 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-13H	TJ Daugherty	1/26/2022 10:49	1/26/2022 10:59	6.15 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-13H	TJ Daugherty	1/26/2022 10:49	1/26/2022 10:59	20.27 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-13H	TJ Daugherty	1/26/2022 10:49	1/26/2022 10:59	5.29 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-13H	TJ Daugherty	1/26/2022 10:49	1/26/2022 11:04	1491.78 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-13H	TJ Daugherty	1/26/2022 10:49	1/26/2022 11:04	0.14 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-13H	TJ Daugherty	1/26/2022 10:49	1/26/2022 11:04	9.56 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-13H	TJ Daugherty	1/26/2022 10:49	1/26/2022 11:04	-34.21 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-13H	TJ Daugherty	1/26/2022 10:49	1/26/2022 11:04	6.13 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-13H	TJ Daugherty	1/26/2022 10:49	1/26/2022 11:04	20.29 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-13H	TJ Daugherty	1/26/2022 10:49	1/26/2022 11:04	4.08 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-13H	TJ Daugherty	1/26/2022 10:49	1/26/2022 11:09	1516.88 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-13H	TJ Daugherty	1/26/2022 10:49	1/26/2022 11:09	0.14 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-13H	TJ Daugherty	1/26/2022 10:49	1/26/2022 11:09	9.56 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-13H	TJ Daugherty	1/26/2022 10:49	1/26/2022 11:09	-31.12 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-13H	TJ Daugherty	1/26/2022 10:49	1/26/2022 11:09	6.11 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-13H	TJ Daugherty	1/26/2022 10:49	1/26/2022 11:09	20.41 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-13H	TJ Daugherty	1/26/2022 10:49	1/26/2022 11:09	3.16 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-13H	TJ Daugherty	1/26/2022 10:49	1/26/2022 11:14	1543.63 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-13H	TJ Daugherty	1/26/2022 10:49	1/26/2022 11:14	0.14 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-13H	TJ Daugherty	1/26/2022 10:49	1/26/2022 11:14	9.56 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-13H	TJ Daugherty	1/26/2022 10:49	1/26/2022 11:14	-26.49 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-13H	TJ Daugherty	1/26/2022 10:49	1/26/2022 11:14	6.08 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-13H	TJ Daugherty	1/26/2022 10:49	1/26/2022 11:14	20.26 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-13H	TJ Daugherty	1/26/2022 10:49	1/26/2022 11:14	2.51 NTU	Turbidity

**Gorgas Gypsum Pond  
2022 Semi-Annual Event #1  
Field Parameter Readings**

COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 12:35	3222.93 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 12:35	0.14 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 12:35	54.12 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 12:35	-84.46 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 12:35	6.98 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 12:35	21.25 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 12:35	0.82 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 12:40	3229.78 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 12:40	0.13 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 12:40	57.26 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 12:40	-87.26 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 12:40	6.98 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 12:40	21.2 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 12:40	0.93 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 12:45	3236.17 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 12:45	0.13 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 12:45	61.44 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 12:45	-89.24 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 12:45	6.98 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 12:45	21.27 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 12:45	0.77 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 12:50	3234.54 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 12:50	0.14 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 12:50	64.46 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 12:50	-90.61 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 12:50	6.97 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 12:50	21 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 12:50	1.03 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 12:55	3203.52 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 12:55	0.45 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 12:55	64.73 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 12:55	-87.82 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 12:55	6.98 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 12:55	19.37 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 12:55	0.86 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 13:00	3198.4 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 13:00	0.63 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 13:00	64.73 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 13:00	-81.03 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 13:00	6.95 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 13:00	18.54 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 13:00	0.64 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 13:05	3194.65 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 13:05	0.76 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 13:05	64.73 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 13:05	-67.98 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 13:05	6.9 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 13:05	18.38 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 13:05	0.51 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 13:10	3207.82 uS/cm	Conductivity



**Gorgas Gypsum Pond  
2022 Semi-Annual Event #1  
Field Parameter Readings**

DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 13:10	0.82 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 13:10	64.73 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 13:10	-61.36 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 13:10	6.89 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 13:10	18.56 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 13:10	0.44 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 13:15	3210.84 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 13:15	0.84 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 13:15	64.73 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 13:15	-58.64 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 13:15	6.89 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 13:15	19 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-9V	TJ Daugherty	1/26/2022 12:30	1/26/2022 13:15	0.42 NTU	Turbidity

**Gorgas Gypsum Pond  
2022 Semi-Annual Event #1  
Field Parameter Readings**

COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-9H	TJ Daugherty	1/26/2022 14:52	1/26/2022 14:57	2539.76 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-9H	TJ Daugherty	1/26/2022 14:52	1/26/2022 14:57	0.31 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-9H	TJ Daugherty	1/26/2022 14:52	1/26/2022 14:57	46.86 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-9H	TJ Daugherty	1/26/2022 14:52	1/26/2022 14:57	178.6 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-9H	TJ Daugherty	1/26/2022 14:52	1/26/2022 14:57	5.15 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-9H	TJ Daugherty	1/26/2022 14:52	1/26/2022 14:57	21.14 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-9H	TJ Daugherty	1/26/2022 14:52	1/26/2022 14:57	5.72 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-9H	TJ Daugherty	1/26/2022 14:52	1/26/2022 15:02	2561.27 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-9H	TJ Daugherty	1/26/2022 14:52	1/26/2022 15:02	0.26 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-9H	TJ Daugherty	1/26/2022 14:52	1/26/2022 15:02	47.24 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-9H	TJ Daugherty	1/26/2022 14:52	1/26/2022 15:02	166.87 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-9H	TJ Daugherty	1/26/2022 14:52	1/26/2022 15:02	5.23 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-9H	TJ Daugherty	1/26/2022 14:52	1/26/2022 15:02	21.02 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-9H	TJ Daugherty	1/26/2022 14:52	1/26/2022 15:02	4.4 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-9H	TJ Daugherty	1/26/2022 14:52	1/26/2022 15:07	2574.42 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-9H	TJ Daugherty	1/26/2022 14:52	1/26/2022 15:07	0.23 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-9H	TJ Daugherty	1/26/2022 14:52	1/26/2022 15:07	47.52 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-9H	TJ Daugherty	1/26/2022 14:52	1/26/2022 15:07	158.92 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-9H	TJ Daugherty	1/26/2022 14:52	1/26/2022 15:07	5.28 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-9H	TJ Daugherty	1/26/2022 14:52	1/26/2022 15:07	20.91 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-9H	TJ Daugherty	1/26/2022 14:52	1/26/2022 15:07	3.6 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-9H	TJ Daugherty	1/26/2022 14:52	1/26/2022 15:12	2578.89 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-9H	TJ Daugherty	1/26/2022 14:52	1/26/2022 15:12	0.22 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-9H	TJ Daugherty	1/26/2022 14:52	1/26/2022 15:12	47.71 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-9H	TJ Daugherty	1/26/2022 14:52	1/26/2022 15:12	153.34 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-9H	TJ Daugherty	1/26/2022 14:52	1/26/2022 15:12	5.31 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-9H	TJ Daugherty	1/26/2022 14:52	1/26/2022 15:12	20.97 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-9H	TJ Daugherty	1/26/2022 14:52	1/26/2022 15:12	3.33 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-9H	TJ Daugherty	1/26/2022 14:52	1/26/2022 15:17	2589.81 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-9H	TJ Daugherty	1/26/2022 14:52	1/26/2022 15:17	0.2 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-9H	TJ Daugherty	1/26/2022 14:52	1/26/2022 15:17	47.88 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-9H	TJ Daugherty	1/26/2022 14:52	1/26/2022 15:17	149.58 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-9H	TJ Daugherty	1/26/2022 14:52	1/26/2022 15:17	5.33 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-9H	TJ Daugherty	1/26/2022 14:52	1/26/2022 15:17	21.1 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-9H	TJ Daugherty	1/26/2022 14:52	1/26/2022 15:17	1.93 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-9H	TJ Daugherty	1/26/2022 14:52	1/26/2022 15:22	2589.92 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-9H	TJ Daugherty	1/26/2022 14:52	1/26/2022 15:22	0.2 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-9H	TJ Daugherty	1/26/2022 14:52	1/26/2022 15:22	47.92 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-9H	TJ Daugherty	1/26/2022 14:52	1/26/2022 15:22	146.63 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-9H	TJ Daugherty	1/26/2022 14:52	1/26/2022 15:22	5.35 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-9H	TJ Daugherty	1/26/2022 14:52	1/26/2022 15:22	20.94 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-9H	TJ Daugherty	1/26/2022 14:52	1/26/2022 15:22	1.99 NTU	Turbidity

**Gorgas Gypsum Pond  
2022 Semi-Annual Event #1  
Field Parameter Readings**

COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-12V	TJ Daugherty	1/27/2022 8:31	1/27/2022 8:36	4563.34 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-12V	TJ Daugherty	1/27/2022 8:31	1/27/2022 8:36	0.21 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-12V	TJ Daugherty	1/27/2022 8:31	1/27/2022 8:36	62.44 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-12V	TJ Daugherty	1/27/2022 8:31	1/27/2022 8:36	-74.21 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-12V	TJ Daugherty	1/27/2022 8:31	1/27/2022 8:36	6.35 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-12V	TJ Daugherty	1/27/2022 8:31	1/27/2022 8:36	20.16 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-12V	TJ Daugherty	1/27/2022 8:31	1/27/2022 8:36	0.88 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-12V	TJ Daugherty	1/27/2022 8:31	1/27/2022 8:41	4195.44 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-12V	TJ Daugherty	1/27/2022 8:31	1/27/2022 8:41	0.18 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-12V	TJ Daugherty	1/27/2022 8:31	1/27/2022 8:41	62.53 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-12V	TJ Daugherty	1/27/2022 8:31	1/27/2022 8:41	-57.74 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-12V	TJ Daugherty	1/27/2022 8:31	1/27/2022 8:41	6.23 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-12V	TJ Daugherty	1/27/2022 8:31	1/27/2022 8:41	20.26 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-12V	TJ Daugherty	1/27/2022 8:31	1/27/2022 8:41	0.85 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-12V	TJ Daugherty	1/27/2022 8:31	1/27/2022 8:46	4041.36 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-12V	TJ Daugherty	1/27/2022 8:31	1/27/2022 8:46	0.18 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-12V	TJ Daugherty	1/27/2022 8:31	1/27/2022 8:46	62.58 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-12V	TJ Daugherty	1/27/2022 8:31	1/27/2022 8:46	-48.19 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-12V	TJ Daugherty	1/27/2022 8:31	1/27/2022 8:46	6.18 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-12V	TJ Daugherty	1/27/2022 8:31	1/27/2022 8:46	20.25 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-12V	TJ Daugherty	1/27/2022 8:31	1/27/2022 8:46	1.02 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-12V	TJ Daugherty	1/27/2022 8:31	1/27/2022 8:51	3930.61 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-12V	TJ Daugherty	1/27/2022 8:31	1/27/2022 8:51	0.17 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-12V	TJ Daugherty	1/27/2022 8:31	1/27/2022 8:51	62.66 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-12V	TJ Daugherty	1/27/2022 8:31	1/27/2022 8:51	-42.86 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-12V	TJ Daugherty	1/27/2022 8:31	1/27/2022 8:51	6.16 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-12V	TJ Daugherty	1/27/2022 8:31	1/27/2022 8:51	20.28 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-12V	TJ Daugherty	1/27/2022 8:31	1/27/2022 8:51	0.55 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-12V	TJ Daugherty	1/27/2022 8:31	1/27/2022 8:56	3900.53 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-12V	TJ Daugherty	1/27/2022 8:31	1/27/2022 8:56	0.17 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-12V	TJ Daugherty	1/27/2022 8:31	1/27/2022 8:56	62.68 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-12V	TJ Daugherty	1/27/2022 8:31	1/27/2022 8:56	-42.11 mv	Oxidation Reduction Potential
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-12V	TJ Daugherty	1/27/2022 8:31	1/27/2022 8:56	6.19 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-12V	TJ Daugherty	1/27/2022 8:31	1/27/2022 8:56	20.23 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-12V	TJ Daugherty	1/27/2022 8:31	1/27/2022 8:56	0.58 NTU	Turbidity

**Gorgas Gypsum Pond  
2022 Semi-Annual Event #1  
Field Parameter Readings**

COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-8	TJ Daugherty	1/27/2022 9:36	1/27/2022 9:41	3460.94 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-8	TJ Daugherty	1/27/2022 9:36	1/27/2022 9:41	0.53 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-8	TJ Daugherty	1/27/2022 9:36	1/27/2022 9:41	78.37 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-8	TJ Daugherty	1/27/2022 9:36	1/27/2022 9:41	-85.26 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-8	TJ Daugherty	1/27/2022 9:36	1/27/2022 9:41	6.83 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-8	TJ Daugherty	1/27/2022 9:36	1/27/2022 9:41	20.8 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-8	TJ Daugherty	1/27/2022 9:36	1/27/2022 9:41	2.03 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-8	TJ Daugherty	1/27/2022 9:36	1/27/2022 9:46	3464.95 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-8	TJ Daugherty	1/27/2022 9:36	1/27/2022 9:46	0.35 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-8	TJ Daugherty	1/27/2022 9:36	1/27/2022 9:46	78.49 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-8	TJ Daugherty	1/27/2022 9:36	1/27/2022 9:46	-86.77 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-8	TJ Daugherty	1/27/2022 9:36	1/27/2022 9:46	6.86 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-8	TJ Daugherty	1/27/2022 9:36	1/27/2022 9:46	20.9 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-8	TJ Daugherty	1/27/2022 9:36	1/27/2022 9:46	1.57 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-8	TJ Daugherty	1/27/2022 9:36	1/27/2022 9:51	3465.34 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-8	TJ Daugherty	1/27/2022 9:36	1/27/2022 9:51	0.31 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-8	TJ Daugherty	1/27/2022 9:36	1/27/2022 9:51	78.53 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-8	TJ Daugherty	1/27/2022 9:36	1/27/2022 9:51	-85.01 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-8	TJ Daugherty	1/27/2022 9:36	1/27/2022 9:51	6.86 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-8	TJ Daugherty	1/27/2022 9:36	1/27/2022 9:51	20.81 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-8	TJ Daugherty	1/27/2022 9:36	1/27/2022 9:51	2.54 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-8	TJ Daugherty	1/27/2022 9:36	1/27/2022 9:56	3489.16 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-8	TJ Daugherty	1/27/2022 9:36	1/27/2022 9:56	0.29 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-8	TJ Daugherty	1/27/2022 9:36	1/27/2022 9:56	78.56 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-8	TJ Daugherty	1/27/2022 9:36	1/27/2022 9:56	-83.27 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-8	TJ Daugherty	1/27/2022 9:36	1/27/2022 9:56	6.85 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-8	TJ Daugherty	1/27/2022 9:36	1/27/2022 9:56	21.13 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-8	TJ Daugherty	1/27/2022 9:36	1/27/2022 9:56	2.64 NTU	Turbidity

**Gorgas Gypsum Pond  
2022 Semi-Annual Event #1  
Field Parameter Readings**

COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-4	Anthony Goggins	1/27/2022 10:30	1/27/2022 10:35	2091.44 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-4	Anthony Goggins	1/27/2022 10:30	1/27/2022 10:35	0.6 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-4	Anthony Goggins	1/27/2022 10:30	1/27/2022 10:35	89 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-4	Anthony Goggins	1/27/2022 10:30	1/27/2022 10:35	310.61 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-4	Anthony Goggins	1/27/2022 10:30	1/27/2022 10:35	3.73 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-4	Anthony Goggins	1/27/2022 10:30	1/27/2022 10:35	19.39 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-4	Anthony Goggins	1/27/2022 10:30	1/27/2022 10:35	2.22 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-4	Anthony Goggins	1/27/2022 10:30	1/27/2022 10:40	2074.29 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-4	Anthony Goggins	1/27/2022 10:30	1/27/2022 10:40	0.5 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-4	Anthony Goggins	1/27/2022 10:30	1/27/2022 10:40	89 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-4	Anthony Goggins	1/27/2022 10:30	1/27/2022 10:40	306.85 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-4	Anthony Goggins	1/27/2022 10:30	1/27/2022 10:40	3.72 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-4	Anthony Goggins	1/27/2022 10:30	1/27/2022 10:40	19.6 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-4	Anthony Goggins	1/27/2022 10:30	1/27/2022 10:40	2.17 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-4	Anthony Goggins	1/27/2022 10:30	1/27/2022 10:45	2061.81 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-4	Anthony Goggins	1/27/2022 10:30	1/27/2022 10:45	0.46 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-4	Anthony Goggins	1/27/2022 10:30	1/27/2022 10:45	89 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-4	Anthony Goggins	1/27/2022 10:30	1/27/2022 10:45	305.64 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-4	Anthony Goggins	1/27/2022 10:30	1/27/2022 10:45	3.72 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-4	Anthony Goggins	1/27/2022 10:30	1/27/2022 10:45	19.66 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-4	Anthony Goggins	1/27/2022 10:30	1/27/2022 10:45	1.84 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-4	Anthony Goggins	1/27/2022 10:30	1/27/2022 10:50	2062.07 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-4	Anthony Goggins	1/27/2022 10:30	1/27/2022 10:50	0.43 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-4	Anthony Goggins	1/27/2022 10:30	1/27/2022 10:50	89 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-4	Anthony Goggins	1/27/2022 10:30	1/27/2022 10:50	304.11 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-4	Anthony Goggins	1/27/2022 10:30	1/27/2022 10:50	3.73 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-4	Anthony Goggins	1/27/2022 10:30	1/27/2022 10:50	19.63 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-4	Anthony Goggins	1/27/2022 10:30	1/27/2022 10:50	1.54 NTU	Turbidity

**Gorgas Gypsum Pond  
2022 Semi-Annual Event #1  
Field Parameter Readings**

COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-14H	Anthony Goggins	1/27/2022 9:28	1/27/2022 9:33	1295.13 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-14H	Anthony Goggins	1/27/2022 9:28	1/27/2022 9:33	0.22 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-14H	Anthony Goggins	1/27/2022 9:28	1/27/2022 9:33	18.61 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-14H	Anthony Goggins	1/27/2022 9:28	1/27/2022 9:33	297.69 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-14H	Anthony Goggins	1/27/2022 9:28	1/27/2022 9:33	3.95 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-14H	Anthony Goggins	1/27/2022 9:28	1/27/2022 9:33	18.68 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-14H	Anthony Goggins	1/27/2022 9:28	1/27/2022 9:33	6.8 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-14H	Anthony Goggins	1/27/2022 9:28	1/27/2022 9:38	1295.03 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-14H	Anthony Goggins	1/27/2022 9:28	1/27/2022 9:38	0.21 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-14H	Anthony Goggins	1/27/2022 9:28	1/27/2022 9:38	18.61 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-14H	Anthony Goggins	1/27/2022 9:28	1/27/2022 9:38	305.26 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-14H	Anthony Goggins	1/27/2022 9:28	1/27/2022 9:38	4.02 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-14H	Anthony Goggins	1/27/2022 9:28	1/27/2022 9:38	18.68 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-14H	Anthony Goggins	1/27/2022 9:28	1/27/2022 9:38	6.16 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-14H	Anthony Goggins	1/27/2022 9:28	1/27/2022 9:43	1292.17 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-14H	Anthony Goggins	1/27/2022 9:28	1/27/2022 9:43	0.24 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-14H	Anthony Goggins	1/27/2022 9:28	1/27/2022 9:43	18.61 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-14H	Anthony Goggins	1/27/2022 9:28	1/27/2022 9:43	300.94 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-14H	Anthony Goggins	1/27/2022 9:28	1/27/2022 9:43	4.13 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-14H	Anthony Goggins	1/27/2022 9:28	1/27/2022 9:43	18.87 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-14H	Anthony Goggins	1/27/2022 9:28	1/27/2022 9:43	5.01 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-MW-14H	Anthony Goggins	1/27/2022 9:28	1/27/2022 9:48	1290.46 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-MW-14H	Anthony Goggins	1/27/2022 9:28	1/27/2022 9:48	0.22 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-MW-14H	Anthony Goggins	1/27/2022 9:28	1/27/2022 9:48	18.61 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-MW-14H	Anthony Goggins	1/27/2022 9:28	1/27/2022 9:48	303.51 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-MW-14H	Anthony Goggins	1/27/2022 9:28	1/27/2022 9:48	4.1 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-MW-14H	Anthony Goggins	1/27/2022 9:28	1/27/2022 9:48	18.9 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-MW-14H	Anthony Goggins	1/27/2022 9:28	1/27/2022 9:48	4.14 NTU	Turbidity

**Gorgas Gypsum Pond  
2022 Semi-Annual Event #1  
Field Parameter Readings**

COND	APCO_Gorgas_GypsumStore	GS-GSA-PZ-18	Anthony Goggins	1/27/2022 8:23	1/27/2022 8:28	970.48 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-PZ-18	Anthony Goggins	1/27/2022 8:23	1/27/2022 8:28	0.57 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-PZ-18	Anthony Goggins	1/27/2022 8:23	1/27/2022 8:28	62.6 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-18	Anthony Goggins	1/27/2022 8:23	1/27/2022 8:28	157.07 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-PZ-18	Anthony Goggins	1/27/2022 8:23	1/27/2022 8:28	3.93 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-18	Anthony Goggins	1/27/2022 8:23	1/27/2022 8:28	15.91 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-PZ-18	Anthony Goggins	1/27/2022 8:23	1/27/2022 8:28	0.9 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-PZ-18	Anthony Goggins	1/27/2022 8:23	1/27/2022 8:33	959.47 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-PZ-18	Anthony Goggins	1/27/2022 8:23	1/27/2022 8:33	0.48 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-PZ-18	Anthony Goggins	1/27/2022 8:23	1/27/2022 8:33	62.78 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-18	Anthony Goggins	1/27/2022 8:23	1/27/2022 8:33	135.86 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-PZ-18	Anthony Goggins	1/27/2022 8:23	1/27/2022 8:33	3.88 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-18	Anthony Goggins	1/27/2022 8:23	1/27/2022 8:33	16.05 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-PZ-18	Anthony Goggins	1/27/2022 8:23	1/27/2022 8:33	0.9 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-PZ-18	Anthony Goggins	1/27/2022 8:23	1/27/2022 8:38	956.98 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-PZ-18	Anthony Goggins	1/27/2022 8:23	1/27/2022 8:38	0.44 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-PZ-18	Anthony Goggins	1/27/2022 8:23	1/27/2022 8:38	62.98 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-18	Anthony Goggins	1/27/2022 8:23	1/27/2022 8:38	151.43 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-PZ-18	Anthony Goggins	1/27/2022 8:23	1/27/2022 8:38	3.85 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-18	Anthony Goggins	1/27/2022 8:23	1/27/2022 8:38	16.33 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-PZ-18	Anthony Goggins	1/27/2022 8:23	1/27/2022 8:38	0.92 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-PZ-18	Anthony Goggins	1/27/2022 8:23	1/27/2022 8:43	959.41 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-PZ-18	Anthony Goggins	1/27/2022 8:23	1/27/2022 8:43	0.39 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-PZ-18	Anthony Goggins	1/27/2022 8:23	1/27/2022 8:43	63.1 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-18	Anthony Goggins	1/27/2022 8:23	1/27/2022 8:43	171.61 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-PZ-18	Anthony Goggins	1/27/2022 8:23	1/27/2022 8:43	3.87 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-18	Anthony Goggins	1/27/2022 8:23	1/27/2022 8:43	16.15 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-PZ-18	Anthony Goggins	1/27/2022 8:23	1/27/2022 8:43	0.82 NTU	Turbidity
COND	APCO_Gorgas_GypsumStore	GS-GSA-PZ-18	Anthony Goggins	1/27/2022 8:23	1/27/2022 8:48	958.69 uS/cm	Conductivity
DO	APCO_Gorgas_GypsumStore	GS-GSA-PZ-18	Anthony Goggins	1/27/2022 8:23	1/27/2022 8:48	0.37 mg/L	DO
DTW	APCO_Gorgas_GypsumStore	GS-GSA-PZ-18	Anthony Goggins	1/27/2022 8:23	1/27/2022 8:48	63.23 ft	Depth to Water Detail
ORP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-18	Anthony Goggins	1/27/2022 8:23	1/27/2022 8:48	182.99 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_GypsumStore	GS-GSA-PZ-18	Anthony Goggins	1/27/2022 8:23	1/27/2022 8:48	3.89 SU	pH
TEMP	APCO_Gorgas_GypsumStore	GS-GSA-PZ-18	Anthony Goggins	1/27/2022 8:23	1/27/2022 8:48	16.16 C	Temperature
TURB	APCO_Gorgas_GypsumStore	GS-GSA-PZ-18	Anthony Goggins	1/27/2022 8:23	1/27/2022 8:48	0.73 NTU	Turbidity

**Gorgas Gypsum Pond  
2022 Semi-Annual Event #1  
Field Parameter Readings**

COND	APCO_Gorgas_Pooled_Upgradient	MW-1	TJ Daugherty	1/25/2022 9:43	1/25/2022 9:48	2243.47 uS/cm	Conductivity
DO	APCO_Gorgas_Pooled_Upgradient	MW-1	TJ Daugherty	1/25/2022 9:43	1/25/2022 9:48	1.57 mg/L	DO
DTW	APCO_Gorgas_Pooled_Upgradient	MW-1	TJ Daugherty	1/25/2022 9:43	1/25/2022 9:48	93.17 ft	Depth to Water Detail
ORP	APCO_Gorgas_Pooled_Upgradient	MW-1	TJ Daugherty	1/25/2022 9:43	1/25/2022 9:48	289.32 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_Pooled_Upgradient	MW-1	TJ Daugherty	1/25/2022 9:43	1/25/2022 9:48	5.06 SU	pH
TEMP	APCO_Gorgas_Pooled_Upgradient	MW-1	TJ Daugherty	1/25/2022 9:43	1/25/2022 9:48	20.38 C	Temperature
TURB	APCO_Gorgas_Pooled_Upgradient	MW-1	TJ Daugherty	1/25/2022 9:43	1/25/2022 9:48	0.51 NTU	Turbidity
COND	APCO_Gorgas_Pooled_Upgradient	MW-1	TJ Daugherty	1/25/2022 9:43	1/25/2022 9:53	2255.48 uS/cm	Conductivity
DO	APCO_Gorgas_Pooled_Upgradient	MW-1	TJ Daugherty	1/25/2022 9:43	1/25/2022 9:53	1.2 mg/L	DO
DTW	APCO_Gorgas_Pooled_Upgradient	MW-1	TJ Daugherty	1/25/2022 9:43	1/25/2022 9:53	93.31 ft	Depth to Water Detail
ORP	APCO_Gorgas_Pooled_Upgradient	MW-1	TJ Daugherty	1/25/2022 9:43	1/25/2022 9:53	309.45 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_Pooled_Upgradient	MW-1	TJ Daugherty	1/25/2022 9:43	1/25/2022 9:53	5.09 SU	pH
TEMP	APCO_Gorgas_Pooled_Upgradient	MW-1	TJ Daugherty	1/25/2022 9:43	1/25/2022 9:53	20.39 C	Temperature
TURB	APCO_Gorgas_Pooled_Upgradient	MW-1	TJ Daugherty	1/25/2022 9:43	1/25/2022 9:53	0.44 NTU	Turbidity
COND	APCO_Gorgas_Pooled_Upgradient	MW-1	TJ Daugherty	1/25/2022 9:43	1/25/2022 9:58	2253.35 uS/cm	Conductivity
DO	APCO_Gorgas_Pooled_Upgradient	MW-1	TJ Daugherty	1/25/2022 9:43	1/25/2022 9:58	1.02 mg/L	DO
DTW	APCO_Gorgas_Pooled_Upgradient	MW-1	TJ Daugherty	1/25/2022 9:43	1/25/2022 9:58	93.31 ft	Depth to Water Detail
ORP	APCO_Gorgas_Pooled_Upgradient	MW-1	TJ Daugherty	1/25/2022 9:43	1/25/2022 9:58	318.36 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_Pooled_Upgradient	MW-1	TJ Daugherty	1/25/2022 9:43	1/25/2022 9:58	5.1 SU	pH
TEMP	APCO_Gorgas_Pooled_Upgradient	MW-1	TJ Daugherty	1/25/2022 9:43	1/25/2022 9:58	20.35 C	Temperature
TURB	APCO_Gorgas_Pooled_Upgradient	MW-1	TJ Daugherty	1/25/2022 9:43	1/25/2022 9:58	0.51 NTU	Turbidity
COND	APCO_Gorgas_Pooled_Upgradient	MW-1	TJ Daugherty	1/25/2022 9:43	1/25/2022 10:03	2199.78 uS/cm	Conductivity
DO	APCO_Gorgas_Pooled_Upgradient	MW-1	TJ Daugherty	1/25/2022 9:43	1/25/2022 10:03	0.94 mg/L	DO
DTW	APCO_Gorgas_Pooled_Upgradient	MW-1	TJ Daugherty	1/25/2022 9:43	1/25/2022 10:03	93.31 ft	Depth to Water Detail
ORP	APCO_Gorgas_Pooled_Upgradient	MW-1	TJ Daugherty	1/25/2022 9:43	1/25/2022 10:03	344.01 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_Pooled_Upgradient	MW-1	TJ Daugherty	1/25/2022 9:43	1/25/2022 10:03	5.1 SU	pH
TEMP	APCO_Gorgas_Pooled_Upgradient	MW-1	TJ Daugherty	1/25/2022 9:43	1/25/2022 10:03	20.44 C	Temperature
TURB	APCO_Gorgas_Pooled_Upgradient	MW-1	TJ Daugherty	1/25/2022 9:43	1/25/2022 10:03	0.79 NTU	Turbidity
COND	APCO_Gorgas_Pooled_Upgradient	MW-1	TJ Daugherty	1/25/2022 9:43	1/25/2022 10:08	2248.18 uS/cm	Conductivity
DO	APCO_Gorgas_Pooled_Upgradient	MW-1	TJ Daugherty	1/25/2022 9:43	1/25/2022 10:08	0.96 mg/L	DO
DTW	APCO_Gorgas_Pooled_Upgradient	MW-1	TJ Daugherty	1/25/2022 9:43	1/25/2022 10:08	93.31 ft	Depth to Water Detail
ORP	APCO_Gorgas_Pooled_Upgradient	MW-1	TJ Daugherty	1/25/2022 9:43	1/25/2022 10:08	342.61 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_Pooled_Upgradient	MW-1	TJ Daugherty	1/25/2022 9:43	1/25/2022 10:08	5.11 SU	pH
TEMP	APCO_Gorgas_Pooled_Upgradient	MW-1	TJ Daugherty	1/25/2022 9:43	1/25/2022 10:08	20.4 C	Temperature
TURB	APCO_Gorgas_Pooled_Upgradient	MW-1	TJ Daugherty	1/25/2022 9:43	1/25/2022 10:08	1.07 NTU	Turbidity



**Gorgas Gypsum Pond  
2022 Semi-Annual Event #1  
Field Parameter Readings**

COND	APCO_Gorgas_Pooled_Upgradient	MW-2	TJ Daugherty	1/25/2022 11:08	1/25/2022 11:13	1775.11 uS/cm	Conductivity
DO	APCO_Gorgas_Pooled_Upgradient	MW-2	TJ Daugherty	1/25/2022 11:08	1/25/2022 11:13	0.84 mg/L	DO
DTW	APCO_Gorgas_Pooled_Upgradient	MW-2	TJ Daugherty	1/25/2022 11:08	1/25/2022 11:13	83.86 ft	Depth to Water Detail
ORP	APCO_Gorgas_Pooled_Upgradient	MW-2	TJ Daugherty	1/25/2022 11:08	1/25/2022 11:13	76.54 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_Pooled_Upgradient	MW-2	TJ Daugherty	1/25/2022 11:08	1/25/2022 11:13	6.18 SU	pH
TEMP	APCO_Gorgas_Pooled_Upgradient	MW-2	TJ Daugherty	1/25/2022 11:08	1/25/2022 11:13	20.01 C	Temperature
TURB	APCO_Gorgas_Pooled_Upgradient	MW-2	TJ Daugherty	1/25/2022 11:08	1/25/2022 11:13	4.6 NTU	Turbidity
COND	APCO_Gorgas_Pooled_Upgradient	MW-2	TJ Daugherty	1/25/2022 11:08	1/25/2022 11:18	1781.49 uS/cm	Conductivity
DO	APCO_Gorgas_Pooled_Upgradient	MW-2	TJ Daugherty	1/25/2022 11:08	1/25/2022 11:18	0.77 mg/L	DO
DTW	APCO_Gorgas_Pooled_Upgradient	MW-2	TJ Daugherty	1/25/2022 11:08	1/25/2022 11:18	83.86 ft	Depth to Water Detail
ORP	APCO_Gorgas_Pooled_Upgradient	MW-2	TJ Daugherty	1/25/2022 11:08	1/25/2022 11:18	77.05 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_Pooled_Upgradient	MW-2	TJ Daugherty	1/25/2022 11:08	1/25/2022 11:18	6.2 SU	pH
TEMP	APCO_Gorgas_Pooled_Upgradient	MW-2	TJ Daugherty	1/25/2022 11:08	1/25/2022 11:18	20.03 C	Temperature
TURB	APCO_Gorgas_Pooled_Upgradient	MW-2	TJ Daugherty	1/25/2022 11:08	1/25/2022 11:18	2.75 NTU	Turbidity
COND	APCO_Gorgas_Pooled_Upgradient	MW-2	TJ Daugherty	1/25/2022 11:08	1/25/2022 11:23	1779.37 uS/cm	Conductivity
DO	APCO_Gorgas_Pooled_Upgradient	MW-2	TJ Daugherty	1/25/2022 11:08	1/25/2022 11:23	0.85 mg/L	DO
DTW	APCO_Gorgas_Pooled_Upgradient	MW-2	TJ Daugherty	1/25/2022 11:08	1/25/2022 11:23	83.86 ft	Depth to Water Detail
ORP	APCO_Gorgas_Pooled_Upgradient	MW-2	TJ Daugherty	1/25/2022 11:08	1/25/2022 11:23	76.59 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_Pooled_Upgradient	MW-2	TJ Daugherty	1/25/2022 11:08	1/25/2022 11:23	6.21 SU	pH
TEMP	APCO_Gorgas_Pooled_Upgradient	MW-2	TJ Daugherty	1/25/2022 11:08	1/25/2022 11:23	20.02 C	Temperature
TURB	APCO_Gorgas_Pooled_Upgradient	MW-2	TJ Daugherty	1/25/2022 11:08	1/25/2022 11:23	2.74 NTU	Turbidity
COND	APCO_Gorgas_Pooled_Upgradient	MW-2	TJ Daugherty	1/25/2022 11:08	1/25/2022 11:28	1777.69 uS/cm	Conductivity
DO	APCO_Gorgas_Pooled_Upgradient	MW-2	TJ Daugherty	1/25/2022 11:08	1/25/2022 11:28	0.9 mg/L	DO
DTW	APCO_Gorgas_Pooled_Upgradient	MW-2	TJ Daugherty	1/25/2022 11:08	1/25/2022 11:28	83.86 ft	Depth to Water Detail
ORP	APCO_Gorgas_Pooled_Upgradient	MW-2	TJ Daugherty	1/25/2022 11:08	1/25/2022 11:28	76.06 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_Pooled_Upgradient	MW-2	TJ Daugherty	1/25/2022 11:08	1/25/2022 11:28	6.22 SU	pH
TEMP	APCO_Gorgas_Pooled_Upgradient	MW-2	TJ Daugherty	1/25/2022 11:08	1/25/2022 11:28	20.03 C	Temperature
TURB	APCO_Gorgas_Pooled_Upgradient	MW-2	TJ Daugherty	1/25/2022 11:08	1/25/2022 11:28	1.13 NTU	Turbidity

**Gorgas Gypsum Pond  
2022 Semi-Annual Event #1  
Field Parameter Readings**

COND	APCO_Gorgas_Pooled_Upgradient	MW-3	TJ Daugherty	1/25/2022 12:33	1/25/2022 12:38	3088.14 uS/cm	Conductivity
DO	APCO_Gorgas_Pooled_Upgradient	MW-3	TJ Daugherty	1/25/2022 12:33	1/25/2022 12:38	6.61 mg/L	DO
DTW	APCO_Gorgas_Pooled_Upgradient	MW-3	TJ Daugherty	1/25/2022 12:33	1/25/2022 12:38	107.28 ft	Depth to Water Detail
ORP	APCO_Gorgas_Pooled_Upgradient	MW-3	TJ Daugherty	1/25/2022 12:33	1/25/2022 12:38	242.63 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_Pooled_Upgradient	MW-3	TJ Daugherty	1/25/2022 12:33	1/25/2022 12:38	5.85 SU	pH
TEMP	APCO_Gorgas_Pooled_Upgradient	MW-3	TJ Daugherty	1/25/2022 12:33	1/25/2022 12:38	19.63 C	Temperature
TURB	APCO_Gorgas_Pooled_Upgradient	MW-3	TJ Daugherty	1/25/2022 12:33	1/25/2022 12:38	1.5 NTU	Turbidity
COND	APCO_Gorgas_Pooled_Upgradient	MW-3	TJ Daugherty	1/25/2022 12:33	1/25/2022 12:43	3205.21 uS/cm	Conductivity
DO	APCO_Gorgas_Pooled_Upgradient	MW-3	TJ Daugherty	1/25/2022 12:33	1/25/2022 12:43	6.29 mg/L	DO
DTW	APCO_Gorgas_Pooled_Upgradient	MW-3	TJ Daugherty	1/25/2022 12:33	1/25/2022 12:43	107.3 ft	Depth to Water Detail
ORP	APCO_Gorgas_Pooled_Upgradient	MW-3	TJ Daugherty	1/25/2022 12:33	1/25/2022 12:43	250.3 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_Pooled_Upgradient	MW-3	TJ Daugherty	1/25/2022 12:33	1/25/2022 12:43	5.88 SU	pH
TEMP	APCO_Gorgas_Pooled_Upgradient	MW-3	TJ Daugherty	1/25/2022 12:33	1/25/2022 12:43	19.76 C	Temperature
TURB	APCO_Gorgas_Pooled_Upgradient	MW-3	TJ Daugherty	1/25/2022 12:33	1/25/2022 12:43	1.97 NTU	Turbidity
COND	APCO_Gorgas_Pooled_Upgradient	MW-3	TJ Daugherty	1/25/2022 12:33	1/25/2022 12:48	3148.48 uS/cm	Conductivity
DO	APCO_Gorgas_Pooled_Upgradient	MW-3	TJ Daugherty	1/25/2022 12:33	1/25/2022 12:48	6.18 mg/L	DO
DTW	APCO_Gorgas_Pooled_Upgradient	MW-3	TJ Daugherty	1/25/2022 12:33	1/25/2022 12:48	107.31 ft	Depth to Water Detail
ORP	APCO_Gorgas_Pooled_Upgradient	MW-3	TJ Daugherty	1/25/2022 12:33	1/25/2022 12:48	257.13 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_Pooled_Upgradient	MW-3	TJ Daugherty	1/25/2022 12:33	1/25/2022 12:48	5.89 SU	pH
TEMP	APCO_Gorgas_Pooled_Upgradient	MW-3	TJ Daugherty	1/25/2022 12:33	1/25/2022 12:48	20 C	Temperature
TURB	APCO_Gorgas_Pooled_Upgradient	MW-3	TJ Daugherty	1/25/2022 12:33	1/25/2022 12:48	1.51 NTU	Turbidity
COND	APCO_Gorgas_Pooled_Upgradient	MW-3	TJ Daugherty	1/25/2022 12:33	1/25/2022 12:53	3139.08 uS/cm	Conductivity
DO	APCO_Gorgas_Pooled_Upgradient	MW-3	TJ Daugherty	1/25/2022 12:33	1/25/2022 12:53	6.2 mg/L	DO
DTW	APCO_Gorgas_Pooled_Upgradient	MW-3	TJ Daugherty	1/25/2022 12:33	1/25/2022 12:53	107.34 ft	Depth to Water Detail
ORP	APCO_Gorgas_Pooled_Upgradient	MW-3	TJ Daugherty	1/25/2022 12:33	1/25/2022 12:53	262.48 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_Pooled_Upgradient	MW-3	TJ Daugherty	1/25/2022 12:33	1/25/2022 12:53	5.9 SU	pH
TEMP	APCO_Gorgas_Pooled_Upgradient	MW-3	TJ Daugherty	1/25/2022 12:33	1/25/2022 12:53	20.01 C	Temperature
TURB	APCO_Gorgas_Pooled_Upgradient	MW-3	TJ Daugherty	1/25/2022 12:33	1/25/2022 12:53	2.05 NTU	Turbidity

**Gorgas Gypsum Pond  
2022 Semi-Annual Event #1  
Field Parameter Readings**

COND	APCO_Gorgas_Pooled_Upgradient	MW-4	TJ Daugherty	1/25/2022 14:05	1/25/2022 14:10	2952.85 uS/cm	Conductivity
DO	APCO_Gorgas_Pooled_Upgradient	MW-4	TJ Daugherty	1/25/2022 14:05	1/25/2022 14:10	2.06 mg/L	DO
DTW	APCO_Gorgas_Pooled_Upgradient	MW-4	TJ Daugherty	1/25/2022 14:05	1/25/2022 14:10	116.14 ft	Depth to Water Detail
ORP	APCO_Gorgas_Pooled_Upgradient	MW-4	TJ Daugherty	1/25/2022 14:05	1/25/2022 14:10	215.69 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_Pooled_Upgradient	MW-4	TJ Daugherty	1/25/2022 14:05	1/25/2022 14:10	6.27 SU	pH
TEMP	APCO_Gorgas_Pooled_Upgradient	MW-4	TJ Daugherty	1/25/2022 14:05	1/25/2022 14:10	21.38 C	Temperature
TURB	APCO_Gorgas_Pooled_Upgradient	MW-4	TJ Daugherty	1/25/2022 14:05	1/25/2022 14:10	4.39 NTU	Turbidity
COND	APCO_Gorgas_Pooled_Upgradient	MW-4	TJ Daugherty	1/25/2022 14:05	1/25/2022 14:15	2893.5 uS/cm	Conductivity
DO	APCO_Gorgas_Pooled_Upgradient	MW-4	TJ Daugherty	1/25/2022 14:05	1/25/2022 14:15	2.29 mg/L	DO
DTW	APCO_Gorgas_Pooled_Upgradient	MW-4	TJ Daugherty	1/25/2022 14:05	1/25/2022 14:15	116.14 ft	Depth to Water Detail
ORP	APCO_Gorgas_Pooled_Upgradient	MW-4	TJ Daugherty	1/25/2022 14:05	1/25/2022 14:15	226.1 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_Pooled_Upgradient	MW-4	TJ Daugherty	1/25/2022 14:05	1/25/2022 14:15	6.28 SU	pH
TEMP	APCO_Gorgas_Pooled_Upgradient	MW-4	TJ Daugherty	1/25/2022 14:05	1/25/2022 14:15	21.33 C	Temperature
TURB	APCO_Gorgas_Pooled_Upgradient	MW-4	TJ Daugherty	1/25/2022 14:05	1/25/2022 14:15	1.63 NTU	Turbidity
COND	APCO_Gorgas_Pooled_Upgradient	MW-4	TJ Daugherty	1/25/2022 14:05	1/25/2022 14:20	2868.73 uS/cm	Conductivity
DO	APCO_Gorgas_Pooled_Upgradient	MW-4	TJ Daugherty	1/25/2022 14:05	1/25/2022 14:20	2.57 mg/L	DO
DTW	APCO_Gorgas_Pooled_Upgradient	MW-4	TJ Daugherty	1/25/2022 14:05	1/25/2022 14:20	116.14 ft	Depth to Water Detail
ORP	APCO_Gorgas_Pooled_Upgradient	MW-4	TJ Daugherty	1/25/2022 14:05	1/25/2022 14:20	232.18 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_Pooled_Upgradient	MW-4	TJ Daugherty	1/25/2022 14:05	1/25/2022 14:20	6.29 SU	pH
TEMP	APCO_Gorgas_Pooled_Upgradient	MW-4	TJ Daugherty	1/25/2022 14:05	1/25/2022 14:20	21.29 C	Temperature
TURB	APCO_Gorgas_Pooled_Upgradient	MW-4	TJ Daugherty	1/25/2022 14:05	1/25/2022 14:20	1.28 NTU	Turbidity
COND	APCO_Gorgas_Pooled_Upgradient	MW-4	TJ Daugherty	1/25/2022 14:05	1/25/2022 14:25	2857.11 uS/cm	Conductivity
DO	APCO_Gorgas_Pooled_Upgradient	MW-4	TJ Daugherty	1/25/2022 14:05	1/25/2022 14:25	2.75 mg/L	DO
DTW	APCO_Gorgas_Pooled_Upgradient	MW-4	TJ Daugherty	1/25/2022 14:05	1/25/2022 14:25	116.14 ft	Depth to Water Detail
ORP	APCO_Gorgas_Pooled_Upgradient	MW-4	TJ Daugherty	1/25/2022 14:05	1/25/2022 14:25	236.53 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_Pooled_Upgradient	MW-4	TJ Daugherty	1/25/2022 14:05	1/25/2022 14:25	6.3 SU	pH
TEMP	APCO_Gorgas_Pooled_Upgradient	MW-4	TJ Daugherty	1/25/2022 14:05	1/25/2022 14:25	21.35 C	Temperature
TURB	APCO_Gorgas_Pooled_Upgradient	MW-4	TJ Daugherty	1/25/2022 14:05	1/25/2022 14:25	1.13 NTU	Turbidity
COND	APCO_Gorgas_Pooled_Upgradient	MW-4	TJ Daugherty	1/25/2022 14:05	1/25/2022 14:30	2846.67 uS/cm	Conductivity
DO	APCO_Gorgas_Pooled_Upgradient	MW-4	TJ Daugherty	1/25/2022 14:05	1/25/2022 14:30	2.8 mg/L	DO
DTW	APCO_Gorgas_Pooled_Upgradient	MW-4	TJ Daugherty	1/25/2022 14:05	1/25/2022 14:30	116.14 ft	Depth to Water Detail
ORP	APCO_Gorgas_Pooled_Upgradient	MW-4	TJ Daugherty	1/25/2022 14:05	1/25/2022 14:30	239.4 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_Pooled_Upgradient	MW-4	TJ Daugherty	1/25/2022 14:05	1/25/2022 14:30	6.3 SU	pH
TEMP	APCO_Gorgas_Pooled_Upgradient	MW-4	TJ Daugherty	1/25/2022 14:05	1/25/2022 14:30	21.4 C	Temperature
TURB	APCO_Gorgas_Pooled_Upgradient	MW-4	TJ Daugherty	1/25/2022 14:05	1/25/2022 14:30	0.84 NTU	Turbidity
COND	APCO_Gorgas_Pooled_Upgradient	MW-4	TJ Daugherty	1/25/2022 14:05	1/25/2022 14:35	2843.39 uS/cm	Conductivity
DO	APCO_Gorgas_Pooled_Upgradient	MW-4	TJ Daugherty	1/25/2022 14:05	1/25/2022 14:35	2.8 mg/L	DO
DTW	APCO_Gorgas_Pooled_Upgradient	MW-4	TJ Daugherty	1/25/2022 14:05	1/25/2022 14:35	116.14 ft	Depth to Water Detail
ORP	APCO_Gorgas_Pooled_Upgradient	MW-4	TJ Daugherty	1/25/2022 14:05	1/25/2022 14:35	241.8 mv	Oxidation Reduction Potention
PH	APCO_Gorgas_Pooled_Upgradient	MW-4	TJ Daugherty	1/25/2022 14:05	1/25/2022 14:35	6.3 SU	pH
TEMP	APCO_Gorgas_Pooled_Upgradient	MW-4	TJ Daugherty	1/25/2022 14:05	1/25/2022 14:35	21.37 C	Temperature
TURB	APCO_Gorgas_Pooled_Upgradient	MW-4	TJ Daugherty	1/25/2022 14:05	1/25/2022 14:35	1.1 NTU	Turbidity

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<sub>x</sub> by EPA 353.2.
5. All samples were prepared and analyzed within the established hold times.
6. All in house quality control procedures were followed, as described below.

#### General Quality Control Procedures:

- Water baseline report was run and met criteria.
- All calibration met criteria for the requested analytes.
- Prior to sample analysis, an initial calibration verification (ICV) was analyzed and met all criteria.
- All continued calibration verification (CCV) were within the acceptance criteria.
- Prior to sample analysis, an initial calibration blank (ICB) was analyzed and were below limit of detection.
- All continued calibration blanks (CCB) were below the limit of detection

#### EPA 353.2 Specific QC:

- Prior to sample analysis, Cadmium coil reduction efficiency check met criteria.
- Matrix Specific QC:
  - A sample duplicate was run and criteria for precision was met.
  - A matrix spike was run and criteria for accuracy was met.

7. All samples were analyzed without a dilution factor.
8. The raw data results are shown with dilution factors included.

## Total Organic Carbon 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	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: RDA</b>			<b>Preparation Method: EPA 1638</b>					
* 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		
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: RDA</b>			<b>Preparation Method: EPA 1638</b>					
* 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		
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>					
* 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
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: ABB</b>							
* 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
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	1/26/22 15:24	1/26/22 19:51		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: CES</b>							
* Nitrogen, Nitrate/Nitrite	2/1/22 13:45	2/1/22 13:45		1	1.13	mg/L as N	0.20	0.3	
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
Alkalinity, Total as CaCO3	1/31/22 09:50	1/31/22 13:00		1	21.6	mg/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	1/27/22 11:00	1/28/22 13:33		1	2150	mg/L		100	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
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			
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* 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
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	1/26/22 15:15	1/26/22 15:15		1	2.09	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	1/27/22 11:04	1/27/22 11:04		1	0.101	mg/L	0.06	0.1	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	2/7/22 13:09	2/7/22 13:09		40	1430	mg/L	20.00	40	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: TJD</b>							
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	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 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	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

**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
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: RDA</b>		<b>Preparation Method: EPA 1638</b>				
* 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	
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: RDA</b>		<b>Preparation Method: EPA 1638</b>				
* 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	
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* 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
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: ABB</b>							
* 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
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	1/26/22 15:24	1/26/22 19:55		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: CES</b>							
* 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
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
Alkalinity, Total as CaCO3	1/31/22 09:50	1/31/22 13:00		1	344	mg/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	1/27/22 11:00	1/28/22 13:33		1	1500	mg/L		100	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
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			
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* 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
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	1/26/22 15:16	1/26/22 15:16		1	2.14	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	1/27/22 11:05	1/27/22 11:05		1	0.204	mg/L	0.06	0.1	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	2/7/22 13:10	2/7/22 13:10		40	842	mg/L	20.00	40	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: TJD</b>							
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	MB		Spike	MS	MSD	Standard		Rec		Prec
				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	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 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
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: RDA</b>			<b>Preparation Method: EPA 1638</b>				
* 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	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: RDA</b>			<b>Preparation Method: EPA 1638</b>				
* 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	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* 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
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: ABB</b>							
* 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
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	1/26/22 15:24	1/26/22 19:59		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: CES</b>							
* 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
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
Alkalinity, Total as CaCO3	1/31/22 09:50	1/31/22 13:00		1	326	mg/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	1/27/22 11:00	1/28/22 13:33		1	1550	mg/L		100	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
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			
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* 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
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	1/26/22 15:17	1/26/22 15:17		1	2.28	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	1/27/22 11:07	1/27/22 11:07		1	0.239	mg/L	0.06	0.1	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	2/7/22 13:11	2/7/22 13:11		40	847	mg/L	20.00	40	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: TJD</b>							
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		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 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	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	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: RDA</b>			<b>Preparation Method: EPA 1638</b>					
* 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		
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: RDA</b>			<b>Preparation Method: EPA 1638</b>					
* 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		
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>					
* 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
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: ABB</b>							
* 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
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	1/26/22 15:24	1/26/22 20:03		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: CES</b>							
* Nitrogen, Nitrate/Nitrite	2/1/22 13:49	2/1/22 13:49		1	3.70	mg/L as N	0.20	0.3	
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
Alkalinity, Total as CaCO3	1/31/22 09:50	1/31/22 13:00		1	71.5	mg/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	1/27/22 11:00	1/28/22 13:33		1	3950	mg/L		208.3	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
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			
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* 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
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	1/26/22 15:18	1/26/22 15:18		1	2.12	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	1/27/22 11:08	1/27/22 11:08		1	0.325	mg/L	0.06	0.1	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	2/7/22 13:13	2/7/22 13:13		80	2550	mg/L	40.00	80	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: TJD</b>							
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					Standard		Rec		Prec	Limit
			MB	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 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	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
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: RDA</b>		<b>Preparation Method: EPA 1638</b>				
* 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
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* 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
<b>Analytical Method: EPA 245.1</b>			<b>Analyst: CRB</b>						
* Mercury, Total by CVAA	1/26/22 15:24	1/26/22 20:07		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>			<b>Analyst: CES</b>						
* 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
<b>Analytical Method: SM 2540C</b>			<b>Analyst: CNJ</b>						
* 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
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	2/4/22 17:34	2/4/22 17:34		1	Not Detected	mg/L	1.00	2	U
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	1/26/22 15:20	1/26/22 15:20		1	Not Detected	mg/L	0.50	1	U
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	1/27/22 11:09	1/27/22 11:09		1	Not Detected	mg/L	0.06	0.1	U
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	2/7/22 13:14	2/7/22 13:14		1	Not Detected	mg/L	0.50	1	U

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

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**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					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:** 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	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: RDA</b>			<b>Preparation Method: EPA 1638</b>					
* 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		
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: RDA</b>			<b>Preparation Method: EPA 1638</b>					
* 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		
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>					
* 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
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: ABB</b>							
* 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
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	1/26/22 15:24	1/26/22 20:11		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: CES</b>							
* 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
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
Alkalinity, Total as CaCO3	1/31/22 09:50	1/31/22 13:00		1	174	mg/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	1/27/22 11:00	1/28/22 13:33		1	3180	mg/L		147.1	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
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			
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* 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
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	1/26/22 15:21	1/26/22 15:21		1	1.54	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	1/27/22 11:10	1/27/22 11:10		1	0.364	mg/L	0.06	0.1	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	2/7/22 13:15	2/7/22 13:15		80	1930	mg/L	40.00	80	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: TJD</b>							
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		Spike	MS	MSD	Standard		Rec		Prec
				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 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
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: RDA</b>		<b>Preparation Method: EPA 1638</b>				
* 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
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* 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
<b>Analytical Method: EPA 245.1</b>			<b>Analyst: CRB</b>						
* Mercury, Total by CVAA	1/26/22 15:24	1/26/22 20:15		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>			<b>Analyst: CES</b>						
* 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
<b>Analytical Method: SM 2540C</b>			<b>Analyst: CNJ</b>						
* 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
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	2/4/22 18:09	2/4/22 18:09		1	Not Detected	mg/L	1.00	2	U
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	1/26/22 15:22	1/26/22 15:22		1	Not Detected	mg/L	0.50	1	U
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	1/27/22 11:11	1/27/22 11:11		1	Not Detected	mg/L	0.06	0.1	U
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* 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	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	Greg Dyer
				Location

Bottles	1	2	3	4	5	6	7	8
Radium	1 L	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sulfide	250 mL	N/A	N/A	N/A	N/A	N/A	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		Cooler Temp	0.2 degrees C
Sample Event	1347		Thermometer ID	5408-27568-2-2
			pH Strip ID	8440-53679-10-5

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

This report shall not be reproduced, except in full,  
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## CERTIFICATIONS

Project: WMWGORPU\_1347-Revised Report  
Pace Project No.: 30461864

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### **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

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## 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

## REPORT OF LABORATORY ANALYSIS

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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

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
<b>Sample: BC01612 MW-1</b> <b>Lab ID: 30461864001</b> Collected: 01/25/22 10:15      Received: 01/31/22 09:35      Matrix: Water PWS:      Site ID:      Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>0.344 ± 0.226 (0.340)</b> <b>C:99% T:NA</b>	pCi/L	03/07/22 08:05	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>0.667U ± 0.559 (1.12)</b> <b>C:78% T:59%</b>	pCi/L	02/16/22 15:14	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>1.01U ± 0.785 (1.46)</b>	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: 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	<b>0.292U ± 0.213 (0.335)</b> <b>C:97% T:NA</b>	pCi/L	03/07/22 08:05	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.371U ± 0.301 (0.595)</b> <b>C:81% T:92%</b>	pCi/L	02/16/22 15:14	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.663U ± 0.514 (0.930)</b>	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	<b>0.326U ± 0.225 (0.355)</b> <b>C:98% T:NA</b>	pCi/L	03/07/22 08:05	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.215U ± 0.323 (0.697)</b> <b>C:70% T:87%</b>	pCi/L	02/16/22 15:14	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.541U ± 0.548 (1.05)</b>	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: 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	<b>0.109U ± 0.154 (0.323)</b> <b>C:97% T:NA</b>	pCi/L	03/07/22 08:05	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.309U ± 0.328 (0.679)</b> <b>C:76% T:83%</b>	pCi/L	02/16/22 15:14	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.418U ± 0.482 (1.00)</b>	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: 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:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.0474U ± 0.159 (0.398)</b> <b>C:93% T:NA</b>	pCi/L	03/07/22 08:05	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.227U ± 0.307 (0.657)</b> <b>C:79% T:92%</b>	pCi/L	02/16/22 15:14	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.274U ± 0.466 (1.06)</b>	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	<b>0.184U ± 0.229 (0.483)</b> <b>C:96% T:NA</b>	pCi/L	03/07/22 08:05	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>0.700 ± 0.379 (0.671)</b> <b>C:76% T:90%</b>	pCi/L	02/16/22 15:15	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>0.884U ± 0.608 (1.15)</b>	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	<b>0.194U ± 0.215 (0.426)</b> <b>C:85% T:NA</b>	pCi/L	03/07/22 08:05	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.385U ± 0.373 (0.757)</b> <b>C:74% T:73%</b>	pCi/L	02/16/22 15:15	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.579U ± 0.588 (1.18)</b>	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	<b>90.02 %REC ± NA (NA)</b> <b>C:NA T:NA</b>	pCi/L	03/07/22 08:05	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>76.40 %REC ± NA (NA)</b> <b>C:NA T:NA</b>	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	<b>101.91 %REC ± NA (NA)</b> <b>C:NA T:NA</b>	pCi/L	03/07/22 08:05	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>86.53 %REC 12.43 RPD ±</b> <b>NA (NA)</b> <b>C:NA T:NA</b>	pCi/L	02/16/22 15:16	15262-20-1	

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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.

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### QUALITY CONTROL - RADIOCHEMISTRY

Project: WMWGORPU\_1347-Revised Report

Pace Project No.: 30461864

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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

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METHOD BLANK:	2330654	Matrix:	Water
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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.

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## QUALIFIERS

Project: WMWGORPU\_1347-Revised Report  
Pace Project No.: 30461864

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### 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>UPIN</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"/>		
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 type="checkbox"/>	<input checked="" 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 <u>2.00 L</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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>pH &lt; 2</u>	
All containers meet method preservation requirements.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Initial when completed <u>JA</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>JA</u>	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.

PM: AES  
 CLIENT: ALABAMA PMR  
 Due Date: 02/21/22  
**MO#: 30461864**



Pace

Container Count

WO#: 30461864

PM: AES

Due Date: 02/21/22

CLIENT: ALABAMA PWR

Profile Number 16788

16788

Client

Alabama Power Company  
Plant Gorgas Feed Upgrade

Site

Notes

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: W1

**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	LCSD64977

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:	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%	-1.417
MSD Percent Recovery:	86.53%	90.78%
MS Status vs Numerical Indicator:	Warning	86.62%
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
(Based on the Percent Recoveries) MS/MSD Duplicate RPD:	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: W121727, CW

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

# *Analytical Report*



**Sample Group :** WMWGORG\_1348

**Project/Site :** Gorgas Gypsum  
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 10, 2022

Dear Dustin Brooks,

Enclosed are the analytical results for sample(s) received by the laboratory between January 26, 2022 and January 27, 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: 2022.03.10 09:30:42 -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: 2022.03.14 13:40:23 -0500



### 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 Gypsum

WMWGORG\_1348

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>
BC01619	716891	WMWGORG_1348
BC01620	716891	WMWGORG_1348
BC01621	716891	WMWGORG_1348
BC01622	716891	WMWGORG_1348
BC01623	716891	WMWGORG_1348
BC01624	716891	WMWGORG_1348
BC01625	716891	WMWGORG_1348
BC01768	717265	WMWGORG_1348
BC01769	717265	WMWGORG_1348
BC01770	717265	WMWGORG_1348
BC01771	717265	WMWGORG_1348
BC01772	717265	WMWGORG_1348
BC01773	717265	WMWGORG_1348
BC01774	717265	WMWGORG_1348
BC01775	717265	WMWGORG_1348
BC01776	717265	WMWGORG_1348
BC01777	717265	WMWGORG_1348
BC01778	717266	WMWGORG_1348
BC01779	717266	WMWGORG_1348
BC01780	717266	WMWGORG_1348
BC01781	717266	WMWGORG_1348
BC01782	717266	WMWGORG_1348
BC01783	717266	WMWGORG_1348
BC01784	717266	WMWGORG_1348

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:
  - BC01625 Calcium & Magnesium MS/MSD spike levels were <30% of the sample concentrations.
  - BC01777 Calcium, Magnesium, & Sodium MS/MSD spike levels were <30% of the sample concentrations.
  - BC01784 Calcium, Iron, Magnesium, & Silicon 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>
BC01619	Sodium	20.3
BC01620	Calcium, Iron	20.3
BC01621	Calcium, Iron, Magnesium, Sodium	10.15
BC01623	Calcium, Magnesium, Sodium	20.3
BC01624	Calcium, Magnesium	20.3
BC01625	Calcium, Magnesium	20.3
BC01768	Calcium, Iron, Magnesium, Sodium	101.5
BC01769	Sodium	101.5
BC01770	Calcium, Iron, Magnesium, Sodium	101.5
BC01771	Calcium, Iron, Magnesium	101.5
BC01772	Calcium, Magnesium	10.15
BC01773	Calcium, Magnesium, Sodium	10.15
BC01774	Calcium, Iron, Magnesium, Sodium	20.3
BC01775	Calcium, Iron, Magnesium, Sodium	20.3
BC01776	Calcium, Magnesium, Sodium	20.3
BC01777	Calcium, Iron, Magnesium, Sodium	20.3
BC01778	Calcium, Iron, Magnesium, Sodium	101.5
BC01779	Calcium, Iron, Magnesium, Sodium	101.5
BC01782	Calcium, Iron, Magnesium	10.15
BC01783	Calcium, Iron, Magnesium, Silicon	10.15
BC01784	Calcium, Iron, Magnesium, Silicon	10.15

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

Dissolved Metals ICP

Gorgas Gypsum

WMWGORG\_1348

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>
BC01619	716866	WMWGORG_1348
BC01620	716866	WMWGORG_1348
BC01621	716866	WMWGORG_1348
BC01623	716866	WMWGORG_1348
BC01624	716866	WMWGORG_1348
BC01625	716866	WMWGORG_1348
BC01768	717233	WMWGORG_1348
BC01769	717233	WMWGORG_1348
BC01770	717233	WMWGORG_1348
BC01771	717233	WMWGORG_1348
BC01772	717233	WMWGORG_1348
BC01773	717233	WMWGORG_1348
BC01774	717233	WMWGORG_1348
BC01775	717233	WMWGORG_1348
BC01776	717233	WMWGORG_1348
BC01777	717233	WMWGORG_1348
BC01778	717234	WMWGORG_1348
BC01779	717234	WMWGORG_1348
BC01782	717234	WMWGORG_1348
BC01783	717234	WMWGORG_1348
BC01784	717234	WMWGORG_1348

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:
  - BC01625 Silicon MS/MSD spike levels were <30% of the sample concentrations.
  - BC01777 Calcium, Iron, Magnesium, & Sodium MS/MSD spike levels were <30% of the sample concentrations.
  - BC01784 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>
BC01619	Sodium	20.3
BC01620	Calcium, Iron	20.3
BC01621	Calcium, Iron, Magnesium, Sodium	10.15
BC01623	Calcium, Magnesium, Sodium	20.3
BC01624	Calcium, Magnesium	20.3
BC01625	Calcium, Magnesium	20.3
BC01768	Calcium, Iron, Magnesium, Sodium	101.5
BC01769	Sodium	101.5
BC01770	Calcium, Iron, Magnesium, Sodium	101.5
BC01771	Calcium, Iron, Magnesium	101.5
BC01772	Calcium, Magnesium	10.15
BC01773	Calcium, Magnesium, Sodium	10.15
BC01774	Calcium, Iron, Magnesium, Sodium	20.3
BC01775	Calcium, Iron, Magnesium, Sodium	20.3
BC01776	Calcium, Magnesium, Sodium	20.3
BC01777	Calcium, Iron, Magnesium, Sodium	20.3
BC01778	Calcium, Iron, Magnesium, Sodium	101.5
BC01779	Calcium, Iron, Magnesium, Sodium	101.5
BC01782	Calcium, Iron, Magnesium	10.15
BC01783	Calcium, Iron, Magnesium, Silicon	10.15
BC01784	Calcium, Iron, Magnesium, Silicon	10.15

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

Total Metals ICPMS

Gorgas Gypsum

WMWGORG\_1348

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>
BC01619	717111	WMWGORG_1348
BC01620	717111	WMWGORG_1348
BC01621	717111	WMWGORG_1348
BC01622	717111	WMWGORG_1348
BC01623	717111	WMWGORG_1348
BC01624	717111	WMWGORG_1348
BC01625	717111	WMWGORG_1348
BC01768	717377	WMWGORG_1348
BC01769	717377	WMWGORG_1348
BC01770	717377	WMWGORG_1348
BC01771	717377	WMWGORG_1348
BC01772	717377	WMWGORG_1348
BC01773	717377	WMWGORG_1348
BC01774	717377	WMWGORG_1348
BC01775	717377	WMWGORG_1348
BC01776	717377	WMWGORG_1348
BC01777	717377	WMWGORG_1348
BC01778	717378	WMWGORG_1348
BC01779	717378	WMWGORG_1348
BC01780	717378	WMWGORG_1348
BC01781	717378	WMWGORG_1348
BC01782	717378	WMWGORG_1348
BC01783	717378	WMWGORG_1348
BC01784	717378	WMWGORG_1348

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:
  - BC01625 Aluminum & Manganese MS/MSD spike levels were <30% of the sample concentrations.
  - BC01777 Manganese MS/MSD spike level was <30% of the sample concentration.
  - BC01784 Aluminum & Manganese MS/MSD spike levels were <30% of the sample concentrations.
- A matrix spike and matrix spike duplicate were digested and analyzed with each ICPMS batch. All acceptance criteria for precision were met.

## Case Narrative

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>
BC01619	Manganese	10.15
BC01620	Manganese	10.15
BC01624	Aluminum & Manganese	92.365
BC01625	Aluminum & Manganese	92.365
BC01768	Manganese	92.365
BC01770	Manganese	92.365
BC01771	Aluminum & Manganese	10.15
BC01772	Aluminum & Manganese	92.365
BC01773	Manganese	10.15
BC01774	Manganese	92.365
BC01775	Manganese	92.365
BC01776	Manganese	10.15
BC01777	Manganese	92.365
BC01778	Manganese	92.365
BC01779	Manganese	92.365
BC01782	Aluminum & Manganese	92.365
BC01783	Aluminum & Manganese	92.365
BC01784	Aluminum & Manganese	92.365

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

## Dissolved Metals ICPMS

Gorgas Gypsum

WMWGORG\_1348

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>
BC01619	717047	WMWGORG_1348
BC01620	717047	WMWGORG_1348
BC01621	717047	WMWGORG_1348
BC01623	717047	WMWGORG_1348
BC01624	717047	WMWGORG_1348
BC01625	717047	WMWGORG_1348
BC01768	717725	WMWGORG_1348
BC01769	717725	WMWGORG_1348
BC01770	717725	WMWGORG_1348
BC01771	717725	WMWGORG_1348
BC01772	717725	WMWGORG_1348
BC01773	717725	WMWGORG_1348
BC01774	717725	WMWGORG_1348
BC01775	717725	WMWGORG_1348
BC01776	717725	WMWGORG_1348
BC01777	717725	WMWGORG_1348
BC01778	717726	WMWGORG_1348
BC01779	717726	WMWGORG_1348
BC01782	717726	WMWGORG_1348
BC01783	717726	WMWGORG_1348
BC01784	717726	WMWGORG_1348

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:
  - BC01625 Aluminum & Manganese MS/MSD spike levels were <30% of the sample concentrations.
  - BC01777 Manganese MS/MSD spike level was <30% of the sample concentration.
  - BC01784 Aluminum & Manganese MS/MSD spike levels were <30% of the sample concentrations.
- A matrix spike and matrix spike duplicate were analyzed with each ICPMS batch. All acceptance criteria for precision were met.

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

<u>Sample ID</u>	<u>Analyte</u>	<u>Dilution Factor</u>
BC01619	Manganese	10.15
BC01620	Manganese	10.15
BC01624	Aluminum & Manganese	92.365
BC01625	Aluminum & Manganese	92.365
BC01768	Manganese	92.365
BC01770	Manganese	92.365
BC01771	Manganese	10.15
BC01772	Aluminum & Manganese	92.365
BC01773	Manganese	10.15
BC01774	Manganese	92.365
BC01775	Manganese	92.365
BC01776	Manganese	10.15
BC01777	Manganese	92.365
BC01778	Manganese	92.365
BC01779	Manganese	92.365
BC01782	Aluminum & Manganese	92.365
BC01783	Aluminum & Manganese	92.365
BC01784	Aluminum & Manganese	92.365

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

Mercury

Gorgas Gypsum

WMWGORG\_1348

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>
BC01619	716962	WMWGORG_1348
BC01620	716962	WMWGORG_1348
BC01621	716962	WMWGORG_1348
BC01622	716962	WMWGORG_1348
BC01623	716962	WMWGORG_1348
BC01624	716962	WMWGORG_1348
BC01625	716962	WMWGORG_1348
BC01768	716962	WMWGORG_1348
BC01769	716962	WMWGORG_1348
BC01770	716962	WMWGORG_1348
BC01771	716963	WMWGORG_1348
BC01772	716963	WMWGORG_1348
BC01773	716963	WMWGORG_1348
BC01774	716963	WMWGORG_1348
BC01775	716963	WMWGORG_1348
BC01776	716963	WMWGORG_1348
BC01777	716963	WMWGORG_1348
BC01778	716963	WMWGORG_1348
BC01779	716963	WMWGORG_1348
BC01780	716963	WMWGORG_1348
BC01781	716964	WMWGORG_1348
BC01782	716964	WMWGORG_1348
BC01783	716964	WMWGORG_1348
BC01784	716964	WMWGORG_1348

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 Gypsum

WMWGORG\_1348

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>
BC01619	716904	WMWGORG_1348
BC01620	716904	WMWGORG_1348
BC01621	716904	WMWGORG_1348
BC01622	716904	WMWGORG_1348
BC01623	716904	WMWGORG_1348
BC01624	716982	WMWGORG_1348
BC01625	716982	WMWGORG_1348
BC01768	716982	WMWGORG_1348
BC01769	716982	WMWGORG_1348
BC01770	716982	WMWGORG_1348
BC01771	716982	WMWGORG_1348
BC01772	716982	WMWGORG_1348
BC01773	716982	WMWGORG_1348
BC01774	716982	WMWGORG_1348
BC01775	716982	WMWGORG_1348
BC01776	716983	WMWGORG_1348
BC01777	716983	WMWGORG_1348
BC01778	716983	WMWGORG_1348
BC01779	716983	WMWGORG_1348
BC01780	716983	WMWGORG_1348
BC01781	716983	WMWGORG_1348
BC01782	716983	WMWGORG_1348
BC01783	716983	WMWGORG_1348
BC01784	716983	WMWGORG_1348

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:
  - BC01622
  - BC01780
  - BC01781

Anions

Gorgas Gypsum

WMWGORG\_1348

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>
BC01619	716999, 716998, & 717661	WMWGORG_1348
BC01620	716999, 716998, & 717661	WMWGORG_1348
BC01621	716999, 716998, & 717661	WMWGORG_1348
BC01622	716999, 716998, & 717661	WMWGORG_1348
BC01623	716999, 716998, & 717661	WMWGORG_1348
BC01624	716999, 716998, & 717661	WMWGORG_1348
BC01625	716999, 716998, & 717661	WMWGORG_1348
BC01768	716999, 717002, & 717661	WMWGORG_1348
BC01769	716999, 717002, & 717661	WMWGORG_1348
BC01770	716999, 717002, & 717661	WMWGORG_1348
BC01771	717000, 717002, & 717662	WMWGORG_1348
BC01772	717000, 717002, & 717662	WMWGORG_1348
BC01773	717000, 717002, & 717662	WMWGORG_1348
BC01774	717000, 717002, & 717662	WMWGORG_1348
BC01775	717000, 717002, & 717662	WMWGORG_1348
BC01776	717000, 717002, & 717662	WMWGORG_1348
BC01777	717000, 717002, & 717662	WMWGORG_1348
BC01778	717000, 717003, & 717662	WMWGORG_1348
BC01779	717000, 717003, & 717662	WMWGORG_1348
BC01780	717000, 717003, & 717662	WMWGORG_1348
BC01781	717001, 717003, & 717663	WMWGORG_1348
BC01782	717001, 717003, & 717663	WMWGORG_1348
BC01783	717001, 717003, & 717663	WMWGORG_1348
BC01784	717001, 717003, & 717663	WMWGORG_1348

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.
7. Sample BC01624, BC01625, BC01772, BC01782, BC01783, & BC01784 results for Fluoride are qualified due to potential matrix interferences.

8. 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>
BC01620	Sulfate	20
BC01621	Sulfate	20
BC01623	Sulfate	20
BC01624	Sulfate	40
BC01625	Sulfate	40
BC01768	Chloride & Sulfate	20 & 80
BC01769	Sulfate	10
BC01770	Chloride & Sulfate	40 & 125
BC01771	Chloride & Sulfate	5 & 32
BC01772	Sulfate	20
BC01773	Sulfate	32
BC01774	Sulfate	32
BC01775	Sulfate	32
BC01776	Chloride & Sulfate	5 & 50
BC01777	Chloride & Sulfate	5 & 50
BC01778	Chloride & Sulfate	10 & 80
BC01779	Chloride & Sulfate	10 & 80
BC01782	Sulfate	25
BC01783	Sulfate	32
BC01784	Chloride & Sulfate	20 & 80

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

Alkalinity

Gorgas Gypsum

WMWGORG\_1348

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>
BC01619	717127 & 717128	WMWGORG_1348
BC01620	717127 & 717128	WMWGORG_1348
BC01621	717127 & 717128	WMWGORG_1348
BC01623	717127 & 717128	WMWGORG_1348
BC01624	717127 & 717128	WMWGORG_1348
BC01625	717127 & 717128	WMWGORG_1348
BC01768	717127 & 717128	WMWGORG_1348
BC01769	717127 & 717128	WMWGORG_1348
BC01770	717127 & 717128	WMWGORG_1348
BC01771	717127 & 717128	WMWGORG_1348
BC01772	717127 & 717128	WMWGORG_1348
BC01773	717127 & 717128	WMWGORG_1348
BC01774	717346 & 717347	WMWGORG_1348
BC01775	717346 & 717347	WMWGORG_1348
BC01776	717346 & 717347	WMWGORG_1348
BC01777	717346 & 717347	WMWGORG_1348
BC01778	717346 & 717347	WMWGORG_1348
BC01779	717346 & 717347	WMWGORG_1348
BC01782	717346 & 717347	WMWGORG_1348
BC01783	717346 & 717347	WMWGORG_1348
BC01784	717346 & 717347	WMWGORG_1348

4. All of the above samples were prepared and analyzed by Standard Method 2320B, except for the following:
  - Samples BC01624, BC01625, BC01772, BC01782, BC01783, and BC01784 were not performed for Alkalinity due to the initial pH readings were below the titration end point of 4.5 SU.
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 Gypsum

WMWGORG\_1348

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>
BC01619	717153	WMWGORG_1348
BC01620	717153	WMWGORG_1348
BC01621	717153	WMWGORG_1348
BC01622	717153	WMWGORG_1348
BC01623	717153	WMWGORG_1348
BC01624	717153	WMWGORG_1348
BC01625	717153	WMWGORG_1348
BC01768	717153	WMWGORG_1348
BC01769	717153	WMWGORG_1348
BC01770	717153	WMWGORG_1348
BC01771	717154	WMWGORG_1348
BC01772	717154	WMWGORG_1348
BC01773	717154	WMWGORG_1348
BC01774	717154	WMWGORG_1348
BC01775	717154	WMWGORG_1348
BC01776	717154	WMWGORG_1348
BC01777	717154	WMWGORG_1348
BC01778	717154	WMWGORG_1348
BC01779	717154	WMWGORG_1348
BC01780	717154	WMWGORG_1348
BC01781	717155	WMWGORG_1348
BC01782	717155	WMWGORG_1348
BC01783	717155	WMWGORG_1348
BC01784	717155	WMWGORG_1348

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

### General Quality Control Procedures:

- Water baseline report was run and met criteria.
- All calibration met criteria for the requested analytes.
- Prior to sample analysis, an initial calibration verification (ICV) was analyzed and met all criteria.
- All continued calibration verification (CCV) were within the acceptance criteria.
- Prior to sample analysis, an initial calibration blank (ICB) was analyzed and were below limit of detection.
- All continued calibration blanks (CCB) were below the limit of detection.

### EPA 353.2 Specific QC:

- Prior to sample analysis, Cadmium coil reduction efficiency check met criteria.
  - Matrix Specific QC:
    - A sample duplicate was run and criteria for precision was met.
    - A matrix spike was run and criteria for accuracy was met, except for the following:
      - BC01770 MS recovery was outside of the specification limit.
      - BC01784 MS recovery was outside of the specification limit but passes using values below the detection limit.
7. All samples were analyzed without a dilution factor.
  8. The raw data results are shown with dilution factors included.



Total Organic Carbon

Gorgas Gypsum

WMWGORG\_1348

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>
BC01619	717210	WMWGORG_1348
BC01620	717210	WMWGORG_1348
BC01621	717210	WMWGORG_1348
BC01622	717210	WMWGORG_1348
BC01623	717210	WMWGORG_1348
BC01624	717210	WMWGORG_1348
BC01625	717210	WMWGORG_1348
BC01768	717210	WMWGORG_1348
BC01769	717210	WMWGORG_1348
BC01770	717210	WMWGORG_1348
BC01771	717211	WMWGORG_1348
BC01772	717211	WMWGORG_1348
BC01773	717211	WMWGORG_1348
BC01774	717211	WMWGORG_1348
BC01775	717211	WMWGORG_1348
BC01776	717211	WMWGORG_1348
BC01777	717211	WMWGORG_1348
BC01778	717211	WMWGORG_1348
BC01779	717211	WMWGORG_1348
BC01780	717211	WMWGORG_1348
BC01781	717212	WMWGORG_1348
BC01782	717212	WMWGORG_1348
BC01783	717212	WMWGORG_1348
BC01784	717212	WMWGORG_1348

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.

# Certificate Of Analysis

**Description:** Gorgas Gypsum - PZ-21

**Location Code:** WMWGORG  
**Collected:** 1/25/22 10:38  
**Customer ID:**  
**Submittal Date:** 1/26/22 10:06

**Laboratory ID Number:** BC01619

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: RDA</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Total	1/27/22 10:03	1/28/22 10:57		1.015	Not Detected	mg/L	0.030000	0.1015	U
* Calcium, Total	1/27/22 10:03	1/28/22 10:57		1.015	39.0	mg/L	0.070035	0.406	
* Iron, Total	1/27/22 10:03	1/28/22 10:57		1.015	3.63	mg/L	0.008120	0.0406	
* Lithium, Total	1/27/22 10:03	1/28/22 10:57		1.015	0.0175	mg/L	0.007105	0.01999956	J
* Magnesium, Total	1/27/22 10:03	1/28/22 10:57		1.015	37.7	mg/L	0.021315	0.406	
Silica, Total (calc.)	1/27/22 10:03	1/28/22 10:57		1	18.8	mg/L			
Silicon, Total	1/27/22 10:03	1/28/22 10:57		1.015	8.79	mg/L	0.02030	0.25375	
* Sodium, Total	1/27/22 10:03	1/28/22 11:31		20.3	95.8	mg/L	0.609	8.12	
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: RDA</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	1/27/22 09:52	1/28/22 09:39		1.015	Not Detected	mg/L	0.030000	0.1015	U
* Calcium, Dissolved	1/27/22 09:52	1/28/22 09:39		1.015	40.3	mg/L	0.070035	0.406	
* Iron, Dissolved	1/27/22 09:52	1/28/22 09:39		1.015	3.39	mg/L	0.008120	0.0406	
* Lithium, Dissolved	1/27/22 09:52	1/28/22 09:39		1.015	0.0171	mg/L	0.007105	0.01999956	J
* Magnesium, Dissolved	1/27/22 09:52	1/28/22 09:39		1.015	37.8	mg/L	0.021315	0.406	
Silica, Dissolved (calc.)	1/27/22 09:52	1/28/22 09:39		1	18.7	mg/L			
Silicon, Dissolved	1/27/22 09:52	1/28/22 09:39		1.015	8.73	mg/L	0.02030	0.25375	
* Sodium, Dissolved	1/27/22 09:52	1/28/22 10:14		20.3	92.3	mg/L	0.609	8.12	
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	1/27/22 09:55	1/27/22 15:58		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	1/27/22 09:55	1/27/22 15:58		1.015	0.301	mg/L	0.004060	0.01015	
* Arsenic, Total	1/27/22 09:55	1/27/22 15:58		1.015	0.00262	mg/L	0.000068	0.000203	
* Barium, Total	1/27/22 09:55	1/27/22 15:58		1.015	0.151	mg/L	0.000102	0.000203	
* Beryllium, Total	1/27/22 09:55	1/27/22 15:58		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	1/27/22 09:55	1/27/22 15:58		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	1/27/22 09:55	1/27/22 15:58		1.015	0.000585	mg/L	0.000203	0.001015	J
* Cobalt, Total	1/27/22 09:55	1/27/22 15:58		1.015	0.00257	mg/L	0.000068	0.000203	
* Lead, Total	1/27/22 09:55	1/27/22 15:58		1.015	0.000251	mg/L	0.000068	0.000203	
* Manganese, Total	1/27/22 09:55	2/1/22 12:36		10.15	1.60	mg/L	0.000680	0.00203	
* Molybdenum, Total	1/27/22 09:55	1/27/22 15:58		1.015	0.00297	mg/L	0.000068	0.000203	
* Potassium, Total	1/27/22 09:55	1/27/22 15:58		1.015	2.40	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 Gypsum - PZ-21

**Location Code:** WMWGORG  
**Collected:** 1/25/22 10:38  
**Customer ID:**  
**Submittal Date:** 1/26/22 10:06

**Laboratory ID Number:** BC01619

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	1/27/22 09:55	1/27/22 15:58		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	1/27/22 09:55	1/27/22 15:58		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: ABB</b>							
* Antimony, Dissolved	1/27/22 10:10	1/27/22 13:35		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	1/27/22 10:10	1/27/22 13:35		1.015	Not Detected	mg/L	0.004060	0.01015	U
* Arsenic, Dissolved	1/27/22 10:10	1/27/22 13:35		1.015	0.00256	mg/L	0.000068	0.000203	
* Barium, Dissolved	1/27/22 10:10	1/27/22 13:35		1.015	0.143	mg/L	0.000102	0.000203	
* Beryllium, Dissolved	1/27/22 10:10	1/27/22 13:35		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	1/27/22 10:10	1/27/22 13:35		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	1/27/22 10:10	1/27/22 13:35		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	1/27/22 10:10	1/27/22 13:35		1.015	0.00247	mg/L	0.000068	0.000203	
* Lead, Dissolved	1/27/22 10:10	1/27/22 13:35		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	1/27/22 10:10	2/1/22 11:53		10.15	1.58	mg/L	0.000680	0.00203	
* Molybdenum, Dissolved	1/27/22 10:10	1/27/22 13:35		1.015	0.00294	mg/L	0.000068	0.000203	
* Potassium, Dissolved	1/27/22 10:10	1/27/22 13:35		1.015	2.38	mg/L	0.169505	0.5075	
* Selenium, Dissolved	1/27/22 10:10	1/27/22 13:35		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	1/27/22 10:10	1/27/22 13:35		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	1/31/22 15:35	1/31/22 19:37		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: ELH</b>							
* Nitrogen, Nitrate/Nitrite	2/1/22 14:26	2/1/22 14:26		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
Alkalinity, Total as CaCO3	1/31/22 09:50	1/31/22 13:00		1	427	mg/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	1/27/22 11:00	1/28/22 13:33		1	466	mg/L		50	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
Bicarbonate Alkalinity, (calc.)	1/31/22 09:50	1/31/22 13:00		1	426	mg/L			
Carbonate Alkalinity, (calc.)	1/31/22 09:50	1/31/22 13:00		1	0.50	mg/L			
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	2/1/22 12:31	2/1/22 12:31		1	3.67	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.

# Certificate Of Analysis

**Description:** Gorgas Gypsum - PZ-21

**Location Code:** WMWGORG  
**Collected:** 1/25/22 10:38  
**Customer ID:**  
**Submittal Date:** 1/26/22 10:06

**Laboratory ID Number:** BC01619

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	1/28/22 09:59	1/28/22 09:59		1	12.8	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	1/27/22 13:38	1/27/22 13:38		1	0.354	mg/L	0.06	0.1	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	2/7/22 14:20	2/7/22 14:20		1	32.8	mg/L	0.50	1	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: DKG</b>							
Conductivity	1/25/22 10:35	1/25/22 10:35			797.36	uS/cm			FA
pH	1/25/22 10:35	1/25/22 10:35			6.94	SU			FA
Temperature	1/25/22 10:35	1/25/22 10:35			16.15	C			FA
Turbidity	1/25/22 10:35	1/25/22 10:35			0.89	NTU			FA

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

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**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:** WMWGORG  
**Sample Date:** 1/25/22 10:38  
**Customer ID:**  
**Delivery Date:** 1/26/22 10:06

**Description:** Gorgas Gypsum - PZ-21

**Laboratory ID Number:** BC01619

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BC01625	Aluminum, Dissolved	mg/L	0.000300	0.00880	0.100	11.7	12.3	0.104	0.0850 to 0.115	200	70.0 to 130	5.00	20.0
BC01625	Aluminum, Total	mg/L	0.000849	0.00880	0.100	12.0	12.0	0.104	0.0850 to 0.115	200	70.0 to 130	0.00	20.0
BC01625	Antimony, Dissolved	mg/L	0.0000892	0.00100	0.100	0.0998	0.0994	0.0977	0.0850 to 0.115	99.8	70.0 to 130	0.402	20.0
BC01625	Antimony, Total	mg/L	0.0000707	0.00100	0.100	0.0989	0.108	0.0957	0.0850 to 0.115	98.9	70.0 to 130	8.80	20.0
BC01625	Arsenic, Dissolved	mg/L	0.0000136	0.000147	0.100	0.105	0.108	0.105	0.0850 to 0.115	104	70.0 to 130	2.82	20.0
BC01625	Arsenic, Total	mg/L	0.0000151	0.000147	0.100	0.102	0.109	0.105	0.0850 to 0.115	101	70.0 to 130	6.64	20.0
BC01625	Barium, Dissolved	mg/L	-0.0000179	0.000200	0.100	0.109	0.109	0.0997	0.0850 to 0.115	97.3	70.0 to 130	0.00	20.0
BC01625	Barium, Total	mg/L	0.0000264	0.000200	0.100	0.104	0.113	0.0953	0.0850 to 0.115	91.0	70.0 to 130	8.29	20.0
BC01625	Beryllium, Dissolved	mg/L	0.0000412	0.000880	0.100	0.0967	0.0938	0.0983	0.0850 to 0.115	89.5	70.0 to 130	3.04	20.0
BC01625	Beryllium, Total	mg/L	0.000044	0.000880	0.100	0.0945	0.0944	0.0945	0.0850 to 0.115	87.6	70.0 to 130	0.106	20.0
BC01625	Boron, Dissolved	mg/L	-0.0004	0.0650	1.00	1.11	1.09	0.998	0.850 to 1.15	104	70.0 to 130	1.82	20.0
BC01625	Boron, Total	mg/L	-0.000624	0.0650	1.00	1.10	1.08	0.987	0.850 to 1.15	104	70.0 to 130	1.83	20.0
BC01625	Cadmium, Dissolved	mg/L	0.0000271	0.000147	0.100	0.113	0.111	0.105	0.0850 to 0.115	110	70.0 to 130	1.79	20.0
BC01625	Cadmium, Total	mg/L	0.0000127	0.000147	0.100	0.109	0.114	0.107	0.0850 to 0.115	106	70.0 to 130	4.48	20.0
BC01625	Calcium, Dissolved	mg/L	-0.0126	0.152	5.00	131	130	4.87	4.25 to 5.75	100	70.0 to 130	0.766	20.0
BC01625	Calcium, Total	mg/L	-0.0181	0.152	5.00	126	124	4.80	4.25 to 5.75	60.0	70.0 to 130	1.60	20.0
BC01625	Chromium, Dissolved	mg/L	-0.0000049	0.000440	0.100	0.0992	0.101	0.105	0.0850 to 0.115	98.9	70.0 to 130	1.80	20.0
BC01625	Chromium, Total	mg/L	0.0000174	0.000440	0.100	0.0978	0.106	0.104	0.0850 to 0.115	97.4	70.0 to 130	8.05	20.0
BC01625	Cobalt, Dissolved	mg/L	0.0000104	0.000147	0.100	0.407	0.414	0.103	0.0850 to 0.115	92.0	70.0 to 130	1.71	20.0
BC01625	Cobalt, Total	mg/L	0.0000076	0.000147	0.100	0.407	0.443	0.101	0.0850 to 0.115	91.0	70.0 to 130	8.47	20.0
BC01625	Iron, Dissolved	mg/L	-0.000395	0.0176	0.2	0.806	0.790	0.201	0.170 to 0.230	102	70.0 to 130	2.01	20.0
BC01625	Iron, Total	mg/L	-0.000334	0.0176	0.2	1.13	1.12	0.197	0.170 to 0.230	104	70.0 to 130	0.889	20.0
BC01625	Lead, Dissolved	mg/L	0.0000136	0.000147	0.100	0.113	0.112	0.110	0.0850 to 0.115	108	70.0 to 130	0.889	20.0
BC01625	Lead, Total	mg/L	0.000013	0.000147	0.100	0.112	0.111	0.115	0.0850 to 0.115	107	70.0 to 130	0.897	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:** WMWGORG  
**Sample Date:** 1/25/22 10:38  
**Customer ID:**  
**Delivery Date:** 1/26/22 10:06

**Description:** Gorgas Gypsum - PZ-21

**Laboratory ID Number:** BC01619

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC01625	Lithium, Dissolved	mg/L	-0.000047	0.0154	0.200	0.616	0.588	0.194	0.170 to 0.230	108	70.0 to 130	4.65	20.0
BC01625	Lithium, Total	mg/L	-0.000265	0.0154	0.200	0.606	0.598	0.200	0.170 to 0.230	103	70.0 to 130	1.33	20.0
BC01625	Magnesium, Dissolved	mg/L	-0.00921	0.0462	5.00	137	136	5.01	4.25 to 5.75	120	70.0 to 130	0.733	20.0
BC01625	Magnesium, Total	mg/L	-0.00243	0.0462	5.00	134	131	4.99	4.25 to 5.75	100	70.0 to 130	2.26	20.0
BC01625	Manganese, Dissolved	mg/L	0.0000192	0.000147	0.100	13.5	13.9	0.102	0.0850 to 0.115	0.00	70.0 to 130	2.92	20.0
BC01625	Manganese, Total	mg/L	0.0000277	0.000147	0.100	14.0	13.9	0.102	0.0850 to 0.115	200	70.0 to 130	0.717	20.0
BC01770	Mercury, Total by CVAA	mg/L	-2.000E-05	0.000500	0.004	0.00393	0.00396	0.00393	0.00340 to 0.00460	98.2	70.0 to 130	0.760	20.0
BC01625	Molybdenum, Dissolved	mg/L	0.0000298	0.000147	0.100	0.101	0.103	0.0998	0.0850 to 0.115	101	70.0 to 130	1.96	20.0
BC01625	Molybdenum, Total	mg/L	-0.0000003	0.000147	0.100	0.0971	0.105	0.101	0.0850 to 0.115	97.1	70.0 to 130	7.82	20.0
BC01625	Potassium, Dissolved	mg/L	-0.0112	0.367	10.0	14.4	14.4	9.82	8.50 to 11.5	94.8	70.0 to 130	0.00	20.0
BC01625	Potassium, Total	mg/L	-0.0160	0.367	10.0	14.5	15.6	9.85	8.50 to 11.5	97.0	70.0 to 130	7.31	20.0
BC01625	Selenium, Dissolved	mg/L	0.0000355	0.00100	0.100	0.0923	0.0917	0.108	0.0850 to 0.115	89.1	70.0 to 130	0.652	20.0
BC01625	Selenium, Total	mg/L	0.0000422	0.00100	0.100	0.0884	0.0920	0.107	0.0850 to 0.115	85.3	70.0 to 130	3.99	20.0
BC01625	Silicon, Dissolved	mg/L	0.000078	0.0440	1.00	21.2	21.0	1.01	0.850 to 1.15	140	70.0 to 130	0.948	20.0
BC01625	Silicon, Total	mg/L	0.000194	0.0440	1.00	20.5	20.7	1.01	0.850 to 1.15	80.0	70.0 to 130	0.971	20.0
BC01625	Sodium, Dissolved	mg/L	-0.000372	0.0660	5.00	32.8	31.5	4.84	4.25 to 5.75	108	70.0 to 130	4.04	20.0
BC01625	Sodium, Total	mg/L	0.00428	0.0660	5.00	32.4	31.9	4.97	4.25 to 5.75	100	70.0 to 130	1.56	20.0
BC01625	Thallium, Dissolved	mg/L	0.0000134	0.000147	0.100	0.105	0.102	0.105	0.0850 to 0.115	105	70.0 to 130	2.90	20.0
BC01625	Thallium, Total	mg/L	0.0000134	0.000147	0.100	0.101	0.105	0.108	0.0850 to 0.115	101	70.0 to 130	3.88	20.0
BC01770	Total Organic Carbon	mg/L	0.280	1.00	10.0	11.2	11.2	25.4		98.8	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.

## Batch QC Summary

**Customer Account:** WMWGORG

**Sample Date:** 1/25/22 10:38

**Customer ID:**

**Delivery Date:** 1/26/22 10:06

**Description:** Gorgas Gypsum - PZ-21

**Laboratory ID Number:** BC01619

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
BC01770	Chloride	mg/L	0.0684	1.00	400	680	263	10.2	9.00 to 11.0	106	80.0 to 120	3.09	20.0
BC01623	Fluoride	mg/L	0.00166	0.100	2.50	2.70	0.204	2.50	2.25 to 2.75	100	80.0 to 120	5.03	20.0
BC01770	Nitrogen, Nitrate/Nitrite	mg/L as N	0.02	0.200	2.00	1.95	0.350	1.91	1.80 to 2.20	81.5	90.0 to 110	8.96	15.0
BC01623	Solids, Dissolved	mg/L	0.0000	25.0			888	50.0	40.0 to 60.0			0.338	10.0
BC01770	Sulfate	mg/L	-0.00917	1.00	2500	5010	2610	19.2	18.0 to 22.0	95.6	80.0 to 120	0.382	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 Gypsum - PZ-22

**Location Code:** WMWGORG  
**Collected:** 1/25/22 11:53  
**Customer ID:**  
**Submittal Date:** 1/26/22 10:06

**Laboratory ID Number:** BC01620

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: RDA</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Total	1/27/22 10:03	1/28/22 10:59		1.015	0.0754	mg/L	0.030000	0.1015	J
* Calcium, Total	1/27/22 10:03	1/28/22 11:33		20.3	74.6	mg/L	1.4007	8.12	
* Iron, Total	1/27/22 10:03	1/28/22 11:33		20.3	51.2	mg/L	0.1624	0.812	
* Lithium, Total	1/27/22 10:03	1/28/22 10:59		1.015	0.0718	mg/L	0.007105	0.01999956	
* Magnesium, Total	1/27/22 10:03	1/28/22 10:59		1.015	38.0	mg/L	0.021315	0.406	
Silica, Total (calc.)	1/27/22 10:03	1/28/22 10:59		1	21.3	mg/L			
Silicon, Total	1/27/22 10:03	1/28/22 10:59		1.015	9.97	mg/L	0.02030	0.25375	
* Sodium, Total	1/27/22 10:03	1/28/22 10:59		1.015	37.1	mg/L	0.03045	0.406	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: RDA</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	1/27/22 09:52	1/28/22 09:41		1.015	0.0765	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	1/27/22 09:52	1/28/22 10:16		20.3	71.9	mg/L	1.4007	8.12	
* Iron, Dissolved	1/27/22 09:52	1/28/22 10:16		20.3	50.6	mg/L	0.1624	0.812	
* Lithium, Dissolved	1/27/22 09:52	1/28/22 09:41		1.015	0.0684	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	1/27/22 09:52	1/28/22 09:41		1.015	38.0	mg/L	0.021315	0.406	
Silica, Dissolved (calc.)	1/27/22 09:52	1/28/22 09:41		1	20.9	mg/L			
Silicon, Dissolved	1/27/22 09:52	1/28/22 09:41		1.015	9.77	mg/L	0.02030	0.25375	
* Sodium, Dissolved	1/27/22 09:52	1/28/22 09:41		1.015	35.5	mg/L	0.03045	0.406	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	1/27/22 09:55	1/27/22 16:02		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	1/27/22 09:55	1/27/22 16:02		1.015	0.0445	mg/L	0.004060	0.01015	
* Arsenic, Total	1/27/22 09:55	1/27/22 16:02		1.015	0.0446	mg/L	0.000068	0.000203	
* Barium, Total	1/27/22 09:55	1/27/22 16:02		1.015	0.0176	mg/L	0.000102	0.000203	
* Beryllium, Total	1/27/22 09:55	1/27/22 16:02		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	1/27/22 09:55	1/27/22 16:02		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	1/27/22 09:55	1/27/22 16:02		1.015	0.000303	mg/L	0.000203	0.001015	J
* Cobalt, Total	1/27/22 09:55	1/27/22 16:02		1.015	0.00294	mg/L	0.000068	0.000203	
* Lead, Total	1/27/22 09:55	1/27/22 16:02		1.015	0.0000904	mg/L	0.000068	0.000203	J
* Manganese, Total	1/27/22 09:55	2/1/22 12:40		10.15	2.25	mg/L	0.000680	0.00203	
* Molybdenum, Total	1/27/22 09:55	1/27/22 16:02		1.015	0.000931	mg/L	0.000068	0.000203	
* Potassium, Total	1/27/22 09:55	1/27/22 16:02		1.015	6.55	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 Gypsum - PZ-22

**Location Code:** WMWGORG  
**Collected:** 1/25/22 11:53  
**Customer ID:**  
**Submittal Date:** 1/26/22 10:06

**Laboratory ID Number:** BC01620

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	1/27/22 09:55	1/27/22 16:02		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	1/27/22 09:55	1/27/22 16:02		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: ABB</b>							
* Antimony, Dissolved	1/27/22 10:10	1/27/22 13:38		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	1/27/22 10:10	1/27/22 13:38		1.015	0.00680	mg/L	0.004060	0.01015	J
* Arsenic, Dissolved	1/27/22 10:10	1/27/22 13:38		1.015	0.0431	mg/L	0.000068	0.000203	
* Barium, Dissolved	1/27/22 10:10	1/27/22 13:38		1.015	0.0164	mg/L	0.000102	0.000203	
* Beryllium, Dissolved	1/27/22 10:10	1/27/22 13:38		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	1/27/22 10:10	1/27/22 13:38		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	1/27/22 10:10	1/27/22 13:38		1.015	0.000204	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	1/27/22 10:10	1/27/22 13:38		1.015	0.00311	mg/L	0.000068	0.000203	
* Lead, Dissolved	1/27/22 10:10	1/27/22 13:38		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	1/27/22 10:10	2/1/22 11:57		10.15	2.29	mg/L	0.000680	0.00203	
* Molybdenum, Dissolved	1/27/22 10:10	1/27/22 13:38		1.015	0.000897	mg/L	0.000068	0.000203	
* Potassium, Dissolved	1/27/22 10:10	1/27/22 13:38		1.015	6.63	mg/L	0.169505	0.5075	
* Selenium, Dissolved	1/27/22 10:10	1/27/22 13:38		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	1/27/22 10:10	1/27/22 13:38		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	1/31/22 15:35	1/31/22 19:41		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: ELH</b>							
* Nitrogen, Nitrate/Nitrite	2/1/22 14:28	2/1/22 14:28		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
Alkalinity, Total as CaCO3	1/31/22 09:50	1/31/22 13:00		1	79.1	mg/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	1/27/22 11:00	1/28/22 13:33		1	688	mg/L		50	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
Bicarbonate Alkalinity, (calc.)	1/31/22 09:50	1/31/22 13:00		1	79.1	mg/L			
Carbonate Alkalinity, (calc.)	1/31/22 09:50	1/31/22 13:00		1	0.02	mg/L			
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	2/1/22 12:51	2/1/22 12:51		1	1.46	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 Gypsum - PZ-22

**Location Code:** WMWGORG  
**Collected:** 1/25/22 11:53  
**Customer ID:**  
**Submittal Date:** 1/26/22 10:06

**Laboratory ID Number:** BC01620

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	1/28/22 10:00	1/28/22 10:00		1	5.76	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	1/27/22 13:39	1/27/22 13:39		1	0.169	mg/L	0.06	0.1	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	2/7/22 14:22	2/7/22 14:22		20	440	mg/L	10.00	20	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: DKG</b>							
Conductivity	1/25/22 11:49	1/25/22 11:49			921.21	uS/cm			FA
pH	1/25/22 11:49	1/25/22 11:49			5.99	SU			FA
Temperature	1/25/22 11:49	1/25/22 11:49			17.45	C			FA
Turbidity	1/25/22 11:49	1/25/22 11:49			7.59	NTU			FA

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

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**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:** WMWGORG  
**Sample Date:** 1/25/22 11:53  
**Customer ID:**  
**Delivery Date:** 1/26/22 10:06

**Description:** Gorgas Gypsum - PZ-22

**Laboratory ID Number:** BC01620

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BC01625	Aluminum, Dissolved	mg/L	0.000300	0.00880	0.100	11.7	12.3	0.104	0.0850 to 0.115	200	70.0 to 130	5.00	20.0
BC01625	Aluminum, Total	mg/L	0.000849	0.00880	0.100	12.0	12.0	0.104	0.0850 to 0.115	200	70.0 to 130	0.00	20.0
BC01625	Antimony, Dissolved	mg/L	0.0000892	0.00100	0.100	0.0998	0.0994	0.0977	0.0850 to 0.115	99.8	70.0 to 130	0.402	20.0
BC01625	Antimony, Total	mg/L	0.0000707	0.00100	0.100	0.0989	0.108	0.0957	0.0850 to 0.115	98.9	70.0 to 130	8.80	20.0
BC01625	Arsenic, Dissolved	mg/L	0.0000136	0.000147	0.100	0.105	0.108	0.105	0.0850 to 0.115	104	70.0 to 130	2.82	20.0
BC01625	Arsenic, Total	mg/L	0.0000151	0.000147	0.100	0.102	0.109	0.105	0.0850 to 0.115	101	70.0 to 130	6.64	20.0
BC01625	Barium, Dissolved	mg/L	-0.0000179	0.000200	0.100	0.109	0.109	0.0997	0.0850 to 0.115	97.3	70.0 to 130	0.00	20.0
BC01625	Barium, Total	mg/L	0.0000264	0.000200	0.100	0.104	0.113	0.0953	0.0850 to 0.115	91.0	70.0 to 130	8.29	20.0
BC01625	Beryllium, Dissolved	mg/L	0.0000412	0.000880	0.100	0.0967	0.0938	0.0983	0.0850 to 0.115	89.5	70.0 to 130	3.04	20.0
BC01625	Beryllium, Total	mg/L	0.000044	0.000880	0.100	0.0945	0.0944	0.0945	0.0850 to 0.115	87.6	70.0 to 130	0.106	20.0
BC01625	Boron, Dissolved	mg/L	-0.0004	0.0650	1.00	1.11	1.09	0.998	0.850 to 1.15	104	70.0 to 130	1.82	20.0
BC01625	Boron, Total	mg/L	-0.000624	0.0650	1.00	1.10	1.08	0.987	0.850 to 1.15	104	70.0 to 130	1.83	20.0
BC01625	Cadmium, Dissolved	mg/L	0.0000271	0.000147	0.100	0.113	0.111	0.105	0.0850 to 0.115	110	70.0 to 130	1.79	20.0
BC01625	Cadmium, Total	mg/L	0.0000127	0.000147	0.100	0.109	0.114	0.107	0.0850 to 0.115	106	70.0 to 130	4.48	20.0
BC01625	Calcium, Dissolved	mg/L	-0.0126	0.152	5.00	131	130	4.87	4.25 to 5.75	100	70.0 to 130	0.766	20.0
BC01625	Calcium, Total	mg/L	-0.0181	0.152	5.00	126	124	4.80	4.25 to 5.75	60.0	70.0 to 130	1.60	20.0
BC01625	Chromium, Dissolved	mg/L	-0.0000049	0.000440	0.100	0.0992	0.101	0.105	0.0850 to 0.115	98.9	70.0 to 130	1.80	20.0
BC01625	Chromium, Total	mg/L	0.0000174	0.000440	0.100	0.0978	0.106	0.104	0.0850 to 0.115	97.4	70.0 to 130	8.05	20.0
BC01625	Cobalt, Dissolved	mg/L	0.0000104	0.000147	0.100	0.407	0.414	0.103	0.0850 to 0.115	92.0	70.0 to 130	1.71	20.0
BC01625	Cobalt, Total	mg/L	0.0000076	0.000147	0.100	0.407	0.443	0.101	0.0850 to 0.115	91.0	70.0 to 130	8.47	20.0
BC01625	Iron, Dissolved	mg/L	-0.000395	0.0176	0.2	0.806	0.790	0.201	0.170 to 0.230	102	70.0 to 130	2.01	20.0
BC01625	Iron, Total	mg/L	-0.000334	0.0176	0.2	1.13	1.12	0.197	0.170 to 0.230	104	70.0 to 130	0.889	20.0
BC01625	Lead, Dissolved	mg/L	0.0000136	0.000147	0.100	0.113	0.112	0.110	0.0850 to 0.115	108	70.0 to 130	0.889	20.0
BC01625	Lead, Total	mg/L	0.000013	0.000147	0.100	0.112	0.111	0.115	0.0850 to 0.115	107	70.0 to 130	0.897	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:** WMWGORG  
**Sample Date:** 1/25/22 11:53  
**Customer ID:**  
**Delivery Date:** 1/26/22 10:06

**Description:** Gorgas Gypsum - PZ-22

**Laboratory ID Number:** BC01620

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC01625	Lithium, Dissolved	mg/L	-0.000047	0.0154	0.200	0.616	0.588	0.194	0.170 to 0.230	108	70.0 to 130	4.65	20.0
BC01625	Lithium, Total	mg/L	-0.000265	0.0154	0.200	0.606	0.598	0.200	0.170 to 0.230	103	70.0 to 130	1.33	20.0
BC01625	Magnesium, Dissolved	mg/L	-0.00921	0.0462	5.00	137	136	5.01	4.25 to 5.75	120	70.0 to 130	0.733	20.0
BC01625	Magnesium, Total	mg/L	-0.00243	0.0462	5.00	134	131	4.99	4.25 to 5.75	100	70.0 to 130	2.26	20.0
BC01625	Manganese, Dissolved	mg/L	0.0000192	0.000147	0.100	13.5	13.9	0.102	0.0850 to 0.115	0.00	70.0 to 130	2.92	20.0
BC01625	Manganese, Total	mg/L	0.0000277	0.000147	0.100	14.0	13.9	0.102	0.0850 to 0.115	200	70.0 to 130	0.717	20.0
BC01770	Mercury, Total by CVAA	mg/L	-2.000E-05	0.000500	0.004	0.00393	0.00396	0.00393	0.00340 to 0.00460	98.2	70.0 to 130	0.760	20.0
BC01625	Molybdenum, Dissolved	mg/L	0.0000298	0.000147	0.100	0.101	0.103	0.0998	0.0850 to 0.115	101	70.0 to 130	1.96	20.0
BC01625	Molybdenum, Total	mg/L	-0.0000003	0.000147	0.100	0.0971	0.105	0.101	0.0850 to 0.115	97.1	70.0 to 130	7.82	20.0
BC01625	Potassium, Dissolved	mg/L	-0.0112	0.367	10.0	14.4	14.4	9.82	8.50 to 11.5	94.8	70.0 to 130	0.00	20.0
BC01625	Potassium, Total	mg/L	-0.0160	0.367	10.0	14.5	15.6	9.85	8.50 to 11.5	97.0	70.0 to 130	7.31	20.0
BC01625	Selenium, Dissolved	mg/L	0.0000355	0.00100	0.100	0.0923	0.0917	0.108	0.0850 to 0.115	89.1	70.0 to 130	0.652	20.0
BC01625	Selenium, Total	mg/L	0.0000422	0.00100	0.100	0.0884	0.0920	0.107	0.0850 to 0.115	85.3	70.0 to 130	3.99	20.0
BC01625	Silicon, Dissolved	mg/L	0.000078	0.0440	1.00	21.2	21.0	1.01	0.850 to 1.15	140	70.0 to 130	0.948	20.0
BC01625	Silicon, Total	mg/L	0.000194	0.0440	1.00	20.5	20.7	1.01	0.850 to 1.15	80.0	70.0 to 130	0.971	20.0
BC01625	Sodium, Dissolved	mg/L	-0.000372	0.0660	5.00	32.8	31.5	4.84	4.25 to 5.75	108	70.0 to 130	4.04	20.0
BC01625	Sodium, Total	mg/L	0.00428	0.0660	5.00	32.4	31.9	4.97	4.25 to 5.75	100	70.0 to 130	1.56	20.0
BC01625	Thallium, Dissolved	mg/L	0.0000134	0.000147	0.100	0.105	0.102	0.105	0.0850 to 0.115	105	70.0 to 130	2.90	20.0
BC01625	Thallium, Total	mg/L	0.0000134	0.000147	0.100	0.101	0.105	0.108	0.0850 to 0.115	101	70.0 to 130	3.88	20.0
BC01770	Total Organic Carbon	mg/L	0.280	1.00	10.0	11.2	11.2	25.4		98.8	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.

## Batch QC Summary

**Customer Account:** WMWGORG

**Sample Date:** 1/25/22 11:53

**Customer ID:**

**Delivery Date:** 1/26/22 10:06

**Description:** Gorgas Gypsum - PZ-22

**Laboratory ID Number:** BC01620

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
BC01770	Chloride	mg/L	0.0684	1.00	400	680	263	10.2	9.00 to 11.0	106	80.0 to 120	3.09	20.0
BC01623	Fluoride	mg/L	0.00166	0.100	2.50	2.70	0.204	2.50	2.25 to 2.75	100	80.0 to 120	5.03	20.0
BC01770	Nitrogen, Nitrate/Nitrite	mg/L as N	0.02	0.200	2.00	1.95	0.350	1.91	1.80 to 2.20	81.5	90.0 to 110	8.96	15.0
BC01623	Solids, Dissolved	mg/L	0.0000	25.0			888	50.0	40.0 to 60.0			0.338	10.0
BC01770	Sulfate	mg/L	-0.00917	1.00	2500	5010	2610	19.2	18.0 to 22.0	95.6	80.0 to 120	0.382	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 Gypsum - PZ-20

**Location Code:** WMWGORG  
**Collected:** 1/25/22 12:55  
**Customer ID:**  
**Submittal Date:** 1/26/22 10:06

**Laboratory ID Number:** BC01621

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: RDA</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Total	1/27/22 10:03	1/28/22 11:01		1.015	0.0765	mg/L	0.030000	0.1015	J
* Calcium, Total	1/27/22 10:03	1/28/22 11:35		10.15	96.7	mg/L	0.70035	4.06	
* Iron, Total	1/27/22 10:03	1/28/22 11:35		10.15	5.37	mg/L	0.08120	0.406	
* Lithium, Total	1/27/22 10:03	1/28/22 11:01		1.015	0.0884	mg/L	0.007105	0.01999956	
* Magnesium, Total	1/27/22 10:03	1/28/22 11:35		10.15	53.6	mg/L	0.21315	4.06	
Silica, Total (calc.)	1/27/22 10:03	1/28/22 11:01		1	19.7	mg/L			
Silicon, Total	1/27/22 10:03	1/28/22 11:01		1.015	9.21	mg/L	0.02030	0.25375	
* Sodium, Total	1/27/22 10:03	1/28/22 11:35		10.15	107	mg/L	0.3045	4.06	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: RDA</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	1/27/22 09:52	1/28/22 09:42		1.015	0.0781	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	1/27/22 09:52	1/28/22 10:18		10.15	92.4	mg/L	0.70035	4.06	
* Iron, Dissolved	1/27/22 09:52	1/28/22 10:18		10.15	5.01	mg/L	0.08120	0.406	
* Lithium, Dissolved	1/27/22 09:52	1/28/22 09:42		1.015	0.0884	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	1/27/22 09:52	1/28/22 10:18		10.15	51.5	mg/L	0.21315	4.06	
Silica, Dissolved (calc.)	1/27/22 09:52	1/28/22 09:42		1	19.3	mg/L			
Silicon, Dissolved	1/27/22 09:52	1/28/22 09:42		1.015	9.04	mg/L	0.02030	0.25375	
* Sodium, Dissolved	1/27/22 09:52	1/28/22 10:18		10.15	106	mg/L	0.3045	4.06	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	1/27/22 09:55	1/27/22 16:06		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	1/27/22 09:55	1/27/22 16:06		1.015	0.0655	mg/L	0.004060	0.01015	
* Arsenic, Total	1/27/22 09:55	1/27/22 16:06		1.015	0.00223	mg/L	0.000068	0.000203	
* Barium, Total	1/27/22 09:55	1/27/22 16:06		1.015	0.0201	mg/L	0.000102	0.000203	
* Beryllium, Total	1/27/22 09:55	1/27/22 16:06		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	1/27/22 09:55	1/27/22 16:06		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	1/27/22 09:55	1/27/22 16:06		1.015	0.000256	mg/L	0.000203	0.001015	J
* Cobalt, Total	1/27/22 09:55	1/27/22 16:06		1.015	0.00273	mg/L	0.000068	0.000203	
* Lead, Total	1/27/22 09:55	1/27/22 16:06		1.015	0.000143	mg/L	0.000068	0.000203	J
* Manganese, Total	1/27/22 09:55	1/27/22 16:06		1.015	0.304	mg/L	0.000068	0.000203	
* Molybdenum, Total	1/27/22 09:55	1/27/22 16:06		1.015	0.000973	mg/L	0.000068	0.000203	
* Potassium, Total	1/27/22 09:55	1/27/22 16:06		1.015	4.87	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 Gypsum - PZ-20

**Location Code:** WMWGORG  
**Collected:** 1/25/22 12:55  
**Customer ID:**  
**Submittal Date:** 1/26/22 10:06

**Laboratory ID Number:** BC01621

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	1/27/22 09:55	1/27/22 16:06		1.015	0.00273	mg/L	0.000508	0.001015	
* Thallium, Total	1/27/22 09:55	1/27/22 16:06		1.015	0.000208	mg/L	0.000068	0.000203	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: ABB</b>							
* Antimony, Dissolved	1/27/22 10:10	1/27/22 13:42		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	1/27/22 10:10	1/27/22 13:42		1.015	Not Detected	mg/L	0.004060	0.01015	U
* Arsenic, Dissolved	1/27/22 10:10	1/27/22 13:42		1.015	0.00200	mg/L	0.000068	0.000203	
* Barium, Dissolved	1/27/22 10:10	1/27/22 13:42		1.015	0.0163	mg/L	0.000102	0.000203	
* Beryllium, Dissolved	1/27/22 10:10	1/27/22 13:42		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	1/27/22 10:10	1/27/22 13:42		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	1/27/22 10:10	1/27/22 13:42		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	1/27/22 10:10	1/27/22 13:42		1.015	0.00279	mg/L	0.000068	0.000203	
* Lead, Dissolved	1/27/22 10:10	1/27/22 13:42		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	1/27/22 10:10	1/27/22 13:42		1.015	0.303	mg/L	0.000068	0.000203	
* Molybdenum, Dissolved	1/27/22 10:10	1/27/22 13:42		1.015	0.00101	mg/L	0.000068	0.000203	
* Potassium, Dissolved	1/27/22 10:10	1/27/22 13:42		1.015	4.80	mg/L	0.169505	0.5075	
* Selenium, Dissolved	1/27/22 10:10	1/27/22 13:42		1.015	0.00308	mg/L	0.000508	0.001015	
* Thallium, Dissolved	1/27/22 10:10	1/27/22 13:42		1.015	0.000198	mg/L	0.000068	0.000203	J
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	1/31/22 15:35	1/31/22 19:45		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: ELH</b>							
* Nitrogen, Nitrate/Nitrite	2/1/22 14:30	2/1/22 14:30		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
Alkalinity, Total as CaCO3	1/31/22 09:50	1/31/22 13:00		1	212	mg/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	1/27/22 11:00	1/28/22 13:33		1	840	mg/L		50	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
Bicarbonate Alkalinity, (calc.)	1/31/22 09:50	1/31/22 13:00		1	212	mg/L			
Carbonate Alkalinity, (calc.)	1/31/22 09:50	1/31/22 13:00		1	0.07	mg/L			
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	2/1/22 13:09	2/1/22 13:09		1	1.71	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 Gypsum - PZ-20

**Location Code:** WMWGORG  
**Collected:** 1/25/22 12:55  
**Customer ID:**  
**Submittal Date:** 1/26/22 10:06

**Laboratory ID Number:** BC01621

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	1/28/22 10:01	1/28/22 10:01		1	13.0	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	1/27/22 13:41	1/27/22 13:41		1	0.191	mg/L	0.06	0.1	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	2/7/22 14:23	2/7/22 14:23		20	437	mg/L	10.00	20	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: DKG</b>							
Conductivity	1/25/22 12:52	1/25/22 12:52			1181.7	uS/cm			FA
pH	1/25/22 12:52	1/25/22 12:52			6.33	SU			FA
Temperature	1/25/22 12:52	1/25/22 12:52			17.62	C			FA
Turbidity	1/25/22 12:52	1/25/22 12:52			4.6	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:** WMWGORG  
**Sample Date:** 1/25/22 12:55  
**Customer ID:**  
**Delivery Date:** 1/26/22 10:06

**Description:** Gorgas Gypsum - PZ-20

**Laboratory ID Number:** BC01621

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BC01625	Aluminum, Dissolved	mg/L	0.000300	0.00880	0.100	11.7	12.3	0.104	0.0850 to 0.115	200	70.0 to 130	5.00	20.0
BC01625	Aluminum, Total	mg/L	0.000849	0.00880	0.100	12.0	12.0	0.104	0.0850 to 0.115	200	70.0 to 130	0.00	20.0
BC01625	Antimony, Dissolved	mg/L	0.0000892	0.00100	0.100	0.0998	0.0994	0.0977	0.0850 to 0.115	99.8	70.0 to 130	0.402	20.0
BC01625	Antimony, Total	mg/L	0.0000707	0.00100	0.100	0.0989	0.108	0.0957	0.0850 to 0.115	98.9	70.0 to 130	8.80	20.0
BC01625	Arsenic, Dissolved	mg/L	0.0000136	0.000147	0.100	0.105	0.108	0.105	0.0850 to 0.115	104	70.0 to 130	2.82	20.0
BC01625	Arsenic, Total	mg/L	0.0000151	0.000147	0.100	0.102	0.109	0.105	0.0850 to 0.115	101	70.0 to 130	6.64	20.0
BC01625	Barium, Dissolved	mg/L	-0.0000179	0.000200	0.100	0.109	0.109	0.0997	0.0850 to 0.115	97.3	70.0 to 130	0.00	20.0
BC01625	Barium, Total	mg/L	0.0000264	0.000200	0.100	0.104	0.113	0.0953	0.0850 to 0.115	91.0	70.0 to 130	8.29	20.0
BC01625	Beryllium, Dissolved	mg/L	0.0000412	0.000880	0.100	0.0967	0.0938	0.0983	0.0850 to 0.115	89.5	70.0 to 130	3.04	20.0
BC01625	Beryllium, Total	mg/L	0.000044	0.000880	0.100	0.0945	0.0944	0.0945	0.0850 to 0.115	87.6	70.0 to 130	0.106	20.0
BC01625	Boron, Dissolved	mg/L	-0.0004	0.0650	1.00	1.11	1.09	0.998	0.850 to 1.15	104	70.0 to 130	1.82	20.0
BC01625	Boron, Total	mg/L	-0.000624	0.0650	1.00	1.10	1.08	0.987	0.850 to 1.15	104	70.0 to 130	1.83	20.0
BC01625	Cadmium, Dissolved	mg/L	0.0000271	0.000147	0.100	0.113	0.111	0.105	0.0850 to 0.115	110	70.0 to 130	1.79	20.0
BC01625	Cadmium, Total	mg/L	0.0000127	0.000147	0.100	0.109	0.114	0.107	0.0850 to 0.115	106	70.0 to 130	4.48	20.0
BC01625	Calcium, Dissolved	mg/L	-0.0126	0.152	5.00	131	130	4.87	4.25 to 5.75	100	70.0 to 130	0.766	20.0
BC01625	Calcium, Total	mg/L	-0.0181	0.152	5.00	126	124	4.80	4.25 to 5.75	60.0	70.0 to 130	1.60	20.0
BC01625	Chromium, Dissolved	mg/L	-0.0000049	0.000440	0.100	0.0992	0.101	0.105	0.0850 to 0.115	98.9	70.0 to 130	1.80	20.0
BC01625	Chromium, Total	mg/L	0.0000174	0.000440	0.100	0.0978	0.106	0.104	0.0850 to 0.115	97.4	70.0 to 130	8.05	20.0
BC01625	Cobalt, Dissolved	mg/L	0.0000104	0.000147	0.100	0.407	0.414	0.103	0.0850 to 0.115	92.0	70.0 to 130	1.71	20.0
BC01625	Cobalt, Total	mg/L	0.0000076	0.000147	0.100	0.407	0.443	0.101	0.0850 to 0.115	91.0	70.0 to 130	8.47	20.0
BC01625	Iron, Dissolved	mg/L	-0.000395	0.0176	0.2	0.806	0.790	0.201	0.170 to 0.230	102	70.0 to 130	2.01	20.0
BC01625	Iron, Total	mg/L	-0.000334	0.0176	0.2	1.13	1.12	0.197	0.170 to 0.230	104	70.0 to 130	0.889	20.0
BC01625	Lead, Dissolved	mg/L	0.0000136	0.000147	0.100	0.113	0.112	0.110	0.0850 to 0.115	108	70.0 to 130	0.889	20.0
BC01625	Lead, Total	mg/L	0.000013	0.000147	0.100	0.112	0.111	0.115	0.0850 to 0.115	107	70.0 to 130	0.897	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:** WMWGORG  
**Sample Date:** 1/25/22 12:55  
**Customer ID:**  
**Delivery Date:** 1/26/22 10:06

**Description:** Gorgas Gypsum - PZ-20

**Laboratory ID Number:** BC01621

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC01625	Lithium, Dissolved	mg/L	-0.000047	0.0154	0.200	0.616	0.588	0.194	0.170 to 0.230	108	70.0 to 130	4.65	20.0
BC01625	Lithium, Total	mg/L	-0.000265	0.0154	0.200	0.606	0.598	0.200	0.170 to 0.230	103	70.0 to 130	1.33	20.0
BC01625	Magnesium, Dissolved	mg/L	-0.00921	0.0462	5.00	137	136	5.01	4.25 to 5.75	120	70.0 to 130	0.733	20.0
BC01625	Magnesium, Total	mg/L	-0.00243	0.0462	5.00	134	131	4.99	4.25 to 5.75	100	70.0 to 130	2.26	20.0
BC01625	Manganese, Dissolved	mg/L	0.0000192	0.000147	0.100	13.5	13.9	0.102	0.0850 to 0.115	0.00	70.0 to 130	2.92	20.0
BC01625	Manganese, Total	mg/L	0.0000277	0.000147	0.100	14.0	13.9	0.102	0.0850 to 0.115	200	70.0 to 130	0.717	20.0
BC01770	Mercury, Total by CVAA	mg/L	-2.000E-05	0.000500	0.004	0.00393	0.00396	0.00393	0.00340 to 0.00460	98.2	70.0 to 130	0.760	20.0
BC01625	Molybdenum, Dissolved	mg/L	0.0000298	0.000147	0.100	0.101	0.103	0.0998	0.0850 to 0.115	101	70.0 to 130	1.96	20.0
BC01625	Molybdenum, Total	mg/L	-0.0000003	0.000147	0.100	0.0971	0.105	0.101	0.0850 to 0.115	97.1	70.0 to 130	7.82	20.0
BC01625	Potassium, Dissolved	mg/L	-0.0112	0.367	10.0	14.4	14.4	9.82	8.50 to 11.5	94.8	70.0 to 130	0.00	20.0
BC01625	Potassium, Total	mg/L	-0.0160	0.367	10.0	14.5	15.6	9.85	8.50 to 11.5	97.0	70.0 to 130	7.31	20.0
BC01625	Selenium, Dissolved	mg/L	0.0000355	0.00100	0.100	0.0923	0.0917	0.108	0.0850 to 0.115	89.1	70.0 to 130	0.652	20.0
BC01625	Selenium, Total	mg/L	0.0000422	0.00100	0.100	0.0884	0.0920	0.107	0.0850 to 0.115	85.3	70.0 to 130	3.99	20.0
BC01625	Silicon, Dissolved	mg/L	0.000078	0.0440	1.00	21.2	21.0	1.01	0.850 to 1.15	140	70.0 to 130	0.948	20.0
BC01625	Silicon, Total	mg/L	0.000194	0.0440	1.00	20.5	20.7	1.01	0.850 to 1.15	80.0	70.0 to 130	0.971	20.0
BC01625	Sodium, Dissolved	mg/L	-0.000372	0.0660	5.00	32.8	31.5	4.84	4.25 to 5.75	108	70.0 to 130	4.04	20.0
BC01625	Sodium, Total	mg/L	0.00428	0.0660	5.00	32.4	31.9	4.97	4.25 to 5.75	100	70.0 to 130	1.56	20.0
BC01625	Thallium, Dissolved	mg/L	0.0000134	0.000147	0.100	0.105	0.102	0.105	0.0850 to 0.115	105	70.0 to 130	2.90	20.0
BC01625	Thallium, Total	mg/L	0.0000134	0.000147	0.100	0.101	0.105	0.108	0.0850 to 0.115	101	70.0 to 130	3.88	20.0
BC01770	Total Organic Carbon	mg/L	0.280	1.00	10.0	11.2	11.2	25.4		98.8	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.

## Batch QC Summary

**Customer Account:** WMWGORG

**Sample Date:** 1/25/22 12:55

**Customer ID:**

**Delivery Date:** 1/26/22 10:06

**Description:** Gorgas Gypsum - PZ-20

**Laboratory ID Number:** BC01621

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
BC01770	Chloride	mg/L	0.0684	1.00	400	680	263	10.2	9.00 to 11.0	106	80.0 to 120	3.09	20.0
BC01623	Fluoride	mg/L	0.00166	0.100	2.50	2.70	0.204	2.50	2.25 to 2.75	100	80.0 to 120	5.03	20.0
BC01770	Nitrogen, Nitrate/Nitrite	mg/L as N	0.02	0.200	2.00	1.95	0.350	1.91	1.80 to 2.20	81.5	90.0 to 110	8.96	15.0
BC01623	Solids, Dissolved	mg/L	0.0000	25.0			888	50.0	40.0 to 60.0			0.338	10.0
BC01770	Sulfate	mg/L	-0.00917	1.00	2500	5010	2610	19.2	18.0 to 22.0	95.6	80.0 to 120	0.382	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 Gypsum Field Blank-1

**Location Code:** WMWGORGFB  
**Collected:** 1/25/22 13:25  
**Customer ID:**  
**Submittal Date:** 1/26/22 10:06

**Laboratory ID Number:** BC01622

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: RDA</b>			<b>Preparation Method: EPA 1638</b>					
* Boron, Total	1/27/22 10:03	1/28/22 11:03		1.015	Not Detected	mg/L	0.030000	0.1015	U	
* Calcium, Total	1/27/22 10:03	1/28/22 11:03		1.015	Not Detected	mg/L	0.070035	0.406	U	
* Iron, Total	1/27/22 10:03	1/28/22 11:03		1.015	Not Detected	mg/L	0.008120	0.0406	U	
* Lithium, Total	1/27/22 10:03	1/28/22 11:03		1.015	Not Detected	mg/L	0.007105	0.01999956	U	
* Magnesium, Total	1/27/22 10:03	1/28/22 11:03		1.015	Not Detected	mg/L	0.021315	0.406	U	
Silica, Total (calc.)	1/27/22 10:03	1/28/22 11:03		1	Not Detected	mg/L				
Silicon, Total	1/27/22 10:03	1/28/22 11:03		1.015	Not Detected	mg/L	0.02030	0.25375	U	
* Sodium, Total	1/27/22 10:03	1/28/22 11:03		1.015	Not Detected	mg/L	0.03045	0.406	U	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>					
* Antimony, Total	1/27/22 09:55	1/27/22 16:09		1.015	Not Detected	mg/L	0.000508	0.001015	U	
* Aluminum, Total	1/27/22 09:55	1/27/22 16:09		1.015	Not Detected	mg/L	0.004060	0.01015	U	
* Arsenic, Total	1/27/22 09:55	1/27/22 16:09		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Barium, Total	1/27/22 09:55	1/27/22 16:09		1.015	Not Detected	mg/L	0.000102	0.000203	U	
* Beryllium, Total	1/27/22 09:55	1/27/22 16:09		1.015	Not Detected	mg/L	0.000406	0.001015	U	
* Cadmium, Total	1/27/22 09:55	1/27/22 16:09		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Chromium, Total	1/27/22 09:55	1/27/22 16:09		1.015	Not Detected	mg/L	0.000203	0.001015	U	
* Cobalt, Total	1/27/22 09:55	1/27/22 16:09		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Lead, Total	1/27/22 09:55	1/27/22 16:09		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Manganese, Total	1/27/22 09:55	1/27/22 16:09		1.015	0.000116	mg/L	0.000068	0.000203	J	
* Molybdenum, Total	1/27/22 09:55	1/27/22 16:09		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Potassium, Total	1/27/22 09:55	1/27/22 16:09		1.015	Not Detected	mg/L	0.169505	0.5075	U	
* Selenium, Total	1/27/22 09:55	1/27/22 16:09		1.015	Not Detected	mg/L	0.000508	0.001015	U	
* Thallium, Total	1/27/22 09:55	1/27/22 16:09		1.015	Not Detected	mg/L	0.000068	0.000203	U	
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>								
* Mercury, Total by CVAA	1/31/22 15:35	1/31/22 19:49		1	Not Detected	mg/L	0.0003	0.0005	U	
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: ELH</b>								
* Nitrogen, Nitrate/Nitrite	2/1/22 14:31	2/1/22 14:31		1	Not Detected	mg/L as N	0.20	0.3	U	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>								
* 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 Gypsum Field Blank-1

**Location Code:** WMWGORGFB

**Collected:** 1/25/22 13:25

**Customer ID:**

**Submittal Date:** 1/26/22 10:06

**Laboratory ID Number:** BC01622

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	2/1/22 13:26	2/1/22 13:26		1	Not Detected	mg/L	1.00	2	U
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	1/28/22 10:02	1/28/22 10:02		1	Not Detected	mg/L	0.50	1	U
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	1/27/22 13:42	1/27/22 13:42		1	Not Detected	mg/L	0.06	0.1	U
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	2/7/22 14:24	2/7/22 14:24		1	Not Detected	mg/L	0.50	1	U

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

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**Comments:**

# Batch QC Summary

**Customer Account:** WMWGORGFB  
**Sample Date:** 1/25/22 13:25  
**Customer ID:**  
**Delivery Date:** 1/26/22 10:06

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

**Laboratory ID Number:** BC01622

Sample	Analysis	Units	MB					Standard		Rec		Prec	Limit
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC01625	Aluminum, Total	mg/L	0.000849	0.00880	0.100	12.0	12.0	0.104	0.0850 to 0.115	200	70.0 to 130	0.00	20.0
BC01625	Antimony, Total	mg/L	0.0000707	0.00100	0.100	0.0989	0.108	0.0957	0.0850 to 0.115	98.9	70.0 to 130	8.80	20.0
BC01625	Arsenic, Total	mg/L	0.0000151	0.000147	0.100	0.102	0.109	0.105	0.0850 to 0.115	101	70.0 to 130	6.64	20.0
BC01625	Barium, Total	mg/L	0.0000264	0.000200	0.100	0.104	0.113	0.0953	0.0850 to 0.115	91.0	70.0 to 130	8.29	20.0
BC01625	Beryllium, Total	mg/L	0.000044	0.000880	0.100	0.0945	0.0944	0.0945	0.0850 to 0.115	87.6	70.0 to 130	0.106	20.0
BC01625	Boron, Total	mg/L	-0.000624	0.0650	1.00	1.10	1.08	0.987	0.850 to 1.15	104	70.0 to 130	1.83	20.0
BC01625	Cadmium, Total	mg/L	0.0000127	0.000147	0.100	0.109	0.114	0.107	0.0850 to 0.115	106	70.0 to 130	4.48	20.0
BC01625	Calcium, Total	mg/L	-0.0181	0.152	5.00	126	124	4.80	4.25 to 5.75	60.0	70.0 to 130	1.60	20.0
BC01625	Chromium, Total	mg/L	0.0000174	0.000440	0.100	0.0978	0.106	0.104	0.0850 to 0.115	97.4	70.0 to 130	8.05	20.0
BC01625	Cobalt, Total	mg/L	0.0000076	0.000147	0.100	0.407	0.443	0.101	0.0850 to 0.115	91.0	70.0 to 130	8.47	20.0
BC01625	Iron, Total	mg/L	-0.000334	0.0176	0.2	1.13	1.12	0.197	0.170 to 0.230	104	70.0 to 130	0.889	20.0
BC01625	Lead, Total	mg/L	0.000013	0.000147	0.100	0.112	0.111	0.115	0.0850 to 0.115	107	70.0 to 130	0.897	20.0
BC01625	Lithium, Total	mg/L	-0.000265	0.0154	0.200	0.606	0.598	0.200	0.170 to 0.230	103	70.0 to 130	1.33	20.0
BC01625	Magnesium, Total	mg/L	-0.00243	0.0462	5.00	134	131	4.99	4.25 to 5.75	100	70.0 to 130	2.26	20.0
BC01625	Manganese, Total	mg/L	0.0000277	0.000147	0.100	14.0	13.9	0.102	0.0850 to 0.115	200	70.0 to 130	0.717	20.0
BC01770	Mercury, Total by CVAA	mg/L	-2.000E-05	0.000500	0.004	0.00393	0.00396	0.00393	0.00340 to 0.00460	98.2	70.0 to 130	0.760	20.0
BC01625	Molybdenum, Total	mg/L	-0.0000003	0.000147	0.100	0.0971	0.105	0.101	0.0850 to 0.115	97.1	70.0 to 130	7.82	20.0
BC01625	Potassium, Total	mg/L	-0.0160	0.367	10.0	14.5	15.6	9.85	8.50 to 11.5	97.0	70.0 to 130	7.31	20.0
BC01625	Selenium, Total	mg/L	0.0000422	0.00100	0.100	0.0884	0.0920	0.107	0.0850 to 0.115	85.3	70.0 to 130	3.99	20.0
BC01625	Silicon, Total	mg/L	0.000194	0.0440	1.00	20.5	20.7	1.01	0.850 to 1.15	80.0	70.0 to 130	0.971	20.0
BC01625	Sodium, Total	mg/L	0.00428	0.0660	5.00	32.4	31.9	4.97	4.25 to 5.75	100	70.0 to 130	1.56	20.0
BC01625	Thallium, Total	mg/L	0.0000134	0.000147	0.100	0.101	0.105	0.108	0.0850 to 0.115	101	70.0 to 130	3.88	20.0
BC01770	Total Organic Carbon	mg/L	0.280	1.00	10.0	11.2	11.2	25.4		98.8	80.0 to 120	0.00	20.0

**Comments:**

## Batch QC Summary

**Customer Account:** WMWGORGFB

**Sample Date:** 1/25/22 13:25

**Customer ID:**

**Delivery Date:** 1/26/22 10:06

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

**Laboratory ID Number:** BC01622

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC01770	Chloride	mg/L	0.0684	1.00	400	680	263	10.2	9.00 to 11.0	106	80.0 to 120	3.09	20.0
BC01623	Fluoride	mg/L	0.00166	0.100	2.50	2.70	0.204	2.50	2.25 to 2.75	100	80.0 to 120	5.03	20.0
BC01770	Nitrogen, Nitrate/Nitrite	mg/L as N	0.02	0.200	2.00	1.95	0.350	1.91	1.80 to 2.20	81.5	90.0 to 110	8.96	15.0
BC01623	Solids, Dissolved	mg/L	0.0000	25.0			888	50.0	40.0 to 60.0			0.338	10.0
BC01770	Sulfate	mg/L	-0.00917	1.00	2500	5010	2610	19.2	18.0 to 22.0	95.6	80.0 to 120	0.382	20.0

**Comments:**



# Certificate Of Analysis

**Description:** Gorgas Gypsum - PZ-19

**Location Code:** WMWGORG  
**Collected:** 1/25/22 14:45  
**Customer ID:**  
**Submittal Date:** 1/26/22 10:06

**Laboratory ID Number:** BC01623

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: RDA</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Total	1/27/22 10:03	1/28/22 11:05		1.015	0.0561	mg/L	0.030000	0.1015	J
* Calcium, Total	1/27/22 10:03	1/28/22 11:37		20.3	117	mg/L	1.4007	8.12	
* Iron, Total	1/27/22 10:03	1/28/22 11:05		1.015	2.82	mg/L	0.008120	0.0406	
* Lithium, Total	1/27/22 10:03	1/28/22 11:05		1.015	0.0782	mg/L	0.007105	0.01999956	
* Magnesium, Total	1/27/22 10:03	1/28/22 11:37		20.3	53.0	mg/L	0.4263	8.12	
Silica, Total (calc.)	1/27/22 10:03	1/28/22 11:05		1	21.6	mg/L			
Silicon, Total	1/27/22 10:03	1/28/22 11:05		1.015	10.1	mg/L	0.02030	0.25375	
* Sodium, Total	1/27/22 10:03	1/28/22 11:37		20.3	125	mg/L	0.609	8.12	
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: RDA</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	1/27/22 09:52	1/28/22 09:44		1.015	0.0570	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	1/27/22 09:52	1/28/22 10:20		20.3	124	mg/L	1.4007	8.12	
* Iron, Dissolved	1/27/22 09:52	1/28/22 09:44		1.015	2.82	mg/L	0.008120	0.0406	
* Lithium, Dissolved	1/27/22 09:52	1/28/22 09:44		1.015	0.0791	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	1/27/22 09:52	1/28/22 10:20		20.3	56.0	mg/L	0.4263	8.12	
Silica, Dissolved (calc.)	1/27/22 09:52	1/28/22 09:44		1	22.3	mg/L			
Silicon, Dissolved	1/27/22 09:52	1/28/22 09:44		1.015	10.4	mg/L	0.02030	0.25375	
* Sodium, Dissolved	1/27/22 09:52	1/28/22 10:20		20.3	132	mg/L	0.609	8.12	
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	1/27/22 09:55	1/27/22 16:13		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	1/27/22 09:55	1/27/22 16:13		1.015	0.00580	mg/L	0.004060	0.01015	J
* Arsenic, Total	1/27/22 09:55	1/27/22 16:13		1.015	0.00162	mg/L	0.000068	0.000203	
* Barium, Total	1/27/22 09:55	1/27/22 16:13		1.015	0.0373	mg/L	0.000102	0.000203	
* Beryllium, Total	1/27/22 09:55	1/27/22 16:13		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	1/27/22 09:55	1/27/22 16:13		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	1/27/22 09:55	1/27/22 16:13		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Total	1/27/22 09:55	1/27/22 16:13		1.015	0.000689	mg/L	0.000068	0.000203	
* Lead, Total	1/27/22 09:55	1/27/22 16:13		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	1/27/22 09:55	1/27/22 16:13		1.015	0.875	mg/L	0.000068	0.000203	
* Molybdenum, Total	1/27/22 09:55	1/27/22 16:13		1.015	0.000680	mg/L	0.000068	0.000203	
* Potassium, Total	1/27/22 09:55	1/27/22 16:13		1.015	4.11	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 Gypsum - PZ-19

**Location Code:** WMWGORG  
**Collected:** 1/25/22 14:45  
**Customer ID:**  
**Submittal Date:** 1/26/22 10:06

**Laboratory ID Number:** BC01623

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	1/27/22 09:55	1/27/22 16:13		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	1/27/22 09:55	1/27/22 16:13		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: ABB</b>							
* Antimony, Dissolved	1/27/22 10:10	1/27/22 13:45		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	1/27/22 10:10	1/27/22 13:45		1.015	Not Detected	mg/L	0.004060	0.01015	U
* Arsenic, Dissolved	1/27/22 10:10	1/27/22 13:45		1.015	0.00160	mg/L	0.000068	0.000203	
* Barium, Dissolved	1/27/22 10:10	1/27/22 13:45		1.015	0.0330	mg/L	0.000102	0.000203	
* Beryllium, Dissolved	1/27/22 10:10	1/27/22 13:45		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	1/27/22 10:10	1/27/22 13:45		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	1/27/22 10:10	1/27/22 13:45		1.015	0.000205	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	1/27/22 10:10	1/27/22 13:45		1.015	0.000715	mg/L	0.000068	0.000203	
* Lead, Dissolved	1/27/22 10:10	1/27/22 13:45		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	1/27/22 10:10	1/27/22 13:45		1.015	0.868	mg/L	0.000068	0.000203	
* Molybdenum, Dissolved	1/27/22 10:10	1/27/22 13:45		1.015	0.000717	mg/L	0.000068	0.000203	
* Potassium, Dissolved	1/27/22 10:10	1/27/22 13:45		1.015	4.19	mg/L	0.169505	0.5075	
* Selenium, Dissolved	1/27/22 10:10	1/27/22 13:45		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	1/27/22 10:10	1/27/22 13:45		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	1/31/22 15:35	1/31/22 19:53		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: ELH</b>							
* Nitrogen, Nitrate/Nitrite	2/1/22 14:33	2/1/22 14:33		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
Alkalinity, Total as CaCO3	1/31/22 09:50	1/31/22 13:00		1	431	mg/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	1/27/22 11:00	1/28/22 13:33		1	885	mg/L		75.8	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
Bicarbonate Alkalinity, (calc.)	1/31/22 09:50	1/31/22 13:00		1	431	mg/L			
Carbonate Alkalinity, (calc.)	1/31/22 09:50	1/31/22 13:00		1	0.23	mg/L			
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	2/1/22 13:40	2/1/22 13:40		1	1.51	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 Gypsum - PZ-19

**Location Code:** WMWGORG  
**Collected:** 1/25/22 14:45  
**Customer ID:**  
**Submittal Date:** 1/26/22 10:06

**Laboratory ID Number:** BC01623

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	1/28/22 10:03	1/28/22 10:03		1	13.2	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	1/27/22 13:43	1/27/22 13:43		1	0.194	mg/L	0.06	0.1	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	2/7/22 14:25	2/7/22 14:25		20	344	mg/L	10.00	20	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: DKG</b>							
Conductivity	1/25/22 14:42	1/25/22 14:42			1292.60	uS/cm			FA
pH	1/25/22 14:42	1/25/22 14:42			6.68	SU			FA
Temperature	1/25/22 14:42	1/25/22 14:42			17.58	C			FA
Turbidity	1/25/22 14:42	1/25/22 14:42			1.05	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:** WMWGORG  
**Sample Date:** 1/25/22 14:45  
**Customer ID:**  
**Delivery Date:** 1/26/22 10:06

**Description:** Gorgas Gypsum - PZ-19

**Laboratory ID Number:** BC01623

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BC01625	Aluminum, Dissolved	mg/L	0.000300	0.00880	0.100	11.7	12.3	0.104	0.0850 to 0.115	200	70.0 to 130	5.00	20.0
BC01625	Aluminum, Total	mg/L	0.000849	0.00880	0.100	12.0	12.0	0.104	0.0850 to 0.115	200	70.0 to 130	0.00	20.0
BC01625	Antimony, Dissolved	mg/L	0.0000892	0.00100	0.100	0.0998	0.0994	0.0977	0.0850 to 0.115	99.8	70.0 to 130	0.402	20.0
BC01625	Antimony, Total	mg/L	0.0000707	0.00100	0.100	0.0989	0.108	0.0957	0.0850 to 0.115	98.9	70.0 to 130	8.80	20.0
BC01625	Arsenic, Dissolved	mg/L	0.0000136	0.000147	0.100	0.105	0.108	0.105	0.0850 to 0.115	104	70.0 to 130	2.82	20.0
BC01625	Arsenic, Total	mg/L	0.0000151	0.000147	0.100	0.102	0.109	0.105	0.0850 to 0.115	101	70.0 to 130	6.64	20.0
BC01625	Barium, Dissolved	mg/L	-0.0000179	0.000200	0.100	0.109	0.109	0.0997	0.0850 to 0.115	97.3	70.0 to 130	0.00	20.0
BC01625	Barium, Total	mg/L	0.0000264	0.000200	0.100	0.104	0.113	0.0953	0.0850 to 0.115	91.0	70.0 to 130	8.29	20.0
BC01625	Beryllium, Dissolved	mg/L	0.0000412	0.000880	0.100	0.0967	0.0938	0.0983	0.0850 to 0.115	89.5	70.0 to 130	3.04	20.0
BC01625	Beryllium, Total	mg/L	0.000044	0.000880	0.100	0.0945	0.0944	0.0945	0.0850 to 0.115	87.6	70.0 to 130	0.106	20.0
BC01625	Boron, Dissolved	mg/L	-0.0004	0.0650	1.00	1.11	1.09	0.998	0.850 to 1.15	104	70.0 to 130	1.82	20.0
BC01625	Boron, Total	mg/L	-0.000624	0.0650	1.00	1.10	1.08	0.987	0.850 to 1.15	104	70.0 to 130	1.83	20.0
BC01625	Cadmium, Dissolved	mg/L	0.0000271	0.000147	0.100	0.113	0.111	0.105	0.0850 to 0.115	110	70.0 to 130	1.79	20.0
BC01625	Cadmium, Total	mg/L	0.0000127	0.000147	0.100	0.109	0.114	0.107	0.0850 to 0.115	106	70.0 to 130	4.48	20.0
BC01625	Calcium, Dissolved	mg/L	-0.0126	0.152	5.00	131	130	4.87	4.25 to 5.75	100	70.0 to 130	0.766	20.0
BC01625	Calcium, Total	mg/L	-0.0181	0.152	5.00	126	124	4.80	4.25 to 5.75	60.0	70.0 to 130	1.60	20.0
BC01625	Chromium, Dissolved	mg/L	-0.0000049	0.000440	0.100	0.0992	0.101	0.105	0.0850 to 0.115	98.9	70.0 to 130	1.80	20.0
BC01625	Chromium, Total	mg/L	0.0000174	0.000440	0.100	0.0978	0.106	0.104	0.0850 to 0.115	97.4	70.0 to 130	8.05	20.0
BC01625	Cobalt, Dissolved	mg/L	0.0000104	0.000147	0.100	0.407	0.414	0.103	0.0850 to 0.115	92.0	70.0 to 130	1.71	20.0
BC01625	Cobalt, Total	mg/L	0.0000076	0.000147	0.100	0.407	0.443	0.101	0.0850 to 0.115	91.0	70.0 to 130	8.47	20.0
BC01625	Iron, Dissolved	mg/L	-0.000395	0.0176	0.2	0.806	0.790	0.201	0.170 to 0.230	102	70.0 to 130	2.01	20.0
BC01625	Iron, Total	mg/L	-0.000334	0.0176	0.2	1.13	1.12	0.197	0.170 to 0.230	104	70.0 to 130	0.889	20.0
BC01625	Lead, Dissolved	mg/L	0.0000136	0.000147	0.100	0.113	0.112	0.110	0.0850 to 0.115	108	70.0 to 130	0.889	20.0
BC01625	Lead, Total	mg/L	0.000013	0.000147	0.100	0.112	0.111	0.115	0.0850 to 0.115	107	70.0 to 130	0.897	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:** WMWGORG  
**Sample Date:** 1/25/22 14:45  
**Customer ID:**  
**Delivery Date:** 1/26/22 10:06

**Description:** Gorgas Gypsum - PZ-19

**Laboratory ID Number:** BC01623

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC01625	Lithium, Dissolved	mg/L	-0.000047	0.0154	0.200	0.616	0.588	0.194	0.170 to 0.230	108	70.0 to 130	4.65	20.0
BC01625	Lithium, Total	mg/L	-0.000265	0.0154	0.200	0.606	0.598	0.200	0.170 to 0.230	103	70.0 to 130	1.33	20.0
BC01625	Magnesium, Dissolved	mg/L	-0.00921	0.0462	5.00	137	136	5.01	4.25 to 5.75	120	70.0 to 130	0.733	20.0
BC01625	Magnesium, Total	mg/L	-0.00243	0.0462	5.00	134	131	4.99	4.25 to 5.75	100	70.0 to 130	2.26	20.0
BC01625	Manganese, Dissolved	mg/L	0.0000192	0.000147	0.100	13.5	13.9	0.102	0.0850 to 0.115	0.00	70.0 to 130	2.92	20.0
BC01625	Manganese, Total	mg/L	0.0000277	0.000147	0.100	14.0	13.9	0.102	0.0850 to 0.115	200	70.0 to 130	0.717	20.0
BC01770	Mercury, Total by CVAA	mg/L	-2.000E-05	0.000500	0.004	0.00393	0.00396	0.00393	0.00340 to 0.00460	98.2	70.0 to 130	0.760	20.0
BC01625	Molybdenum, Dissolved	mg/L	0.0000298	0.000147	0.100	0.101	0.103	0.0998	0.0850 to 0.115	101	70.0 to 130	1.96	20.0
BC01625	Molybdenum, Total	mg/L	-0.0000003	0.000147	0.100	0.0971	0.105	0.101	0.0850 to 0.115	97.1	70.0 to 130	7.82	20.0
BC01625	Potassium, Dissolved	mg/L	-0.0112	0.367	10.0	14.4	14.4	9.82	8.50 to 11.5	94.8	70.0 to 130	0.00	20.0
BC01625	Potassium, Total	mg/L	-0.0160	0.367	10.0	14.5	15.6	9.85	8.50 to 11.5	97.0	70.0 to 130	7.31	20.0
BC01625	Selenium, Dissolved	mg/L	0.0000355	0.00100	0.100	0.0923	0.0917	0.108	0.0850 to 0.115	89.1	70.0 to 130	0.652	20.0
BC01625	Selenium, Total	mg/L	0.0000422	0.00100	0.100	0.0884	0.0920	0.107	0.0850 to 0.115	85.3	70.0 to 130	3.99	20.0
BC01625	Silicon, Dissolved	mg/L	0.000078	0.0440	1.00	21.2	21.0	1.01	0.850 to 1.15	140	70.0 to 130	0.948	20.0
BC01625	Silicon, Total	mg/L	0.000194	0.0440	1.00	20.5	20.7	1.01	0.850 to 1.15	80.0	70.0 to 130	0.971	20.0
BC01625	Sodium, Dissolved	mg/L	-0.000372	0.0660	5.00	32.8	31.5	4.84	4.25 to 5.75	108	70.0 to 130	4.04	20.0
BC01625	Sodium, Total	mg/L	0.00428	0.0660	5.00	32.4	31.9	4.97	4.25 to 5.75	100	70.0 to 130	1.56	20.0
BC01625	Thallium, Dissolved	mg/L	0.0000134	0.000147	0.100	0.105	0.102	0.105	0.0850 to 0.115	105	70.0 to 130	2.90	20.0
BC01625	Thallium, Total	mg/L	0.0000134	0.000147	0.100	0.101	0.105	0.108	0.0850 to 0.115	101	70.0 to 130	3.88	20.0
BC01770	Total Organic Carbon	mg/L	0.280	1.00	10.0	11.2	11.2	25.4		98.8	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.

## Batch QC Summary

**Customer Account:** WMWGORG

**Sample Date:** 1/25/22 14:45

**Customer ID:**

**Delivery Date:** 1/26/22 10:06

**Description:** Gorgas Gypsum - PZ-19

**Laboratory ID Number:** BC01623

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
BC01770	Chloride	mg/L	0.0684	1.00	400	680	263	10.2	9.00 to 11.0	106	80.0 to 120	3.09	20.0
BC01623	Fluoride	mg/L	0.00166	0.100	2.50	2.70	0.204	2.50	2.25 to 2.75	100	80.0 to 120	5.03	20.0
BC01770	Nitrogen, Nitrate/Nitrite	mg/L as N	0.02	0.200	2.00	1.95	0.350	1.91	1.80 to 2.20	81.5	90.0 to 110	8.96	15.0
BC01623	Solids, Dissolved	mg/L	0.0000	25.0			888	50.0	40.0 to 60.0			0.338	10.0
BC01770	Sulfate	mg/L	-0.00917	1.00	2500	5010	2610	19.2	18.0 to 22.0	95.6	80.0 to 120	0.382	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 Gypsum - MW-12H

**Location Code:** WMWGORG  
**Collected:** 1/25/22 15:48  
**Customer ID:**  
**Submittal Date:** 1/26/22 10:06

**Laboratory ID Number:** BC01624

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: RDA</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Total	1/27/22 10:03	1/28/22 11:07		1.015	0.0645	mg/L	0.030000	0.1015	J
* Calcium, Total	1/27/22 10:03	1/28/22 11:38		20.3	124	mg/L	1.4007	8.12	
* Iron, Total	1/27/22 10:03	1/28/22 11:07		1.015	0.856	mg/L	0.008120	0.0406	
* Lithium, Total	1/27/22 10:03	1/28/22 11:07		1.015	0.397	mg/L	0.007105	0.01999956	
* Magnesium, Total	1/27/22 10:03	1/28/22 11:38		20.3	129	mg/L	0.4263	8.12	
Silica, Total (calc.)	1/27/22 10:03	1/28/22 11:07		1	41.7	mg/L			
Silicon, Total	1/27/22 10:03	1/28/22 11:07		1.015	19.5	mg/L	0.02030	0.25375	
* Sodium, Total	1/27/22 10:03	1/28/22 11:07		1.015	27.0	mg/L	0.03045	0.406	
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: RDA</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	1/27/22 09:52	1/28/22 09:46		1.015	0.0651	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	1/27/22 09:52	1/28/22 10:22		20.3	131	mg/L	1.4007	8.12	
* Iron, Dissolved	1/27/22 09:52	1/28/22 09:46		1.015	0.596	mg/L	0.008120	0.0406	
* Lithium, Dissolved	1/27/22 09:52	1/28/22 09:46		1.015	0.395	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	1/27/22 09:52	1/28/22 10:22		20.3	135	mg/L	0.4263	8.12	
Silica, Dissolved (calc.)	1/27/22 09:52	1/28/22 09:46		1	41.5	mg/L			
Silicon, Dissolved	1/27/22 09:52	1/28/22 09:46		1.015	19.4	mg/L	0.02030	0.25375	
* Sodium, Dissolved	1/27/22 09:52	1/28/22 09:46		1.015	27.0	mg/L	0.03045	0.406	
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	1/27/22 09:55	1/27/22 16:16		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	1/27/22 09:55	2/1/22 12:43		92.365	11.9	mg/L	0.369460	0.92365	
* Arsenic, Total	1/27/22 09:55	1/27/22 16:16		1.015	0.00129	mg/L	0.000068	0.000203	
* Barium, Total	1/27/22 09:55	1/27/22 16:16		1.015	0.0130	mg/L	0.000102	0.000203	
* Beryllium, Total	1/27/22 09:55	1/27/22 16:16		1.015	0.00729	mg/L	0.000406	0.001015	
* Cadmium, Total	1/27/22 09:55	1/27/22 16:16		1.015	0.00333	mg/L	0.000068	0.000203	
* Chromium, Total	1/27/22 09:55	1/27/22 16:16		1.015	0.000334	mg/L	0.000203	0.001015	J
* Cobalt, Total	1/27/22 09:55	1/27/22 16:16		1.015	0.315	mg/L	0.000068	0.000203	
* Lead, Total	1/27/22 09:55	1/27/22 16:16		1.015	0.00520	mg/L	0.000068	0.000203	
* Manganese, Total	1/27/22 09:55	2/1/22 12:43		92.365	14.0	mg/L	0.006188	0.018473	
* Molybdenum, Total	1/27/22 09:55	1/27/22 16:16		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Potassium, Total	1/27/22 09:55	1/27/22 16:16		1.015	4.76	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. Alkalinity could not be performed due to the initial pH reading was below the titration end point of 4.5 SU. Fluoride result is qualified due to potential matrix interference.

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-12H

**Location Code:** WMWGORG  
**Collected:** 1/25/22 15:48  
**Customer ID:**  
**Submittal Date:** 1/26/22 10:06

**Laboratory ID Number:** BC01624

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	1/27/22 09:55	1/27/22 16:16		1.015	0.00311	mg/L	0.000508	0.001015	
* Thallium, Total	1/27/22 09:55	1/27/22 16:16		1.015	0.000317	mg/L	0.000068	0.000203	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: ABB</b>							
* Antimony, Dissolved	1/27/22 10:10	1/27/22 13:49		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	1/27/22 10:10	2/1/22 12:00		92.365	11.8	mg/L	0.369460	0.92365	
* Arsenic, Dissolved	1/27/22 10:10	1/27/22 13:49		1.015	0.00110	mg/L	0.000068	0.000203	
* Barium, Dissolved	1/27/22 10:10	1/27/22 13:49		1.015	0.0126	mg/L	0.000102	0.000203	
* Beryllium, Dissolved	1/27/22 10:10	1/27/22 13:49		1.015	0.00753	mg/L	0.000406	0.001015	
* Cadmium, Dissolved	1/27/22 10:10	1/27/22 13:49		1.015	0.00315	mg/L	0.000068	0.000203	
* Chromium, Dissolved	1/27/22 10:10	1/27/22 13:49		1.015	0.000226	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	1/27/22 10:10	1/27/22 13:49		1.015	0.317	mg/L	0.000068	0.000203	
* Lead, Dissolved	1/27/22 10:10	1/27/22 13:49		1.015	0.00488	mg/L	0.000068	0.000203	
* Manganese, Dissolved	1/27/22 10:10	2/1/22 12:00		92.365	13.7	mg/L	0.006188	0.018473	
* Molybdenum, Dissolved	1/27/22 10:10	1/27/22 13:49		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Potassium, Dissolved	1/27/22 10:10	1/27/22 13:49		1.015	4.79	mg/L	0.169505	0.5075	
* Selenium, Dissolved	1/27/22 10:10	1/27/22 13:49		1.015	0.00315	mg/L	0.000508	0.001015	
* Thallium, Dissolved	1/27/22 10:10	1/27/22 13:49		1.015	0.000324	mg/L	0.000068	0.000203	
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	1/31/22 15:35	1/31/22 19:57		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: ELH</b>							
* Nitrogen, Nitrate/Nitrite	2/1/22 14:35	2/1/22 14:35		1	0.248	mg/L as N	0.20	0.3	J
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	1/28/22 11:30	2/1/22 13:58		1	1320	mg/L		75.8	
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	2/1/22 13:59	2/1/22 13:59		1	1.22	mg/L	1.00	2	J
<b>Analytical Method: SM4500CI E</b>		<b>Analyst: JCC</b>							
* Chloride	1/28/22 10:05	1/28/22 10:05		1	1.83	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	1/27/22 13:18	1/27/22 13:18		1	Not Detected	mg/L	0.06	0.1	U
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	2/7/22 14:26	2/7/22 14:26		40	903	mg/L	20.00	40	

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. Alkalinity could not be performed due to the initial pH reading was below the titration end point of 4.5 SU. Fluoride result is qualified due to potential matrix interference.



# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-12H

**Location Code:** WMWGORG  
**Collected:** 1/25/22 15:48  
**Customer ID:**  
**Submittal Date:** 1/26/22 10:06

**Laboratory ID Number:** BC01624

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: Field Measurements</b>		<b>Analyst: DKG</b>							
Conductivity	1/25/22 15:45	1/25/22 15:45			1495.64	uS/cm			FA
pH	1/25/22 15:45	1/25/22 15:45			4.11	SU			FA
Temperature	1/25/22 15:45	1/25/22 15:45			19.14	C			FA
Turbidity	1/25/22 15:45	1/25/22 15:45			8	NTU			FA

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

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**Comments:** The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified. Alkalinity could not be performed due to the initial pH reading was below the titration end point of 4.5 SU. Fluoride result is qualified due to potential matrix interference.

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 1/25/22 15:48  
**Customer ID:**  
**Delivery Date:** 1/26/22 10:06

**Description:** Gorgas Gypsum - MW-12H

**Laboratory ID Number:** BC01624

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BC01625	Aluminum, Dissolved	mg/L	0.000300	0.00880	0.100	11.7	12.3	0.104	0.0850 to 0.115	200	70.0 to 130	5.00	20.0
BC01625	Aluminum, Total	mg/L	0.000849	0.00880	0.100	12.0	12.0	0.104	0.0850 to 0.115	200	70.0 to 130	0.00	20.0
BC01625	Antimony, Dissolved	mg/L	0.0000892	0.00100	0.100	0.0998	0.0994	0.0977	0.0850 to 0.115	99.8	70.0 to 130	0.402	20.0
BC01625	Antimony, Total	mg/L	0.0000707	0.00100	0.100	0.0989	0.108	0.0957	0.0850 to 0.115	98.9	70.0 to 130	8.80	20.0
BC01625	Arsenic, Dissolved	mg/L	0.0000136	0.000147	0.100	0.105	0.108	0.105	0.0850 to 0.115	104	70.0 to 130	2.82	20.0
BC01625	Arsenic, Total	mg/L	0.0000151	0.000147	0.100	0.102	0.109	0.105	0.0850 to 0.115	101	70.0 to 130	6.64	20.0
BC01625	Barium, Dissolved	mg/L	-0.0000179	0.000200	0.100	0.109	0.109	0.0997	0.0850 to 0.115	97.3	70.0 to 130	0.00	20.0
BC01625	Barium, Total	mg/L	0.0000264	0.000200	0.100	0.104	0.113	0.0953	0.0850 to 0.115	91.0	70.0 to 130	8.29	20.0
BC01625	Beryllium, Dissolved	mg/L	0.0000412	0.000880	0.100	0.0967	0.0938	0.0983	0.0850 to 0.115	89.5	70.0 to 130	3.04	20.0
BC01625	Beryllium, Total	mg/L	0.000044	0.000880	0.100	0.0945	0.0944	0.0945	0.0850 to 0.115	87.6	70.0 to 130	0.106	20.0
BC01625	Boron, Dissolved	mg/L	-0.0004	0.0650	1.00	1.11	1.09	0.998	0.850 to 1.15	104	70.0 to 130	1.82	20.0
BC01625	Boron, Total	mg/L	-0.000624	0.0650	1.00	1.10	1.08	0.987	0.850 to 1.15	104	70.0 to 130	1.83	20.0
BC01625	Cadmium, Dissolved	mg/L	0.0000271	0.000147	0.100	0.113	0.111	0.105	0.0850 to 0.115	110	70.0 to 130	1.79	20.0
BC01625	Cadmium, Total	mg/L	0.0000127	0.000147	0.100	0.109	0.114	0.107	0.0850 to 0.115	106	70.0 to 130	4.48	20.0
BC01625	Calcium, Dissolved	mg/L	-0.0126	0.152	5.00	131	130	4.87	4.25 to 5.75	100	70.0 to 130	0.766	20.0
BC01625	Calcium, Total	mg/L	-0.0181	0.152	5.00	126	124	4.80	4.25 to 5.75	60.0	70.0 to 130	1.60	20.0
BC01625	Chromium, Dissolved	mg/L	-0.0000049	0.000440	0.100	0.0992	0.101	0.105	0.0850 to 0.115	98.9	70.0 to 130	1.80	20.0
BC01625	Chromium, Total	mg/L	0.0000174	0.000440	0.100	0.0978	0.106	0.104	0.0850 to 0.115	97.4	70.0 to 130	8.05	20.0
BC01625	Cobalt, Dissolved	mg/L	0.0000104	0.000147	0.100	0.407	0.414	0.103	0.0850 to 0.115	92.0	70.0 to 130	1.71	20.0
BC01625	Cobalt, Total	mg/L	0.0000076	0.000147	0.100	0.407	0.443	0.101	0.0850 to 0.115	91.0	70.0 to 130	8.47	20.0
BC01625	Iron, Dissolved	mg/L	-0.000395	0.0176	0.2	0.806	0.790	0.201	0.170 to 0.230	102	70.0 to 130	2.01	20.0
BC01625	Iron, Total	mg/L	-0.000334	0.0176	0.2	1.13	1.12	0.197	0.170 to 0.230	104	70.0 to 130	0.889	20.0
BC01625	Lead, Dissolved	mg/L	0.0000136	0.000147	0.100	0.113	0.112	0.110	0.0850 to 0.115	108	70.0 to 130	0.889	20.0
BC01625	Lead, Total	mg/L	0.000013	0.000147	0.100	0.112	0.111	0.115	0.0850 to 0.115	107	70.0 to 130	0.897	20.0

**Comments:** The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified. Alkalinity could not be performed due to the initial pH reading was below the titration end point of 4.5 SU. Fluoride result is qualified due to potential matrix interference.

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 1/25/22 15:48  
**Customer ID:**  
**Delivery Date:** 1/26/22 10:06

**Description:** Gorgas Gypsum - MW-12H

**Laboratory ID Number:** BC01624

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC01625	Lithium, Dissolved	mg/L	-0.000047	0.0154	0.200	0.616	0.588	0.194	0.170 to 0.230	108	70.0 to 130	4.65	20.0
BC01625	Lithium, Total	mg/L	-0.000265	0.0154	0.200	0.606	0.598	0.200	0.170 to 0.230	103	70.0 to 130	1.33	20.0
BC01625	Magnesium, Dissolved	mg/L	-0.00921	0.0462	5.00	137	136	5.01	4.25 to 5.75	120	70.0 to 130	0.733	20.0
BC01625	Magnesium, Total	mg/L	-0.00243	0.0462	5.00	134	131	4.99	4.25 to 5.75	100	70.0 to 130	2.26	20.0
BC01625	Manganese, Dissolved	mg/L	0.0000192	0.000147	0.100	13.5	13.9	0.102	0.0850 to 0.115	0.00	70.0 to 130	2.92	20.0
BC01625	Manganese, Total	mg/L	0.0000277	0.000147	0.100	14.0	13.9	0.102	0.0850 to 0.115	200	70.0 to 130	0.717	20.0
BC01770	Mercury, Total by CVAA	mg/L	-2.000E-05	0.000500	0.004	0.00393	0.00396	0.00393	0.00340 to 0.00460	98.2	70.0 to 130	0.760	20.0
BC01625	Molybdenum, Dissolved	mg/L	0.0000298	0.000147	0.100	0.101	0.103	0.0998	0.0850 to 0.115	101	70.0 to 130	1.96	20.0
BC01625	Molybdenum, Total	mg/L	-0.0000003	0.000147	0.100	0.0971	0.105	0.101	0.0850 to 0.115	97.1	70.0 to 130	7.82	20.0
BC01625	Potassium, Dissolved	mg/L	-0.0112	0.367	10.0	14.4	14.4	9.82	8.50 to 11.5	94.8	70.0 to 130	0.00	20.0
BC01625	Potassium, Total	mg/L	-0.0160	0.367	10.0	14.5	15.6	9.85	8.50 to 11.5	97.0	70.0 to 130	7.31	20.0
BC01625	Selenium, Dissolved	mg/L	0.0000355	0.00100	0.100	0.0923	0.0917	0.108	0.0850 to 0.115	89.1	70.0 to 130	0.652	20.0
BC01625	Selenium, Total	mg/L	0.0000422	0.00100	0.100	0.0884	0.0920	0.107	0.0850 to 0.115	85.3	70.0 to 130	3.99	20.0
BC01625	Silicon, Dissolved	mg/L	0.000078	0.0440	1.00	21.2	21.0	1.01	0.850 to 1.15	140	70.0 to 130	0.948	20.0
BC01625	Silicon, Total	mg/L	0.000194	0.0440	1.00	20.5	20.7	1.01	0.850 to 1.15	80.0	70.0 to 130	0.971	20.0
BC01625	Sodium, Dissolved	mg/L	-0.000372	0.0660	5.00	32.8	31.5	4.84	4.25 to 5.75	108	70.0 to 130	4.04	20.0
BC01625	Sodium, Total	mg/L	0.00428	0.0660	5.00	32.4	31.9	4.97	4.25 to 5.75	100	70.0 to 130	1.56	20.0
BC01625	Thallium, Dissolved	mg/L	0.0000134	0.000147	0.100	0.105	0.102	0.105	0.0850 to 0.115	105	70.0 to 130	2.90	20.0
BC01625	Thallium, Total	mg/L	0.0000134	0.000147	0.100	0.101	0.105	0.108	0.0850 to 0.115	101	70.0 to 130	3.88	20.0
BC01770	Total Organic Carbon	mg/L	0.280	1.00	10.0	11.2	11.2	25.4		98.8	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. Alkalinity could not be performed due to the initial pH reading was below the titration end point of 4.5 SU. Fluoride result is qualified due to potential matrix interference.

## Batch QC Summary

**Customer Account:** WMWGORG

**Sample Date:** 1/25/22 15:48

**Customer ID:**

**Delivery Date:** 1/26/22 10:06

**Description:** Gorgas Gypsum - MW-12H

**Laboratory ID Number:** BC01624

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC01770	Chloride	mg/L	0.0684	1.00	400	680	263	10.2	9.00 to 11.0	106	80.0 to 120	3.09	20.0
BC01623	Fluoride	mg/L	0.00166	0.100	2.50	2.70	0.204	2.50	2.25 to 2.75	100	80.0 to 120	5.03	20.0
BC01770	Nitrogen, Nitrate/Nitrite	mg/L as N	0.02	0.200	2.00	1.95	0.350	1.91	1.80 to 2.20	81.5	90.0 to 110	8.96	15.0
BC01775	Solids, Dissolved	mg/L	0.0000	25.0			1340	50.0	40.0 to 60.0			5.09	10.0
BC01770	Sulfate	mg/L	-0.00917	1.00	2500	5010	2610	19.2	18.0 to 22.0	95.6	80.0 to 120	0.382	20.0

**Comments:** The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified. Alkalinity could not be performed due to the initial pH reading was below the titration end point of 4.5 SU. Fluoride result is qualified due to potential matrix interference.

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-12H DUP

**Location Code:** WMWGORG  
**Collected:** 1/25/22 15:48  
**Customer ID:**  
**Submittal Date:** 1/26/22 10:06

**Laboratory ID Number:** BC01625

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: RDA</b>			<b>Preparation Method: EPA 1638</b>					
* Boron, Total	1/27/22 10:03	1/28/22 11:09		1.015	0.0645	mg/L	0.030000	0.1015	J	
* Calcium, Total	1/27/22 10:03	1/28/22 11:40		20.3	123	mg/L	1.4007	8.12	RA	
* Iron, Total	1/27/22 10:03	1/28/22 11:09		1.015	0.922	mg/L	0.008120	0.0406		
* Lithium, Total	1/27/22 10:03	1/28/22 11:09		1.015	0.400	mg/L	0.007105	0.01999956		
* Magnesium, Total	1/27/22 10:03	1/28/22 11:40		20.3	129	mg/L	0.4263	8.12	RA	
Silica, Total (calc.)	1/27/22 10:03	1/28/22 11:09		1	42.2	mg/L				
Silicon, Total	1/27/22 10:03	1/28/22 11:09		1.015	19.7	mg/L	0.02030	0.25375		
* Sodium, Total	1/27/22 10:03	1/28/22 11:09		1.015	27.4	mg/L	0.03045	0.406		
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: RDA</b>			<b>Preparation Method: EPA 1638</b>					
* Boron, Dissolved	1/27/22 09:52	1/28/22 09:48		1.015	0.0656	mg/L	0.030000	0.1015	J	
* Calcium, Dissolved	1/27/22 09:52	1/28/22 10:24		20.3	126	mg/L	1.4007	8.12		
* Iron, Dissolved	1/27/22 09:52	1/28/22 09:48		1.015	0.601	mg/L	0.008120	0.0406		
* Lithium, Dissolved	1/27/22 09:52	1/28/22 09:48		1.015	0.400	mg/L	0.007105	0.01999956		
* Magnesium, Dissolved	1/27/22 09:52	1/28/22 10:24		20.3	131	mg/L	0.4263	8.12		
Silica, Dissolved (calc.)	1/27/22 09:52	1/28/22 09:48		1	42.4	mg/L				
Silicon, Dissolved	1/27/22 09:52	1/28/22 09:48		1.015	19.8	mg/L	0.02030	0.25375	RA	
* Sodium, Dissolved	1/27/22 09:52	1/28/22 09:48		1.015	27.4	mg/L	0.03045	0.406		
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>					
* Antimony, Total	1/27/22 09:55	1/27/22 16:20		1.015	Not Detected	mg/L	0.000508	0.001015	U	
* Aluminum, Total	1/27/22 09:55	2/1/22 12:47		92.365	11.8	mg/L	0.369460	0.92365	RA	
* Arsenic, Total	1/27/22 09:55	1/27/22 16:20		1.015	0.00118	mg/L	0.000068	0.000203		
* Barium, Total	1/27/22 09:55	1/27/22 16:20		1.015	0.0130	mg/L	0.000102	0.000203		
* Beryllium, Total	1/27/22 09:55	1/27/22 16:20		1.015	0.00693	mg/L	0.000406	0.001015		
* Cadmium, Total	1/27/22 09:55	1/27/22 16:20		1.015	0.00333	mg/L	0.000068	0.000203		
* Chromium, Total	1/27/22 09:55	1/27/22 16:20		1.015	0.000388	mg/L	0.000203	0.001015	J	
* Cobalt, Total	1/27/22 09:55	1/27/22 16:20		1.015	0.316	mg/L	0.000068	0.000203		
* Lead, Total	1/27/22 09:55	1/27/22 16:20		1.015	0.00506	mg/L	0.000068	0.000203		
* Manganese, Total	1/27/22 09:55	2/1/22 12:47		92.365	13.8	mg/L	0.006188	0.018473	RA	
* Molybdenum, Total	1/27/22 09:55	1/27/22 16:20		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Potassium, Total	1/27/22 09:55	1/27/22 16:20		1.015	4.80	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. Alkalinity could not be performed due to the initial pH reading was below the titration end point of 4.5 SU. Fluoride result is qualified due to potential matrix interference.

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-12H DUP

**Location Code:** WMWGORG  
**Collected:** 1/25/22 15:48  
**Customer ID:**  
**Submittal Date:** 1/26/22 10:06

**Laboratory ID Number:** BC01625

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	1/27/22 09:55	1/27/22 16:20		1.015	0.00311	mg/L	0.000508	0.001015	
* Thallium, Total	1/27/22 09:55	1/27/22 16:20		1.015	0.000326	mg/L	0.000068	0.000203	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: ABB</b>							
* Antimony, Dissolved	1/27/22 10:10	1/27/22 13:52		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	1/27/22 10:10	2/1/22 12:04		92.365	11.5	mg/L	0.369460	0.92365	RA
* Arsenic, Dissolved	1/27/22 10:10	1/27/22 13:52		1.015	0.00115	mg/L	0.000068	0.000203	
* Barium, Dissolved	1/27/22 10:10	1/27/22 13:52		1.015	0.0117	mg/L	0.000102	0.000203	
* Beryllium, Dissolved	1/27/22 10:10	1/27/22 13:52		1.015	0.00720	mg/L	0.000406	0.001015	
* Cadmium, Dissolved	1/27/22 10:10	1/27/22 13:52		1.015	0.00314	mg/L	0.000068	0.000203	
* Chromium, Dissolved	1/27/22 10:10	1/27/22 13:52		1.015	0.000271	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	1/27/22 10:10	1/27/22 13:52		1.015	0.315	mg/L	0.000068	0.000203	
* Lead, Dissolved	1/27/22 10:10	1/27/22 13:52		1.015	0.00485	mg/L	0.000068	0.000203	
* Manganese, Dissolved	1/27/22 10:10	2/1/22 12:04		92.365	13.5	mg/L	0.006188	0.018473	RA
* Molybdenum, Dissolved	1/27/22 10:10	1/27/22 13:52		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Potassium, Dissolved	1/27/22 10:10	1/27/22 13:52		1.015	4.92	mg/L	0.169505	0.5075	
* Selenium, Dissolved	1/27/22 10:10	1/27/22 13:52		1.015	0.00317	mg/L	0.000508	0.001015	
* Thallium, Dissolved	1/27/22 10:10	1/27/22 13:52		1.015	0.000326	mg/L	0.000068	0.000203	
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	1/31/22 15:35	1/31/22 20:01		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: ELH</b>							
* Nitrogen, Nitrate/Nitrite	2/1/22 14:37	2/1/22 14:37		1	0.243	mg/L as N	0.20	0.3	J
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	1/28/22 11:30	2/1/22 13:58		1	1310	mg/L		75.8	
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	2/1/22 14:18	2/1/22 14:18		1	1.15	mg/L	1.00	2	J
<b>Analytical Method: SM4500CI E</b>		<b>Analyst: JCC</b>							
* Chloride	1/28/22 10:06	1/28/22 10:06		1	1.86	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	1/27/22 13:20	1/27/22 13:20		1	Not Detected	mg/L	0.06	0.1	U
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	2/7/22 14:28	2/7/22 14:28		40	895	mg/L	20.00	40	

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. Alkalinity could not be performed due to the initial pH reading was below the titration end point of 4.5 SU. Fluoride result is qualified due to potential matrix interference.

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-12H DUP

**Location Code:** WMWGORG  
**Collected:** 1/25/22 15:48  
**Customer ID:**  
**Submittal Date:** 1/26/22 10:06

**Laboratory ID Number:** BC01625

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: Field Measurements</b>		<b>Analyst: DKG</b>							
Conductivity	1/25/22 15:45	1/25/22 15:45			1495.64	uS/cm			FA
pH	1/25/22 15:45	1/25/22 15:45			4.11	SU			FA
Temperature	1/25/22 15:45	1/25/22 15:45			19.14	C			FA
Turbidity	1/25/22 15:45	1/25/22 15:45			8	NTU			FA

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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. Alkalinity could not be performed due to the initial pH reading was below the titration end point of 4.5 SU. Fluoride result is qualified due to potential matrix interference.

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 1/25/22 15:48  
**Customer ID:**  
**Delivery Date:** 1/26/22 10:06

**Description:** Gorgas Gypsum - MW-12H DUP

**Laboratory ID Number:** BC01625

Sample	Analysis	Units	MB	MB				Standard		Rec			Prec
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit	Prec	
BC01625	Aluminum, Dissolved	mg/L	0.000300	0.00880	0.100	11.7	12.3	0.104	0.0850 to 0.115	200	70.0 to 130	5.00	20.0
BC01625	Aluminum, Total	mg/L	0.000849	0.00880	0.100	12.0	12.0	0.104	0.0850 to 0.115	200	70.0 to 130	0.00	20.0
BC01625	Antimony, Dissolved	mg/L	0.0000892	0.00100	0.100	0.0998	0.0994	0.0977	0.0850 to 0.115	99.8	70.0 to 130	0.402	20.0
BC01625	Antimony, Total	mg/L	0.0000707	0.00100	0.100	0.0989	0.108	0.0957	0.0850 to 0.115	98.9	70.0 to 130	8.80	20.0
BC01625	Arsenic, Dissolved	mg/L	0.0000136	0.000147	0.100	0.105	0.108	0.105	0.0850 to 0.115	104	70.0 to 130	2.82	20.0
BC01625	Arsenic, Total	mg/L	0.0000151	0.000147	0.100	0.102	0.109	0.105	0.0850 to 0.115	101	70.0 to 130	6.64	20.0
BC01625	Barium, Dissolved	mg/L	-0.0000179	0.000200	0.100	0.109	0.109	0.0997	0.0850 to 0.115	97.3	70.0 to 130	0.00	20.0
BC01625	Barium, Total	mg/L	0.0000264	0.000200	0.100	0.104	0.113	0.0953	0.0850 to 0.115	91.0	70.0 to 130	8.29	20.0
BC01625	Beryllium, Dissolved	mg/L	0.0000412	0.000880	0.100	0.0967	0.0938	0.0983	0.0850 to 0.115	89.5	70.0 to 130	3.04	20.0
BC01625	Beryllium, Total	mg/L	0.000044	0.000880	0.100	0.0945	0.0944	0.0945	0.0850 to 0.115	87.6	70.0 to 130	0.106	20.0
BC01625	Boron, Dissolved	mg/L	-0.0004	0.0650	1.00	1.11	1.09	0.998	0.850 to 1.15	104	70.0 to 130	1.82	20.0
BC01625	Boron, Total	mg/L	-0.000624	0.0650	1.00	1.10	1.08	0.987	0.850 to 1.15	104	70.0 to 130	1.83	20.0
BC01625	Cadmium, Dissolved	mg/L	0.0000271	0.000147	0.100	0.113	0.111	0.105	0.0850 to 0.115	110	70.0 to 130	1.79	20.0
BC01625	Cadmium, Total	mg/L	0.0000127	0.000147	0.100	0.109	0.114	0.107	0.0850 to 0.115	106	70.0 to 130	4.48	20.0
BC01625	Calcium, Dissolved	mg/L	-0.0126	0.152	5.00	131	130	4.87	4.25 to 5.75	100	70.0 to 130	0.766	20.0
BC01625	Calcium, Total	mg/L	-0.0181	0.152	5.00	126	124	4.80	4.25 to 5.75	60.0	70.0 to 130	1.60	20.0
BC01625	Chromium, Dissolved	mg/L	-0.0000049	0.000440	0.100	0.0992	0.101	0.105	0.0850 to 0.115	98.9	70.0 to 130	1.80	20.0
BC01625	Chromium, Total	mg/L	0.0000174	0.000440	0.100	0.0978	0.106	0.104	0.0850 to 0.115	97.4	70.0 to 130	8.05	20.0
BC01625	Cobalt, Dissolved	mg/L	0.0000104	0.000147	0.100	0.407	0.414	0.103	0.0850 to 0.115	92.0	70.0 to 130	1.71	20.0
BC01625	Cobalt, Total	mg/L	0.0000076	0.000147	0.100	0.407	0.443	0.101	0.0850 to 0.115	91.0	70.0 to 130	8.47	20.0
BC01625	Iron, Dissolved	mg/L	-0.000395	0.0176	0.2	0.806	0.790	0.201	0.170 to 0.230	102	70.0 to 130	2.01	20.0
BC01625	Iron, Total	mg/L	-0.000334	0.0176	0.2	1.13	1.12	0.197	0.170 to 0.230	104	70.0 to 130	0.889	20.0
BC01625	Lead, Dissolved	mg/L	0.0000136	0.000147	0.100	0.113	0.112	0.110	0.0850 to 0.115	108	70.0 to 130	0.889	20.0
BC01625	Lead, Total	mg/L	0.000013	0.000147	0.100	0.112	0.111	0.115	0.0850 to 0.115	107	70.0 to 130	0.897	20.0

**Comments:** The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified. Alkalinity could not be performed due to the initial pH reading was below the titration end point of 4.5 SU. Fluoride result is qualified due to potential matrix interference.



# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 1/25/22 15:48  
**Customer ID:**  
**Delivery Date:** 1/26/22 10:06

**Description:** Gorgas Gypsum - MW-12H DUP

**Laboratory ID Number:** BC01625

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC01625	Lithium, Dissolved	mg/L	-0.000047	0.0154	0.200	0.616	0.588	0.194	0.170 to 0.230	108	70.0 to 130	4.65	20.0
BC01625	Lithium, Total	mg/L	-0.000265	0.0154	0.200	0.606	0.598	0.200	0.170 to 0.230	103	70.0 to 130	1.33	20.0
BC01625	Magnesium, Dissolved	mg/L	-0.00921	0.0462	5.00	137	136	5.01	4.25 to 5.75	120	70.0 to 130	0.733	20.0
BC01625	Magnesium, Total	mg/L	-0.00243	0.0462	5.00	134	131	4.99	4.25 to 5.75	100	70.0 to 130	2.26	20.0
BC01625	Manganese, Dissolved	mg/L	0.0000192	0.000147	0.100	13.5	13.9	0.102	0.0850 to 0.115	0.00	70.0 to 130	2.92	20.0
BC01625	Manganese, Total	mg/L	0.0000277	0.000147	0.100	14.0	13.9	0.102	0.0850 to 0.115	200	70.0 to 130	0.717	20.0
BC01770	Mercury, Total by CVAA	mg/L	-2.000E-05	0.000500	0.004	0.00393	0.00396	0.00393	0.00340 to 0.00460	98.2	70.0 to 130	0.760	20.0
BC01625	Molybdenum, Dissolved	mg/L	0.0000298	0.000147	0.100	0.101	0.103	0.0998	0.0850 to 0.115	101	70.0 to 130	1.96	20.0
BC01625	Molybdenum, Total	mg/L	-0.0000003	0.000147	0.100	0.0971	0.105	0.101	0.0850 to 0.115	97.1	70.0 to 130	7.82	20.0
BC01625	Potassium, Dissolved	mg/L	-0.0112	0.367	10.0	14.4	14.4	9.82	8.50 to 11.5	94.8	70.0 to 130	0.00	20.0
BC01625	Potassium, Total	mg/L	-0.0160	0.367	10.0	14.5	15.6	9.85	8.50 to 11.5	97.0	70.0 to 130	7.31	20.0
BC01625	Selenium, Dissolved	mg/L	0.0000355	0.00100	0.100	0.0923	0.0917	0.108	0.0850 to 0.115	89.1	70.0 to 130	0.652	20.0
BC01625	Selenium, Total	mg/L	0.0000422	0.00100	0.100	0.0884	0.0920	0.107	0.0850 to 0.115	85.3	70.0 to 130	3.99	20.0
BC01625	Silicon, Dissolved	mg/L	0.000078	0.0440	1.00	21.2	21.0	1.01	0.850 to 1.15	140	70.0 to 130	0.948	20.0
BC01625	Silicon, Total	mg/L	0.000194	0.0440	1.00	20.5	20.7	1.01	0.850 to 1.15	80.0	70.0 to 130	0.971	20.0
BC01625	Sodium, Dissolved	mg/L	-0.000372	0.0660	5.00	32.8	31.5	4.84	4.25 to 5.75	108	70.0 to 130	4.04	20.0
BC01625	Sodium, Total	mg/L	0.00428	0.0660	5.00	32.4	31.9	4.97	4.25 to 5.75	100	70.0 to 130	1.56	20.0
BC01625	Thallium, Dissolved	mg/L	0.0000134	0.000147	0.100	0.105	0.102	0.105	0.0850 to 0.115	105	70.0 to 130	2.90	20.0
BC01625	Thallium, Total	mg/L	0.0000134	0.000147	0.100	0.101	0.105	0.108	0.0850 to 0.115	101	70.0 to 130	3.88	20.0
BC01770	Total Organic Carbon	mg/L	0.280	1.00	10.0	11.2	11.2	25.4		98.8	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. Alkalinity could not be performed due to the initial pH reading was below the titration end point of 4.5 SU. Fluoride result is qualified due to potential matrix interference.

## Batch QC Summary

**Customer Account:** WMWGORG

**Sample Date:** 1/25/22 15:48

**Customer ID:**

**Delivery Date:** 1/26/22 10:06

**Description:** Gorgas Gypsum - MW-12H DUP

**Laboratory ID Number:** BC01625

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC01770	Chloride	mg/L	0.0684	1.00	400	680	263	10.2	9.00 to 11.0	106	80.0 to 120	3.09	20.0
BC01623	Fluoride	mg/L	0.00166	0.100	2.50	2.70	0.204	2.50	2.25 to 2.75	100	80.0 to 120	5.03	20.0
BC01770	Nitrogen, Nitrate/Nitrite	mg/L as N	0.02	0.200	2.00	1.95	0.350	1.91	1.80 to 2.20	81.5	90.0 to 110	8.96	15.0
BC01775	Solids, Dissolved	mg/L	0.0000	25.0			1340	50.0	40.0 to 60.0			5.09	10.0
BC01770	Sulfate	mg/L	-0.00917	1.00	2500	5010	2610	19.2	18.0 to 22.0	95.6	80.0 to 120	0.382	20.0

**Comments:** The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified. Alkalinity could not be performed due to the initial pH reading was below the titration end point of 4.5 SU. Fluoride result is qualified due to potential matrix interference.

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-3V

**Location Code:** WMWGORG  
**Collected:** 1/26/22 11:50  
**Customer ID:**  
**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01768

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: RDA</b>			<b>Preparation Method: EPA 1638</b>			
* Boron, Total	2/3/22 12:00	2/4/22 10:29		1.015	2.81	mg/L	0.030000	0.1015	
* Calcium, Total	2/3/22 12:00	2/4/22 11:59		101.5	448	mg/L	7.0035	40.6	
* Iron, Total	2/3/22 12:00	2/4/22 11:59		101.5	33.0	mg/L	0.8120	4.06	
* Lithium, Total	2/3/22 12:00	2/4/22 10:29		1.015	0.347	mg/L	0.007105	0.01999956	
* Magnesium, Total	2/3/22 12:00	2/4/22 11:59		101.5	239	mg/L	2.1315	40.6	
Silica, Total (calc.)	2/3/22 12:00	2/4/22 10:29		1	24.2	mg/L			
Silicon, Total	2/3/22 12:00	2/4/22 10:29		1.015	11.3	mg/L	0.02030	0.25375	
* Sodium, Total	2/3/22 12:00	2/4/22 11:59		101.5	230	mg/L	3.045	40.6	
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: RDA</b>			<b>Preparation Method: EPA 1638</b>			
* Boron, Dissolved	2/3/22 12:00	2/4/22 09:42		1.015	2.82	mg/L	0.030000	0.1015	
* Calcium, Dissolved	2/3/22 12:00	2/4/22 11:16		101.5	481	mg/L	7.0035	40.6	
* Iron, Dissolved	2/3/22 12:00	2/4/22 11:16		101.5	33.0	mg/L	0.8120	4.06	
* Lithium, Dissolved	2/3/22 12:00	2/4/22 09:42		1.015	0.352	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	2/3/22 12:00	2/4/22 11:16		101.5	256	mg/L	2.1315	40.6	
Silica, Dissolved (calc.)	2/3/22 12:00	2/4/22 09:42		1	24.0	mg/L			
Silicon, Dissolved	2/3/22 12:00	2/4/22 09:42		1.015	11.2	mg/L	0.02030	0.25375	
* Sodium, Dissolved	2/3/22 12:00	2/4/22 11:16		101.5	245	mg/L	3.045	40.6	
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>			
* Antimony, Total	2/1/22 08:51	2/1/22 14:51		1.015	0.000520	mg/L	0.000508	0.001015	J
* Aluminum, Total	2/1/22 08:51	2/1/22 14:51		1.015	0.0130	mg/L	0.004060	0.01015	
* Arsenic, Total	2/1/22 08:51	2/1/22 14:51		1.015	0.000360	mg/L	0.000068	0.000203	
* Barium, Total	2/1/22 08:51	2/1/22 14:51		1.015	0.0161	mg/L	0.000102	0.000203	
* Beryllium, Total	2/1/22 08:51	2/1/22 14:51		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	2/1/22 08:51	2/1/22 14:51		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	2/1/22 08:51	2/1/22 14:51		1.015	0.000497	mg/L	0.000203	0.001015	J
* Cobalt, Total	2/1/22 08:51	2/1/22 14:51		1.015	0.0120	mg/L	0.000068	0.000203	
* Lead, Total	2/1/22 08:51	2/1/22 14:51		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	2/1/22 08:51	2/3/22 18:02		92.365	13.7	mg/L	0.006188	0.018473	
* Molybdenum, Total	2/1/22 08:51	2/1/22 14:51		1.015	0.000120	mg/L	0.000068	0.000203	J
* Potassium, Total	2/1/22 08:51	2/1/22 14:51		1.015	7.52	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 Gypsum - MW-3V

**Location Code:** WMWGORG  
**Collected:** 1/26/22 11:50  
**Customer ID:**  
**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01768

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/1/22 08:51	2/1/22 14:51		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	2/1/22 08:51	2/1/22 14:51		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: ABB</b>							
* Antimony, Dissolved	2/2/22 09:05	2/3/22 12:24		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/2/22 09:05	2/3/22 12:24		1.015	0.00876	mg/L	0.004060	0.01015	J
* Arsenic, Dissolved	2/2/22 09:05	2/3/22 12:24		1.015	0.000208	mg/L	0.000068	0.000203	
* Barium, Dissolved	2/2/22 09:05	2/3/22 12:24		1.015	0.0149	mg/L	0.000102	0.000203	
* Beryllium, Dissolved	2/2/22 09:05	2/3/22 12:24		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	2/2/22 09:05	2/3/22 12:24		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	2/2/22 09:05	2/3/22 12:24		1.015	0.000248	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	2/2/22 09:05	2/3/22 12:24		1.015	0.0132	mg/L	0.000068	0.000203	
* Lead, Dissolved	2/2/22 09:05	2/3/22 12:24		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	2/2/22 09:05	2/3/22 14:52		92.365	13.1	mg/L	0.006188	0.018473	
* Molybdenum, Dissolved	2/2/22 09:05	2/3/22 12:24		1.015	0.0000931	mg/L	0.000068	0.000203	J
* Potassium, Dissolved	2/2/22 09:05	2/3/22 12:24		1.015	7.49	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/2/22 09:05	2/3/22 12:24		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	2/2/22 09:05	2/3/22 12:24		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	1/31/22 15:35	1/31/22 20:05		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: ELH</b>							
* Nitrogen, Nitrate/Nitrite	2/1/22 14:39	2/1/22 14:39		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
Alkalinity, Total as CaCO3	1/31/22 09:50	1/31/22 13:00		1	173	mg/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	1/28/22 11:30	2/1/22 13:58		1	3150	mg/L		208.3	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
Bicarbonate Alkalinity, (calc.)	1/31/22 09:50	1/31/22 13:00		1	173	mg/L			
Carbonate Alkalinity, (calc.)	1/31/22 09:50	1/31/22 13:00		1	0.03	mg/L			
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	2/1/22 14:37	2/1/22 14:37		1	1.34	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 Gypsum - MW-3V

**Location Code:** WMWGORG  
**Collected:** 1/26/22 11:50  
**Customer ID:**  
**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01768

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	1/28/22 10:29	1/28/22 10:29		20	238	mg/L	10.00	20	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	1/28/22 12:39	1/28/22 12:39		1	0.516	mg/L	0.06	0.1	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	2/7/22 14:29	2/7/22 14:29		80	2010	mg/L	40.00	80	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: DKG</b>							
Conductivity	1/26/22 11:47	1/26/22 11:47			3876.99	uS/cm			FA
pH	1/26/22 11:47	1/26/22 11:47			6.61	SU			FA
Temperature	1/26/22 11:47	1/26/22 11:47			15.02	C			FA
Turbidity	1/26/22 11:47	1/26/22 11:47			2.45	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:** WMWGORG  
**Sample Date:** 1/26/22 11:50  
**Customer ID:**  
**Delivery Date:** 1/27/22 15:16

**Description:** Gorgas Gypsum - MW-3V

**Laboratory ID Number:** BC01768

Sample	Analysis	Units	MB					Standard		Rec		Prec	Limit
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC01777	Aluminum, Dissolved	mg/L	-0.000144	0.00880	0.100	0.305	0.310	0.0972	0.0850 to 0.115	96.0	70.0 to 130	1.63	20.0
BC01777	Aluminum, Total	mg/L	0.000470	0.00880	0.100	0.323	0.323	0.103	0.0850 to 0.115	100	70.0 to 130	0.00	20.0
BC01777	Antimony, Dissolved	mg/L	0.000122	0.00100	0.100	0.0946	0.0947	0.0892	0.0850 to 0.115	94.6	70.0 to 130	0.106	20.0
BC01777	Antimony, Total	mg/L	0.000346	0.00100	0.100	0.110	0.109	0.102	0.0850 to 0.115	110	70.0 to 130	0.913	20.0
BC01777	Arsenic, Dissolved	mg/L	0.0000273	0.000147	0.100	0.104	0.104	0.104	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BC01777	Arsenic, Total	mg/L	0.000104	0.000147	0.100	0.104	0.103	0.106	0.0850 to 0.115	103	70.0 to 130	0.966	20.0
BC01777	Barium, Dissolved	mg/L	-0.0000321	0.000200	0.100	0.110	0.113	0.0978	0.0850 to 0.115	96.6	70.0 to 130	2.69	20.0
BC01777	Barium, Total	mg/L	0.0000503	0.000200	0.100	0.124	0.125	0.113	0.0850 to 0.115	109	70.0 to 130	0.803	20.0
BC01777	Beryllium, Dissolved	mg/L	0.0000506	0.000880	0.100	0.0926	0.0941	0.0989	0.0850 to 0.115	91.9	70.0 to 130	1.61	20.0
BC01777	Beryllium, Total	mg/L	0.000137	0.000880	0.100	0.0873	0.0852	0.0927	0.0850 to 0.115	86.7	70.0 to 130	2.43	20.0
BC01777	Boron, Dissolved	mg/L	-0.000322	0.0650	1.00	6.75	6.82	1.03	0.850 to 1.15	91.0	70.0 to 130	1.03	20.0
BC01777	Boron, Total	mg/L	0.00026	0.0650	1.00	6.81	6.87	1.00	0.850 to 1.15	94.0	70.0 to 130	0.877	20.0
BC01777	Cadmium, Dissolved	mg/L	0.000007	0.000147	0.100	0.0966	0.0966	0.0984	0.0850 to 0.115	96.3	70.0 to 130	0.00	20.0
BC01777	Cadmium, Total	mg/L	0.0000381	0.000147	0.100	0.101	0.101	0.101	0.0850 to 0.115	101	70.0 to 130	0.00	20.0
BC01777	Calcium, Dissolved	mg/L	0.00459	0.152	5.00	318	320	5.03	4.25 to 5.75	0.00	70.0 to 130	0.627	20.0
BC01777	Calcium, Total	mg/L	-0.00198	0.152	5.00	304	313	4.80	4.25 to 5.75	80.0	70.0 to 130	2.92	20.0
BC01777	Chromium, Dissolved	mg/L	0.0000231	0.000440	0.100	0.0980	0.0981	0.101	0.0850 to 0.115	98.0	70.0 to 130	0.102	20.0
BC01777	Chromium, Total	mg/L	-0.0000094	0.000440	0.100	0.100	0.0997	0.101	0.0850 to 0.115	99.8	70.0 to 130	0.300	20.0
BC01777	Cobalt, Dissolved	mg/L	-0.0000016	0.000147	0.100	0.246	0.248	0.105	0.0850 to 0.115	97.0	70.0 to 130	0.810	20.0
BC01777	Cobalt, Total	mg/L	0.000044	0.000147	0.100	0.237	0.234	0.102	0.0850 to 0.115	96.0	70.0 to 130	1.27	20.0
BC01777	Iron, Dissolved	mg/L	-0.000483	0.0176	0.2	16.3	16.4	0.202	0.170 to 0.230	-50.0	70.0 to 130	0.612	20.0
BC01777	Iron, Total	mg/L	-0.00024	0.0176	0.2	16.2	16.2	0.198	0.170 to 0.230	100	70.0 to 130	0.00	20.0
BC01777	Lead, Dissolved	mg/L	0.0000109	0.000147	0.100	0.107	0.107	0.111	0.0850 to 0.115	107	70.0 to 130	0.00	20.0
BC01777	Lead, Total	mg/L	0.0000192	0.000147	0.100	0.0986	0.0970	0.102	0.0850 to 0.115	98.5	70.0 to 130	1.64	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:** WMWGORG  
**Sample Date:** 1/26/22 11:50  
**Customer ID:**  
**Delivery Date:** 1/27/22 15:16

**Description:** Gorgas Gypsum - MW-3V

**Laboratory ID Number:** BC01768

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC01777	Lithium, Dissolved	mg/L	0.000063	0.0154	0.200	0.314	0.329	0.201	0.170 to 0.230	99.5	70.0 to 130	4.67	20.0
BC01777	Lithium, Total	mg/L	-0.000109	0.0154	0.200	0.313	0.326	0.198	0.170 to 0.230	99.0	70.0 to 130	4.07	20.0
BC01777	Magnesium, Dissolved	mg/L	0.00815	0.0462	5.00	218	223	5.19	4.25 to 5.75	-20.0	70.0 to 130	2.27	20.0
BC01777	Magnesium, Total	mg/L	0.000303	0.0462	5.00	208	218	5.01	4.25 to 5.75	60.0	70.0 to 130	4.69	20.0
BC01777	Manganese, Dissolved	mg/L	0.0000529	0.000147	0.100	19.5	19.8	0.112	0.0850 to 0.115	-400	70.0 to 130	1.53	20.0
BC01777	Manganese, Total	mg/L	0.000015	0.000147	0.100	20.6	20.3	0.105	0.0850 to 0.115	0.00	70.0 to 130	1.47	20.0
BC01770	Mercury, Total by CVAA	mg/L	-2.000E-05	0.000500	0.004	0.00393	0.00396	0.00393	0.00340 to 0.00460	98.2	70.0 to 130	0.760	20.0
BC01777	Molybdenum, Dissolved	mg/L	-0.0000001	0.000147	0.100	0.0973	0.0967	0.0973	0.0850 to 0.115	97.3	70.0 to 130	0.619	20.0
BC01777	Molybdenum, Total	mg/L	0.0000548	0.000147	0.100	0.0991	0.101	0.103	0.0850 to 0.115	99.1	70.0 to 130	1.90	20.0
BC01777	Potassium, Dissolved	mg/L	-0.00696	0.367	10.0	17.2	17.0	9.75	8.50 to 11.5	98.4	70.0 to 130	1.17	20.0
BC01777	Potassium, Total	mg/L	0.0887	0.367	10.0	18.0	18.0	10.6	8.50 to 11.5	100	70.0 to 130	0.00	20.0
BC01777	Selenium, Dissolved	mg/L	0.0000188	0.00100	0.100	0.102	0.102	0.103	0.0850 to 0.115	101	70.0 to 130	0.00	20.0
BC01777	Selenium, Total	mg/L	0.0000099	0.00100	0.100	0.103	0.101	0.103	0.0850 to 0.115	102	70.0 to 130	1.96	20.0
BC01777	Silicon, Dissolved	mg/L	-0.000527	0.0440	1.00	10.5	10.6	1.02	0.850 to 1.15	85.0	70.0 to 130	0.948	20.0
BC01777	Silicon, Total	mg/L	0.00043	0.0440	1.00	10.5	10.6	1.02	0.850 to 1.15	94.0	70.0 to 130	0.948	20.0
BC01777	Sodium, Dissolved	mg/L	0.00241	0.0660	5.00	129	132	5.07	4.25 to 5.75	40.0	70.0 to 130	2.30	20.0
BC01777	Sodium, Total	mg/L	0.00603	0.0660	5.00	121	128	4.99	4.25 to 5.75	60.0	70.0 to 130	5.62	20.0
BC01777	Thallium, Dissolved	mg/L	0.0000127	0.000147	0.100	0.107	0.104	0.105	0.0850 to 0.115	107	70.0 to 130	2.84	20.0
BC01777	Thallium, Total	mg/L	0.0000218	0.000147	0.100	0.0966	0.0961	0.0991	0.0850 to 0.115	96.4	70.0 to 130	0.519	20.0
BC01770	Total Organic Carbon	mg/L	0.280	1.00	10.0	11.2	11.2	25.4		98.8	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.

## Batch QC Summary

**Customer Account:** WMWGORG

**Sample Date:** 1/26/22 11:50

**Customer ID:**

**Delivery Date:** 1/27/22 15:16

**Description:** Gorgas Gypsum - MW-3V

**Laboratory ID Number:** BC01768

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
BC01770	Chloride	mg/L	0.0684	1.00	400	680	263	10.2	9.00 to 11.0	106	80.0 to 120	3.09	20.0
BC01777	Fluoride	mg/L	0.018	0.100	2.50	2.37	0.101	2.50	2.25 to 2.75	90.1	80.0 to 120	14.7	20.0
BC01770	Nitrogen, Nitrate/Nitrite	mg/L as N	0.02	0.200	2.00	1.95	0.350	1.91	1.80 to 2.20	81.5	90.0 to 110	8.96	15.0
BC01775	Solids, Dissolved	mg/L	0.0000	25.0			1340	50.0	40.0 to 60.0			5.09	10.0
BC01770	Sulfate	mg/L	-0.00917	1.00	2500	5010	2610	19.2	18.0 to 22.0	95.6	80.0 to 120	0.382	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 Gypsum - MW-8V

**Location Code:** WMWGORG  
**Collected:** 1/26/22 13:50  
**Customer ID:**  
**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01769

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: RDA</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Total	2/3/22 12:00	2/4/22 10:31		1.015	0.153	mg/L	0.030000	0.1015	
* Calcium, Total	2/3/22 12:00	2/4/22 10:31		1.015	31.5	mg/L	0.070035	0.406	
* Iron, Total	2/3/22 12:00	2/4/22 10:31		1.015	0.107	mg/L	0.008120	0.0406	
* Lithium, Total	2/3/22 12:00	2/4/22 10:31		1.015	0.233	mg/L	0.007105	0.01999956	
* Magnesium, Total	2/3/22 12:00	2/4/22 10:31		1.015	13.7	mg/L	0.021315	0.406	
Silica, Total (calc.)	2/3/22 12:00	2/4/22 10:31		1	19.9	mg/L			
Silicon, Total	2/3/22 12:00	2/4/22 10:31		1.015	9.32	mg/L	0.02030	0.25375	
* Sodium, Total	2/3/22 12:00	2/4/22 12:01		101.5	365	mg/L	3.045	40.6	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: RDA</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	2/3/22 12:00	2/4/22 09:44		1.015	0.149	mg/L	0.030000	0.1015	
* Calcium, Dissolved	2/3/22 12:00	2/4/22 09:44		1.015	32.0	mg/L	0.070035	0.406	
* Iron, Dissolved	2/3/22 12:00	2/4/22 09:44		1.015	0.0387	mg/L	0.008120	0.0406	J
* Lithium, Dissolved	2/3/22 12:00	2/4/22 09:44		1.015	0.226	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	2/3/22 12:00	2/4/22 09:44		1.015	13.5	mg/L	0.021315	0.406	
Silica, Dissolved (calc.)	2/3/22 12:00	2/4/22 09:44		1	19.5	mg/L			
Silicon, Dissolved	2/3/22 12:00	2/4/22 09:44		1.015	9.11	mg/L	0.02030	0.25375	
* Sodium, Dissolved	2/3/22 12:00	2/4/22 11:18		101.5	386	mg/L	3.045	40.6	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	2/1/22 08:51	2/1/22 14:55		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	2/1/22 08:51	2/1/22 14:55		1.015	0.0178	mg/L	0.004060	0.01015	
* Arsenic, Total	2/1/22 08:51	2/1/22 14:55		1.015	0.00542	mg/L	0.000068	0.000203	
* Barium, Total	2/1/22 08:51	2/1/22 14:55		1.015	0.137	mg/L	0.000102	0.000203	
* Beryllium, Total	2/1/22 08:51	2/1/22 14:55		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	2/1/22 08:51	2/1/22 14:55		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	2/1/22 08:51	2/1/22 14:55		1.015	0.000229	mg/L	0.000203	0.001015	J
* Cobalt, Total	2/1/22 08:51	2/1/22 14:55		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Lead, Total	2/1/22 08:51	2/1/22 14:55		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	2/1/22 08:51	2/3/22 18:06		1.015	0.209	mg/L	0.000068	0.000203	
* Molybdenum, Total	2/1/22 08:51	2/1/22 14:55		1.015	0.000782	mg/L	0.000068	0.000203	
* Potassium, Total	2/1/22 08:51	2/1/22 14:55		1.015	4.34	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 Gypsum - MW-8V

**Location Code:** WMWGORG  
**Collected:** 1/26/22 13:50  
**Customer ID:**  
**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01769

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/1/22 08:51	2/1/22 14:55		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	2/1/22 08:51	2/1/22 14:55		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: ABB</b>							
* Antimony, Dissolved	2/2/22 09:05	2/3/22 12:27		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/2/22 09:05	2/3/22 12:27		1.015	0.00641	mg/L	0.004060	0.01015	J
* Arsenic, Dissolved	2/2/22 09:05	2/3/22 12:27		1.015	0.00385	mg/L	0.000068	0.000203	
* Barium, Dissolved	2/2/22 09:05	2/3/22 12:27		1.015	0.123	mg/L	0.000102	0.000203	
* Beryllium, Dissolved	2/2/22 09:05	2/3/22 12:27		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	2/2/22 09:05	2/3/22 12:27		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	2/2/22 09:05	2/3/22 12:27		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	2/2/22 09:05	2/3/22 12:27		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Lead, Dissolved	2/2/22 09:05	2/3/22 12:27		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	2/2/22 09:05	2/3/22 14:55		1.015	0.198	mg/L	0.000068	0.000203	
* Molybdenum, Dissolved	2/2/22 09:05	2/3/22 12:27		1.015	0.000177	mg/L	0.000068	0.000203	J
* Potassium, Dissolved	2/2/22 09:05	2/3/22 12:27		1.015	3.79	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/2/22 09:05	2/3/22 12:27		1.015	0.0124	mg/L	0.000508	0.001015	
* Thallium, Dissolved	2/2/22 09:05	2/3/22 12:27		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	1/31/22 15:35	1/31/22 20:09		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: ELH</b>							
* Nitrogen, Nitrate/Nitrite	2/1/22 14:41	2/1/22 14:41		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
Alkalinity, Total as CaCO3	1/31/22 09:50	1/31/22 13:00		1	791	mg/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	1/28/22 11:30	2/1/22 13:58		1	1050	mg/L		100	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
Bicarbonate Alkalinity, (calc.)	1/31/22 09:50	1/31/22 13:00		1	786	mg/L			
Carbonate Alkalinity, (calc.)	1/31/22 09:50	1/31/22 13:00		1	4.56	mg/L			
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	2/1/22 14:56	2/1/22 14:56		1	2.60	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.

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-8V

**Location Code:** WMWGORG  
**Collected:** 1/26/22 13:50  
**Customer ID:**  
**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01769

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	1/28/22 10:08	1/28/22 10:08		1	18.9	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	1/28/22 12:40	1/28/22 12:40		1	0.306	mg/L	0.06	0.1	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	2/7/22 14:30	2/7/22 14:30		10	199	mg/L	5.00	10	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: DKG</b>							
Conductivity	1/26/22 13:46	1/26/22 13:46			1722.53	uS/cm			FA
pH	1/26/22 13:46	1/26/22 13:46			8.18	SU			FA
Temperature	1/26/22 13:46	1/26/22 13:46			19.12	C			FA
Turbidity	1/26/22 13:46	1/26/22 13:46			1.06	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:** WMWGORG  
**Sample Date:** 1/26/22 13:50  
**Customer ID:**  
**Delivery Date:** 1/27/22 15:16

**Description:** Gorgas Gypsum - MW-8V

**Laboratory ID Number:** BC01769

Sample	Analysis	Units	MB					Standard		Rec		Prec	Limit
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC01777	Aluminum, Dissolved	mg/L	-0.000144	0.00880	0.100	0.305	0.310	0.0972	0.0850 to 0.115	96.0	70.0 to 130	1.63	20.0
BC01777	Aluminum, Total	mg/L	0.000470	0.00880	0.100	0.323	0.323	0.103	0.0850 to 0.115	100	70.0 to 130	0.00	20.0
BC01777	Antimony, Dissolved	mg/L	0.000122	0.00100	0.100	0.0946	0.0947	0.0892	0.0850 to 0.115	94.6	70.0 to 130	0.106	20.0
BC01777	Antimony, Total	mg/L	0.000346	0.00100	0.100	0.110	0.109	0.102	0.0850 to 0.115	110	70.0 to 130	0.913	20.0
BC01777	Arsenic, Dissolved	mg/L	0.0000273	0.000147	0.100	0.104	0.104	0.104	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BC01777	Arsenic, Total	mg/L	0.000104	0.000147	0.100	0.104	0.103	0.106	0.0850 to 0.115	103	70.0 to 130	0.966	20.0
BC01777	Barium, Dissolved	mg/L	-0.0000321	0.000200	0.100	0.110	0.113	0.0978	0.0850 to 0.115	96.6	70.0 to 130	2.69	20.0
BC01777	Barium, Total	mg/L	0.0000503	0.000200	0.100	0.124	0.125	0.113	0.0850 to 0.115	109	70.0 to 130	0.803	20.0
BC01777	Beryllium, Dissolved	mg/L	0.0000506	0.000880	0.100	0.0926	0.0941	0.0989	0.0850 to 0.115	91.9	70.0 to 130	1.61	20.0
BC01777	Beryllium, Total	mg/L	0.000137	0.000880	0.100	0.0873	0.0852	0.0927	0.0850 to 0.115	86.7	70.0 to 130	2.43	20.0
BC01777	Boron, Dissolved	mg/L	-0.000322	0.0650	1.00	6.75	6.82	1.03	0.850 to 1.15	91.0	70.0 to 130	1.03	20.0
BC01777	Boron, Total	mg/L	0.00026	0.0650	1.00	6.81	6.87	1.00	0.850 to 1.15	94.0	70.0 to 130	0.877	20.0
BC01777	Cadmium, Dissolved	mg/L	0.000007	0.000147	0.100	0.0966	0.0966	0.0984	0.0850 to 0.115	96.3	70.0 to 130	0.00	20.0
BC01777	Cadmium, Total	mg/L	0.0000381	0.000147	0.100	0.101	0.101	0.101	0.0850 to 0.115	101	70.0 to 130	0.00	20.0
BC01777	Calcium, Dissolved	mg/L	0.00459	0.152	5.00	318	320	5.03	4.25 to 5.75	0.00	70.0 to 130	0.627	20.0
BC01777	Calcium, Total	mg/L	-0.00198	0.152	5.00	304	313	4.80	4.25 to 5.75	80.0	70.0 to 130	2.92	20.0
BC01777	Chromium, Dissolved	mg/L	0.0000231	0.000440	0.100	0.0980	0.0981	0.101	0.0850 to 0.115	98.0	70.0 to 130	0.102	20.0
BC01777	Chromium, Total	mg/L	-0.0000094	0.000440	0.100	0.100	0.0997	0.101	0.0850 to 0.115	99.8	70.0 to 130	0.300	20.0
BC01777	Cobalt, Dissolved	mg/L	-0.0000016	0.000147	0.100	0.246	0.248	0.105	0.0850 to 0.115	97.0	70.0 to 130	0.810	20.0
BC01777	Cobalt, Total	mg/L	0.000044	0.000147	0.100	0.237	0.234	0.102	0.0850 to 0.115	96.0	70.0 to 130	1.27	20.0
BC01777	Iron, Dissolved	mg/L	-0.000483	0.0176	0.2	16.3	16.4	0.202	0.170 to 0.230	-50.0	70.0 to 130	0.612	20.0
BC01777	Iron, Total	mg/L	-0.00024	0.0176	0.2	16.2	16.2	0.198	0.170 to 0.230	100	70.0 to 130	0.00	20.0
BC01777	Lead, Dissolved	mg/L	0.0000109	0.000147	0.100	0.107	0.107	0.111	0.0850 to 0.115	107	70.0 to 130	0.00	20.0
BC01777	Lead, Total	mg/L	0.0000192	0.000147	0.100	0.0986	0.0970	0.102	0.0850 to 0.115	98.5	70.0 to 130	1.64	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:** WMWGORG  
**Sample Date:** 1/26/22 13:50  
**Customer ID:**  
**Delivery Date:** 1/27/22 15:16

**Description:** Gorgas Gypsum - MW-8V

**Laboratory ID Number:** BC01769

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC01777	Lithium, Dissolved	mg/L	0.000063	0.0154	0.200	0.314	0.329	0.201	0.170 to 0.230	99.5	70.0 to 130	4.67	20.0
BC01777	Lithium, Total	mg/L	-0.000109	0.0154	0.200	0.313	0.326	0.198	0.170 to 0.230	99.0	70.0 to 130	4.07	20.0
BC01777	Magnesium, Dissolved	mg/L	0.00815	0.0462	5.00	218	223	5.19	4.25 to 5.75	-20.0	70.0 to 130	2.27	20.0
BC01777	Magnesium, Total	mg/L	0.000303	0.0462	5.00	208	218	5.01	4.25 to 5.75	60.0	70.0 to 130	4.69	20.0
BC01777	Manganese, Dissolved	mg/L	0.0000529	0.000147	0.100	19.5	19.8	0.112	0.0850 to 0.115	-400	70.0 to 130	1.53	20.0
BC01777	Manganese, Total	mg/L	0.000015	0.000147	0.100	20.6	20.3	0.105	0.0850 to 0.115	0.00	70.0 to 130	1.47	20.0
BC01770	Mercury, Total by CVAA	mg/L	-2.000E-05	0.000500	0.004	0.00393	0.00396	0.00393	0.00340 to 0.00460	98.2	70.0 to 130	0.760	20.0
BC01777	Molybdenum, Dissolved	mg/L	-0.0000001	0.000147	0.100	0.0973	0.0967	0.0973	0.0850 to 0.115	97.3	70.0 to 130	0.619	20.0
BC01777	Molybdenum, Total	mg/L	0.0000548	0.000147	0.100	0.0991	0.101	0.103	0.0850 to 0.115	99.1	70.0 to 130	1.90	20.0
BC01777	Potassium, Dissolved	mg/L	-0.00696	0.367	10.0	17.2	17.0	9.75	8.50 to 11.5	98.4	70.0 to 130	1.17	20.0
BC01777	Potassium, Total	mg/L	0.0887	0.367	10.0	18.0	18.0	10.6	8.50 to 11.5	100	70.0 to 130	0.00	20.0
BC01777	Selenium, Dissolved	mg/L	0.0000188	0.00100	0.100	0.102	0.102	0.103	0.0850 to 0.115	101	70.0 to 130	0.00	20.0
BC01777	Selenium, Total	mg/L	0.0000099	0.00100	0.100	0.103	0.101	0.103	0.0850 to 0.115	102	70.0 to 130	1.96	20.0
BC01777	Silicon, Dissolved	mg/L	-0.000527	0.0440	1.00	10.5	10.6	1.02	0.850 to 1.15	85.0	70.0 to 130	0.948	20.0
BC01777	Silicon, Total	mg/L	0.00043	0.0440	1.00	10.5	10.6	1.02	0.850 to 1.15	94.0	70.0 to 130	0.948	20.0
BC01777	Sodium, Dissolved	mg/L	0.00241	0.0660	5.00	129	132	5.07	4.25 to 5.75	40.0	70.0 to 130	2.30	20.0
BC01777	Sodium, Total	mg/L	0.00603	0.0660	5.00	121	128	4.99	4.25 to 5.75	60.0	70.0 to 130	5.62	20.0
BC01777	Thallium, Dissolved	mg/L	0.0000127	0.000147	0.100	0.107	0.104	0.105	0.0850 to 0.115	107	70.0 to 130	2.84	20.0
BC01777	Thallium, Total	mg/L	0.0000218	0.000147	0.100	0.0966	0.0961	0.0991	0.0850 to 0.115	96.4	70.0 to 130	0.519	20.0
BC01770	Total Organic Carbon	mg/L	0.280	1.00	10.0	11.2	11.2	25.4		98.8	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.

## Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 1/26/22 13:50  
**Customer ID:**  
**Delivery Date:** 1/27/22 15:16

**Description:** Gorgas Gypsum - MW-8V

**Laboratory ID Number:** BC01769

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
BC01770	Chloride	mg/L	0.0684	1.00	400	680	263	10.2	9.00 to 11.0	106	80.0 to 120	3.09	20.0
BC01777	Fluoride	mg/L	0.018	0.100	2.50	2.37	0.101	2.50	2.25 to 2.75	90.1	80.0 to 120	14.7	20.0
BC01770	Nitrogen, Nitrate/Nitrite	mg/L as N	0.02	0.200	2.00	1.95	0.350	1.91	1.80 to 2.20	81.5	90.0 to 110	8.96	15.0
BC01775	Solids, Dissolved	mg/L	0.0000	25.0			1340	50.0	40.0 to 60.0			5.09	10.0
BC01770	Sulfate	mg/L	-0.00917	1.00	2500	5010	2610	19.2	18.0 to 22.0	95.6	80.0 to 120	0.382	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 Gypsum - MW-3

**Location Code:** WMWGORG  
**Collected:** 1/26/22 15:08  
**Customer ID:**  
**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01770

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: RDA</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Total	2/3/22 12:00	2/4/22 10:33		1.015	2.50	mg/L	0.030000	0.1015	
* Calcium, Total	2/3/22 12:00	2/4/22 12:03		101.5	517	mg/L	7.0035	40.6	
* Iron, Total	2/3/22 12:00	2/4/22 12:03		101.5	144	mg/L	0.8120	4.06	
* Lithium, Total	2/3/22 12:00	2/4/22 10:33		1.015	0.310	mg/L	0.007105	0.01999956	
* Magnesium, Total	2/3/22 12:00	2/4/22 12:03		101.5	337	mg/L	2.1315	40.6	
Silica, Total (calc.)	2/3/22 12:00	2/4/22 10:33		1	22.7	mg/L			
Silicon, Total	2/3/22 12:00	2/4/22 10:33		1.015	10.6	mg/L	0.02030	0.25375	
* Sodium, Total	2/3/22 12:00	2/4/22 12:03		101.5	205	mg/L	3.045	40.6	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: RDA</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	2/3/22 12:00	2/4/22 09:46		1.015	2.54	mg/L	0.030000	0.1015	
* Calcium, Dissolved	2/3/22 12:00	2/4/22 11:19		101.5	518	mg/L	7.0035	40.6	
* Iron, Dissolved	2/3/22 12:00	2/4/22 11:19		101.5	145	mg/L	0.8120	4.06	
* Lithium, Dissolved	2/3/22 12:00	2/4/22 12:42		1.015	0.285	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	2/3/22 12:00	2/4/22 11:19		101.5	331	mg/L	2.1315	40.6	
Silica, Dissolved (calc.)	2/3/22 12:00	2/4/22 09:46		1	22.9	mg/L			
Silicon, Dissolved	2/3/22 12:00	2/4/22 09:46		1.015	10.7	mg/L	0.02030	0.25375	
* Sodium, Dissolved	2/3/22 12:00	2/4/22 11:19		101.5	202	mg/L	3.045	40.6	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	2/1/22 08:51	2/1/22 14:59		1.015	0.000658	mg/L	0.000508	0.001015	J
* Aluminum, Total	2/1/22 08:51	2/1/22 14:59		1.015	0.245	mg/L	0.004060	0.01015	
* Arsenic, Total	2/1/22 08:51	2/1/22 14:59		1.015	0.00136	mg/L	0.000068	0.000203	
* Barium, Total	2/1/22 08:51	2/1/22 14:59		1.015	0.0148	mg/L	0.000102	0.000203	
* Beryllium, Total	2/1/22 08:51	2/1/22 14:59		1.015	0.00179	mg/L	0.000406	0.001015	
* Cadmium, Total	2/1/22 08:51	2/1/22 14:59		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	2/1/22 08:51	2/1/22 14:59		1.015	0.000480	mg/L	0.000203	0.001015	J
* Cobalt, Total	2/1/22 08:51	2/1/22 14:59		1.015	0.0794	mg/L	0.000068	0.000203	
* Lead, Total	2/1/22 08:51	2/1/22 14:59		1.015	0.000140	mg/L	0.000068	0.000203	J
* Manganese, Total	2/1/22 08:51	2/3/22 18:09		92.365	51.7	mg/L	0.006188	0.018473	
* Molybdenum, Total	2/1/22 08:51	2/1/22 14:59		1.015	0.000225	mg/L	0.000068	0.000203	
* Potassium, Total	2/1/22 08:51	2/1/22 14:59		1.015	9.04	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 Gypsum - MW-3

**Location Code:** WMWGORG  
**Collected:** 1/26/22 15:08  
**Customer ID:**  
**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01770

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/1/22 08:51	2/1/22 14:59		1.015	0.00117	mg/L	0.000508	0.001015	
* Thallium, Total	2/1/22 08:51	2/1/22 14:59		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: ABB</b>							
* Antimony, Dissolved	2/2/22 09:05	2/3/22 12:31		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/2/22 09:05	2/3/22 12:31		1.015	0.0577	mg/L	0.004060	0.01015	
* Arsenic, Dissolved	2/2/22 09:05	2/3/22 12:31		1.015	0.00104	mg/L	0.000068	0.000203	
* Barium, Dissolved	2/2/22 09:05	2/3/22 12:31		1.015	0.0118	mg/L	0.000102	0.000203	
* Beryllium, Dissolved	2/2/22 09:05	2/3/22 12:31		1.015	0.00196	mg/L	0.000406	0.001015	
* Cadmium, Dissolved	2/2/22 09:05	2/3/22 12:31		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	2/2/22 09:05	2/3/22 12:31		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	2/2/22 09:05	2/3/22 12:31		1.015	0.0840	mg/L	0.000068	0.000203	
* Lead, Dissolved	2/2/22 09:05	2/3/22 12:31		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	2/2/22 09:05	2/3/22 14:59		92.365	49.7	mg/L	0.006188	0.018473	
* Molybdenum, Dissolved	2/2/22 09:05	2/3/22 12:31		1.015	0.000188	mg/L	0.000068	0.000203	J
* Potassium, Dissolved	2/2/22 09:05	2/3/22 12:31		1.015	8.92	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/2/22 09:05	2/3/22 12:31		1.015	0.00209	mg/L	0.000508	0.001015	
* Thallium, Dissolved	2/2/22 09:05	2/3/22 12:31		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	1/31/22 15:35	1/31/22 20:13		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: ELH</b>							
* Nitrogen, Nitrate/Nitrite	2/1/22 14:43	2/1/22 14:43		1	0.320	mg/L as N	0.20	0.3	R
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
Alkalinity, Total as CaCO3	1/31/22 09:50	1/31/22 13:00		1	197	mg/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	1/28/22 11:30	2/1/22 13:58		1	4260	mg/L		227.3	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
Bicarbonate Alkalinity, (calc.)	1/31/22 09:50	1/31/22 13:00		1	197	mg/L			
Carbonate Alkalinity, (calc.)	1/31/22 09:50	1/31/22 13:00		1	0.02	mg/L			
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	2/1/22 15:15	2/1/22 15:15		1	1.32	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 Gypsum - MW-3

**Location Code:** WMWGORG  
**Collected:** 1/26/22 15:08  
**Customer ID:**  
**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01770

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	1/28/22 10:30	1/28/22 10:30		40	255	mg/L	20.00	40	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	1/28/22 12:41	1/28/22 12:41		1	0.447	mg/L	0.06	0.1	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	2/7/22 14:31	2/7/22 14:31		125	2620	mg/L	62.50	125	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: DKG</b>							
Conductivity	1/26/22 15:05	1/26/22 15:05			4478	uS/cm			FA
pH	1/26/22 15:05	1/26/22 15:05			6.52	SU			FA
Temperature	1/26/22 15:05	1/26/22 15:05			19.18	C			FA
Turbidity	1/26/22 15:05	1/26/22 15:05			9.2	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:** WMWGORG  
**Sample Date:** 1/26/22 15:08  
**Customer ID:**  
**Delivery Date:** 1/27/22 15:16

**Description:** Gorgas Gypsum - MW-3

**Laboratory ID Number:** BC01770

Sample	Analysis	Units	MB					Standard		Rec		Prec	Limit
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC01777	Aluminum, Dissolved	mg/L	-0.000144	0.00880	0.100	0.305	0.310	0.0972	0.0850 to 0.115	96.0	70.0 to 130	1.63	20.0
BC01777	Aluminum, Total	mg/L	0.000470	0.00880	0.100	0.323	0.323	0.103	0.0850 to 0.115	100	70.0 to 130	0.00	20.0
BC01777	Antimony, Dissolved	mg/L	0.000122	0.00100	0.100	0.0946	0.0947	0.0892	0.0850 to 0.115	94.6	70.0 to 130	0.106	20.0
BC01777	Antimony, Total	mg/L	0.000346	0.00100	0.100	0.110	0.109	0.102	0.0850 to 0.115	110	70.0 to 130	0.913	20.0
BC01777	Arsenic, Dissolved	mg/L	0.0000273	0.000147	0.100	0.104	0.104	0.104	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BC01777	Arsenic, Total	mg/L	0.000104	0.000147	0.100	0.104	0.103	0.106	0.0850 to 0.115	103	70.0 to 130	0.966	20.0
BC01777	Barium, Dissolved	mg/L	-0.0000321	0.000200	0.100	0.110	0.113	0.0978	0.0850 to 0.115	96.6	70.0 to 130	2.69	20.0
BC01777	Barium, Total	mg/L	0.0000503	0.000200	0.100	0.124	0.125	0.113	0.0850 to 0.115	109	70.0 to 130	0.803	20.0
BC01777	Beryllium, Dissolved	mg/L	0.0000506	0.000880	0.100	0.0926	0.0941	0.0989	0.0850 to 0.115	91.9	70.0 to 130	1.61	20.0
BC01777	Beryllium, Total	mg/L	0.000137	0.000880	0.100	0.0873	0.0852	0.0927	0.0850 to 0.115	86.7	70.0 to 130	2.43	20.0
BC01777	Boron, Dissolved	mg/L	-0.000322	0.0650	1.00	6.75	6.82	1.03	0.850 to 1.15	91.0	70.0 to 130	1.03	20.0
BC01777	Boron, Total	mg/L	0.00026	0.0650	1.00	6.81	6.87	1.00	0.850 to 1.15	94.0	70.0 to 130	0.877	20.0
BC01777	Cadmium, Dissolved	mg/L	0.000007	0.000147	0.100	0.0966	0.0966	0.0984	0.0850 to 0.115	96.3	70.0 to 130	0.00	20.0
BC01777	Cadmium, Total	mg/L	0.0000381	0.000147	0.100	0.101	0.101	0.101	0.0850 to 0.115	101	70.0 to 130	0.00	20.0
BC01777	Calcium, Dissolved	mg/L	0.00459	0.152	5.00	318	320	5.03	4.25 to 5.75	0.00	70.0 to 130	0.627	20.0
BC01777	Calcium, Total	mg/L	-0.00198	0.152	5.00	304	313	4.80	4.25 to 5.75	80.0	70.0 to 130	2.92	20.0
BC01777	Chromium, Dissolved	mg/L	0.0000231	0.000440	0.100	0.0980	0.0981	0.101	0.0850 to 0.115	98.0	70.0 to 130	0.102	20.0
BC01777	Chromium, Total	mg/L	-0.0000094	0.000440	0.100	0.100	0.0997	0.101	0.0850 to 0.115	99.8	70.0 to 130	0.300	20.0
BC01777	Cobalt, Dissolved	mg/L	-0.0000016	0.000147	0.100	0.246	0.248	0.105	0.0850 to 0.115	97.0	70.0 to 130	0.810	20.0
BC01777	Cobalt, Total	mg/L	0.000044	0.000147	0.100	0.237	0.234	0.102	0.0850 to 0.115	96.0	70.0 to 130	1.27	20.0
BC01777	Iron, Dissolved	mg/L	-0.000483	0.0176	0.2	16.3	16.4	0.202	0.170 to 0.230	-50.0	70.0 to 130	0.612	20.0
BC01777	Iron, Total	mg/L	-0.00024	0.0176	0.2	16.2	16.2	0.198	0.170 to 0.230	100	70.0 to 130	0.00	20.0
BC01777	Lead, Dissolved	mg/L	0.0000109	0.000147	0.100	0.107	0.107	0.111	0.0850 to 0.115	107	70.0 to 130	0.00	20.0
BC01777	Lead, Total	mg/L	0.0000192	0.000147	0.100	0.0986	0.0970	0.102	0.0850 to 0.115	98.5	70.0 to 130	1.64	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:** WMWGORG  
**Sample Date:** 1/26/22 15:08  
**Customer ID:**  
**Delivery Date:** 1/27/22 15:16

**Description:** Gorgas Gypsum - MW-3

**Laboratory ID Number:** BC01770

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC01777	Lithium, Dissolved	mg/L	0.000063	0.0154	0.200	0.314	0.329	0.201	0.170 to 0.230	99.5	70.0 to 130	4.67	20.0
BC01777	Lithium, Total	mg/L	-0.000109	0.0154	0.200	0.313	0.326	0.198	0.170 to 0.230	99.0	70.0 to 130	4.07	20.0
BC01777	Magnesium, Dissolved	mg/L	0.00815	0.0462	5.00	218	223	5.19	4.25 to 5.75	-20.0	70.0 to 130	2.27	20.0
BC01777	Magnesium, Total	mg/L	0.000303	0.0462	5.00	208	218	5.01	4.25 to 5.75	60.0	70.0 to 130	4.69	20.0
BC01777	Manganese, Dissolved	mg/L	0.0000529	0.000147	0.100	19.5	19.8	0.112	0.0850 to 0.115	-400	70.0 to 130	1.53	20.0
BC01777	Manganese, Total	mg/L	0.000015	0.000147	0.100	20.6	20.3	0.105	0.0850 to 0.115	0.00	70.0 to 130	1.47	20.0
BC01770	Mercury, Total by CVAA	mg/L	-2.000E-05	0.000500	0.004	0.00393	0.00396	0.00393	0.00340 to 0.00460	98.2	70.0 to 130	0.760	20.0
BC01777	Molybdenum, Dissolved	mg/L	-0.0000001	0.000147	0.100	0.0973	0.0967	0.0973	0.0850 to 0.115	97.3	70.0 to 130	0.619	20.0
BC01777	Molybdenum, Total	mg/L	0.0000548	0.000147	0.100	0.0991	0.101	0.103	0.0850 to 0.115	99.1	70.0 to 130	1.90	20.0
BC01777	Potassium, Dissolved	mg/L	-0.00696	0.367	10.0	17.2	17.0	9.75	8.50 to 11.5	98.4	70.0 to 130	1.17	20.0
BC01777	Potassium, Total	mg/L	0.0887	0.367	10.0	18.0	18.0	10.6	8.50 to 11.5	100	70.0 to 130	0.00	20.0
BC01777	Selenium, Dissolved	mg/L	0.0000188	0.00100	0.100	0.102	0.102	0.103	0.0850 to 0.115	101	70.0 to 130	0.00	20.0
BC01777	Selenium, Total	mg/L	0.0000099	0.00100	0.100	0.103	0.101	0.103	0.0850 to 0.115	102	70.0 to 130	1.96	20.0
BC01777	Silicon, Dissolved	mg/L	-0.000527	0.0440	1.00	10.5	10.6	1.02	0.850 to 1.15	85.0	70.0 to 130	0.948	20.0
BC01777	Silicon, Total	mg/L	0.00043	0.0440	1.00	10.5	10.6	1.02	0.850 to 1.15	94.0	70.0 to 130	0.948	20.0
BC01777	Sodium, Dissolved	mg/L	0.00241	0.0660	5.00	129	132	5.07	4.25 to 5.75	40.0	70.0 to 130	2.30	20.0
BC01777	Sodium, Total	mg/L	0.00603	0.0660	5.00	121	128	4.99	4.25 to 5.75	60.0	70.0 to 130	5.62	20.0
BC01777	Thallium, Dissolved	mg/L	0.0000127	0.000147	0.100	0.107	0.104	0.105	0.0850 to 0.115	107	70.0 to 130	2.84	20.0
BC01777	Thallium, Total	mg/L	0.0000218	0.000147	0.100	0.0966	0.0961	0.0991	0.0850 to 0.115	96.4	70.0 to 130	0.519	20.0
BC01770	Total Organic Carbon	mg/L	0.280	1.00	10.0	11.2	11.2	25.4		98.8	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.

## Batch QC Summary

**Customer Account:** WMWGORG

**Sample Date:** 1/26/22 15:08

**Customer ID:**

**Delivery Date:** 1/27/22 15:16

**Description:** Gorgas Gypsum - MW-3

**Laboratory ID Number:** BC01770

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
BC01770	Chloride	mg/L	0.0684	1.00	400	680	263	10.2	9.00 to 11.0	106	80.0 to 120	3.09	20.0
BC01777	Fluoride	mg/L	0.018	0.100	2.50	2.37	0.101	2.50	2.25 to 2.75	90.1	80.0 to 120	14.7	20.0
BC01770	Nitrogen, Nitrate/Nitrite	mg/L as N	0.02	0.200	2.00	1.95	0.350	1.91	1.80 to 2.20	81.5	90.0 to 110	8.96	15.0
BC01775	Solids, Dissolved	mg/L	0.0000	25.0			1340	50.0	40.0 to 60.0			5.09	10.0
BC01770	Sulfate	mg/L	-0.00917	1.00	2500	5010	2610	19.2	18.0 to 22.0	95.6	80.0 to 120	0.382	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 Gypsum - MW-4V

**Location Code:** WMWGORG  
**Collected:** 1/27/22 09:40  
**Customer ID:**  
**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01771

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: RDA</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Total	2/3/22 12:00	2/4/22 10:35		1.015	3.47	mg/L	0.030000	0.1015	
* Calcium, Total	2/3/22 12:00	2/4/22 12:04		101.5	172	mg/L	7.0035	40.6	
* Iron, Total	2/3/22 12:00	2/4/22 12:04		101.5	40.0	mg/L	0.8120	4.06	
* Lithium, Total	2/3/22 12:00	2/4/22 10:35		1.015	0.305	mg/L	0.007105	0.01999956	
* Magnesium, Total	2/3/22 12:00	2/4/22 12:04		101.5	116	mg/L	2.1315	40.6	
Silica, Total (calc.)	2/3/22 12:00	2/4/22 10:35		1	31.5	mg/L			
Silicon, Total	2/3/22 12:00	2/4/22 10:35		1.015	14.7	mg/L	0.02030	0.25375	
* Sodium, Total	2/3/22 12:00	2/4/22 10:35		1.015	27.4	mg/L	0.03045	0.406	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: RDA</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	2/3/22 12:00	2/4/22 09:48		1.015	3.44	mg/L	0.030000	0.1015	
* Calcium, Dissolved	2/3/22 12:00	2/4/22 11:21		101.5	176	mg/L	7.0035	40.6	
* Iron, Dissolved	2/3/22 12:00	2/4/22 11:21		101.5	39.2	mg/L	0.8120	4.06	
* Lithium, Dissolved	2/3/22 12:00	2/4/22 09:48		1.015	0.294	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	2/3/22 12:00	2/4/22 11:21		101.5	117	mg/L	2.1315	40.6	
Silica, Dissolved (calc.)	2/3/22 12:00	2/4/22 09:48		1	29.5	mg/L			
Silicon, Dissolved	2/3/22 12:00	2/4/22 09:48		1.015	13.8	mg/L	0.02030	0.25375	
* Sodium, Dissolved	2/3/22 12:00	2/4/22 09:48		1.015	26.4	mg/L	0.03045	0.406	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	2/1/22 08:51	2/1/22 15:02		1.015	0.000544	mg/L	0.000508	0.001015	J
* Aluminum, Total	2/1/22 08:51	2/3/22 18:13		10.15	2.90	mg/L	0.04060	0.1015	
* Arsenic, Total	2/1/22 08:51	2/1/22 15:02		1.015	0.00124	mg/L	0.000068	0.000203	
* Barium, Total	2/1/22 08:51	2/1/22 15:02		1.015	0.0108	mg/L	0.000102	0.000203	
* Beryllium, Total	2/1/22 08:51	2/1/22 15:02		1.015	0.00431	mg/L	0.000406	0.001015	
* Cadmium, Total	2/1/22 08:51	2/1/22 15:02		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	2/1/22 08:51	2/1/22 15:02		1.015	0.000291	mg/L	0.000203	0.001015	J
* Cobalt, Total	2/1/22 08:51	2/1/22 15:02		1.015	0.124	mg/L	0.000068	0.000203	
* Lead, Total	2/1/22 08:51	2/1/22 15:02		1.015	0.0000743	mg/L	0.000068	0.000203	J
* Manganese, Total	2/1/22 08:51	2/3/22 18:13		10.15	5.10	mg/L	0.000680	0.00203	
* Molybdenum, Total	2/1/22 08:51	2/1/22 15:02		1.015	0.0000908	mg/L	0.000068	0.000203	J
* Potassium, Total	2/1/22 08:51	2/1/22 15:02		1.015	4.62	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 Gypsum - MW-4V

**Location Code:** WMWGORG  
**Collected:** 1/27/22 09:40  
**Customer ID:**  
**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01771

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/1/22 08:51	2/1/22 15:02		1.015	0.00101	mg/L	0.000508	0.001015	J
* Thallium, Total	2/1/22 08:51	2/1/22 15:02		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: ABB</b>							
* Antimony, Dissolved	2/2/22 09:05	2/3/22 12:34		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/2/22 09:05	2/3/22 12:34		1.015	0.530	mg/L	0.004060	0.01015	
* Arsenic, Dissolved	2/2/22 09:05	2/3/22 12:34		1.015	0.00108	mg/L	0.000068	0.000203	
* Barium, Dissolved	2/2/22 09:05	2/3/22 12:34		1.015	0.00995	mg/L	0.000102	0.000203	
* Beryllium, Dissolved	2/2/22 09:05	2/3/22 12:34		1.015	0.00335	mg/L	0.000406	0.001015	
* Cadmium, Dissolved	2/2/22 09:05	2/3/22 12:34		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	2/2/22 09:05	2/3/22 12:34		1.015	0.000267	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	2/2/22 09:05	2/3/22 12:34		1.015	0.138	mg/L	0.000068	0.000203	
* Lead, Dissolved	2/2/22 09:05	2/3/22 12:34		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	2/2/22 09:05	2/3/22 15:03		10.15	5.22	mg/L	0.000680	0.00203	
* Molybdenum, Dissolved	2/2/22 09:05	2/3/22 12:34		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Potassium, Dissolved	2/2/22 09:05	2/3/22 12:34		1.015	4.43	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/2/22 09:05	2/3/22 12:34		1.015	0.00142	mg/L	0.000508	0.001015	
* Thallium, Dissolved	2/2/22 09:05	2/3/22 12:34		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	2/8/22 18:27	2/8/22 22:24		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: ELH</b>							
* Nitrogen, Nitrate/Nitrite	2/1/22 14:52	2/1/22 14:52		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
Alkalinity, Total as CaCO3	1/31/22 09:50	1/31/22 13:00		1	41.4	mg/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	1/28/22 11:30	2/1/22 13:58		1	1330	mg/L		75.8	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
Bicarbonate Alkalinity, (calc.)	1/31/22 09:50	1/31/22 13:00		1	41.4	mg/L			
Carbonate Alkalinity, (calc.)	1/31/22 09:50	1/31/22 13:00		1	0.00	mg/L			
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	2/1/22 16:33	2/1/22 16:33		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 Gypsum - MW-4V

**Location Code:** WMWGORG  
**Collected:** 1/27/22 09:40  
**Customer ID:**  
**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01771

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	1/28/22 10:49	1/28/22 10:49		5	51.9	mg/L	2.50	5	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	1/28/22 12:42	1/28/22 12:42		1	0.373	mg/L	0.06	0.1	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	2/7/22 15:12	2/7/22 15:12		32	825	mg/L	16.00	32	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: DKG</b>							
Conductivity	1/27/22 09:37	1/27/22 09:37			1619.95	uS/cm			FA
pH	1/27/22 09:37	1/27/22 09:37			6.17	SU			FA
Temperature	1/27/22 09:37	1/27/22 09:37			18.50	C			FA
Turbidity	1/27/22 09:37	1/27/22 09:37			9.53	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:** WMWGORG  
**Sample Date:** 1/27/22 09:40  
**Customer ID:**  
**Delivery Date:** 1/27/22 15:16

**Description:** Gorgas Gypsum - MW-4V

**Laboratory ID Number:** BC01771

Sample	Analysis	Units	MB					Standard		Rec		Prec	Limit
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC01777	Aluminum, Dissolved	mg/L	-0.000144	0.00880	0.100	0.305	0.310	0.0972	0.0850 to 0.115	96.0	70.0 to 130	1.63	20.0
BC01777	Aluminum, Total	mg/L	0.000470	0.00880	0.100	0.323	0.323	0.103	0.0850 to 0.115	100	70.0 to 130	0.00	20.0
BC01777	Antimony, Dissolved	mg/L	0.000122	0.00100	0.100	0.0946	0.0947	0.0892	0.0850 to 0.115	94.6	70.0 to 130	0.106	20.0
BC01777	Antimony, Total	mg/L	0.000346	0.00100	0.100	0.110	0.109	0.102	0.0850 to 0.115	110	70.0 to 130	0.913	20.0
BC01777	Arsenic, Dissolved	mg/L	0.0000273	0.000147	0.100	0.104	0.104	0.104	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BC01777	Arsenic, Total	mg/L	0.000104	0.000147	0.100	0.104	0.103	0.106	0.0850 to 0.115	103	70.0 to 130	0.966	20.0
BC01777	Barium, Dissolved	mg/L	-0.0000321	0.000200	0.100	0.110	0.113	0.0978	0.0850 to 0.115	96.6	70.0 to 130	2.69	20.0
BC01777	Barium, Total	mg/L	0.0000503	0.000200	0.100	0.124	0.125	0.113	0.0850 to 0.115	109	70.0 to 130	0.803	20.0
BC01777	Beryllium, Dissolved	mg/L	0.0000506	0.000880	0.100	0.0926	0.0941	0.0989	0.0850 to 0.115	91.9	70.0 to 130	1.61	20.0
BC01777	Beryllium, Total	mg/L	0.000137	0.000880	0.100	0.0873	0.0852	0.0927	0.0850 to 0.115	86.7	70.0 to 130	2.43	20.0
BC01777	Boron, Dissolved	mg/L	-0.000322	0.0650	1.00	6.75	6.82	1.03	0.850 to 1.15	91.0	70.0 to 130	1.03	20.0
BC01777	Boron, Total	mg/L	0.00026	0.0650	1.00	6.81	6.87	1.00	0.850 to 1.15	94.0	70.0 to 130	0.877	20.0
BC01777	Cadmium, Dissolved	mg/L	0.000007	0.000147	0.100	0.0966	0.0966	0.0984	0.0850 to 0.115	96.3	70.0 to 130	0.00	20.0
BC01777	Cadmium, Total	mg/L	0.0000381	0.000147	0.100	0.101	0.101	0.101	0.0850 to 0.115	101	70.0 to 130	0.00	20.0
BC01777	Calcium, Dissolved	mg/L	0.00459	0.152	5.00	318	320	5.03	4.25 to 5.75	0.00	70.0 to 130	0.627	20.0
BC01777	Calcium, Total	mg/L	-0.00198	0.152	5.00	304	313	4.80	4.25 to 5.75	80.0	70.0 to 130	2.92	20.0
BC01777	Chromium, Dissolved	mg/L	0.0000231	0.000440	0.100	0.0980	0.0981	0.101	0.0850 to 0.115	98.0	70.0 to 130	0.102	20.0
BC01777	Chromium, Total	mg/L	-0.0000094	0.000440	0.100	0.100	0.0997	0.101	0.0850 to 0.115	99.8	70.0 to 130	0.300	20.0
BC01777	Cobalt, Dissolved	mg/L	-0.0000016	0.000147	0.100	0.246	0.248	0.105	0.0850 to 0.115	97.0	70.0 to 130	0.810	20.0
BC01777	Cobalt, Total	mg/L	0.000044	0.000147	0.100	0.237	0.234	0.102	0.0850 to 0.115	96.0	70.0 to 130	1.27	20.0
BC01777	Iron, Dissolved	mg/L	-0.000483	0.0176	0.2	16.3	16.4	0.202	0.170 to 0.230	-50.0	70.0 to 130	0.612	20.0
BC01777	Iron, Total	mg/L	-0.00024	0.0176	0.2	16.2	16.2	0.198	0.170 to 0.230	100	70.0 to 130	0.00	20.0
BC01777	Lead, Dissolved	mg/L	0.0000109	0.000147	0.100	0.107	0.107	0.111	0.0850 to 0.115	107	70.0 to 130	0.00	20.0
BC01777	Lead, Total	mg/L	0.0000192	0.000147	0.100	0.0986	0.0970	0.102	0.0850 to 0.115	98.5	70.0 to 130	1.64	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:** WMWGORG  
**Sample Date:** 1/27/22 09:40  
**Customer ID:**  
**Delivery Date:** 1/27/22 15:16

**Description:** Gorgas Gypsum - MW-4V

**Laboratory ID Number:** BC01771

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC01777	Lithium, Dissolved	mg/L	0.000063	0.0154	0.200	0.314	0.329	0.201	0.170 to 0.230	99.5	70.0 to 130	4.67	20.0
BC01777	Lithium, Total	mg/L	-0.000109	0.0154	0.200	0.313	0.326	0.198	0.170 to 0.230	99.0	70.0 to 130	4.07	20.0
BC01777	Magnesium, Dissolved	mg/L	0.00815	0.0462	5.00	218	223	5.19	4.25 to 5.75	-20.0	70.0 to 130	2.27	20.0
BC01777	Magnesium, Total	mg/L	0.000303	0.0462	5.00	208	218	5.01	4.25 to 5.75	60.0	70.0 to 130	4.69	20.0
BC01777	Manganese, Dissolved	mg/L	0.0000529	0.000147	0.100	19.5	19.8	0.112	0.0850 to 0.115	-400	70.0 to 130	1.53	20.0
BC01777	Manganese, Total	mg/L	0.000015	0.000147	0.100	20.6	20.3	0.105	0.0850 to 0.115	0.00	70.0 to 130	1.47	20.0
BC01780	Mercury, Total by CVAA	mg/L	0.00000	0.000500	0.004	0.00399	0.00402	0.00398	0.00340 to 0.00460	99.8	70.0 to 130	0.749	20.0
BC01777	Molybdenum, Dissolved	mg/L	-0.0000001	0.000147	0.100	0.0973	0.0967	0.0973	0.0850 to 0.115	97.3	70.0 to 130	0.619	20.0
BC01777	Molybdenum, Total	mg/L	0.0000548	0.000147	0.100	0.0991	0.101	0.103	0.0850 to 0.115	99.1	70.0 to 130	1.90	20.0
BC01777	Potassium, Dissolved	mg/L	-0.00696	0.367	10.0	17.2	17.0	9.75	8.50 to 11.5	98.4	70.0 to 130	1.17	20.0
BC01777	Potassium, Total	mg/L	0.0887	0.367	10.0	18.0	18.0	10.6	8.50 to 11.5	100	70.0 to 130	0.00	20.0
BC01777	Selenium, Dissolved	mg/L	0.0000188	0.00100	0.100	0.102	0.102	0.103	0.0850 to 0.115	101	70.0 to 130	0.00	20.0
BC01777	Selenium, Total	mg/L	0.0000099	0.00100	0.100	0.103	0.101	0.103	0.0850 to 0.115	102	70.0 to 130	1.96	20.0
BC01777	Silicon, Dissolved	mg/L	-0.000527	0.0440	1.00	10.5	10.6	1.02	0.850 to 1.15	85.0	70.0 to 130	0.948	20.0
BC01777	Silicon, Total	mg/L	0.00043	0.0440	1.00	10.5	10.6	1.02	0.850 to 1.15	94.0	70.0 to 130	0.948	20.0
BC01777	Sodium, Dissolved	mg/L	0.00241	0.0660	5.00	129	132	5.07	4.25 to 5.75	40.0	70.0 to 130	2.30	20.0
BC01777	Sodium, Total	mg/L	0.00603	0.0660	5.00	121	128	4.99	4.25 to 5.75	60.0	70.0 to 130	5.62	20.0
BC01777	Thallium, Dissolved	mg/L	0.0000127	0.000147	0.100	0.107	0.104	0.105	0.0850 to 0.115	107	70.0 to 130	2.84	20.0
BC01777	Thallium, Total	mg/L	0.0000218	0.000147	0.100	0.0966	0.0961	0.0991	0.0850 to 0.115	96.4	70.0 to 130	0.519	20.0
BC01780	Total Organic Carbon	mg/L	0.230	1.00	10.0	10.1	10.0	25.1		101	80.0 to 120	0.995	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:** WMWGORG

**Sample Date:** 1/27/22 09:40

**Customer ID:**

**Delivery Date:** 1/27/22 15:16

**Description:** Gorgas Gypsum - MW-4V

**Laboratory ID Number:** BC01771

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
BC01780	Chloride	mg/L	-0.028	1.00	10.0	9.87	0.156	10.2	9.00 to 11.0	98.7	80.0 to 120	0.00	20.0
BC01777	Fluoride	mg/L	0.018	0.100	2.50	2.37	0.101	2.50	2.25 to 2.75	90.1	80.0 to 120	14.7	20.0
BC01780	Nitrogen, Nitrate/Nitrite	mg/L as N	0.02	0.200	2.00	2.04	0.052	1.90	1.80 to 2.20	102	90.0 to 110	0.00	15.0
BC01775	Solids, Dissolved	mg/L	0.0000	25.0			1340	50.0	40.0 to 60.0			5.09	10.0
BC01780	Sulfate	mg/L	-0.117	1.00	20.0	18.0	-0.356	18.5	18.0 to 22.0	90.0	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 Gypsum - PZ-17

**Location Code:** WMWGORG  
**Collected:** 1/27/22 10:45  
**Customer ID:**  
**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01772

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: RDA</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Total	2/3/22 12:00	2/4/22 10:36		1.015	0.0640	mg/L	0.030000	0.1015	J
* Calcium, Total	2/3/22 12:00	2/4/22 12:06		10.15	73.5	mg/L	0.70035	4.06	
* Iron, Total	2/3/22 12:00	2/4/22 10:36		1.015	3.10	mg/L	0.008120	0.0406	
* Lithium, Total	2/3/22 12:00	2/4/22 10:36		1.015	0.294	mg/L	0.007105	0.01999956	
* Magnesium, Total	2/3/22 12:00	2/4/22 12:06		10.15	46.9	mg/L	0.21315	4.06	
Silica, Total (calc.)	2/3/22 12:00	2/4/22 10:36		1	30.4	mg/L			
Silicon, Total	2/3/22 12:00	2/4/22 10:36		1.015	14.2	mg/L	0.02030	0.25375	
* Sodium, Total	2/3/22 12:00	2/4/22 10:36		1.015	7.37	mg/L	0.03045	0.406	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: RDA</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	2/3/22 12:00	2/4/22 09:50		1.015	0.0626	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	2/3/22 12:00	2/4/22 11:23		10.15	73.3	mg/L	0.70035	4.06	
* Iron, Dissolved	2/3/22 12:00	2/4/22 09:50		1.015	2.97	mg/L	0.008120	0.0406	
* Lithium, Dissolved	2/3/22 12:00	2/4/22 09:50		1.015	0.273	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	2/3/22 12:00	2/4/22 11:23		10.15	46.6	mg/L	0.21315	4.06	
Silica, Dissolved (calc.)	2/3/22 12:00	2/4/22 09:50		1	30.0	mg/L			
Silicon, Dissolved	2/3/22 12:00	2/4/22 09:50		1.015	14.0	mg/L	0.02030	0.25375	
* Sodium, Dissolved	2/3/22 12:00	2/4/22 09:50		1.015	6.86	mg/L	0.03045	0.406	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	2/1/22 08:51	2/1/22 15:06		1.015	0.000508	mg/L	0.000508	0.001015	J
* Aluminum, Total	2/1/22 08:51	2/3/22 18:18		92.365	12.4	mg/L	0.369460	0.92365	
* Arsenic, Total	2/1/22 08:51	2/1/22 15:06		1.015	0.00136	mg/L	0.000068	0.000203	
* Barium, Total	2/1/22 08:51	2/1/22 15:06		1.015	0.0177	mg/L	0.000102	0.000203	
* Beryllium, Total	2/1/22 08:51	2/1/22 15:06		1.015	0.00456	mg/L	0.000406	0.001015	
* Cadmium, Total	2/1/22 08:51	2/1/22 15:06		1.015	0.00151	mg/L	0.000068	0.000203	
* Chromium, Total	2/1/22 08:51	2/1/22 15:06		1.015	0.000896	mg/L	0.000203	0.001015	J
* Cobalt, Total	2/1/22 08:51	2/1/22 15:06		1.015	0.129	mg/L	0.000068	0.000203	
* Lead, Total	2/1/22 08:51	2/1/22 15:06		1.015	0.00362	mg/L	0.000068	0.000203	
* Manganese, Total	2/1/22 08:51	2/3/22 18:18		92.365	4.83	mg/L	0.006188	0.018473	
* Molybdenum, Total	2/1/22 08:51	2/1/22 15:06		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Potassium, Total	2/1/22 08:51	2/1/22 15:06		1.015	4.62	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. Alkalinity could not be performed due to the initial pH reading was below the titration end point of 4.5 SU. Fluoride result is qualified due to potential matrix interference.

# Certificate Of Analysis

**Description:** Gorgas Gypsum - PZ-17

**Location Code:** WMWGORG  
**Collected:** 1/27/22 10:45  
**Customer ID:**  
**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01772

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/1/22 08:51	2/1/22 15:06		1.015	0.00269	mg/L	0.000508	0.001015	
* Thallium, Total	2/1/22 08:51	2/1/22 15:06		1.015	0.000184	mg/L	0.000068	0.000203	J
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: ABB</b>							
* Antimony, Dissolved	2/2/22 09:05	2/3/22 12:38		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/2/22 09:05	2/3/22 15:06		92.365	12.9	mg/L	0.369460	0.92365	
* Arsenic, Dissolved	2/2/22 09:05	2/3/22 12:38		1.015	0.00110	mg/L	0.000068	0.000203	
* Barium, Dissolved	2/2/22 09:05	2/3/22 12:38		1.015	0.0151	mg/L	0.000102	0.000203	
* Beryllium, Dissolved	2/2/22 09:05	2/3/22 12:38		1.015	0.00489	mg/L	0.000406	0.001015	
* Cadmium, Dissolved	2/2/22 09:05	2/3/22 12:38		1.015	0.00136	mg/L	0.000068	0.000203	
* Chromium, Dissolved	2/2/22 09:05	2/3/22 12:38		1.015	0.000816	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	2/2/22 09:05	2/3/22 12:38		1.015	0.140	mg/L	0.000068	0.000203	
* Lead, Dissolved	2/2/22 09:05	2/3/22 12:38		1.015	0.00381	mg/L	0.000068	0.000203	
* Manganese, Dissolved	2/2/22 09:05	2/3/22 15:06		92.365	4.79	mg/L	0.006188	0.018473	
* Molybdenum, Dissolved	2/2/22 09:05	2/3/22 12:38		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Potassium, Dissolved	2/2/22 09:05	2/3/22 12:38		1.015	4.27	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/2/22 09:05	2/3/22 12:38		1.015	0.00349	mg/L	0.000508	0.001015	
* Thallium, Dissolved	2/2/22 09:05	2/3/22 12:38		1.015	0.000175	mg/L	0.000068	0.000203	J
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	2/8/22 18:27	2/8/22 22:28		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: ELH</b>							
* Nitrogen, Nitrate/Nitrite	2/1/22 14:54	2/1/22 14:54		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	1/28/22 11:30	2/1/22 13:58		1	648	mg/L		25	
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	2/1/22 16:49	2/1/22 16:49		1	1.34	mg/L	1.00	2	J
<b>Analytical Method: SM4500CI E</b>		<b>Analyst: JCC</b>							
* Chloride	1/28/22 10:51	1/28/22 10:51		1	1.64	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	1/28/22 12:44	1/28/22 12:44		1	Not Detected	mg/L	0.06	0.1	U
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	2/7/22 15:13	2/7/22 15:13		20	379	mg/L	10.00	20	

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. Alkalinity could not be performed due to the initial pH reading was below the titration end point of 4.5 SU. Fluoride result is qualified due to potential matrix interference.

# Certificate Of Analysis

**Description:** Gorgas Gypsum - PZ-17

**Location Code:** WMWGORG  
**Collected:** 1/27/22 10:45  
**Customer ID:**  
**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01772

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: Field Measurements</b>		<b>Analyst: DKG</b>							
Conductivity	1/27/22 10:41	1/27/22 10:41			756.96	uS/cm			FA
pH	1/27/22 10:41	1/27/22 10:41			4.63	SU			FA
Temperature	1/27/22 10:41	1/27/22 10:41			18.64	C			FA
Turbidity	1/27/22 10:41	1/27/22 10:41			0.97	NTU			FA

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

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**Comments:** The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified. Alkalinity could not be performed due to the initial pH reading was below the titration end point of 4.5 SU. Fluoride result is qualified due to potential matrix interference.

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 1/27/22 10:45  
**Customer ID:**  
**Delivery Date:** 1/27/22 15:16

**Description:** Gorgas Gypsum - PZ-17

**Laboratory ID Number:** BC01772

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BC01777	Aluminum, Dissolved	mg/L	-0.000144	0.00880	0.100	0.305	0.310	0.0972	0.0850 to 0.115	96.0	70.0 to 130	1.63	20.0
BC01777	Aluminum, Total	mg/L	0.000470	0.00880	0.100	0.323	0.323	0.103	0.0850 to 0.115	100	70.0 to 130	0.00	20.0
BC01777	Antimony, Dissolved	mg/L	0.000122	0.00100	0.100	0.0946	0.0947	0.0892	0.0850 to 0.115	94.6	70.0 to 130	0.106	20.0
BC01777	Antimony, Total	mg/L	0.000346	0.00100	0.100	0.110	0.109	0.102	0.0850 to 0.115	110	70.0 to 130	0.913	20.0
BC01777	Arsenic, Dissolved	mg/L	0.0000273	0.000147	0.100	0.104	0.104	0.104	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BC01777	Arsenic, Total	mg/L	0.000104	0.000147	0.100	0.104	0.103	0.106	0.0850 to 0.115	103	70.0 to 130	0.966	20.0
BC01777	Barium, Dissolved	mg/L	-0.0000321	0.000200	0.100	0.110	0.113	0.0978	0.0850 to 0.115	96.6	70.0 to 130	2.69	20.0
BC01777	Barium, Total	mg/L	0.0000503	0.000200	0.100	0.124	0.125	0.113	0.0850 to 0.115	109	70.0 to 130	0.803	20.0
BC01777	Beryllium, Dissolved	mg/L	0.0000506	0.000880	0.100	0.0926	0.0941	0.0989	0.0850 to 0.115	91.9	70.0 to 130	1.61	20.0
BC01777	Beryllium, Total	mg/L	0.000137	0.000880	0.100	0.0873	0.0852	0.0927	0.0850 to 0.115	86.7	70.0 to 130	2.43	20.0
BC01777	Boron, Dissolved	mg/L	-0.000322	0.0650	1.00	6.75	6.82	1.03	0.850 to 1.15	91.0	70.0 to 130	1.03	20.0
BC01777	Boron, Total	mg/L	0.00026	0.0650	1.00	6.81	6.87	1.00	0.850 to 1.15	94.0	70.0 to 130	0.877	20.0
BC01777	Cadmium, Dissolved	mg/L	0.000007	0.000147	0.100	0.0966	0.0966	0.0984	0.0850 to 0.115	96.3	70.0 to 130	0.00	20.0
BC01777	Cadmium, Total	mg/L	0.0000381	0.000147	0.100	0.101	0.101	0.101	0.0850 to 0.115	101	70.0 to 130	0.00	20.0
BC01777	Calcium, Dissolved	mg/L	0.00459	0.152	5.00	318	320	5.03	4.25 to 5.75	0.00	70.0 to 130	0.627	20.0
BC01777	Calcium, Total	mg/L	-0.00198	0.152	5.00	304	313	4.80	4.25 to 5.75	80.0	70.0 to 130	2.92	20.0
BC01777	Chromium, Dissolved	mg/L	0.0000231	0.000440	0.100	0.0980	0.0981	0.101	0.0850 to 0.115	98.0	70.0 to 130	0.102	20.0
BC01777	Chromium, Total	mg/L	-0.0000094	0.000440	0.100	0.100	0.0997	0.101	0.0850 to 0.115	99.8	70.0 to 130	0.300	20.0
BC01777	Cobalt, Dissolved	mg/L	-0.0000016	0.000147	0.100	0.246	0.248	0.105	0.0850 to 0.115	97.0	70.0 to 130	0.810	20.0
BC01777	Cobalt, Total	mg/L	0.000044	0.000147	0.100	0.237	0.234	0.102	0.0850 to 0.115	96.0	70.0 to 130	1.27	20.0
BC01777	Iron, Dissolved	mg/L	-0.000483	0.0176	0.2	16.3	16.4	0.202	0.170 to 0.230	-50.0	70.0 to 130	0.612	20.0
BC01777	Iron, Total	mg/L	-0.00024	0.0176	0.2	16.2	16.2	0.198	0.170 to 0.230	100	70.0 to 130	0.00	20.0
BC01777	Lead, Dissolved	mg/L	0.0000109	0.000147	0.100	0.107	0.107	0.111	0.0850 to 0.115	107	70.0 to 130	0.00	20.0
BC01777	Lead, Total	mg/L	0.0000192	0.000147	0.100	0.0986	0.0970	0.102	0.0850 to 0.115	98.5	70.0 to 130	1.64	20.0

**Comments:** The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified. Alkalinity could not be performed due to the initial pH reading was below the titration end point of 4.5 SU. Fluoride result is qualified due to potential matrix interference.

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 1/27/22 10:45  
**Customer ID:**  
**Delivery Date:** 1/27/22 15:16

**Description:** Gorgas Gypsum - PZ-17

**Laboratory ID Number:** BC01772

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC01777	Lithium, Dissolved	mg/L	0.000063	0.0154	0.200	0.314	0.329	0.201	0.170 to 0.230	99.5	70.0 to 130	4.67	20.0
BC01777	Lithium, Total	mg/L	-0.000109	0.0154	0.200	0.313	0.326	0.198	0.170 to 0.230	99.0	70.0 to 130	4.07	20.0
BC01777	Magnesium, Dissolved	mg/L	0.00815	0.0462	5.00	218	223	5.19	4.25 to 5.75	-20.0	70.0 to 130	2.27	20.0
BC01777	Magnesium, Total	mg/L	0.000303	0.0462	5.00	208	218	5.01	4.25 to 5.75	60.0	70.0 to 130	4.69	20.0
BC01777	Manganese, Dissolved	mg/L	0.0000529	0.000147	0.100	19.5	19.8	0.112	0.0850 to 0.115	-400	70.0 to 130	1.53	20.0
BC01777	Manganese, Total	mg/L	0.000015	0.000147	0.100	20.6	20.3	0.105	0.0850 to 0.115	0.00	70.0 to 130	1.47	20.0
BC01780	Mercury, Total by CVAA	mg/L	0.00000	0.000500	0.004	0.00399	0.00402	0.00398	0.00340 to 0.00460	99.8	70.0 to 130	0.749	20.0
BC01777	Molybdenum, Dissolved	mg/L	-0.0000001	0.000147	0.100	0.0973	0.0967	0.0973	0.0850 to 0.115	97.3	70.0 to 130	0.619	20.0
BC01777	Molybdenum, Total	mg/L	0.0000548	0.000147	0.100	0.0991	0.101	0.103	0.0850 to 0.115	99.1	70.0 to 130	1.90	20.0
BC01777	Potassium, Dissolved	mg/L	-0.00696	0.367	10.0	17.2	17.0	9.75	8.50 to 11.5	98.4	70.0 to 130	1.17	20.0
BC01777	Potassium, Total	mg/L	0.0887	0.367	10.0	18.0	18.0	10.6	8.50 to 11.5	100	70.0 to 130	0.00	20.0
BC01777	Selenium, Dissolved	mg/L	0.0000188	0.00100	0.100	0.102	0.102	0.103	0.0850 to 0.115	101	70.0 to 130	0.00	20.0
BC01777	Selenium, Total	mg/L	0.0000099	0.00100	0.100	0.103	0.101	0.103	0.0850 to 0.115	102	70.0 to 130	1.96	20.0
BC01777	Silicon, Dissolved	mg/L	-0.000527	0.0440	1.00	10.5	10.6	1.02	0.850 to 1.15	85.0	70.0 to 130	0.948	20.0
BC01777	Silicon, Total	mg/L	0.00043	0.0440	1.00	10.5	10.6	1.02	0.850 to 1.15	94.0	70.0 to 130	0.948	20.0
BC01777	Sodium, Dissolved	mg/L	0.00241	0.0660	5.00	129	132	5.07	4.25 to 5.75	40.0	70.0 to 130	2.30	20.0
BC01777	Sodium, Total	mg/L	0.00603	0.0660	5.00	121	128	4.99	4.25 to 5.75	60.0	70.0 to 130	5.62	20.0
BC01777	Thallium, Dissolved	mg/L	0.0000127	0.000147	0.100	0.107	0.104	0.105	0.0850 to 0.115	107	70.0 to 130	2.84	20.0
BC01777	Thallium, Total	mg/L	0.0000218	0.000147	0.100	0.0966	0.0961	0.0991	0.0850 to 0.115	96.4	70.0 to 130	0.519	20.0
BC01780	Total Organic Carbon	mg/L	0.230	1.00	10.0	10.1	10.0	25.1		101	80.0 to 120	0.995	20.0

**Comments:** The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified. Alkalinity could not be performed due to the initial pH reading was below the titration end point of 4.5 SU. Fluoride result is qualified due to potential matrix interference.

## Batch QC Summary

**Customer Account:** WMWGORG

**Sample Date:** 1/27/22 10:45

**Customer ID:**

**Delivery Date:** 1/27/22 15:16

**Description:** Gorgas Gypsum - PZ-17

**Laboratory ID Number:** BC01772

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC01780	Chloride	mg/L	-0.028	1.00	10.0	9.87	0.156	10.2	9.00 to 11.0	98.7	80.0 to 120	0.00	20.0
BC01777	Fluoride	mg/L	0.018	0.100	2.50	2.37	0.101	2.50	2.25 to 2.75	90.1	80.0 to 120	14.7	20.0
BC01780	Nitrogen, Nitrate/Nitrite	mg/L as N	0.02	0.200	2.00	2.04	0.052	1.90	1.80 to 2.20	102	90.0 to 110	0.00	15.0
BC01775	Solids, Dissolved	mg/L	0.0000	25.0			1340	50.0	40.0 to 60.0			5.09	10.0
BC01780	Sulfate	mg/L	-0.117	1.00	20.0	18.0	-0.356	18.5	18.0 to 22.0	90.0	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. Alkalinity could not be performed due to the initial pH reading was below the titration end point of 4.5 SU. Fluoride result is qualified due to potential matrix interference.



# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-11H

**Location Code:** WMWGORG  
**Collected:** 1/26/22 10:10  
**Customer ID:**  
**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01773

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: RDA</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Total	2/3/22 12:00	2/4/22 10:38		1.015	Not Detected	mg/L	0.030000	0.1015	U
* Calcium, Total	2/3/22 12:00	2/4/22 12:08		10.15	143	mg/L	0.70035	4.06	
* Iron, Total	2/3/22 12:00	2/4/22 10:38		1.015	1.53	mg/L	0.008120	0.0406	
* Lithium, Total	2/3/22 12:00	2/4/22 10:38		1.015	Not Detected	mg/L	0.007105	0.01999956	U
* Magnesium, Total	2/3/22 12:00	2/4/22 12:08		10.15	126	mg/L	0.21315	4.06	
Silica, Total (calc.)	2/3/22 12:00	2/4/22 10:38		1	19.4	mg/L			
Silicon, Total	2/3/22 12:00	2/4/22 10:38		1.015	9.05	mg/L	0.02030	0.25375	
* Sodium, Total	2/3/22 12:00	2/4/22 12:08		10.15	45.3	mg/L	0.3045	4.06	
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: RDA</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	2/3/22 12:00	2/4/22 09:51		1.015	Not Detected	mg/L	0.030000	0.1015	U
* Calcium, Dissolved	2/3/22 12:00	2/4/22 11:25		10.15	144	mg/L	0.70035	4.06	
* Iron, Dissolved	2/3/22 12:00	2/4/22 09:51		1.015	1.43	mg/L	0.008120	0.0406	
* Lithium, Dissolved	2/3/22 12:00	2/4/22 09:51		1.015	Not Detected	mg/L	0.007105	0.01999956	U
* Magnesium, Dissolved	2/3/22 12:00	2/4/22 11:25		10.15	124	mg/L	0.21315	4.06	
Silica, Dissolved (calc.)	2/3/22 12:00	2/4/22 09:51		1	18.9	mg/L			
Silicon, Dissolved	2/3/22 12:00	2/4/22 09:51		1.015	8.84	mg/L	0.02030	0.25375	
* Sodium, Dissolved	2/3/22 12:00	2/4/22 11:25		10.15	44.6	mg/L	0.3045	4.06	
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	2/1/22 08:51	2/1/22 15:10		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	2/1/22 08:51	2/1/22 15:10		1.015	0.348	mg/L	0.004060	0.01015	
* Arsenic, Total	2/1/22 08:51	2/1/22 15:10		1.015	0.000427	mg/L	0.000068	0.000203	
* Barium, Total	2/1/22 08:51	2/1/22 15:10		1.015	0.0139	mg/L	0.000102	0.000203	
* Beryllium, Total	2/1/22 08:51	2/1/22 15:10		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	2/1/22 08:51	2/1/22 15:10		1.015	0.000294	mg/L	0.000068	0.000203	
* Chromium, Total	2/1/22 08:51	2/1/22 15:10		1.015	0.000524	mg/L	0.000203	0.001015	J
* Cobalt, Total	2/1/22 08:51	2/1/22 15:10		1.015	0.00479	mg/L	0.000068	0.000203	
* Lead, Total	2/1/22 08:51	2/1/22 15:10		1.015	0.000231	mg/L	0.000068	0.000203	
* Manganese, Total	2/1/22 08:51	2/3/22 18:22		10.15	1.94	mg/L	0.000680	0.00203	
* Molybdenum, Total	2/1/22 08:51	2/1/22 15:10		1.015	0.000112	mg/L	0.000068	0.000203	J
* Potassium, Total	2/1/22 08:51	2/1/22 15:10		1.015	1.02	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 Gypsum - MW-11H

**Location Code:** WMWGORG  
**Collected:** 1/26/22 10:10  
**Customer ID:**  
**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01773

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/1/22 08:51	2/1/22 15:10		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	2/1/22 08:51	2/1/22 15:10		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: ABB</b>							
* Antimony, Dissolved	2/2/22 09:05	2/3/22 12:41		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/2/22 09:05	2/3/22 12:41		1.015	Not Detected	mg/L	0.004060	0.01015	U
* Arsenic, Dissolved	2/2/22 09:05	2/3/22 12:41		1.015	0.000234	mg/L	0.000068	0.000203	
* Barium, Dissolved	2/2/22 09:05	2/3/22 12:41		1.015	0.0112	mg/L	0.000102	0.000203	
* Beryllium, Dissolved	2/2/22 09:05	2/3/22 12:41		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	2/2/22 09:05	2/3/22 12:41		1.015	0.000132	mg/L	0.000068	0.000203	J
* Chromium, Dissolved	2/2/22 09:05	2/3/22 12:41		1.015	0.000208	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	2/2/22 09:05	2/3/22 12:41		1.015	0.00505	mg/L	0.000068	0.000203	
* Lead, Dissolved	2/2/22 09:05	2/3/22 12:41		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	2/2/22 09:05	2/3/22 15:10		10.15	1.86	mg/L	0.000680	0.00203	
* Molybdenum, Dissolved	2/2/22 09:05	2/3/22 12:41		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Potassium, Dissolved	2/2/22 09:05	2/3/22 12:41		1.015	0.883	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/2/22 09:05	2/3/22 12:41		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	2/2/22 09:05	2/3/22 12:41		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	2/8/22 18:27	2/8/22 22:32		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: ELH</b>							
* Nitrogen, Nitrate/Nitrite	2/1/22 14:55	2/1/22 14:55		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
Alkalinity, Total as CaCO3	1/31/22 09:50	1/31/22 13:00		1	85.2	mg/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	1/28/22 11:30	2/1/22 13:58		1	1140	mg/L		75.8	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
Bicarbonate Alkalinity, (calc.)	1/31/22 09:50	1/31/22 13:00		1	85.2	mg/L			
Carbonate Alkalinity, (calc.)	1/31/22 09:50	1/31/22 13:00		1	0.02	mg/L			
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	2/1/22 17:07	2/1/22 17:07		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 Gypsum - MW-11H

**Location Code:** WMWGORG  
**Collected:** 1/26/22 10:10  
**Customer ID:**  
**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01773

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	1/28/22 10:52	1/28/22 10:52		1	5.40	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	1/28/22 12:45	1/28/22 12:45		1	0.0809	mg/L	0.06	0.1	J
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	2/7/22 15:15	2/7/22 15:15		32	745	mg/L	16.00	32	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: TJD</b>							
Conductivity	1/26/22 10:06	1/26/22 10:06			1445.07	uS/cm			FA
pH	1/26/22 10:06	1/26/22 10:06			5.95	SU			FA
Temperature	1/26/22 10:06	1/26/22 10:06			19.79	C			FA
Turbidity	1/26/22 10:06	1/26/22 10:06			8.2	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:** WMWGORG  
**Sample Date:** 1/26/22 10:10  
**Customer ID:**  
**Delivery Date:** 1/27/22 15:16

**Description:** Gorgas Gypsum - MW-11H

**Laboratory ID Number:** BC01773

Sample	Analysis	Units	MB					Standard		Rec			Prec Limit
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit	Prec	
BC01777	Aluminum, Dissolved	mg/L	-0.000144	0.00880	0.100	0.305	0.310	0.0972	0.0850 to 0.115	96.0	70.0 to 130	1.63	20.0
BC01777	Aluminum, Total	mg/L	0.000470	0.00880	0.100	0.323	0.323	0.103	0.0850 to 0.115	100	70.0 to 130	0.00	20.0
BC01777	Antimony, Dissolved	mg/L	0.000122	0.00100	0.100	0.0946	0.0947	0.0892	0.0850 to 0.115	94.6	70.0 to 130	0.106	20.0
BC01777	Antimony, Total	mg/L	0.000346	0.00100	0.100	0.110	0.109	0.102	0.0850 to 0.115	110	70.0 to 130	0.913	20.0
BC01777	Arsenic, Dissolved	mg/L	0.0000273	0.000147	0.100	0.104	0.104	0.104	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BC01777	Arsenic, Total	mg/L	0.000104	0.000147	0.100	0.104	0.103	0.106	0.0850 to 0.115	103	70.0 to 130	0.966	20.0
BC01777	Barium, Dissolved	mg/L	-0.0000321	0.000200	0.100	0.110	0.113	0.0978	0.0850 to 0.115	96.6	70.0 to 130	2.69	20.0
BC01777	Barium, Total	mg/L	0.0000503	0.000200	0.100	0.124	0.125	0.113	0.0850 to 0.115	109	70.0 to 130	0.803	20.0
BC01777	Beryllium, Dissolved	mg/L	0.0000506	0.000880	0.100	0.0926	0.0941	0.0989	0.0850 to 0.115	91.9	70.0 to 130	1.61	20.0
BC01777	Beryllium, Total	mg/L	0.000137	0.000880	0.100	0.0873	0.0852	0.0927	0.0850 to 0.115	86.7	70.0 to 130	2.43	20.0
BC01777	Boron, Dissolved	mg/L	-0.000322	0.0650	1.00	6.75	6.82	1.03	0.850 to 1.15	91.0	70.0 to 130	1.03	20.0
BC01777	Boron, Total	mg/L	0.00026	0.0650	1.00	6.81	6.87	1.00	0.850 to 1.15	94.0	70.0 to 130	0.877	20.0
BC01777	Cadmium, Dissolved	mg/L	0.000007	0.000147	0.100	0.0966	0.0966	0.0984	0.0850 to 0.115	96.3	70.0 to 130	0.00	20.0
BC01777	Cadmium, Total	mg/L	0.0000381	0.000147	0.100	0.101	0.101	0.101	0.0850 to 0.115	101	70.0 to 130	0.00	20.0
BC01777	Calcium, Dissolved	mg/L	0.00459	0.152	5.00	318	320	5.03	4.25 to 5.75	0.00	70.0 to 130	0.627	20.0
BC01777	Calcium, Total	mg/L	-0.00198	0.152	5.00	304	313	4.80	4.25 to 5.75	80.0	70.0 to 130	2.92	20.0
BC01777	Chromium, Dissolved	mg/L	0.0000231	0.000440	0.100	0.0980	0.0981	0.101	0.0850 to 0.115	98.0	70.0 to 130	0.102	20.0
BC01777	Chromium, Total	mg/L	-0.0000094	0.000440	0.100	0.100	0.0997	0.101	0.0850 to 0.115	99.8	70.0 to 130	0.300	20.0
BC01777	Cobalt, Dissolved	mg/L	-0.0000016	0.000147	0.100	0.246	0.248	0.105	0.0850 to 0.115	97.0	70.0 to 130	0.810	20.0
BC01777	Cobalt, Total	mg/L	0.000044	0.000147	0.100	0.237	0.234	0.102	0.0850 to 0.115	96.0	70.0 to 130	1.27	20.0
BC01777	Iron, Dissolved	mg/L	-0.000483	0.0176	0.2	16.3	16.4	0.202	0.170 to 0.230	-50.0	70.0 to 130	0.612	20.0
BC01777	Iron, Total	mg/L	-0.00024	0.0176	0.2	16.2	16.2	0.198	0.170 to 0.230	100	70.0 to 130	0.00	20.0
BC01777	Lead, Dissolved	mg/L	0.0000109	0.000147	0.100	0.107	0.107	0.111	0.0850 to 0.115	107	70.0 to 130	0.00	20.0
BC01777	Lead, Total	mg/L	0.0000192	0.000147	0.100	0.0986	0.0970	0.102	0.0850 to 0.115	98.5	70.0 to 130	1.64	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:** WMWGORG  
**Sample Date:** 1/26/22 10:10  
**Customer ID:**  
**Delivery Date:** 1/27/22 15:16

**Description:** Gorgas Gypsum - MW-11H

**Laboratory ID Number:** BC01773

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC01777	Lithium, Dissolved	mg/L	0.000063	0.0154	0.200	0.314	0.329	0.201	0.170 to 0.230	99.5	70.0 to 130	4.67	20.0
BC01777	Lithium, Total	mg/L	-0.000109	0.0154	0.200	0.313	0.326	0.198	0.170 to 0.230	99.0	70.0 to 130	4.07	20.0
BC01777	Magnesium, Dissolved	mg/L	0.00815	0.0462	5.00	218	223	5.19	4.25 to 5.75	-20.0	70.0 to 130	2.27	20.0
BC01777	Magnesium, Total	mg/L	0.000303	0.0462	5.00	208	218	5.01	4.25 to 5.75	60.0	70.0 to 130	4.69	20.0
BC01777	Manganese, Dissolved	mg/L	0.0000529	0.000147	0.100	19.5	19.8	0.112	0.0850 to 0.115	-400	70.0 to 130	1.53	20.0
BC01777	Manganese, Total	mg/L	0.000015	0.000147	0.100	20.6	20.3	0.105	0.0850 to 0.115	0.00	70.0 to 130	1.47	20.0
BC01780	Mercury, Total by CVAA	mg/L	0.00000	0.000500	0.004	0.00399	0.00402	0.00398	0.00340 to 0.00460	99.8	70.0 to 130	0.749	20.0
BC01777	Molybdenum, Dissolved	mg/L	-0.0000001	0.000147	0.100	0.0973	0.0967	0.0973	0.0850 to 0.115	97.3	70.0 to 130	0.619	20.0
BC01777	Molybdenum, Total	mg/L	0.0000548	0.000147	0.100	0.0991	0.101	0.103	0.0850 to 0.115	99.1	70.0 to 130	1.90	20.0
BC01777	Potassium, Dissolved	mg/L	-0.00696	0.367	10.0	17.2	17.0	9.75	8.50 to 11.5	98.4	70.0 to 130	1.17	20.0
BC01777	Potassium, Total	mg/L	0.0887	0.367	10.0	18.0	18.0	10.6	8.50 to 11.5	100	70.0 to 130	0.00	20.0
BC01777	Selenium, Dissolved	mg/L	0.0000188	0.00100	0.100	0.102	0.102	0.103	0.0850 to 0.115	101	70.0 to 130	0.00	20.0
BC01777	Selenium, Total	mg/L	0.0000099	0.00100	0.100	0.103	0.101	0.103	0.0850 to 0.115	102	70.0 to 130	1.96	20.0
BC01777	Silicon, Dissolved	mg/L	-0.000527	0.0440	1.00	10.5	10.6	1.02	0.850 to 1.15	85.0	70.0 to 130	0.948	20.0
BC01777	Silicon, Total	mg/L	0.00043	0.0440	1.00	10.5	10.6	1.02	0.850 to 1.15	94.0	70.0 to 130	0.948	20.0
BC01777	Sodium, Dissolved	mg/L	0.00241	0.0660	5.00	129	132	5.07	4.25 to 5.75	40.0	70.0 to 130	2.30	20.0
BC01777	Sodium, Total	mg/L	0.00603	0.0660	5.00	121	128	4.99	4.25 to 5.75	60.0	70.0 to 130	5.62	20.0
BC01777	Thallium, Dissolved	mg/L	0.0000127	0.000147	0.100	0.107	0.104	0.105	0.0850 to 0.115	107	70.0 to 130	2.84	20.0
BC01777	Thallium, Total	mg/L	0.0000218	0.000147	0.100	0.0966	0.0961	0.0991	0.0850 to 0.115	96.4	70.0 to 130	0.519	20.0
BC01780	Total Organic Carbon	mg/L	0.230	1.00	10.0	10.1	10.0	25.1		101	80.0 to 120	0.995	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:** WMWGORG

**Sample Date:** 1/26/22 10:10

**Customer ID:**

**Delivery Date:** 1/27/22 15:16

**Description:** Gorgas Gypsum - MW-11H

**Laboratory ID Number:** BC01773

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
BC01780	Chloride	mg/L	-0.028	1.00	10.0	9.87	0.156	10.2	9.00 to 11.0	98.7	80.0 to 120	0.00	20.0
BC01777	Fluoride	mg/L	0.018	0.100	2.50	2.37	0.101	2.50	2.25 to 2.75	90.1	80.0 to 120	14.7	20.0
BC01780	Nitrogen, Nitrate/Nitrite	mg/L as N	0.02	0.200	2.00	2.04	0.052	1.90	1.80 to 2.20	102	90.0 to 110	0.00	15.0
BC01775	Solids, Dissolved	mg/L	0.0000	25.0			1340	50.0	40.0 to 60.0			5.09	10.0
BC01780	Sulfate	mg/L	-0.117	1.00	20.0	18.0	-0.356	18.5	18.0 to 22.0	90.0	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 Gypsum - MW-13H

**Location Code:** WMWGORG  
**Collected:** 1/26/22 11:17  
**Customer ID:**  
**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01774

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: RDA</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Total	2/3/22 12:00	2/4/22 10:40		1.015	0.206	mg/L	0.030000	0.1015	
* Calcium, Total	2/3/22 12:00	2/4/22 12:10		20.3	158	mg/L	1.4007	8.12	
* Iron, Total	2/3/22 12:00	2/4/22 12:10		20.3	55.8	mg/L	0.1624	0.812	
* Lithium, Total	2/3/22 12:00	2/4/22 10:40		1.015	0.0301	mg/L	0.007105	0.01999956	
* Magnesium, Total	2/3/22 12:00	2/4/22 12:10		20.3	113	mg/L	0.4263	8.12	
Silica, Total (calc.)	2/3/22 12:00	2/4/22 10:40		1	25.7	mg/L			
Silicon, Total	2/3/22 12:00	2/4/22 10:40		1.015	12.0	mg/L	0.02030	0.25375	
* Sodium, Total	2/3/22 12:00	2/4/22 12:10		20.3	57.2	mg/L	0.609	8.12	
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: RDA</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	2/3/22 12:00	2/4/22 09:53		1.015	0.220	mg/L	0.030000	0.1015	
* Calcium, Dissolved	2/3/22 12:00	2/4/22 11:27		20.3	166	mg/L	1.4007	8.12	
* Iron, Dissolved	2/3/22 12:00	2/4/22 11:27		20.3	57.3	mg/L	0.1624	0.812	
* Lithium, Dissolved	2/3/22 12:00	2/4/22 09:53		1.015	0.0309	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	2/3/22 12:00	2/4/22 11:27		20.3	120	mg/L	0.4263	8.12	
Silica, Dissolved (calc.)	2/3/22 12:00	2/4/22 09:53		1	25.3	mg/L			
Silicon, Dissolved	2/3/22 12:00	2/4/22 09:53		1.015	11.8	mg/L	0.02030	0.25375	
* Sodium, Dissolved	2/3/22 12:00	2/4/22 11:27		20.3	59.4	mg/L	0.609	8.12	
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	2/1/22 08:51	2/1/22 15:13		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	2/1/22 08:51	2/1/22 15:13		1.015	0.122	mg/L	0.004060	0.01015	
* Arsenic, Total	2/1/22 08:51	2/1/22 15:13		1.015	0.283	mg/L	0.000068	0.000203	
* Barium, Total	2/1/22 08:51	2/1/22 15:13		1.015	0.0334	mg/L	0.000102	0.000203	
* Beryllium, Total	2/1/22 08:51	2/1/22 15:13		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	2/1/22 08:51	2/1/22 15:13		1.015	0.0000700	mg/L	0.000068	0.000203	J
* Chromium, Total	2/1/22 08:51	2/1/22 15:13		1.015	0.000232	mg/L	0.000203	0.001015	J
* Cobalt, Total	2/1/22 08:51	2/1/22 15:13		1.015	0.228	mg/L	0.000068	0.000203	
* Lead, Total	2/1/22 08:51	2/1/22 15:13		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	2/1/22 08:51	2/3/22 18:25		92.365	20.4	mg/L	0.006188	0.018473	
* Molybdenum, Total	2/1/22 08:51	2/1/22 15:13		1.015	0.00126	mg/L	0.000068	0.000203	
* Potassium, Total	2/1/22 08:51	2/1/22 15:13		1.015	9.67	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 Gypsum - MW-13H

**Location Code:** WMWGORG  
**Collected:** 1/26/22 11:17  
**Customer ID:**  
**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01774

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/1/22 08:51	2/1/22 15:13		1.015	0.000694	mg/L	0.000508	0.001015	J
* Thallium, Total	2/1/22 08:51	2/1/22 15:13		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: ABB</b>							
* Antimony, Dissolved	2/2/22 09:05	2/3/22 12:45		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/2/22 09:05	2/3/22 12:45		1.015	0.142	mg/L	0.004060	0.01015	
* Arsenic, Dissolved	2/2/22 09:05	2/3/22 12:45		1.015	0.272	mg/L	0.000068	0.000203	
* Barium, Dissolved	2/2/22 09:05	2/3/22 12:45		1.015	0.0332	mg/L	0.000102	0.000203	
* Beryllium, Dissolved	2/2/22 09:05	2/3/22 12:45		1.015	0.000418	mg/L	0.000406	0.001015	J
* Cadmium, Dissolved	2/2/22 09:05	2/3/22 12:45		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	2/2/22 09:05	2/3/22 12:45		1.015	0.000292	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	2/2/22 09:05	2/3/22 12:45		1.015	0.288	mg/L	0.000068	0.000203	
* Lead, Dissolved	2/2/22 09:05	2/3/22 12:45		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	2/2/22 09:05	2/3/22 15:13		92.365	22.3	mg/L	0.006188	0.018473	
* Molybdenum, Dissolved	2/2/22 09:05	2/3/22 12:45		1.015	0.00126	mg/L	0.000068	0.000203	
* Potassium, Dissolved	2/2/22 09:05	2/3/22 12:45		1.015	8.89	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/2/22 09:05	2/3/22 12:45		1.015	0.000964	mg/L	0.000508	0.001015	J
* Thallium, Dissolved	2/2/22 09:05	2/3/22 12:45		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	2/8/22 18:27	2/8/22 22:36		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: ELH</b>							
* Nitrogen, Nitrate/Nitrite	2/1/22 14:57	2/1/22 14:57		1	0.291	mg/L as N	0.20	0.3	J
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
Alkalinity, Total as CaCO3	2/2/22 10:15	2/2/22 12:30		1	197	mg/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	1/28/22 11:30	2/1/22 13:58		1	1360	mg/L		100	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
Bicarbonate Alkalinity, (calc.)	2/2/22 10:15	2/2/22 12:30		1	197	mg/L			
Carbonate Alkalinity, (calc.)	2/2/22 10:15	2/2/22 12:30		1	0.08	mg/L			
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	2/1/22 17:24	2/1/22 17:24		1	3.54	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.



# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-13H

**Location Code:** WMWGORG  
**Collected:** 1/26/22 11:17  
**Customer ID:**  
**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01774

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	1/28/22 10:53	1/28/22 10:53		1	10.2	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	1/28/22 12:46	1/28/22 12:46		1	0.208	mg/L	0.06	0.1	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	2/7/22 15:16	2/7/22 15:16		32	883	mg/L	16.00	32	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: TJD</b>							
Conductivity	1/26/22 11:14	1/26/22 11:14			1543.63	uS/cm			FA
pH	1/26/22 11:14	1/26/22 11:14			6.08	SU			FA
Temperature	1/26/22 11:14	1/26/22 11:14			20.26	C			FA
Turbidity	1/26/22 11:14	1/26/22 11:14			2.51	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:** WMWGORG  
**Sample Date:** 1/26/22 11:17  
**Customer ID:**  
**Delivery Date:** 1/27/22 15:16

**Description:** Gorgas Gypsum - MW-13H

**Laboratory ID Number:** BC01774

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BC01777	Aluminum, Dissolved	mg/L	-0.000144	0.00880	0.100	0.305	0.310	0.0972	0.0850 to 0.115	96.0	70.0 to 130	1.63	20.0
BC01777	Aluminum, Total	mg/L	0.000470	0.00880	0.100	0.323	0.323	0.103	0.0850 to 0.115	100	70.0 to 130	0.00	20.0
BC01777	Antimony, Dissolved	mg/L	0.000122	0.00100	0.100	0.0946	0.0947	0.0892	0.0850 to 0.115	94.6	70.0 to 130	0.106	20.0
BC01777	Antimony, Total	mg/L	0.000346	0.00100	0.100	0.110	0.109	0.102	0.0850 to 0.115	110	70.0 to 130	0.913	20.0
BC01777	Arsenic, Dissolved	mg/L	0.0000273	0.000147	0.100	0.104	0.104	0.104	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BC01777	Arsenic, Total	mg/L	0.000104	0.000147	0.100	0.104	0.103	0.106	0.0850 to 0.115	103	70.0 to 130	0.966	20.0
BC01777	Barium, Dissolved	mg/L	-0.0000321	0.000200	0.100	0.110	0.113	0.0978	0.0850 to 0.115	96.6	70.0 to 130	2.69	20.0
BC01777	Barium, Total	mg/L	0.0000503	0.000200	0.100	0.124	0.125	0.113	0.0850 to 0.115	109	70.0 to 130	0.803	20.0
BC01777	Beryllium, Dissolved	mg/L	0.0000506	0.000880	0.100	0.0926	0.0941	0.0989	0.0850 to 0.115	91.9	70.0 to 130	1.61	20.0
BC01777	Beryllium, Total	mg/L	0.000137	0.000880	0.100	0.0873	0.0852	0.0927	0.0850 to 0.115	86.7	70.0 to 130	2.43	20.0
BC01777	Boron, Dissolved	mg/L	-0.000322	0.0650	1.00	6.75	6.82	1.03	0.850 to 1.15	91.0	70.0 to 130	1.03	20.0
BC01777	Boron, Total	mg/L	0.00026	0.0650	1.00	6.81	6.87	1.00	0.850 to 1.15	94.0	70.0 to 130	0.877	20.0
BC01777	Cadmium, Dissolved	mg/L	0.000007	0.000147	0.100	0.0966	0.0966	0.0984	0.0850 to 0.115	96.3	70.0 to 130	0.00	20.0
BC01777	Cadmium, Total	mg/L	0.0000381	0.000147	0.100	0.101	0.101	0.101	0.0850 to 0.115	101	70.0 to 130	0.00	20.0
BC01777	Calcium, Dissolved	mg/L	0.00459	0.152	5.00	318	320	5.03	4.25 to 5.75	0.00	70.0 to 130	0.627	20.0
BC01777	Calcium, Total	mg/L	-0.00198	0.152	5.00	304	313	4.80	4.25 to 5.75	80.0	70.0 to 130	2.92	20.0
BC01777	Chromium, Dissolved	mg/L	0.0000231	0.000440	0.100	0.0980	0.0981	0.101	0.0850 to 0.115	98.0	70.0 to 130	0.102	20.0
BC01777	Chromium, Total	mg/L	-0.0000094	0.000440	0.100	0.100	0.0997	0.101	0.0850 to 0.115	99.8	70.0 to 130	0.300	20.0
BC01777	Cobalt, Dissolved	mg/L	-0.0000016	0.000147	0.100	0.246	0.248	0.105	0.0850 to 0.115	97.0	70.0 to 130	0.810	20.0
BC01777	Cobalt, Total	mg/L	0.000044	0.000147	0.100	0.237	0.234	0.102	0.0850 to 0.115	96.0	70.0 to 130	1.27	20.0
BC01777	Iron, Dissolved	mg/L	-0.000483	0.0176	0.2	16.3	16.4	0.202	0.170 to 0.230	-50.0	70.0 to 130	0.612	20.0
BC01777	Iron, Total	mg/L	-0.00024	0.0176	0.2	16.2	16.2	0.198	0.170 to 0.230	100	70.0 to 130	0.00	20.0
BC01777	Lead, Dissolved	mg/L	0.0000109	0.000147	0.100	0.107	0.107	0.111	0.0850 to 0.115	107	70.0 to 130	0.00	20.0
BC01777	Lead, Total	mg/L	0.0000192	0.000147	0.100	0.0986	0.0970	0.102	0.0850 to 0.115	98.5	70.0 to 130	1.64	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:** WMWGORG  
**Sample Date:** 1/26/22 11:17  
**Customer ID:**  
**Delivery Date:** 1/27/22 15:16

**Description:** Gorgas Gypsum - MW-13H

**Laboratory ID Number:** BC01774

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC01777	Lithium, Dissolved	mg/L	0.000063	0.0154	0.200	0.314	0.329	0.201	0.170 to 0.230	99.5	70.0 to 130	4.67	20.0
BC01777	Lithium, Total	mg/L	-0.000109	0.0154	0.200	0.313	0.326	0.198	0.170 to 0.230	99.0	70.0 to 130	4.07	20.0
BC01777	Magnesium, Dissolved	mg/L	0.00815	0.0462	5.00	218	223	5.19	4.25 to 5.75	-20.0	70.0 to 130	2.27	20.0
BC01777	Magnesium, Total	mg/L	0.000303	0.0462	5.00	208	218	5.01	4.25 to 5.75	60.0	70.0 to 130	4.69	20.0
BC01777	Manganese, Dissolved	mg/L	0.0000529	0.000147	0.100	19.5	19.8	0.112	0.0850 to 0.115	-400	70.0 to 130	1.53	20.0
BC01777	Manganese, Total	mg/L	0.000015	0.000147	0.100	20.6	20.3	0.105	0.0850 to 0.115	0.00	70.0 to 130	1.47	20.0
BC01780	Mercury, Total by CVAA	mg/L	0.00000	0.000500	0.004	0.00399	0.00402	0.00398	0.00340 to 0.00460	99.8	70.0 to 130	0.749	20.0
BC01777	Molybdenum, Dissolved	mg/L	-0.0000001	0.000147	0.100	0.0973	0.0967	0.0973	0.0850 to 0.115	97.3	70.0 to 130	0.619	20.0
BC01777	Molybdenum, Total	mg/L	0.0000548	0.000147	0.100	0.0991	0.101	0.103	0.0850 to 0.115	99.1	70.0 to 130	1.90	20.0
BC01777	Potassium, Dissolved	mg/L	-0.00696	0.367	10.0	17.2	17.0	9.75	8.50 to 11.5	98.4	70.0 to 130	1.17	20.0
BC01777	Potassium, Total	mg/L	0.0887	0.367	10.0	18.0	18.0	10.6	8.50 to 11.5	100	70.0 to 130	0.00	20.0
BC01777	Selenium, Dissolved	mg/L	0.0000188	0.00100	0.100	0.102	0.102	0.103	0.0850 to 0.115	101	70.0 to 130	0.00	20.0
BC01777	Selenium, Total	mg/L	0.0000099	0.00100	0.100	0.103	0.101	0.103	0.0850 to 0.115	102	70.0 to 130	1.96	20.0
BC01777	Silicon, Dissolved	mg/L	-0.000527	0.0440	1.00	10.5	10.6	1.02	0.850 to 1.15	85.0	70.0 to 130	0.948	20.0
BC01777	Silicon, Total	mg/L	0.00043	0.0440	1.00	10.5	10.6	1.02	0.850 to 1.15	94.0	70.0 to 130	0.948	20.0
BC01777	Sodium, Dissolved	mg/L	0.00241	0.0660	5.00	129	132	5.07	4.25 to 5.75	40.0	70.0 to 130	2.30	20.0
BC01777	Sodium, Total	mg/L	0.00603	0.0660	5.00	121	128	4.99	4.25 to 5.75	60.0	70.0 to 130	5.62	20.0
BC01777	Thallium, Dissolved	mg/L	0.0000127	0.000147	0.100	0.107	0.104	0.105	0.0850 to 0.115	107	70.0 to 130	2.84	20.0
BC01777	Thallium, Total	mg/L	0.0000218	0.000147	0.100	0.0966	0.0961	0.0991	0.0850 to 0.115	96.4	70.0 to 130	0.519	20.0
BC01780	Total Organic Carbon	mg/L	0.230	1.00	10.0	10.1	10.0	25.1		101	80.0 to 120	0.995	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:** WMWGORG

**Sample Date:** 1/26/22 11:17

**Customer ID:**

**Delivery Date:** 1/27/22 15:16

**Description:** Gorgas Gypsum - MW-13H

**Laboratory ID Number:** BC01774

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC01774	Alkalinity, Total as CaCO3	mg/L					179	47.0	45.0 to 55.0			9.57	10.0
BC01780	Chloride	mg/L	-0.028	1.00	10.0	9.87	0.156	10.2	9.00 to 11.0	98.7	80.0 to 120	0.00	20.0
BC01777	Fluoride	mg/L	0.018	0.100	2.50	2.37	0.101	2.50	2.25 to 2.75	90.1	80.0 to 120	14.7	20.0
BC01780	Nitrogen, Nitrate/Nitrite	mg/L as N	0.02	0.200	2.00	2.04	0.052	1.90	1.80 to 2.20	102	90.0 to 110	0.00	15.0
BC01775	Solids, Dissolved	mg/L	0.0000	25.0			1340	50.0	40.0 to 60.0			5.09	10.0
BC01780	Sulfate	mg/L	-0.117	1.00	20.0	18.0	-0.356	18.5	18.0 to 22.0	90.0	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 Gypsum - MW-13H DUP

**Location Code:** WMWGORG  
**Collected:** 1/26/22 11:17  
**Customer ID:**  
**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01775

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: RDA</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Total	2/3/22 12:00	2/4/22 10:42		1.015	0.205	mg/L	0.030000	0.1015	
* Calcium, Total	2/3/22 12:00	2/4/22 12:12		20.3	161	mg/L	1.4007	8.12	
* Iron, Total	2/3/22 12:00	2/4/22 12:12		20.3	56.5	mg/L	0.1624	0.812	
* Lithium, Total	2/3/22 12:00	2/4/22 10:42		1.015	0.0298	mg/L	0.007105	0.01999956	
* Magnesium, Total	2/3/22 12:00	2/4/22 12:12		20.3	113	mg/L	0.4263	8.12	
Silica, Total (calc.)	2/3/22 12:00	2/4/22 10:42		1	25.5	mg/L			
Silicon, Total	2/3/22 12:00	2/4/22 10:42		1.015	11.9	mg/L	0.02030	0.25375	
* Sodium, Total	2/3/22 12:00	2/4/22 12:12		20.3	57.8	mg/L	0.609	8.12	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: RDA</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	2/3/22 12:00	2/4/22 09:55		1.015	0.222	mg/L	0.030000	0.1015	
* Calcium, Dissolved	2/3/22 12:00	2/4/22 11:29		20.3	168	mg/L	1.4007	8.12	
* Iron, Dissolved	2/3/22 12:00	2/4/22 11:29		20.3	56.2	mg/L	0.1624	0.812	
* Lithium, Dissolved	2/3/22 12:00	2/4/22 09:55		1.015	0.0309	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	2/3/22 12:00	2/4/22 11:29		20.3	122	mg/L	0.4263	8.12	
Silica, Dissolved (calc.)	2/3/22 12:00	2/4/22 09:55		1	25.3	mg/L			
Silicon, Dissolved	2/3/22 12:00	2/4/22 09:55		1.015	11.8	mg/L	0.02030	0.25375	
* Sodium, Dissolved	2/3/22 12:00	2/4/22 11:29		20.3	60.6	mg/L	0.609	8.12	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	2/1/22 08:51	2/1/22 15:17		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	2/1/22 08:51	2/1/22 15:17		1.015	0.125	mg/L	0.004060	0.01015	
* Arsenic, Total	2/1/22 08:51	2/1/22 15:17		1.015	0.283	mg/L	0.000068	0.000203	
* Barium, Total	2/1/22 08:51	2/1/22 15:17		1.015	0.0351	mg/L	0.000102	0.000203	
* Beryllium, Total	2/1/22 08:51	2/1/22 15:17		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	2/1/22 08:51	2/1/22 15:17		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	2/1/22 08:51	2/1/22 15:17		1.015	0.000272	mg/L	0.000203	0.001015	J
* Cobalt, Total	2/1/22 08:51	2/1/22 15:17		1.015	0.230	mg/L	0.000068	0.000203	
* Lead, Total	2/1/22 08:51	2/1/22 15:17		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	2/1/22 08:51	2/3/22 18:29		92.365	20.9	mg/L	0.006188	0.018473	
* Molybdenum, Total	2/1/22 08:51	2/1/22 15:17		1.015	0.00145	mg/L	0.000068	0.000203	
* Potassium, Total	2/1/22 08:51	2/1/22 15:17		1.015	9.64	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 Gypsum - MW-13H DUP

**Location Code:** WMWGORG  
**Collected:** 1/26/22 11:17  
**Customer ID:**  
**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01775

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/1/22 08:51	2/1/22 15:17		1.015	0.000834	mg/L	0.000508	0.001015	J
* Thallium, Total	2/1/22 08:51	2/1/22 15:17		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: ABB</b>							
* Antimony, Dissolved	2/2/22 09:05	2/3/22 12:48		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/2/22 09:05	2/3/22 12:48		1.015	0.142	mg/L	0.004060	0.01015	
* Arsenic, Dissolved	2/2/22 09:05	2/3/22 12:48		1.015	0.260	mg/L	0.000068	0.000203	
* Barium, Dissolved	2/2/22 09:05	2/3/22 12:48		1.015	0.0310	mg/L	0.000102	0.000203	
* Beryllium, Dissolved	2/2/22 09:05	2/3/22 12:48		1.015	0.000410	mg/L	0.000406	0.001015	J
* Cadmium, Dissolved	2/2/22 09:05	2/3/22 12:48		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	2/2/22 09:05	2/3/22 12:48		1.015	0.000283	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	2/2/22 09:05	2/3/22 12:48		1.015	0.288	mg/L	0.000068	0.000203	
* Lead, Dissolved	2/2/22 09:05	2/3/22 12:48		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	2/2/22 09:05	2/3/22 15:17		92.365	25.6	mg/L	0.006188	0.018473	
* Molybdenum, Dissolved	2/2/22 09:05	2/3/22 12:48		1.015	0.00125	mg/L	0.000068	0.000203	
* Potassium, Dissolved	2/2/22 09:05	2/3/22 12:48		1.015	8.77	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/2/22 09:05	2/3/22 12:48		1.015	0.000986	mg/L	0.000508	0.001015	J
* Thallium, Dissolved	2/2/22 09:05	2/3/22 12:48		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	2/8/22 18:27	2/8/22 22:40		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: ELH</b>							
* Nitrogen, Nitrate/Nitrite	2/1/22 14:59	2/1/22 14:59		1	0.257	mg/L as N	0.20	0.3	J
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
Alkalinity, Total as CaCO3	2/2/22 10:15	2/2/22 12:30		1	197	mg/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	1/28/22 11:30	2/1/22 13:58		1	1410	mg/L		100	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
Bicarbonate Alkalinity, (calc.)	2/2/22 10:15	2/2/22 12:30		1	197	mg/L			
Carbonate Alkalinity, (calc.)	2/2/22 10:15	2/2/22 12:30		1	0.20	mg/L			
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	2/1/22 17:43	2/1/22 17:43		1	3.65	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.

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-13H DUP

**Location Code:** WMWGORG  
**Collected:** 1/26/22 11:17  
**Customer ID:**  
**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01775

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	1/28/22 10:54	1/28/22 10:54		1	10.2	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	1/28/22 12:47	1/28/22 12:47		1	0.212	mg/L	0.06	0.1	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	2/7/22 15:17	2/7/22 15:17		32	918	mg/L	16.00	32	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: TJD</b>							
Conductivity	1/26/22 11:14	1/26/22 11:14			1543.63	uS/cm			FA
pH	1/26/22 11:14	1/26/22 11:14			6.08	SU			FA
Temperature	1/26/22 11:14	1/26/22 11:14			20.26	C			FA
Turbidity	1/26/22 11:14	1/26/22 11:14			2.51	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:** WMWGORG  
**Sample Date:** 1/26/22 11:17  
**Customer ID:**  
**Delivery Date:** 1/27/22 15:16

**Description:** Gorgas Gypsum - MW-13H DUP

**Laboratory ID Number:** BC01775

Sample	Analysis	Units	MB					Standard		Rec		Prec	Limit
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC01777	Aluminum, Dissolved	mg/L	-0.000144	0.00880	0.100	0.305	0.310	0.0972	0.0850 to 0.115	96.0	70.0 to 130	1.63	20.0
BC01777	Aluminum, Total	mg/L	0.000470	0.00880	0.100	0.323	0.323	0.103	0.0850 to 0.115	100	70.0 to 130	0.00	20.0
BC01777	Antimony, Dissolved	mg/L	0.000122	0.00100	0.100	0.0946	0.0947	0.0892	0.0850 to 0.115	94.6	70.0 to 130	0.106	20.0
BC01777	Antimony, Total	mg/L	0.000346	0.00100	0.100	0.110	0.109	0.102	0.0850 to 0.115	110	70.0 to 130	0.913	20.0
BC01777	Arsenic, Dissolved	mg/L	0.0000273	0.000147	0.100	0.104	0.104	0.104	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BC01777	Arsenic, Total	mg/L	0.000104	0.000147	0.100	0.104	0.103	0.106	0.0850 to 0.115	103	70.0 to 130	0.966	20.0
BC01777	Barium, Dissolved	mg/L	-0.0000321	0.000200	0.100	0.110	0.113	0.0978	0.0850 to 0.115	96.6	70.0 to 130	2.69	20.0
BC01777	Barium, Total	mg/L	0.0000503	0.000200	0.100	0.124	0.125	0.113	0.0850 to 0.115	109	70.0 to 130	0.803	20.0
BC01777	Beryllium, Dissolved	mg/L	0.0000506	0.000880	0.100	0.0926	0.0941	0.0989	0.0850 to 0.115	91.9	70.0 to 130	1.61	20.0
BC01777	Beryllium, Total	mg/L	0.000137	0.000880	0.100	0.0873	0.0852	0.0927	0.0850 to 0.115	86.7	70.0 to 130	2.43	20.0
BC01777	Boron, Dissolved	mg/L	-0.000322	0.0650	1.00	6.75	6.82	1.03	0.850 to 1.15	91.0	70.0 to 130	1.03	20.0
BC01777	Boron, Total	mg/L	0.00026	0.0650	1.00	6.81	6.87	1.00	0.850 to 1.15	94.0	70.0 to 130	0.877	20.0
BC01777	Cadmium, Dissolved	mg/L	0.000007	0.000147	0.100	0.0966	0.0966	0.0984	0.0850 to 0.115	96.3	70.0 to 130	0.00	20.0
BC01777	Cadmium, Total	mg/L	0.0000381	0.000147	0.100	0.101	0.101	0.101	0.0850 to 0.115	101	70.0 to 130	0.00	20.0
BC01777	Calcium, Dissolved	mg/L	0.00459	0.152	5.00	318	320	5.03	4.25 to 5.75	0.00	70.0 to 130	0.627	20.0
BC01777	Calcium, Total	mg/L	-0.00198	0.152	5.00	304	313	4.80	4.25 to 5.75	80.0	70.0 to 130	2.92	20.0
BC01777	Chromium, Dissolved	mg/L	0.0000231	0.000440	0.100	0.0980	0.0981	0.101	0.0850 to 0.115	98.0	70.0 to 130	0.102	20.0
BC01777	Chromium, Total	mg/L	-0.0000094	0.000440	0.100	0.100	0.0997	0.101	0.0850 to 0.115	99.8	70.0 to 130	0.300	20.0
BC01777	Cobalt, Dissolved	mg/L	-0.0000016	0.000147	0.100	0.246	0.248	0.105	0.0850 to 0.115	97.0	70.0 to 130	0.810	20.0
BC01777	Cobalt, Total	mg/L	0.000044	0.000147	0.100	0.237	0.234	0.102	0.0850 to 0.115	96.0	70.0 to 130	1.27	20.0
BC01777	Iron, Dissolved	mg/L	-0.000483	0.0176	0.2	16.3	16.4	0.202	0.170 to 0.230	-50.0	70.0 to 130	0.612	20.0
BC01777	Iron, Total	mg/L	-0.00024	0.0176	0.2	16.2	16.2	0.198	0.170 to 0.230	100	70.0 to 130	0.00	20.0
BC01777	Lead, Dissolved	mg/L	0.0000109	0.000147	0.100	0.107	0.107	0.111	0.0850 to 0.115	107	70.0 to 130	0.00	20.0
BC01777	Lead, Total	mg/L	0.0000192	0.000147	0.100	0.0986	0.0970	0.102	0.0850 to 0.115	98.5	70.0 to 130	1.64	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:** WMWGORG  
**Sample Date:** 1/26/22 11:17  
**Customer ID:**  
**Delivery Date:** 1/27/22 15:16

**Description:** Gorgas Gypsum - MW-13H DUP

**Laboratory ID Number:** BC01775

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC01777	Lithium, Dissolved	mg/L	0.000063	0.0154	0.200	0.314	0.329	0.201	0.170 to 0.230	99.5	70.0 to 130	4.67	20.0
BC01777	Lithium, Total	mg/L	-0.000109	0.0154	0.200	0.313	0.326	0.198	0.170 to 0.230	99.0	70.0 to 130	4.07	20.0
BC01777	Magnesium, Dissolved	mg/L	0.00815	0.0462	5.00	218	223	5.19	4.25 to 5.75	-20.0	70.0 to 130	2.27	20.0
BC01777	Magnesium, Total	mg/L	0.000303	0.0462	5.00	208	218	5.01	4.25 to 5.75	60.0	70.0 to 130	4.69	20.0
BC01777	Manganese, Dissolved	mg/L	0.0000529	0.000147	0.100	19.5	19.8	0.112	0.0850 to 0.115	-400	70.0 to 130	1.53	20.0
BC01777	Manganese, Total	mg/L	0.000015	0.000147	0.100	20.6	20.3	0.105	0.0850 to 0.115	0.00	70.0 to 130	1.47	20.0
BC01780	Mercury, Total by CVAA	mg/L	0.00000	0.000500	0.004	0.00399	0.00402	0.00398	0.00340 to 0.00460	99.8	70.0 to 130	0.749	20.0
BC01777	Molybdenum, Dissolved	mg/L	-0.0000001	0.000147	0.100	0.0973	0.0967	0.0973	0.0850 to 0.115	97.3	70.0 to 130	0.619	20.0
BC01777	Molybdenum, Total	mg/L	0.0000548	0.000147	0.100	0.0991	0.101	0.103	0.0850 to 0.115	99.1	70.0 to 130	1.90	20.0
BC01777	Potassium, Dissolved	mg/L	-0.00696	0.367	10.0	17.2	17.0	9.75	8.50 to 11.5	98.4	70.0 to 130	1.17	20.0
BC01777	Potassium, Total	mg/L	0.0887	0.367	10.0	18.0	18.0	10.6	8.50 to 11.5	100	70.0 to 130	0.00	20.0
BC01777	Selenium, Dissolved	mg/L	0.0000188	0.00100	0.100	0.102	0.102	0.103	0.0850 to 0.115	101	70.0 to 130	0.00	20.0
BC01777	Selenium, Total	mg/L	0.0000099	0.00100	0.100	0.103	0.101	0.103	0.0850 to 0.115	102	70.0 to 130	1.96	20.0
BC01777	Silicon, Dissolved	mg/L	-0.000527	0.0440	1.00	10.5	10.6	1.02	0.850 to 1.15	85.0	70.0 to 130	0.948	20.0
BC01777	Silicon, Total	mg/L	0.00043	0.0440	1.00	10.5	10.6	1.02	0.850 to 1.15	94.0	70.0 to 130	0.948	20.0
BC01777	Sodium, Dissolved	mg/L	0.00241	0.0660	5.00	129	132	5.07	4.25 to 5.75	40.0	70.0 to 130	2.30	20.0
BC01777	Sodium, Total	mg/L	0.00603	0.0660	5.00	121	128	4.99	4.25 to 5.75	60.0	70.0 to 130	5.62	20.0
BC01777	Thallium, Dissolved	mg/L	0.0000127	0.000147	0.100	0.107	0.104	0.105	0.0850 to 0.115	107	70.0 to 130	2.84	20.0
BC01777	Thallium, Total	mg/L	0.0000218	0.000147	0.100	0.0966	0.0961	0.0991	0.0850 to 0.115	96.4	70.0 to 130	0.519	20.0
BC01780	Total Organic Carbon	mg/L	0.230	1.00	10.0	10.1	10.0	25.1		101	80.0 to 120	0.995	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:** WMWGORG

**Sample Date:** 1/26/22 11:17

**Customer ID:**

**Delivery Date:** 1/27/22 15:16

**Description:** Gorgas Gypsum - MW-13H DUP

**Laboratory ID Number:** BC01775

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Limit	Prec	Limit
BC01774	Alkalinity, Total as CaCO3	mg/L					179	47.0	45.0 to 55.0			9.57	10.0
BC01780	Chloride	mg/L	-0.028	1.00	10.0	9.87	0.156	10.2	9.00 to 11.0	98.7	80.0 to 120	0.00	20.0
BC01777	Fluoride	mg/L	0.018	0.100	2.50	2.37	0.101	2.50	2.25 to 2.75	90.1	80.0 to 120	14.7	20.0
BC01780	Nitrogen, Nitrate/Nitrite	mg/L as N	0.02	0.200	2.00	2.04	0.052	1.90	1.80 to 2.20	102	90.0 to 110	0.00	15.0
BC01775	Solids, Dissolved	mg/L	0.0000	25.0			1340	50.0	40.0 to 60.0			5.09	10.0
BC01780	Sulfate	mg/L	-0.117	1.00	20.0	18.0	-0.356	18.5	18.0 to 22.0	90.0	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 Gypsum - MW-9V

**Location Code:** WMWGORG  
**Collected:** 1/26/22 13:20  
**Customer ID:**  
**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01776

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: RDA</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Total	2/3/22 12:00	2/4/22 10:44		1.015	0.110	mg/L	0.030000	0.1015	
* Calcium, Total	2/3/22 12:00	2/4/22 12:14		20.3	417	mg/L	1.4007	8.12	
* Iron, Total	2/3/22 12:00	2/4/22 10:44		1.015	1.09	mg/L	0.008120	0.0406	
* Lithium, Total	2/3/22 12:00	2/4/22 10:44		1.015	0.312	mg/L	0.007105	0.01999956	
* Magnesium, Total	2/3/22 12:00	2/4/22 12:14		20.3	169	mg/L	0.4263	8.12	
Silica, Total (calc.)	2/3/22 12:00	2/4/22 10:44		1	29.7	mg/L			
Silicon, Total	2/3/22 12:00	2/4/22 10:44		1.015	13.9	mg/L	0.02030	0.25375	
* Sodium, Total	2/3/22 12:00	2/4/22 12:14		20.3	290	mg/L	0.609	8.12	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: RDA</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	2/3/22 12:00	2/4/22 09:57		1.015	0.104	mg/L	0.030000	0.1015	
* Calcium, Dissolved	2/3/22 12:00	2/4/22 11:31		20.3	438	mg/L	1.4007	8.12	
* Iron, Dissolved	2/3/22 12:00	2/4/22 09:57		1.015	0.873	mg/L	0.008120	0.0406	
* Lithium, Dissolved	2/3/22 12:00	2/4/22 09:57		1.015	0.327	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	2/3/22 12:00	2/4/22 11:31		20.3	178	mg/L	0.4263	8.12	
Silica, Dissolved (calc.)	2/3/22 12:00	2/4/22 09:57		1	29.7	mg/L			
Silicon, Dissolved	2/3/22 12:00	2/4/22 09:57		1.015	13.9	mg/L	0.02030	0.25375	
* Sodium, Dissolved	2/3/22 12:00	2/4/22 11:31		20.3	300	mg/L	0.609	8.12	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	2/1/22 08:51	2/1/22 15:20		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	2/1/22 08:51	2/1/22 15:20		1.015	Not Detected	mg/L	0.004060	0.01015	U
* Arsenic, Total	2/1/22 08:51	2/1/22 15:20		1.015	0.00128	mg/L	0.000068	0.000203	
* Barium, Total	2/1/22 08:51	2/1/22 15:20		1.015	0.0120	mg/L	0.000102	0.000203	
* Beryllium, Total	2/1/22 08:51	2/1/22 15:20		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	2/1/22 08:51	2/1/22 15:20		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	2/1/22 08:51	2/1/22 15:20		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Total	2/1/22 08:51	2/1/22 15:20		1.015	0.000541	mg/L	0.000068	0.000203	
* Lead, Total	2/1/22 08:51	2/1/22 15:20		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	2/1/22 08:51	2/3/22 18:32		10.15	1.55	mg/L	0.000680	0.00203	
* Molybdenum, Total	2/1/22 08:51	2/1/22 15:20		1.015	0.000299	mg/L	0.000068	0.000203	
* Potassium, Total	2/1/22 08:51	2/1/22 15:20		1.015	7.74	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 Gypsum - MW-9V

**Location Code:** WMWGORG  
**Collected:** 1/26/22 13:20  
**Customer ID:**  
**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01776

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/1/22 08:51	2/1/22 15:20		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	2/1/22 08:51	2/1/22 15:20		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: ABB</b>							
* Antimony, Dissolved	2/2/22 09:05	2/3/22 12:52		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/2/22 09:05	2/3/22 12:52		1.015	Not Detected	mg/L	0.004060	0.01015	U
* Arsenic, Dissolved	2/2/22 09:05	2/3/22 12:52		1.015	0.000816	mg/L	0.000068	0.000203	
* Barium, Dissolved	2/2/22 09:05	2/3/22 12:52		1.015	0.0104	mg/L	0.000102	0.000203	
* Beryllium, Dissolved	2/2/22 09:05	2/3/22 12:52		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	2/2/22 09:05	2/3/22 12:52		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	2/2/22 09:05	2/3/22 12:52		1.015	0.000221	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	2/2/22 09:05	2/3/22 12:52		1.015	0.000360	mg/L	0.000068	0.000203	
* Lead, Dissolved	2/2/22 09:05	2/3/22 12:52		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	2/2/22 09:05	2/3/22 15:20		10.15	1.44	mg/L	0.000680	0.00203	
* Molybdenum, Dissolved	2/2/22 09:05	2/3/22 12:52		1.015	0.000189	mg/L	0.000068	0.000203	J
* Potassium, Dissolved	2/2/22 09:05	2/3/22 12:52		1.015	7.38	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/2/22 09:05	2/3/22 12:52		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	2/2/22 09:05	2/3/22 12:52		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	2/8/22 18:27	2/8/22 22:44		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: ELH</b>							
* Nitrogen, Nitrate/Nitrite	2/1/22 15:01	2/1/22 15:01		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
Alkalinity, Total as CaCO3	2/2/22 10:15	2/2/22 12:30		1	329	mg/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	1/28/22 11:30	2/1/22 13:58		1	2890	mg/L		178.6	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
Bicarbonate Alkalinity, (calc.)	2/2/22 10:15	2/2/22 12:30		1	328	mg/L			
Carbonate Alkalinity, (calc.)	2/2/22 10:15	2/2/22 12:30		1	0.59	mg/L			
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	2/1/22 18:01	2/1/22 18:01		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 Gypsum - MW-9V

**Location Code:** WMWGORG  
**Collected:** 1/26/22 13:20  
**Customer ID:**  
**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01776

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	1/28/22 10:55	1/28/22 10:55		5	57.2	mg/L	2.50	5	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	1/28/22 12:48	1/28/22 12:48		1	0.155	mg/L	0.06	0.1	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	2/7/22 15:18	2/7/22 15:18		50	1820	mg/L	25.00	50	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: TJD</b>							
Conductivity	1/26/22 13:15	1/26/22 13:15			3210.84	uS/cm			FA
pH	1/26/22 13:15	1/26/22 13:15			6.89	SU			FA
Temperature	1/26/22 13:15	1/26/22 13:15			19	C			FA
Turbidity	1/26/22 13:15	1/26/22 13:15			0.42	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:** WMWGORG  
**Sample Date:** 1/26/22 13:20  
**Customer ID:**  
**Delivery Date:** 1/27/22 15:16

**Description:** Gorgas Gypsum - MW-9V

**Laboratory ID Number:** BC01776

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BC01777	Aluminum, Dissolved	mg/L	-0.000144	0.00880	0.100	0.305	0.310	0.0972	0.0850 to 0.115	96.0	70.0 to 130	1.63	20.0
BC01777	Aluminum, Total	mg/L	0.000470	0.00880	0.100	0.323	0.323	0.103	0.0850 to 0.115	100	70.0 to 130	0.00	20.0
BC01777	Antimony, Dissolved	mg/L	0.000122	0.00100	0.100	0.0946	0.0947	0.0892	0.0850 to 0.115	94.6	70.0 to 130	0.106	20.0
BC01777	Antimony, Total	mg/L	0.000346	0.00100	0.100	0.110	0.109	0.102	0.0850 to 0.115	110	70.0 to 130	0.913	20.0
BC01777	Arsenic, Dissolved	mg/L	0.0000273	0.000147	0.100	0.104	0.104	0.104	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BC01777	Arsenic, Total	mg/L	0.000104	0.000147	0.100	0.104	0.103	0.106	0.0850 to 0.115	103	70.0 to 130	0.966	20.0
BC01777	Barium, Dissolved	mg/L	-0.0000321	0.000200	0.100	0.110	0.113	0.0978	0.0850 to 0.115	96.6	70.0 to 130	2.69	20.0
BC01777	Barium, Total	mg/L	0.0000503	0.000200	0.100	0.124	0.125	0.113	0.0850 to 0.115	109	70.0 to 130	0.803	20.0
BC01777	Beryllium, Dissolved	mg/L	0.0000506	0.000880	0.100	0.0926	0.0941	0.0989	0.0850 to 0.115	91.9	70.0 to 130	1.61	20.0
BC01777	Beryllium, Total	mg/L	0.000137	0.000880	0.100	0.0873	0.0852	0.0927	0.0850 to 0.115	86.7	70.0 to 130	2.43	20.0
BC01777	Boron, Dissolved	mg/L	-0.000322	0.0650	1.00	6.75	6.82	1.03	0.850 to 1.15	91.0	70.0 to 130	1.03	20.0
BC01777	Boron, Total	mg/L	0.00026	0.0650	1.00	6.81	6.87	1.00	0.850 to 1.15	94.0	70.0 to 130	0.877	20.0
BC01777	Cadmium, Dissolved	mg/L	0.000007	0.000147	0.100	0.0966	0.0966	0.0984	0.0850 to 0.115	96.3	70.0 to 130	0.00	20.0
BC01777	Cadmium, Total	mg/L	0.0000381	0.000147	0.100	0.101	0.101	0.101	0.0850 to 0.115	101	70.0 to 130	0.00	20.0
BC01777	Calcium, Dissolved	mg/L	0.00459	0.152	5.00	318	320	5.03	4.25 to 5.75	0.00	70.0 to 130	0.627	20.0
BC01777	Calcium, Total	mg/L	-0.00198	0.152	5.00	304	313	4.80	4.25 to 5.75	80.0	70.0 to 130	2.92	20.0
BC01777	Chromium, Dissolved	mg/L	0.0000231	0.000440	0.100	0.0980	0.0981	0.101	0.0850 to 0.115	98.0	70.0 to 130	0.102	20.0
BC01777	Chromium, Total	mg/L	-0.0000094	0.000440	0.100	0.100	0.0997	0.101	0.0850 to 0.115	99.8	70.0 to 130	0.300	20.0
BC01777	Cobalt, Dissolved	mg/L	-0.0000016	0.000147	0.100	0.246	0.248	0.105	0.0850 to 0.115	97.0	70.0 to 130	0.810	20.0
BC01777	Cobalt, Total	mg/L	0.000044	0.000147	0.100	0.237	0.234	0.102	0.0850 to 0.115	96.0	70.0 to 130	1.27	20.0
BC01777	Iron, Dissolved	mg/L	-0.000483	0.0176	0.2	16.3	16.4	0.202	0.170 to 0.230	-50.0	70.0 to 130	0.612	20.0
BC01777	Iron, Total	mg/L	-0.00024	0.0176	0.2	16.2	16.2	0.198	0.170 to 0.230	100	70.0 to 130	0.00	20.0
BC01777	Lead, Dissolved	mg/L	0.0000109	0.000147	0.100	0.107	0.107	0.111	0.0850 to 0.115	107	70.0 to 130	0.00	20.0
BC01777	Lead, Total	mg/L	0.0000192	0.000147	0.100	0.0986	0.0970	0.102	0.0850 to 0.115	98.5	70.0 to 130	1.64	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:** WMWGORG  
**Sample Date:** 1/26/22 13:20  
**Customer ID:**  
**Delivery Date:** 1/27/22 15:16

**Description:** Gorgas Gypsum - MW-9V

**Laboratory ID Number:** BC01776

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC01777	Lithium, Dissolved	mg/L	0.000063	0.0154	0.200	0.314	0.329	0.201	0.170 to 0.230	99.5	70.0 to 130	4.67	20.0
BC01777	Lithium, Total	mg/L	-0.000109	0.0154	0.200	0.313	0.326	0.198	0.170 to 0.230	99.0	70.0 to 130	4.07	20.0
BC01777	Magnesium, Dissolved	mg/L	0.00815	0.0462	5.00	218	223	5.19	4.25 to 5.75	-20.0	70.0 to 130	2.27	20.0
BC01777	Magnesium, Total	mg/L	0.000303	0.0462	5.00	208	218	5.01	4.25 to 5.75	60.0	70.0 to 130	4.69	20.0
BC01777	Manganese, Dissolved	mg/L	0.0000529	0.000147	0.100	19.5	19.8	0.112	0.0850 to 0.115	-400	70.0 to 130	1.53	20.0
BC01777	Manganese, Total	mg/L	0.000015	0.000147	0.100	20.6	20.3	0.105	0.0850 to 0.115	0.00	70.0 to 130	1.47	20.0
BC01780	Mercury, Total by CVAA	mg/L	0.00000	0.000500	0.004	0.00399	0.00402	0.00398	0.00340 to 0.00460	99.8	70.0 to 130	0.749	20.0
BC01777	Molybdenum, Dissolved	mg/L	-0.0000001	0.000147	0.100	0.0973	0.0967	0.0973	0.0850 to 0.115	97.3	70.0 to 130	0.619	20.0
BC01777	Molybdenum, Total	mg/L	0.0000548	0.000147	0.100	0.0991	0.101	0.103	0.0850 to 0.115	99.1	70.0 to 130	1.90	20.0
BC01777	Potassium, Dissolved	mg/L	-0.00696	0.367	10.0	17.2	17.0	9.75	8.50 to 11.5	98.4	70.0 to 130	1.17	20.0
BC01777	Potassium, Total	mg/L	0.0887	0.367	10.0	18.0	18.0	10.6	8.50 to 11.5	100	70.0 to 130	0.00	20.0
BC01777	Selenium, Dissolved	mg/L	0.0000188	0.00100	0.100	0.102	0.102	0.103	0.0850 to 0.115	101	70.0 to 130	0.00	20.0
BC01777	Selenium, Total	mg/L	0.0000099	0.00100	0.100	0.103	0.101	0.103	0.0850 to 0.115	102	70.0 to 130	1.96	20.0
BC01777	Silicon, Dissolved	mg/L	-0.000527	0.0440	1.00	10.5	10.6	1.02	0.850 to 1.15	85.0	70.0 to 130	0.948	20.0
BC01777	Silicon, Total	mg/L	0.00043	0.0440	1.00	10.5	10.6	1.02	0.850 to 1.15	94.0	70.0 to 130	0.948	20.0
BC01777	Sodium, Dissolved	mg/L	0.00241	0.0660	5.00	129	132	5.07	4.25 to 5.75	40.0	70.0 to 130	2.30	20.0
BC01777	Sodium, Total	mg/L	0.00603	0.0660	5.00	121	128	4.99	4.25 to 5.75	60.0	70.0 to 130	5.62	20.0
BC01777	Thallium, Dissolved	mg/L	0.0000127	0.000147	0.100	0.107	0.104	0.105	0.0850 to 0.115	107	70.0 to 130	2.84	20.0
BC01777	Thallium, Total	mg/L	0.0000218	0.000147	0.100	0.0966	0.0961	0.0991	0.0850 to 0.115	96.4	70.0 to 130	0.519	20.0
BC01780	Total Organic Carbon	mg/L	0.230	1.00	10.0	10.1	10.0	25.1		101	80.0 to 120	0.995	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:** WMWGORG

**Sample Date:** 1/26/22 13:20

**Customer ID:**

**Delivery Date:** 1/27/22 15:16

**Description:** Gorgas Gypsum - MW-9V

**Laboratory ID Number:** BC01776

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Limit	Prec	Prec Limit
BC01774	Alkalinity, Total as CaCO3	mg/L					179	47.0	45.0 to 55.0			9.57	10.0
BC01780	Chloride	mg/L	-0.028	1.00	10.0	9.87	0.156	10.2	9.00 to 11.0	98.7	80.0 to 120	0.00	20.0
BC01777	Fluoride	mg/L	0.018	0.100	2.50	2.37	0.101	2.50	2.25 to 2.75	90.1	80.0 to 120	14.7	20.0
BC01780	Nitrogen, Nitrate/Nitrite	mg/L as N	0.02	0.200	2.00	2.04	0.052	1.90	1.80 to 2.20	102	90.0 to 110	0.00	15.0
BC01784	Solids, Dissolved	mg/L	0.0000	25.0			1820	50.0	40.0 to 60.0			1.09	10.0
BC01780	Sulfate	mg/L	-0.117	1.00	20.0	18.0	-0.356	18.5	18.0 to 22.0	90.0	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 Gypsum - MW-9H

**Location Code:** WMWGORG  
**Collected:** 1/26/22 15:25  
**Customer ID:**  
**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01777

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: RDA</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Total	2/3/22 12:00	2/4/22 10:46		1.015	5.87	mg/L	0.030000	0.1015	
* Calcium, Total	2/3/22 12:00	2/4/22 12:16		20.3	300	mg/L	1.4007	8.12	RA
* Iron, Total	2/3/22 12:00	2/4/22 12:16		20.3	16.0	mg/L	0.1624	0.812	
* Lithium, Total	2/3/22 12:00	2/4/22 10:46		1.015	0.115	mg/L	0.007105	0.01999956	
* Magnesium, Total	2/3/22 12:00	2/4/22 12:16		20.3	205	mg/L	0.4263	8.12	RA
Silica, Total (calc.)	2/3/22 12:00	2/4/22 10:46		1	20.5	mg/L			
Silicon, Total	2/3/22 12:00	2/4/22 10:46		1.015	9.56	mg/L	0.02030	0.25375	
* Sodium, Total	2/3/22 12:00	2/4/22 12:16		20.3	118	mg/L	0.609	8.12	RA
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: RDA</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	2/3/22 12:00	2/4/22 09:59		1.015	5.84	mg/L	0.030000	0.1015	
* Calcium, Dissolved	2/3/22 12:00	2/4/22 11:33		20.3	318	mg/L	1.4007	8.12	RA
* Iron, Dissolved	2/3/22 12:00	2/4/22 11:33		20.3	16.4	mg/L	0.1624	0.812	RA
* Lithium, Dissolved	2/3/22 12:00	2/4/22 12:44		1.015	0.115	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	2/3/22 12:00	2/4/22 11:33		20.3	219	mg/L	0.4263	8.12	RA
Silica, Dissolved (calc.)	2/3/22 12:00	2/4/22 09:59		1	20.7	mg/L			
Silicon, Dissolved	2/3/22 12:00	2/4/22 09:59		1.015	9.65	mg/L	0.02030	0.25375	
* Sodium, Dissolved	2/3/22 12:00	2/4/22 11:33		20.3	127	mg/L	0.609	8.12	RA
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	2/1/22 08:51	2/1/22 15:24		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	2/1/22 08:51	2/1/22 15:24		1.015	0.223	mg/L	0.004060	0.01015	
* Arsenic, Total	2/1/22 08:51	2/1/22 15:24		1.015	0.00113	mg/L	0.000068	0.000203	
* Barium, Total	2/1/22 08:51	2/1/22 15:24		1.015	0.0146	mg/L	0.000102	0.000203	
* Beryllium, Total	2/1/22 08:51	2/1/22 15:24		1.015	0.000630	mg/L	0.000406	0.001015	J
* Cadmium, Total	2/1/22 08:51	2/1/22 15:24		1.015	0.000240	mg/L	0.000068	0.000203	
* Chromium, Total	2/1/22 08:51	2/1/22 15:24		1.015	0.000243	mg/L	0.000203	0.001015	J
* Cobalt, Total	2/1/22 08:51	2/1/22 15:24		1.015	0.141	mg/L	0.000068	0.000203	
* Lead, Total	2/1/22 08:51	2/1/22 15:24		1.015	0.000125	mg/L	0.000068	0.000203	J
* Manganese, Total	2/1/22 08:51	2/3/22 18:36		92.365	20.6	mg/L	0.006188	0.018473	RA
* Molybdenum, Total	2/1/22 08:51	2/1/22 15:24		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Potassium, Total	2/1/22 08:51	2/1/22 15:24		1.015	7.96	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 Gypsum - MW-9H

**Location Code:** WMWGORG  
**Collected:** 1/26/22 15:25  
**Customer ID:**  
**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01777

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/1/22 08:51	2/1/22 15:24		1.015	0.00129	mg/L	0.000508	0.001015	
* Thallium, Total	2/1/22 08:51	2/1/22 15:24		1.015	0.000222	mg/L	0.000068	0.000203	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: ABB</b>							
* Antimony, Dissolved	2/2/22 09:05	2/3/22 12:55		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/2/22 09:05	2/3/22 12:55		1.015	0.209	mg/L	0.004060	0.01015	
* Arsenic, Dissolved	2/2/22 09:05	2/3/22 12:55		1.015	0.00103	mg/L	0.000068	0.000203	
* Barium, Dissolved	2/2/22 09:05	2/3/22 12:55		1.015	0.0134	mg/L	0.000102	0.000203	
* Beryllium, Dissolved	2/2/22 09:05	2/3/22 12:55		1.015	0.000683	mg/L	0.000406	0.001015	J
* Cadmium, Dissolved	2/2/22 09:05	2/3/22 12:55		1.015	0.000304	mg/L	0.000068	0.000203	
* Chromium, Dissolved	2/2/22 09:05	2/3/22 12:55		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	2/2/22 09:05	2/3/22 12:55		1.015	0.149	mg/L	0.000068	0.000203	
* Lead, Dissolved	2/2/22 09:05	2/3/22 12:55		1.015	0.000105	mg/L	0.000068	0.000203	J
* Manganese, Dissolved	2/2/22 09:05	2/3/22 15:24		92.365	19.9	mg/L	0.006188	0.018473	RA
* Molybdenum, Dissolved	2/2/22 09:05	2/3/22 12:55		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Potassium, Dissolved	2/2/22 09:05	2/3/22 12:55		1.015	7.36	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/2/22 09:05	2/3/22 12:55		1.015	0.00126	mg/L	0.000508	0.001015	
* Thallium, Dissolved	2/2/22 09:05	2/3/22 12:55		1.015	0.000235	mg/L	0.000068	0.000203	
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	2/8/22 18:27	2/8/22 22:48		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: ELH</b>							
* Nitrogen, Nitrate/Nitrite	2/1/22 15:03	2/1/22 15:03		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
Alkalinity, Total as CaCO3	2/2/22 10:15	2/2/22 12:30		1	49.1	mg/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	1/28/22 11:30	2/1/22 13:58		1	2490	mg/L		147.1	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
Bicarbonate Alkalinity, (calc.)	2/2/22 10:15	2/2/22 12:30		1	49.0	mg/L			
Carbonate Alkalinity, (calc.)	2/2/22 10:15	2/2/22 12:30		1	0.12	mg/L			
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	2/1/22 18:19	2/1/22 18:19		1	1.29	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 Gypsum - MW-9H

**Location Code:** WMWGORG  
**Collected:** 1/26/22 15:25  
**Customer ID:**  
**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01777

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	1/28/22 10:57	1/28/22 10:57		5	59.3	mg/L	2.50	5	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	1/28/22 12:49	1/28/22 12:49		1	0.117	mg/L	0.06	0.1	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	2/7/22 15:27	2/7/22 15:27		50	1660	mg/L	25.00	50	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: TJD</b>							
Conductivity	1/26/22 15:22	1/26/22 15:22			2589.92	uS/cm			FA
pH	1/26/22 15:22	1/26/22 15:22			5.35	SU			FA
Temperature	1/26/22 15:22	1/26/22 15:22			20.94	C			FA
Turbidity	1/26/22 15:22	1/26/22 15:22			1.99	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:** WMWGORG  
**Sample Date:** 1/26/22 15:25  
**Customer ID:**  
**Delivery Date:** 1/27/22 15:16

**Description:** Gorgas Gypsum - MW-9H

**Laboratory ID Number:** BC01777

Sample	Analysis	Units	MB					Standard		Rec		Prec	Limit
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC01777	Aluminum, Dissolved	mg/L	-0.000144	0.00880	0.100	0.305	0.310	0.0972	0.0850 to 0.115	96.0	70.0 to 130	1.63	20.0
BC01777	Aluminum, Total	mg/L	0.000470	0.00880	0.100	0.323	0.323	0.103	0.0850 to 0.115	100	70.0 to 130	0.00	20.0
BC01777	Antimony, Dissolved	mg/L	0.000122	0.00100	0.100	0.0946	0.0947	0.0892	0.0850 to 0.115	94.6	70.0 to 130	0.106	20.0
BC01777	Antimony, Total	mg/L	0.000346	0.00100	0.100	0.110	0.109	0.102	0.0850 to 0.115	110	70.0 to 130	0.913	20.0
BC01777	Arsenic, Dissolved	mg/L	0.0000273	0.000147	0.100	0.104	0.104	0.104	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BC01777	Arsenic, Total	mg/L	0.000104	0.000147	0.100	0.104	0.103	0.106	0.0850 to 0.115	103	70.0 to 130	0.966	20.0
BC01777	Barium, Dissolved	mg/L	-0.0000321	0.000200	0.100	0.110	0.113	0.0978	0.0850 to 0.115	96.6	70.0 to 130	2.69	20.0
BC01777	Barium, Total	mg/L	0.0000503	0.000200	0.100	0.124	0.125	0.113	0.0850 to 0.115	109	70.0 to 130	0.803	20.0
BC01777	Beryllium, Dissolved	mg/L	0.0000506	0.000880	0.100	0.0926	0.0941	0.0989	0.0850 to 0.115	91.9	70.0 to 130	1.61	20.0
BC01777	Beryllium, Total	mg/L	0.000137	0.000880	0.100	0.0873	0.0852	0.0927	0.0850 to 0.115	86.7	70.0 to 130	2.43	20.0
BC01777	Boron, Dissolved	mg/L	-0.000322	0.0650	1.00	6.75	6.82	1.03	0.850 to 1.15	91.0	70.0 to 130	1.03	20.0
BC01777	Boron, Total	mg/L	0.00026	0.0650	1.00	6.81	6.87	1.00	0.850 to 1.15	94.0	70.0 to 130	0.877	20.0
BC01777	Cadmium, Dissolved	mg/L	0.000007	0.000147	0.100	0.0966	0.0966	0.0984	0.0850 to 0.115	96.3	70.0 to 130	0.00	20.0
BC01777	Cadmium, Total	mg/L	0.0000381	0.000147	0.100	0.101	0.101	0.101	0.0850 to 0.115	101	70.0 to 130	0.00	20.0
BC01777	Calcium, Dissolved	mg/L	0.00459	0.152	5.00	318	320	5.03	4.25 to 5.75	0.00	70.0 to 130	0.627	20.0
BC01777	Calcium, Total	mg/L	-0.00198	0.152	5.00	304	313	4.80	4.25 to 5.75	80.0	70.0 to 130	2.92	20.0
BC01777	Chromium, Dissolved	mg/L	0.0000231	0.000440	0.100	0.0980	0.0981	0.101	0.0850 to 0.115	98.0	70.0 to 130	0.102	20.0
BC01777	Chromium, Total	mg/L	-0.0000094	0.000440	0.100	0.100	0.0997	0.101	0.0850 to 0.115	99.8	70.0 to 130	0.300	20.0
BC01777	Cobalt, Dissolved	mg/L	-0.0000016	0.000147	0.100	0.246	0.248	0.105	0.0850 to 0.115	97.0	70.0 to 130	0.810	20.0
BC01777	Cobalt, Total	mg/L	0.000044	0.000147	0.100	0.237	0.234	0.102	0.0850 to 0.115	96.0	70.0 to 130	1.27	20.0
BC01777	Iron, Dissolved	mg/L	-0.000483	0.0176	0.2	16.3	16.4	0.202	0.170 to 0.230	-50.0	70.0 to 130	0.612	20.0
BC01777	Iron, Total	mg/L	-0.00024	0.0176	0.2	16.2	16.2	0.198	0.170 to 0.230	100	70.0 to 130	0.00	20.0
BC01777	Lead, Dissolved	mg/L	0.0000109	0.000147	0.100	0.107	0.107	0.111	0.0850 to 0.115	107	70.0 to 130	0.00	20.0
BC01777	Lead, Total	mg/L	0.0000192	0.000147	0.100	0.0986	0.0970	0.102	0.0850 to 0.115	98.5	70.0 to 130	1.64	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:** WMWGORG  
**Sample Date:** 1/26/22 15:25  
**Customer ID:**  
**Delivery Date:** 1/27/22 15:16

**Description:** Gorgas Gypsum - MW-9H

**Laboratory ID Number:** BC01777

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC01777	Lithium, Dissolved	mg/L	0.000063	0.0154	0.200	0.314	0.329	0.201	0.170 to 0.230	99.5	70.0 to 130	4.67	20.0
BC01777	Lithium, Total	mg/L	-0.000109	0.0154	0.200	0.313	0.326	0.198	0.170 to 0.230	99.0	70.0 to 130	4.07	20.0
BC01777	Magnesium, Dissolved	mg/L	0.00815	0.0462	5.00	218	223	5.19	4.25 to 5.75	-20.0	70.0 to 130	2.27	20.0
BC01777	Magnesium, Total	mg/L	0.000303	0.0462	5.00	208	218	5.01	4.25 to 5.75	60.0	70.0 to 130	4.69	20.0
BC01777	Manganese, Dissolved	mg/L	0.0000529	0.000147	0.100	19.5	19.8	0.112	0.0850 to 0.115	-400	70.0 to 130	1.53	20.0
BC01777	Manganese, Total	mg/L	0.000015	0.000147	0.100	20.6	20.3	0.105	0.0850 to 0.115	0.00	70.0 to 130	1.47	20.0
BC01780	Mercury, Total by CVAA	mg/L	0.00000	0.000500	0.004	0.00399	0.00402	0.00398	0.00340 to 0.00460	99.8	70.0 to 130	0.749	20.0
BC01777	Molybdenum, Dissolved	mg/L	-0.0000001	0.000147	0.100	0.0973	0.0967	0.0973	0.0850 to 0.115	97.3	70.0 to 130	0.619	20.0
BC01777	Molybdenum, Total	mg/L	0.0000548	0.000147	0.100	0.0991	0.101	0.103	0.0850 to 0.115	99.1	70.0 to 130	1.90	20.0
BC01777	Potassium, Dissolved	mg/L	-0.00696	0.367	10.0	17.2	17.0	9.75	8.50 to 11.5	98.4	70.0 to 130	1.17	20.0
BC01777	Potassium, Total	mg/L	0.0887	0.367	10.0	18.0	18.0	10.6	8.50 to 11.5	100	70.0 to 130	0.00	20.0
BC01777	Selenium, Dissolved	mg/L	0.0000188	0.00100	0.100	0.102	0.102	0.103	0.0850 to 0.115	101	70.0 to 130	0.00	20.0
BC01777	Selenium, Total	mg/L	0.0000099	0.00100	0.100	0.103	0.101	0.103	0.0850 to 0.115	102	70.0 to 130	1.96	20.0
BC01777	Silicon, Dissolved	mg/L	-0.000527	0.0440	1.00	10.5	10.6	1.02	0.850 to 1.15	85.0	70.0 to 130	0.948	20.0
BC01777	Silicon, Total	mg/L	0.00043	0.0440	1.00	10.5	10.6	1.02	0.850 to 1.15	94.0	70.0 to 130	0.948	20.0
BC01777	Sodium, Dissolved	mg/L	0.00241	0.0660	5.00	129	132	5.07	4.25 to 5.75	40.0	70.0 to 130	2.30	20.0
BC01777	Sodium, Total	mg/L	0.00603	0.0660	5.00	121	128	4.99	4.25 to 5.75	60.0	70.0 to 130	5.62	20.0
BC01777	Thallium, Dissolved	mg/L	0.0000127	0.000147	0.100	0.107	0.104	0.105	0.0850 to 0.115	107	70.0 to 130	2.84	20.0
BC01777	Thallium, Total	mg/L	0.0000218	0.000147	0.100	0.0966	0.0961	0.0991	0.0850 to 0.115	96.4	70.0 to 130	0.519	20.0
BC01780	Total Organic Carbon	mg/L	0.230	1.00	10.0	10.1	10.0	25.1		101	80.0 to 120	0.995	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:** WMWGORG

**Sample Date:** 1/26/22 15:25

**Customer ID:**

**Delivery Date:** 1/27/22 15:16

**Description:** Gorgas Gypsum - MW-9H

**Laboratory ID Number:** BC01777

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Limit	Prec	Prec Limit
BC01774	Alkalinity, Total as CaCO3	mg/L					179	47.0	45.0 to 55.0			9.57	10.0
BC01780	Chloride	mg/L	-0.028	1.00	10.0	9.87	0.156	10.2	9.00 to 11.0	98.7	80.0 to 120	0.00	20.0
BC01777	Fluoride	mg/L	0.018	0.100	2.50	2.37	0.101	2.50	2.25 to 2.75	90.1	80.0 to 120	14.7	20.0
BC01780	Nitrogen, Nitrate/Nitrite	mg/L as N	0.02	0.200	2.00	2.04	0.052	1.90	1.80 to 2.20	102	90.0 to 110	0.00	15.0
BC01784	Solids, Dissolved	mg/L	0.0000	25.0			1820	50.0	40.0 to 60.0			1.09	10.0
BC01780	Sulfate	mg/L	-0.117	1.00	20.0	18.0	-0.356	18.5	18.0 to 22.0	90.0	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 Gypsum - MW-12V

**Location Code:** WMWGORG  
**Collected:** 1/27/22 09:00  
**Customer ID:**  
**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01778

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: RDA</b>			<b>Preparation Method: EPA 1638</b>			
* Boron, Total	2/3/22 12:00	2/4/22 10:55		1.015	1.52	mg/L	0.030000	0.1015	
* Calcium, Total	2/3/22 12:00	2/4/22 12:25		101.5	347	mg/L	7.0035	40.6	
* Iron, Total	2/3/22 12:00	2/4/22 12:25		101.5	33.2	mg/L	0.8120	4.06	
* Lithium, Total	2/3/22 12:00	2/4/22 10:55		1.015	0.303	mg/L	0.007105	0.01999956	
* Magnesium, Total	2/3/22 12:00	2/4/22 12:25		101.5	213	mg/L	2.1315	40.6	
Silica, Total (calc.)	2/3/22 12:00	2/4/22 10:55		1	27.4	mg/L			
Silicon, Total	2/3/22 12:00	2/4/22 10:55		1.015	12.8	mg/L	0.02030	0.25375	
* Sodium, Total	2/3/22 12:00	2/4/22 12:25		101.5	390	mg/L	3.045	40.6	
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: RDA</b>			<b>Preparation Method: EPA 1638</b>			
* Boron, Dissolved	2/3/22 12:00	2/4/22 10:08		1.015	1.52	mg/L	0.030000	0.1015	
* Calcium, Dissolved	2/3/22 12:00	2/4/22 11:42		101.5	345	mg/L	7.0035	40.6	
* Iron, Dissolved	2/3/22 12:00	2/4/22 11:42		101.5	35.1	mg/L	0.8120	4.06	
* Lithium, Dissolved	2/3/22 12:00	2/4/22 10:08		1.015	0.285	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	2/3/22 12:00	2/4/22 11:42		101.5	216	mg/L	2.1315	40.6	
Silica, Dissolved (calc.)	2/3/22 12:00	2/4/22 10:08		1	27.2	mg/L			
Silicon, Dissolved	2/3/22 12:00	2/4/22 10:08		1.015	12.7	mg/L	0.02030	0.25375	
* Sodium, Dissolved	2/3/22 12:00	2/4/22 11:42		101.5	368	mg/L	3.045	40.6	
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>			
* Antimony, Total	2/1/22 08:51	2/1/22 15:46		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	2/1/22 08:51	2/1/22 15:46		1.015	0.00600	mg/L	0.004060	0.01015	J
* Arsenic, Total	2/1/22 08:51	2/1/22 15:46		1.015	0.000665	mg/L	0.000068	0.000203	
* Barium, Total	2/1/22 08:51	2/1/22 15:46		1.015	0.0125	mg/L	0.000102	0.000203	
* Beryllium, Total	2/1/22 08:51	2/1/22 15:46		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	2/1/22 08:51	2/1/22 15:46		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	2/1/22 08:51	2/1/22 15:46		1.015	0.000252	mg/L	0.000203	0.001015	J
* Cobalt, Total	2/1/22 08:51	2/1/22 15:46		1.015	0.000216	mg/L	0.000068	0.000203	
* Lead, Total	2/1/22 08:51	2/1/22 15:46		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	2/1/22 08:51	2/3/22 18:57		92.365	22.1	mg/L	0.006188	0.018473	
* Molybdenum, Total	2/1/22 08:51	2/1/22 15:46		1.015	0.00268	mg/L	0.000068	0.000203	
* Potassium, Total	2/1/22 08:51	2/1/22 15:46		1.015	7.49	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 Gypsum - MW-12V

**Location Code:** WMWGORG  
**Collected:** 1/27/22 09:00  
**Customer ID:**  
**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01778

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/1/22 08:51	2/1/22 15:46		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	2/1/22 08:51	2/1/22 15:46		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: ABB</b>							
* Antimony, Dissolved	2/2/22 09:05	2/3/22 13:16		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/2/22 09:05	2/3/22 13:16		1.015	Not Detected	mg/L	0.004060	0.01015	U
* Arsenic, Dissolved	2/2/22 09:05	2/3/22 13:16		1.015	0.000476	mg/L	0.000068	0.000203	
* Barium, Dissolved	2/2/22 09:05	2/3/22 13:16		1.015	0.0106	mg/L	0.000102	0.000203	
* Beryllium, Dissolved	2/2/22 09:05	2/3/22 13:16		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	2/2/22 09:05	2/3/22 13:16		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	2/2/22 09:05	2/3/22 13:16		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	2/2/22 09:05	2/3/22 13:16		1.015	0.000162	mg/L	0.000068	0.000203	J
* Lead, Dissolved	2/2/22 09:05	2/3/22 13:16		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	2/2/22 09:05	2/3/22 15:45		92.365	22.0	mg/L	0.006188	0.018473	
* Molybdenum, Dissolved	2/2/22 09:05	2/3/22 13:16		1.015	0.00183	mg/L	0.000068	0.000203	
* Potassium, Dissolved	2/2/22 09:05	2/3/22 13:16		1.015	6.94	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/2/22 09:05	2/3/22 13:16		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	2/2/22 09:05	2/3/22 13:16		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	2/8/22 18:27	2/8/22 22:52		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: ELH</b>							
* Nitrogen, Nitrate/Nitrite	2/1/22 15:05	2/1/22 15:05		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
Alkalinity, Total as CaCO3	2/2/22 10:15	2/2/22 12:30		1	307	mg/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	1/28/22 11:30	2/1/22 13:58		1	3170	mg/L		208.3	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
Bicarbonate Alkalinity, (calc.)	2/2/22 10:15	2/2/22 12:30		1	306	mg/L			
Carbonate Alkalinity, (calc.)	2/2/22 10:15	2/2/22 12:30		1	0.74	mg/L			
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	2/1/22 18:37	2/1/22 18:37		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 Gypsum - MW-12V

**Location Code:** WMWGORG  
**Collected:** 1/27/22 09:00  
**Customer ID:**  
**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01778

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	1/28/22 10:58	1/28/22 10:58		10	171	mg/L	5.00	10	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	1/28/22 13:02	1/28/22 13:02		1	0.329	mg/L	0.06	0.1	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	2/7/22 15:21	2/7/22 15:21		80	1990	mg/L	40.00	80	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: TJD</b>							
Conductivity	1/27/22 08:56	1/27/22 08:56			3900.53	uS/cm			FA
pH	1/27/22 08:56	1/27/22 08:56			6.19	SU			FA
Temperature	1/27/22 08:56	1/27/22 08:56			20.23	C			FA
Turbidity	1/27/22 08:56	1/27/22 08:56			0.58	NTU			FA

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

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**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:** WMWGORG  
**Sample Date:** 1/27/22 09:00  
**Customer ID:**  
**Delivery Date:** 1/27/22 15:16

**Description:** Gorgas Gypsum - MW-12V

**Laboratory ID Number:** BC01778

Sample	Analysis	Units	MB	MB		MS	MSD	Standard		Rec		Prec	Limit
				Limit	Spike			Standard	Limit	Rec	Limit		
BC01784	Aluminum, Dissolved	mg/L	-0.000144	0.00880	0.100	30.3	30.3	0.0972	0.0850 to 0.115	0.00	70.0 to 130	0.00	20.0
BC01784	Aluminum, Total	mg/L	0.000470	0.00880	0.100	30.2	30.5	0.103	0.0850 to 0.115	500	70.0 to 130	0.988	20.0
BC01784	Antimony, Dissolved	mg/L	0.000122	0.00100	0.100	0.0957	0.0983	0.0892	0.0850 to 0.115	95.7	70.0 to 130	2.68	20.0
BC01784	Antimony, Total	mg/L	0.000346	0.00100	0.100	0.101	0.102	0.102	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BC01784	Arsenic, Dissolved	mg/L	0.0000273	0.000147	0.100	0.103	0.104	0.104	0.0850 to 0.115	100	70.0 to 130	0.966	20.0
BC01784	Arsenic, Total	mg/L	0.000104	0.000147	0.100	0.104	0.0984	0.106	0.0850 to 0.115	101	70.0 to 130	5.53	20.0
BC01784	Barium, Dissolved	mg/L	-0.0000321	0.000200	0.100	0.111	0.113	0.0978	0.0850 to 0.115	99.6	70.0 to 130	1.79	20.0
BC01784	Barium, Total	mg/L	0.0000503	0.000200	0.100	0.123	0.115	0.113	0.0850 to 0.115	110	70.0 to 130	6.72	20.0
BC01784	Beryllium, Dissolved	mg/L	0.0000506	0.000880	0.100	0.0966	0.0980	0.0989	0.0850 to 0.115	88.4	70.0 to 130	1.44	20.0
BC01784	Beryllium, Total	mg/L	0.000137	0.000880	0.100	0.0916	0.0883	0.0927	0.0850 to 0.115	83.9	70.0 to 130	3.67	20.0
BC01784	Boron, Dissolved	mg/L	-0.000322	0.0650	1.00	7.08	7.10	1.03	0.850 to 1.15	109	70.0 to 130	0.282	20.0
BC01784	Boron, Total	mg/L	0.00026	0.0650	1.00	7.15	7.12	1.00	0.850 to 1.15	105	70.0 to 130	0.420	20.0
BC01784	Cadmium, Dissolved	mg/L	0.000007	0.000147	0.100	0.100	0.101	0.0984	0.0850 to 0.115	96.7	70.0 to 130	0.995	20.0
BC01784	Cadmium, Total	mg/L	0.0000381	0.000147	0.100	0.105	0.101	0.101	0.0850 to 0.115	102	70.0 to 130	3.88	20.0
BC01784	Calcium, Dissolved	mg/L	0.00459	0.152	5.00	184	185	5.03	4.25 to 5.75	140	70.0 to 130	0.542	20.0
BC01784	Calcium, Total	mg/L	-0.00198	0.152	5.00	177	178	4.80	4.25 to 5.75	-80.0	70.0 to 130	0.563	20.0
BC01784	Chromium, Dissolved	mg/L	0.0000231	0.000440	0.100	0.0963	0.0992	0.101	0.0850 to 0.115	95.2	70.0 to 130	2.97	20.0
BC01784	Chromium, Total	mg/L	-0.0000094	0.000440	0.100	0.101	0.0962	0.101	0.0850 to 0.115	99.9	70.0 to 130	4.87	20.0
BC01784	Cobalt, Dissolved	mg/L	-0.0000016	0.000147	0.100	0.539	0.557	0.105	0.0850 to 0.115	92.0	70.0 to 130	3.28	20.0
BC01784	Cobalt, Total	mg/L	0.000044	0.000147	0.100	0.502	0.489	0.102	0.0850 to 0.115	96.0	70.0 to 130	2.62	20.0
BC01784	Iron, Dissolved	mg/L	-0.000483	0.0176	0.2	20.4	20.6	0.202	0.170 to 0.230	0.00	70.0 to 130	0.976	20.0
BC01784	Iron, Total	mg/L	-0.00024	0.0176	0.2	20.4	20.1	0.198	0.170 to 0.230	-100	70.0 to 130	1.48	20.0
BC01784	Lead, Dissolved	mg/L	0.0000109	0.000147	0.100	0.109	0.106	0.111	0.0850 to 0.115	108	70.0 to 130	2.79	20.0
BC01784	Lead, Total	mg/L	0.0000192	0.000147	0.100	0.101	0.0977	0.102	0.0850 to 0.115	100	70.0 to 130	3.32	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:** WMWGORG  
**Sample Date:** 1/27/22 09:00  
**Customer ID:**  
**Delivery Date:** 1/27/22 15:16

**Description:** Gorgas Gypsum - MW-12V

**Laboratory ID Number:** BC01778

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC01784	Lithium, Dissolved	mg/L	0.000063	0.0154	0.200	0.830	0.857	0.201	0.170 to 0.230	91.5	70.0 to 130	3.20	20.0
BC01784	Lithium, Total	mg/L	-0.000109	0.0154	0.200	0.879	0.859	0.198	0.170 to 0.230	104	70.0 to 130	2.30	20.0
BC01784	Magnesium, Dissolved	mg/L	0.00815	0.0462	5.00	167	165	5.19	4.25 to 5.75	140	70.0 to 130	1.20	20.0
BC01784	Magnesium, Total	mg/L	0.000303	0.0462	5.00	159	160	5.01	4.25 to 5.75	-20.0	70.0 to 130	0.627	20.0
BC01784	Manganese, Dissolved	mg/L	0.0000529	0.000147	0.100	18.4	18.3	0.112	0.0850 to 0.115	-100	70.0 to 130	0.545	20.0
BC01784	Manganese, Total	mg/L	0.000015	0.000147	0.100	19.1	19.0	0.105	0.0850 to 0.115	200	70.0 to 130	0.525	20.0
BC01780	Mercury, Total by CVAA	mg/L	0.00000	0.000500	0.004	0.00399	0.00402	0.00398	0.00340 to 0.00460	99.8	70.0 to 130	0.749	20.0
BC01784	Molybdenum, Dissolved	mg/L	-0.0000001	0.000147	0.100	0.0946	0.0941	0.0973	0.0850 to 0.115	94.6	70.0 to 130	0.530	20.0
BC01784	Molybdenum, Total	mg/L	0.0000548	0.000147	0.100	0.0996	0.0977	0.103	0.0850 to 0.115	99.6	70.0 to 130	1.93	20.0
BC01784	Potassium, Dissolved	mg/L	-0.00696	0.367	10.0	13.6	14.2	9.75	8.50 to 11.5	89.9	70.0 to 130	4.32	20.0
BC01784	Potassium, Total	mg/L	0.0887	0.367	10.0	15.4	15.6	10.6	8.50 to 11.5	102	70.0 to 130	1.29	20.0
BC01784	Selenium, Dissolved	mg/L	0.0000188	0.00100	0.100	0.108	0.108	0.103	0.0850 to 0.115	99.5	70.0 to 130	0.00	20.0
BC01784	Selenium, Total	mg/L	0.0000099	0.00100	0.100	0.105	0.101	0.103	0.0850 to 0.115	96.8	70.0 to 130	3.88	20.0
BC01784	Silicon, Dissolved	mg/L	-0.000527	0.0440	1.00	27.5	27.6	1.02	0.850 to 1.15	100	70.0 to 130	0.363	20.0
BC01784	Silicon, Total	mg/L	0.00043	0.0440	1.00	27.4	27.0	1.02	0.850 to 1.15	90.0	70.0 to 130	1.47	20.0
BC01784	Sodium, Dissolved	mg/L	0.00241	0.0660	5.00	28.8	29.8	5.07	4.25 to 5.75	88.0	70.0 to 130	3.41	20.0
BC01784	Sodium, Total	mg/L	0.00603	0.0660	5.00	30.5	29.7	4.99	4.25 to 5.75	106	70.0 to 130	2.66	20.0
BC01784	Thallium, Dissolved	mg/L	0.0000127	0.000147	0.100	0.105	0.103	0.105	0.0850 to 0.115	105	70.0 to 130	1.92	20.0
BC01784	Thallium, Total	mg/L	0.0000218	0.000147	0.100	0.0980	0.0956	0.0991	0.0850 to 0.115	97.8	70.0 to 130	2.48	20.0
BC01780	Total Organic Carbon	mg/L	0.230	1.00	10.0	10.1	10.0	25.1		101	80.0 to 120	0.995	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:** WMWGORG

**Sample Date:** 1/27/22 09:00

**Customer ID:**

**Delivery Date:** 1/27/22 15:16

**Description:** Gorgas Gypsum - MW-12V

**Laboratory ID Number:** BC01778

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC01774	Alkalinity, Total as CaCO3	mg/L					179	47.0	45.0 to 55.0			9.57	10.0
BC01780	Chloride	mg/L	-0.028	1.00	10.0	9.87	0.156	10.2	9.00 to 11.0	98.7	80.0 to 120	0.00	20.0
BC01781	Fluoride	mg/L	0.0363	0.100	2.50	2.50	0.0227	2.39	2.25 to 2.75	100	80.0 to 120	0.00	20.0
BC01780	Nitrogen, Nitrate/Nitrite	mg/L as N	0.02	0.200	2.00	2.04	0.052	1.90	1.80 to 2.20	102	90.0 to 110	0.00	15.0
BC01784	Solids, Dissolved	mg/L	0.0000	25.0			1820	50.0	40.0 to 60.0			1.09	10.0
BC01780	Sulfate	mg/L	-0.117	1.00	20.0	18.0	-0.356	18.5	18.0 to 22.0	90.0	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 Gypsum - MW-8

**Location Code:** WMWGORG  
**Collected:** 1/27/22 10:00  
**Customer ID:**  
**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01779

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: RDA</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Total	2/3/22 12:00	2/4/22 10:57		1.015	2.76	mg/L	0.030000	0.1015	
* Calcium, Total	2/3/22 12:00	2/4/22 12:27		101.5	491	mg/L	7.0035	40.6	
* Iron, Total	2/3/22 12:00	2/4/22 12:27		101.5	27.9	mg/L	0.8120	4.06	
* Lithium, Total	2/3/22 12:00	2/4/22 10:57		1.015	0.185	mg/L	0.007105	0.01999956	
* Magnesium, Total	2/3/22 12:00	2/4/22 12:27		101.5	301	mg/L	2.1315	40.6	
Silica, Total (calc.)	2/3/22 12:00	2/4/22 10:57		1	15.3	mg/L			
Silicon, Total	2/3/22 12:00	2/4/22 10:57		1.015	7.13	mg/L	0.02030	0.25375	
* Sodium, Total	2/3/22 12:00	2/4/22 12:27		101.5	164	mg/L	3.045	40.6	
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: RDA</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	2/3/22 12:00	2/4/22 10:10		1.015	2.81	mg/L	0.030000	0.1015	
* Calcium, Dissolved	2/3/22 12:00	2/4/22 11:44		101.5	494	mg/L	7.0035	40.6	
* Iron, Dissolved	2/3/22 12:00	2/4/22 11:44		101.5	27.7	mg/L	0.8120	4.06	
* Lithium, Dissolved	2/3/22 12:00	2/4/22 10:10		1.015	0.179	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	2/3/22 12:00	2/4/22 11:44		101.5	298	mg/L	2.1315	40.6	
Silica, Dissolved (calc.)	2/3/22 12:00	2/4/22 10:10		1	15.2	mg/L			
Silicon, Dissolved	2/3/22 12:00	2/4/22 10:10		1.015	7.12	mg/L	0.02030	0.25375	
* Sodium, Dissolved	2/3/22 12:00	2/4/22 11:44		101.5	161	mg/L	3.045	40.6	
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	2/1/22 08:51	2/1/22 15:50		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	2/1/22 08:51	2/1/22 15:50		1.015	0.176	mg/L	0.004060	0.01015	
* Arsenic, Total	2/1/22 08:51	2/1/22 15:50		1.015	0.000275	mg/L	0.000068	0.000203	
* Barium, Total	2/1/22 08:51	2/1/22 15:50		1.015	0.0238	mg/L	0.000102	0.000203	
* Beryllium, Total	2/1/22 08:51	2/1/22 15:50		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	2/1/22 08:51	2/1/22 15:50		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	2/1/22 08:51	2/1/22 15:50		1.015	0.000456	mg/L	0.000203	0.001015	J
* Cobalt, Total	2/1/22 08:51	2/1/22 15:50		1.015	0.000674	mg/L	0.000068	0.000203	
* Lead, Total	2/1/22 08:51	2/1/22 15:50		1.015	0.000150	mg/L	0.000068	0.000203	J
* Manganese, Total	2/1/22 08:51	2/3/22 19:01		92.365	17.5	mg/L	0.006188	0.018473	
* Molybdenum, Total	2/1/22 08:51	2/1/22 15:50		1.015	0.000122	mg/L	0.000068	0.000203	J
* Potassium, Total	2/1/22 08:51	2/1/22 15:50		1.015	8.22	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 Gypsum - MW-8

**Location Code:** WMWGORG  
**Collected:** 1/27/22 10:00  
**Customer ID:**  
**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01779

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/1/22 08:51	2/1/22 15:50		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	2/1/22 08:51	2/1/22 15:50		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: ABB</b>							
* Antimony, Dissolved	2/2/22 09:05	2/3/22 13:20		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/2/22 09:05	2/3/22 13:20		1.015	Not Detected	mg/L	0.004060	0.01015	U
* Arsenic, Dissolved	2/2/22 09:05	2/3/22 13:20		1.015	0.000187	mg/L	0.000068	0.000203	J
* Barium, Dissolved	2/2/22 09:05	2/3/22 13:20		1.015	0.0192	mg/L	0.000102	0.000203	
* Beryllium, Dissolved	2/2/22 09:05	2/3/22 13:20		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	2/2/22 09:05	2/3/22 13:20		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	2/2/22 09:05	2/3/22 13:20		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	2/2/22 09:05	2/3/22 13:20		1.015	0.000187	mg/L	0.000068	0.000203	J
* Lead, Dissolved	2/2/22 09:05	2/3/22 13:20		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	2/2/22 09:05	2/3/22 15:49		92.365	17.2	mg/L	0.006188	0.018473	
* Molybdenum, Dissolved	2/2/22 09:05	2/3/22 13:20		1.015	0.000111	mg/L	0.000068	0.000203	J
* Potassium, Dissolved	2/2/22 09:05	2/3/22 13:20		1.015	7.69	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/2/22 09:05	2/3/22 13:20		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	2/2/22 09:05	2/3/22 13:20		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	2/8/22 18:27	2/8/22 22:56		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: ELH</b>							
* Nitrogen, Nitrate/Nitrite	2/1/22 15:07	2/1/22 15:07		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
Alkalinity, Total as CaCO3	2/2/22 10:15	2/2/22 12:30		1	523	mg/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	1/28/22 11:30	2/1/22 13:58		1	3290	mg/L		208.3	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
Bicarbonate Alkalinity, (calc.)	2/2/22 10:15	2/2/22 12:30		1	521	mg/L			
Carbonate Alkalinity, (calc.)	2/2/22 10:15	2/2/22 12:30		1	1.91	mg/L			
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	2/1/22 18:57	2/1/22 18:57		1	2.82	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.

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-8

**Location Code:** WMWGORG  
**Collected:** 1/27/22 10:00  
**Customer ID:**  
**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01779

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	1/28/22 10:59	1/28/22 10:59		10	122	mg/L	5.00	10	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	1/28/22 13:03	1/28/22 13:03		1	0.179	mg/L	0.06	0.1	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	2/7/22 15:22	2/7/22 15:22		80	2000	mg/L	40.00	80	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: TJD</b>							
Conductivity	1/27/22 09:56	1/27/22 09:56			3489.16	uS/cm			FA
pH	1/27/22 09:56	1/27/22 09:56			6.85	SU			FA
Temperature	1/27/22 09:56	1/27/22 09:56			21.13	C			FA
Turbidity	1/27/22 09:56	1/27/22 09:56			2.64	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:** WMWGORG  
**Sample Date:** 1/27/22 10:00  
**Customer ID:**  
**Delivery Date:** 1/27/22 15:16

**Description:** Gorgas Gypsum - MW-8

**Laboratory ID Number:** BC01779

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BC01784	Aluminum, Dissolved	mg/L	-0.000144	0.00880	0.100	30.3	30.3	0.0972	0.0850 to 0.115	0.00	70.0 to 130	0.00	20.0
BC01784	Aluminum, Total	mg/L	0.000470	0.00880	0.100	30.2	30.5	0.103	0.0850 to 0.115	500	70.0 to 130	0.988	20.0
BC01784	Antimony, Dissolved	mg/L	0.000122	0.00100	0.100	0.0957	0.0983	0.0892	0.0850 to 0.115	95.7	70.0 to 130	2.68	20.0
BC01784	Antimony, Total	mg/L	0.000346	0.00100	0.100	0.101	0.102	0.102	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BC01784	Arsenic, Dissolved	mg/L	0.0000273	0.000147	0.100	0.103	0.104	0.104	0.0850 to 0.115	100	70.0 to 130	0.966	20.0
BC01784	Arsenic, Total	mg/L	0.000104	0.000147	0.100	0.104	0.0984	0.106	0.0850 to 0.115	101	70.0 to 130	5.53	20.0
BC01784	Barium, Dissolved	mg/L	-0.0000321	0.000200	0.100	0.111	0.113	0.0978	0.0850 to 0.115	99.6	70.0 to 130	1.79	20.0
BC01784	Barium, Total	mg/L	0.0000503	0.000200	0.100	0.123	0.115	0.113	0.0850 to 0.115	110	70.0 to 130	6.72	20.0
BC01784	Beryllium, Dissolved	mg/L	0.0000506	0.000880	0.100	0.0966	0.0980	0.0989	0.0850 to 0.115	88.4	70.0 to 130	1.44	20.0
BC01784	Beryllium, Total	mg/L	0.000137	0.000880	0.100	0.0916	0.0883	0.0927	0.0850 to 0.115	83.9	70.0 to 130	3.67	20.0
BC01784	Boron, Dissolved	mg/L	-0.000322	0.0650	1.00	7.08	7.10	1.03	0.850 to 1.15	109	70.0 to 130	0.282	20.0
BC01784	Boron, Total	mg/L	0.00026	0.0650	1.00	7.15	7.12	1.00	0.850 to 1.15	105	70.0 to 130	0.420	20.0
BC01784	Cadmium, Dissolved	mg/L	0.000007	0.000147	0.100	0.100	0.101	0.0984	0.0850 to 0.115	96.7	70.0 to 130	0.995	20.0
BC01784	Cadmium, Total	mg/L	0.0000381	0.000147	0.100	0.105	0.101	0.101	0.0850 to 0.115	102	70.0 to 130	3.88	20.0
BC01784	Calcium, Dissolved	mg/L	0.00459	0.152	5.00	184	185	5.03	4.25 to 5.75	140	70.0 to 130	0.542	20.0
BC01784	Calcium, Total	mg/L	-0.00198	0.152	5.00	177	178	4.80	4.25 to 5.75	-80.0	70.0 to 130	0.563	20.0
BC01784	Chromium, Dissolved	mg/L	0.0000231	0.000440	0.100	0.0963	0.0992	0.101	0.0850 to 0.115	95.2	70.0 to 130	2.97	20.0
BC01784	Chromium, Total	mg/L	-0.0000094	0.000440	0.100	0.101	0.0962	0.101	0.0850 to 0.115	99.9	70.0 to 130	4.87	20.0
BC01784	Cobalt, Dissolved	mg/L	-0.0000016	0.000147	0.100	0.539	0.557	0.105	0.0850 to 0.115	92.0	70.0 to 130	3.28	20.0
BC01784	Cobalt, Total	mg/L	0.000044	0.000147	0.100	0.502	0.489	0.102	0.0850 to 0.115	96.0	70.0 to 130	2.62	20.0
BC01784	Iron, Dissolved	mg/L	-0.000483	0.0176	0.2	20.4	20.6	0.202	0.170 to 0.230	0.00	70.0 to 130	0.976	20.0
BC01784	Iron, Total	mg/L	-0.00024	0.0176	0.2	20.4	20.1	0.198	0.170 to 0.230	-100	70.0 to 130	1.48	20.0
BC01784	Lead, Dissolved	mg/L	0.0000109	0.000147	0.100	0.109	0.106	0.111	0.0850 to 0.115	108	70.0 to 130	2.79	20.0
BC01784	Lead, Total	mg/L	0.0000192	0.000147	0.100	0.101	0.0977	0.102	0.0850 to 0.115	100	70.0 to 130	3.32	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:** WMWGORG  
**Sample Date:** 1/27/22 10:00  
**Customer ID:**  
**Delivery Date:** 1/27/22 15:16

**Description:** Gorgas Gypsum - MW-8

**Laboratory ID Number:** BC01779

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC01784	Lithium, Dissolved	mg/L	0.000063	0.0154	0.200	0.830	0.857	0.201	0.170 to 0.230	91.5	70.0 to 130	3.20	20.0
BC01784	Lithium, Total	mg/L	-0.000109	0.0154	0.200	0.879	0.859	0.198	0.170 to 0.230	104	70.0 to 130	2.30	20.0
BC01784	Magnesium, Dissolved	mg/L	0.00815	0.0462	5.00	167	165	5.19	4.25 to 5.75	140	70.0 to 130	1.20	20.0
BC01784	Magnesium, Total	mg/L	0.000303	0.0462	5.00	159	160	5.01	4.25 to 5.75	-20.0	70.0 to 130	0.627	20.0
BC01784	Manganese, Dissolved	mg/L	0.0000529	0.000147	0.100	18.4	18.3	0.112	0.0850 to 0.115	-100	70.0 to 130	0.545	20.0
BC01784	Manganese, Total	mg/L	0.000015	0.000147	0.100	19.1	19.0	0.105	0.0850 to 0.115	200	70.0 to 130	0.525	20.0
BC01780	Mercury, Total by CVAA	mg/L	0.00000	0.000500	0.004	0.00399	0.00402	0.00398	0.00340 to 0.00460	99.8	70.0 to 130	0.749	20.0
BC01784	Molybdenum, Dissolved	mg/L	-0.0000001	0.000147	0.100	0.0946	0.0941	0.0973	0.0850 to 0.115	94.6	70.0 to 130	0.530	20.0
BC01784	Molybdenum, Total	mg/L	0.0000548	0.000147	0.100	0.0996	0.0977	0.103	0.0850 to 0.115	99.6	70.0 to 130	1.93	20.0
BC01784	Potassium, Dissolved	mg/L	-0.00696	0.367	10.0	13.6	14.2	9.75	8.50 to 11.5	89.9	70.0 to 130	4.32	20.0
BC01784	Potassium, Total	mg/L	0.0887	0.367	10.0	15.4	15.6	10.6	8.50 to 11.5	102	70.0 to 130	1.29	20.0
BC01784	Selenium, Dissolved	mg/L	0.0000188	0.00100	0.100	0.108	0.108	0.103	0.0850 to 0.115	99.5	70.0 to 130	0.00	20.0
BC01784	Selenium, Total	mg/L	0.0000099	0.00100	0.100	0.105	0.101	0.103	0.0850 to 0.115	96.8	70.0 to 130	3.88	20.0
BC01784	Silicon, Dissolved	mg/L	-0.000527	0.0440	1.00	27.5	27.6	1.02	0.850 to 1.15	100	70.0 to 130	0.363	20.0
BC01784	Silicon, Total	mg/L	0.00043	0.0440	1.00	27.4	27.0	1.02	0.850 to 1.15	90.0	70.0 to 130	1.47	20.0
BC01784	Sodium, Dissolved	mg/L	0.00241	0.0660	5.00	28.8	29.8	5.07	4.25 to 5.75	88.0	70.0 to 130	3.41	20.0
BC01784	Sodium, Total	mg/L	0.00603	0.0660	5.00	30.5	29.7	4.99	4.25 to 5.75	106	70.0 to 130	2.66	20.0
BC01784	Thallium, Dissolved	mg/L	0.0000127	0.000147	0.100	0.105	0.103	0.105	0.0850 to 0.115	105	70.0 to 130	1.92	20.0
BC01784	Thallium, Total	mg/L	0.0000218	0.000147	0.100	0.0980	0.0956	0.0991	0.0850 to 0.115	97.8	70.0 to 130	2.48	20.0
BC01780	Total Organic Carbon	mg/L	0.230	1.00	10.0	10.1	10.0	25.1		101	80.0 to 120	0.995	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:** WMWGORG

**Sample Date:** 1/27/22 10:00

**Customer ID:**

**Delivery Date:** 1/27/22 15:16

**Description:** Gorgas Gypsum - MW-8

**Laboratory ID Number:** BC01779

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Limit	Prec	Prec Limit
BC01774	Alkalinity, Total as CaCO3	mg/L					179	47.0	45.0 to 55.0			9.57	10.0
BC01780	Chloride	mg/L	-0.028	1.00	10.0	9.87	0.156	10.2	9.00 to 11.0	98.7	80.0 to 120	0.00	20.0
BC01781	Fluoride	mg/L	0.0363	0.100	2.50	2.50	0.0227	2.39	2.25 to 2.75	100	80.0 to 120	0.00	20.0
BC01780	Nitrogen, Nitrate/Nitrite	mg/L as N	0.02	0.200	2.00	2.04	0.052	1.90	1.80 to 2.20	102	90.0 to 110	0.00	15.0
BC01784	Solids, Dissolved	mg/L	0.0000	25.0			1820	50.0	40.0 to 60.0			1.09	10.0
BC01780	Sulfate	mg/L	-0.117	1.00	20.0	18.0	-0.356	18.5	18.0 to 22.0	90.0	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 Gypsum Equipment Blank-1

**Location Code:** WMWGORGEB  
**Collected:** 1/27/22 10:40  
**Customer ID:**  
**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01780

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: RDA</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Total	2/3/22 12:00	2/4/22 10:59		1.015	Not Detected	mg/L	0.030000	0.1015	U
* Calcium, Total	2/3/22 12:00	2/4/22 10:59		1.015	Not Detected	mg/L	0.070035	0.406	U
* Iron, Total	2/3/22 12:00	2/4/22 10:59		1.015	Not Detected	mg/L	0.008120	0.0406	U
* Lithium, Total	2/3/22 12:00	2/4/22 10:59		1.015	Not Detected	mg/L	0.007105	0.01999956	U
* Magnesium, Total	2/3/22 12:00	2/4/22 10:59		1.015	Not Detected	mg/L	0.021315	0.406	U
Silica, Total (calc.)	2/3/22 12:00	2/4/22 10:59		1	Not Detected	mg/L			
Silicon, Total	2/3/22 12:00	2/4/22 10:59		1.015	Not Detected	mg/L	0.02030	0.25375	U
* Sodium, Total	2/3/22 12:00	2/4/22 10:59		1.015	Not Detected	mg/L	0.03045	0.406	U
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	2/1/22 08:51	2/1/22 15:53		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	2/1/22 08:51	2/1/22 15:53		1.015	Not Detected	mg/L	0.004060	0.01015	U
* Arsenic, Total	2/1/22 08:51	2/1/22 15:53		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Barium, Total	2/1/22 08:51	2/1/22 15:53		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Beryllium, Total	2/1/22 08:51	2/1/22 15:53		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	2/1/22 08:51	2/1/22 15:53		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	2/1/22 08:51	2/1/22 15:53		1.015	0.000245	mg/L	0.000203	0.001015	J
* Cobalt, Total	2/1/22 08:51	2/1/22 15:53		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Lead, Total	2/1/22 08:51	2/1/22 15:53		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	2/1/22 08:51	2/3/22 19:04		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Molybdenum, Total	2/1/22 08:51	2/1/22 15:53		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Potassium, Total	2/1/22 08:51	2/1/22 15:53		1.015	Not Detected	mg/L	0.169505	0.5075	U
* Selenium, Total	2/1/22 08:51	2/1/22 15:53		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	2/1/22 08:51	2/1/22 15:53		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>			<b>Analyst: CRB</b>						
* Mercury, Total by CVAA	2/8/22 18:27	2/8/22 23:00		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>			<b>Analyst: ELH</b>						
* Nitrogen, Nitrate/Nitrite	2/1/22 15:08	2/1/22 15:08		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2540C</b>			<b>Analyst: CNJ</b>						
* Solids, Dissolved	1/28/22 11:30	2/1/22 13:58		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 Gypsum Equipment Blank-1

**Location Code:** WMWGORGE B

**Collected:** 1/27/22 10:40

**Customer ID:**

**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01780

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	2/1/22 19:14	2/1/22 19:14		1	Not Detected	mg/L	1.00	2	U
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	1/28/22 11:00	1/28/22 11:00		1	Not Detected	mg/L	0.50	1	U
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	1/28/22 13:05	1/28/22 13:05		1	Not Detected	mg/L	0.06	0.1	U
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	2/7/22 15:23	2/7/22 15:23		1	Not Detected	mg/L	0.50	1	U

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

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**Comments:**

# Batch QC Summary

**Customer Account:** WMWGORGEB  
**Sample Date:** 1/27/22 10:40  
**Customer ID:**  
**Delivery Date:** 1/27/22 15:16

**Description:** Gorgas Gypsum Equipment Blank-1

**Laboratory ID Number:** BC01780

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC01784	Aluminum, Total	mg/L	0.000470	0.00880	0.100	30.2	30.5	0.103	0.0850 to 0.115	500	70.0 to 130	0.988	20.0
BC01784	Antimony, Total	mg/L	0.000346	0.00100	0.100	0.101	0.102	0.102	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BC01784	Arsenic, Total	mg/L	0.000104	0.000147	0.100	0.104	0.0984	0.106	0.0850 to 0.115	101	70.0 to 130	5.53	20.0
BC01784	Barium, Total	mg/L	0.0000503	0.000200	0.100	0.123	0.115	0.113	0.0850 to 0.115	110	70.0 to 130	6.72	20.0
BC01784	Beryllium, Total	mg/L	0.000137	0.000880	0.100	0.0916	0.0883	0.0927	0.0850 to 0.115	83.9	70.0 to 130	3.67	20.0
BC01784	Boron, Total	mg/L	0.00026	0.0650	1.00	7.15	7.12	1.00	0.850 to 1.15	105	70.0 to 130	0.420	20.0
BC01784	Cadmium, Total	mg/L	0.0000381	0.000147	0.100	0.105	0.101	0.101	0.0850 to 0.115	102	70.0 to 130	3.88	20.0
BC01784	Calcium, Total	mg/L	-0.00198	0.152	5.00	177	178	4.80	4.25 to 5.75	-80.0	70.0 to 130	0.563	20.0
BC01784	Chromium, Total	mg/L	-0.0000094	0.000440	0.100	0.101	0.0962	0.101	0.0850 to 0.115	99.9	70.0 to 130	4.87	20.0
BC01784	Cobalt, Total	mg/L	0.000044	0.000147	0.100	0.502	0.489	0.102	0.0850 to 0.115	96.0	70.0 to 130	2.62	20.0
BC01784	Iron, Total	mg/L	-0.00024	0.0176	0.2	20.4	20.1	0.198	0.170 to 0.230	-100	70.0 to 130	1.48	20.0
BC01784	Lead, Total	mg/L	0.0000192	0.000147	0.100	0.101	0.0977	0.102	0.0850 to 0.115	100	70.0 to 130	3.32	20.0
BC01784	Lithium, Total	mg/L	-0.000109	0.0154	0.200	0.879	0.859	0.198	0.170 to 0.230	104	70.0 to 130	2.30	20.0
BC01784	Magnesium, Total	mg/L	0.000303	0.0462	5.00	159	160	5.01	4.25 to 5.75	-20.0	70.0 to 130	0.627	20.0
BC01784	Manganese, Total	mg/L	0.000015	0.000147	0.100	19.1	19.0	0.105	0.0850 to 0.115	200	70.0 to 130	0.525	20.0
BC01780	Mercury, Total by CVAA	mg/L	0.00000	0.000500	0.004	0.00399	0.00402	0.00398	0.00340 to 0.00460	99.8	70.0 to 130	0.749	20.0
BC01784	Molybdenum, Total	mg/L	0.0000548	0.000147	0.100	0.0996	0.0977	0.103	0.0850 to 0.115	99.6	70.0 to 130	1.93	20.0
BC01784	Potassium, Total	mg/L	0.0887	0.367	10.0	15.4	15.6	10.6	8.50 to 11.5	102	70.0 to 130	1.29	20.0
BC01784	Selenium, Total	mg/L	0.0000099	0.00100	0.100	0.105	0.101	0.103	0.0850 to 0.115	96.8	70.0 to 130	3.88	20.0
BC01784	Silicon, Total	mg/L	0.00043	0.0440	1.00	27.4	27.0	1.02	0.850 to 1.15	90.0	70.0 to 130	1.47	20.0
BC01784	Sodium, Total	mg/L	0.00603	0.0660	5.00	30.5	29.7	4.99	4.25 to 5.75	106	70.0 to 130	2.66	20.0
BC01784	Thallium, Total	mg/L	0.0000218	0.000147	0.100	0.0980	0.0956	0.0991	0.0850 to 0.115	97.8	70.0 to 130	2.48	20.0
BC01780	Total Organic Carbon	mg/L	0.230	1.00	10.0	10.1	10.0	25.1		101	80.0 to 120	0.995	20.0

**Comments:**

## Batch QC Summary

**Customer Account:** WMWGORGEB

**Sample Date:** 1/27/22 10:40

**Customer ID:**

**Delivery Date:** 1/27/22 15:16

**Description:** Gorgas Gypsum Equipment Blank-1

**Laboratory ID Number:** BC01780

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC01780	Chloride	mg/L	-0.028	1.00	10.0	9.87	0.156	10.2	9.00 to 11.0	98.7	80.0 to 120	0.00	20.0
BC01781	Fluoride	mg/L	0.0363	0.100	2.50	2.50	0.0227	2.39	2.25 to 2.75	100	80.0 to 120	0.00	20.0
BC01780	Nitrogen, Nitrate/Nitrite	mg/L as N	0.02	0.200	2.00	2.04	0.052	1.90	1.80 to 2.20	102	90.0 to 110	0.00	15.0
BC01784	Solids, Dissolved	mg/L	0.0000	25.0			1820	50.0	40.0 to 60.0			1.09	10.0
BC01780	Sulfate	mg/L	-0.117	1.00	20.0	18.0	-0.356	18.5	18.0 to 22.0	90.0	80.0 to 120	0.00	20.0

**Comments:**

# Certificate Of Analysis

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

**Location Code:** WMWGORGFB  
**Collected:** 1/27/22 08:30  
**Customer ID:**  
**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01781

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: RDA</b>			<b>Preparation Method: EPA 1638</b>					
* Boron, Total	2/3/22 12:00	2/4/22 11:01		1.015	Not Detected	mg/L	0.030000	0.1015	U	
* Calcium, Total	2/3/22 12:00	2/4/22 11:01		1.015	Not Detected	mg/L	0.070035	0.406	U	
* Iron, Total	2/3/22 12:00	2/4/22 11:01		1.015	Not Detected	mg/L	0.008120	0.0406	U	
* Lithium, Total	2/3/22 12:00	2/4/22 11:01		1.015	Not Detected	mg/L	0.007105	0.01999956	U	
* Magnesium, Total	2/3/22 12:00	2/4/22 11:01		1.015	Not Detected	mg/L	0.021315	0.406	U	
Silica, Total (calc.)	2/3/22 12:00	2/4/22 11:01		1	Not Detected	mg/L				
Silicon, Total	2/3/22 12:00	2/4/22 11:01		1.015	Not Detected	mg/L	0.02030	0.25375	U	
* Sodium, Total	2/3/22 12:00	2/4/22 11:01		1.015	Not Detected	mg/L	0.03045	0.406	U	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>					
* Antimony, Total	2/1/22 08:51	2/1/22 15:57		1.015	Not Detected	mg/L	0.000508	0.001015	U	
* Aluminum, Total	2/1/22 08:51	2/1/22 15:57		1.015	Not Detected	mg/L	0.004060	0.01015	U	
* Arsenic, Total	2/1/22 08:51	2/1/22 15:57		1.015	0.000106	mg/L	0.000068	0.000203	J	
* Barium, Total	2/1/22 08:51	2/1/22 15:57		1.015	Not Detected	mg/L	0.000102	0.000203	U	
* Beryllium, Total	2/1/22 08:51	2/1/22 15:57		1.015	Not Detected	mg/L	0.000406	0.001015	U	
* Cadmium, Total	2/1/22 08:51	2/1/22 15:57		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Chromium, Total	2/1/22 08:51	2/1/22 15:57		1.015	0.000267	mg/L	0.000203	0.001015	J	
* Cobalt, Total	2/1/22 08:51	2/1/22 15:57		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Lead, Total	2/1/22 08:51	2/1/22 15:57		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Manganese, Total	2/1/22 08:51	2/3/22 19:08		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Molybdenum, Total	2/1/22 08:51	2/1/22 15:57		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Potassium, Total	2/1/22 08:51	2/1/22 15:57		1.015	Not Detected	mg/L	0.169505	0.5075	U	
* Selenium, Total	2/1/22 08:51	2/1/22 15:57		1.015	Not Detected	mg/L	0.000508	0.001015	U	
* Thallium, Total	2/1/22 08:51	2/1/22 15:57		1.015	Not Detected	mg/L	0.000068	0.000203	U	
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>								
* Mercury, Total by CVAA	2/8/22 18:27	2/8/22 23:20		1	Not Detected	mg/L	0.0003	0.0005	U	
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: ELH</b>								
* Nitrogen, Nitrate/Nitrite	2/2/22 15:50	2/2/22 15:50		1	Not Detected	mg/L as N	0.20	0.3	U	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>								
* Solids, Dissolved	1/28/22 11:30	2/1/22 13:58		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 Gypsum Field Blank-2

**Location Code:** WMWGORGFB

**Collected:** 1/27/22 08:30

**Customer ID:**

**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01781

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	2/1/22 20:22	2/1/22 20:22		1	Not Detected	mg/L	1.00	2	U
<b>Analytical Method: SM4500CI E</b>		<b>Analyst: JCC</b>							
* Chloride	1/28/22 11:22	1/28/22 11:22		1	Not Detected	mg/L	0.50	1	U
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	1/28/22 13:26	1/28/22 13:26		1	Not Detected	mg/L	0.06	0.1	U
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	2/7/22 15:56	2/7/22 15:56		1	Not Detected	mg/L	0.50	1	U

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

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**Comments:**



# Batch QC Summary

**Customer Account:** WMWGORGFB

**Sample Date:** 1/27/22 08:30

**Customer ID:**

**Delivery Date:** 1/27/22 15:16

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

**Laboratory ID Number:** BC01781

Sample	Analysis	Units	MB	MB				Standard		Rec			Prec Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit	Prec	
BC01784	Aluminum, Total	mg/L	0.000470	0.00880	0.100	30.2	30.5	0.103	0.0850 to 0.115	500	70.0 to 130	0.988	20.0
BC01784	Antimony, Total	mg/L	0.000346	0.00100	0.100	0.101	0.102	0.102	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BC01784	Arsenic, Total	mg/L	0.000104	0.000147	0.100	0.104	0.0984	0.106	0.0850 to 0.115	101	70.0 to 130	5.53	20.0
BC01784	Barium, Total	mg/L	0.0000503	0.000200	0.100	0.123	0.115	0.113	0.0850 to 0.115	110	70.0 to 130	6.72	20.0
BC01784	Beryllium, Total	mg/L	0.000137	0.000880	0.100	0.0916	0.0883	0.0927	0.0850 to 0.115	83.9	70.0 to 130	3.67	20.0
BC01784	Boron, Total	mg/L	0.00026	0.0650	1.00	7.15	7.12	1.00	0.850 to 1.15	105	70.0 to 130	0.420	20.0
BC01784	Cadmium, Total	mg/L	0.0000381	0.000147	0.100	0.105	0.101	0.101	0.0850 to 0.115	102	70.0 to 130	3.88	20.0
BC01784	Calcium, Total	mg/L	-0.00198	0.152	5.00	177	178	4.80	4.25 to 5.75	-80.0	70.0 to 130	0.563	20.0
BC01784	Chromium, Total	mg/L	-0.0000094	0.000440	0.100	0.101	0.0962	0.101	0.0850 to 0.115	99.9	70.0 to 130	4.87	20.0
BC01784	Cobalt, Total	mg/L	0.000044	0.000147	0.100	0.502	0.489	0.102	0.0850 to 0.115	96.0	70.0 to 130	2.62	20.0
BC01784	Iron, Total	mg/L	-0.00024	0.0176	0.2	20.4	20.1	0.198	0.170 to 0.230	-100	70.0 to 130	1.48	20.0
BC01784	Lead, Total	mg/L	0.0000192	0.000147	0.100	0.101	0.0977	0.102	0.0850 to 0.115	100	70.0 to 130	3.32	20.0
BC01784	Lithium, Total	mg/L	-0.000109	0.0154	0.200	0.879	0.859	0.198	0.170 to 0.230	104	70.0 to 130	2.30	20.0
BC01784	Magnesium, Total	mg/L	0.000303	0.0462	5.00	159	160	5.01	4.25 to 5.75	-20.0	70.0 to 130	0.627	20.0
BC01784	Manganese, Total	mg/L	0.000015	0.000147	0.100	19.1	19.0	0.105	0.0850 to 0.115	200	70.0 to 130	0.525	20.0
BC01784	Mercury, Total by CVAA	mg/L	0.00000	0.000500	0.004	0.00403	0.00401	0.00398	0.00340 to 0.00460	101	70.0 to 130	0.498	20.0
BC01784	Molybdenum, Total	mg/L	0.0000548	0.000147	0.100	0.0996	0.0977	0.103	0.0850 to 0.115	99.6	70.0 to 130	1.93	20.0
BC01784	Potassium, Total	mg/L	0.0887	0.367	10.0	15.4	15.6	10.6	8.50 to 11.5	102	70.0 to 130	1.29	20.0
BC01784	Selenium, Total	mg/L	0.0000099	0.00100	0.100	0.105	0.101	0.103	0.0850 to 0.115	96.8	70.0 to 130	3.88	20.0
BC01784	Silicon, Total	mg/L	0.00043	0.0440	1.00	27.4	27.0	1.02	0.850 to 1.15	90.0	70.0 to 130	1.47	20.0
BC01784	Sodium, Total	mg/L	0.00603	0.0660	5.00	30.5	29.7	4.99	4.25 to 5.75	106	70.0 to 130	2.66	20.0
BC01784	Thallium, Total	mg/L	0.0000218	0.000147	0.100	0.0980	0.0956	0.0991	0.0850 to 0.115	97.8	70.0 to 130	2.48	20.0
BC01784	Total Organic Carbon	mg/L	0.260	1.00	10.0	11.1	10.2	25.3		99.6	80.0 to 120	8.45	20.0

**Comments:**

## Batch QC Summary

**Customer Account:** WMWGORGFB

**Sample Date:** 1/27/22 08:30

**Customer ID:**

**Delivery Date:** 1/27/22 15:16

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

**Laboratory ID Number:** BC01781

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC01784	Chloride	mg/L	-0.021	1.00	200	313	109	10.3	9.00 to 11.0	105	80.0 to 120	5.66	20.0
BC01781	Fluoride	mg/L	0.0363	0.100	2.50	2.50	0.0227	2.39	2.25 to 2.75	100	80.0 to 120	0.00	20.0
BC01784	Nitrogen, Nitrate/Nitrite	mg/L as N	-0.01	0.200	2.00	2.24	0.108	2.02	1.80 to 2.20	112	90.0 to 110	0.00	15.0
BC01784	Solids, Dissolved	mg/L	0.0000	25.0			1820	50.0	40.0 to 60.0			1.09	10.0
BC01784	Sulfate	mg/L	0.231	1.00	1600	2770	1130	20.3	18.0 to 22.0	102	80.0 to 120	0.00	20.0

**Comments:**

# Certificate Of Analysis

**Description:** Gorgas Gypsum - PZ-18

**Location Code:** WMWGORG  
**Collected:** 1/27/22 08:50  
**Customer ID:**  
**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01782

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: RDA</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Total	2/3/22 12:00	2/4/22 11:03		1.015	0.0539	mg/L	0.030000	0.1015	J
* Calcium, Total	2/3/22 12:00	2/4/22 12:29		10.15	84.8	mg/L	0.70035	4.06	
* Iron, Total	2/3/22 12:00	2/4/22 12:29		10.15	9.92	mg/L	0.08120	0.406	
* Lithium, Total	2/3/22 12:00	2/4/22 12:46		1.015	0.246	mg/L	0.007105	0.01999956	
* Magnesium, Total	2/3/22 12:00	2/4/22 12:29		10.15	55.3	mg/L	0.21315	4.06	
Silica, Total (calc.)	2/3/22 12:00	2/4/22 11:03		1	38.1	mg/L			
Silicon, Total	2/3/22 12:00	2/4/22 11:03		1.015	17.8	mg/L	0.02030	0.25375	
* Sodium, Total	2/3/22 12:00	2/4/22 12:46		1.015	13.6	mg/L	0.03045	0.406	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: RDA</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	2/3/22 12:00	2/4/22 10:12		1.015	0.0539	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	2/3/22 12:00	2/4/22 11:46		10.15	88.0	mg/L	0.70035	4.06	
* Iron, Dissolved	2/3/22 12:00	2/4/22 11:46		10.15	10.3	mg/L	0.08120	0.406	
* Lithium, Dissolved	2/3/22 12:00	2/4/22 10:12		1.015	0.244	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	2/3/22 12:00	2/4/22 11:46		10.15	56.9	mg/L	0.21315	4.06	
Silica, Dissolved (calc.)	2/3/22 12:00	2/4/22 10:12		1	37.2	mg/L			
Silicon, Dissolved	2/3/22 12:00	2/4/22 10:12		1.015	17.4	mg/L	0.02030	0.25375	
* Sodium, Dissolved	2/3/22 12:00	2/4/22 10:12		1.015	13.4	mg/L	0.03045	0.406	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	2/1/22 08:51	2/1/22 16:00		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	2/1/22 08:51	2/3/22 19:12		92.365	13.9	mg/L	0.369460	0.92365	
* Arsenic, Total	2/1/22 08:51	2/1/22 16:00		1.015	0.00382	mg/L	0.000068	0.000203	
* Barium, Total	2/1/22 08:51	2/1/22 16:00		1.015	0.0107	mg/L	0.000102	0.000203	
* Beryllium, Total	2/1/22 08:51	2/1/22 16:00		1.015	0.00491	mg/L	0.000406	0.001015	
* Cadmium, Total	2/1/22 08:51	2/1/22 16:00		1.015	0.000272	mg/L	0.000068	0.000203	
* Chromium, Total	2/1/22 08:51	2/1/22 16:00		1.015	0.00157	mg/L	0.000203	0.001015	
* Cobalt, Total	2/1/22 08:51	2/1/22 16:00		1.015	0.0845	mg/L	0.000068	0.000203	
* Lead, Total	2/1/22 08:51	2/1/22 16:00		1.015	0.000229	mg/L	0.000068	0.000203	
* Manganese, Total	2/1/22 08:51	2/3/22 19:12		92.365	3.14	mg/L	0.006188	0.018473	
* Molybdenum, Total	2/1/22 08:51	2/1/22 16:00		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Potassium, Total	2/1/22 08:51	2/1/22 16:00		1.015	2.99	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. Alkalinity could not be performed due to the initial pH reading was below the titration end point of 4.5 SU. Fluoride result is qualified due to potential matrix interference.

# Certificate Of Analysis

**Description:** Gorgas Gypsum - PZ-18

**Location Code:** WMWGORG  
**Collected:** 1/27/22 08:50  
**Customer ID:**  
**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01782

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/1/22 08:51	2/1/22 16:00		1.015	0.00298	mg/L	0.000508	0.001015	
* Thallium, Total	2/1/22 08:51	2/1/22 16:00		1.015	0.0000796	mg/L	0.000068	0.000203	J
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: ABB</b>							
* Antimony, Dissolved	2/2/22 09:05	2/3/22 13:24		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/2/22 09:05	2/3/22 15:52		92.365	14.6	mg/L	0.369460	0.92365	
* Arsenic, Dissolved	2/2/22 09:05	2/3/22 13:24		1.015	0.00450	mg/L	0.000068	0.000203	
* Barium, Dissolved	2/2/22 09:05	2/3/22 13:24		1.015	0.0103	mg/L	0.000102	0.000203	
* Beryllium, Dissolved	2/2/22 09:05	2/3/22 13:24		1.015	0.00531	mg/L	0.000406	0.001015	
* Cadmium, Dissolved	2/2/22 09:05	2/3/22 13:24		1.015	0.000169	mg/L	0.000068	0.000203	J
* Chromium, Dissolved	2/2/22 09:05	2/3/22 13:24		1.015	0.00153	mg/L	0.000203	0.001015	
* Cobalt, Dissolved	2/2/22 09:05	2/3/22 13:24		1.015	0.0920	mg/L	0.000068	0.000203	
* Lead, Dissolved	2/2/22 09:05	2/3/22 13:24		1.015	0.000224	mg/L	0.000068	0.000203	
* Manganese, Dissolved	2/2/22 09:05	2/3/22 15:52		92.365	3.03	mg/L	0.006188	0.018473	
* Molybdenum, Dissolved	2/2/22 09:05	2/3/22 13:24		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Potassium, Dissolved	2/2/22 09:05	2/3/22 13:24		1.015	2.75	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/2/22 09:05	2/3/22 13:24		1.015	0.00334	mg/L	0.000508	0.001015	
* Thallium, Dissolved	2/2/22 09:05	2/3/22 13:24		1.015	0.0000883	mg/L	0.000068	0.000203	J
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	2/8/22 18:27	2/8/22 23:23		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: ELH</b>							
* Nitrogen, Nitrate/Nitrite	2/2/22 15:51	2/2/22 15:51		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	1/28/22 11:30	2/1/22 13:58		1	778	mg/L		50	
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	2/1/22 20:40	2/1/22 20:40		1	Not Detected	mg/L	1.00	2	U
<b>Analytical Method: SM4500CI E</b>		<b>Analyst: JCC</b>							
* Chloride	1/28/22 11:23	1/28/22 11:23		1	1.92	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	1/28/22 13:07	1/28/22 13:07		1	Not Detected	mg/L	0.06	0.1	U
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	2/7/22 15:57	2/7/22 15:57		25	532	mg/L	12.50	25	

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. Alkalinity could not be performed due to the initial pH reading was below the titration end point of 4.5 SU. Fluoride result is qualified due to potential matrix interference.

# Certificate Of Analysis

**Description:** Gorgas Gypsum - PZ-18

**Location Code:** WMWGORG  
**Collected:** 1/27/22 08:50  
**Customer ID:**  
**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01782

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: Field Measurements</b>		<b>Analyst: AWG</b>							
Conductivity	1/27/22 08:48	1/27/22 08:48			958.69	uS/cm			FA
pH	1/27/22 08:48	1/27/22 08:48			3.89	SU			FA
Temperature	1/27/22 08:48	1/27/22 08:48			16.16	C			FA
Turbidity	1/27/22 08:48	1/27/22 08:48			0.73	NTU			FA

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

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**Comments:** The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified. Alkalinity could not be performed due to the initial pH reading was below the titration end point of 4.5 SU. Fluoride result is qualified due to potential matrix interference.

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 1/27/22 08:50  
**Customer ID:**  
**Delivery Date:** 1/27/22 15:16

**Description:** Gorgas Gypsum - PZ-18

**Laboratory ID Number:** BC01782

Sample	Analysis	Units	MB	MB				Standard		Rec			Prec Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit	Prec	
BC01784	Aluminum, Dissolved	mg/L	-0.000144	0.00880	0.100	30.3	30.3	0.0972	0.0850 to 0.115	0.00	70.0 to 130	0.00	20.0
BC01784	Aluminum, Total	mg/L	0.000470	0.00880	0.100	30.2	30.5	0.103	0.0850 to 0.115	500	70.0 to 130	0.988	20.0
BC01784	Antimony, Dissolved	mg/L	0.000122	0.00100	0.100	0.0957	0.0983	0.0892	0.0850 to 0.115	95.7	70.0 to 130	2.68	20.0
BC01784	Antimony, Total	mg/L	0.000346	0.00100	0.100	0.101	0.102	0.102	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BC01784	Arsenic, Dissolved	mg/L	0.0000273	0.000147	0.100	0.103	0.104	0.104	0.0850 to 0.115	100	70.0 to 130	0.966	20.0
BC01784	Arsenic, Total	mg/L	0.000104	0.000147	0.100	0.104	0.0984	0.106	0.0850 to 0.115	101	70.0 to 130	5.53	20.0
BC01784	Barium, Dissolved	mg/L	-0.0000321	0.000200	0.100	0.111	0.113	0.0978	0.0850 to 0.115	99.6	70.0 to 130	1.79	20.0
BC01784	Barium, Total	mg/L	0.0000503	0.000200	0.100	0.123	0.115	0.113	0.0850 to 0.115	110	70.0 to 130	6.72	20.0
BC01784	Beryllium, Dissolved	mg/L	0.0000506	0.000880	0.100	0.0966	0.0980	0.0989	0.0850 to 0.115	88.4	70.0 to 130	1.44	20.0
BC01784	Beryllium, Total	mg/L	0.000137	0.000880	0.100	0.0916	0.0883	0.0927	0.0850 to 0.115	83.9	70.0 to 130	3.67	20.0
BC01784	Boron, Dissolved	mg/L	-0.000322	0.0650	1.00	7.08	7.10	1.03	0.850 to 1.15	109	70.0 to 130	0.282	20.0
BC01784	Boron, Total	mg/L	0.00026	0.0650	1.00	7.15	7.12	1.00	0.850 to 1.15	105	70.0 to 130	0.420	20.0
BC01784	Cadmium, Dissolved	mg/L	0.000007	0.000147	0.100	0.100	0.101	0.0984	0.0850 to 0.115	96.7	70.0 to 130	0.995	20.0
BC01784	Cadmium, Total	mg/L	0.0000381	0.000147	0.100	0.105	0.101	0.101	0.0850 to 0.115	102	70.0 to 130	3.88	20.0
BC01784	Calcium, Dissolved	mg/L	0.00459	0.152	5.00	184	185	5.03	4.25 to 5.75	140	70.0 to 130	0.542	20.0
BC01784	Calcium, Total	mg/L	-0.00198	0.152	5.00	177	178	4.80	4.25 to 5.75	-80.0	70.0 to 130	0.563	20.0
BC01784	Chromium, Dissolved	mg/L	0.0000231	0.000440	0.100	0.0963	0.0992	0.101	0.0850 to 0.115	95.2	70.0 to 130	2.97	20.0
BC01784	Chromium, Total	mg/L	-0.0000094	0.000440	0.100	0.101	0.0962	0.101	0.0850 to 0.115	99.9	70.0 to 130	4.87	20.0
BC01784	Cobalt, Dissolved	mg/L	-0.0000016	0.000147	0.100	0.539	0.557	0.105	0.0850 to 0.115	92.0	70.0 to 130	3.28	20.0
BC01784	Cobalt, Total	mg/L	0.000044	0.000147	0.100	0.502	0.489	0.102	0.0850 to 0.115	96.0	70.0 to 130	2.62	20.0
BC01784	Iron, Dissolved	mg/L	-0.000483	0.0176	0.2	20.4	20.6	0.202	0.170 to 0.230	0.00	70.0 to 130	0.976	20.0
BC01784	Iron, Total	mg/L	-0.00024	0.0176	0.2	20.4	20.1	0.198	0.170 to 0.230	-100	70.0 to 130	1.48	20.0
BC01784	Lead, Dissolved	mg/L	0.0000109	0.000147	0.100	0.109	0.106	0.111	0.0850 to 0.115	108	70.0 to 130	2.79	20.0
BC01784	Lead, Total	mg/L	0.0000192	0.000147	0.100	0.101	0.0977	0.102	0.0850 to 0.115	100	70.0 to 130	3.32	20.0

**Comments:** The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified. Alkalinity could not be performed due to the initial pH reading was below the titration end point of 4.5 SU. Fluoride result is qualified due to potential matrix interference.

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 1/27/22 08:50  
**Customer ID:**  
**Delivery Date:** 1/27/22 15:16

**Description:** Gorgas Gypsum - PZ-18

**Laboratory ID Number:** BC01782

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC01784	Lithium, Dissolved	mg/L	0.000063	0.0154	0.200	0.830	0.857	0.201	0.170 to 0.230	91.5	70.0 to 130	3.20	20.0
BC01784	Lithium, Total	mg/L	-0.000109	0.0154	0.200	0.879	0.859	0.198	0.170 to 0.230	104	70.0 to 130	2.30	20.0
BC01784	Magnesium, Dissolved	mg/L	0.00815	0.0462	5.00	167	165	5.19	4.25 to 5.75	140	70.0 to 130	1.20	20.0
BC01784	Magnesium, Total	mg/L	0.000303	0.0462	5.00	159	160	5.01	4.25 to 5.75	-20.0	70.0 to 130	0.627	20.0
BC01784	Manganese, Dissolved	mg/L	0.0000529	0.000147	0.100	18.4	18.3	0.112	0.0850 to 0.115	-100	70.0 to 130	0.545	20.0
BC01784	Manganese, Total	mg/L	0.000015	0.000147	0.100	19.1	19.0	0.105	0.0850 to 0.115	200	70.0 to 130	0.525	20.0
BC01784	Mercury, Total by CVAA	mg/L	0.00000	0.000500	0.004	0.00403	0.00401	0.00398	0.00340 to 0.00460	101	70.0 to 130	0.498	20.0
BC01784	Molybdenum, Dissolved	mg/L	-0.0000001	0.000147	0.100	0.0946	0.0941	0.0973	0.0850 to 0.115	94.6	70.0 to 130	0.530	20.0
BC01784	Molybdenum, Total	mg/L	0.0000548	0.000147	0.100	0.0996	0.0977	0.103	0.0850 to 0.115	99.6	70.0 to 130	1.93	20.0
BC01784	Potassium, Dissolved	mg/L	-0.00696	0.367	10.0	13.6	14.2	9.75	8.50 to 11.5	89.9	70.0 to 130	4.32	20.0
BC01784	Potassium, Total	mg/L	0.0887	0.367	10.0	15.4	15.6	10.6	8.50 to 11.5	102	70.0 to 130	1.29	20.0
BC01784	Selenium, Dissolved	mg/L	0.0000188	0.00100	0.100	0.108	0.108	0.103	0.0850 to 0.115	99.5	70.0 to 130	0.00	20.0
BC01784	Selenium, Total	mg/L	0.0000099	0.00100	0.100	0.105	0.101	0.103	0.0850 to 0.115	96.8	70.0 to 130	3.88	20.0
BC01784	Silicon, Dissolved	mg/L	-0.000527	0.0440	1.00	27.5	27.6	1.02	0.850 to 1.15	100	70.0 to 130	0.363	20.0
BC01784	Silicon, Total	mg/L	0.00043	0.0440	1.00	27.4	27.0	1.02	0.850 to 1.15	90.0	70.0 to 130	1.47	20.0
BC01784	Sodium, Dissolved	mg/L	0.00241	0.0660	5.00	28.8	29.8	5.07	4.25 to 5.75	88.0	70.0 to 130	3.41	20.0
BC01784	Sodium, Total	mg/L	0.00603	0.0660	5.00	30.5	29.7	4.99	4.25 to 5.75	106	70.0 to 130	2.66	20.0
BC01784	Thallium, Dissolved	mg/L	0.0000127	0.000147	0.100	0.105	0.103	0.105	0.0850 to 0.115	105	70.0 to 130	1.92	20.0
BC01784	Thallium, Total	mg/L	0.0000218	0.000147	0.100	0.0980	0.0956	0.0991	0.0850 to 0.115	97.8	70.0 to 130	2.48	20.0
BC01784	Total Organic Carbon	mg/L	0.260	1.00	10.0	11.1	10.2	25.3		99.6	80.0 to 120	8.45	20.0

**Comments:** The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified. Alkalinity could not be performed due to the initial pH reading was below the titration end point of 4.5 SU. Fluoride result is qualified due to potential matrix interference.

## Batch QC Summary

**Customer Account:** WMWGORG

**Sample Date:** 1/27/22 08:50

**Customer ID:**

**Delivery Date:** 1/27/22 15:16

**Description:** Gorgas Gypsum - PZ-18

**Laboratory ID Number:** BC01782

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC01784	Chloride	mg/L	-0.021	1.00	200	313	109	10.3	9.00 to 11.0	105	80.0 to 120	5.66	20.0
BC01781	Fluoride	mg/L	0.0363	0.100	2.50	2.50	0.0227	2.39	2.25 to 2.75	100	80.0 to 120	0.00	20.0
BC01784	Nitrogen, Nitrate/Nitrite	mg/L as N	-0.01	0.200	2.00	2.24	0.108	2.02	1.80 to 2.20	112	90.0 to 110	0.00	15.0
BC01784	Solids, Dissolved	mg/L	0.0000	25.0			1820	50.0	40.0 to 60.0			1.09	10.0
BC01784	Sulfate	mg/L	0.231	1.00	1600	2770	1130	20.3	18.0 to 22.0	102	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. Alkalinity could not be performed due to the initial pH reading was below the titration end point of 4.5 SU. Fluoride result is qualified due to potential matrix interference.



# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-14H

**Location Code:** WMWGORG  
**Collected:** 1/27/22 09:50  
**Customer ID:**  
**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01783

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: RDA</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Total	2/3/22 12:00	2/4/22 11:04		1.015	0.148	mg/L	0.030000	0.1015	
* Calcium, Total	2/3/22 12:00	2/4/22 12:31		10.15	124	mg/L	0.70035	4.06	
* Iron, Total	2/3/22 12:00	2/4/22 12:31		10.15	12.1	mg/L	0.08120	0.406	
* Lithium, Total	2/3/22 12:00	2/4/22 11:04		1.015	0.430	mg/L	0.007105	0.01999956	
* Magnesium, Total	2/3/22 12:00	2/4/22 12:31		10.15	90.3	mg/L	0.21315	4.06	
Silica, Total (calc.)	2/3/22 12:00	2/4/22 12:31		1	58.6	mg/L			
Silicon, Total	2/3/22 12:00	2/4/22 12:31		10.15	27.4	mg/L	0.2030	2.5375	
* Sodium, Total	2/3/22 12:00	2/4/22 11:04		1.015	21.5	mg/L	0.03045	0.406	
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: RDA</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	2/3/22 12:00	2/4/22 10:14		1.015	0.147	mg/L	0.030000	0.1015	
* Calcium, Dissolved	2/3/22 12:00	2/4/22 11:48		10.15	125	mg/L	0.70035	4.06	
* Iron, Dissolved	2/3/22 12:00	2/4/22 11:48		10.15	11.4	mg/L	0.08120	0.406	
* Lithium, Dissolved	2/3/22 12:00	2/4/22 10:14		1.015	0.426	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	2/3/22 12:00	2/4/22 11:48		10.15	90.6	mg/L	0.21315	4.06	
Silica, Dissolved (calc.)	2/3/22 12:00	2/4/22 11:48		1	59.3	mg/L			
Silicon, Dissolved	2/3/22 12:00	2/4/22 11:48		10.15	27.7	mg/L	0.2030	2.5375	
* Sodium, Dissolved	2/3/22 12:00	2/4/22 10:14		1.015	20.4	mg/L	0.03045	0.406	
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	2/1/22 08:51	2/1/22 16:04		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	2/1/22 08:51	2/3/22 19:15		92.365	11.8	mg/L	0.369460	0.92365	
* Arsenic, Total	2/1/22 08:51	2/1/22 16:04		1.015	0.00128	mg/L	0.000068	0.000203	
* Barium, Total	2/1/22 08:51	2/1/22 16:04		1.015	0.0122	mg/L	0.000102	0.000203	
* Beryllium, Total	2/1/22 08:51	2/1/22 16:04		1.015	0.00718	mg/L	0.000406	0.001015	
* Cadmium, Total	2/1/22 08:51	2/1/22 16:04		1.015	0.00137	mg/L	0.000068	0.000203	
* Chromium, Total	2/1/22 08:51	2/1/22 16:04		1.015	0.000502	mg/L	0.000203	0.001015	J
* Cobalt, Total	2/1/22 08:51	2/1/22 16:04		1.015	0.178	mg/L	0.000068	0.000203	
* Lead, Total	2/1/22 08:51	2/1/22 16:04		1.015	0.000865	mg/L	0.000068	0.000203	
* Manganese, Total	2/1/22 08:51	2/3/22 19:15		92.365	8.52	mg/L	0.006188	0.018473	
* Molybdenum, Total	2/1/22 08:51	2/1/22 16:04		1.015	0.000094	mg/L	0.000068	0.000203	J
* Potassium, Total	2/1/22 08:51	2/1/22 16:04		1.015	3.79	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. Alkalinity could not be performed due to the initial pH reading was below the titration end point of 4.5 SU. Fluoride result is qualified due to potential matrix interference.

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-14H

**Location Code:** WMWGORG  
**Collected:** 1/27/22 09:50  
**Customer ID:**  
**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01783

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/1/22 08:51	2/1/22 16:04		1.015	0.00401	mg/L	0.000508	0.001015	
* Thallium, Total	2/1/22 08:51	2/1/22 16:04		1.015	0.0000681	mg/L	0.000068	0.000203	J
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: ABB</b>							
* Antimony, Dissolved	2/2/22 09:05	2/3/22 13:27		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/2/22 09:05	2/3/22 15:56		92.365	12.0	mg/L	0.369460	0.92365	
* Arsenic, Dissolved	2/2/22 09:05	2/3/22 13:27		1.015	0.00130	mg/L	0.000068	0.000203	
* Barium, Dissolved	2/2/22 09:05	2/3/22 13:27		1.015	0.0112	mg/L	0.000102	0.000203	
* Beryllium, Dissolved	2/2/22 09:05	2/3/22 13:27		1.015	0.00760	mg/L	0.000406	0.001015	
* Cadmium, Dissolved	2/2/22 09:05	2/3/22 13:27		1.015	0.00134	mg/L	0.000068	0.000203	
* Chromium, Dissolved	2/2/22 09:05	2/3/22 13:27		1.015	0.000368	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	2/2/22 09:05	2/3/22 13:27		1.015	0.198	mg/L	0.000068	0.000203	
* Lead, Dissolved	2/2/22 09:05	2/3/22 13:27		1.015	0.000805	mg/L	0.000068	0.000203	
* Manganese, Dissolved	2/2/22 09:05	2/3/22 15:56		92.365	8.39	mg/L	0.006188	0.018473	
* Molybdenum, Dissolved	2/2/22 09:05	2/3/22 13:27		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Potassium, Dissolved	2/2/22 09:05	2/3/22 13:27		1.015	3.54	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/2/22 09:05	2/3/22 13:27		1.015	0.00463	mg/L	0.000508	0.001015	
* Thallium, Dissolved	2/2/22 09:05	2/3/22 13:27		1.015	0.0000709	mg/L	0.000068	0.000203	J
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	2/8/22 18:27	2/8/22 23:27		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: ELH</b>							
* Nitrogen, Nitrate/Nitrite	2/2/22 15:52	2/2/22 15:52		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	1/28/22 11:30	2/1/22 13:58		1	1130	mg/L		75.8	
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	2/1/22 20:58	2/1/22 20:58		1	Not Detected	mg/L	1.00	2	U
<b>Analytical Method: SM4500CI E</b>		<b>Analyst: JCC</b>							
* Chloride	1/28/22 11:24	1/28/22 11:24		1	3.75	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	1/28/22 13:08	1/28/22 13:08		1	Not Detected	mg/L	0.06	0.1	U
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	2/7/22 15:59	2/7/22 15:59		32	784	mg/L	16.00	32	

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. Alkalinity could not be performed due to the initial pH reading was below the titration end point of 4.5 SU. Fluoride result is qualified due to potential matrix interference.

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-14H

**Location Code:** WMWGORG  
**Collected:** 1/27/22 09:50  
**Customer ID:**  
**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01783

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: Field Measurements</b>		<b>Analyst: AWG</b>							
Conductivity	1/27/22 09:48	1/27/22 09:48			1290.46	uS/cm			FA
pH	1/27/22 09:48	1/27/22 09:48			4.10	SU			FA
Temperature	1/27/22 09:48	1/27/22 09:48			18.90	C			FA
Turbidity	1/27/22 09:48	1/27/22 09:48			4.14	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. Alkalinity could not be performed due to the initial pH reading was below the titration end point of 4.5 SU. Fluoride result is qualified due to potential matrix interference.

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 1/27/22 09:50  
**Customer ID:**  
**Delivery Date:** 1/27/22 15:16

**Description:** Gorgas Gypsum - MW-14H

**Laboratory ID Number:** BC01783

Sample	Analysis	Units	MB					Standard		Rec		Prec	Limit
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC01784	Aluminum, Dissolved	mg/L	-0.000144	0.00880	0.100	30.3	30.3	0.0972	0.0850 to 0.115	0.00	70.0 to 130	0.00	20.0
BC01784	Aluminum, Total	mg/L	0.000470	0.00880	0.100	30.2	30.5	0.103	0.0850 to 0.115	500	70.0 to 130	0.988	20.0
BC01784	Antimony, Dissolved	mg/L	0.000122	0.00100	0.100	0.0957	0.0983	0.0892	0.0850 to 0.115	95.7	70.0 to 130	2.68	20.0
BC01784	Antimony, Total	mg/L	0.000346	0.00100	0.100	0.101	0.102	0.102	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BC01784	Arsenic, Dissolved	mg/L	0.0000273	0.000147	0.100	0.103	0.104	0.104	0.0850 to 0.115	100	70.0 to 130	0.966	20.0
BC01784	Arsenic, Total	mg/L	0.000104	0.000147	0.100	0.104	0.0984	0.106	0.0850 to 0.115	101	70.0 to 130	5.53	20.0
BC01784	Barium, Dissolved	mg/L	-0.0000321	0.000200	0.100	0.111	0.113	0.0978	0.0850 to 0.115	99.6	70.0 to 130	1.79	20.0
BC01784	Barium, Total	mg/L	0.0000503	0.000200	0.100	0.123	0.115	0.113	0.0850 to 0.115	110	70.0 to 130	6.72	20.0
BC01784	Beryllium, Dissolved	mg/L	0.0000506	0.000880	0.100	0.0966	0.0980	0.0989	0.0850 to 0.115	88.4	70.0 to 130	1.44	20.0
BC01784	Beryllium, Total	mg/L	0.000137	0.000880	0.100	0.0916	0.0883	0.0927	0.0850 to 0.115	83.9	70.0 to 130	3.67	20.0
BC01784	Boron, Dissolved	mg/L	-0.000322	0.0650	1.00	7.08	7.10	1.03	0.850 to 1.15	109	70.0 to 130	0.282	20.0
BC01784	Boron, Total	mg/L	0.00026	0.0650	1.00	7.15	7.12	1.00	0.850 to 1.15	105	70.0 to 130	0.420	20.0
BC01784	Cadmium, Dissolved	mg/L	0.000007	0.000147	0.100	0.100	0.101	0.0984	0.0850 to 0.115	96.7	70.0 to 130	0.995	20.0
BC01784	Cadmium, Total	mg/L	0.0000381	0.000147	0.100	0.105	0.101	0.101	0.0850 to 0.115	102	70.0 to 130	3.88	20.0
BC01784	Calcium, Dissolved	mg/L	0.00459	0.152	5.00	184	185	5.03	4.25 to 5.75	140	70.0 to 130	0.542	20.0
BC01784	Calcium, Total	mg/L	-0.00198	0.152	5.00	177	178	4.80	4.25 to 5.75	-80.0	70.0 to 130	0.563	20.0
BC01784	Chromium, Dissolved	mg/L	0.0000231	0.000440	0.100	0.0963	0.0992	0.101	0.0850 to 0.115	95.2	70.0 to 130	2.97	20.0
BC01784	Chromium, Total	mg/L	-0.0000094	0.000440	0.100	0.101	0.0962	0.101	0.0850 to 0.115	99.9	70.0 to 130	4.87	20.0
BC01784	Cobalt, Dissolved	mg/L	-0.0000016	0.000147	0.100	0.539	0.557	0.105	0.0850 to 0.115	92.0	70.0 to 130	3.28	20.0
BC01784	Cobalt, Total	mg/L	0.000044	0.000147	0.100	0.502	0.489	0.102	0.0850 to 0.115	96.0	70.0 to 130	2.62	20.0
BC01784	Iron, Dissolved	mg/L	-0.000483	0.0176	0.2	20.4	20.6	0.202	0.170 to 0.230	0.00	70.0 to 130	0.976	20.0
BC01784	Iron, Total	mg/L	-0.00024	0.0176	0.2	20.4	20.1	0.198	0.170 to 0.230	-100	70.0 to 130	1.48	20.0
BC01784	Lead, Dissolved	mg/L	0.0000109	0.000147	0.100	0.109	0.106	0.111	0.0850 to 0.115	108	70.0 to 130	2.79	20.0
BC01784	Lead, Total	mg/L	0.0000192	0.000147	0.100	0.101	0.0977	0.102	0.0850 to 0.115	100	70.0 to 130	3.32	20.0

**Comments:** The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified. Alkalinity could not be performed due to the initial pH reading was below the titration end point of 4.5 SU. Fluoride result is qualified due to potential matrix interference.

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 1/27/22 09:50  
**Customer ID:**  
**Delivery Date:** 1/27/22 15:16

**Description:** Gorgas Gypsum - MW-14H

**Laboratory ID Number:** BC01783

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC01784	Lithium, Dissolved	mg/L	0.000063	0.0154	0.200	0.830	0.857	0.201	0.170 to 0.230	91.5	70.0 to 130	3.20	20.0
BC01784	Lithium, Total	mg/L	-0.000109	0.0154	0.200	0.879	0.859	0.198	0.170 to 0.230	104	70.0 to 130	2.30	20.0
BC01784	Magnesium, Dissolved	mg/L	0.00815	0.0462	5.00	167	165	5.19	4.25 to 5.75	140	70.0 to 130	1.20	20.0
BC01784	Magnesium, Total	mg/L	0.000303	0.0462	5.00	159	160	5.01	4.25 to 5.75	-20.0	70.0 to 130	0.627	20.0
BC01784	Manganese, Dissolved	mg/L	0.0000529	0.000147	0.100	18.4	18.3	0.112	0.0850 to 0.115	-100	70.0 to 130	0.545	20.0
BC01784	Manganese, Total	mg/L	0.000015	0.000147	0.100	19.1	19.0	0.105	0.0850 to 0.115	200	70.0 to 130	0.525	20.0
BC01784	Mercury, Total by CVAA	mg/L	0.00000	0.000500	0.004	0.00403	0.00401	0.00398	0.00340 to 0.00460	101	70.0 to 130	0.498	20.0
BC01784	Molybdenum, Dissolved	mg/L	-0.0000001	0.000147	0.100	0.0946	0.0941	0.0973	0.0850 to 0.115	94.6	70.0 to 130	0.530	20.0
BC01784	Molybdenum, Total	mg/L	0.0000548	0.000147	0.100	0.0996	0.0977	0.103	0.0850 to 0.115	99.6	70.0 to 130	1.93	20.0
BC01784	Potassium, Dissolved	mg/L	-0.00696	0.367	10.0	13.6	14.2	9.75	8.50 to 11.5	89.9	70.0 to 130	4.32	20.0
BC01784	Potassium, Total	mg/L	0.0887	0.367	10.0	15.4	15.6	10.6	8.50 to 11.5	102	70.0 to 130	1.29	20.0
BC01784	Selenium, Dissolved	mg/L	0.0000188	0.00100	0.100	0.108	0.108	0.103	0.0850 to 0.115	99.5	70.0 to 130	0.00	20.0
BC01784	Selenium, Total	mg/L	0.0000099	0.00100	0.100	0.105	0.101	0.103	0.0850 to 0.115	96.8	70.0 to 130	3.88	20.0
BC01784	Silicon, Dissolved	mg/L	-0.000527	0.0440	1.00	27.5	27.6	1.02	0.850 to 1.15	100	70.0 to 130	0.363	20.0
BC01784	Silicon, Total	mg/L	0.00043	0.0440	1.00	27.4	27.0	1.02	0.850 to 1.15	90.0	70.0 to 130	1.47	20.0
BC01784	Sodium, Dissolved	mg/L	0.00241	0.0660	5.00	28.8	29.8	5.07	4.25 to 5.75	88.0	70.0 to 130	3.41	20.0
BC01784	Sodium, Total	mg/L	0.00603	0.0660	5.00	30.5	29.7	4.99	4.25 to 5.75	106	70.0 to 130	2.66	20.0
BC01784	Thallium, Dissolved	mg/L	0.0000127	0.000147	0.100	0.105	0.103	0.105	0.0850 to 0.115	105	70.0 to 130	1.92	20.0
BC01784	Thallium, Total	mg/L	0.0000218	0.000147	0.100	0.0980	0.0956	0.0991	0.0850 to 0.115	97.8	70.0 to 130	2.48	20.0
BC01784	Total Organic Carbon	mg/L	0.260	1.00	10.0	11.1	10.2	25.3		99.6	80.0 to 120	8.45	20.0

**Comments:** The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified. Alkalinity could not be performed due to the initial pH reading was below the titration end point of 4.5 SU. Fluoride result is qualified due to potential matrix interference.

## Batch QC Summary

**Customer Account:** WMWGORG

**Sample Date:** 1/27/22 09:50

**Customer ID:**

**Delivery Date:** 1/27/22 15:16

**Description:** Gorgas Gypsum - MW-14H

**Laboratory ID Number:** BC01783

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC01784	Chloride	mg/L	-0.021	1.00	200	313	109	10.3	9.00 to 11.0	105	80.0 to 120	5.66	20.0
BC01781	Fluoride	mg/L	0.0363	0.100	2.50	2.50	0.0227	2.39	2.25 to 2.75	100	80.0 to 120	0.00	20.0
BC01784	Nitrogen, Nitrate/Nitrite	mg/L as N	-0.01	0.200	2.00	2.24	0.108	2.02	1.80 to 2.20	112	90.0 to 110	0.00	15.0
BC01784	Solids, Dissolved	mg/L	0.0000	25.0			1820	50.0	40.0 to 60.0			1.09	10.0
BC01784	Sulfate	mg/L	0.231	1.00	1600	2770	1130	20.3	18.0 to 22.0	102	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. Alkalinity could not be performed due to the initial pH reading was below the titration end point of 4.5 SU. Fluoride result is qualified due to potential matrix interference.

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-4

**Location Code:** WMWGORG  
**Collected:** 1/27/22 10:53  
**Customer ID:**  
**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01784

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: RDA</b>			<b>Preparation Method: EPA 1638</b>					
* Boron, Total	2/3/22 12:00	2/4/22 11:06		1.015	6.10	mg/L	0.030000	0.1015		
* Calcium, Total	2/3/22 12:00	2/4/22 12:47		10.15	181	mg/L	0.70035	4.06	RA	
* Iron, Total	2/3/22 12:00	2/4/22 12:32		10.15	20.6	mg/L	0.08120	0.406	RA	
* Lithium, Total	2/3/22 12:00	2/4/22 11:06		1.015	0.671	mg/L	0.007105	0.01999956		
* Magnesium, Total	2/3/22 12:00	2/4/22 12:47		10.15	160	mg/L	0.21315	4.06	RA	
Silica, Total (calc.)	2/3/22 12:00	2/4/22 12:47		1	56.7	mg/L				
Silicon, Total	2/3/22 12:00	2/4/22 12:47		10.15	26.5	mg/L	0.2030	2.5375	RA	
* Sodium, Total	2/3/22 12:00	2/4/22 11:06		1.015	25.2	mg/L	0.03045	0.406		
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: RDA</b>			<b>Preparation Method: EPA 1638</b>					
* Boron, Dissolved	2/3/22 12:00	2/4/22 10:16		1.015	5.99	mg/L	0.030000	0.1015		
* Calcium, Dissolved	2/3/22 12:00	2/4/22 11:49		10.15	177	mg/L	0.70035	4.06	RA	
* Iron, Dissolved	2/3/22 12:00	2/4/22 11:49		10.15	20.4	mg/L	0.08120	0.406	RA	
* Lithium, Dissolved	2/3/22 12:00	2/4/22 10:16		1.015	0.647	mg/L	0.007105	0.01999956		
* Magnesium, Dissolved	2/3/22 12:00	2/4/22 11:49		10.15	160	mg/L	0.21315	4.06	RA	
Silica, Dissolved (calc.)	2/3/22 12:00	2/4/22 11:49		1	56.7	mg/L				
Silicon, Dissolved	2/3/22 12:00	2/4/22 11:49		10.15	26.5	mg/L	0.2030	2.5375		
* Sodium, Dissolved	2/3/22 12:00	2/4/22 10:16		1.015	24.4	mg/L	0.03045	0.406		
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>					
* Antimony, Total	2/1/22 08:51	2/1/22 16:08		1.015	Not Detected	mg/L	0.000508	0.001015	U	
* Aluminum, Total	2/1/22 08:51	2/3/22 19:19		92.365	29.7	mg/L	0.369460	0.92365	RA	
* Arsenic, Total	2/1/22 08:51	2/1/22 16:08		1.015	0.00274	mg/L	0.000068	0.000203		
* Barium, Total	2/1/22 08:51	2/1/22 16:08		1.015	0.0131	mg/L	0.000102	0.000203		
* Beryllium, Total	2/1/22 08:51	2/1/22 16:08		1.015	0.00768	mg/L	0.000406	0.001015		
* Cadmium, Total	2/1/22 08:51	2/1/22 16:08		1.015	0.00336	mg/L	0.000068	0.000203		
* Chromium, Total	2/1/22 08:51	2/1/22 16:08		1.015	0.00107	mg/L	0.000203	0.001015		
* Cobalt, Total	2/1/22 08:51	2/1/22 16:08		1.015	0.406	mg/L	0.000068	0.000203		
* Lead, Total	2/1/22 08:51	2/1/22 16:08		1.015	0.00103	mg/L	0.000068	0.000203		
* Manganese, Total	2/1/22 08:51	2/3/22 19:19		92.365	18.9	mg/L	0.006188	0.018473	RA	
* Molybdenum, Total	2/1/22 08:51	2/1/22 16:08		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Potassium, Total	2/1/22 08:51	2/1/22 16:08		1.015	5.18	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. Matrix spike recovery for Nitrate/Nitrite passes using values below the detection limit. Alkalinity could not be performed due to the initial pH reading was below the titration end point of 4.5 SU. Fluoride result is qualified due to potential matrix interference.

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-4

**Location Code:** WMWGORG  
**Collected:** 1/27/22 10:53  
**Customer ID:**  
**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01784

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	2/1/22 08:51	2/1/22 16:08		1.015	0.00817	mg/L	0.000508	0.001015	
* Thallium, Total	2/1/22 08:51	2/1/22 16:08		1.015	0.000223	mg/L	0.000068	0.000203	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: ABB</b>							
* Antimony, Dissolved	2/2/22 09:05	2/3/22 13:31		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	2/2/22 09:05	2/3/22 16:00		92.365	30.3	mg/L	0.369460	0.92365	RA
* Arsenic, Dissolved	2/2/22 09:05	2/3/22 13:31		1.015	0.00250	mg/L	0.000068	0.000203	
* Barium, Dissolved	2/2/22 09:05	2/3/22 13:31		1.015	0.0114	mg/L	0.000102	0.000203	
* Beryllium, Dissolved	2/2/22 09:05	2/3/22 13:31		1.015	0.00821	mg/L	0.000406	0.001015	
* Cadmium, Dissolved	2/2/22 09:05	2/3/22 13:31		1.015	0.00333	mg/L	0.000068	0.000203	
* Chromium, Dissolved	2/2/22 09:05	2/3/22 13:31		1.015	0.00105	mg/L	0.000203	0.001015	
* Cobalt, Dissolved	2/2/22 09:05	2/3/22 13:31		1.015	0.447	mg/L	0.000068	0.000203	
* Lead, Dissolved	2/2/22 09:05	2/3/22 13:31		1.015	0.00108	mg/L	0.000068	0.000203	
* Manganese, Dissolved	2/2/22 09:05	2/3/22 16:00		92.365	18.5	mg/L	0.006188	0.018473	RA
* Molybdenum, Dissolved	2/2/22 09:05	2/3/22 13:31		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Potassium, Dissolved	2/2/22 09:05	2/3/22 13:31		1.015	4.61	mg/L	0.169505	0.5075	
* Selenium, Dissolved	2/2/22 09:05	2/3/22 13:31		1.015	0.00854	mg/L	0.000508	0.001015	
* Thallium, Dissolved	2/2/22 09:05	2/3/22 13:31		1.015	0.000238	mg/L	0.000068	0.000203	
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	2/8/22 18:27	2/8/22 23:31		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: ELH</b>							
* Nitrogen, Nitrate/Nitrite	2/2/22 15:53	2/2/22 15:53		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	1/28/22 11:30	2/1/22 13:58		1	1840	mg/L		100	
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	2/1/22 21:17	2/1/22 21:17		1	1.14	mg/L	1.00	2	J
<b>Analytical Method: SM4500CI E</b>		<b>Analyst: JCC</b>							
* Chloride	1/28/22 11:25	1/28/22 11:25		20	103	mg/L	10.00	20	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	1/28/22 13:09	1/28/22 13:09		1	Not Detected	mg/L	0.06	0.1	U
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	2/7/22 16:00	2/7/22 16:00		80	1130	mg/L	40.00	80	

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. Matrix spike recovery for Nitrate/Nitrite passes using values below the detection limit. Alkalinity could not be performed due to the initial pH reading was below the titration end point of 4.5 SU. Fluoride result is qualified due to potential matrix interference.



# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-4

**Location Code:** WMWGORG  
**Collected:** 1/27/22 10:53  
**Customer ID:**  
**Submittal Date:** 1/27/22 15:16

**Laboratory ID Number:** BC01784

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: Field Measurements</b>		<b>Analyst: AWG</b>							
Conductivity	1/27/22 10:50	1/27/22 10:50			2062.07	uS/cm			FA
pH	1/27/22 10:50	1/27/22 10:50			3.73	SU			FA
Temperature	1/27/22 10:50	1/27/22 10:50			19.63	C			FA
Turbidity	1/27/22 10:50	1/27/22 10:50			1.54	NTU			FA

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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. Matrix spike recovery for Nitrate/Nitrite passes using values below the detection limit. Alkalinity could not be performed due to the initial pH reading was below the titration end point of 4.5 SU. Fluoride result is qualified due to potential matrix interference.

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 1/27/22 10:53  
**Customer ID:**  
**Delivery Date:** 1/27/22 15:16

**Description:** Gorgas Gypsum - MW-4

**Laboratory ID Number:** BC01784

Sample	Analysis	Units	MB					Standard		Rec			Prec Limit
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit	Prec	
BC01784	Aluminum, Dissolved	mg/L	-0.000144	0.00880	0.100	30.3	30.3	0.0972	0.0850 to 0.115	0.00	70.0 to 130	0.00	20.0
BC01784	Aluminum, Total	mg/L	0.000470	0.00880	0.100	30.2	30.5	0.103	0.0850 to 0.115	500	70.0 to 130	0.988	20.0
BC01784	Antimony, Dissolved	mg/L	0.000122	0.00100	0.100	0.0957	0.0983	0.0892	0.0850 to 0.115	95.7	70.0 to 130	2.68	20.0
BC01784	Antimony, Total	mg/L	0.000346	0.00100	0.100	0.101	0.102	0.102	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BC01784	Arsenic, Dissolved	mg/L	0.0000273	0.000147	0.100	0.103	0.104	0.104	0.0850 to 0.115	100	70.0 to 130	0.966	20.0
BC01784	Arsenic, Total	mg/L	0.000104	0.000147	0.100	0.104	0.0984	0.106	0.0850 to 0.115	101	70.0 to 130	5.53	20.0
BC01784	Barium, Dissolved	mg/L	-0.0000321	0.000200	0.100	0.111	0.113	0.0978	0.0850 to 0.115	99.6	70.0 to 130	1.79	20.0
BC01784	Barium, Total	mg/L	0.0000503	0.000200	0.100	0.123	0.115	0.113	0.0850 to 0.115	110	70.0 to 130	6.72	20.0
BC01784	Beryllium, Dissolved	mg/L	0.0000506	0.000880	0.100	0.0966	0.0980	0.0989	0.0850 to 0.115	88.4	70.0 to 130	1.44	20.0
BC01784	Beryllium, Total	mg/L	0.000137	0.000880	0.100	0.0916	0.0883	0.0927	0.0850 to 0.115	83.9	70.0 to 130	3.67	20.0
BC01784	Boron, Dissolved	mg/L	-0.000322	0.0650	1.00	7.08	7.10	1.03	0.850 to 1.15	109	70.0 to 130	0.282	20.0
BC01784	Boron, Total	mg/L	0.00026	0.0650	1.00	7.15	7.12	1.00	0.850 to 1.15	105	70.0 to 130	0.420	20.0
BC01784	Cadmium, Dissolved	mg/L	0.000007	0.000147	0.100	0.100	0.101	0.0984	0.0850 to 0.115	96.7	70.0 to 130	0.995	20.0
BC01784	Cadmium, Total	mg/L	0.0000381	0.000147	0.100	0.105	0.101	0.101	0.0850 to 0.115	102	70.0 to 130	3.88	20.0
BC01784	Calcium, Dissolved	mg/L	0.00459	0.152	5.00	184	185	5.03	4.25 to 5.75	140	70.0 to 130	0.542	20.0
BC01784	Calcium, Total	mg/L	-0.00198	0.152	5.00	177	178	4.80	4.25 to 5.75	-80.0	70.0 to 130	0.563	20.0
BC01784	Chromium, Dissolved	mg/L	0.0000231	0.000440	0.100	0.0963	0.0992	0.101	0.0850 to 0.115	95.2	70.0 to 130	2.97	20.0
BC01784	Chromium, Total	mg/L	-0.0000094	0.000440	0.100	0.101	0.0962	0.101	0.0850 to 0.115	99.9	70.0 to 130	4.87	20.0
BC01784	Cobalt, Dissolved	mg/L	-0.0000016	0.000147	0.100	0.539	0.557	0.105	0.0850 to 0.115	92.0	70.0 to 130	3.28	20.0
BC01784	Cobalt, Total	mg/L	0.000044	0.000147	0.100	0.502	0.489	0.102	0.0850 to 0.115	96.0	70.0 to 130	2.62	20.0
BC01784	Iron, Dissolved	mg/L	-0.000483	0.0176	0.2	20.4	20.6	0.202	0.170 to 0.230	0.00	70.0 to 130	0.976	20.0
BC01784	Iron, Total	mg/L	-0.00024	0.0176	0.2	20.4	20.1	0.198	0.170 to 0.230	-100	70.0 to 130	1.48	20.0
BC01784	Lead, Dissolved	mg/L	0.0000109	0.000147	0.100	0.109	0.106	0.111	0.0850 to 0.115	108	70.0 to 130	2.79	20.0
BC01784	Lead, Total	mg/L	0.0000192	0.000147	0.100	0.101	0.0977	0.102	0.0850 to 0.115	100	70.0 to 130	3.32	20.0

**Comments:** The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified. Matrix spike recovery for Nitrate/Nitrite passes using values below the detection limit. Alkalinity could not be performed due to the initial pH reading was below the titration end point of 4.5 SU. Fluoride result is qualified due to potential matrix interference.

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 1/27/22 10:53  
**Customer ID:**  
**Delivery Date:** 1/27/22 15:16

**Description:** Gorgas Gypsum - MW-4

**Laboratory ID Number:** BC01784

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC01784	Lithium, Dissolved	mg/L	0.000063	0.0154	0.200	0.830	0.857	0.201	0.170 to 0.230	91.5	70.0 to 130	3.20	20.0
BC01784	Lithium, Total	mg/L	-0.000109	0.0154	0.200	0.879	0.859	0.198	0.170 to 0.230	104	70.0 to 130	2.30	20.0
BC01784	Magnesium, Dissolved	mg/L	0.00815	0.0462	5.00	167	165	5.19	4.25 to 5.75	140	70.0 to 130	1.20	20.0
BC01784	Magnesium, Total	mg/L	0.000303	0.0462	5.00	159	160	5.01	4.25 to 5.75	-20.0	70.0 to 130	0.627	20.0
BC01784	Manganese, Dissolved	mg/L	0.0000529	0.000147	0.100	18.4	18.3	0.112	0.0850 to 0.115	-100	70.0 to 130	0.545	20.0
BC01784	Manganese, Total	mg/L	0.000015	0.000147	0.100	19.1	19.0	0.105	0.0850 to 0.115	200	70.0 to 130	0.525	20.0
BC01784	Mercury, Total by CVAA	mg/L	0.00000	0.000500	0.004	0.00403	0.00401	0.00398	0.00340 to 0.00460	101	70.0 to 130	0.498	20.0
BC01784	Molybdenum, Dissolved	mg/L	-0.0000001	0.000147	0.100	0.0946	0.0941	0.0973	0.0850 to 0.115	94.6	70.0 to 130	0.530	20.0
BC01784	Molybdenum, Total	mg/L	0.0000548	0.000147	0.100	0.0996	0.0977	0.103	0.0850 to 0.115	99.6	70.0 to 130	1.93	20.0
BC01784	Potassium, Dissolved	mg/L	-0.00696	0.367	10.0	13.6	14.2	9.75	8.50 to 11.5	89.9	70.0 to 130	4.32	20.0
BC01784	Potassium, Total	mg/L	0.0887	0.367	10.0	15.4	15.6	10.6	8.50 to 11.5	102	70.0 to 130	1.29	20.0
BC01784	Selenium, Dissolved	mg/L	0.0000188	0.00100	0.100	0.108	0.108	0.103	0.0850 to 0.115	99.5	70.0 to 130	0.00	20.0
BC01784	Selenium, Total	mg/L	0.0000099	0.00100	0.100	0.105	0.101	0.103	0.0850 to 0.115	96.8	70.0 to 130	3.88	20.0
BC01784	Silicon, Dissolved	mg/L	-0.000527	0.0440	1.00	27.5	27.6	1.02	0.850 to 1.15	100	70.0 to 130	0.363	20.0
BC01784	Silicon, Total	mg/L	0.00043	0.0440	1.00	27.4	27.0	1.02	0.850 to 1.15	90.0	70.0 to 130	1.47	20.0
BC01784	Sodium, Dissolved	mg/L	0.00241	0.0660	5.00	28.8	29.8	5.07	4.25 to 5.75	88.0	70.0 to 130	3.41	20.0
BC01784	Sodium, Total	mg/L	0.00603	0.0660	5.00	30.5	29.7	4.99	4.25 to 5.75	106	70.0 to 130	2.66	20.0
BC01784	Thallium, Dissolved	mg/L	0.0000127	0.000147	0.100	0.105	0.103	0.105	0.0850 to 0.115	105	70.0 to 130	1.92	20.0
BC01784	Thallium, Total	mg/L	0.0000218	0.000147	0.100	0.0980	0.0956	0.0991	0.0850 to 0.115	97.8	70.0 to 130	2.48	20.0
BC01784	Total Organic Carbon	mg/L	0.260	1.00	10.0	11.1	10.2	25.3		99.6	80.0 to 120	8.45	20.0

**Comments:** The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified. Matrix spike recovery for Nitrate/Nitrite passes using values below the detection limit. Alkalinity could not be performed due to the initial pH reading was below the titration end point of 4.5 SU. Fluoride result is qualified due to potential matrix interference.

## Batch QC Summary

**Customer Account:** WMWGORG

**Sample Date:** 1/27/22 10:53

**Customer ID:**

**Delivery Date:** 1/27/22 15:16

**Description:** Gorgas Gypsum - MW-4

**Laboratory ID Number:** BC01784

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC01784	Chloride	mg/L	-0.021	1.00	200	313	109	10.3	9.00 to 11.0	105	80.0 to 120	5.66	20.0
BC01781	Fluoride	mg/L	0.0363	0.100	2.50	2.50	0.0227	2.39	2.25 to 2.75	100	80.0 to 120	0.00	20.0
BC01784	Nitrogen, Nitrate/Nitrite	mg/L as N	-0.01	0.200	2.00	2.24	0.108	2.02	1.80 to 2.20	112	90.0 to 110	0.00	15.0
BC01784	Solids, Dissolved	mg/L	0.0000	25.0			1820	50.0	40.0 to 60.0			1.09	10.0
BC01784	Sulfate	mg/L	0.231	1.00	1600	2770	1130	20.3	18.0 to 22.0	102	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. Matrix spike recovery for Nitrate/Nitrite passes using values below the detection limit. Alkalinity could not be performed due to the initial pH reading was below the titration end point of 4.5 SU. Fluoride result is qualified due to potential matrix interference.

# Definitions

**Project Number:** WMWGORG\_1348

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.
R	Matrix spike recovery and/or matrix spike duplicate recovery is outside of specification limit.
RA	Matrix spike is invalid due to sample concentration.
U	Compound was analyzed, but not detected.



# Chain of Custody Groundwater

APC General Testing Laboratory

Field Complete  
 Lab Complete

Outside Lab

Lab ETA

Requested Complete Date	Routine	Results To	Dustin Brooks, Greg Dyer
	Collector: Dallas Gentry		Requested By
		Location	Gorgas Gypsum

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 Correcting bottle count to 7 for MW-12H DUP. LBM 1/27/22

Sample #	Date	Time	Bottle Count	Description	Lab Filter	Lab Id
PZ-21	01/25/2022	10:38	7	Groundwater		BC01619
PZ-22	01/25/2022	11:53	7	Groundwater		BC01620
PZ-20	01/25/2022	12:55	7	Groundwater		BC01621
FB-1	01/25/2022	13:25	5	Field Blank		BC01622
PZ-19	01/25/2022	14:45	7	Groundwater		BC01623
MW-12H	01/25/2022	15:48	7	Groundwater		BC01624
MW-12H dup	01/25/2022	15:48	7	Sample Duplicate		BC01625

Relinquished By	Received By	Date/Time
<i>M. Dyer</i>	<i>Laura May</i>	01/26/2022 08:07

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	1348	
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 Gypsum

Bottles	1	Metals	500 mL	3	Hg	250 mL	5	TDS	500 mL	7	Alkalinity/pH	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 1/27/22

Sample #	Date	Time	Bottle Count	Description	Lab Filter	Lab Id
MW-3V	01/26/2022	11:50	7	Groundwater		BC01768
MW-8V	01/26/2022	13:50	7	Groundwater		BC01769
MW-3	01/26/2022	15:08	7	Groundwater		BC01770
MW-4V	01/27/2022	09:40	7	Groundwater		BC01771
PZ-17	01/27/2022	10:45	7	Groundwater		BC01772

Relinquished By	Received By	Date/Time
<i>Mel Dyer</i>	<i>Laura McGehee</i>	01/27/2022 14:00

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	1348	
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 Collector	<b>Routine</b>	Results To Requested By Location	Dustin Brooks, Greg Dyer
	TJ Daugherty		Greg Dyer
			Gorgas Gypsum

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

Comments Nitrate/Nitrite, TOC bottles pH<2. LBM 1/27/22

Sample #	Date	Time	Bottle Count	Description	Lab Filter	Lab Id
MW-11H	01/26/2022	10:10	7	Groundwater		BC01773
MW-13H	01/26/2022	11:17	7	Groundwater		BC01774
MW-13H Dup	01/26/2022	11:17	7	Sample Duplicate		BC01775
MW-9V	01/26/2022	13:20	7	Groundwater		BC01776
MW-9H	01/26/2022	15:25	7	Groundwater		BC01777
MW-12V	01/27/2022	09:00	7	Groundwater		BC01778
MW-8	01/27/2022	10:00	7	Groundwater		BC01779
EB-1	01/27/2022	10:40	5	Equipment Blank		BC01780

Relinquished By	Received By	Date/Time
		01/27/2022 14:01

<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 15%;">SmarTroll ID</td><td style="width: 30%;">7586-41445-5-4</td></tr> <tr><td>Turbidity ID</td><td>4677-23342-4-1</td></tr> <tr><td>Sample Event</td><td>1348</td></tr> </table>	SmarTroll ID	7586-41445-5-4	Turbidity ID	4677-23342-4-1	Sample Event	1348	<p>All metals and radiological bottles have pH &lt; 2 <input checked="" type="checkbox"/></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 30%;">Cooler Temp</td><td style="width: 70%;">0.0 degrees C</td></tr> <tr><td>Thermometer ID</td><td>5408-27568-2-2</td></tr> <tr><td>pH Strip ID</td><td>8440-53679-10-5</td></tr> </table>	Cooler Temp	0.0 degrees C	Thermometer ID	5408-27568-2-2	pH Strip ID	8440-53679-10-5
SmarTroll ID	7586-41445-5-4												
Turbidity ID	4677-23342-4-1												
Sample Event	1348												
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	Anthony Goggins	Requested By	Greg Dyer
		Location	Gorgas Gypsum

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 1/27/22
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Sample #	Date	Time	Bottle Count	Description	Lab Filter	Lab Id
FB-2	01/27/2022	08:30	5	Field Blank		BC01781
PZ-18	01/27/2022	08:50	7	Groundwater		BC01782
MW-14H	01/27/2022	09:50	7	Groundwater		BC01783
MW-4	01/27/2022	10:53	7	Groundwater		BC01784

Relinquished By	Received By	Date/Time
<i>Anthony Goggins</i>	<i>Greg Dyer</i>	01/27/2022 14:13

SmarTroll ID	7836-43100-1-1	All metals and radiological bottles have pH < 2 <input checked="" type="checkbox"/>
Turbidity ID	4677-23343-4-2	Cooler Temp
Sample Event	1348	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       Outside Lab  
 Lab Complete

 Lab ETA 

Requested Complete Date	Routine	Results To	Dustin Brooks, Greg Dyer
Collector	Dallas Gentry	Requested By	Greg Dyer
		Location	Gorgas Gypsum

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 PZ-20  
Sulfide bottles pH>9. LBM 1/26/22

Sample #	Date	Time	Bottle Count	Description	Lab Filter	Lab Id
PZ-21	01/25/2022	10:38	2	Groundwater		BC01626
PZ-22	01/25/2022	11:53	2	Groundwater		BC01627
PZ-20	01/25/2022	12:55	4	Groundwater		BC01628
FB-1	01/25/2022	13:25	2	Field Blank		BC01629
PZ-19	01/25/2022	14:45	2	Groundwater		BC01630
MW-12H	01/25/2022	15:48	2	Groundwater		BC01631
MW-12H dup	01/25/2022	15:48	2	Sample Duplicate		BC01632

Relinquished By	Received By	Date/Time
<i>M. Dyer</i>	<i>Laura M. Hoff</i>	01/26/2022 08:08

SmarTroll ID	7586-41444-5-3
Turbidity ID	3901-20010-2-2
Sample Event	1348

All metals and radiological bottles have pH < 2	<input checked="" type="checkbox"/>
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 Gypsum

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-3  
Sulfide pH>9. LBM 1/27/22

Sample #	Date	Time	Bottle Count	Description	Lab Filter	Lab Id
MW-3V	01/26/2022	11:50	2	Groundwater		BC01785
MW-8V	01/26/2022	13:50	2	Groundwater		BC01786
MW-3	01/26/2022	15:08	4	Groundwater		BC01787
MW-4V	01/27/2022	09:40	2	Groundwater		BC01788
PZ-17	01/27/2022	10:45	2	Groundwater		BC01789

Relinquished By	Received By	Date/Time
<i>Mel Dyer</i>	<i>Laura M. Hoff</i>	01/27/2022 14:00

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	1348		
		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: TJ Daugherty		Requested By
		Location	Gorgas Gypsum

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 pH>9. LBM 1/27/22

Sample #	Date	Time	Bottle Count	Description	Lab Filter	Lab Id
MW-11H	01/26/2022	10:10	2	Groundwater		BC01790
MW-13H	01/26/2022	11:17	2	Groundwater		BC01791
MW-13H Dup	01/26/2022	11:17	2	Sample Duplicate		BC01792
MW-9V	01/26/2022	13:20	2	Groundwater		BC01793
MW-9H	01/26/2022	15:25	2	Groundwater		BC01794
MW-12V	01/27/2022	09:00	2	Groundwater		BC01795
MW-8	01/27/2022	10:00	2	Groundwater		BC01796
EB-1	01/27/2022	10:40	2	Equipment Blank		BC01797

Relinquished By	Received By	Date/Time
<i>[Signature]</i>	<i>[Signature]</i>	01/27/2022 14:01

SmarTroll ID	7586-41445-5-4
Turbidity ID	4677-23342-4-1
Sample Event	1348

All metals and radiological bottles have pH < 2

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	Anthony Goggins	Requested By	Greg Dyer
		Location	Gorgas Gypsum

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 pH>9. LBM 1/27/22

Sample #	Date	Time	Bottle Count	Description	Lab Filter	Lab Id
FB-2	01/27/2022	08:30	2	Field Blank		BC01798
PZ-18	01/27/2022	08:50	2	Groundwater		BC01799
MW-14H	01/27/2022	09:50	2	Groundwater		BC01800
MW-4	01/27/2022	10:53	2	Groundwater		BC01801

Relinquished By	Received By	Date/Time
<i>Anthony Goggins</i>	<i>James [Signature]</i>	01/27/2022 14:14

SmarTroll ID	7836-43100-1-1	All metals and radiological bottles have pH < 2 <input checked="" type="checkbox"/>
Turbidity ID	4677-23343-4-2	
Sample Event	1348	
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

March 22, 2022

Laura Midkiff  
Alabama Power  
744 Highway 87  
Calera, AL 35040

RE: Project: WMWGORG\_1348-Revised Report  
Pace Project No.: 30462100

Dear Laura Midkiff:

Enclosed are the analytical results for sample(s) received by the laboratory between February 01, 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 has been revised and replaces the report dated March 11, 2022. This project has been revised in order to add U qualifiers to the final report.

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

Sincerely,



Skyler C. Richmond  
skyler.richmond@pacelabs.com  
(724)850-5600  
Project Manager

Enclosures

cc: Brooke Caton, Alabama Power  
Renee Jernigan, Alabama Power



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: WMWGORG\_1348-Revised Report  
Pace Project No.: 30462100

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### **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

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: WMWGORG\_1348-Revised Report

Pace Project No.: 30462100

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30462100001	BC01626 PZ-21	Water	01/25/22 10:38	02/01/22 09:45
30462100002	BC01627 PZ-22	Water	01/25/22 11:53	02/01/22 09:45
30462100003	BC01628 PZ-20	Water	01/25/22 12:55	02/01/22 09:45
30462100004	BC01629 FB-1	Water	01/25/22 13:25	02/01/22 09:45
30462100005	BC01630 PZ-19	Water	01/25/22 14:45	02/01/22 09:45
30462100006	BC01631 MW-12H	Water	01/25/22 15:48	02/01/22 09:45
30462100007	BC01632 MW-12H DUP	Water	01/25/22 15:48	02/01/22 09:45
30462100008	BC01785 MW-3V	Water	01/26/22 11:50	02/01/22 09:45
30462100009	BC01786 MW-8V	Water	01/26/22 13:50	02/01/22 09:45
30462100010	BC01787 MW-3	Water	01/26/22 15:08	02/01/22 09:45
30462100011	BC01788 MW-4V	Water	01/27/22 09:40	02/01/22 09:45
30462100012	BC01789 PZ-17	Water	01/27/22 10:45	02/01/22 09:45
30462100013	BC01790 MW-11H	Water	01/26/22 10:10	02/01/22 09:45
30462100014	BC01791 MW-13H	Water	01/26/22 11:17	02/01/22 09:45
30462100015	BC01792 MW-13H DUP	Water	01/26/22 11:17	02/01/22 09:45
30462100016	BC01793 MW-9V	Water	01/26/22 13:20	02/01/22 09:45
30462100017	BC01794 MW-9H	Water	01/26/22 15:25	02/01/22 09:45
30462100018	BC01795 MW-12V	Water	01/27/22 09:00	02/01/22 09:45
30462100019	BC01796 MW-8	Water	01/27/22 10:00	02/01/22 09:45
30462100020	BC01797 EB-1	Water	01/27/22 10:40	02/01/22 09:45
30462100021	BC01798 FB-2	Water	01/27/22 08:30	02/01/22 09:45
30462100022	BC01799 PZ-18	Water	01/27/22 08:50	02/01/22 09:45
30462100023	BC01800 MW-14H	Water	01/27/22 09:50	02/01/22 09:45
30462100024	BC01801 MW-4	Water	01/27/22 10:53	02/01/22 09:45
30462100025	BC01628 PZ-20 MS	Water	01/25/22 12:55	02/08/22 13:27
30462100026	BC01628 PZ-20 MSD	Water	01/25/22 12:55	02/08/22 13:27
30462100027	BC01787 MW-3 MS	Water	01/26/22 15:08	02/08/22 13:32
30462100028	BC01787 MW-3 MSD	Water	01/26/22 15:08	02/08/22 13:32

## REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: WMWGORG\_1348-Revised Report

Pace Project No.: 30462100

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30462100001	BC01626 PZ-21	EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30462100002	BC01627 PZ-22	EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30462100003	BC01628 PZ-20	EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30462100004	BC01629 FB-1	EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30462100005	BC01630 PZ-19	EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30462100006	BC01631 MW-12H	EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30462100007	BC01632 MW-12H DUP	EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30462100008	BC01785 MW-3V	EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30462100009	BC01786 MW-8V	EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30462100010	BC01787 MW-3	EPA 9315	JJY	1	PASI-PA
		EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30462100011	BC01788 MW-4V	EPA 9315	JJY	1	PASI-PA
		EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30462100012	BC01789 PZ-17	EPA 9315	JJY	1	PASI-PA
		EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30462100013	BC01790 MW-11H	EPA 9315	JJY	1	PASI-PA

### REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: WMWGORG\_1348-Revised Report  
Pace Project No.: 30462100

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30462100014	BC01791 MW-13H	EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	JJY	1	PASI-PA
30462100015	BC01792 MW-13H DUP	EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	JJY	1	PASI-PA
30462100016	BC01793 MW-9V	EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	JJY	1	PASI-PA
30462100017	BC01794 MW-9H	EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	JJY	1	PASI-PA
30462100018	BC01795 MW-12V	EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	JJY	1	PASI-PA
30462100019	BC01796 MW-8	EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	JJY	1	PASI-PA
30462100020	BC01797 EB-1	EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	JJY	1	PASI-PA
30462100021	BC01798 FB-2	EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	JJY	1	PASI-PA
30462100022	BC01799 PZ-18	EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	JJY	1	PASI-PA
30462100023	BC01800 MW-14H	EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	JJY	1	PASI-PA
30462100024	BC01801 MW-4	EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	JJY	1	PASI-PA
30462100025	BC01628 PZ-20 MS	EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	JJY	1	PASI-PA

### REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: WMWGORG\_1348-Revised Report

Pace Project No.: 30462100

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30462100026	BC01628 PZ-20 MSD	EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
30462100027	BC01787 MW-3 MS	EPA 9315	JJY	1	PASI-PA
		EPA 9320	JC2	1	PASI-PA
30462100028	BC01787 MW-3 MSD	EPA 9315	JJY	1	PASI-PA
		EPA 9320	JC2	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

### REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: WMWGORG\_1348-Revised Report

Pace Project No.: 30462100

---

**Method:** EPA 9315

**Description:** 9315 Total Radium

**Client:** Alabama Power

**Date:** March 22, 2022

**General Information:**

28 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: WMWGORG\_1348-Revised Report

Pace Project No.: 30462100

---

**Method:** EPA 9320

**Description:** 9320 Radium 228

**Client:** Alabama Power

**Date:** March 22, 2022

**General Information:**

28 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: WMWGORG\_1348-Revised Report

Pace Project No.: 30462100

---

**Method:** Total Radium Calculation

**Description:** Total Radium 228+226

**Client:** Alabama Power

**Date:** March 22, 2022

**General Information:**

24 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: WMWGORG\_1348-Revised Report

Pace Project No.: 30462100

**Sample: BC01626 PZ-21**      **Lab ID: 30462100001**      Collected: 01/25/22 10:38      Received: 02/01/22 09:45      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.265U ± 0.229 (0.403)</b> <b>C:91% T:NA</b>	pCi/L	03/07/22 08:21	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.144U ± 0.413 (0.930)</b> <b>C:75% T:63%</b>	pCi/L	02/16/22 15:16	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.409U ± 0.642 (1.33)</b>	pCi/L	03/07/22 14:26	7440-14-4	

### REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1348-Revised Report

Pace Project No.: 30462100

**Sample: BC01627 PZ-22**      **Lab ID: 30462100002**      Collected: 01/25/22 11:53      Received: 02/01/22 09:45      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.286U ± 0.229 (0.402)</b> <b>C:101% T:NA</b>	pCi/L	03/07/22 08:21	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.492U ± 0.381 (0.745)</b> <b>C:74% T:82%</b>	pCi/L	02/16/22 15:16	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.778U ± 0.610 (1.15)</b>	pCi/L	03/07/22 14:26	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1348-Revised Report

Pace Project No.: 30462100

**Sample: BC01628 PZ-20**      **Lab ID: 30462100003**      Collected: 01/25/22 12:55      Received: 02/01/22 09:45      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.135U ± 0.184 (0.387)</b> <b>C:97% T:NA</b>	pCi/L	03/07/22 08:21	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>-0.358U ± 0.371 (0.938)</b> <b>C:75% T:75%</b>	pCi/L	02/16/22 15:16	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.135U ± 0.555 (1.33)</b>	pCi/L	03/07/22 14:26	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1348-Revised Report

Pace Project No.: 30462100

**Sample: BC01629 FB-1**      **Lab ID: 30462100004**      Collected: 01/25/22 13:25      Received: 02/01/22 09:45      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.00287U ± 0.186 (0.498)</b> <b>C:98% T:NA</b>	pCi/L	03/07/22 08:22	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>-0.00474U ± 0.284 (0.667)</b> <b>C:78% T:88%</b>	pCi/L	02/16/22 15:16	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.00287U ± 0.470 (1.17)</b>	pCi/L	03/07/22 14:26	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1348-Revised Report

Pace Project No.: 30462100

**Sample: BC01630 PZ-19**      **Lab ID: 30462100005**      Collected: 01/25/22 14:45      Received: 02/01/22 09:45      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.0175U ± 0.163 (0.434)</b> <b>C:98% T:NA</b>	pCi/L	03/07/22 08:22	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.358U ± 0.352 (0.719)</b> <b>C:70% T:86%</b>	pCi/L	02/16/22 15:16	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.376U ± 0.515 (1.15)</b>	pCi/L	03/07/22 14:26	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1348-Revised Report

Pace Project No.: 30462100

**Sample: BC01631 MW-12H**      **Lab ID: 30462100006**      Collected: 01/25/22 15:48      Received: 02/01/22 09:45      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.413U ± 0.300 (0.537)</b> <b>C:93% T:NA</b>	pCi/L	03/07/22 08:22	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.804 ± 0.439 (0.787)</b> <b>C:72% T:86%</b>	pCi/L	02/16/22 15:16	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>1.22U ± 0.739 (1.32)</b>	pCi/L	03/07/22 14:26	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1348-Revised Report

Pace Project No.: 30462100

**Sample: BC01632 MW-12H DUP**      **Lab ID: 30462100007**      Collected: 01/25/22 15:48      Received: 02/01/22 09:45      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.229U ± 0.206 (0.378)</b> <b>C:97% T:NA</b>	pCi/L	03/07/22 08:22	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.545U ± 0.402 (0.786)</b> <b>C:74% T:85%</b>	pCi/L	02/16/22 15:19	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.774U ± 0.608 (1.16)</b>	pCi/L	03/07/22 14:26	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1348-Revised Report

Pace Project No.: 30462100

**Sample: BC01785 MW-3V**      **Lab ID: 30462100008**      Collected: 01/26/22 11:50      Received: 02/01/22 09:45      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.0988U ± 0.179 (0.408)</b> <b>C:100% T:NA</b>	pCi/L	03/07/22 08:22	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.447U ± 0.356 (0.700)</b> <b>C:76% T:83%</b>	pCi/L	02/16/22 15:19	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.546U ± 0.535 (1.11)</b>	pCi/L	03/07/22 14:26	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1348-Revised Report

Pace Project No.: 30462100

**Sample: BC01786 MW-8V**      **Lab ID: 30462100009**      Collected: 01/26/22 13:50      Received: 02/01/22 09:45      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.155U ± 0.223 (0.482)</b> <b>C:92% T:NA</b>	pCi/L	03/07/22 08:22	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>-0.00243U ± 0.377 (0.891)</b> <b>C:72% T:74%</b>	pCi/L	02/16/22 15:19	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.155U ± 0.600 (1.37)</b>	pCi/L	03/07/22 14:26	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1348-Revised Report

Pace Project No.: 30462100

**Sample: BC01787 MW-3**      **Lab ID: 30462100010**      Collected: 01/26/22 15:08      Received: 02/01/22 09:45      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.0497U ± 0.136 (0.334)</b> <b>C:102% T:NA</b>	pCi/L	03/07/22 08:23	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.285U ± 0.299 (0.616)</b> <b>C:78% T:89%</b>	pCi/L	02/18/22 11:03	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.335U ± 0.435 (0.950)</b>	pCi/L	03/07/22 14:24	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1348-Revised Report

Pace Project No.: 30462100

**Sample: BC01788 MW-4V**      **Lab ID: 30462100011**      Collected: 01/27/22 09:40      Received: 02/01/22 09:45      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.160U ± 0.177 (0.345)</b> <b>C:100% T:NA</b>	pCi/L	03/07/22 08:24	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.464U ± 0.344 (0.669)</b> <b>C:81% T:83%</b>	pCi/L	02/18/22 11:03	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.624U ± 0.521 (1.01)</b>	pCi/L	03/07/22 14:24	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1348-Revised Report

Pace Project No.: 30462100

**Sample: BC01789 PZ-17**      **Lab ID: 30462100012**      Collected: 01/27/22 10:45      Received: 02/01/22 09:45      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.243U ± 0.201 (0.344)</b> <b>C:99% T:NA</b>	pCi/L	03/07/22 08:24	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.116U ± 0.306 (0.685)</b> <b>C:83% T:88%</b>	pCi/L	02/18/22 11:03	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.359U ± 0.507 (1.03)</b>	pCi/L	03/07/22 14:24	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1348-Revised Report

Pace Project No.: 30462100

**Sample: BC01790 MW-11H**      **Lab ID: 30462100013**      Collected: 01/26/22 10:10      Received: 02/01/22 09:45      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.217U ± 0.195 (0.359)</b> <b>C:107% T:NA</b>	pCi/L	03/07/22 08:24	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.289U ± 0.303 (0.628)</b> <b>C:85% T:87%</b>	pCi/L	02/18/22 11:03	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.506U ± 0.498 (0.987)</b>	pCi/L	03/07/22 14:24	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1348-Revised Report

Pace Project No.: 30462100

**Sample: BC01791 MW-13H**      **Lab ID: 30462100014**      Collected: 01/26/22 11:17      Received: 02/01/22 09:45      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.354U ± 0.237 (0.376)</b> <b>C:101% T:NA</b>	pCi/L	03/07/22 08:24	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>-0.0486U ± 0.389 (0.921)</b> <b>C:74% T:66%</b>	pCi/L	02/18/22 11:03	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.354U ± 0.626 (1.30)</b>	pCi/L	03/07/22 14:24	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1348-Revised Report

Pace Project No.: 30462100

**Sample: BC01792 MW-13H DUP**      **Lab ID: 30462100015**      Collected: 01/26/22 11:17      Received: 02/01/22 09:45      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.187U ± 0.176 (0.319)</b> <b>C:99% T:NA</b>	pCi/L	03/07/22 08:24	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.174U ± 0.287 (0.625)</b> <b>C:79% T:84%</b>	pCi/L	02/18/22 11:03	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.361U ± 0.463 (0.944)</b>	pCi/L	03/07/22 14:24	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1348-Revised Report

Pace Project No.: 30462100

**Sample: BC01793 MW-9V**      **Lab ID: 30462100016**      Collected: 01/26/22 13:20      Received: 02/01/22 09:45      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.159U ± 0.184 (0.369)</b> <b>C:102% T:NA</b>	pCi/L	03/07/22 08:24	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.371U ± 0.291 (0.572)</b> <b>C:81% T:92%</b>	pCi/L	02/18/22 11:03	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.530U ± 0.475 (0.941)</b>	pCi/L	03/07/22 14:24	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1348-Revised Report

Pace Project No.: 30462100

**Sample: BC01794 MW-9H**      **Lab ID: 30462100017**      Collected: 01/26/22 15:25      Received: 02/01/22 09:45      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.335 ± 0.215 (0.296)</b> <b>C:101% T:NA</b>	pCi/L	03/07/22 08:24	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.721 ± 0.379 (0.663)</b> <b>C:77% T:83%</b>	pCi/L	02/18/22 11:03	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>1.06 ± 0.594 (0.959)</b>	pCi/L	03/07/22 14:24	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1348-Revised Report

Pace Project No.: 30462100

**Sample: BC01795 MW-12V**      **Lab ID: 30462100018**      Collected: 01/27/22 09:00      Received: 02/01/22 09:45      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.0638U ± 0.142 (0.336)</b> <b>C:99% T:NA</b>	pCi/L	03/07/22 08:24	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.297U ± 0.398 (0.849)</b> <b>C:78% T:67%</b>	pCi/L	02/18/22 11:04	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.361U ± 0.540 (1.19)</b>	pCi/L	03/07/22 14:24	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1348-Revised Report

Pace Project No.: 30462100

**Sample: BC01796 MW-8**      **Lab ID: 30462100019**      Collected: 01/27/22 10:00      Received: 02/01/22 09:45      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.0542U ± 0.138 (0.335)</b> <b>C:93% T:NA</b>	pCi/L	03/07/22 08:24	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.226U ± 0.293 (0.621)</b> <b>C:76% T:89%</b>	pCi/L	02/18/22 11:04	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.280U ± 0.431 (0.956)</b>	pCi/L	03/07/22 14:24	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1348-Revised Report

Pace Project No.: 30462100

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
<b>Sample: BC01797 EB-1</b> <b>Lab ID: 30462100020</b> Collected: 01/27/22 10:40      Received: 02/01/22 09:45      Matrix: Water PWS:      Site ID:      Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.0867U ± 0.199 (0.470)</b> <b>C:99% T:NA</b>	pCi/L	03/07/22 08:24	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.412U ± 0.372 (0.748)</b> <b>C:77% T:70%</b>	pCi/L	02/18/22 11:04	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.499U ± 0.571 (1.22)</b>	pCi/L	03/07/22 14:24	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1348-Revised Report

Pace Project No.: 30462100

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
<b>Sample: BC01798 FB-2</b> <b>Lab ID: 30462100021</b> Collected: 01/27/22 08:30      Received: 02/01/22 09:45      Matrix: Water PWS:      Site ID:      Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.129U ± 0.169 (0.350)</b> <b>C:100% T:NA</b>	pCi/L	03/07/22 08:24	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.223U ± 0.275 (0.579)</b> <b>C:77% T:87%</b>	pCi/L	02/18/22 11:04	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.352U ± 0.444 (0.929)</b>	pCi/L	03/07/22 14:24	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1348-Revised Report

Pace Project No.: 30462100

**Sample: BC01799 PZ-18**      **Lab ID: 30462100022**      Collected: 01/27/22 08:50      Received: 02/01/22 09:45      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.0130U ± 0.170 (0.456)</b> <b>C:94% T:NA</b>	pCi/L	03/07/22 08:24	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.519U ± 0.355 (0.675)</b> <b>C:76% T:84%</b>	pCi/L	02/18/22 11:04	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.532U ± 0.525 (1.13)</b>	pCi/L	03/07/22 14:24	7440-14-4	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1348-Revised Report

Pace Project No.: 30462100

**Sample: BC01800 MW-14H**      **Lab ID: 30462100023**      Collected: 01/27/22 09:50      Received: 02/01/22 09:45      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.136U ± 0.214 (0.474)</b> <b>C:97% T:NA</b>	pCi/L	03/07/22 08:24	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.111U ± 0.337 (0.759)</b> <b>C:76% T:75%</b>	pCi/L	02/18/22 11:05	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.247U ± 0.551 (1.23)</b>	pCi/L	03/07/22 14:24	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1348-Revised Report

Pace Project No.: 30462100

**Sample: BC01801 MW-4**      **Lab ID: 30462100024**      Collected: 01/27/22 10:53      Received: 02/01/22 09:45      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.212U ± 0.217 (0.427)</b> <b>C:101% T:NA</b>	pCi/L	03/07/22 08:26	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.579U ± 0.363 (0.677)</b> <b>C:74% T:85%</b>	pCi/L	02/18/22 11:05	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.791U ± 0.580 (1.10)</b>	pCi/L	03/07/22 14:24	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1348-Revised Report

Pace Project No.: 30462100

**Sample: BC01628 PZ-20 MS**      **Lab ID: 30462100025**      Collected: 01/25/22 12:55      Received: 02/08/22 13:27      Matrix: Water

PWS:      Site ID:      Sample Type:

Comments: • Sample is a matrix spike of 30462100 003.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>91.55 %REC ± NA (NA)</b> <b>C:NA T:NA</b>	pCi/L	03/07/22 08:22	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>90.78 %REC ± NA (NA)</b> <b>C:NA T:NA</b>	pCi/L	02/16/22 15:19	15262-20-1	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1348-Revised Report

Pace Project No.: 30462100

**Sample: BC01628 PZ-20 MSD**      **Lab ID: 30462100026**      Collected: 01/25/22 12:55      Received: 02/08/22 13:27      Matrix: Water

PWS:      Site ID:      Sample Type:

Comments: • Sample is an MSD of 30462100 003.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>103.86 %REC 12.60RPD ±</b> <b>NA (NA)</b> <b>C:NA T:NA</b>	pCi/L	03/07/22 08:22	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>86.62 %REC 4.68 RPD ±</b> <b>NA (NA)</b> <b>C:NA T:NA</b>	pCi/L	02/16/22 15:19	15262-20-1	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1348-Revised Report

Pace Project No.: 30462100

**Sample: BC01787 MW-3 MS**      **Lab ID: 30462100027**      Collected: 01/26/22 15:08      Received: 02/08/22 13:32      Matrix: Water

PWS:      Site ID:      Sample Type:

Comments: • Sample is an MS of sample 30462100 010.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>83.97 %REC ± NA (NA)</b> <b>C:NA T:NA</b>	pCi/L	03/07/22 08:26	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>76.22 %REC ± NA (NA)</b> <b>C:NA T:NA</b>	pCi/L	02/18/22 11:05	15262-20-1	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1348-Revised Report

Pace Project No.: 30462100

**Sample: BC01787 MW-3 MSD**      **Lab ID: 30462100028**      Collected: 01/26/22 15:08      Received: 02/08/22 13:32      Matrix: Water  
PWS:      Site ID:      Sample Type:

Comments: • Sample is an MSD of sample 30462100 010.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>79.55 %REC 5.41RPD ± NA</b> <b>(NA)</b> <b>C:NA T:NA</b>	pCi/L	03/07/22 08:26	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>91.03 %REC 17.71 RPD ±</b> <b>NA (NA)</b> <b>C:NA T:NA</b>	pCi/L	02/18/22 11:05	15262-20-1	

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## QUALITY CONTROL - RADIOCHEMISTRY

Project: WMWGORG\_1348-Revised Report  
Pace Project No.: 30462100

QC Batch:	482100	Analysis Method:	EPA 9315
QC Batch Method:	EPA 9315	Analysis Description:	9315 Total Radium
		Laboratory:	Pace Analytical Services - Greensburg

Associated Lab Samples: 30462100010, 30462100011, 30462100012, 30462100013, 30462100014, 30462100015, 30462100016, 30462100017, 30462100018, 30462100019, 30462100020, 30462100021, 30462100022, 30462100023, 30462100024, 30462100027, 30462100028

METHOD BLANK: 2330655 Matrix: Water

Associated Lab Samples: 30462100010, 30462100011, 30462100012, 30462100013, 30462100014, 30462100015, 30462100016, 30462100017, 30462100018, 30462100019, 30462100020, 30462100021, 30462100022, 30462100023, 30462100024, 30462100027, 30462100028

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0435 ± 0.128 (0.320) C:99% T:NA	pCi/L	03/07/22 08:23	

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## QUALITY CONTROL - RADIOCHEMISTRY

Project: WMWGORG\_1348-Revised Report

Pace Project No.: 30462100

QC Batch: 482648

Analysis Method: EPA 9320

QC Batch Method: EPA 9320

Analysis Description: 9320 Radium 228

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 30462100010, 30462100011, 30462100012, 30462100013, 30462100014, 30462100015, 30462100016, 30462100017, 30462100018, 30462100019, 30462100020, 30462100021, 30462100022, 30462100023, 30462100024, 30462100027, 30462100028

METHOD BLANK: 2332795

Matrix: Water

Associated Lab Samples: 30462100010, 30462100011, 30462100012, 30462100013, 30462100014, 30462100015, 30462100016, 30462100017, 30462100018, 30462100019, 30462100020, 30462100021, 30462100022, 30462100023, 30462100024, 30462100027, 30462100028

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.0445 ± 0.262 (0.603) C:79% T:89%	pCi/L	02/18/22 11:03	

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### QUALITY CONTROL - RADIOCHEMISTRY

Project: WMWGORG\_1348-Revised Report  
Pace Project No.: 30462100

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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: 30462100001, 30462100002, 30462100003, 30462100004, 30462100005, 30462100006, 30462100007, 30462100008, 30462100009, 30462100025, 30462100026

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METHOD BLANK: 2332794 Matrix: Water

Associated Lab Samples: 30462100001, 30462100002, 30462100003, 30462100004, 30462100005, 30462100006, 30462100007, 30462100008, 30462100009, 30462100025, 30462100026

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	

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### QUALITY CONTROL - RADIOCHEMISTRY

Project: WMWGORG\_1348-Revised Report

Pace Project No.: 30462100

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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: 30462100001, 30462100002, 30462100003, 30462100004, 30462100005, 30462100006, 30462100007, 30462100008, 30462100009, 30462100025, 30462100026

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METHOD BLANK: 2330654 Matrix: Water

Associated Lab Samples: 30462100001, 30462100002, 30462100003, 30462100004, 30462100005, 30462100006, 30462100007, 30462100008, 30462100009, 30462100025, 30462100026

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.

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## QUALIFIERS

Project: WMWGORG\_1348-Revised Report  
Pace Project No.: 30462100

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### 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: WMWGORG\_1348-Revised Report  
Pace Project No.: 30462100

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30462100001	BC01626 PZ-21	EPA 9315	482099		
30462100002	BC01627 PZ-22	EPA 9315	482099		
30462100003	BC01628 PZ-20	EPA 9315	482099		
30462100004	BC01629 FB-1	EPA 9315	482099		
30462100005	BC01630 PZ-19	EPA 9315	482099		
30462100006	BC01631 MW-12H	EPA 9315	482099		
30462100007	BC01632 MW-12H DUP	EPA 9315	482099		
30462100008	BC01785 MW-3V	EPA 9315	482099		
30462100009	BC01786 MW-8V	EPA 9315	482099		
30462100010	BC01787 MW-3	EPA 9315	482100		
30462100011	BC01788 MW-4V	EPA 9315	482100		
30462100012	BC01789 PZ-17	EPA 9315	482100		
30462100013	BC01790 MW-11H	EPA 9315	482100		
30462100014	BC01791 MW-13H	EPA 9315	482100		
30462100015	BC01792 MW-13H DUP	EPA 9315	482100		
30462100016	BC01793 MW-9V	EPA 9315	482100		
30462100017	BC01794 MW-9H	EPA 9315	482100		
30462100018	BC01795 MW-12V	EPA 9315	482100		
30462100019	BC01796 MW-8	EPA 9315	482100		
30462100020	BC01797 EB-1	EPA 9315	482100		
30462100021	BC01798 FB-2	EPA 9315	482100		
30462100022	BC01799 PZ-18	EPA 9315	482100		
30462100023	BC01800 MW-14H	EPA 9315	482100		
30462100024	BC01801 MW-4	EPA 9315	482100		
30462100025	BC01628 PZ-20 MS	EPA 9315	482099		
30462100026	BC01628 PZ-20 MSD	EPA 9315	482099		
30462100027	BC01787 MW-3 MS	EPA 9315	482100		
30462100028	BC01787 MW-3 MSD	EPA 9315	482100		
30462100001	BC01626 PZ-21	EPA 9320	482647		
30462100002	BC01627 PZ-22	EPA 9320	482647		
30462100003	BC01628 PZ-20	EPA 9320	482647		
30462100004	BC01629 FB-1	EPA 9320	482647		
30462100005	BC01630 PZ-19	EPA 9320	482647		
30462100006	BC01631 MW-12H	EPA 9320	482647		
30462100007	BC01632 MW-12H DUP	EPA 9320	482647		
30462100008	BC01785 MW-3V	EPA 9320	482647		
30462100009	BC01786 MW-8V	EPA 9320	482647		
30462100010	BC01787 MW-3	EPA 9320	482648		
30462100011	BC01788 MW-4V	EPA 9320	482648		
30462100012	BC01789 PZ-17	EPA 9320	482648		
30462100013	BC01790 MW-11H	EPA 9320	482648		
30462100014	BC01791 MW-13H	EPA 9320	482648		
30462100015	BC01792 MW-13H DUP	EPA 9320	482648		
30462100016	BC01793 MW-9V	EPA 9320	482648		
30462100017	BC01794 MW-9H	EPA 9320	482648		
30462100018	BC01795 MW-12V	EPA 9320	482648		

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WMWGORG\_1348-Revised Report  
Pace Project No.: 30462100

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30462100019	BC01796 MW-8	EPA 9320	482648		
30462100020	BC01797 EB-1	EPA 9320	482648		
30462100021	BC01798 FB-2	EPA 9320	482648		
30462100022	BC01799 PZ-18	EPA 9320	482648		
30462100023	BC01800 MW-14H	EPA 9320	482648		
30462100024	BC01801 MW-4	EPA 9320	482648		
30462100025	BC01628 PZ-20 MS	EPA 9320	482647		
30462100026	BC01628 PZ-20 MSD	EPA 9320	482647		
30462100027	BC01787 MW-3 MS	EPA 9320	482648		
30462100028	BC01787 MW-3 MSD	EPA 9320	482648		
30462100001	BC01626 PZ-21	Total Radium Calculation	488597		
30462100002	BC01627 PZ-22	Total Radium Calculation	488597		
30462100003	BC01628 PZ-20	Total Radium Calculation	488597		
30462100004	BC01629 FB-1	Total Radium Calculation	488597		
30462100005	BC01630 PZ-19	Total Radium Calculation	488597		
30462100006	BC01631 MW-12H	Total Radium Calculation	488597		
30462100007	BC01632 MW-12H DUP	Total Radium Calculation	488597		
30462100008	BC01785 MW-3V	Total Radium Calculation	488597		
30462100009	BC01786 MW-8V	Total Radium Calculation	488597		
30462100010	BC01787 MW-3	Total Radium Calculation	488595		
30462100011	BC01788 MW-4V	Total Radium Calculation	488595		
30462100012	BC01789 PZ-17	Total Radium Calculation	488595		
30462100013	BC01790 MW-11H	Total Radium Calculation	488595		
30462100014	BC01791 MW-13H	Total Radium Calculation	488595		
30462100015	BC01792 MW-13H DUP	Total Radium Calculation	488595		
30462100016	BC01793 MW-9V	Total Radium Calculation	488595		
30462100017	BC01794 MW-9H	Total Radium Calculation	488595		
30462100018	BC01795 MW-12V	Total Radium Calculation	488595		
30462100019	BC01796 MW-8	Total Radium Calculation	488595		
30462100020	BC01797 EB-1	Total Radium Calculation	488595		
30462100021	BC01798 FB-2	Total Radium Calculation	488595		
30462100022	BC01799 PZ-18	Total Radium Calculation	488595		
30462100023	BC01800 MW-14H	Total Radium Calculation	488595		
30462100024	BC01801 MW-4	Total Radium Calculation	488595		

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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.

<b>Section A</b> Required Client Information: Company: Alabama Power Company Address: 744 Highway 87 GSC Bldg #8 Calera, AL 35040 Email To: lbmickiff@southernco.com Phone: 205-664-8197   Fax Requested Due Date: Normal	<b>Section B</b> Required Project Information: Report To: Laura Mickiff Copy To: Brooke Caton & Renee Jernigan Purchase Order #: APC10700668 Project Name: Plant Gorgas Gypsum Project Number: WMMMGORG_1348
<b>Section C</b> Invoice Information: Attention: Laura Mickiff Company Name: Alabama Power Co. Address: 744 Highway 87 GSC Bldg #8 Pace Quote: CCR Pace Project Manager: Heather Dennison Pace Profile #: 13805	
Regulatory Agency: _____ State / Location: AL	

ITEM #	Description	Station Name Location Code	Site Name Facility ID	Sample Duplicate	Matrix Spike/Duplicate	Field Filtered	Matrix Code	Sample Type (G=GRAB C=COMP)	COLLECTED		# OF CONTAINERS	Requested Analysis Filtered (Y/N)			TEMP in C	Received on	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
									START DATE	TIME		Preservatives	Y/N	DATE				
1	BC01626	APCO-GS-GSA-PZ-21	APCO_Gorgas_GypsumStore				GW	G	1/25/2022	10:38	1	EPA 9315	X					
2	BC01627	APCO-GS-GSA-PZ-22	APCO_Gorgas_GypsumStore				GW	G	1/25/2022	11:53	1	EPA 9320	X					
3	BC01628	APCO-GS-GSA-PZ-20	APCO_Gorgas_GypsumStore				GW	G	1/25/2022	12:55	31	EPA 9315	X					
4	BC01629	APCO-GS-GSA-FB-1	APCO_Gorgas_GypsumStore			X	GW	G	1/25/2022	13:25	1	EPA 9315	X					
5	BC01630	APCO-GS-GSA-PZ-19	APCO_Gorgas_GypsumStore				GW	G	1/25/2022	14:45	1	EPA 9315	X					
6	BC01631	APCO-GS-GSA-MW-12H	APCO_Gorgas_GypsumStore				GW	G	1/25/2022	15:48	1	EPA 9315	X					
7	BC01632	APCO-GS-GSA-MW-12H	APCO_Gorgas_GypsumStore	X			GW	G	1/25/2022	15:48	1	EPA 9315	X					
8																		
9																		
10																		
11																		
12																		

<b>ADDITIONAL COMMENTS</b> Laura Mickiff APC GTL	<b>RELINQUISHED BY / AFFILIATION</b> Laura Mickiff / APC
<b>DATE</b> 1/28/2022	<b>TIME</b> 8:25
<b>ACCEPTED BY / AFFILIATION</b> [Signature] / PACE	
<b>DATE</b> 2/1/2022	
<b>TIME</b> 0845	
<b>SAMPLE CONDITIONS</b> N W Y	

<b>SAMPLER NAME AND SIGNATURE</b> PRINT Name of SAMPLER: SIGNATURE of SAMPLER:	<b>DATE SIGNED:</b>
--	---------------------

WO#: 30462100

30462100

# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

<b>Section A</b>		<b>Section B</b>		<b>Section C</b>	
<b>Required Client Information:</b>		<b>Required Project Information:</b>		<b>Invoice Information:</b>	
Company: Alabama Power Company	Report To: Laura Mickliff	Company Name: Alabama Power Co.	Attention: Laura Mickliff	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: 744 Highway 87 GSC Bldg #8	Address: CCR	Address: 744 Highway 87 GSC Bldg #8	Address: CCR
Calera, AL 35040		Calera, AL 35040		Calera, AL 35040	
Email To: lbmickliff@southernco.com	Purchase Order #: APC10700668	Project Name: Plant Gorgas Gypsum	Project Manager: Heather Dennison	State / Location: AL	Regulatory Agency:
Phone: 205-664-6197	Fax:	Project Number: WMMWGORG_1348	pace Profile #: 13805		
Requested Due Date: Normal					

ITEM #	Description	Station Name Location_Code	Site Name Facility_ID	Sample Duplicate	Matrix Spike/Matrix 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 Chlorine (Y/N)
									DATE	TIME												
1	MW-3V	APCO-GS-GSA-MW-3V	APCO_Gorgas_GypsumStore				GW	G	1/26/2022	11:50	1						X	X	X			
2	MW-8V	APCO-GS-GSA-MW-8V	APCO_Gorgas_GypsumStore				GW	G	1/26/2022	13:50	1						X	X	X			
3	MW-3	APCO-GS-GSA-MW-3	APCO_Gorgas_GypsumStore	X			GW	G	1/26/2022	15:08	1						X	X	X			
4	MW-4V	APCO-GS-GSA-MW-4V	APCO_Gorgas_GypsumStore				GW	G	1/27/2022	9:40	1						X	X	X			
5	PZ-17	APCO-GS-GSA-PZ-17	APCO_Gorgas_GypsumStore				GW	G	1/27/2022	10:45	1						X	X	X			
6																						
7																						
8																						
9																						
10																						
11																						
12																						

<b>ADDITIONAL COMMENTS</b>	<b>RELINQUISHED BY / AFFILIATION</b>	<b>DATE</b>	<b>TIME</b>	<b>ACCEPTED BY / AFFILIATION</b>	<b>DATE</b>	<b>TIME</b>	<b>SAMPLE CONDITIONS</b>
	Laura Mickliff / APC GTL	1/26/2022	8:25	Heather Dennison / APC	2/1/2022	09:45	- N N Y
<b>SAMPLER NAME AND SIGNATURE</b>							
PRINT Name of SAMPLER:							
SIGNATURE of SAMPLER:							
DATE Signed:							

WO# : 30462100

PM: AES Due Date: 02/22/22  
 CLIENT: ALABAMA PWR

# 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: lbmickiff@southemco.com  
 Phone: 205-664-6197 | Fax:  
 Requested Due Date: Normal

**Section B**

**Required Project Information:**

Report To: Laura Mickiff  
 Copy To: Brooke Caton & Renee Jernigan  
 Purchase Order #: APC10700668  
 Project Name: Plant Gorgas Gypsum  
 Project Number: VMWGORG\_1348

**Section C**

**Invoice Information:**

Attention: Laura Mickiff  
 Company Name: Alabama Power Co.  
 Address: 744 Highway 87 GSC Bldg #8  
 PACE QUOTE:  
 PACE Project Manager: Heather Dennison  
 PACE Profile #: 13805

Regulatory Agency

State / Location

AL

ITEM #	Description	Station Name Location Code	Site Name Facility ID	Sample Spike/Matrix Duplicate	Matrix Spike/Matrix Duplicate	Field Filtered	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		# OF CONTAINERS	Requested Analysis Filtered (Y/N)				TEMP in C	Received on	Custody Sealed (Y/N)	Cooler (Y/N)	Samples (Y/N)	Interact (Y/N)									
								DATE	TIME		Preservatives	HNO3	NaOH+ZnAcetate	Unpreserved							EPA 9315	EPA 9320	Total Radium Sum	Total Sulfide	Residual Chlorine (Y/N)				
1	BC01790	APCO-GS-GSA-MW-11H	APCO_Gorgas_GypsumStore				GW	G	1/26/2022	10:10	1	X	X	X															
2	BC01791	APCO-GS-GSA-MW-13H	APCO_Gorgas_GypsumStore				GW	G	1/26/2022	11:17	1	X	X	X															
3	BC01792	APCO-GS-GSA-MW-13H	APCO_Gorgas_GypsumStore	X			GW	G	1/26/2022	11:17	1	X	X	X															
4	BC01793	APCO-GS-GSA-MW-9V	APCO_Gorgas_GypsumStore				GW	G	1/26/2022	13:20	1	X	X	X															
5	BC01794	APCO-GS-GSA-MW-9H	APCO_Gorgas_GypsumStore				GW	G	1/26/2022	15:25	1	X	X	X															
6	BC01795	APCO-GS-GSA-MW-12V	APCO_Gorgas_GypsumStore				GW	G	1/27/2022	9:00	1	X	X	X															
7	BC01796	APCO-GS-GSA-MW-8	APCO_Gorgas_GypsumStore				GW	G	1/27/2022	10:00	1	X	X	X															
8	BC01797	APCO-GS-GSA-EB-01	APCO_Gorgas_GypsumStore				GW	G	1/27/2022	10:40	1	X	X	X															
9																													
10																													
11																													
12																													

ACCEPTED BY / AFFILIATION: *Shelley C. Pace*

DATE: 1/28/2022  
TIME: 8:25

RELINQUISHED BY / AFFILIATION: Laura Mickiff APC GTL

SAMPLER NAME AND SIGNATURE:  
 PRINT Name of SAMPLER:  
 SIGNATURE of SAMPLER:

DATE Signed:

## WO#: 30462100

PM: AES      Due Date: 02/22/22  
 CLIENT: ALABAMA PMR

# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

<b>Section A</b>		<b>Section B</b>		<b>Section C</b>	
<b>Required Client Information:</b>		<b>Required Project Information:</b>		<b>Invoice Information:</b>	
Company: Alabama Power Company	Report To: Laura Midkiff	Report To: Laura Midkiff	Company Name: Alabama Power Co.	Attention: Laura Midkiff	
Address: 744 Highway 87 GSC Bldg #8	Copy To: Brooke Caton & Renee Jernigan	Copy To: Brooke Caton & Renee Jernigan	Address: 744 Highway 87 GSC Bldg #8	Address: Alabama Power Co.	
Calera, AL 35040			CCR	CCR	
Email To: lmidkiff@southernco.com	Purchase Order #: APC10700668	Purchase Order #: APC10700668	Pace Quote:	Pace Quote:	
Phone: 205-664-6197   Fax:	Project Name: Plant Gorgas Gypsum	Project Name: Plant Gorgas Gypsum	Pace Project Manager: Heather Dennison	Pace Project Manager: Heather Dennison	
Requested Due Date: Normal	Project Number: WMWVGORG_1348	Project Number: WMWVGORG_1348	Pace Profile #: 13805	Pace Profile #: 13805	AL
					Regulatory Agency
					State / Location

ITEM #	DESCRIPTION	STATION NAME LOCATION_CODE	SITE NAME FACILITY_ID	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED	START DATE	START TIME	FIELD FILLED	MATRIX CODE	SAMPLED BY / AFFILIATION	DATE	TIME	EPA 9315	EPA 9320	ANALYSES TEST	PRESERVATIVES	# OF CONTAINERS	UNPRESERVED	NAOH/ZINCELATE	HNO3	RESIDUAL CHLORINE (Y/N)	TEMP IN C	RECEIVED ON	CUSTODY	SEAL	COOLER	Y/N	Y/N	Y/N	Y/N	Y/N	
																																Requested Analysis Filtered (Y/N)
1	BC01798	APCO-GS-GSA-FB-2	APCO_Gorgas_GypsumStore	GW		1/27/2022	8:30		GW	Bellona G. PACE	2/1/22	08:55	X	X	X		1															
2	BC01799	APCO-GS-GSA-PZ-18	APCO_Gorgas_GypsumStore	GW		1/27/2022	8:50		GW				X	X	X		1															
3	BC01800	APCO-GS-GSA-MW-14H	APCO_Gorgas_GypsumStore	GW		1/27/2022	9:50		GW				X	X	X		1															
4	BC01801	APCO-GS-GSA-MW-4	APCO_Gorgas_GypsumStore	GW		1/27/2022	10:53		GW				X	X	X		1															
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

<b>ADDITIONAL COMMENTS</b>		<b>RELINQUISHED BY / AFFILIATION</b>		<b>DATE</b>		<b>TIME</b>		<b>ACCEPTED BY / AFFILIATION</b>		<b>DATE</b>		<b>TIME</b>		<b>SAMPLE CONDITIONS</b>	
		Laura Midkiff APC GTL		1/28/2022		8:25		Bellona G. PACE		2/1/22		08:55		N N Y	
<b>SAMPLER NAME AND SIGNATURE</b>															
PRINT Name of SAMPLER:															
SIGNATURE of SAMPLER:															
DATE Signed:															

**WO#: 30462100**  
 PM: AES Due Date: 02/22/22  
 CLIENT: ALABAMA PMR

Pittsburgh Lab Sample Condition Upon Receipt



Client Name: Alabama Power Project # \_\_\_\_\_

Courier:  Fed Ex  UPS  USPS  Client  Commercial  Pace Other \_\_\_\_\_

Tracking #: 555720085868

Label _____
LIMS Login _____

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	
Chain of Custody Present:	X			1.
Chain of Custody Filled Out:	X			2.
Chain of Custody Relinquished:	X			3.
Sampler Name & Signature on COC:		X		4. <u>no name or signature</u>
Sample Labels match COC:				5.
-Includes date/time/ID Matrix: <u>COT</u>				
Samples Arrived within Hold Time:	X			6.
Short Hold Time Analysis (<72hr remaining):		X		7.
Rush Turn Around Time Requested:		X		8.
Sufficient Volume:	X			9.
Correct Containers Used:	X			10.
-Pace Containers Used:	X			
Containers Intact:	X			11.
Orthophosphate field filtered			X	12.
Hex Cr Aqueous sample field filtered			X	13.
Organic Samples checked for dechlorination:			X	14.
Filtered volume received for Dissolved tests			X	15.
All containers have been checked for preservation.	X			16.
exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix				<u>pH 2</u>
All containers meet method preservation requirements.	X			Initial when completed _____ Date/time of preservation _____
				Lot # of added preservative _____
Headspace in VOA Vials (>6mm):			X	17.
Trip Blank Present:			X	18.
Trip Blank Custody Seals Present			X	
Rad Samples Screened < 0.5 mrem/hr	X			Initial when completed: <u>KAE</u> Date: <u>2/2/22</u> Survey Meter SN: <u>1563</u>

**WO#: 30462100**  
 PR: AES Due Date: 02/22/22  
 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

Test: Ra-226  
Analyst: JJY  
Date: 2/14/2022  
Worklist: 64955  
Matrix: DW

**Analyst Must Manually Enter All Fields Highlighted in Yellow.**

Method Blank Assessment	
MB Sample ID	2330655
MB concentration:	0.043
M/B Counting Uncertainty:	0.128
MB MDC:	0.320
MB Numerical Performance Indicator:	0.66
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCS (Y or N)?	
	LCS64955	LCS64955
Count Date:	3/7/2022	3/7/2022
Spike I.D.:	19-033	19-033
Decay Corrected Spike Concentration (pCi/mL):	24.029	24.029
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.210	0.215
Target Conc. (pCi/L, g, F):	11.451	11.169
Uncertainty (Calculated):	0.137	0.134
Result (pCi/L, g, F):	10.802	10.323
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	1.074	1.036
Numerical Performance Indicator:	-1.18	-1.59
Percent Recovery:	94.33%	92.43%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	125%	125%
Lower % Recovery Limits:	75%	75%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Sample Collection Date:	1/26/2022	
Sample I.D.	30462100011	
Sample MS I.D.	30462100027	
Sample MSD I.D.	30462100028	
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):	0.216	
MS Target Conc. (pCi/L, g, F):	22.245	
MSD Aliquot (L, g, F):	0.205	
MSD Target Conc. (pCi/L, g, F):	23.483	
MS Spike Uncertainty (calculated):	0.267	
MSD Spike Uncertainty (calculated):	0.282	
Sample Result:	0.160	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.175	
Sample Matrix Spike Result:	18.840	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	1.343	
Sample Matrix Spike Duplicate Result:	18.840	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	1.431	
MS Numerical Performance Indicator:	-5.062	
MSD Numerical Performance Indicator:	-6.408	
MS Percent Recovery:	83.97%	
MSD Percent Recovery:	79.55%	
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%	

Duplicate Sample Assessment	LCS64955	LCS64955
Sample I.D.:	LCS64955	
Duplicate Sample I.D.:	LCS64955	
Sample Result (pCi/L, g, F):	10.802	
Sample Result Counting Uncertainty (pCi/L, g, F):	1.074	
Sample Duplicate Result (pCi/L, g, F):	10.323	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	1.036	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	0.630	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	2.04%	
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	25%	

Matrix Spike/Matrix Spike Duplicate Sample Assessment	MS/MSD 1	MS/MSD 2
Sample I.D.	30462100011	
Sample MS I.D.	30462100027	
Sample MSD I.D.	30462100028	
Sample Matrix Spike Result:	18.840	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	1.343	
Sample Matrix Spike Duplicate Result:	18.840	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	1.431	
Duplicate Numerical Performance Indicator:	0.000	
(Based on the Percent Recoveries) MS/MSD Duplicate RPD:	5.41%	
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:

# Quality Control Sample Performance Assessment



Test: Ra-228  
Analyst: JC2  
Date: 2/14/2022  
Worklist: 64978  
Matrix: W 1

**Analyst Must Manually Enter All Fields Highlighted in Yellow.**

**Method Blank Assessment**

MB Sample ID: 2332795  
MB concentration: 0.044  
MB 2 Sigma CSU: 0.262  
MB MDC: 0.603  
MB Numerical Performance Indicator: 0.33  
MB Status vs Numerical Indicator: Pass  
MB Status vs. MDC: Pass

**Laboratory Control Sample Assessment**

LCSID (Y or N)?	N
LCS64978	LCS064978
Count Date:	2/18/2022
Spike I.D.:	21-029
Decay Corrected Spike Concentration (pCi/mL):	36.295
Volume Used (mL):	0.10
Aliquot Volume (L, g, F):	0.808
Target Conc. (pCi/L, g, F):	4.490
Uncertainty (Calculated):	0.220
Result (pCi/L, g, F):	3.023
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	0.792
Numerical Performance Indicator:	-3.50
Percent Recovery:	67.33%
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**

MS/MSD 1	MS/MSD 2
Sample Collection Date:	1/26/2022
Sample I.D.:	30462100010
Sample MS I.D.:	30462100027
Sample MSD I.D.:	30462100028
Spike I.D.:	21-029
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	36.570
Spike Volume Used in MS (mL):	0.20
Spike Volume Used in MSD (mL):	0.20
MS Aliquot (L, g, F):	0.810
MS Target Conc.(pCi/L, g, F):	9.029
MSD Aliquot (L, g, F):	0.806
MSD Target Conc. (pCi/L, g, F):	9.077
MS Spike Uncertainty (calculated):	0.442
MSD Spike Uncertainty (calculated):	0.445
Sample Result:	0.285
Sample Result 2 Sigma CSU (pCi/L, g, F):	0.299
Sample Matrix Spike Result:	7.166
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):	1.519
Sample Matrix Spike Duplicate Result:	8.547
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.718
MS Numerical Performance Indicator:	-2.615
MSD Numerical Performance Indicator:	-0.887
MS Percent Recovery:	76.22%
MSD Percent Recovery:	91.03%
MS Status vs Numerical Indicator:	Warning
MSD Status vs Numerical Indicator:	Pass
MS Status vs Recovery:	Pass
MSD Status vs Recovery:	Pass
MS/MSD Upper % Recovery Limits:	135%
MS/MSD Lower % Recovery Limits:	60%

**Matrix Spike/Matrix Spike Duplicate Sample Assessment**

Sample I.D.:	30462100010
Sample MS I.D.:	30462100027
Sample MSD I.D.:	30462100028
Sample Matrix Spike Result:	7.166
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):	1.519
Sample Matrix Spike Duplicate Result:	8.547
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.718
Duplicate Numerical Performance Indicator:	-1.180
(Based on the Percent Recoveries) MS/MSD Duplicate RPD:	17.71%
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:

*mu2/19/22*

*MS/MSD*



# 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: W1

**Method Blank Assessment**

MB Sample ID: 2332794  
MB concentration: 0.113  
M/B 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

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	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.:	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
Matrix Spike Duplicate Result:	1.807	1.575
MS Numerical Performance Indicator:	-2.339	-0.940
MSD Numerical Performance Indicator:	-1.224	-1.417
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: W121727 and CW



## 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:

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***



# **Gorgas Gypsum Pond**

## **2022 Compliance Event 2**

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

Heavy truck traffic was present when pumping and sampling well PZ-17.

Field quality control procedures were performed as follows:

- Blanks and Sample Duplicates were collected as described in the SAP.
  - Field Blank 2 (FB-2) and Equipment Blank 1 (EB-1) had results above the reporting limit (RL) for Manganese.
- 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 2**

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

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.





**Field Parameters Summary  
Plant Gorgas Gypsum Pond**

WELL ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
GS-GSA-MW-3V	COND	Conductivity	7/13/2022 11:20	3215.6	uS/cm
GS-GSA-MW-3V	DO	DO	7/13/2022 11:20	3.21	mg/L
GS-GSA-MW-3V	DTW	Depth to Water Detail	7/13/2022 11:20	125.6	ft
GS-GSA-MW-3V	ORP	Oxidation Reduction Potention	7/13/2022 11:20	-154.23	mv
GS-GSA-MW-3V	PH	pH	7/13/2022 11:20	6.41	SU
GS-GSA-MW-3V	TEMP	Temperature	7/13/2022 11:20	24.73	C
GS-GSA-MW-3V	TURB	Turbidity	7/13/2022 11:20	1.87	NTU
GS-GSA-MW-3V	COND	Conductivity	7/13/2022 11:25	3252.84	uS/cm
GS-GSA-MW-3V	DO	DO	7/13/2022 11:25	1.77	mg/L
GS-GSA-MW-3V	DTW	Depth to Water Detail	7/13/2022 11:25	126.19	ft
GS-GSA-MW-3V	ORP	Oxidation Reduction Potention	7/13/2022 11:25	-101.96	mv
GS-GSA-MW-3V	PH	pH	7/13/2022 11:25	6.13	SU
GS-GSA-MW-3V	TEMP	Temperature	7/13/2022 11:25	24.54	C
GS-GSA-MW-3V	TURB	Turbidity	7/13/2022 11:25	4.2	NTU
GS-GSA-MW-3V	COND	Conductivity	7/13/2022 11:30	3171.44	uS/cm
GS-GSA-MW-3V	DO	DO	7/13/2022 11:30	1.52	mg/L
GS-GSA-MW-3V	DTW	Depth to Water Detail	7/13/2022 11:30	126.4	ft
GS-GSA-MW-3V	ORP	Oxidation Reduction Potention	7/13/2022 11:30	-71.6	mv
GS-GSA-MW-3V	PH	pH	7/13/2022 11:30	6.05	SU
GS-GSA-MW-3V	TEMP	Temperature	7/13/2022 11:30	24.7	C
GS-GSA-MW-3V	TURB	Turbidity	7/13/2022 11:30	2.93	NTU
GS-GSA-MW-3V	COND	Conductivity	7/13/2022 11:35	3076.68	uS/cm
GS-GSA-MW-3V	DO	DO	7/13/2022 11:35	1.42	mg/L
GS-GSA-MW-3V	DTW	Depth to Water Detail	7/13/2022 11:35	126.56	ft
GS-GSA-MW-3V	ORP	Oxidation Reduction Potention	7/13/2022 11:35	-54.25	mv
GS-GSA-MW-3V	PH	pH	7/13/2022 11:35	6.01	SU
GS-GSA-MW-3V	TEMP	Temperature	7/13/2022 11:35	24.63	C
GS-GSA-MW-3V	TURB	Turbidity	7/13/2022 11:35	2.18	NTU
GS-GSA-MW-3V	COND	Conductivity	7/13/2022 11:40	3044.06	uS/cm
GS-GSA-MW-3V	DO	DO	7/13/2022 11:40	1.47	mg/L
GS-GSA-MW-3V	DTW	Depth to Water Detail	7/13/2022 11:40	126.75	ft
GS-GSA-MW-3V	ORP	Oxidation Reduction Potention	7/13/2022 11:40	-43.16	mv
GS-GSA-MW-3V	PH	pH	7/13/2022 11:40	5.99	SU
GS-GSA-MW-3V	TEMP	Temperature	7/13/2022 11:40	24.98	C
GS-GSA-MW-3V	TURB	Turbidity	7/13/2022 11:40	2.08	NTU
GS-GSA-MW-3V	COND	Conductivity	7/13/2022 11:45	3030.91	uS/cm
GS-GSA-MW-3V	DO	DO	7/13/2022 11:45	1.48	mg/L
GS-GSA-MW-3V	DTW	Depth to Water Detail	7/13/2022 11:45	126.82	ft
GS-GSA-MW-3V	ORP	Oxidation Reduction Potention	7/13/2022 11:45	-35.99	mv
GS-GSA-MW-3V	PH	pH	7/13/2022 11:45	5.98	SU
GS-GSA-MW-3V	SULFIDE	Sulfide	7/13/2022 11:45	0	mg/L
GS-GSA-MW-3V	TEMP	Temperature	7/13/2022 11:45	25.21	C
GS-GSA-MW-3V	TURB	Turbidity	7/13/2022 11:45	1.29	NTU

**Field Parameters Summary  
Plant Gorgas Gypsum Pond**

WELL ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
GS-GSA-PZ-17	COND	Conductivity	7/13/2022 9:57	1431.06	uS/cm
GS-GSA-PZ-17	DO	DO	7/13/2022 9:57	1.04	mg/L
GS-GSA-PZ-17	DTW	Depth to Water Detail	7/13/2022 9:57	46.93	ft
GS-GSA-PZ-17	ORP	Oxidation Reduction Potention	7/13/2022 9:57	-10.07	mv
GS-GSA-PZ-17	PH	pH	7/13/2022 9:57	4.99	SU
GS-GSA-PZ-17	TEMP	Temperature	7/13/2022 9:57	22.24	C
GS-GSA-PZ-17	TURB	Turbidity	7/13/2022 9:57	3.73	NTU
GS-GSA-PZ-17	COND	Conductivity	7/13/2022 10:02	1411.74	uS/cm
GS-GSA-PZ-17	DO	DO	7/13/2022 10:02	0.7	mg/L
GS-GSA-PZ-17	DTW	Depth to Water Detail	7/13/2022 10:02	46.99	ft
GS-GSA-PZ-17	ORP	Oxidation Reduction Potention	7/13/2022 10:02	0.15	mv
GS-GSA-PZ-17	PH	pH	7/13/2022 10:02	4.83	SU
GS-GSA-PZ-17	TEMP	Temperature	7/13/2022 10:02	21.72	C
GS-GSA-PZ-17	TURB	Turbidity	7/13/2022 10:02	3.5	NTU
GS-GSA-PZ-17	COND	Conductivity	7/13/2022 10:07	1421.74	uS/cm
GS-GSA-PZ-17	DO	DO	7/13/2022 10:07	0.7	mg/L
GS-GSA-PZ-17	DTW	Depth to Water Detail	7/13/2022 10:07	47.07	ft
GS-GSA-PZ-17	ORP	Oxidation Reduction Potention	7/13/2022 10:07	14.77	mv
GS-GSA-PZ-17	PH	pH	7/13/2022 10:07	4.66	SU
GS-GSA-PZ-17	TEMP	Temperature	7/13/2022 10:07	22.26	C
GS-GSA-PZ-17	TURB	Turbidity	7/13/2022 10:07	2.09	NTU
GS-GSA-PZ-17	COND	Conductivity	7/13/2022 10:12	1432.46	uS/cm
GS-GSA-PZ-17	DO	DO	7/13/2022 10:12	0.67	mg/L
GS-GSA-PZ-17	DTW	Depth to Water Detail	7/13/2022 10:12	47.15	ft
GS-GSA-PZ-17	ORP	Oxidation Reduction Potention	7/13/2022 10:12	9.99	mv
GS-GSA-PZ-17	PH	pH	7/13/2022 10:12	4.59	SU
GS-GSA-PZ-17	TEMP	Temperature	7/13/2022 10:12	22.32	C
GS-GSA-PZ-17	TURB	Turbidity	7/13/2022 10:12	1.7	NTU
GS-GSA-PZ-17	COND	Conductivity	7/13/2022 10:17	1423.88	uS/cm
GS-GSA-PZ-17	DO	DO	7/13/2022 10:17	0.63	mg/L
GS-GSA-PZ-17	DTW	Depth to Water Detail	7/13/2022 10:17	47.21	ft
GS-GSA-PZ-17	ORP	Oxidation Reduction Potention	7/13/2022 10:17	20.37	mv
GS-GSA-PZ-17	PH	pH	7/13/2022 10:17	4.48	SU
GS-GSA-PZ-17	SULFIDE	Sulfide	7/13/2022 10:17	0	mg/L
GS-GSA-PZ-17	TEMP	Temperature	7/13/2022 10:17	22.32	C
GS-GSA-PZ-17	TURB	Turbidity	7/13/2022 10:17	1.84	NTU



**Field Parameters Summary  
Plant Gorgas Gypsum Pond**

WELL ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
GS-GSA-PZ-18	COND	Conductivity	7/12/2022 8:43	1113.48	uS/cm
GS-GSA-PZ-18	DO	DO	7/12/2022 8:43	2.04	mg/L
GS-GSA-PZ-18	DTW	Depth to Water Detail	7/12/2022 8:43	64.8	ft
GS-GSA-PZ-18	ORP	Oxidation Reduction Potention	7/12/2022 8:43	111.89	mv
GS-GSA-PZ-18	PH	pH	7/12/2022 8:43	4.02	SU
GS-GSA-PZ-18	TEMP	Temperature	7/12/2022 8:43	22.06	C
GS-GSA-PZ-18	TURB	Turbidity	7/12/2022 8:43	0.84	NTU
GS-GSA-PZ-18	COND	Conductivity	7/12/2022 8:48	1107.17	uS/cm
GS-GSA-PZ-18	DO	DO	7/12/2022 8:48	1.59	mg/L
GS-GSA-PZ-18	DTW	Depth to Water Detail	7/12/2022 8:48	64.86	ft
GS-GSA-PZ-18	ORP	Oxidation Reduction Potention	7/12/2022 8:48	86.67	mv
GS-GSA-PZ-18	PH	pH	7/12/2022 8:48	4.05	SU
GS-GSA-PZ-18	TEMP	Temperature	7/12/2022 8:48	21.88	C
GS-GSA-PZ-18	TURB	Turbidity	7/12/2022 8:48	0.86	NTU
GS-GSA-PZ-18	COND	Conductivity	7/12/2022 8:53	1106.74	uS/cm
GS-GSA-PZ-18	DO	DO	7/12/2022 8:53	1.41	mg/L
GS-GSA-PZ-18	DTW	Depth to Water Detail	7/12/2022 8:53	64.93	ft
GS-GSA-PZ-18	ORP	Oxidation Reduction Potention	7/12/2022 8:53	79.65	mv
GS-GSA-PZ-18	PH	pH	7/12/2022 8:53	4.05	SU
GS-GSA-PZ-18	TEMP	Temperature	7/12/2022 8:53	21.71	C
GS-GSA-PZ-18	TURB	Turbidity	7/12/2022 8:53	0.81	NTU
GS-GSA-PZ-18	COND	Conductivity	7/12/2022 8:58	1104.2	uS/cm
GS-GSA-PZ-18	DO	DO	7/12/2022 8:58	1.31	mg/L
GS-GSA-PZ-18	DTW	Depth to Water Detail	7/12/2022 8:58	65.01	ft
GS-GSA-PZ-18	ORP	Oxidation Reduction Potention	7/12/2022 8:58	70.49	mv
GS-GSA-PZ-18	PH	pH	7/12/2022 8:58	4.05	SU
GS-GSA-PZ-18	TEMP	Temperature	7/12/2022 8:58	21.55	C
GS-GSA-PZ-18	TURB	Turbidity	7/12/2022 8:58	0.79	NTU
GS-GSA-PZ-18	COND	Conductivity	7/12/2022 9:03	1101.69	uS/cm
GS-GSA-PZ-18	DO	DO	7/12/2022 9:03	1.31	mg/L
GS-GSA-PZ-18	DTW	Depth to Water Detail	7/12/2022 9:03	65.07	ft
GS-GSA-PZ-18	ORP	Oxidation Reduction Potention	7/12/2022 9:03	92.49	mv
GS-GSA-PZ-18	PH	pH	7/12/2022 9:03	4.03	SU
GS-GSA-PZ-18	SULFIDE	Sulfide	7/12/2022 9:03	0	mg/L
GS-GSA-PZ-18	TEMP	Temperature	7/12/2022 9:03	21.65	C
GS-GSA-PZ-18	TURB	Turbidity	7/12/2022 9:03	0.77	NTU

**Field Parameters Summary  
Plant Gorgas Gypsum Pond**

WELL ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
GS-GSA-PZ-19	COND	Conductivity	7/12/2022 10:21	1683.59	uS/cm
GS-GSA-PZ-19	DO	DO	7/12/2022 10:21	0.37	mg/L
GS-GSA-PZ-19	DTW	Depth to Water Detail	7/12/2022 10:21	123.05	ft
GS-GSA-PZ-19	ORP	Oxidation Reduction Potention	7/12/2022 10:21	-67.01	mv
GS-GSA-PZ-19	PH	pH	7/12/2022 10:21	6.63	SU
GS-GSA-PZ-19	TEMP	Temperature	7/12/2022 10:21	19.17	C
GS-GSA-PZ-19	TURB	Turbidity	7/12/2022 10:21	18.9	NTU
GS-GSA-PZ-19	COND	Conductivity	7/12/2022 10:26	1504.12	uS/cm
GS-GSA-PZ-19	DO	DO	7/12/2022 10:26	0.34	mg/L
GS-GSA-PZ-19	DTW	Depth to Water Detail	7/12/2022 10:26	124.38	ft
GS-GSA-PZ-19	ORP	Oxidation Reduction Potention	7/12/2022 10:26	-44.68	mv
GS-GSA-PZ-19	PH	pH	7/12/2022 10:26	6.62	SU
GS-GSA-PZ-19	TEMP	Temperature	7/12/2022 10:26	19.22	C
GS-GSA-PZ-19	TURB	Turbidity	7/12/2022 10:26	16.7	NTU
GS-GSA-PZ-19	COND	Conductivity	7/12/2022 10:31	1376.91	uS/cm
GS-GSA-PZ-19	DO	DO	7/12/2022 10:31	0.33	mg/L
GS-GSA-PZ-19	DTW	Depth to Water Detail	7/12/2022 10:31	125.45	ft
GS-GSA-PZ-19	ORP	Oxidation Reduction Potention	7/12/2022 10:31	-32.78	mv
GS-GSA-PZ-19	PH	pH	7/12/2022 10:31	6.62	SU
GS-GSA-PZ-19	TEMP	Temperature	7/12/2022 10:31	19.13	C
GS-GSA-PZ-19	TURB	Turbidity	7/12/2022 10:31	11.12	NTU
GS-GSA-PZ-19	COND	Conductivity	7/12/2022 10:36	1294.02	uS/cm
GS-GSA-PZ-19	DO	DO	7/12/2022 10:36	0.34	mg/L
GS-GSA-PZ-19	DTW	Depth to Water Detail	7/12/2022 10:36	125.94	ft
GS-GSA-PZ-19	ORP	Oxidation Reduction Potention	7/12/2022 10:36	-27.84	mv
GS-GSA-PZ-19	PH	pH	7/12/2022 10:36	6.61	SU
GS-GSA-PZ-19	TEMP	Temperature	7/12/2022 10:36	19.14	C
GS-GSA-PZ-19	TURB	Turbidity	7/12/2022 10:36	8.31	NTU
GS-GSA-PZ-19	COND	Conductivity	7/12/2022 10:41	1227.94	uS/cm
GS-GSA-PZ-19	DO	DO	7/12/2022 10:41	0.34	mg/L
GS-GSA-PZ-19	DTW	Depth to Water Detail	7/12/2022 10:41	126.51	ft
GS-GSA-PZ-19	ORP	Oxidation Reduction Potention	7/12/2022 10:41	-26.44	mv
GS-GSA-PZ-19	PH	pH	7/12/2022 10:41	6.61	SU
GS-GSA-PZ-19	TEMP	Temperature	7/12/2022 10:41	19.14	C
GS-GSA-PZ-19	TURB	Turbidity	7/12/2022 10:41	7.51	NTU
GS-GSA-PZ-19	COND	Conductivity	7/12/2022 10:46	1202.73	uS/cm
GS-GSA-PZ-19	DO	DO	7/12/2022 10:46	0.34	mg/L
GS-GSA-PZ-19	DTW	Depth to Water Detail	7/12/2022 10:46	126.85	ft
GS-GSA-PZ-19	ORP	Oxidation Reduction Potention	7/12/2022 10:46	-25.88	mv
GS-GSA-PZ-19	PH	pH	7/12/2022 10:46	6.61	SU
GS-GSA-PZ-19	TEMP	Temperature	7/12/2022 10:46	19.1	C
GS-GSA-PZ-19	TURB	Turbidity	7/12/2022 10:46	6.14	NTU
GS-GSA-PZ-19	COND	Conductivity	7/12/2022 10:51	1189.8	uS/cm
GS-GSA-PZ-19	DO	DO	7/12/2022 10:51	0.35	mg/L
GS-GSA-PZ-19	DTW	Depth to Water Detail	7/12/2022 10:51	127.2	ft

**Field Parameters Summary  
Plant Gorgas Gypsum Pond**

WELL ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
GS-GSA-PZ-19	ORP	Oxidation Reduction Potention	7/12/2022 10:51	-24.96	mv
GS-GSA-PZ-19	PH	pH	7/12/2022 10:51	6.6	SU
GS-GSA-PZ-19	TEMP	Temperature	7/12/2022 10:51	19.14	C
GS-GSA-PZ-19	TURB	Turbidity	7/12/2022 10:51	5.39	NTU
GS-GSA-PZ-19	COND	Conductivity	7/12/2022 10:56	1178.85	uS/cm
GS-GSA-PZ-19	DO	DO	7/12/2022 10:56	0.34	mg/L
GS-GSA-PZ-19	DTW	Depth to Water Detail	7/12/2022 10:56	127.44	ft
GS-GSA-PZ-19	ORP	Oxidation Reduction Potention	7/12/2022 10:56	-24.1	mv
GS-GSA-PZ-19	PH	pH	7/12/2022 10:56	6.6	SU
GS-GSA-PZ-19	TEMP	Temperature	7/12/2022 10:56	19.11	C
GS-GSA-PZ-19	TURB	Turbidity	7/12/2022 10:56	4.98	NTU
GS-GSA-PZ-19	COND	Conductivity	7/12/2022 11:01	1176.46	uS/cm
GS-GSA-PZ-19	DO	DO	7/12/2022 11:01	0.34	mg/L
GS-GSA-PZ-19	DTW	Depth to Water Detail	7/12/2022 11:01	127.63	ft
GS-GSA-PZ-19	ORP	Oxidation Reduction Potention	7/12/2022 11:01	-23.76	mv
GS-GSA-PZ-19	PH	pH	7/12/2022 11:01	6.59	SU
GS-GSA-PZ-19	TEMP	Temperature	7/12/2022 11:01	19.13	C
GS-GSA-PZ-19	TURB	Turbidity	7/12/2022 11:01	4.08	NTU
GS-GSA-PZ-19	COND	Conductivity	7/12/2022 11:06	1171.52	uS/cm
GS-GSA-PZ-19	DO	DO	7/12/2022 11:06	0.35	mg/L
GS-GSA-PZ-19	DTW	Depth to Water Detail	7/12/2022 11:06	127.76	ft
GS-GSA-PZ-19	ORP	Oxidation Reduction Potention	7/12/2022 11:06	-23.34	mv
GS-GSA-PZ-19	PH	pH	7/12/2022 11:06	6.59	SU
GS-GSA-PZ-19	TEMP	Temperature	7/12/2022 11:06	19.26	C
GS-GSA-PZ-19	TURB	Turbidity	7/12/2022 11:06	3.32	NTU
GS-GSA-PZ-19	COND	Conductivity	7/12/2022 11:11	1180.88	uS/cm
GS-GSA-PZ-19	DO	DO	7/12/2022 11:11	0.34	mg/L
GS-GSA-PZ-19	DTW	Depth to Water Detail	7/12/2022 11:11	127.91	ft
GS-GSA-PZ-19	ORP	Oxidation Reduction Potention	7/12/2022 11:11	-22.56	mv
GS-GSA-PZ-19	PH	pH	7/12/2022 11:11	6.58	SU
GS-GSA-PZ-19	SULFIDE	Sulfide	7/12/2022 11:11	0	mg/L
GS-GSA-PZ-19	TEMP	Temperature	7/12/2022 11:11	19.19	C
GS-GSA-PZ-19	TURB	Turbidity	7/12/2022 11:11	2.06	NTU

**Field Parameters Summary  
Plant Gorgas Gypsum Pond**

WELL ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
GS-GSA-PZ-20	COND	Conductivity	7/12/2022 12:16	1238.73	uS/cm
GS-GSA-PZ-20	DO	DO	7/12/2022 12:16	0.7	mg/L
GS-GSA-PZ-20	DTW	Depth to Water Detail	7/12/2022 12:16	116.8	ft
GS-GSA-PZ-20	ORP	Oxidation Reduction Potention	7/12/2022 12:16	13.35	mv
GS-GSA-PZ-20	PH	pH	7/12/2022 12:16	6.43	SU
GS-GSA-PZ-20	TEMP	Temperature	7/12/2022 12:16	20.24	C
GS-GSA-PZ-20	TURB	Turbidity	7/12/2022 12:16	23	NTU
GS-GSA-PZ-20	COND	Conductivity	7/12/2022 12:21	1155.1	uS/cm
GS-GSA-PZ-20	DO	DO	7/12/2022 12:21	0.69	mg/L
GS-GSA-PZ-20	DTW	Depth to Water Detail	7/12/2022 12:21	116.8	ft
GS-GSA-PZ-20	ORP	Oxidation Reduction Potention	7/12/2022 12:21	10.91	mv
GS-GSA-PZ-20	PH	pH	7/12/2022 12:21	6.42	SU
GS-GSA-PZ-20	TEMP	Temperature	7/12/2022 12:21	20.67	C
GS-GSA-PZ-20	TURB	Turbidity	7/12/2022 12:21	11.9	NTU
GS-GSA-PZ-20	COND	Conductivity	7/12/2022 12:26	1135.22	uS/cm
GS-GSA-PZ-20	DO	DO	7/12/2022 12:26	0.6	mg/L
GS-GSA-PZ-20	DTW	Depth to Water Detail	7/12/2022 12:26	116.8	ft
GS-GSA-PZ-20	ORP	Oxidation Reduction Potention	7/12/2022 12:26	9.51	mv
GS-GSA-PZ-20	PH	pH	7/12/2022 12:26	6.42	SU
GS-GSA-PZ-20	TEMP	Temperature	7/12/2022 12:26	20.11	C
GS-GSA-PZ-20	TURB	Turbidity	7/12/2022 12:26	8.53	NTU
GS-GSA-PZ-20	COND	Conductivity	7/12/2022 12:31	1096.56	uS/cm
GS-GSA-PZ-20	DO	DO	7/12/2022 12:31	0.5	mg/L
GS-GSA-PZ-20	DTW	Depth to Water Detail	7/12/2022 12:31	116.8	ft
GS-GSA-PZ-20	ORP	Oxidation Reduction Potention	7/12/2022 12:31	8.22	mv
GS-GSA-PZ-20	PH	pH	7/12/2022 12:31	6.42	SU
GS-GSA-PZ-20	TEMP	Temperature	7/12/2022 12:31	20.1	C
GS-GSA-PZ-20	TURB	Turbidity	7/12/2022 12:31	7.09	NTU
GS-GSA-PZ-20	COND	Conductivity	7/12/2022 12:36	1088.04	uS/cm
GS-GSA-PZ-20	DO	DO	7/12/2022 12:36	0.48	mg/L
GS-GSA-PZ-20	DTW	Depth to Water Detail	7/12/2022 12:36	116.8	ft
GS-GSA-PZ-20	ORP	Oxidation Reduction Potention	7/12/2022 12:36	7.64	mv
GS-GSA-PZ-20	PH	pH	7/12/2022 12:36	6.42	SU
GS-GSA-PZ-20	TEMP	Temperature	7/12/2022 12:36	19.97	C
GS-GSA-PZ-20	TURB	Turbidity	7/12/2022 12:36	5.54	NTU
GS-GSA-PZ-20	COND	Conductivity	7/12/2022 12:41	1084.1	uS/cm
GS-GSA-PZ-20	DO	DO	7/12/2022 12:41	0.47	mg/L
GS-GSA-PZ-20	DTW	Depth to Water Detail	7/12/2022 12:41	116.8	ft
GS-GSA-PZ-20	ORP	Oxidation Reduction Potention	7/12/2022 12:41	7.83	mv
GS-GSA-PZ-20	PH	pH	7/12/2022 12:41	6.41	SU
GS-GSA-PZ-20	SULFIDE	Sulfide	7/12/2022 12:41	0	mg/L
GS-GSA-PZ-20	TEMP	Temperature	7/12/2022 12:41	20.23	C
GS-GSA-PZ-20	TURB	Turbidity	7/12/2022 12:41	4.61	NTU

**Field Parameters Summary  
Plant Gorgas Gypsum Pond**

WELL ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
GS-GSA-PZ-21	COND	Conductivity	7/12/2022 13:55	690.68	uS/cm
GS-GSA-PZ-21	DO	DO	7/12/2022 13:55	1.03	mg/L
GS-GSA-PZ-21	DTW	Depth to Water Detail	7/12/2022 13:55	85.36	ft
GS-GSA-PZ-21	ORP	Oxidation Reduction Potention	7/12/2022 13:55	-49.63	mv
GS-GSA-PZ-21	PH	pH	7/12/2022 13:55	6.98	SU
GS-GSA-PZ-21	TEMP	Temperature	7/12/2022 13:55	21.52	C
GS-GSA-PZ-21	TURB	Turbidity	7/12/2022 13:55	15.6	NTU
GS-GSA-PZ-21	COND	Conductivity	7/12/2022 14:00	821.12	uS/cm
GS-GSA-PZ-21	DO	DO	7/12/2022 14:00	0.61	mg/L
GS-GSA-PZ-21	DTW	Depth to Water Detail	7/12/2022 14:00	85.79	ft
GS-GSA-PZ-21	ORP	Oxidation Reduction Potention	7/12/2022 14:00	-45.15	mv
GS-GSA-PZ-21	PH	pH	7/12/2022 14:00	6.99	SU
GS-GSA-PZ-21	TEMP	Temperature	7/12/2022 14:00	21.17	C
GS-GSA-PZ-21	TURB	Turbidity	7/12/2022 14:00	13.2	NTU
GS-GSA-PZ-21	COND	Conductivity	7/12/2022 14:05	814.37	uS/cm
GS-GSA-PZ-21	DO	DO	7/12/2022 14:05	0.49	mg/L
GS-GSA-PZ-21	DTW	Depth to Water Detail	7/12/2022 14:05	86.21	ft
GS-GSA-PZ-21	ORP	Oxidation Reduction Potention	7/12/2022 14:05	-44.42	mv
GS-GSA-PZ-21	PH	pH	7/12/2022 14:05	6.99	SU
GS-GSA-PZ-21	TEMP	Temperature	7/12/2022 14:05	20.96	C
GS-GSA-PZ-21	TURB	Turbidity	7/12/2022 14:05	9.83	NTU
GS-GSA-PZ-21	COND	Conductivity	7/12/2022 14:10	808.08	uS/cm
GS-GSA-PZ-21	DO	DO	7/12/2022 14:10	0.45	mg/L
GS-GSA-PZ-21	DTW	Depth to Water Detail	7/12/2022 14:10	86.59	ft
GS-GSA-PZ-21	ORP	Oxidation Reduction Potention	7/12/2022 14:10	-47.13	mv
GS-GSA-PZ-21	PH	pH	7/12/2022 14:10	6.99	SU
GS-GSA-PZ-21	TEMP	Temperature	7/12/2022 14:10	21.12	C
GS-GSA-PZ-21	TURB	Turbidity	7/12/2022 14:10	8.99	NTU
GS-GSA-PZ-21	COND	Conductivity	7/12/2022 14:15	805	uS/cm
GS-GSA-PZ-21	DO	DO	7/12/2022 14:15	0.43	mg/L
GS-GSA-PZ-21	DTW	Depth to Water Detail	7/12/2022 14:15	86.89	ft
GS-GSA-PZ-21	ORP	Oxidation Reduction Potention	7/12/2022 14:15	-50.68	mv
GS-GSA-PZ-21	PH	pH	7/12/2022 14:15	6.99	SU
GS-GSA-PZ-21	TEMP	Temperature	7/12/2022 14:15	21.33	C
GS-GSA-PZ-21	TURB	Turbidity	7/12/2022 14:15	6.36	NTU
GS-GSA-PZ-21	COND	Conductivity	7/12/2022 14:20	803.67	uS/cm
GS-GSA-PZ-21	DO	DO	7/12/2022 14:20	0.45	mg/L
GS-GSA-PZ-21	DTW	Depth to Water Detail	7/12/2022 14:20	87.06	ft
GS-GSA-PZ-21	ORP	Oxidation Reduction Potention	7/12/2022 14:20	-56.02	mv
GS-GSA-PZ-21	PH	pH	7/12/2022 14:20	6.98	SU
GS-GSA-PZ-21	TEMP	Temperature	7/12/2022 14:20	21.29	C
GS-GSA-PZ-21	TURB	Turbidity	7/12/2022 14:20	5.92	NTU
GS-GSA-PZ-21	COND	Conductivity	7/12/2022 14:25	802.51	uS/cm
GS-GSA-PZ-21	DO	DO	7/12/2022 14:25	0.44	mg/L
GS-GSA-PZ-21	DTW	Depth to Water Detail	7/12/2022 14:25	87.22	ft

**Field Parameters Summary  
Plant Gorgas Gypsum Pond**

<b>WELL ID</b>	<b>PARAMETER</b>	<b>DESCRIPTION</b>	<b>TIME OF READING</b>	<b>VALUE</b>	<b>UNIT</b>
GS-GSA-PZ-21	ORP	Oxidation Reduction Potention	7/12/2022 14:25	-61.62	mv
GS-GSA-PZ-21	PH	pH	7/12/2022 14:25	6.97	SU
GS-GSA-PZ-21	TEMP	Temperature	7/12/2022 14:25	21.67	C
GS-GSA-PZ-21	TURB	Turbidity	7/12/2022 14:25	4.36	NTU
GS-GSA-PZ-21	COND	Conductivity	7/12/2022 14:30	797.16	uS/cm
GS-GSA-PZ-21	DO	DO	7/12/2022 14:30	0.45	mg/L
GS-GSA-PZ-21	DTW	Depth to Water Detail	7/12/2022 14:30	87.33	ft
GS-GSA-PZ-21	ORP	Oxidation Reduction Potention	7/12/2022 14:30	-62.22	mv
GS-GSA-PZ-21	PH	pH	7/12/2022 14:30	6.96	SU
GS-GSA-PZ-21	SULFIDE	Sulfide	7/12/2022 14:30	0	mg/L
GS-GSA-PZ-21	TEMP	Temperature	7/12/2022 14:30	21.45	C
GS-GSA-PZ-21	TURB	Turbidity	7/12/2022 14:30	3.88	NTU

**Field Parameters Summary  
Plant Gorgas Gypsum Pond**

WELL ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
GS-GSA-PZ-22	COND	Conductivity	7/13/2022 8:43	795.29	uS/cm
GS-GSA-PZ-22	DO	DO	7/13/2022 8:43	0.47	mg/L
GS-GSA-PZ-22	DTW	Depth to Water Detail	7/13/2022 8:43	55.13	ft
GS-GSA-PZ-22	ORP	Oxidation Reduction Potention	7/13/2022 8:43	-74.94	mv
GS-GSA-PZ-22	PH	pH	7/13/2022 8:43	6.08	SU
GS-GSA-PZ-22	TEMP	Temperature	7/13/2022 8:43	19.51	C
GS-GSA-PZ-22	TURB	Turbidity	7/13/2022 8:43	5.26	NTU
GS-GSA-PZ-22	COND	Conductivity	7/13/2022 8:48	783.01	uS/cm
GS-GSA-PZ-22	DO	DO	7/13/2022 8:48	0.4	mg/L
GS-GSA-PZ-22	DTW	Depth to Water Detail	7/13/2022 8:48	55.15	ft
GS-GSA-PZ-22	ORP	Oxidation Reduction Potention	7/13/2022 8:48	-59.91	mv
GS-GSA-PZ-22	PH	pH	7/13/2022 8:48	5.93	SU
GS-GSA-PZ-22	TEMP	Temperature	7/13/2022 8:48	19.58	C
GS-GSA-PZ-22	TURB	Turbidity	7/13/2022 8:48	1.74	NTU
GS-GSA-PZ-22	COND	Conductivity	7/13/2022 8:53	775.71	uS/cm
GS-GSA-PZ-22	DO	DO	7/13/2022 8:53	0.36	mg/L
GS-GSA-PZ-22	DTW	Depth to Water Detail	7/13/2022 8:53	55.15	ft
GS-GSA-PZ-22	ORP	Oxidation Reduction Potention	7/13/2022 8:53	-50.15	mv
GS-GSA-PZ-22	PH	pH	7/13/2022 8:53	5.85	SU
GS-GSA-PZ-22	TEMP	Temperature	7/13/2022 8:53	19.63	C
GS-GSA-PZ-22	TURB	Turbidity	7/13/2022 8:53	1.55	NTU
GS-GSA-PZ-22	COND	Conductivity	7/13/2022 8:58	773.37	uS/cm
GS-GSA-PZ-22	DO	DO	7/13/2022 8:58	0.34	mg/L
GS-GSA-PZ-22	DTW	Depth to Water Detail	7/13/2022 8:58	55.15	ft
GS-GSA-PZ-22	ORP	Oxidation Reduction Potention	7/13/2022 8:58	-43.54	mv
GS-GSA-PZ-22	PH	pH	7/13/2022 8:58	5.8	SU
GS-GSA-PZ-22	SULFIDE	Sulfide	7/13/2022 8:58	0	mg/L
GS-GSA-PZ-22	TEMP	Temperature	7/13/2022 8:58	19.76	C
GS-GSA-PZ-22	TURB	Turbidity	7/13/2022 8:58	1.68	NTU

**Field Parameters Summary  
Plant Gorgas Gypsum Pond**

WELL ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
GS-GSA-MW-4	COND	Conductivity	7/13/2022 10:01	4528.4	uS/cm
GS-GSA-MW-4	DO	DO	7/13/2022 10:01	0.36	mg/L
GS-GSA-MW-4	DTW	Depth to Water Detail	7/13/2022 10:01	90.85	ft
GS-GSA-MW-4	ORP	Oxidation Reduction Potential	7/13/2022 10:01	279.52	mv
GS-GSA-MW-4	PH	pH	7/13/2022 10:01	3.41	SU
GS-GSA-MW-4	TEMP	Temperature	7/13/2022 10:01	21.23	C
GS-GSA-MW-4	TURB	Turbidity	7/13/2022 10:01	6.35	NTU
GS-GSA-MW-4	COND	Conductivity	7/13/2022 10:06	4525.29	uS/cm
GS-GSA-MW-4	DO	DO	7/13/2022 10:06	0.29	mg/L
GS-GSA-MW-4	DTW	Depth to Water Detail	7/13/2022 10:06	90.85	ft
GS-GSA-MW-4	ORP	Oxidation Reduction Potential	7/13/2022 10:06	279.72	mv
GS-GSA-MW-4	PH	pH	7/13/2022 10:06	3.43	SU
GS-GSA-MW-4	TEMP	Temperature	7/13/2022 10:06	21.26	C
GS-GSA-MW-4	TURB	Turbidity	7/13/2022 10:06	5.17	NTU
GS-GSA-MW-4	COND	Conductivity	7/13/2022 10:11	4517.59	uS/cm
GS-GSA-MW-4	DO	DO	7/13/2022 10:11	0.26	mg/L
GS-GSA-MW-4	DTW	Depth to Water Detail	7/13/2022 10:11	90.85	ft
GS-GSA-MW-4	ORP	Oxidation Reduction Potential	7/13/2022 10:11	279.87	mv
GS-GSA-MW-4	PH	pH	7/13/2022 10:11	3.43	SU
GS-GSA-MW-4	TEMP	Temperature	7/13/2022 10:11	21.2	C
GS-GSA-MW-4	TURB	Turbidity	7/13/2022 10:11	5.17	NTU
GS-GSA-MW-4	COND	Conductivity	7/13/2022 10:16	4505.26	uS/cm
GS-GSA-MW-4	DO	DO	7/13/2022 10:16	0.26	mg/L
GS-GSA-MW-4	DTW	Depth to Water Detail	7/13/2022 10:16	90.85	ft
GS-GSA-MW-4	ORP	Oxidation Reduction Potential	7/13/2022 10:16	280.25	mv
GS-GSA-MW-4	PH	pH	7/13/2022 10:16	3.43	SU
GS-GSA-MW-4	SULFIDE	Sulfide	7/13/2022 10:16	0	mg/L
GS-GSA-MW-4	TEMP	Temperature	7/13/2022 10:16	21.18	C
GS-GSA-MW-4	TURB	Turbidity	7/13/2022 10:16	4.72	NTU



**Field Parameters Summary  
Plant Gorgas Gypsum Pond**

WELL ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
GS-GSA-MW-4V	COND	Conductivity	7/13/2022 8:44	1666.07	uS/cm
GS-GSA-MW-4V	DO	DO	7/13/2022 8:44	0.44	mg/L
GS-GSA-MW-4V	DTW	Depth to Water Detail	7/13/2022 8:44	118.55	ft
GS-GSA-MW-4V	ORP	Oxidation Reduction Potention	7/13/2022 8:44	-4.31	mv
GS-GSA-MW-4V	PH	pH	7/13/2022 8:44	5.65	SU
GS-GSA-MW-4V	TEMP	Temperature	7/13/2022 8:44	20.43	C
GS-GSA-MW-4V	TURB	Turbidity	7/13/2022 8:44	28.7	NTU
GS-GSA-MW-4V	COND	Conductivity	7/13/2022 8:49	1664.34	uS/cm
GS-GSA-MW-4V	DO	DO	7/13/2022 8:49	0.37	mg/L
GS-GSA-MW-4V	DTW	Depth to Water Detail	7/13/2022 8:49	118.95	ft
GS-GSA-MW-4V	ORP	Oxidation Reduction Potention	7/13/2022 8:49	-5.97	mv
GS-GSA-MW-4V	PH	pH	7/13/2022 8:49	5.66	SU
GS-GSA-MW-4V	TEMP	Temperature	7/13/2022 8:49	20.45	C
GS-GSA-MW-4V	TURB	Turbidity	7/13/2022 8:49	37.8	NTU
GS-GSA-MW-4V	COND	Conductivity	7/13/2022 8:54	1659.16	uS/cm
GS-GSA-MW-4V	DO	DO	7/13/2022 8:54	0.34	mg/L
GS-GSA-MW-4V	DTW	Depth to Water Detail	7/13/2022 8:54	119	ft
GS-GSA-MW-4V	ORP	Oxidation Reduction Potention	7/13/2022 8:54	4.42	mv
GS-GSA-MW-4V	PH	pH	7/13/2022 8:54	5.64	SU
GS-GSA-MW-4V	TEMP	Temperature	7/13/2022 8:54	20.35	C
GS-GSA-MW-4V	TURB	Turbidity	7/13/2022 8:54	24.3	NTU
GS-GSA-MW-4V	COND	Conductivity	7/13/2022 8:59	1659.02	uS/cm
GS-GSA-MW-4V	DO	DO	7/13/2022 8:59	0.34	mg/L
GS-GSA-MW-4V	DTW	Depth to Water Detail	7/13/2022 8:59	119.04	ft
GS-GSA-MW-4V	ORP	Oxidation Reduction Potention	7/13/2022 8:59	1.27	mv
GS-GSA-MW-4V	PH	pH	7/13/2022 8:59	5.57	SU
GS-GSA-MW-4V	TEMP	Temperature	7/13/2022 8:59	20.24	C
GS-GSA-MW-4V	TURB	Turbidity	7/13/2022 8:59	20.1	NTU
GS-GSA-MW-4V	COND	Conductivity	7/13/2022 9:04	1658.51	uS/cm
GS-GSA-MW-4V	DO	DO	7/13/2022 9:04	0.34	mg/L
GS-GSA-MW-4V	DTW	Depth to Water Detail	7/13/2022 9:04	119.2	ft
GS-GSA-MW-4V	ORP	Oxidation Reduction Potention	7/13/2022 9:04	7.19	mv
GS-GSA-MW-4V	PH	pH	7/13/2022 9:04	5.58	SU
GS-GSA-MW-4V	TEMP	Temperature	7/13/2022 9:04	20.62	C
GS-GSA-MW-4V	TURB	Turbidity	7/13/2022 9:04	15.5	NTU
GS-GSA-MW-4V	COND	Conductivity	7/13/2022 9:09	1660.92	uS/cm
GS-GSA-MW-4V	DO	DO	7/13/2022 9:09	0.33	mg/L
GS-GSA-MW-4V	DTW	Depth to Water Detail	7/13/2022 9:09	119.2	ft
GS-GSA-MW-4V	ORP	Oxidation Reduction Potention	7/13/2022 9:09	10.21	mv
GS-GSA-MW-4V	PH	pH	7/13/2022 9:09	5.61	SU
GS-GSA-MW-4V	TEMP	Temperature	7/13/2022 9:09	20.35	C
GS-GSA-MW-4V	TURB	Turbidity	7/13/2022 9:09	12.7	NTU
GS-GSA-MW-4V	COND	Conductivity	7/13/2022 9:14	1661.18	uS/cm
GS-GSA-MW-4V	DO	DO	7/13/2022 9:14	0.34	mg/L
GS-GSA-MW-4V	DTW	Depth to Water Detail	7/13/2022 9:14	119.2	ft

**Field Parameters Summary  
Plant Gorgas Gypsum Pond**

WELL ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
GS-GSA-MW-4V	ORP	Oxidation Reduction Potention	7/13/2022 9:14	14.62	mv
GS-GSA-MW-4V	PH	pH	7/13/2022 9:14	5.63	SU
GS-GSA-MW-4V	TEMP	Temperature	7/13/2022 9:14	20.34	C
GS-GSA-MW-4V	TURB	Turbidity	7/13/2022 9:14	11.8	NTU
GS-GSA-MW-4V	COND	Conductivity	7/13/2022 9:19	1663	uS/cm
GS-GSA-MW-4V	DO	DO	7/13/2022 9:19	0.33	mg/L
GS-GSA-MW-4V	DTW	Depth to Water Detail	7/13/2022 9:19	119.2	ft
GS-GSA-MW-4V	ORP	Oxidation Reduction Potention	7/13/2022 9:19	17.28	mv
GS-GSA-MW-4V	PH	pH	7/13/2022 9:19	5.65	SU
GS-GSA-MW-4V	TEMP	Temperature	7/13/2022 9:19	20.38	C
GS-GSA-MW-4V	TURB	Turbidity	7/13/2022 9:19	11.18	NTU
GS-GSA-MW-4V	COND	Conductivity	7/13/2022 9:24	1663.6	uS/cm
GS-GSA-MW-4V	DO	DO	7/13/2022 9:24	0.33	mg/L
GS-GSA-MW-4V	DTW	Depth to Water Detail	7/13/2022 9:24	119.2	ft
GS-GSA-MW-4V	ORP	Oxidation Reduction Potention	7/13/2022 9:24	17.89	mv
GS-GSA-MW-4V	PH	pH	7/13/2022 9:24	5.66	SU
GS-GSA-MW-4V	TEMP	Temperature	7/13/2022 9:24	20.2	C
GS-GSA-MW-4V	TURB	Turbidity	7/13/2022 9:24	11.06	NTU
GS-GSA-MW-4V	COND	Conductivity	7/13/2022 9:29	1664.39	uS/cm
GS-GSA-MW-4V	DO	DO	7/13/2022 9:29	0.33	mg/L
GS-GSA-MW-4V	DTW	Depth to Water Detail	7/13/2022 9:29	119.2	ft
GS-GSA-MW-4V	ORP	Oxidation Reduction Potention	7/13/2022 9:29	21.7	mv
GS-GSA-MW-4V	PH	pH	7/13/2022 9:29	5.66	SU
GS-GSA-MW-4V	SULFIDE	Sulfide	7/13/2022 9:29	0	mg/L
GS-GSA-MW-4V	TEMP	Temperature	7/13/2022 9:29	20.44	C
GS-GSA-MW-4V	TURB	Turbidity	7/13/2022 9:29	9.71	NTU

**Field Parameters Summary  
Plant Gorgas Gypsum Pond**

WELL ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
GS-GSA-MW-8	COND	Conductivity	7/12/2022 13:59	3589.73	uS/cm
GS-GSA-MW-8	DO	DO	7/12/2022 13:59	0.72	mg/L
GS-GSA-MW-8	DTW	Depth to Water Detail	7/12/2022 13:59	78.21	ft
GS-GSA-MW-8	ORP	Oxidation Reduction Potention	7/12/2022 13:59	-121.11	mv
GS-GSA-MW-8	PH	pH	7/12/2022 13:59	6.46	SU
GS-GSA-MW-8	TEMP	Temperature	7/12/2022 13:59	24.26	C
GS-GSA-MW-8	TURB	Turbidity	7/12/2022 13:59	3.4	NTU
GS-GSA-MW-8	COND	Conductivity	7/12/2022 14:04	3564.7	uS/cm
GS-GSA-MW-8	DO	DO	7/12/2022 14:04	0.6	mg/L
GS-GSA-MW-8	DTW	Depth to Water Detail	7/12/2022 14:04	78.35	ft
GS-GSA-MW-8	ORP	Oxidation Reduction Potention	7/12/2022 14:04	-113.54	mv
GS-GSA-MW-8	PH	pH	7/12/2022 14:04	6.47	SU
GS-GSA-MW-8	TEMP	Temperature	7/12/2022 14:04	24.12	C
GS-GSA-MW-8	TURB	Turbidity	7/12/2022 14:04	3.03	NTU
GS-GSA-MW-8	COND	Conductivity	7/12/2022 14:09	3617.61	uS/cm
GS-GSA-MW-8	DO	DO	7/12/2022 14:09	0.54	mg/L
GS-GSA-MW-8	DTW	Depth to Water Detail	7/12/2022 14:09	78.42	ft
GS-GSA-MW-8	ORP	Oxidation Reduction Potention	7/12/2022 14:09	-112.52	mv
GS-GSA-MW-8	PH	pH	7/12/2022 14:09	6.48	SU
GS-GSA-MW-8	TEMP	Temperature	7/12/2022 14:09	24.13	C
GS-GSA-MW-8	TURB	Turbidity	7/12/2022 14:09	3.25	NTU
GS-GSA-MW-8	COND	Conductivity	7/12/2022 14:14	3642.75	uS/cm
GS-GSA-MW-8	DO	DO	7/12/2022 14:14	0.52	mg/L
GS-GSA-MW-8	DTW	Depth to Water Detail	7/12/2022 14:14	78.42	ft
GS-GSA-MW-8	ORP	Oxidation Reduction Potention	7/12/2022 14:14	-111.78	mv
GS-GSA-MW-8	PH	pH	7/12/2022 14:14	6.49	SU
GS-GSA-MW-8	SULFIDE	Sulfide	7/12/2022 14:14	0	mg/L
GS-GSA-MW-8	TEMP	Temperature	7/12/2022 14:14	24.04	C
GS-GSA-MW-8	TURB	Turbidity	7/12/2022 14:14	3.55	NTU

**Field Parameters Summary  
Plant Gorgas Gypsum Pond**

WELL ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
GS-GSA-MW-8V	COND	Conductivity	7/12/2022 11:25	1760.17	uS/cm
GS-GSA-MW-8V	DO	DO	7/12/2022 11:25	0.53	mg/L
GS-GSA-MW-8V	DTW	Depth to Water Detail	7/12/2022 11:25	92	ft
GS-GSA-MW-8V	ORP	Oxidation Reduction Potention	7/12/2022 11:25	-218.69	mv
GS-GSA-MW-8V	PH	pH	7/12/2022 11:25	7.57	SU
GS-GSA-MW-8V	TEMP	Temperature	7/12/2022 11:25	21.99	C
GS-GSA-MW-8V	TURB	Turbidity	7/12/2022 11:25	1.64	NTU
GS-GSA-MW-8V	COND	Conductivity	7/12/2022 11:30	1760.95	uS/cm
GS-GSA-MW-8V	DO	DO	7/12/2022 11:30	0.45	mg/L
GS-GSA-MW-8V	DTW	Depth to Water Detail	7/12/2022 11:30	93.65	ft
GS-GSA-MW-8V	ORP	Oxidation Reduction Potention	7/12/2022 11:30	-231.85	mv
GS-GSA-MW-8V	PH	pH	7/12/2022 11:30	7.59	SU
GS-GSA-MW-8V	TEMP	Temperature	7/12/2022 11:30	21.75	C
GS-GSA-MW-8V	TURB	Turbidity	7/12/2022 11:30	1.69	NTU
GS-GSA-MW-8V	COND	Conductivity	7/12/2022 11:35	1714.01	uS/cm
GS-GSA-MW-8V	DO	DO	7/12/2022 11:35	0.44	mg/L
GS-GSA-MW-8V	DTW	Depth to Water Detail	7/12/2022 11:35	93.65	ft
GS-GSA-MW-8V	ORP	Oxidation Reduction Potention	7/12/2022 11:35	-250.55	mv
GS-GSA-MW-8V	PH	pH	7/12/2022 11:35	7.48	SU
GS-GSA-MW-8V	TEMP	Temperature	7/12/2022 11:35	22.16	C
GS-GSA-MW-8V	TURB	Turbidity	7/12/2022 11:35	1.78	NTU
GS-GSA-MW-8V	COND	Conductivity	7/12/2022 11:40	1720.35	uS/cm
GS-GSA-MW-8V	DO	DO	7/12/2022 11:40	0.45	mg/L
GS-GSA-MW-8V	DTW	Depth to Water Detail	7/12/2022 11:40	96.85	ft
GS-GSA-MW-8V	ORP	Oxidation Reduction Potention	7/12/2022 11:40	-255.58	mv
GS-GSA-MW-8V	PH	pH	7/12/2022 11:40	7.48	SU
GS-GSA-MW-8V	TEMP	Temperature	7/12/2022 11:40	22.07	C
GS-GSA-MW-8V	TURB	Turbidity	7/12/2022 11:40	1.62	NTU
GS-GSA-MW-8V	COND	Conductivity	7/12/2022 11:45	1732.16	uS/cm
GS-GSA-MW-8V	DO	DO	7/12/2022 11:45	0.48	mg/L
GS-GSA-MW-8V	DTW	Depth to Water Detail	7/12/2022 11:45	98.55	ft
GS-GSA-MW-8V	ORP	Oxidation Reduction Potention	7/12/2022 11:45	-253.11	mv
GS-GSA-MW-8V	PH	pH	7/12/2022 11:45	7.46	SU
GS-GSA-MW-8V	TEMP	Temperature	7/12/2022 11:45	21.89	C
GS-GSA-MW-8V	TURB	Turbidity	7/12/2022 11:45	1.5	NTU
GS-GSA-MW-8V	COND	Conductivity	7/12/2022 11:50	1766.72	uS/cm
GS-GSA-MW-8V	DO	DO	7/12/2022 11:50	0.44	mg/L
GS-GSA-MW-8V	DTW	Depth to Water Detail	7/12/2022 11:50	99.82	ft
GS-GSA-MW-8V	ORP	Oxidation Reduction Potention	7/12/2022 11:50	-253.64	mv
GS-GSA-MW-8V	PH	pH	7/12/2022 11:50	7.46	SU
GS-GSA-MW-8V	TEMP	Temperature	7/12/2022 11:50	21.62	C
GS-GSA-MW-8V	TURB	Turbidity	7/12/2022 11:50	1.34	NTU
GS-GSA-MW-8V	COND	Conductivity	7/12/2022 11:55	1785.54	uS/cm
GS-GSA-MW-8V	DO	DO	7/12/2022 11:55	0.39	mg/L
GS-GSA-MW-8V	DTW	Depth to Water Detail	7/12/2022 11:55	102.15	ft

**Field Parameters Summary  
Plant Gorgas Gypsum Pond**

WELL ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
GS-GSA-MW-8V	ORP	Oxidation Reduction Potention	7/12/2022 11:55	-253.78	mv
GS-GSA-MW-8V	PH	pH	7/12/2022 11:55	7.46	SU
GS-GSA-MW-8V	TEMP	Temperature	7/12/2022 11:55	21.34	C
GS-GSA-MW-8V	TURB	Turbidity	7/12/2022 11:55	1.44	NTU
GS-GSA-MW-8V	COND	Conductivity	7/12/2022 12:00	1775.61	uS/cm
GS-GSA-MW-8V	DO	DO	7/12/2022 12:00	0.4	mg/L
GS-GSA-MW-8V	DTW	Depth to Water Detail	7/12/2022 12:00	104.62	ft
GS-GSA-MW-8V	ORP	Oxidation Reduction Potention	7/12/2022 12:00	-253.18	mv
GS-GSA-MW-8V	PH	pH	7/12/2022 12:00	7.44	SU
GS-GSA-MW-8V	TEMP	Temperature	7/12/2022 12:00	21.6	C
GS-GSA-MW-8V	TURB	Turbidity	7/12/2022 12:00	1.45	NTU
GS-GSA-MW-8V	COND	Conductivity	7/12/2022 12:05	1762.06	uS/cm
GS-GSA-MW-8V	DO	DO	7/12/2022 12:05	0.4	mg/L
GS-GSA-MW-8V	DTW	Depth to Water Detail	7/12/2022 12:05	106.9	ft
GS-GSA-MW-8V	ORP	Oxidation Reduction Potention	7/12/2022 12:05	-255.37	mv
GS-GSA-MW-8V	PH	pH	7/12/2022 12:05	7.45	SU
GS-GSA-MW-8V	TEMP	Temperature	7/12/2022 12:05	21.46	C
GS-GSA-MW-8V	TURB	Turbidity	7/12/2022 12:05	1.59	NTU
GS-GSA-MW-8V	COND	Conductivity	7/12/2022 12:10	1741.98	uS/cm
GS-GSA-MW-8V	DO	DO	7/12/2022 12:10	0.42	mg/L
GS-GSA-MW-8V	DTW	Depth to Water Detail	7/12/2022 12:10	109.15	ft
GS-GSA-MW-8V	ORP	Oxidation Reduction Potention	7/12/2022 12:10	-258.94	mv
GS-GSA-MW-8V	PH	pH	7/12/2022 12:10	7.42	SU
GS-GSA-MW-8V	TEMP	Temperature	7/12/2022 12:10	21.32	C
GS-GSA-MW-8V	TURB	Turbidity	7/12/2022 12:10	1.67	NTU
GS-GSA-MW-8V	COND	Conductivity	7/12/2022 12:15	1613.56	uS/cm
GS-GSA-MW-8V	DO	DO	7/12/2022 12:15	0.39	mg/L
GS-GSA-MW-8V	DTW	Depth to Water Detail	7/12/2022 12:15	111.65	ft
GS-GSA-MW-8V	ORP	Oxidation Reduction Potention	7/12/2022 12:15	-267.32	mv
GS-GSA-MW-8V	PH	pH	7/12/2022 12:15	7.43	SU
GS-GSA-MW-8V	TEMP	Temperature	7/12/2022 12:15	21.6	C
GS-GSA-MW-8V	TURB	Turbidity	7/12/2022 12:15	1.62	NTU
GS-GSA-MW-8V	COND	Conductivity	7/12/2022 12:20	1598.38	uS/cm
GS-GSA-MW-8V	DO	DO	7/12/2022 12:20	0.4	mg/L
GS-GSA-MW-8V	DTW	Depth to Water Detail	7/12/2022 12:20	113.29	ft
GS-GSA-MW-8V	ORP	Oxidation Reduction Potention	7/12/2022 12:20	-270	mv
GS-GSA-MW-8V	PH	pH	7/12/2022 12:20	7.44	SU
GS-GSA-MW-8V	TEMP	Temperature	7/12/2022 12:20	21.18	C
GS-GSA-MW-8V	TURB	Turbidity	7/12/2022 12:20	1.44	NTU
GS-GSA-MW-8V	COND	Conductivity	7/12/2022 12:25	1600.51	uS/cm
GS-GSA-MW-8V	DO	DO	7/12/2022 12:25	0.4	mg/L
GS-GSA-MW-8V	DTW	Depth to Water Detail	7/12/2022 12:25	115.94	ft
GS-GSA-MW-8V	ORP	Oxidation Reduction Potention	7/12/2022 12:25	-272.52	mv
GS-GSA-MW-8V	PH	pH	7/12/2022 12:25	7.44	SU
GS-GSA-MW-8V	TEMP	Temperature	7/12/2022 12:25	21.32	C

**Field Parameters Summary  
Plant Gorgas Gypsum Pond**

WELL ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
GS-GSA-MW-8V	TURB	Turbidity	7/12/2022 12:25	1.53	NTU
GS-GSA-MW-8V	COND	Conductivity	7/12/2022 12:30	1595.84	uS/cm
GS-GSA-MW-8V	DO	DO	7/12/2022 12:30	0.38	mg/L
GS-GSA-MW-8V	DTW	Depth to Water Detail	7/12/2022 12:30	117.8	ft
GS-GSA-MW-8V	ORP	Oxidation Reduction Potention	7/12/2022 12:30	-276.89	mv
GS-GSA-MW-8V	PH	pH	7/12/2022 12:30	7.47	SU
GS-GSA-MW-8V	TEMP	Temperature	7/12/2022 12:30	21.42	C
GS-GSA-MW-8V	TURB	Turbidity	7/12/2022 12:30	1.6	NTU
GS-GSA-MW-8V	COND	Conductivity	7/12/2022 12:35	1579.15	uS/cm
GS-GSA-MW-8V	DO	DO	7/12/2022 12:35	0.41	mg/L
GS-GSA-MW-8V	DTW	Depth to Water Detail	7/12/2022 12:35	119.33	ft
GS-GSA-MW-8V	ORP	Oxidation Reduction Potention	7/12/2022 12:35	-276.22	mv
GS-GSA-MW-8V	PH	pH	7/12/2022 12:35	7.45	SU
GS-GSA-MW-8V	TEMP	Temperature	7/12/2022 12:35	21.15	C
GS-GSA-MW-8V	TURB	Turbidity	7/12/2022 12:35	1.75	NTU
GS-GSA-MW-8V	COND	Conductivity	7/12/2022 12:40	1573.8	uS/cm
GS-GSA-MW-8V	DO	DO	7/12/2022 12:40	0.56	mg/L
GS-GSA-MW-8V	DTW	Depth to Water Detail	7/12/2022 12:40	119.8	ft
GS-GSA-MW-8V	ORP	Oxidation Reduction Potention	7/12/2022 12:40	-272.94	mv
GS-GSA-MW-8V	PH	pH	7/12/2022 12:40	7.47	SU
GS-GSA-MW-8V	TEMP	Temperature	7/12/2022 12:40	23.35	C
GS-GSA-MW-8V	TURB	Turbidity	7/12/2022 12:40	1.67	NTU
GS-GSA-MW-8V	COND	Conductivity	7/12/2022 12:45	1570.24	uS/cm
GS-GSA-MW-8V	DO	DO	7/12/2022 12:45	0.62	mg/L
GS-GSA-MW-8V	DTW	Depth to Water Detail	7/12/2022 12:45	119.18	ft
GS-GSA-MW-8V	ORP	Oxidation Reduction Potention	7/12/2022 12:45	-272.95	mv
GS-GSA-MW-8V	PH	pH	7/12/2022 12:45	7.46	SU
GS-GSA-MW-8V	TEMP	Temperature	7/12/2022 12:45	24	C
GS-GSA-MW-8V	TURB	Turbidity	7/12/2022 12:45	1.71	NTU
GS-GSA-MW-8V	COND	Conductivity	7/12/2022 12:50	1555.59	uS/cm
GS-GSA-MW-8V	DO	DO	7/12/2022 12:50	0.66	mg/L
GS-GSA-MW-8V	DTW	Depth to Water Detail	7/12/2022 12:50	118.16	ft
GS-GSA-MW-8V	ORP	Oxidation Reduction Potention	7/12/2022 12:50	-274.28	mv
GS-GSA-MW-8V	PH	pH	7/12/2022 12:50	7.45	SU
GS-GSA-MW-8V	TEMP	Temperature	7/12/2022 12:50	24.69	C
GS-GSA-MW-8V	TURB	Turbidity	7/12/2022 12:50	3.28	NTU
GS-GSA-MW-8V	COND	Conductivity	7/12/2022 12:55	1545.82	uS/cm
GS-GSA-MW-8V	DO	DO	7/12/2022 12:55	0.74	mg/L
GS-GSA-MW-8V	DTW	Depth to Water Detail	7/12/2022 12:55	118.16	ft
GS-GSA-MW-8V	ORP	Oxidation Reduction Potention	7/12/2022 12:55	-271.47	mv
GS-GSA-MW-8V	PH	pH	7/12/2022 12:55	7.44	SU
GS-GSA-MW-8V	SULFIDE	Sulfide	7/12/2022 12:55	8	mg/L
GS-GSA-MW-8V	TEMP	Temperature	7/12/2022 12:55	24.24	C
GS-GSA-MW-8V	TURB	Turbidity	7/12/2022 12:55	1.86	NTU

**Field Parameters Summary  
Plant Gorgas Gypsum Pond**

WELL ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
GS-GSA-MW-3	COND	Conductivity	7/13/2022 10:47	5093.7	uS/cm
GS-GSA-MW-3	DO	DO	7/13/2022 10:47	0.52	mg/L
GS-GSA-MW-3	DTW	Depth to Water Detail	7/13/2022 10:47	104.55	ft
GS-GSA-MW-3	ORP	Oxidation Reduction Potention	7/13/2022 10:47	24	mv
GS-GSA-MW-3	PH	pH	7/13/2022 10:47	5.86	SU
GS-GSA-MW-3	TEMP	Temperature	7/13/2022 10:47	21.73	C
GS-GSA-MW-3	TURB	Turbidity	7/13/2022 10:47	9.52	NTU
GS-GSA-MW-3	COND	Conductivity	7/13/2022 10:52	5099.26	uS/cm
GS-GSA-MW-3	DO	DO	7/13/2022 10:52	0.43	mg/L
GS-GSA-MW-3	DTW	Depth to Water Detail	7/13/2022 10:52	104.55	ft
GS-GSA-MW-3	ORP	Oxidation Reduction Potention	7/13/2022 10:52	12.63	mv
GS-GSA-MW-3	PH	pH	7/13/2022 10:52	5.89	SU
GS-GSA-MW-3	TEMP	Temperature	7/13/2022 10:52	21.76	C
GS-GSA-MW-3	TURB	Turbidity	7/13/2022 10:52	7.29	NTU
GS-GSA-MW-3	COND	Conductivity	7/13/2022 10:57	5087.02	uS/cm
GS-GSA-MW-3	DO	DO	7/13/2022 10:57	0.41	mg/L
GS-GSA-MW-3	DTW	Depth to Water Detail	7/13/2022 10:57	104.55	ft
GS-GSA-MW-3	ORP	Oxidation Reduction Potention	7/13/2022 10:57	7.72	mv
GS-GSA-MW-3	PH	pH	7/13/2022 10:57	5.9	SU
GS-GSA-MW-3	TEMP	Temperature	7/13/2022 10:57	21.78	C
GS-GSA-MW-3	TURB	Turbidity	7/13/2022 10:57	5.8	NTU
GS-GSA-MW-3	COND	Conductivity	7/13/2022 11:02	5093.76	uS/cm
GS-GSA-MW-3	DO	DO	7/13/2022 11:02	0.39	mg/L
GS-GSA-MW-3	DTW	Depth to Water Detail	7/13/2022 11:02	104.55	ft
GS-GSA-MW-3	ORP	Oxidation Reduction Potention	7/13/2022 11:02	3.86	mv
GS-GSA-MW-3	PH	pH	7/13/2022 11:02	5.91	SU
GS-GSA-MW-3	TEMP	Temperature	7/13/2022 11:02	21.72	C
GS-GSA-MW-3	TURB	Turbidity	7/13/2022 11:02	5.87	NTU
GS-GSA-MW-3	COND	Conductivity	7/13/2022 11:07	5084.48	uS/cm
GS-GSA-MW-3	DO	DO	7/13/2022 11:07	0.37	mg/L
GS-GSA-MW-3	DTW	Depth to Water Detail	7/13/2022 11:07	104.55	ft
GS-GSA-MW-3	ORP	Oxidation Reduction Potention	7/13/2022 11:07	2.13	mv
GS-GSA-MW-3	PH	pH	7/13/2022 11:07	5.92	SU
GS-GSA-MW-3	SULFIDE	Sulfide	7/13/2022 11:07	0	mg/L
GS-GSA-MW-3	TEMP	Temperature	7/13/2022 11:07	21.82	C
GS-GSA-MW-3	TURB	Turbidity	7/13/2022 11:07	4.61	NTU

**Field Parameters Summary  
Plant Gorgas Gypsum Pond**

WELL ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
GS-GSA-MW-9H	COND	Conductivity	7/12/2022 12:55	2735.88	uS/cm
GS-GSA-MW-9H	DO	DO	7/12/2022 12:55	0.6	mg/L
GS-GSA-MW-9H	DTW	Depth to Water Detail	7/12/2022 12:55	48.74	ft
GS-GSA-MW-9H	ORP	Oxidation Reduction Potention	7/12/2022 12:55	158.65	mv
GS-GSA-MW-9H	PH	pH	7/12/2022 12:55	5.07	SU
GS-GSA-MW-9H	TEMP	Temperature	7/12/2022 12:55	21.78	C
GS-GSA-MW-9H	TURB	Turbidity	7/12/2022 12:55	8.69	NTU
GS-GSA-MW-9H	COND	Conductivity	7/12/2022 13:00	2778.57	uS/cm
GS-GSA-MW-9H	DO	DO	7/12/2022 13:00	0.45	mg/L
GS-GSA-MW-9H	DTW	Depth to Water Detail	7/12/2022 13:00	49.21	ft
GS-GSA-MW-9H	ORP	Oxidation Reduction Potention	7/12/2022 13:00	149.73	mv
GS-GSA-MW-9H	PH	pH	7/12/2022 13:00	5.16	SU
GS-GSA-MW-9H	TEMP	Temperature	7/12/2022 13:00	21.8	C
GS-GSA-MW-9H	TURB	Turbidity	7/12/2022 13:00	5.96	NTU
GS-GSA-MW-9H	COND	Conductivity	7/12/2022 13:05	2784.62	uS/cm
GS-GSA-MW-9H	DO	DO	7/12/2022 13:05	0.37	mg/L
GS-GSA-MW-9H	DTW	Depth to Water Detail	7/12/2022 13:05	49.46	ft
GS-GSA-MW-9H	ORP	Oxidation Reduction Potention	7/12/2022 13:05	142.82	mv
GS-GSA-MW-9H	PH	pH	7/12/2022 13:05	5.22	SU
GS-GSA-MW-9H	TEMP	Temperature	7/12/2022 13:05	22	C
GS-GSA-MW-9H	TURB	Turbidity	7/12/2022 13:05	5.66	NTU
GS-GSA-MW-9H	COND	Conductivity	7/12/2022 13:10	2794.19	uS/cm
GS-GSA-MW-9H	DO	DO	7/12/2022 13:10	0.32	mg/L
GS-GSA-MW-9H	DTW	Depth to Water Detail	7/12/2022 13:10	49.61	ft
GS-GSA-MW-9H	ORP	Oxidation Reduction Potention	7/12/2022 13:10	137.44	mv
GS-GSA-MW-9H	PH	pH	7/12/2022 13:10	5.27	SU
GS-GSA-MW-9H	TEMP	Temperature	7/12/2022 13:10	22.14	C
GS-GSA-MW-9H	TURB	Turbidity	7/12/2022 13:10	2.77	NTU
GS-GSA-MW-9H	COND	Conductivity	7/12/2022 13:15	2796.05	uS/cm
GS-GSA-MW-9H	DO	DO	7/12/2022 13:15	0.28	mg/L
GS-GSA-MW-9H	DTW	Depth to Water Detail	7/12/2022 13:15	49.7	ft
GS-GSA-MW-9H	ORP	Oxidation Reduction Potention	7/12/2022 13:15	132.57	mv
GS-GSA-MW-9H	PH	pH	7/12/2022 13:15	5.3	SU
GS-GSA-MW-9H	SULFIDE	Sulfide	7/12/2022 13:15	0	mg/L
GS-GSA-MW-9H	TEMP	Temperature	7/12/2022 13:15	22.14	C
GS-GSA-MW-9H	TURB	Turbidity	7/12/2022 13:15	2.2	NTU



**Field Parameters Summary  
Plant Gorgas Gypsum Pond**

WELL ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
GS-GSA-MW-9V	COND	Conductivity	7/12/2022 14:18	3365.92	uS/cm
GS-GSA-MW-9V	DO	DO	7/12/2022 14:18	0.12	mg/L
GS-GSA-MW-9V	DTW	Depth to Water Detail	7/12/2022 14:18	58.88	ft
GS-GSA-MW-9V	ORP	Oxidation Reduction Potention	7/12/2022 14:18	-70.04	mv
GS-GSA-MW-9V	PH	pH	7/12/2022 14:18	6.75	SU
GS-GSA-MW-9V	TEMP	Temperature	7/12/2022 14:18	21	C
GS-GSA-MW-9V	TURB	Turbidity	7/12/2022 14:18	0.85	NTU
GS-GSA-MW-9V	COND	Conductivity	7/12/2022 14:23	3369.55	uS/cm
GS-GSA-MW-9V	DO	DO	7/12/2022 14:23	0.12	mg/L
GS-GSA-MW-9V	DTW	Depth to Water Detail	7/12/2022 14:23	61.81	ft
GS-GSA-MW-9V	ORP	Oxidation Reduction Potention	7/12/2022 14:23	-75.56	mv
GS-GSA-MW-9V	PH	pH	7/12/2022 14:23	6.76	SU
GS-GSA-MW-9V	TEMP	Temperature	7/12/2022 14:23	21.04	C
GS-GSA-MW-9V	TURB	Turbidity	7/12/2022 14:23	0.97	NTU
GS-GSA-MW-9V	COND	Conductivity	7/12/2022 14:28	3379.87	uS/cm
GS-GSA-MW-9V	DO	DO	7/12/2022 14:28	0.12	mg/L
GS-GSA-MW-9V	DTW	Depth to Water Detail	7/12/2022 14:28	65.52	ft
GS-GSA-MW-9V	ORP	Oxidation Reduction Potention	7/12/2022 14:28	-82.6	mv
GS-GSA-MW-9V	PH	pH	7/12/2022 14:28	6.76	SU
GS-GSA-MW-9V	TEMP	Temperature	7/12/2022 14:28	21.22	C
GS-GSA-MW-9V	TURB	Turbidity	7/12/2022 14:28	0.9	NTU
GS-GSA-MW-9V	COND	Conductivity	7/12/2022 14:33	3390.57	uS/cm
GS-GSA-MW-9V	DO	DO	7/12/2022 14:33	0.4	mg/L
GS-GSA-MW-9V	DTW	Depth to Water Detail	7/12/2022 14:33	65.52	ft
GS-GSA-MW-9V	ORP	Oxidation Reduction Potention	7/12/2022 14:33	-86.72	mv
GS-GSA-MW-9V	PH	pH	7/12/2022 14:33	6.74	SU
GS-GSA-MW-9V	TEMP	Temperature	7/12/2022 14:33	24.22	C
GS-GSA-MW-9V	TURB	Turbidity	7/12/2022 14:33	0.81	NTU
GS-GSA-MW-9V	COND	Conductivity	7/12/2022 14:38	3387.91	uS/cm
GS-GSA-MW-9V	DO	DO	7/12/2022 14:38	0.53	mg/L
GS-GSA-MW-9V	DTW	Depth to Water Detail	7/12/2022 14:38	65.52	ft
GS-GSA-MW-9V	ORP	Oxidation Reduction Potention	7/12/2022 14:38	-79.37	mv
GS-GSA-MW-9V	PH	pH	7/12/2022 14:38	6.75	SU
GS-GSA-MW-9V	TEMP	Temperature	7/12/2022 14:38	24.15	C
GS-GSA-MW-9V	TURB	Turbidity	7/12/2022 14:38	0.54	NTU
GS-GSA-MW-9V	COND	Conductivity	7/12/2022 14:43	3386.34	uS/cm
GS-GSA-MW-9V	DO	DO	7/12/2022 14:43	0.56	mg/L
GS-GSA-MW-9V	DTW	Depth to Water Detail	7/12/2022 14:43	65.52	ft
GS-GSA-MW-9V	ORP	Oxidation Reduction Potention	7/12/2022 14:43	-76.45	mv
GS-GSA-MW-9V	PH	pH	7/12/2022 14:43	6.79	SU
GS-GSA-MW-9V	SULFIDE	Sulfide	7/12/2022 14:43	0	mg/L
GS-GSA-MW-9V	TEMP	Temperature	7/12/2022 14:43	24.41	C
GS-GSA-MW-9V	TURB	Turbidity	7/12/2022 14:43	0.36	NTU

**Field Parameters Summary  
Plant Gorgas Gypsum Pond**

WELL ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
GS-GSA-MW-11H	COND	Conductivity	7/12/2022 10:01	1490.76	uS/cm
GS-GSA-MW-11H	DO	DO	7/12/2022 10:01	0.25	mg/L
GS-GSA-MW-11H	DTW	Depth to Water Detail	7/12/2022 10:01	8.29	ft
GS-GSA-MW-11H	ORP	Oxidation Reduction Potention	7/12/2022 10:01	86.31	mv
GS-GSA-MW-11H	PH	pH	7/12/2022 10:01	5.95	SU
GS-GSA-MW-11H	TEMP	Temperature	7/12/2022 10:01	20.04	C
GS-GSA-MW-11H	TURB	Turbidity	7/12/2022 10:01	7.72	NTU
GS-GSA-MW-11H	COND	Conductivity	7/12/2022 10:06	1479.06	uS/cm
GS-GSA-MW-11H	DO	DO	7/12/2022 10:06	0.4	mg/L
GS-GSA-MW-11H	DTW	Depth to Water Detail	7/12/2022 10:06	8.49	ft
GS-GSA-MW-11H	ORP	Oxidation Reduction Potention	7/12/2022 10:06	84.57	mv
GS-GSA-MW-11H	PH	pH	7/12/2022 10:06	5.97	SU
GS-GSA-MW-11H	TEMP	Temperature	7/12/2022 10:06	20	C
GS-GSA-MW-11H	TURB	Turbidity	7/12/2022 10:06	7.17	NTU
GS-GSA-MW-11H	COND	Conductivity	7/12/2022 10:11	1473.06	uS/cm
GS-GSA-MW-11H	DO	DO	7/12/2022 10:11	0.43	mg/L
GS-GSA-MW-11H	DTW	Depth to Water Detail	7/12/2022 10:11	8.5	ft
GS-GSA-MW-11H	ORP	Oxidation Reduction Potention	7/12/2022 10:11	83.12	mv
GS-GSA-MW-11H	PH	pH	7/12/2022 10:11	5.97	SU
GS-GSA-MW-11H	TEMP	Temperature	7/12/2022 10:11	19.99	C
GS-GSA-MW-11H	TURB	Turbidity	7/12/2022 10:11	6.16	NTU
GS-GSA-MW-11H	COND	Conductivity	7/12/2022 10:16	1466.2	uS/cm
GS-GSA-MW-11H	DO	DO	7/12/2022 10:16	0.43	mg/L
GS-GSA-MW-11H	DTW	Depth to Water Detail	7/12/2022 10:16	8.54	ft
GS-GSA-MW-11H	ORP	Oxidation Reduction Potention	7/12/2022 10:16	81.94	mv
GS-GSA-MW-11H	PH	pH	7/12/2022 10:16	5.97	SU
GS-GSA-MW-11H	TEMP	Temperature	7/12/2022 10:16	20	C
GS-GSA-MW-11H	TURB	Turbidity	7/12/2022 10:16	5.68	NTU
GS-GSA-MW-11H	COND	Conductivity	7/12/2022 10:21	1458.19	uS/cm
GS-GSA-MW-11H	DO	DO	7/12/2022 10:21	0.41	mg/L
GS-GSA-MW-11H	DTW	Depth to Water Detail	7/12/2022 10:21	8.57	ft
GS-GSA-MW-11H	ORP	Oxidation Reduction Potention	7/12/2022 10:21	80.7	mv
GS-GSA-MW-11H	PH	pH	7/12/2022 10:21	5.97	SU
GS-GSA-MW-11H	SULFIDE	Sulfide	7/12/2022 10:21	0	mg/L
GS-GSA-MW-11H	TEMP	Temperature	7/12/2022 10:21	19.86	C
GS-GSA-MW-11H	TURB	Turbidity	7/12/2022 10:21	4.83	NTU

**Field Parameters Summary  
Plant Gorgas Gypsum Pond**

WELL ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
GS-GSA-MW-12H	COND	Conductivity	7/13/2022 10:06	1403.61	uS/cm
GS-GSA-MW-12H	DO	DO	7/13/2022 10:06	0.6	mg/L
GS-GSA-MW-12H	DTW	Depth to Water Detail	7/13/2022 10:06	63.13	ft
GS-GSA-MW-12H	ORP	Oxidation Reduction Potention	7/13/2022 10:06	357.99	mv
GS-GSA-MW-12H	PH	pH	7/13/2022 10:06	4.16	SU
GS-GSA-MW-12H	TEMP	Temperature	7/13/2022 10:06	20.22	C
GS-GSA-MW-12H	TURB	Turbidity	7/13/2022 10:06	69.8	NTU
GS-GSA-MW-12H	COND	Conductivity	7/13/2022 10:11	1404.55	uS/cm
GS-GSA-MW-12H	DO	DO	7/13/2022 10:11	0.35	mg/L
GS-GSA-MW-12H	DTW	Depth to Water Detail	7/13/2022 10:11	63.16	ft
GS-GSA-MW-12H	ORP	Oxidation Reduction Potention	7/13/2022 10:11	364.79	mv
GS-GSA-MW-12H	PH	pH	7/13/2022 10:11	4.18	SU
GS-GSA-MW-12H	TEMP	Temperature	7/13/2022 10:11	20.34	C
GS-GSA-MW-12H	TURB	Turbidity	7/13/2022 10:11	40.3	NTU
GS-GSA-MW-12H	COND	Conductivity	7/13/2022 10:16	1407.32	uS/cm
GS-GSA-MW-12H	DO	DO	7/13/2022 10:16	0.3	mg/L
GS-GSA-MW-12H	DTW	Depth to Water Detail	7/13/2022 10:16	63.2	ft
GS-GSA-MW-12H	ORP	Oxidation Reduction Potention	7/13/2022 10:16	368.43	mv
GS-GSA-MW-12H	PH	pH	7/13/2022 10:16	4.19	SU
GS-GSA-MW-12H	TEMP	Temperature	7/13/2022 10:16	20.38	C
GS-GSA-MW-12H	TURB	Turbidity	7/13/2022 10:16	21	NTU
GS-GSA-MW-12H	COND	Conductivity	7/13/2022 10:21	1437.79	uS/cm
GS-GSA-MW-12H	DO	DO	7/13/2022 10:21	0.3	mg/L
GS-GSA-MW-12H	DTW	Depth to Water Detail	7/13/2022 10:21	63.2	ft
GS-GSA-MW-12H	ORP	Oxidation Reduction Potention	7/13/2022 10:21	371.92	mv
GS-GSA-MW-12H	PH	pH	7/13/2022 10:21	4.17	SU
GS-GSA-MW-12H	TEMP	Temperature	7/13/2022 10:21	20.24	C
GS-GSA-MW-12H	TURB	Turbidity	7/13/2022 10:21	11.9	NTU
GS-GSA-MW-12H	COND	Conductivity	7/13/2022 10:26	1438.26	uS/cm
GS-GSA-MW-12H	DO	DO	7/13/2022 10:26	0.27	mg/L
GS-GSA-MW-12H	DTW	Depth to Water Detail	7/13/2022 10:26	63.2	ft
GS-GSA-MW-12H	ORP	Oxidation Reduction Potention	7/13/2022 10:26	374.39	mv
GS-GSA-MW-12H	PH	pH	7/13/2022 10:26	4.16	SU
GS-GSA-MW-12H	TEMP	Temperature	7/13/2022 10:26	20.17	C
GS-GSA-MW-12H	TURB	Turbidity	7/13/2022 10:26	8.61	NTU
GS-GSA-MW-12H	COND	Conductivity	7/13/2022 10:31	1438.6	uS/cm
GS-GSA-MW-12H	DO	DO	7/13/2022 10:31	0.26	mg/L
GS-GSA-MW-12H	DTW	Depth to Water Detail	7/13/2022 10:31	63.2	ft
GS-GSA-MW-12H	ORP	Oxidation Reduction Potention	7/13/2022 10:31	374.84	mv
GS-GSA-MW-12H	PH	pH	7/13/2022 10:31	4.16	SU
GS-GSA-MW-12H	TEMP	Temperature	7/13/2022 10:31	20.22	C
GS-GSA-MW-12H	TURB	Turbidity	7/13/2022 10:31	6.3	NTU
GS-GSA-MW-12H	COND	Conductivity	7/13/2022 10:36	1438.42	uS/cm
GS-GSA-MW-12H	DO	DO	7/13/2022 10:36	0.23	mg/L
GS-GSA-MW-12H	DTW	Depth to Water Detail	7/13/2022 10:36	63.2	ft

**Field Parameters Summary  
Plant Gorgas Gypsum Pond**

<b>WELL ID</b>	<b>PARAMETER</b>	<b>DESCRIPTION</b>	<b>TIME OF READING</b>	<b>VALUE</b>	<b>UNIT</b>
GS-GSA-MW-12H	ORP	Oxidation Reduction Potention	7/13/2022 10:36	373.86	mv
GS-GSA-MW-12H	PH	pH	7/13/2022 10:36	4.16	SU
GS-GSA-MW-12H	TEMP	Temperature	7/13/2022 10:36	20.25	C
GS-GSA-MW-12H	TURB	Turbidity	7/13/2022 10:36	6.13	NTU
GS-GSA-MW-12H	COND	Conductivity	7/13/2022 10:41	1438.58	uS/cm
GS-GSA-MW-12H	DO	DO	7/13/2022 10:41	0.24	mg/L
GS-GSA-MW-12H	DTW	Depth to Water Detail	7/13/2022 10:41	63.2	ft
GS-GSA-MW-12H	ORP	Oxidation Reduction Potention	7/13/2022 10:41	373.83	mv
GS-GSA-MW-12H	PH	pH	7/13/2022 10:41	4.15	SU
GS-GSA-MW-12H	SULFIDE	Sulfide	7/13/2022 10:41	0	mg/L
GS-GSA-MW-12H	TEMP	Temperature	7/13/2022 10:41	20.22	C
GS-GSA-MW-12H	TURB	Turbidity	7/13/2022 10:41	4.49	NTU

**Field Parameters Summary  
Plant Gorgas Gypsum Pond**

WELL ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
GS-GSA-MW-12V	COND	Conductivity	7/13/2022 9:06	4287.33	uS/cm
GS-GSA-MW-12V	DO	DO	7/13/2022 9:06	0.27	mg/L
GS-GSA-MW-12V	DTW	Depth to Water Detail	7/13/2022 9:06	64.71	ft
GS-GSA-MW-12V	ORP	Oxidation Reduction Potention	7/13/2022 9:06	-81.66	mv
GS-GSA-MW-12V	PH	pH	7/13/2022 9:06	6.5	SU
GS-GSA-MW-12V	TEMP	Temperature	7/13/2022 9:06	20.06	C
GS-GSA-MW-12V	TURB	Turbidity	7/13/2022 9:06	1.64	NTU
GS-GSA-MW-12V	COND	Conductivity	7/13/2022 9:11	3975.04	uS/cm
GS-GSA-MW-12V	DO	DO	7/13/2022 9:11	0.27	mg/L
GS-GSA-MW-12V	DTW	Depth to Water Detail	7/13/2022 9:11	64.8	ft
GS-GSA-MW-12V	ORP	Oxidation Reduction Potention	7/13/2022 9:11	-70.39	mv
GS-GSA-MW-12V	PH	pH	7/13/2022 9:11	6.39	SU
GS-GSA-MW-12V	TEMP	Temperature	7/13/2022 9:11	20	C
GS-GSA-MW-12V	TURB	Turbidity	7/13/2022 9:11	2.03	NTU
GS-GSA-MW-12V	COND	Conductivity	7/13/2022 9:16	3758.7	uS/cm
GS-GSA-MW-12V	DO	DO	7/13/2022 9:16	0.28	mg/L
GS-GSA-MW-12V	DTW	Depth to Water Detail	7/13/2022 9:16	64.98	ft
GS-GSA-MW-12V	ORP	Oxidation Reduction Potention	7/13/2022 9:16	-61.21	mv
GS-GSA-MW-12V	PH	pH	7/13/2022 9:16	6.32	SU
GS-GSA-MW-12V	TEMP	Temperature	7/13/2022 9:16	20.05	C
GS-GSA-MW-12V	TURB	Turbidity	7/13/2022 9:16	0.25	NTU
GS-GSA-MW-12V	COND	Conductivity	7/13/2022 9:21	3786.88	uS/cm
GS-GSA-MW-12V	DO	DO	7/13/2022 9:21	0.27	mg/L
GS-GSA-MW-12V	DTW	Depth to Water Detail	7/13/2022 9:21	65.11	ft
GS-GSA-MW-12V	ORP	Oxidation Reduction Potention	7/13/2022 9:21	-55.54	mv
GS-GSA-MW-12V	PH	pH	7/13/2022 9:21	6.29	SU
GS-GSA-MW-12V	TEMP	Temperature	7/13/2022 9:21	20.02	C
GS-GSA-MW-12V	TURB	Turbidity	7/13/2022 9:21	0.07	NTU
GS-GSA-MW-12V	COND	Conductivity	7/13/2022 9:26	3907.36	uS/cm
GS-GSA-MW-12V	DO	DO	7/13/2022 9:26	0.28	mg/L
GS-GSA-MW-12V	DTW	Depth to Water Detail	7/13/2022 9:26	65.15	ft
GS-GSA-MW-12V	ORP	Oxidation Reduction Potention	7/13/2022 9:26	-51.2	mv
GS-GSA-MW-12V	PH	pH	7/13/2022 9:26	6.26	SU
GS-GSA-MW-12V	SULFIDE	Sulfide	7/13/2022 9:26	0	mg/L
GS-GSA-MW-12V	TEMP	Temperature	7/13/2022 9:26	19.93	C
GS-GSA-MW-12V	TURB	Turbidity	7/13/2022 9:26	0.17	NTU

**Field Parameters Summary  
Plant Gorgas Gypsum Pond**

WELL ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
GS-GSA-MW-14H	COND	Conductivity	7/13/2022 11:23	1290.68	uS/cm
GS-GSA-MW-14H	DO	DO	7/13/2022 11:23	0.37	mg/L
GS-GSA-MW-14H	DTW	Depth to Water Detail	7/13/2022 11:23	19.5	ft
GS-GSA-MW-14H	ORP	Oxidation Reduction Potention	7/13/2022 11:23	314.61	mv
GS-GSA-MW-14H	PH	pH	7/13/2022 11:23	3.93	SU
GS-GSA-MW-14H	TEMP	Temperature	7/13/2022 11:23	20.25	C
GS-GSA-MW-14H	TURB	Turbidity	7/13/2022 11:23	3.82	NTU
GS-GSA-MW-14H	COND	Conductivity	7/13/2022 11:28	1290.52	uS/cm
GS-GSA-MW-14H	DO	DO	7/13/2022 11:28	0.36	mg/L
GS-GSA-MW-14H	DTW	Depth to Water Detail	7/13/2022 11:28	19.5	ft
GS-GSA-MW-14H	ORP	Oxidation Reduction Potention	7/13/2022 11:28	314.03	mv
GS-GSA-MW-14H	PH	pH	7/13/2022 11:28	3.93	SU
GS-GSA-MW-14H	TEMP	Temperature	7/13/2022 11:28	20.32	C
GS-GSA-MW-14H	TURB	Turbidity	7/13/2022 11:28	3.84	NTU
GS-GSA-MW-14H	COND	Conductivity	7/13/2022 11:33	1290.02	uS/cm
GS-GSA-MW-14H	DO	DO	7/13/2022 11:33	0.38	mg/L
GS-GSA-MW-14H	DTW	Depth to Water Detail	7/13/2022 11:33	19.5	ft
GS-GSA-MW-14H	ORP	Oxidation Reduction Potention	7/13/2022 11:33	314.91	mv
GS-GSA-MW-14H	PH	pH	7/13/2022 11:33	3.94	SU
GS-GSA-MW-14H	TEMP	Temperature	7/13/2022 11:33	20.39	C
GS-GSA-MW-14H	TURB	Turbidity	7/13/2022 11:33	4.51	NTU
GS-GSA-MW-14H	COND	Conductivity	7/13/2022 11:38	1288.81	uS/cm
GS-GSA-MW-14H	DO	DO	7/13/2022 11:38	0.33	mg/L
GS-GSA-MW-14H	DTW	Depth to Water Detail	7/13/2022 11:38	19.5	ft
GS-GSA-MW-14H	ORP	Oxidation Reduction Potention	7/13/2022 11:38	313.91	mv
GS-GSA-MW-14H	PH	pH	7/13/2022 11:38	3.94	SU
GS-GSA-MW-14H	SULFIDE	Sulfide	7/13/2022 11:38	0	mg/L
GS-GSA-MW-14H	TEMP	Temperature	7/13/2022 11:38	20.39	C
GS-GSA-MW-14H	TURB	Turbidity	7/13/2022 11:38	2.78	NTU

**Field Parameters Summary  
Plant Gorgas Gypsum Pond**

WELL ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
GS-GSA-MW-13H	COND	Conductivity	7/12/2022 11:16	1511.36	uS/cm
GS-GSA-MW-13H	DO	DO	7/12/2022 11:16	0.13	mg/L
GS-GSA-MW-13H	DTW	Depth to Water Detail	7/12/2022 11:16	10.51	ft
GS-GSA-MW-13H	ORP	Oxidation Reduction Potention	7/12/2022 11:16	35.65	mv
GS-GSA-MW-13H	PH	pH	7/12/2022 11:16	5.68	SU
GS-GSA-MW-13H	TEMP	Temperature	7/12/2022 11:16	19.75	C
GS-GSA-MW-13H	TURB	Turbidity	7/12/2022 11:16	28.4	NTU
GS-GSA-MW-13H	COND	Conductivity	7/12/2022 11:21	1511.01	uS/cm
GS-GSA-MW-13H	DO	DO	7/12/2022 11:21	0.12	mg/L
GS-GSA-MW-13H	DTW	Depth to Water Detail	7/12/2022 11:21	10.54	ft
GS-GSA-MW-13H	ORP	Oxidation Reduction Potention	7/12/2022 11:21	33.27	mv
GS-GSA-MW-13H	PH	pH	7/12/2022 11:21	5.66	SU
GS-GSA-MW-13H	TEMP	Temperature	7/12/2022 11:21	19.72	C
GS-GSA-MW-13H	TURB	Turbidity	7/12/2022 11:21	18	NTU
GS-GSA-MW-13H	COND	Conductivity	7/12/2022 11:26	1513.47	uS/cm
GS-GSA-MW-13H	DO	DO	7/12/2022 11:26	0.13	mg/L
GS-GSA-MW-13H	DTW	Depth to Water Detail	7/12/2022 11:26	10.54	ft
GS-GSA-MW-13H	ORP	Oxidation Reduction Potention	7/12/2022 11:26	29.17	mv
GS-GSA-MW-13H	PH	pH	7/12/2022 11:26	5.69	SU
GS-GSA-MW-13H	TEMP	Temperature	7/12/2022 11:26	19.65	C
GS-GSA-MW-13H	TURB	Turbidity	7/12/2022 11:26	14.1	NTU
GS-GSA-MW-13H	COND	Conductivity	7/12/2022 11:31	1515.11	uS/cm
GS-GSA-MW-13H	DO	DO	7/12/2022 11:31	0.12	mg/L
GS-GSA-MW-13H	DTW	Depth to Water Detail	7/12/2022 11:31	10.54	ft
GS-GSA-MW-13H	ORP	Oxidation Reduction Potention	7/12/2022 11:31	25.05	mv
GS-GSA-MW-13H	PH	pH	7/12/2022 11:31	5.72	SU
GS-GSA-MW-13H	TEMP	Temperature	7/12/2022 11:31	19.68	C
GS-GSA-MW-13H	TURB	Turbidity	7/12/2022 11:31	15.4	NTU
GS-GSA-MW-13H	COND	Conductivity	7/12/2022 11:36	1524.55	uS/cm
GS-GSA-MW-13H	DO	DO	7/12/2022 11:36	0.12	mg/L
GS-GSA-MW-13H	DTW	Depth to Water Detail	7/12/2022 11:36	10.54	ft
GS-GSA-MW-13H	ORP	Oxidation Reduction Potention	7/12/2022 11:36	19	mv
GS-GSA-MW-13H	PH	pH	7/12/2022 11:36	5.76	SU
GS-GSA-MW-13H	TEMP	Temperature	7/12/2022 11:36	20.02	C
GS-GSA-MW-13H	TURB	Turbidity	7/12/2022 11:36	17.4	NTU
GS-GSA-MW-13H	COND	Conductivity	7/12/2022 11:41	1538.22	uS/cm
GS-GSA-MW-13H	DO	DO	7/12/2022 11:41	0.11	mg/L
GS-GSA-MW-13H	DTW	Depth to Water Detail	7/12/2022 11:41	10.54	ft
GS-GSA-MW-13H	ORP	Oxidation Reduction Potention	7/12/2022 11:41	14.62	mv
GS-GSA-MW-13H	PH	pH	7/12/2022 11:41	5.8	SU
GS-GSA-MW-13H	TEMP	Temperature	7/12/2022 11:41	20.06	C
GS-GSA-MW-13H	TURB	Turbidity	7/12/2022 11:41	13.1	NTU
GS-GSA-MW-13H	COND	Conductivity	7/12/2022 11:46	1551.62	uS/cm
GS-GSA-MW-13H	DO	DO	7/12/2022 11:46	0.11	mg/L
GS-GSA-MW-13H	DTW	Depth to Water Detail	7/12/2022 11:46	10.54	ft

**Field Parameters Summary  
Plant Gorgas Gypsum Pond**

WELL ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
GS-GSA-MW-13H	ORP	Oxidation Reduction Potention	7/12/2022 11:46	12.56	mv
GS-GSA-MW-13H	PH	pH	7/12/2022 11:46	5.82	SU
GS-GSA-MW-13H	TEMP	Temperature	7/12/2022 11:46	19.76	C
GS-GSA-MW-13H	TURB	Turbidity	7/12/2022 11:46	10.91	NTU
GS-GSA-MW-13H	COND	Conductivity	7/12/2022 11:51	1564.78	uS/cm
GS-GSA-MW-13H	DO	DO	7/12/2022 11:51	0.12	mg/L
GS-GSA-MW-13H	DTW	Depth to Water Detail	7/12/2022 11:51	10.54	ft
GS-GSA-MW-13H	ORP	Oxidation Reduction Potention	7/12/2022 11:51	11.3	mv
GS-GSA-MW-13H	PH	pH	7/12/2022 11:51	5.82	SU
GS-GSA-MW-13H	TEMP	Temperature	7/12/2022 11:51	19.76	C
GS-GSA-MW-13H	TURB	Turbidity	7/12/2022 11:51	11.05	NTU
GS-GSA-MW-13H	COND	Conductivity	7/12/2022 11:56	1580.5	uS/cm
GS-GSA-MW-13H	DO	DO	7/12/2022 11:56	0.11	mg/L
GS-GSA-MW-13H	DTW	Depth to Water Detail	7/12/2022 11:56	10.54	ft
GS-GSA-MW-13H	ORP	Oxidation Reduction Potention	7/12/2022 11:56	10.77	mv
GS-GSA-MW-13H	PH	pH	7/12/2022 11:56	5.82	SU
GS-GSA-MW-13H	SULFIDE	Sulfide	7/12/2022 11:56	0	mg/L
GS-GSA-MW-13H	TEMP	Temperature	7/12/2022 11:56	19.94	C
GS-GSA-MW-13H	TURB	Turbidity	7/12/2022 11:56	9.94	NTU



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

# *Analytical Report*



**Sample Group :** WMWGORG\_1376

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

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

**Attention :** Dustin Brooks & Greg Dyer

**Released By :** Renee Jernigan  
rgarner@southernco.com  
(205) 664-6247

August 08, 2022


Dear Dustin Brooks,

Enclosed are the analytical results for sample(s) received by the laboratory on July 14, 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, 2023

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

Sincerely,

Quality Control: **Renee Jernigan**  Digitally signed by Renee Jernigan  
Date: 2022.08.09 08:14:35 -05'00'

Supervision: **T Durant Maske**  Digitally signed by T Durant Maske  
DN: cn=T Durant Maske, gn=T Durant Maske, c=US, United States, o=US, United States, e=tdmaske@southernco.com  
Reason: I am the author of this document  
Location:  
Date: 2022-08-09 14:05:05.00



### 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 Gypsum

WMWGORG\_1376

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>
BC12852	731462	WMWGORG_1376
BC12853	731462	WMWGORG_1376
BC12854	731462	WMWGORG_1376
BC12855	731462	WMWGORG_1376
BC12856	731462	WMWGORG_1376
BC12857	731462	WMWGORG_1376
BC12858	731462	WMWGORG_1376
BC12859	731462	WMWGORG_1376
BC12860	731462	WMWGORG_1376
BC12861	731462	WMWGORG_1376
BC12862	731463	WMWGORG_1376
BC12863	731463	WMWGORG_1376
BC12864	731463	WMWGORG_1376
BC12865	731463	WMWGORG_1376
BC12866	731463	WMWGORG_1376
BC12867	731463	WMWGORG_1376
BC12868	731463	WMWGORG_1376
BC12869	731463	WMWGORG_1376
BC12870	731463	WMWGORG_1376
BC12871	731463	WMWGORG_1376
BC12872	731464	WMWGORG_1376
BC12873	731464	WMWGORG_1376
BC12874	731464	WMWGORG_1376
BC12875	731464	WMWGORG_1376

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:

Revision 5

- 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:
    - BC12861 Iron and Magnesium MS/MSD spike levels were less than 30% of the sample concentrations.
    - BC12871 Calcium, Iron and Magnesium MS/MSD spike levels were less than 30% of the sample concentrations.
    - BC12875 Calcium, Iron, Magnesium and Sodium MS/MSD spike levels were less than 30% of the sample concentrations.
    - BC12875 Lithium and Silicon MS/MSD recovery were outside of the specification limits.
  - A matrix spike and matrix spike duplicate were digested and analyzed with each ICP batch. All acceptance criteria for precision were met.
7. The following sample was diluted due to the analyzed sample concentration being greater than the high standard of the calibration curve:

<u>Sample ID</u>	<u>Analyte</u>	<u>Dilution Factor</u>
BC12852	Calcium, Magnesium, Sodium	10.15
BC12853	Calcium, Iron, Magnesium, Sodium	10.15
BC12854	Calcium, Iron, Magnesium, Sodium	10.15

## Case Narrative

BC12855	Calcium, Iron, Magnesium, Sodium	10.15
BC12856	Calcium, Magnesium, Sodium	101.5
BC12857	Calcium, Iron, Magnesium, Sodium	101.5
BC12858	Calcium, Magnesium	10.15
BC12859	Calcium, Iron, Magnesium, Silicon	10.15
BC12861	Calcium, Iron, Magnesium, Silicon	10.15
BC12862	Calcium, Magnesium, Sodium	10.15
BC12863	Calcium, Magnesium, Sodium	10.15
BC12864	Calcium, Iron, Magnesium, Sodium	10.15
BC12865	Calcium, Sodium	10.15
BC12867	Calcium, Iron, Sodium	101.5
BC12868	Calcium, Iron, Magnesium, Sodium	10.15
BC12869	Calcium, Iron, Magnesium, Sodium	101.5
BC12870	Sodium	101.5
BC12871	Calcium, Iron, Magnesium, Sodium	101.5
BC12872	Calcium, Iron, Magnesium, Sodium	10.15
BC12873	Calcium, Magnesium, Sodium, Silicon	10.15
BC12873	Iron	101.5
BC12875	Calcium, Iron, Magnesium, Sodium	101.5

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

Dissolved Metals ICP

Gorgas Gypsum

WMWGORG\_1376

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>
BC12852	731088	WMWGORG_1376
BC12853	731088	WMWGORG_1376
BC12854	731088	WMWGORG_1376
BC12855	731088	WMWGORG_1376
BC12856	731088	WMWGORG_1376
BC12857	731088	WMWGORG_1376
BC12858	731088	WMWGORG_1376
BC12859	731088	WMWGORG_1376
BC12861	731088	WMWGORG_1376
BC12862	731088	WMWGORG_1376
BC12863	731096	WMWGORG_1376
BC12864	731096	WMWGORG_1376
BC12865	731096	WMWGORG_1376
BC12867	731096	WMWGORG_1376
BC12868	731096	WMWGORG_1376
BC12869	731096	WMWGORG_1376
BC12870	731096	WMWGORG_1376
BC12871	731096	WMWGORG_1376
BC12872	731096	WMWGORG_1376
BC12873	731104	WMWGORG_1376
BC12875	731096	WMWGORG_1376

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.

Revision 5

- 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:
    - BC12872 Calcium, Iron and Magnesium MS/MSD spike levels were less than 30% of the sample concentrations.
    - BC12873 Calcium, Iron, Magnesium and Silicon MS/MSD spike levels were less than 30% of the sample concentrations.
  - A matrix spike and matrix spike duplicate were analyzed with each ICP batch. All acceptance criteria for precision were met.
7. The following samples were diluted due to the analyzed sample concentration being greater than the high standard of the calibration curve:

<u>Sample ID</u>	<u>Analyte</u>	<u>Dilution Factor</u>
BC12852	Calcium, Magnesium, Sodium	10.15
BC12853	Calcium, Magnesium, Sodium	10.15
BC12853	Iron	101.5
BC12854	Calcium, Magnesium, Sodium	10.15
BC12854	Iron	101.5
BC12855	Calcium, Iron, Magnesium, Sodium	10.15
BC12856	Calcium, Magnesium, Sodium	101.5
BC12857	Calcium, Iron, Magnesium, Sodium	101.5
BC12858	Calcium, Magnesium	10.15

## Case Narrative

BC12859	Calcium, Iron, Magnesium, Silicon	10.15
BC12861	Calcium, Iron, Magnesium	10.15
BC12862	Calcium, Magnesium, Sodium	10.15
BC12863	Calcium, Magnesium, Sodium	10.15
BC12864	Calcium, Iron, Magnesium, Sodium	10.15
BC12865	Calcium, Sodium	10.15
BC12867	Calcium	10.15
BC12867	Iron	101.5
BC12868	Calcium, Magnesium	10.15
BC12868	Iron	101.5
BC12869	Calcium, Iron, Magnesium, Sodium	101.5
BC12870	Calcium, Sodium	10.15
BC12871	Calcium, Iron, Magnesium, Sodium	101.5
BC12872	Calcium, Magnesium	10.15
BC12872	Iron	101.5
BC12873	Calcium, Iron, Magnesium, Sodium, Silicon	101.5
BC12875	Calcium, Iron, Magnesium, Sodium	101.5

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



Total Metals ICPMS

Gorgas Gypsum

WMWGORG\_1376

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>
BC12852	731539	WMWGORG_1376
BC12853	731539	WMWGORG_1376
BC12854	731539	WMWGORG_1376
BC12855	731539	WMWGORG_1376
BC12856	731539	WMWGORG_1376
BC12857	731539	WMWGORG_1376
BC12858	731539	WMWGORG_1376
BC12859	731539	WMWGORG_1376
BC12860	731539	WMWGORG_1376
BC12861	731539	WMWGORG_1376
BC12862	731540	WMWGORG_1376
BC12863	731540	WMWGORG_1376
BC12864	731540	WMWGORG_1376
BC12865	731540	WMWGORG_1376
BC12866	731540	WMWGORG_1376
BC12867	731540	WMWGORG_1376
BC12868	731540	WMWGORG_1376
BC12869	731540	WMWGORG_1376
BC12870	731540	WMWGORG_1376
BC12871	731540	WMWGORG_1376
BC12872	731541	WMWGORG_1376
BC12873	731541	WMWGORG_1376
BC12874	731541	WMWGORG_1376
BC12875	731541	WMWGORG_1376

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:

Revision 5

- 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:
    - BC12861 Aluminum and Manganese MS/MSD spike levels were less than 30% of the sample concentrations.
    - BC12871 Manganese MS/MSD spike levels were less than 30% of the sample concentrations.
    - BC12875 Manganese MS/MSD spike levels were less than 30% of the sample concentrations.
  - A matrix spike and matrix spike duplicate were digested and analyzed with each ICPMS batch. All acceptance criteria for precision were met.
7. The following samples were diluted due to the analyzed sample concentration being greater than the high standard of the calibration curve:

<u>Sample ID</u>	<u>Analyte</u>	<u>Dilution Factor</u>
BC12852	Manganese	5.075
BC12853	Manganese	92.365
BC12854	Manganese	92.365
BC12855	Manganese	92.365

## Case Narrative

BC12856	Manganese	5.075
BC12857	Manganese	92.365
BC12858	Aluminum, Manganese	92.365
BC12859	Aluminum	92.365
BC12859	Manganese	10.15
BC12861	Aluminum	92.365
BC12861	Manganese	5.075
BC12865	Manganese	5.075
BC12867	Manganese	5.075
BC12868	Aluminum	92.365
BC12868	Manganese	10.15
BC12869	Manganese	92.365
BC12871	Manganese	92.365
BC12872	Aluminum, Manganese	5.075
BC12873	Aluminum, Manganese	92.365
BC12875	Manganese	92.365

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

## Dissolved Metals ICPMS

Gorgas Gypsum

WMWGORG\_1376

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>
BC12852	731548	WMWGORG_1376
BC12853	731548	WMWGORG_1376
BC12854	731548	WMWGORG_1376
BC12855	731548	WMWGORG_1376
BC12856	731548	WMWGORG_1376
BC12857	731548	WMWGORG_1376
BC12858	731548	WMWGORG_1376
BC12859	731548	WMWGORG_1376
BC12861	731481	WMWGORG_1376
BC12862	731548	WMWGORG_1376
BC12863	731548	WMWGORG_1376
BC12864	731549	WMWGORG_1376
BC12865	731549	WMWGORG_1376
BC12867	731481	WMWGORG_1376
BC12868	731549	WMWGORG_1376
BC12869	731549	WMWGORG_1376
BC12870	731549	WMWGORG_1376
BC12871	731549	WMWGORG_1376
BC12872	731549	WMWGORG_1376
BC12873	731549	WMWGORG_1376
BC12875	731549	WMWGORG_1376

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:
    - BC12861 Aluminum and Manganese MS/MSD spike levels were less than 30% of the sample concentrations.
    - BC12875 Manganese MS/MSD spike levels were less than 30% of the sample concentrations.
  - A matrix spike and matrix spike duplicate were analyzed with each ICPMS batch. All acceptance criteria for precision were met.
7. The following samples were diluted due to the analyzed sample concentration being greater than the high standard of the calibration curve:

<u>Sample ID</u>	<u>Analyte</u>	<u>Dilution Factor</u>
BC12852	Manganese	5.075
BC12853	Manganese	92.365
BC12854	Manganese	92.365
BC12855	Manganese	92.365
BC12857	Manganese	92.365
BC12858	Aluminum, Manganese	92.365
BC12859	Aluminum	92.365

## Case Narrative

BC12859	Manganese	10.15
BC12861	Aluminum	92.365
BC12861	Manganese	5.075
BC12865	Manganese	5.075
BC12867	Manganese	5.075
BC12868	Aluminum	92.365
BC12868	Manganese	10.15
BC12869	Manganese	92.365
BC12871	Manganese	92.365
BC12872	Manganese	5.075
BC12873	Aluminum, Manganese	92.365
BC12875	Manganese	92.365

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

Mercury

Gorgas Gypsum

WMWGORG\_1376

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>
BC12852	730733	WMWGORG_1376
BC12853	730733	WMWGORG_1376
BC12854	730733	WMWGORG_1376
BC12855	730733	WMWGORG_1376
BC12856	730733	WMWGORG_1376
BC12857	730733	WMWGORG_1376
BC12858	730733	WMWGORG_1376
BC12859	730733	WMWGORG_1376
BC12860	730733	WMWGORG_1376
BC12861	730733	WMWGORG_1376
BC12862	730734	WMWGORG_1376
BC12863	730734	WMWGORG_1376
BC12864	730734	WMWGORG_1376
BC12865	730734	WMWGORG_1376
BC12866	730734	WMWGORG_1376
BC12867	730734	WMWGORG_1376
BC12868	730734	WMWGORG_1376
BC12869	730734	WMWGORG_1376
BC12870	730734	WMWGORG_1376
BC12871	730734	WMWGORG_1376
BC12872	730735	WMWGORG_1376
BC12873	730735	WMWGORG_1376
BC12874	730735	WMWGORG_1376
BC12875	730735	WMWGORG_1376

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:

Revision 5

- 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 factor.



Total Dissolved Solids

Gorgas Gypsum

WMWGORG\_1376

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>
BC12852	730666	WMWGORG_1376
BC12853	730666	WMWGORG_1376
BC12854	730666	WMWGORG_1376
BC12855	730668	WMWGORG_1376
BC12856	730668	WMWGORG_1376
BC12857	730731	WMWGORG_1376
BC12858	730731	WMWGORG_1376
BC12859	730731	WMWGORG_1376
BC12860	730731	WMWGORG_1376
BC12861	730668	WMWGORG_1376
BC12862	730668	WMWGORG_1376
BC12863	730668	WMWGORG_1376
BC12864	730668	WMWGORG_1376
BC12865	730668	WMWGORG_1376
BC12866	730668	WMWGORG_1376
BC12867	730731	WMWGORG_1376
BC12868	730731	WMWGORG_1376
BC12869	730731	WMWGORG_1376
BC12870	730668	WMWGORG_1376
BC12871	730668	WMWGORG_1376
BC12872	730731	WMWGORG_1376
BC12873	730731	WMWGORG_1376
BC12874	730732	WMWGORG_1376
BC12875	730732	WMWGORG_1376

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:

Revision 5

- 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:
  - BC12860
  - BC12866
  - BC12874

Anions

Gorgas Gypsum

WMWGORG\_1376

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>
BC12852	731120,731123,731020	WMWGORG_1376
BC12853	731120,731123,731020	WMWGORG_1376
BC12854	731120,731123,731020	WMWGORG_1376
BC12855	731120,731123,731020	WMWGORG_1376
BC12856	731120,731123,731020	WMWGORG_1376
BC12857	731120,731123,731020	WMWGORG_1376
BC12858	731120,731123,731020	WMWGORG_1376
BC12859	731120,731123,731020	WMWGORG_1376
BC12860	731120,731123,731020	WMWGORG_1376
BC12861	731120,731123,731020	WMWGORG_1376
BC12862	731121,731124,731021	WMWGORG_1376
BC12863	731121,731124,731021	WMWGORG_1376
BC12864	731121,731124,731021	WMWGORG_1376
BC12865	731121,731124,731021	WMWGORG_1376
BC12866	731121,731124,731021	WMWGORG_1376
BC12867	731121,731124,731021	WMWGORG_1376
BC12868	731121,731124,731021	WMWGORG_1376
BC12869	731121,731124,731021	WMWGORG_1376
BC12870	731121,731124,731021	WMWGORG_1376
BC12871	731121,731124,731021	WMWGORG_1376
BC12872	731122,731125,731022	WMWGORG_1376
BC12873	731122,731125,731022	WMWGORG_1376
BC12874	731122,731125,731022	WMWGORG_1376
BC12875	731122,731125,731022	WMWGORG_1376

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:

Revision 5

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

Matrix Specific Quality Control Procedures:

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

- A matrix spike and matrix spike duplicate were analyzed with each batch. All acceptance criteria for accuracy were met, except for the following:
    - BC12875 matrix spike duplicate recovery is outside of the specification limit.
  - A matrix spike and matrix spike duplicate were analyzed with each batch. All acceptance criteria for precision were met.
7. Sample BC12858, BC12859, BC12861, BC12868, BC12873 results for Fluoride are qualified due to potential matrix interferences.
8. 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>
BC12852	Sulfate	40
BC12853	Sulfate	40
BC12854	Sulfate	40
BC12855	Chloride & Sulfate	4 & 80
BC12856	Chloride & Sulfate	4 & 80
BC12857	Chloride & Sulfate	16 & 80
BC12858	Sulfate	40
BC12859	Sulfate	40
BC12861	Sulfate	80
BC12862	Sulfate	20
BC12863	Sulfate	20
BC12864	Sulfate	25
BC12867	Sulfate	25
BC12868	Sulfate	40

## Case Narrative

BC12869	Chloride & Sulfate	40 & 80
BC12870	Sulfate	10
BC12871	Chloride & Sulfate	20 & 160
BC12872	Chloride & Sulfate	4 & 40
BC12873	Chloride & Sulfate	10 & 125
BC12875	Chloride & Sulfate	50 & 200

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

Alkalinity

Gorgas Gypsum

WMWGORG\_1376

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>
BC12852	731148; 731149	WMWGORG_1376
BC12853	731148; 731149	WMWGORG_1376
BC12854	731148; 731149	WMWGORG_1376
BC12855	731148; 731149	WMWGORG_1376
BC12856	731148; 731149	WMWGORG_1376
BC12857	731148; 731149	WMWGORG_1376
BC12858	731148; 731149	WMWGORG_1376
BC12859	731148; 731149	WMWGORG_1376
BC12861	731148; 731149	WMWGORG_1376
BC12862	731148; 731149	WMWGORG_1376
BC12863	731148; 731149	WMWGORG_1376
BC12864	731148; 731149	WMWGORG_1376
BC12865	731642; 731643	WMWGORG_1376
BC12867	731642; 731643	WMWGORG_1376
BC12868	731642; 731643	WMWGORG_1376
BC12869	731642; 731643	WMWGORG_1376
BC12870	731642; 731643	WMWGORG_1376
BC12871	731642; 731643	WMWGORG_1376
BC12872	731642; 731643	WMWGORG_1376
BC12873	731642; 731643	WMWGORG_1376
BC12875	731642; 731643	WMWGORG_1376

4. All of the above samples were prepared and analyzed by Standard Method 2320B, except for the following:
  - BC12858 Alkalinity could not be performed, pH below titration end point of 4.5 SU.
  - BC12859 Alkalinity could not be performed, pH below titration end point of 4.5 SU.
  - BC12861 Alkalinity could not be performed, pH below titration end point of 4.5 SU.
  - BC12868 Alkalinity could not be performed, pH below titration end point of 4.5 SU.
  - BC12873 Alkalinity could not be performed, pH below titration end point of 4.5 SU.
5. All samples were prepared and analyzed within the established hold times.
6. All in house quality control procedures were followed, as described below.

### General Quality Control Procedures:

- An initial pH check was analyzed with each batch. The acceptance criteria were met.
  - A final pH check was analyzed with each batch. The acceptance criteria were met.
  - An alkalinity laboratory control sample was analyzed with each batch. Range criteria of within 10% of true value was met.
  - An alkalinity sample duplicate was analyzed with each batch. Precision criteria less than 10 RPD was met.
7. The following samples had pH>10 and/or TDS>500mg/L. Therefore, the calculations for carbonate and bicarbonate are estimates:
- BC12852
  - BC12853
  - BC12854
  - BC12855
  - BC12856
  - BC12857
  - BC12862
  - BC12863
  - BC12864
  - BC12867
  - BC12869
  - BC12870
  - BC12871
  - BC12872
  - BC12875

Nitrate-Nitrite

Gorgas Gypsum

WMWGORG\_1376

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>
BC12852	730994	WMWGORG_1376
BC12853	730994	WMWGORG_1376
BC12854	730994	WMWGORG_1376
BC12855	730994	WMWGORG_1376
BC12856	730994	WMWGORG_1376
BC12857	730994	WMWGORG_1376
BC12858	730994	WMWGORG_1376
BC12859	730994	WMWGORG_1376
BC12860	730994	WMWGORG_1376
BC12861	730994	WMWGORG_1376
BC12862	730995	WMWGORG_1376
BC12863	730995	WMWGORG_1376
BC12864	730995	WMWGORG_1376
BC12865	730995	WMWGORG_1376
BC12866	730995	WMWGORG_1376
BC12867	730995	WMWGORG_1376
BC12868	730995	WMWGORG_1376
BC12869	730995	WMWGORG_1376
BC12870	730995	WMWGORG_1376
BC12871	730995	WMWGORG_1376
BC12872	730996	WMWGORG_1376
BC12873	730996	WMWGORG_1376
BC12874	730996	WMWGORG_1376
BC12875	730996	WMWGORG_1376

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

General Quality Control Procedures:

Revision 5



- 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, except for the following:
    - BC12861 and BC12875 matrix spike recovery are outside of the specification limit.
- 7. All samples were analyzed without a dilution factor.
- 8. The raw data results are shown with dilution factors included.

Total Organic Carbon

Gorgas Gypsum

WMWGORG\_1376

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>
BC12852	730768	WMWGORG_1376
BC12853	730768	WMWGORG_1376
BC12854	730768	WMWGORG_1376
BC12855	730768	WMWGORG_1376
BC12856	730768	WMWGORG_1376
BC12857	730768	WMWGORG_1376
BC12858	730768	WMWGORG_1376
BC12859	730768	WMWGORG_1376
BC12860	730768	WMWGORG_1376
BC12861	730768	WMWGORG_1376
BC12862	730769	WMWGORG_1376
BC12863	730769	WMWGORG_1376
BC12864	730769	WMWGORG_1376
BC12865	730769	WMWGORG_1376
BC12866	730769	WMWGORG_1376
BC12867	730769	WMWGORG_1376
BC12868	730769	WMWGORG_1376
BC12869	730769	WMWGORG_1376
BC12870	730769	WMWGORG_1376
BC12871	730769	WMWGORG_1376
BC12872	730770	WMWGORG_1376
BC12873	730770	WMWGORG_1376
BC12874	730770	WMWGORG_1376
BC12875	730770	WMWGORG_1376

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.

Revision 5

- Prior to sample analysis, an initial calibration verification (ICV) was analyzed and met all criteria.
- Prior to sample analysis, an initial calibration blank (ICB) was analyzed and was  $<1/2RL$ .
- All continued calibration verifications (CCVs) were within the acceptance range.
- All continued calibration blanks (CCBs) were  $<1/2RL$ .

### Matrix Specific Quality Control Procedures:

- A matrix spike and matrix spike duplicate were analyzed with each batch. All acceptance criteria for accuracy were met, except for the following:
    - BC12871 matrix spike and matrix spike duplicate recovery are outside of the specification limit.
  - A matrix spike and matrix spike duplicate were analyzed with each batch. All acceptance criteria for precision were met.
7. All samples were analyzed without a dilution factor.
  8. The raw data results are shown with dilution factors included.

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-11H

**Location Code:** WMWGORG  
**Collected:** 7/12/22 10:25  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12852

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Total	7/18/22 11:51	7/21/22 10:22		1.015	Not Detected	mg/L	0.030000	0.1015	U
* Calcium, Total	7/18/22 11:51	7/22/22 11:45		10.15	137	mg/L	0.70035	4.06	
* Iron, Total	7/18/22 11:51	7/21/22 10:22		1.015	1.53	mg/L	0.008120	0.0406	
* Lithium, Total	7/18/22 11:51	7/21/22 10:22		1.015	Not Detected	mg/L	0.007105	0.01999956	U
* Magnesium, Total	7/18/22 11:51	7/22/22 11:45		10.15	117	mg/L	0.21315	4.06	
Silica, Total (calc.)	7/18/22 11:51	7/21/22 10:22		1	19.1	mg/L			
Silicon, Total	7/18/22 11:51	7/21/22 10:22		1.015	8.93	mg/L	0.02030	0.25375	
* Sodium, Total	7/18/22 11:51	7/22/22 11:45		10.15	41.7	mg/L	0.3045	4.06	
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	7/19/22 11:38	7/19/22 12:13		1.015	0.0301	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	7/19/22 11:38	7/19/22 14:38		10.15	145	mg/L	0.70035	4.06	
* Iron, Dissolved	7/19/22 11:38	7/19/22 12:13		1.015	1.34	mg/L	0.008120	0.0406	
* Lithium, Dissolved	7/19/22 11:38	7/19/22 12:13		1.015	Not Detected	mg/L	0.007105	0.01999956	U
* Magnesium, Dissolved	7/19/22 11:38	7/19/22 14:38		10.15	121	mg/L	0.21315	4.06	
Silica, Dissolved (calc.)	7/19/22 11:38	7/19/22 12:13		1	18.0	mg/L			
Silicon, Dissolved	7/19/22 11:38	7/19/22 12:13		1.015	8.43	mg/L	0.02030	0.25375	
* Sodium, Dissolved	7/19/22 11:38	7/19/22 14:38		10.15	42.6	mg/L	0.3045	4.06	
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: DLJ</b>		<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	7/18/22 15:05	7/19/22 09:40		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/18/22 15:05	7/19/22 09:40		1.015	0.0725	mg/L	0.006090	0.01015	
* Arsenic, Total	7/18/22 15:05	7/19/22 09:40		1.015	0.000292	mg/L	0.000081	0.000203	
* Barium, Total	7/18/22 15:05	7/19/22 09:40		1.015	0.0115	mg/L	0.000508	0.001015	
* Beryllium, Total	7/18/22 15:05	7/19/22 09:40		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	7/18/22 15:05	7/19/22 09:40		1.015	0.000327	mg/L	0.000068	0.000203	
* Chromium, Total	7/18/22 15:05	7/19/22 09:40		1.015	0.000425	mg/L	0.000203	0.001015	J
* Cobalt, Total	7/18/22 15:05	7/19/22 09:40		1.015	0.00494	mg/L	0.000068	0.000203	
* Lead, Total	7/18/22 15:05	7/19/22 09:40		1.015	0.000175	mg/L	0.000068	0.000203	J
* Manganese, Total	7/18/22 15:05	7/20/22 13:49		5.075	1.85	mg/L	0.000761	0.001015	
* Molybdenum, Total	7/18/22 15:05	7/19/22 09:40		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Potassium, Total	7/18/22 15:05	7/19/22 09:40		1.015	0.891	mg/L	0.169505	0.5075	

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

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

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-11H

**Location Code:** WMWGORG  
**Collected:** 7/12/22 10:25  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12852

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	7/18/22 15:05	7/19/22 09:40		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	7/18/22 15:05	7/19/22 09:40		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	7/18/22 08:58	7/19/22 12:12		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	7/18/22 08:58	7/19/22 12:12		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Dissolved	7/18/22 08:58	7/19/22 12:12		1.015	0.000230	mg/L	0.000081	0.000203	
* Barium, Dissolved	7/18/22 08:58	7/19/22 12:12		1.015	0.0105	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	7/18/22 08:58	7/19/22 12:12		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	7/18/22 08:58	7/19/22 12:12		1.015	0.000152	mg/L	0.000068	0.000203	J
* Chromium, Dissolved	7/18/22 08:58	7/19/22 12:12		1.015	0.000252	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	7/18/22 08:58	7/19/22 12:12		1.015	0.00496	mg/L	0.000068	0.000203	
* Lead, Dissolved	7/18/22 08:58	7/19/22 12:12		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	7/18/22 08:58	7/20/22 12:08		5.075	1.84	mg/L	0.000761	0.001015	
* Molybdenum, Dissolved	7/18/22 08:58	7/19/22 12:12		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Potassium, Dissolved	7/18/22 08:58	7/19/22 12:12		1.015	0.947	mg/L	0.169505	0.5075	
* Selenium, Dissolved	7/18/22 08:58	7/19/22 12:12		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	7/18/22 08:58	7/19/22 12:12		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	7/15/22 16:07	7/15/22 20:08		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: CES</b>							
* Nitrogen, Nitrate/Nitrite	7/19/22 14:03	7/19/22 14:03		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
Alkalinity, Total as CaCO3	7/19/22 13:28	7/19/22 15:01		1	95.2	mg/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	7/14/22 13:30	7/15/22 13:16		1	1180	mg/L		75.8	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
Bicarbonate Alkalinity, (calc.)	7/19/22 13:28	7/19/22 15:01		1	95.1	mg/L		1	A
Carbonate Alkalinity, (calc.)	7/19/22 13:28	7/19/22 15:01		1	Not Detected	mg/L		0.5	A
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	7/14/22 20:17	7/14/22 20:17		1	Not Detected	mg/L	1.00	2	U

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

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

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-11H

**Location Code:** WMWGORG  
**Collected:** 7/12/22 10:25  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12852

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	7/20/22 09:00	7/20/22 09:00		1	5.18	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	7/20/22 12:10	7/20/22 12:10		1	0.156	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	7/19/22 12:14	7/19/22 12:14		40	807	mg/L	24.0	80	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: TJD</b>							
Conductivity	7/12/22 10:21	7/12/22 10:21			1458.19	uS/cm			FA
pH	7/12/22 10:21	7/12/22 10:21			5.97	SU			FA
Temperature	7/12/22 10:21	7/12/22 10:21			19.86	C			FA
Turbidity	7/12/22 10:21	7/12/22 10:21			4.83	NTU			FA
Sulfide	7/12/22 10:21	7/12/22 10:21			0	mg/L			FA

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

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

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/12/22 10:25  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - MW-11H

**Laboratory ID Number:** BC12852

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12863	Aluminum, Dissolved	mg/L	0.000116	0.010	0.100	0.107	0.108	0.104	0.0850 to 0.115	107	70.0 to 130	0.930	20.0
BC12861	Aluminum, Total	mg/L	0.000319	0.010	0.100	18.2	18.9	0.104	0.0850 to 0.115	-400	70.0 to 130	3.77	20.0
BC12863	Antimony, Dissolved	mg/L	0.000265	0.00100	0.100	0.0950	0.0949	0.0890	0.0850 to 0.115	95.0	70.0 to 130	0.105	20.0
BC12861	Antimony, Total	mg/L	0.000312	0.00100	0.100	0.101	0.102	0.0939	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BC12863	Arsenic, Dissolved	mg/L	0.0000166	0.000176	0.100	0.106	0.108	0.103	0.0850 to 0.115	104	70.0 to 130	1.87	20.0
BC12861	Arsenic, Total	mg/L	0.0000069	0.000176	0.100	0.106	0.109	0.103	0.0850 to 0.115	101	70.0 to 130	2.79	20.0
BC12863	Barium, Dissolved	mg/L	-0.000033	0.00100	0.100	0.137	0.134	0.0964	0.0850 to 0.115	103	70.0 to 130	2.21	20.0
BC12861	Barium, Total	mg/L	-0.0000749	0.00100	0.100	0.110	0.110	0.0955	0.0850 to 0.115	101	70.0 to 130	0.00	20.0
BC12863	Beryllium, Dissolved	mg/L	0.0000386	0.000880	0.100	0.0949	0.0952	0.0951	0.0850 to 0.115	94.9	70.0 to 130	0.316	20.0
BC12861	Beryllium, Total	mg/L	0.0000247	0.000880	0.100	0.112	0.110	0.0974	0.0850 to 0.115	104	70.0 to 130	1.80	20.0
BC12862	Boron, Dissolved	mg/L	0.00411	0.0650	1.00	1.07	1.07	0.963	0.850 to 1.15	101	70.0 to 130	0.00	20.0
BC12861	Boron, Total	mg/L	-0.000693	0.0650	1.00	1.08	1.07	1.01	0.850 to 1.15	103	70.0 to 130	0.930	20.0
BC12863	Cadmium, Dissolved	mg/L	0.0000049	0.000147	0.100	0.103	0.0999	0.103	0.0850 to 0.115	103	70.0 to 130	3.06	20.0
BC12861	Cadmium, Total	mg/L	0.0000	0.000147	0.100	0.103	0.101	0.100	0.0850 to 0.115	103	70.0 to 130	1.96	20.0
BC12862	Calcium, Dissolved	mg/L	-0.0137	0.152	5.00	132	131	5.45	4.25 to 5.75	100	70.0 to 130	0.760	20.0
BC12861	Calcium, Total	mg/L	-0.0310	0.152	5.00	111	110	4.94	4.25 to 5.75	120	70.0 to 130	0.905	20.0
BC12861	Chloride	mg/L	0.0825	1.00	10.0	12.1	12.3	10.4	9.00 to 11.0	103	80.0 to 120	1.64	20.0
BC12863	Chromium, Dissolved	mg/L	-0.0000496	0.000440	0.100	0.103	0.102	0.102	0.0850 to 0.115	103	70.0 to 130	0.976	20.0
BC12861	Chromium, Total	mg/L	-0.0000122	0.000440	0.100	0.103	0.104	0.103	0.0850 to 0.115	101	70.0 to 130	0.966	20.0
BC12863	Cobalt, Dissolved	mg/L	-0.0000042	0.000147	0.100	0.106	0.106	0.105	0.0850 to 0.115	104	70.0 to 130	0.00	20.0
BC12861	Cobalt, Total	mg/L	-0.0000016	0.000147	0.100	0.230	0.229	0.104	0.0850 to 0.115	105	70.0 to 130	0.436	20.0
BC12857	Fluoride	mg/L	0.00152	0.125	2.50	2.79	2.95	2.62	2.25 to 2.75	99.6	80.0 to 120	5.57	20.0
BC12862	Iron, Dissolved	mg/L	-0.0002	0.0176	0.2	3.10	3.11	0.195	0.170 to 0.230	80.0	70.0 to 130	0.322	20.0
BC12861	Iron, Total	mg/L	0.000235	0.0176	0.2	13.8	13.7	0.200	0.170 to 0.230	200	70.0 to 130	0.727	20.0

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

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/12/22 10:25  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - MW-11H

**Laboratory ID Number:** BC12852

Sample	Analysis	Units	MB					Standard		Rec		Prec	Limit
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12863	Lead, Dissolved	mg/L	0.0000125	0.000147	0.100	0.110	0.111	0.108	0.0850 to 0.115	110	70.0 to 130	0.905	20.0
BC12861	Lead, Total	mg/L	0.0000058	0.000147	0.100	0.108	0.109	0.109	0.0850 to 0.115	108	70.0 to 130	0.922	20.0
BC12862	Lithium, Dissolved	mg/L	-0.000397	0.0154	0.200	0.299	0.296	0.195	0.170 to 0.230	107	70.0 to 130	1.01	20.0
BC12861	Lithium, Total	mg/L	-0.000367	0.0154	0.200	0.603	0.607	0.204	0.170 to 0.230	108	70.0 to 130	0.661	20.0
BC12862	Magnesium, Dissolved	mg/L	-0.00737	0.0462	5.00	58.3	57.9	4.80	4.25 to 5.75	98.0	70.0 to 130	0.688	20.0
BC12861	Magnesium, Total	mg/L	0.00801	0.0462	5.00	74.1	73.4	4.94	4.25 to 5.75	136	70.0 to 130	0.949	20.0
BC12863	Manganese, Dissolved	mg/L	0.000120	0.0002	0.100	1.06	1.05	0.102	0.0850 to 0.115	93.0	70.0 to 130	0.948	20.0
BC12861	Manganese, Total	mg/L	-0.0000273	0.0002	0.100	3.94	4.05	0.103	0.0850 to 0.115	0.00	70.0 to 130	2.75	20.0
BC12861	Mercury, Total by CVAA	mg/L	1.000E-05	0.000500	0.004	0.004	0.00397	0.00404	0.00340 to 0.00460	100	70.0 to 130	0.753	20.0
BC12863	Molybdenum, Dissolved	mg/L	0.000001	0.0002	0.100	0.103	0.102	0.100	0.0850 to 0.115	102	70.0 to 130	0.976	20.0
BC12861	Molybdenum, Total	mg/L	0.0000044	0.0002	0.100	0.0996	0.101	0.0990	0.0850 to 0.115	99.6	70.0 to 130	1.40	20.0
BC12863	Potassium, Dissolved	mg/L	0.0174	0.367	10.0	15.0	14.8	10.7	8.50 to 11.5	108	70.0 to 130	1.34	20.0
BC12861	Potassium, Total	mg/L	0.0116	0.367	10.0	11.4	13.0	10.4	8.50 to 11.5	86.2	70.0 to 130	13.1	20.0
BC12863	Selenium, Dissolved	mg/L	0.0000243	0.00100	0.100	0.103	0.106	0.105	0.0850 to 0.115	103	70.0 to 130	2.87	20.0
BC12861	Selenium, Total	mg/L	0.0000228	0.00100	0.100	0.107	0.108	0.106	0.0850 to 0.115	103	70.0 to 130	0.930	20.0
BC12862	Silicon, Dissolved	mg/L	0.000137	0.0440	1.00	11.0	11.1	0.959	0.850 to 1.15	90.0	70.0 to 130	0.905	20.0
BC12861	Silicon, Total	mg/L	0.000372	0.0440	1.00	21.9	21.9	1.04	0.850 to 1.15	120	70.0 to 130	0.00	20.0
BC12862	Sodium, Dissolved	mg/L	0.00136	0.0660	5.00	126	126	4.80	4.25 to 5.75	80.0	70.0 to 130	0.00	20.0
BC12861	Sodium, Total	mg/L	0.00321	0.0660	5.00	20.3	20.4	5.08	4.25 to 5.75	112	70.0 to 130	0.491	20.0
BC12861	Sulfate	mg/L	0.875	2.0	1600	2190	2250	19.5	18.0 to 22.0	101	80.0 to 120	2.70	20.0
BC12863	Thallium, Dissolved	mg/L	0.000006	0.000147	0.100	0.110	0.112	0.110	0.0850 to 0.115	110	70.0 to 130	1.80	20.0
BC12861	Thallium, Total	mg/L	0.0000049	0.000147	0.100	0.109	0.109	0.109	0.0850 to 0.115	109	70.0 to 130	0.00	20.0
BC12861	Total Organic Carbon	mg/L	0.201	1.00	10.0	10.9	10.9	9.79		97.4	80.0 to 120	0.00	20.0

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



## Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/12/22 10:25  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - MW-11H

**Laboratory ID Number:** BC12852

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Limit	Prec	Limit
BC12864	Alkalinity, Total as CaCO3	mg/L					259	50.2	45.0 to 55.0			1.15	10.0
BC12861	Nitrogen, Nitrate/Nitrite	mg/L as N	0.09	0.200	2.00	2.32	0.193	1.90	1.80 to 2.20	116	90.0 to 110	0.00	15.0
BC12854	Solids, Dissolved	mg/L	1.00	25.0			1380	48.0	40.0 to 60.0			0.00	10.0

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

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-13H

**Location Code:** WMWGORG  
**Collected:** 7/12/22 12:00  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12853

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Total	7/18/22 11:51	7/21/22 10:24		1.015	0.209	mg/L	0.030000	0.1015	
* Calcium, Total	7/18/22 11:51	7/22/22 11:48		10.15	177	mg/L	0.70035	4.06	
* Iron, Total	7/18/22 11:51	7/22/22 11:48		10.15	38.3	mg/L	0.08120	0.406	
* Lithium, Total	7/18/22 11:51	7/21/22 10:24		1.015	0.0470	mg/L	0.007105	0.01999956	
* Magnesium, Total	7/18/22 11:51	7/22/22 11:48		10.15	108	mg/L	0.21315	4.06	
Silica, Total (calc.)	7/18/22 11:51	7/21/22 10:24		1	24.4	mg/L			
Silicon, Total	7/18/22 11:51	7/21/22 10:24		1.015	11.4	mg/L	0.02030	0.25375	
* Sodium, Total	7/18/22 11:51	7/22/22 11:48		10.15	47.8	mg/L	0.3045	4.06	
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	7/19/22 11:38	7/19/22 12:16		1.015	0.207	mg/L	0.030000	0.1015	
* Calcium, Dissolved	7/19/22 11:38	7/19/22 14:42		10.15	192	mg/L	0.70035	4.06	
* Iron, Dissolved	7/19/22 11:38	7/19/22 16:36		101.5	39.2	mg/L	0.8120	4.06	
* Lithium, Dissolved	7/19/22 11:38	7/19/22 12:16		1.015	0.0454	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	7/19/22 11:38	7/19/22 14:42		10.15	115	mg/L	0.21315	4.06	
Silica, Dissolved (calc.)	7/19/22 11:38	7/19/22 12:16		1	23.1	mg/L			
Silicon, Dissolved	7/19/22 11:38	7/19/22 12:16		1.015	10.8	mg/L	0.02030	0.25375	
* Sodium, Dissolved	7/19/22 11:38	7/19/22 14:42		10.15	50.2	mg/L	0.3045	4.06	
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: DLJ</b>		<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	7/18/22 15:05	7/19/22 09:43		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/18/22 15:05	7/19/22 09:43		1.015	0.0161	mg/L	0.006090	0.01015	
* Arsenic, Total	7/18/22 15:05	7/19/22 09:43		1.015	0.0902	mg/L	0.000081	0.000203	
* Barium, Total	7/18/22 15:05	7/19/22 09:43		1.015	0.0210	mg/L	0.000508	0.001015	
* Beryllium, Total	7/18/22 15:05	7/19/22 09:43		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	7/18/22 15:05	7/19/22 09:43		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	7/18/22 15:05	7/19/22 09:43		1.015	0.000331	mg/L	0.000203	0.001015	J
* Cobalt, Total	7/18/22 15:05	7/19/22 09:43		1.015	0.153	mg/L	0.000068	0.000203	
* Lead, Total	7/18/22 15:05	7/19/22 09:43		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	7/18/22 15:05	7/20/22 13:53		92.365	15.8	mg/L	0.013855	0.018473	
* Molybdenum, Total	7/18/22 15:05	7/19/22 09:43		1.015	0.000344	mg/L	0.000102	0.000203	
* Potassium, Total	7/18/22 15:05	7/19/22 09:43		1.015	6.26	mg/L	0.169505	0.5075	

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

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

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-13H

**Location Code:** WMWGORG  
**Collected:** 7/12/22 12:00  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12853

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	7/18/22 15:05	7/19/22 09:43		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	7/18/22 15:05	7/19/22 09:43		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	7/18/22 08:58	7/19/22 12:15		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	7/18/22 08:58	7/19/22 12:15		1.015	0.0168	mg/L	0.006090	0.01015	
* Arsenic, Dissolved	7/18/22 08:58	7/19/22 12:15		1.015	0.0859	mg/L	0.000081	0.000203	
* Barium, Dissolved	7/18/22 08:58	7/19/22 12:15		1.015	0.0219	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	7/18/22 08:58	7/19/22 12:15		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	7/18/22 08:58	7/19/22 12:15		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	7/18/22 08:58	7/19/22 12:15		1.015	0.000230	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	7/18/22 08:58	7/19/22 12:15		1.015	0.170	mg/L	0.000068	0.000203	
* Lead, Dissolved	7/18/22 08:58	7/19/22 12:15		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	7/18/22 08:58	7/20/22 12:12		92.365	16.4	mg/L	0.013855	0.018473	
* Molybdenum, Dissolved	7/18/22 08:58	7/19/22 12:15		1.015	0.000336	mg/L	0.000102	0.000203	
* Potassium, Dissolved	7/18/22 08:58	7/19/22 12:15		1.015	6.73	mg/L	0.169505	0.5075	
* Selenium, Dissolved	7/18/22 08:58	7/19/22 12:15		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	7/18/22 08:58	7/19/22 12:15		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	7/15/22 16:07	7/15/22 20:12		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: CES</b>							
* Nitrogen, Nitrate/Nitrite	7/19/22 14:05	7/19/22 14:05		1	0.314	mg/L as N	0.20	0.3	
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
Alkalinity, Total as CaCO3	7/19/22 13:28	7/19/22 15:01		1	140	mg/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	7/14/22 13:30	7/15/22 13:16		1	1360	mg/L		100	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
Bicarbonate Alkalinity, (calc.)	7/19/22 13:28	7/19/22 15:01		1	140	mg/L		1	A
Carbonate Alkalinity, (calc.)	7/19/22 13:28	7/19/22 15:01		1	Not Detected	mg/L		0.5	A
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	7/14/22 20:34	7/14/22 20:34		1	2.38	mg/L	1.00	2	

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

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

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-13H

**Location Code:** WMWGORG  
**Collected:** 7/12/22 12:00  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12853

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	7/20/22 09:02	7/20/22 09:02		1	10.8	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	7/20/22 12:11	7/20/22 12:11		1	0.207	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	7/19/22 12:15	7/19/22 12:15		40	857	mg/L	24.0	80	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: TJD</b>							
Conductivity	7/12/22 11:56	7/12/22 11:56			1580.5	uS/cm			FA
pH	7/12/22 11:56	7/12/22 11:56			5.82	SU			FA
Temperature	7/12/22 11:56	7/12/22 11:56			19.94	C			FA
Turbidity	7/12/22 11:56	7/12/22 11:56			9.94	NTU			FA
Sulfide	7/12/22 11:56	7/12/22 11:56			0	mg/L			FA

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

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

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/12/22 12:00  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - MW-13H

**Laboratory ID Number:** BC12853

Sample	Analysis	Units	MB	MB				Standard		Rec			Prec Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit	Prec	
BC12863	Aluminum, Dissolved	mg/L	0.000116	0.010	0.100	0.107	0.108	0.104	0.0850 to 0.115	107	70.0 to 130	0.930	20.0
BC12861	Aluminum, Total	mg/L	0.000319	0.010	0.100	18.2	18.9	0.104	0.0850 to 0.115	-400	70.0 to 130	3.77	20.0
BC12863	Antimony, Dissolved	mg/L	0.000265	0.00100	0.100	0.0950	0.0949	0.0890	0.0850 to 0.115	95.0	70.0 to 130	0.105	20.0
BC12861	Antimony, Total	mg/L	0.000312	0.00100	0.100	0.101	0.102	0.0939	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BC12863	Arsenic, Dissolved	mg/L	0.0000166	0.000176	0.100	0.106	0.108	0.103	0.0850 to 0.115	104	70.0 to 130	1.87	20.0
BC12861	Arsenic, Total	mg/L	0.0000069	0.000176	0.100	0.106	0.109	0.103	0.0850 to 0.115	101	70.0 to 130	2.79	20.0
BC12863	Barium, Dissolved	mg/L	-0.000033	0.00100	0.100	0.137	0.134	0.0964	0.0850 to 0.115	103	70.0 to 130	2.21	20.0
BC12861	Barium, Total	mg/L	-0.0000749	0.00100	0.100	0.110	0.110	0.0955	0.0850 to 0.115	101	70.0 to 130	0.00	20.0
BC12863	Beryllium, Dissolved	mg/L	0.0000386	0.000880	0.100	0.0949	0.0952	0.0951	0.0850 to 0.115	94.9	70.0 to 130	0.316	20.0
BC12861	Beryllium, Total	mg/L	0.0000247	0.000880	0.100	0.112	0.110	0.0974	0.0850 to 0.115	104	70.0 to 130	1.80	20.0
BC12862	Boron, Dissolved	mg/L	0.00411	0.0650	1.00	1.07	1.07	0.963	0.850 to 1.15	101	70.0 to 130	0.00	20.0
BC12861	Boron, Total	mg/L	-0.000693	0.0650	1.00	1.08	1.07	1.01	0.850 to 1.15	103	70.0 to 130	0.930	20.0
BC12863	Cadmium, Dissolved	mg/L	0.0000049	0.000147	0.100	0.103	0.0999	0.103	0.0850 to 0.115	103	70.0 to 130	3.06	20.0
BC12861	Cadmium, Total	mg/L	0.0000	0.000147	0.100	0.103	0.101	0.100	0.0850 to 0.115	103	70.0 to 130	1.96	20.0
BC12862	Calcium, Dissolved	mg/L	-0.0137	0.152	5.00	132	131	5.45	4.25 to 5.75	100	70.0 to 130	0.760	20.0
BC12861	Calcium, Total	mg/L	-0.0310	0.152	5.00	111	110	4.94	4.25 to 5.75	120	70.0 to 130	0.905	20.0
BC12861	Chloride	mg/L	0.0825	1.00	10.0	12.1	12.3	10.4	9.00 to 11.0	103	80.0 to 120	1.64	20.0
BC12863	Chromium, Dissolved	mg/L	-0.0000496	0.000440	0.100	0.103	0.102	0.102	0.0850 to 0.115	103	70.0 to 130	0.976	20.0
BC12861	Chromium, Total	mg/L	-0.0000122	0.000440	0.100	0.103	0.104	0.103	0.0850 to 0.115	101	70.0 to 130	0.966	20.0
BC12863	Cobalt, Dissolved	mg/L	-0.0000042	0.000147	0.100	0.106	0.106	0.105	0.0850 to 0.115	104	70.0 to 130	0.00	20.0
BC12861	Cobalt, Total	mg/L	-0.0000016	0.000147	0.100	0.230	0.229	0.104	0.0850 to 0.115	105	70.0 to 130	0.436	20.0
BC12857	Fluoride	mg/L	0.00152	0.125	2.50	2.79	2.95	2.62	2.25 to 2.75	99.6	80.0 to 120	5.57	20.0
BC12862	Iron, Dissolved	mg/L	-0.0002	0.0176	0.2	3.10	3.11	0.195	0.170 to 0.230	80.0	70.0 to 130	0.322	20.0
BC12861	Iron, Total	mg/L	0.000235	0.0176	0.2	13.8	13.7	0.200	0.170 to 0.230	200	70.0 to 130	0.727	20.0

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

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/12/22 12:00  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - MW-13H

**Laboratory ID Number:** BC12853

Sample	Analysis	Units	MB					Standard		Rec		Prec	Limit
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12863	Lead, Dissolved	mg/L	0.0000125	0.000147	0.100	0.110	0.111	0.108	0.0850 to 0.115	110	70.0 to 130	0.905	20.0
BC12861	Lead, Total	mg/L	0.0000058	0.000147	0.100	0.108	0.109	0.109	0.0850 to 0.115	108	70.0 to 130	0.922	20.0
BC12862	Lithium, Dissolved	mg/L	-0.000397	0.0154	0.200	0.299	0.296	0.195	0.170 to 0.230	107	70.0 to 130	1.01	20.0
BC12861	Lithium, Total	mg/L	-0.000367	0.0154	0.200	0.603	0.607	0.204	0.170 to 0.230	108	70.0 to 130	0.661	20.0
BC12862	Magnesium, Dissolved	mg/L	-0.00737	0.0462	5.00	58.3	57.9	4.80	4.25 to 5.75	98.0	70.0 to 130	0.688	20.0
BC12861	Magnesium, Total	mg/L	0.00801	0.0462	5.00	74.1	73.4	4.94	4.25 to 5.75	136	70.0 to 130	0.949	20.0
BC12863	Manganese, Dissolved	mg/L	0.000120	0.0002	0.100	1.06	1.05	0.102	0.0850 to 0.115	93.0	70.0 to 130	0.948	20.0
BC12861	Manganese, Total	mg/L	-0.0000273	0.0002	0.100	3.94	4.05	0.103	0.0850 to 0.115	0.00	70.0 to 130	2.75	20.0
BC12861	Mercury, Total by CVAA	mg/L	1.000E-05	0.000500	0.004	0.004	0.00397	0.00404	0.00340 to 0.00460	100	70.0 to 130	0.753	20.0
BC12863	Molybdenum, Dissolved	mg/L	0.000001	0.0002	0.100	0.103	0.102	0.100	0.0850 to 0.115	102	70.0 to 130	0.976	20.0
BC12861	Molybdenum, Total	mg/L	0.0000044	0.0002	0.100	0.0996	0.101	0.0990	0.0850 to 0.115	99.6	70.0 to 130	1.40	20.0
BC12863	Potassium, Dissolved	mg/L	0.0174	0.367	10.0	15.0	14.8	10.7	8.50 to 11.5	108	70.0 to 130	1.34	20.0
BC12861	Potassium, Total	mg/L	0.0116	0.367	10.0	11.4	13.0	10.4	8.50 to 11.5	86.2	70.0 to 130	13.1	20.0
BC12863	Selenium, Dissolved	mg/L	0.0000243	0.00100	0.100	0.103	0.106	0.105	0.0850 to 0.115	103	70.0 to 130	2.87	20.0
BC12861	Selenium, Total	mg/L	0.0000228	0.00100	0.100	0.107	0.108	0.106	0.0850 to 0.115	103	70.0 to 130	0.930	20.0
BC12862	Silicon, Dissolved	mg/L	0.000137	0.0440	1.00	11.0	11.1	0.959	0.850 to 1.15	90.0	70.0 to 130	0.905	20.0
BC12861	Silicon, Total	mg/L	0.000372	0.0440	1.00	21.9	21.9	1.04	0.850 to 1.15	120	70.0 to 130	0.00	20.0
BC12862	Sodium, Dissolved	mg/L	0.00136	0.0660	5.00	126	126	4.80	4.25 to 5.75	80.0	70.0 to 130	0.00	20.0
BC12861	Sodium, Total	mg/L	0.00321	0.0660	5.00	20.3	20.4	5.08	4.25 to 5.75	112	70.0 to 130	0.491	20.0
BC12861	Sulfate	mg/L	0.875	2.0	1600	2190	2250	19.5	18.0 to 22.0	101	80.0 to 120	2.70	20.0
BC12863	Thallium, Dissolved	mg/L	0.000006	0.000147	0.100	0.110	0.112	0.110	0.0850 to 0.115	110	70.0 to 130	1.80	20.0
BC12861	Thallium, Total	mg/L	0.0000049	0.000147	0.100	0.109	0.109	0.109	0.0850 to 0.115	109	70.0 to 130	0.00	20.0
BC12861	Total Organic Carbon	mg/L	0.201	1.00	10.0	10.9	10.9	9.79		97.4	80.0 to 120	0.00	20.0

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

## Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/12/22 12:00  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - MW-13H

**Laboratory ID Number:** BC12853

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC12864	Alkalinity, Total as CaCO3	mg/L					259	50.2	45.0 to 55.0			1.15	10.0
BC12861	Nitrogen, Nitrate/Nitrite	mg/L as N	0.09	0.200	2.00	2.32	0.193	1.90	1.80 to 2.20	116	90.0 to 110	0.00	15.0
BC12854	Solids, Dissolved	mg/L	1.00	25.0			1380	48.0	40.0 to 60.0			0.00	10.0

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

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-13H Dup

**Location Code:** WMWGORG  
**Collected:** 7/12/22 12:00  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12854

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Total	7/18/22 11:51	7/21/22 10:27		1.015	0.210	mg/L	0.030000	0.1015	
* Calcium, Total	7/18/22 11:51	7/22/22 11:51		10.15	181	mg/L	0.70035	4.06	
* Iron, Total	7/18/22 11:51	7/22/22 11:51		10.15	39.2	mg/L	0.08120	0.406	
* Lithium, Total	7/18/22 11:51	7/21/22 10:27		1.015	0.0462	mg/L	0.007105	0.01999956	
* Magnesium, Total	7/18/22 11:51	7/22/22 11:51		10.15	111	mg/L	0.21315	4.06	
Silica, Total (calc.)	7/18/22 11:51	7/21/22 10:27		1	24.4	mg/L			
Silicon, Total	7/18/22 11:51	7/21/22 10:27		1.015	11.4	mg/L	0.02030	0.25375	
* Sodium, Total	7/18/22 11:51	7/22/22 11:51		10.15	49.2	mg/L	0.3045	4.06	
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	7/19/22 11:38	7/19/22 12:19		1.015	0.210	mg/L	0.030000	0.1015	
* Calcium, Dissolved	7/19/22 11:38	7/19/22 14:45		10.15	191	mg/L	0.70035	4.06	
* Iron, Dissolved	7/19/22 11:38	7/19/22 16:39		101.5	39.6	mg/L	0.8120	4.06	
* Lithium, Dissolved	7/19/22 11:38	7/19/22 12:19		1.015	0.0452	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	7/19/22 11:38	7/19/22 14:45		10.15	115	mg/L	0.21315	4.06	
Silica, Dissolved (calc.)	7/19/22 11:38	7/19/22 12:19		1	23.1	mg/L			
Silicon, Dissolved	7/19/22 11:38	7/19/22 12:19		1.015	10.8	mg/L	0.02030	0.25375	
* Sodium, Dissolved	7/19/22 11:38	7/19/22 14:45		10.15	49.8	mg/L	0.3045	4.06	
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: DLJ</b>		<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	7/18/22 15:05	7/19/22 09:47		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/18/22 15:05	7/19/22 09:47		1.015	0.0176	mg/L	0.006090	0.01015	
* Arsenic, Total	7/18/22 15:05	7/19/22 09:47		1.015	0.0901	mg/L	0.000081	0.000203	
* Barium, Total	7/18/22 15:05	7/19/22 09:47		1.015	0.0206	mg/L	0.000508	0.001015	
* Beryllium, Total	7/18/22 15:05	7/19/22 09:47		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	7/18/22 15:05	7/19/22 09:47		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	7/18/22 15:05	7/19/22 09:47		1.015	0.000307	mg/L	0.000203	0.001015	J
* Cobalt, Total	7/18/22 15:05	7/19/22 09:47		1.015	0.154	mg/L	0.000068	0.000203	
* Lead, Total	7/18/22 15:05	7/19/22 09:47		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	7/18/22 15:05	7/20/22 13:57		92.365	15.6	mg/L	0.013855	0.018473	
* Molybdenum, Total	7/18/22 15:05	7/19/22 09:47		1.015	0.000301	mg/L	0.000102	0.000203	
* Potassium, Total	7/18/22 15:05	7/19/22 09:47		1.015	6.29	mg/L	0.169505	0.5075	

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

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



# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-13H Dup

**Location Code:** WMWGORG  
**Collected:** 7/12/22 12:00  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12854

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	7/18/22 15:05	7/19/22 09:47		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	7/18/22 15:05	7/19/22 09:47		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	7/18/22 08:58	7/19/22 12:19		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	7/18/22 08:58	7/19/22 12:19		1.015	0.0169	mg/L	0.006090	0.01015	
* Arsenic, Dissolved	7/18/22 08:58	7/19/22 12:19		1.015	0.0847	mg/L	0.000081	0.000203	
* Barium, Dissolved	7/18/22 08:58	7/19/22 12:19		1.015	0.0217	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	7/18/22 08:58	7/19/22 12:19		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	7/18/22 08:58	7/19/22 12:19		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	7/18/22 08:58	7/19/22 12:19		1.015	0.000230	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	7/18/22 08:58	7/19/22 12:19		1.015	0.168	mg/L	0.000068	0.000203	
* Lead, Dissolved	7/18/22 08:58	7/19/22 12:19		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	7/18/22 08:58	7/20/22 12:15		92.365	15.0	mg/L	0.013855	0.018473	
* Molybdenum, Dissolved	7/18/22 08:58	7/19/22 12:19		1.015	0.000352	mg/L	0.000102	0.000203	
* Potassium, Dissolved	7/18/22 08:58	7/19/22 12:19		1.015	6.74	mg/L	0.169505	0.5075	
* Selenium, Dissolved	7/18/22 08:58	7/19/22 12:19		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	7/18/22 08:58	7/19/22 12:19		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	7/15/22 16:07	7/15/22 20:16		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: CES</b>							
* Nitrogen, Nitrate/Nitrite	7/19/22 14:07	7/19/22 14:07		1	0.252	mg/L as N	0.20	0.3	J
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
Alkalinity, Total as CaCO3	7/19/22 13:28	7/19/22 15:01		1	123	mg/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	7/14/22 13:30	7/15/22 13:16		1	1380	mg/L		100	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
Bicarbonate Alkalinity, (calc.)	7/19/22 13:28	7/19/22 15:01		1	123	mg/L		1	A
Carbonate Alkalinity, (calc.)	7/19/22 13:28	7/19/22 15:01		1	Not Detected	mg/L		0.5	A
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	7/14/22 20:56	7/14/22 20:56		1	2.36	mg/L	1.00	2	

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

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

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-13H Dup

**Location Code:** WMWGORG  
**Collected:** 7/12/22 12:00  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12854

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	7/20/22 09:03	7/20/22 09:03		1	10.9	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	7/20/22 12:12	7/20/22 12:12		1	0.210	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	7/19/22 12:17	7/19/22 12:17		40	879	mg/L	24.0	80	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: TJD</b>							
Conductivity	7/12/22 11:56	7/12/22 11:56			1580.5	uS/cm			FA
pH	7/12/22 11:56	7/12/22 11:56			5.82	SU			FA
Temperature	7/12/22 11:56	7/12/22 11:56			19.94	C			FA
Turbidity	7/12/22 11:56	7/12/22 11:56			9.94	NTU			FA
Sulfide	7/12/22 11:56	7/12/22 11:56			0	mg/L			FA

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

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

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/12/22 12:00  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - MW-13H Dup

**Laboratory ID Number:** BC12854

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12863	Aluminum, Dissolved	mg/L	0.000116	0.010	0.100	0.107	0.108	0.104	0.0850 to 0.115	107	70.0 to 130	0.930	20.0
BC12861	Aluminum, Total	mg/L	0.000319	0.010	0.100	18.2	18.9	0.104	0.0850 to 0.115	-400	70.0 to 130	3.77	20.0
BC12863	Antimony, Dissolved	mg/L	0.000265	0.00100	0.100	0.0950	0.0949	0.0890	0.0850 to 0.115	95.0	70.0 to 130	0.105	20.0
BC12861	Antimony, Total	mg/L	0.000312	0.00100	0.100	0.101	0.102	0.0939	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BC12863	Arsenic, Dissolved	mg/L	0.0000166	0.000176	0.100	0.106	0.108	0.103	0.0850 to 0.115	104	70.0 to 130	1.87	20.0
BC12861	Arsenic, Total	mg/L	0.0000069	0.000176	0.100	0.106	0.109	0.103	0.0850 to 0.115	101	70.0 to 130	2.79	20.0
BC12863	Barium, Dissolved	mg/L	-0.000033	0.00100	0.100	0.137	0.134	0.0964	0.0850 to 0.115	103	70.0 to 130	2.21	20.0
BC12861	Barium, Total	mg/L	-0.0000749	0.00100	0.100	0.110	0.110	0.0955	0.0850 to 0.115	101	70.0 to 130	0.00	20.0
BC12863	Beryllium, Dissolved	mg/L	0.0000386	0.000880	0.100	0.0949	0.0952	0.0951	0.0850 to 0.115	94.9	70.0 to 130	0.316	20.0
BC12861	Beryllium, Total	mg/L	0.0000247	0.000880	0.100	0.112	0.110	0.0974	0.0850 to 0.115	104	70.0 to 130	1.80	20.0
BC12862	Boron, Dissolved	mg/L	0.00411	0.0650	1.00	1.07	1.07	0.963	0.850 to 1.15	101	70.0 to 130	0.00	20.0
BC12861	Boron, Total	mg/L	-0.000693	0.0650	1.00	1.08	1.07	1.01	0.850 to 1.15	103	70.0 to 130	0.930	20.0
BC12863	Cadmium, Dissolved	mg/L	0.0000049	0.000147	0.100	0.103	0.0999	0.103	0.0850 to 0.115	103	70.0 to 130	3.06	20.0
BC12861	Cadmium, Total	mg/L	0.0000	0.000147	0.100	0.103	0.101	0.100	0.0850 to 0.115	103	70.0 to 130	1.96	20.0
BC12862	Calcium, Dissolved	mg/L	-0.0137	0.152	5.00	132	131	5.45	4.25 to 5.75	100	70.0 to 130	0.760	20.0
BC12861	Calcium, Total	mg/L	-0.0310	0.152	5.00	111	110	4.94	4.25 to 5.75	120	70.0 to 130	0.905	20.0
BC12861	Chloride	mg/L	0.0825	1.00	10.0	12.1	12.3	10.4	9.00 to 11.0	103	80.0 to 120	1.64	20.0
BC12863	Chromium, Dissolved	mg/L	-0.0000496	0.000440	0.100	0.103	0.102	0.102	0.0850 to 0.115	103	70.0 to 130	0.976	20.0
BC12861	Chromium, Total	mg/L	-0.0000122	0.000440	0.100	0.103	0.104	0.103	0.0850 to 0.115	101	70.0 to 130	0.966	20.0
BC12863	Cobalt, Dissolved	mg/L	-0.0000042	0.000147	0.100	0.106	0.106	0.105	0.0850 to 0.115	104	70.0 to 130	0.00	20.0
BC12861	Cobalt, Total	mg/L	-0.0000016	0.000147	0.100	0.230	0.229	0.104	0.0850 to 0.115	105	70.0 to 130	0.436	20.0
BC12857	Fluoride	mg/L	0.00152	0.125	2.50	2.79	2.95	2.62	2.25 to 2.75	99.6	80.0 to 120	5.57	20.0
BC12862	Iron, Dissolved	mg/L	-0.0002	0.0176	0.2	3.10	3.11	0.195	0.170 to 0.230	80.0	70.0 to 130	0.322	20.0
BC12861	Iron, Total	mg/L	0.000235	0.0176	0.2	13.8	13.7	0.200	0.170 to 0.230	200	70.0 to 130	0.727	20.0

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

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/12/22 12:00  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - MW-13H Dup

**Laboratory ID Number:** BC12854

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12863	Lead, Dissolved	mg/L	0.0000125	0.000147	0.100	0.110	0.111	0.108	0.0850 to 0.115	110	70.0 to 130	0.905	20.0
BC12861	Lead, Total	mg/L	0.0000058	0.000147	0.100	0.108	0.109	0.109	0.0850 to 0.115	108	70.0 to 130	0.922	20.0
BC12862	Lithium, Dissolved	mg/L	-0.000397	0.0154	0.200	0.299	0.296	0.195	0.170 to 0.230	107	70.0 to 130	1.01	20.0
BC12861	Lithium, Total	mg/L	-0.000367	0.0154	0.200	0.603	0.607	0.204	0.170 to 0.230	108	70.0 to 130	0.661	20.0
BC12862	Magnesium, Dissolved	mg/L	-0.00737	0.0462	5.00	58.3	57.9	4.80	4.25 to 5.75	98.0	70.0 to 130	0.688	20.0
BC12861	Magnesium, Total	mg/L	0.00801	0.0462	5.00	74.1	73.4	4.94	4.25 to 5.75	136	70.0 to 130	0.949	20.0
BC12863	Manganese, Dissolved	mg/L	0.000120	0.0002	0.100	1.06	1.05	0.102	0.0850 to 0.115	93.0	70.0 to 130	0.948	20.0
BC12861	Manganese, Total	mg/L	-0.0000273	0.0002	0.100	3.94	4.05	0.103	0.0850 to 0.115	0.00	70.0 to 130	2.75	20.0
BC12861	Mercury, Total by CVAA	mg/L	1.000E-05	0.000500	0.004	0.004	0.00397	0.00404	0.00340 to 0.00460	100	70.0 to 130	0.753	20.0
BC12863	Molybdenum, Dissolved	mg/L	0.000001	0.0002	0.100	0.103	0.102	0.100	0.0850 to 0.115	102	70.0 to 130	0.976	20.0
BC12861	Molybdenum, Total	mg/L	0.0000044	0.0002	0.100	0.0996	0.101	0.0990	0.0850 to 0.115	99.6	70.0 to 130	1.40	20.0
BC12863	Potassium, Dissolved	mg/L	0.0174	0.367	10.0	15.0	14.8	10.7	8.50 to 11.5	108	70.0 to 130	1.34	20.0
BC12861	Potassium, Total	mg/L	0.0116	0.367	10.0	11.4	13.0	10.4	8.50 to 11.5	86.2	70.0 to 130	13.1	20.0
BC12863	Selenium, Dissolved	mg/L	0.0000243	0.00100	0.100	0.103	0.106	0.105	0.0850 to 0.115	103	70.0 to 130	2.87	20.0
BC12861	Selenium, Total	mg/L	0.0000228	0.00100	0.100	0.107	0.108	0.106	0.0850 to 0.115	103	70.0 to 130	0.930	20.0
BC12862	Silicon, Dissolved	mg/L	0.000137	0.0440	1.00	11.0	11.1	0.959	0.850 to 1.15	90.0	70.0 to 130	0.905	20.0
BC12861	Silicon, Total	mg/L	0.000372	0.0440	1.00	21.9	21.9	1.04	0.850 to 1.15	120	70.0 to 130	0.00	20.0
BC12862	Sodium, Dissolved	mg/L	0.00136	0.0660	5.00	126	126	4.80	4.25 to 5.75	80.0	70.0 to 130	0.00	20.0
BC12861	Sodium, Total	mg/L	0.00321	0.0660	5.00	20.3	20.4	5.08	4.25 to 5.75	112	70.0 to 130	0.491	20.0
BC12861	Sulfate	mg/L	0.875	2.0	1600	2190	2250	19.5	18.0 to 22.0	101	80.0 to 120	2.70	20.0
BC12863	Thallium, Dissolved	mg/L	0.000006	0.000147	0.100	0.110	0.112	0.110	0.0850 to 0.115	110	70.0 to 130	1.80	20.0
BC12861	Thallium, Total	mg/L	0.0000049	0.000147	0.100	0.109	0.109	0.109	0.0850 to 0.115	109	70.0 to 130	0.00	20.0
BC12861	Total Organic Carbon	mg/L	0.201	1.00	10.0	10.9	10.9	9.79		97.4	80.0 to 120	0.00	20.0

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

## Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/12/22 12:00  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - MW-13H Dup

**Laboratory ID Number:** BC12854

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC12864	Alkalinity, Total as CaCO3	mg/L					259	50.2	45.0 to 55.0			1.15	10.0
BC12861	Nitrogen, Nitrate/Nitrite	mg/L as N	0.09	0.200	2.00	2.32	0.193	1.90	1.80 to 2.20	116	90.0 to 110	0.00	15.0
BC12854	Solids, Dissolved	mg/L	1.00	25.0			1380	48.0	40.0 to 60.0			0.00	10.0

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

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-9H

**Location Code:** WMWGORG  
**Collected:** 7/12/22 13:18  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12855

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Total	7/18/22 11:51	7/21/22 10:30		1.015	5.04	mg/L	0.030000	0.1015	
* Calcium, Total	7/18/22 11:51	7/22/22 11:55		10.15	311	mg/L	0.70035	4.06	
* Iron, Total	7/18/22 11:51	7/22/22 11:55		10.15	16.4	mg/L	0.08120	0.406	
* Lithium, Total	7/18/22 11:51	7/21/22 10:30		1.015	0.124	mg/L	0.007105	0.01999956	
* Magnesium, Total	7/18/22 11:51	7/22/22 11:55		10.15	209	mg/L	0.21315	4.06	
Silica, Total (calc.)	7/18/22 11:51	7/21/22 10:30		1	20.5	mg/L			
Silicon, Total	7/18/22 11:51	7/21/22 10:30		1.015	9.60	mg/L	0.02030	0.25375	
* Sodium, Total	7/18/22 11:51	7/22/22 11:55		10.15	128	mg/L	0.3045	4.06	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	7/19/22 11:38	7/19/22 12:22		1.015	4.80	mg/L	0.030000	0.1015	
* Calcium, Dissolved	7/19/22 11:38	7/19/22 14:48		10.15	332	mg/L	0.70035	4.06	
* Iron, Dissolved	7/19/22 11:38	7/19/22 14:48		10.15	17.4	mg/L	0.08120	0.406	
* Lithium, Dissolved	7/19/22 11:38	7/19/22 12:22		1.015	0.126	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	7/19/22 11:38	7/19/22 14:48		10.15	217	mg/L	0.21315	4.06	
Silica, Dissolved (calc.)	7/19/22 11:38	7/19/22 12:22		1	19.8	mg/L			
Silicon, Dissolved	7/19/22 11:38	7/19/22 12:22		1.015	9.26	mg/L	0.02030	0.25375	
* Sodium, Dissolved	7/19/22 11:38	7/19/22 14:48		10.15	133	mg/L	0.3045	4.06	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>			<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	7/18/22 15:05	7/19/22 09:50		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/18/22 15:05	7/19/22 09:50		1.015	0.182	mg/L	0.006090	0.01015	
* Arsenic, Total	7/18/22 15:05	7/19/22 09:50		1.015	0.000982	mg/L	0.000081	0.000203	
* Barium, Total	7/18/22 15:05	7/19/22 09:50		1.015	0.0134	mg/L	0.000508	0.001015	
* Beryllium, Total	7/18/22 15:05	7/19/22 09:50		1.015	0.000599	mg/L	0.000406	0.001015	J
* Cadmium, Total	7/18/22 15:05	7/19/22 09:50		1.015	0.000309	mg/L	0.000068	0.000203	
* Chromium, Total	7/18/22 15:05	7/19/22 09:50		1.015	0.000265	mg/L	0.000203	0.001015	J
* Cobalt, Total	7/18/22 15:05	7/19/22 09:50		1.015	0.148	mg/L	0.000068	0.000203	
* Lead, Total	7/18/22 15:05	7/19/22 09:50		1.015	0.000110	mg/L	0.000068	0.000203	J
* Manganese, Total	7/18/22 15:05	7/20/22 14:00		92.365	20.3	mg/L	0.013855	0.018473	
* Molybdenum, Total	7/18/22 15:05	7/19/22 09:50		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Potassium, Total	7/18/22 15:05	7/19/22 09:50		1.015	7.58	mg/L	0.169505	0.5075	

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

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

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-9H

**Location Code:** WMWGORG  
**Collected:** 7/12/22 13:18  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12855

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	7/18/22 15:05	7/19/22 09:50		1.015	0.000944	mg/L	0.000508	0.001015	J
* Thallium, Total	7/18/22 15:05	7/19/22 09:50		1.015	0.000242	mg/L	0.000068	0.000203	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	7/18/22 08:58	7/19/22 12:23		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	7/18/22 08:58	7/19/22 12:23		1.015	0.188	mg/L	0.006090	0.01015	
* Arsenic, Dissolved	7/18/22 08:58	7/19/22 12:23		1.015	0.000996	mg/L	0.000081	0.000203	
* Barium, Dissolved	7/18/22 08:58	7/19/22 12:23		1.015	0.0128	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	7/18/22 08:58	7/19/22 12:23		1.015	0.000678	mg/L	0.000406	0.001015	J
* Cadmium, Dissolved	7/18/22 08:58	7/19/22 12:23		1.015	0.000267	mg/L	0.000068	0.000203	
* Chromium, Dissolved	7/18/22 08:58	7/19/22 12:23		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	7/18/22 08:58	7/19/22 12:23		1.015	0.153	mg/L	0.000068	0.000203	
* Lead, Dissolved	7/18/22 08:58	7/19/22 12:23		1.015	0.000123	mg/L	0.000068	0.000203	J
* Manganese, Dissolved	7/18/22 08:58	7/20/22 12:19		92.365	20.1	mg/L	0.013855	0.018473	
* Molybdenum, Dissolved	7/18/22 08:58	7/19/22 12:23		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Potassium, Dissolved	7/18/22 08:58	7/19/22 12:23		1.015	7.92	mg/L	0.169505	0.5075	
* Selenium, Dissolved	7/18/22 08:58	7/19/22 12:23		1.015	0.000972	mg/L	0.000508	0.001015	J
* Thallium, Dissolved	7/18/22 08:58	7/19/22 12:23		1.015	0.000240	mg/L	0.000068	0.000203	
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	7/15/22 16:07	7/15/22 20:20		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: CES</b>							
* Nitrogen, Nitrate/Nitrite	7/19/22 14:09	7/19/22 14:09		1	0.210	mg/L as N	0.20	0.3	J
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
Alkalinity, Total as CaCO3	7/19/22 13:28	7/19/22 15:01		1	54.6	mg/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	7/14/22 13:30	7/15/22 13:16		1	2610	mg/L		147.1	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
Bicarbonate Alkalinity, (calc.)	7/19/22 13:28	7/19/22 15:01		1	54.6	mg/L		1	A
Carbonate Alkalinity, (calc.)	7/19/22 13:28	7/19/22 15:01		1	Not Detected	mg/L		0.5	A
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	7/14/22 21:21	7/14/22 21:21		1	1.15	mg/L	1.00	2	J

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

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

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-9H

**Location Code:** WMWGORG  
**Collected:** 7/12/22 13:18  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12855

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	7/20/22 09:15	7/20/22 09:15		4	51.9	mg/L	2.00	4	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	7/20/22 12:13	7/20/22 12:13		1	0.191	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	7/19/22 12:18	7/19/22 12:18		80	1720	mg/L	48.0	160	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: TJD</b>							
Conductivity	7/12/22 13:15	7/12/22 13:15			2796.05	uS/cm			FA
pH	7/12/22 13:15	7/12/22 13:15			5.30	SU			FA
Temperature	7/12/22 13:15	7/12/22 13:15			22.14	C			FA
Turbidity	7/12/22 13:15	7/12/22 13:15			2.2	NTU			FA
Sulfide	7/12/22 13:15	7/12/22 13:15			0	mg/L			FA

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

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



# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/12/22 13:18  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - MW-9H

**Laboratory ID Number:** BC12855

Sample	Analysis	Units	MB	MB				Standard		Rec			Prec Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit	Prec	
BC12863	Aluminum, Dissolved	mg/L	0.000116	0.010	0.100	0.107	0.108	0.104	0.0850 to 0.115	107	70.0 to 130	0.930	20.0
BC12861	Aluminum, Total	mg/L	0.000319	0.010	0.100	18.2	18.9	0.104	0.0850 to 0.115	-400	70.0 to 130	3.77	20.0
BC12863	Antimony, Dissolved	mg/L	0.000265	0.00100	0.100	0.0950	0.0949	0.0890	0.0850 to 0.115	95.0	70.0 to 130	0.105	20.0
BC12861	Antimony, Total	mg/L	0.000312	0.00100	0.100	0.101	0.102	0.0939	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BC12863	Arsenic, Dissolved	mg/L	0.0000166	0.000176	0.100	0.106	0.108	0.103	0.0850 to 0.115	104	70.0 to 130	1.87	20.0
BC12861	Arsenic, Total	mg/L	0.0000069	0.000176	0.100	0.106	0.109	0.103	0.0850 to 0.115	101	70.0 to 130	2.79	20.0
BC12863	Barium, Dissolved	mg/L	-0.000033	0.00100	0.100	0.137	0.134	0.0964	0.0850 to 0.115	103	70.0 to 130	2.21	20.0
BC12861	Barium, Total	mg/L	-0.0000749	0.00100	0.100	0.110	0.110	0.0955	0.0850 to 0.115	101	70.0 to 130	0.00	20.0
BC12863	Beryllium, Dissolved	mg/L	0.0000386	0.000880	0.100	0.0949	0.0952	0.0951	0.0850 to 0.115	94.9	70.0 to 130	0.316	20.0
BC12861	Beryllium, Total	mg/L	0.0000247	0.000880	0.100	0.112	0.110	0.0974	0.0850 to 0.115	104	70.0 to 130	1.80	20.0
BC12862	Boron, Dissolved	mg/L	0.00411	0.0650	1.00	1.07	1.07	0.963	0.850 to 1.15	101	70.0 to 130	0.00	20.0
BC12861	Boron, Total	mg/L	-0.000693	0.0650	1.00	1.08	1.07	1.01	0.850 to 1.15	103	70.0 to 130	0.930	20.0
BC12863	Cadmium, Dissolved	mg/L	0.0000049	0.000147	0.100	0.103	0.0999	0.103	0.0850 to 0.115	103	70.0 to 130	3.06	20.0
BC12861	Cadmium, Total	mg/L	0.0000	0.000147	0.100	0.103	0.101	0.100	0.0850 to 0.115	103	70.0 to 130	1.96	20.0
BC12862	Calcium, Dissolved	mg/L	-0.0137	0.152	5.00	132	131	5.45	4.25 to 5.75	100	70.0 to 130	0.760	20.0
BC12861	Calcium, Total	mg/L	-0.0310	0.152	5.00	111	110	4.94	4.25 to 5.75	120	70.0 to 130	0.905	20.0
BC12861	Chloride	mg/L	0.0825	1.00	10.0	12.1	12.3	10.4	9.00 to 11.0	103	80.0 to 120	1.64	20.0
BC12863	Chromium, Dissolved	mg/L	-0.0000496	0.000440	0.100	0.103	0.102	0.102	0.0850 to 0.115	103	70.0 to 130	0.976	20.0
BC12861	Chromium, Total	mg/L	-0.0000122	0.000440	0.100	0.103	0.104	0.103	0.0850 to 0.115	101	70.0 to 130	0.966	20.0
BC12863	Cobalt, Dissolved	mg/L	-0.0000042	0.000147	0.100	0.106	0.106	0.105	0.0850 to 0.115	104	70.0 to 130	0.00	20.0
BC12861	Cobalt, Total	mg/L	-0.0000016	0.000147	0.100	0.230	0.229	0.104	0.0850 to 0.115	105	70.0 to 130	0.436	20.0
BC12857	Fluoride	mg/L	0.00152	0.125	2.50	2.79	2.95	2.62	2.25 to 2.75	99.6	80.0 to 120	5.57	20.0
BC12862	Iron, Dissolved	mg/L	-0.0002	0.0176	0.2	3.10	3.11	0.195	0.170 to 0.230	80.0	70.0 to 130	0.322	20.0
BC12861	Iron, Total	mg/L	0.000235	0.0176	0.2	13.8	13.7	0.200	0.170 to 0.230	200	70.0 to 130	0.727	20.0

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

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/12/22 13:18  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - MW-9H

**Laboratory ID Number:** BC12855

Sample	Analysis	Units	MB					Standard		Rec		Prec	Limit
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12863	Lead, Dissolved	mg/L	0.0000125	0.000147	0.100	0.110	0.111	0.108	0.0850 to 0.115	110	70.0 to 130	0.905	20.0
BC12861	Lead, Total	mg/L	0.0000058	0.000147	0.100	0.108	0.109	0.109	0.0850 to 0.115	108	70.0 to 130	0.922	20.0
BC12862	Lithium, Dissolved	mg/L	-0.000397	0.0154	0.200	0.299	0.296	0.195	0.170 to 0.230	107	70.0 to 130	1.01	20.0
BC12861	Lithium, Total	mg/L	-0.000367	0.0154	0.200	0.603	0.607	0.204	0.170 to 0.230	108	70.0 to 130	0.661	20.0
BC12862	Magnesium, Dissolved	mg/L	-0.00737	0.0462	5.00	58.3	57.9	4.80	4.25 to 5.75	98.0	70.0 to 130	0.688	20.0
BC12861	Magnesium, Total	mg/L	0.00801	0.0462	5.00	74.1	73.4	4.94	4.25 to 5.75	136	70.0 to 130	0.949	20.0
BC12863	Manganese, Dissolved	mg/L	0.000120	0.0002	0.100	1.06	1.05	0.102	0.0850 to 0.115	93.0	70.0 to 130	0.948	20.0
BC12861	Manganese, Total	mg/L	-0.0000273	0.0002	0.100	3.94	4.05	0.103	0.0850 to 0.115	0.00	70.0 to 130	2.75	20.0
BC12861	Mercury, Total by CVAA	mg/L	1.000E-05	0.000500	0.004	0.004	0.00397	0.00404	0.00340 to 0.00460	100	70.0 to 130	0.753	20.0
BC12863	Molybdenum, Dissolved	mg/L	0.000001	0.0002	0.100	0.103	0.102	0.100	0.0850 to 0.115	102	70.0 to 130	0.976	20.0
BC12861	Molybdenum, Total	mg/L	0.0000044	0.0002	0.100	0.0996	0.101	0.0990	0.0850 to 0.115	99.6	70.0 to 130	1.40	20.0
BC12863	Potassium, Dissolved	mg/L	0.0174	0.367	10.0	15.0	14.8	10.7	8.50 to 11.5	108	70.0 to 130	1.34	20.0
BC12861	Potassium, Total	mg/L	0.0116	0.367	10.0	11.4	13.0	10.4	8.50 to 11.5	86.2	70.0 to 130	13.1	20.0
BC12863	Selenium, Dissolved	mg/L	0.0000243	0.00100	0.100	0.103	0.106	0.105	0.0850 to 0.115	103	70.0 to 130	2.87	20.0
BC12861	Selenium, Total	mg/L	0.0000228	0.00100	0.100	0.107	0.108	0.106	0.0850 to 0.115	103	70.0 to 130	0.930	20.0
BC12862	Silicon, Dissolved	mg/L	0.000137	0.0440	1.00	11.0	11.1	0.959	0.850 to 1.15	90.0	70.0 to 130	0.905	20.0
BC12861	Silicon, Total	mg/L	0.000372	0.0440	1.00	21.9	21.9	1.04	0.850 to 1.15	120	70.0 to 130	0.00	20.0
BC12862	Sodium, Dissolved	mg/L	0.00136	0.0660	5.00	126	126	4.80	4.25 to 5.75	80.0	70.0 to 130	0.00	20.0
BC12861	Sodium, Total	mg/L	0.00321	0.0660	5.00	20.3	20.4	5.08	4.25 to 5.75	112	70.0 to 130	0.491	20.0
BC12861	Sulfate	mg/L	0.875	2.0	1600	2190	2250	19.5	18.0 to 22.0	101	80.0 to 120	2.70	20.0
BC12863	Thallium, Dissolved	mg/L	0.000006	0.000147	0.100	0.110	0.112	0.110	0.0850 to 0.115	110	70.0 to 130	1.80	20.0
BC12861	Thallium, Total	mg/L	0.0000049	0.000147	0.100	0.109	0.109	0.109	0.0850 to 0.115	109	70.0 to 130	0.00	20.0
BC12861	Total Organic Carbon	mg/L	0.201	1.00	10.0	10.9	10.9	9.79		97.4	80.0 to 120	0.00	20.0

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

## Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/12/22 13:18  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - MW-9H

**Laboratory ID Number:** BC12855

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Limit	Prec	Limit
BC12864	Alkalinity, Total as CaCO3	mg/L					259	50.2	45.0 to 55.0			1.15	10.0
BC12861	Nitrogen, Nitrate/Nitrite	mg/L as N	0.09	0.200	2.00	2.32	0.193	1.90	1.80 to 2.20	116	90.0 to 110	0.00	15.0
BC12871	Solids, Dissolved	mg/L	1.00	25.0			3120	48.0	40.0 to 60.0			0.966	10.0

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

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-9V

**Location Code:** WMWGORG  
**Collected:** 7/12/22 14:47  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12856

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Total	7/18/22 11:51	7/21/22 10:33		1.015	0.118	mg/L	0.030000	0.1015	
* Calcium, Total	7/18/22 11:51	7/22/22 11:58		101.5	460	mg/L	7.0035	40.6	
* Iron, Total	7/18/22 11:51	7/21/22 10:33		1.015	1.18	mg/L	0.008120	0.0406	
* Lithium, Total	7/18/22 11:51	7/21/22 10:33		1.015	0.338	mg/L	0.007105	0.01999956	
* Magnesium, Total	7/18/22 11:51	7/22/22 11:58		101.5	185	mg/L	2.1315	40.6	
Silica, Total (calc.)	7/18/22 11:51	7/21/22 10:33		1	29.7	mg/L			
Silicon, Total	7/18/22 11:51	7/21/22 10:33		1.015	13.9	mg/L	0.02030	0.25375	
* Sodium, Total	7/18/22 11:51	7/22/22 11:58		101.5	301	mg/L	3.045	40.6	
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	7/19/22 11:38	7/19/22 12:25		1.015	0.133	mg/L	0.030000	0.1015	
* Calcium, Dissolved	7/19/22 11:38	7/19/22 14:55		101.5	427	mg/L	7.0035	40.6	
* Iron, Dissolved	7/19/22 11:38	7/19/22 12:25		1.015	1.03	mg/L	0.008120	0.0406	
* Lithium, Dissolved	7/19/22 11:38	7/19/22 12:25		1.015	0.314	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	7/19/22 11:38	7/19/22 14:55		101.5	163	mg/L	2.1315	40.6	
Silica, Dissolved (calc.)	7/19/22 11:38	7/19/22 12:25		1	25.9	mg/L			
Silicon, Dissolved	7/19/22 11:38	7/19/22 12:25		1.015	12.1	mg/L	0.02030	0.25375	
* Sodium, Dissolved	7/19/22 11:38	7/19/22 14:55		101.5	279	mg/L	3.045	40.6	
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: DLJ</b>		<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	7/18/22 15:05	7/19/22 09:54		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/18/22 15:05	7/19/22 09:54		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Total	7/18/22 15:05	7/19/22 09:54		1.015	0.00137	mg/L	0.000081	0.000203	
* Barium, Total	7/18/22 15:05	7/19/22 09:54		1.015	0.0120	mg/L	0.000508	0.001015	
* Beryllium, Total	7/18/22 15:05	7/19/22 09:54		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	7/18/22 15:05	7/19/22 09:54		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	7/18/22 15:05	7/19/22 09:54		1.015	0.000313	mg/L	0.000203	0.001015	J
* Cobalt, Total	7/18/22 15:05	7/19/22 09:54		1.015	0.000425	mg/L	0.000068	0.000203	
* Lead, Total	7/18/22 15:05	7/19/22 09:54		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	7/18/22 15:05	7/20/22 14:04		5.075	1.39	mg/L	0.000761	0.001015	
* Molybdenum, Total	7/18/22 15:05	7/19/22 09:54		1.015	0.000457	mg/L	0.000102	0.000203	
* Potassium, Total	7/18/22 15:05	7/19/22 09:54		1.015	7.51	mg/L	0.169505	0.5075	

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

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

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-9V

**Location Code:** WMWGORG  
**Collected:** 7/12/22 14:47  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12856

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	7/18/22 15:05	7/19/22 09:54		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	7/18/22 15:05	7/19/22 09:54		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	7/18/22 08:58	7/19/22 12:26		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	7/18/22 08:58	7/19/22 12:26		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Dissolved	7/18/22 08:58	7/19/22 12:26		1.015	0.00184	mg/L	0.000081	0.000203	
* Barium, Dissolved	7/18/22 08:58	7/19/22 12:26		1.015	0.0150	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	7/18/22 08:58	7/19/22 12:26		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	7/18/22 08:58	7/19/22 12:26		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	7/18/22 08:58	7/19/22 12:26		1.015	0.000302	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	7/18/22 08:58	7/19/22 12:26		1.015	0.000533	mg/L	0.000068	0.000203	
* Lead, Dissolved	7/18/22 08:58	7/19/22 12:26		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	7/18/22 08:58	7/19/22 12:26		1.015	1.25	mg/L	0.000152	0.000203	
* Molybdenum, Dissolved	7/18/22 08:58	7/19/22 12:26		1.015	0.000492	mg/L	0.000102	0.000203	
* Potassium, Dissolved	7/18/22 08:58	7/19/22 12:26		1.015	8.16	mg/L	0.169505	0.5075	
* Selenium, Dissolved	7/18/22 08:58	7/19/22 12:26		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	7/18/22 08:58	7/19/22 12:26		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	7/15/22 16:07	7/15/22 20:24		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: CES</b>							
* Nitrogen, Nitrate/Nitrite	7/19/22 14:11	7/19/22 14:11		1	0.345	mg/L as N	0.20	0.3	
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
Alkalinity, Total as CaCO3	7/19/22 13:28	7/19/22 15:01		1	371	mg/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	7/14/22 13:30	7/15/22 13:16		1	2940	mg/L		178.6	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
Bicarbonate Alkalinity, (calc.)	7/19/22 13:28	7/19/22 15:01		1	370	mg/L		1	A
Carbonate Alkalinity, (calc.)	7/19/22 13:28	7/19/22 15:01		1	0.70	mg/L		0.5	A
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	7/14/22 21:45	7/14/22 21:45		1	1.22	mg/L	1.00	2	J

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

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

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-9V

**Location Code:** WMWGORG  
**Collected:** 7/12/22 14:47  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12856

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	7/20/22 09:16	7/20/22 09:16		4	62.5	mg/L	2.00	4	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	7/20/22 12:14	7/20/22 12:14		1	0.165	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	7/19/22 12:19	7/19/22 12:19		80	1780	mg/L	48.0	160	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: TJD</b>							
Conductivity	7/12/22 14:43	7/12/22 14:43			3386.34	uS/cm			FA
pH	7/12/22 14:43	7/12/22 14:43			6.79	SU			FA
Temperature	7/12/22 14:43	7/12/22 14:43			24.41	C			FA
Turbidity	7/12/22 14:43	7/12/22 14:43			0.36	NTU			FA
Sulfide	7/12/22 14:43	7/12/22 14:43			0	mg/L			FA

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

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

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/12/22 14:47  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - MW-9V

**Laboratory ID Number:** BC12856

Sample	Analysis	Units	MB	MB				Standard		Rec			Prec Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit	Prec	
BC12863	Aluminum, Dissolved	mg/L	0.000116	0.010	0.100	0.107	0.108	0.104	0.0850 to 0.115	107	70.0 to 130	0.930	20.0
BC12861	Aluminum, Total	mg/L	0.000319	0.010	0.100	18.2	18.9	0.104	0.0850 to 0.115	-400	70.0 to 130	3.77	20.0
BC12863	Antimony, Dissolved	mg/L	0.000265	0.00100	0.100	0.0950	0.0949	0.0890	0.0850 to 0.115	95.0	70.0 to 130	0.105	20.0
BC12861	Antimony, Total	mg/L	0.000312	0.00100	0.100	0.101	0.102	0.0939	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BC12863	Arsenic, Dissolved	mg/L	0.0000166	0.000176	0.100	0.106	0.108	0.103	0.0850 to 0.115	104	70.0 to 130	1.87	20.0
BC12861	Arsenic, Total	mg/L	0.0000069	0.000176	0.100	0.106	0.109	0.103	0.0850 to 0.115	101	70.0 to 130	2.79	20.0
BC12863	Barium, Dissolved	mg/L	-0.000033	0.00100	0.100	0.137	0.134	0.0964	0.0850 to 0.115	103	70.0 to 130	2.21	20.0
BC12861	Barium, Total	mg/L	-0.0000749	0.00100	0.100	0.110	0.110	0.0955	0.0850 to 0.115	101	70.0 to 130	0.00	20.0
BC12863	Beryllium, Dissolved	mg/L	0.0000386	0.000880	0.100	0.0949	0.0952	0.0951	0.0850 to 0.115	94.9	70.0 to 130	0.316	20.0
BC12861	Beryllium, Total	mg/L	0.0000247	0.000880	0.100	0.112	0.110	0.0974	0.0850 to 0.115	104	70.0 to 130	1.80	20.0
BC12862	Boron, Dissolved	mg/L	0.00411	0.0650	1.00	1.07	1.07	0.963	0.850 to 1.15	101	70.0 to 130	0.00	20.0
BC12861	Boron, Total	mg/L	-0.000693	0.0650	1.00	1.08	1.07	1.01	0.850 to 1.15	103	70.0 to 130	0.930	20.0
BC12863	Cadmium, Dissolved	mg/L	0.0000049	0.000147	0.100	0.103	0.0999	0.103	0.0850 to 0.115	103	70.0 to 130	3.06	20.0
BC12861	Cadmium, Total	mg/L	0.0000	0.000147	0.100	0.103	0.101	0.100	0.0850 to 0.115	103	70.0 to 130	1.96	20.0
BC12862	Calcium, Dissolved	mg/L	-0.0137	0.152	5.00	132	131	5.45	4.25 to 5.75	100	70.0 to 130	0.760	20.0
BC12861	Calcium, Total	mg/L	-0.0310	0.152	5.00	111	110	4.94	4.25 to 5.75	120	70.0 to 130	0.905	20.0
BC12861	Chloride	mg/L	0.0825	1.00	10.0	12.1	12.3	10.4	9.00 to 11.0	103	80.0 to 120	1.64	20.0
BC12863	Chromium, Dissolved	mg/L	-0.0000496	0.000440	0.100	0.103	0.102	0.102	0.0850 to 0.115	103	70.0 to 130	0.976	20.0
BC12861	Chromium, Total	mg/L	-0.0000122	0.000440	0.100	0.103	0.104	0.103	0.0850 to 0.115	101	70.0 to 130	0.966	20.0
BC12863	Cobalt, Dissolved	mg/L	-0.0000042	0.000147	0.100	0.106	0.106	0.105	0.0850 to 0.115	104	70.0 to 130	0.00	20.0
BC12861	Cobalt, Total	mg/L	-0.0000016	0.000147	0.100	0.230	0.229	0.104	0.0850 to 0.115	105	70.0 to 130	0.436	20.0
BC12857	Fluoride	mg/L	0.00152	0.125	2.50	2.79	2.95	2.62	2.25 to 2.75	99.6	80.0 to 120	5.57	20.0
BC12862	Iron, Dissolved	mg/L	-0.0002	0.0176	0.2	3.10	3.11	0.195	0.170 to 0.230	80.0	70.0 to 130	0.322	20.0
BC12861	Iron, Total	mg/L	0.000235	0.0176	0.2	13.8	13.7	0.200	0.170 to 0.230	200	70.0 to 130	0.727	20.0

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

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/12/22 14:47  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - MW-9V

**Laboratory ID Number:** BC12856

Sample	Analysis	Units	MB					Standard		Rec		Prec	Limit
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12863	Lead, Dissolved	mg/L	0.0000125	0.000147	0.100	0.110	0.111	0.108	0.0850 to 0.115	110	70.0 to 130	0.905	20.0
BC12861	Lead, Total	mg/L	0.0000058	0.000147	0.100	0.108	0.109	0.109	0.0850 to 0.115	108	70.0 to 130	0.922	20.0
BC12862	Lithium, Dissolved	mg/L	-0.000397	0.0154	0.200	0.299	0.296	0.195	0.170 to 0.230	107	70.0 to 130	1.01	20.0
BC12861	Lithium, Total	mg/L	-0.000367	0.0154	0.200	0.603	0.607	0.204	0.170 to 0.230	108	70.0 to 130	0.661	20.0
BC12862	Magnesium, Dissolved	mg/L	-0.00737	0.0462	5.00	58.3	57.9	4.80	4.25 to 5.75	98.0	70.0 to 130	0.688	20.0
BC12861	Magnesium, Total	mg/L	0.00801	0.0462	5.00	74.1	73.4	4.94	4.25 to 5.75	136	70.0 to 130	0.949	20.0
BC12863	Manganese, Dissolved	mg/L	0.000120	0.0002	0.100	1.06	1.05	0.102	0.0850 to 0.115	93.0	70.0 to 130	0.948	20.0
BC12861	Manganese, Total	mg/L	-0.0000273	0.0002	0.100	3.94	4.05	0.103	0.0850 to 0.115	0.00	70.0 to 130	2.75	20.0
BC12861	Mercury, Total by CVAA	mg/L	1.000E-05	0.000500	0.004	0.004	0.00397	0.00404	0.00340 to 0.00460	100	70.0 to 130	0.753	20.0
BC12863	Molybdenum, Dissolved	mg/L	0.000001	0.0002	0.100	0.103	0.102	0.100	0.0850 to 0.115	102	70.0 to 130	0.976	20.0
BC12861	Molybdenum, Total	mg/L	0.0000044	0.0002	0.100	0.0996	0.101	0.0990	0.0850 to 0.115	99.6	70.0 to 130	1.40	20.0
BC12863	Potassium, Dissolved	mg/L	0.0174	0.367	10.0	15.0	14.8	10.7	8.50 to 11.5	108	70.0 to 130	1.34	20.0
BC12861	Potassium, Total	mg/L	0.0116	0.367	10.0	11.4	13.0	10.4	8.50 to 11.5	86.2	70.0 to 130	13.1	20.0
BC12863	Selenium, Dissolved	mg/L	0.0000243	0.00100	0.100	0.103	0.106	0.105	0.0850 to 0.115	103	70.0 to 130	2.87	20.0
BC12861	Selenium, Total	mg/L	0.0000228	0.00100	0.100	0.107	0.108	0.106	0.0850 to 0.115	103	70.0 to 130	0.930	20.0
BC12862	Silicon, Dissolved	mg/L	0.000137	0.0440	1.00	11.0	11.1	0.959	0.850 to 1.15	90.0	70.0 to 130	0.905	20.0
BC12861	Silicon, Total	mg/L	0.000372	0.0440	1.00	21.9	21.9	1.04	0.850 to 1.15	120	70.0 to 130	0.00	20.0
BC12862	Sodium, Dissolved	mg/L	0.00136	0.0660	5.00	126	126	4.80	4.25 to 5.75	80.0	70.0 to 130	0.00	20.0
BC12861	Sodium, Total	mg/L	0.00321	0.0660	5.00	20.3	20.4	5.08	4.25 to 5.75	112	70.0 to 130	0.491	20.0
BC12861	Sulfate	mg/L	0.875	2.0	1600	2190	2250	19.5	18.0 to 22.0	101	80.0 to 120	2.70	20.0
BC12863	Thallium, Dissolved	mg/L	0.000006	0.000147	0.100	0.110	0.112	0.110	0.0850 to 0.115	110	70.0 to 130	1.80	20.0
BC12861	Thallium, Total	mg/L	0.0000049	0.000147	0.100	0.109	0.109	0.109	0.0850 to 0.115	109	70.0 to 130	0.00	20.0
BC12861	Total Organic Carbon	mg/L	0.201	1.00	10.0	10.9	10.9	9.79		97.4	80.0 to 120	0.00	20.0

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



## Batch QC Summary

**Customer Account:** WMWGORG

**Sample Date:** 7/12/22 14:47

**Customer ID:**

**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - MW-9V

**Laboratory ID Number:** BC12856

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Limit	Prec	Limit
BC12864	Alkalinity, Total as CaCO3	mg/L					259	50.2	45.0 to 55.0			1.15	10.0
BC12861	Nitrogen, Nitrate/Nitrite	mg/L as N	0.09	0.200	2.00	2.32	0.193	1.90	1.80 to 2.20	116	90.0 to 110	0.00	15.0
BC12871	Solids, Dissolved	mg/L	1.00	25.0			3120	48.0	40.0 to 60.0			0.966	10.0

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

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-12V

**Location Code:** WMWGORG  
**Collected:** 7/13/22 09:30  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12857

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Total	7/18/22 11:51	7/21/22 10:36		1.015	1.61	mg/L	0.030000	0.1015	
* Calcium, Total	7/18/22 11:51	7/22/22 12:02		101.5	374	mg/L	7.0035	40.6	
* Iron, Total	7/18/22 11:51	7/22/22 12:02		101.5	38.3	mg/L	0.8120	4.06	
* Lithium, Total	7/18/22 11:51	7/21/22 10:36		1.015	0.312	mg/L	0.007105	0.01999956	
* Magnesium, Total	7/18/22 11:51	7/22/22 12:02		101.5	229	mg/L	2.1315	40.6	
Silica, Total (calc.)	7/18/22 11:51	7/21/22 10:36		1	27.2	mg/L			
Silicon, Total	7/18/22 11:51	7/21/22 10:36		1.015	12.7	mg/L	0.02030	0.25375	
* Sodium, Total	7/18/22 11:51	7/22/22 12:02		101.5	381	mg/L	3.045	40.6	
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	7/19/22 11:38	7/19/22 12:28		1.015	1.59	mg/L	0.030000	0.1015	
* Calcium, Dissolved	7/19/22 11:38	7/19/22 14:58		101.5	381	mg/L	7.0035	40.6	
* Iron, Dissolved	7/19/22 11:38	7/19/22 14:58		101.5	38.7	mg/L	0.8120	4.06	
* Lithium, Dissolved	7/19/22 11:38	7/19/22 12:28		1.015	0.313	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	7/19/22 11:38	7/19/22 14:58		101.5	228	mg/L	2.1315	40.6	
Silica, Dissolved (calc.)	7/19/22 11:38	7/19/22 12:28		1	26.5	mg/L			
Silicon, Dissolved	7/19/22 11:38	7/19/22 12:28		1.015	12.4	mg/L	0.02030	0.25375	
* Sodium, Dissolved	7/19/22 11:38	7/19/22 14:58		101.5	365	mg/L	3.045	40.6	
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: DLJ</b>		<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	7/18/22 15:05	7/19/22 09:57		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/18/22 15:05	7/19/22 09:57		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Total	7/18/22 15:05	7/19/22 09:57		1.015	0.000522	mg/L	0.000081	0.000203	
* Barium, Total	7/18/22 15:05	7/19/22 09:57		1.015	0.0103	mg/L	0.000508	0.001015	
* Beryllium, Total	7/18/22 15:05	7/19/22 09:57		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	7/18/22 15:05	7/19/22 09:57		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	7/18/22 15:05	7/19/22 09:57		1.015	0.000325	mg/L	0.000203	0.001015	J
* Cobalt, Total	7/18/22 15:05	7/19/22 09:57		1.015	0.000166	mg/L	0.000068	0.000203	J
* Lead, Total	7/18/22 15:05	7/19/22 09:57		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	7/18/22 15:05	7/20/22 14:08		92.365	22.2	mg/L	0.013855	0.018473	
* Molybdenum, Total	7/18/22 15:05	7/19/22 09:57		1.015	0.00241	mg/L	0.000102	0.000203	
* Potassium, Total	7/18/22 15:05	7/19/22 09:57		1.015	7.30	mg/L	0.169505	0.5075	

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

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

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-12V

**Location Code:** WMWGORG  
**Collected:** 7/13/22 09:30  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12857

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	7/18/22 15:05	7/19/22 09:57		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	7/18/22 15:05	7/19/22 09:57		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	7/18/22 08:58	7/19/22 12:30		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	7/18/22 08:58	7/19/22 12:30		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Dissolved	7/18/22 08:58	7/19/22 12:30		1.015	0.00046	mg/L	0.000081	0.000203	
* Barium, Dissolved	7/18/22 08:58	7/19/22 12:30		1.015	0.0114	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	7/18/22 08:58	7/19/22 12:30		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	7/18/22 08:58	7/19/22 12:30		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	7/18/22 08:58	7/19/22 12:30		1.015	0.000212	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	7/18/22 08:58	7/19/22 12:30		1.015	0.000190	mg/L	0.000068	0.000203	J
* Lead, Dissolved	7/18/22 08:58	7/19/22 12:30		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	7/18/22 08:58	7/20/22 12:22		92.365	22.9	mg/L	0.013855	0.018473	
* Molybdenum, Dissolved	7/18/22 08:58	7/19/22 12:30		1.015	0.00202	mg/L	0.000102	0.000203	
* Potassium, Dissolved	7/18/22 08:58	7/19/22 12:30		1.015	7.55	mg/L	0.169505	0.5075	
* Selenium, Dissolved	7/18/22 08:58	7/19/22 12:30		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	7/18/22 08:58	7/19/22 12:30		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	7/15/22 16:07	7/15/22 20:28		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: CES</b>							
* Nitrogen, Nitrate/Nitrite	7/19/22 14:12	7/19/22 14:12		1	0.274	mg/L as N	0.20	0.3	J
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
Alkalinity, Total as CaCO3	7/19/22 13:28	7/19/22 15:01		1	326	mg/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	7/15/22 11:12	7/18/22 13:45		1	3380	mg/L		208.3	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
Bicarbonate Alkalinity, (calc.)	7/19/22 13:28	7/19/22 15:01		1	326	mg/L		1	A
Carbonate Alkalinity, (calc.)	7/19/22 13:28	7/19/22 15:01		1	Not Detected	mg/L		0.5	A
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	7/14/22 22:09	7/14/22 22:09		1	1.63	mg/L	1.00	2	J

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

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

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-12V

**Location Code:** WMWGORG  
**Collected:** 7/13/22 09:30  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12857

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	7/20/22 09:49	7/20/22 09:49		16	199	mg/L	8.00	16	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	7/20/22 12:16	7/20/22 12:16		1	0.301	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	7/19/22 12:20	7/19/22 12:20		80	1980	mg/L	48.0	160	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: TJD</b>							
Conductivity	7/13/22 09:26	7/13/22 09:26			3907.36	uS/cm			FA
pH	7/13/22 09:26	7/13/22 09:26			6.26	SU			FA
Temperature	7/13/22 09:26	7/13/22 09:26			19.93	C			FA
Turbidity	7/13/22 09:26	7/13/22 09:26			0.17	NTU			FA
Sulfide	7/13/22 09:26	7/13/22 09:26			0	mg/L			FA

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

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

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/13/22 09:30  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - MW-12V

**Laboratory ID Number:** BC12857

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12863	Aluminum, Dissolved	mg/L	0.000116	0.010	0.100	0.107	0.108	0.104	0.0850 to 0.115	107	70.0 to 130	0.930	20.0
BC12861	Aluminum, Total	mg/L	0.000319	0.010	0.100	18.2	18.9	0.104	0.0850 to 0.115	-400	70.0 to 130	3.77	20.0
BC12863	Antimony, Dissolved	mg/L	0.000265	0.00100	0.100	0.0950	0.0949	0.0890	0.0850 to 0.115	95.0	70.0 to 130	0.105	20.0
BC12861	Antimony, Total	mg/L	0.000312	0.00100	0.100	0.101	0.102	0.0939	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BC12863	Arsenic, Dissolved	mg/L	0.0000166	0.000176	0.100	0.106	0.108	0.103	0.0850 to 0.115	104	70.0 to 130	1.87	20.0
BC12861	Arsenic, Total	mg/L	0.0000069	0.000176	0.100	0.106	0.109	0.103	0.0850 to 0.115	101	70.0 to 130	2.79	20.0
BC12863	Barium, Dissolved	mg/L	-0.000033	0.00100	0.100	0.137	0.134	0.0964	0.0850 to 0.115	103	70.0 to 130	2.21	20.0
BC12861	Barium, Total	mg/L	-0.0000749	0.00100	0.100	0.110	0.110	0.0955	0.0850 to 0.115	101	70.0 to 130	0.00	20.0
BC12863	Beryllium, Dissolved	mg/L	0.0000386	0.000880	0.100	0.0949	0.0952	0.0951	0.0850 to 0.115	94.9	70.0 to 130	0.316	20.0
BC12861	Beryllium, Total	mg/L	0.0000247	0.000880	0.100	0.112	0.110	0.0974	0.0850 to 0.115	104	70.0 to 130	1.80	20.0
BC12862	Boron, Dissolved	mg/L	0.00411	0.0650	1.00	1.07	1.07	0.963	0.850 to 1.15	101	70.0 to 130	0.00	20.0
BC12861	Boron, Total	mg/L	-0.000693	0.0650	1.00	1.08	1.07	1.01	0.850 to 1.15	103	70.0 to 130	0.930	20.0
BC12863	Cadmium, Dissolved	mg/L	0.0000049	0.000147	0.100	0.103	0.0999	0.103	0.0850 to 0.115	103	70.0 to 130	3.06	20.0
BC12861	Cadmium, Total	mg/L	0.0000	0.000147	0.100	0.103	0.101	0.100	0.0850 to 0.115	103	70.0 to 130	1.96	20.0
BC12862	Calcium, Dissolved	mg/L	-0.0137	0.152	5.00	132	131	5.45	4.25 to 5.75	100	70.0 to 130	0.760	20.0
BC12861	Calcium, Total	mg/L	-0.0310	0.152	5.00	111	110	4.94	4.25 to 5.75	120	70.0 to 130	0.905	20.0
BC12861	Chloride	mg/L	0.0825	1.00	10.0	12.1	12.3	10.4	9.00 to 11.0	103	80.0 to 120	1.64	20.0
BC12863	Chromium, Dissolved	mg/L	-0.0000496	0.000440	0.100	0.103	0.102	0.102	0.0850 to 0.115	103	70.0 to 130	0.976	20.0
BC12861	Chromium, Total	mg/L	-0.0000122	0.000440	0.100	0.103	0.104	0.103	0.0850 to 0.115	101	70.0 to 130	0.966	20.0
BC12863	Cobalt, Dissolved	mg/L	-0.0000042	0.000147	0.100	0.106	0.106	0.105	0.0850 to 0.115	104	70.0 to 130	0.00	20.0
BC12861	Cobalt, Total	mg/L	-0.0000016	0.000147	0.100	0.230	0.229	0.104	0.0850 to 0.115	105	70.0 to 130	0.436	20.0
BC12857	Fluoride	mg/L	0.00152	0.125	2.50	2.79	2.95	2.62	2.25 to 2.75	99.6	80.0 to 120	5.57	20.0
BC12862	Iron, Dissolved	mg/L	-0.0002	0.0176	0.2	3.10	3.11	0.195	0.170 to 0.230	80.0	70.0 to 130	0.322	20.0
BC12861	Iron, Total	mg/L	0.000235	0.0176	0.2	13.8	13.7	0.200	0.170 to 0.230	200	70.0 to 130	0.727	20.0

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

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/13/22 09:30  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - MW-12V

**Laboratory ID Number:** BC12857

Sample	Analysis	Units	MB					Standard		Rec		Prec	Limit
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12863	Lead, Dissolved	mg/L	0.0000125	0.000147	0.100	0.110	0.111	0.108	0.0850 to 0.115	110	70.0 to 130	0.905	20.0
BC12861	Lead, Total	mg/L	0.0000058	0.000147	0.100	0.108	0.109	0.109	0.0850 to 0.115	108	70.0 to 130	0.922	20.0
BC12862	Lithium, Dissolved	mg/L	-0.000397	0.0154	0.200	0.299	0.296	0.195	0.170 to 0.230	107	70.0 to 130	1.01	20.0
BC12861	Lithium, Total	mg/L	-0.000367	0.0154	0.200	0.603	0.607	0.204	0.170 to 0.230	108	70.0 to 130	0.661	20.0
BC12862	Magnesium, Dissolved	mg/L	-0.00737	0.0462	5.00	58.3	57.9	4.80	4.25 to 5.75	98.0	70.0 to 130	0.688	20.0
BC12861	Magnesium, Total	mg/L	0.00801	0.0462	5.00	74.1	73.4	4.94	4.25 to 5.75	136	70.0 to 130	0.949	20.0
BC12863	Manganese, Dissolved	mg/L	0.000120	0.0002	0.100	1.06	1.05	0.102	0.0850 to 0.115	93.0	70.0 to 130	0.948	20.0
BC12861	Manganese, Total	mg/L	-0.0000273	0.0002	0.100	3.94	4.05	0.103	0.0850 to 0.115	0.00	70.0 to 130	2.75	20.0
BC12861	Mercury, Total by CVAA	mg/L	1.000E-05	0.000500	0.004	0.004	0.00397	0.00404	0.00340 to 0.00460	100	70.0 to 130	0.753	20.0
BC12863	Molybdenum, Dissolved	mg/L	0.000001	0.0002	0.100	0.103	0.102	0.100	0.0850 to 0.115	102	70.0 to 130	0.976	20.0
BC12861	Molybdenum, Total	mg/L	0.0000044	0.0002	0.100	0.0996	0.101	0.0990	0.0850 to 0.115	99.6	70.0 to 130	1.40	20.0
BC12863	Potassium, Dissolved	mg/L	0.0174	0.367	10.0	15.0	14.8	10.7	8.50 to 11.5	108	70.0 to 130	1.34	20.0
BC12861	Potassium, Total	mg/L	0.0116	0.367	10.0	11.4	13.0	10.4	8.50 to 11.5	86.2	70.0 to 130	13.1	20.0
BC12863	Selenium, Dissolved	mg/L	0.0000243	0.00100	0.100	0.103	0.106	0.105	0.0850 to 0.115	103	70.0 to 130	2.87	20.0
BC12861	Selenium, Total	mg/L	0.0000228	0.00100	0.100	0.107	0.108	0.106	0.0850 to 0.115	103	70.0 to 130	0.930	20.0
BC12862	Silicon, Dissolved	mg/L	0.000137	0.0440	1.00	11.0	11.1	0.959	0.850 to 1.15	90.0	70.0 to 130	0.905	20.0
BC12861	Silicon, Total	mg/L	0.000372	0.0440	1.00	21.9	21.9	1.04	0.850 to 1.15	120	70.0 to 130	0.00	20.0
BC12862	Sodium, Dissolved	mg/L	0.00136	0.0660	5.00	126	126	4.80	4.25 to 5.75	80.0	70.0 to 130	0.00	20.0
BC12861	Sodium, Total	mg/L	0.00321	0.0660	5.00	20.3	20.4	5.08	4.25 to 5.75	112	70.0 to 130	0.491	20.0
BC12861	Sulfate	mg/L	0.875	2.0	1600	2190	2250	19.5	18.0 to 22.0	101	80.0 to 120	2.70	20.0
BC12863	Thallium, Dissolved	mg/L	0.000006	0.000147	0.100	0.110	0.112	0.110	0.0850 to 0.115	110	70.0 to 130	1.80	20.0
BC12861	Thallium, Total	mg/L	0.0000049	0.000147	0.100	0.109	0.109	0.109	0.0850 to 0.115	109	70.0 to 130	0.00	20.0
BC12861	Total Organic Carbon	mg/L	0.201	1.00	10.0	10.9	10.9	9.79		97.4	80.0 to 120	0.00	20.0

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

## Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/13/22 09:30  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - MW-12V

**Laboratory ID Number:** BC12857

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC12864	Alkalinity, Total as CaCO3	mg/L					259	50.2	45.0 to 55.0			1.15	10.0
BC12861	Nitrogen, Nitrate/Nitrite	mg/L as N	0.09	0.200	2.00	2.32	0.193	1.90	1.80 to 2.20	116	90.0 to 110	0.00	15.0
BC12873	Solids, Dissolved	mg/L	1.00	25.0			4770	50.0	40.0 to 60.0			1.48	10.0

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

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-12H

**Location Code:** WMWGORG  
**Collected:** 7/13/22 10:45  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12858

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Total	7/18/22 11:51	7/21/22 10:39		1.015	0.0687	mg/L	0.030000	0.1015	J
* Calcium, Total	7/18/22 11:51	7/22/22 12:05		10.15	130	mg/L	0.70035	4.06	
* Iron, Total	7/18/22 11:51	7/21/22 10:39		1.015	1.27	mg/L	0.008120	0.0406	
* Lithium, Total	7/18/22 11:51	7/21/22 10:39		1.015	0.411	mg/L	0.007105	0.01999956	
* Magnesium, Total	7/18/22 11:51	7/22/22 12:05		10.15	122	mg/L	0.21315	4.06	
Silica, Total (calc.)	7/18/22 11:51	7/21/22 10:39		1	41.7	mg/L			
Silicon, Total	7/18/22 11:51	7/21/22 10:39		1.015	19.5	mg/L	0.02030	0.25375	
* Sodium, Total	7/18/22 11:51	7/21/22 10:39		1.015	22.6	mg/L	0.03045	0.406	
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	7/19/22 11:38	7/19/22 12:31		1.015	0.0724	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	7/19/22 11:38	7/19/22 15:02		10.15	131	mg/L	0.70035	4.06	
* Iron, Dissolved	7/19/22 11:38	7/19/22 12:31		1.015	0.872	mg/L	0.008120	0.0406	
* Lithium, Dissolved	7/19/22 11:38	7/19/22 12:31		1.015	0.393	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	7/19/22 11:38	7/19/22 15:02		10.15	120	mg/L	0.21315	4.06	
Silica, Dissolved (calc.)	7/19/22 11:38	7/19/22 12:31		1	39.6	mg/L			
Silicon, Dissolved	7/19/22 11:38	7/19/22 12:31		1.015	18.5	mg/L	0.02030	0.25375	
* Sodium, Dissolved	7/19/22 11:38	7/19/22 12:31		1.015	21.2	mg/L	0.03045	0.406	
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: DLJ</b>		<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	7/18/22 15:05	7/19/22 10:01		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/18/22 15:05	7/20/22 14:11		92.365	11.0	mg/L	0.554190	0.92365	
* Arsenic, Total	7/18/22 15:05	7/19/22 10:01		1.015	0.00106	mg/L	0.000081	0.000203	
* Barium, Total	7/18/22 15:05	7/19/22 10:01		1.015	0.0129	mg/L	0.000508	0.001015	
* Beryllium, Total	7/18/22 15:05	7/19/22 10:01		1.015	0.00817	mg/L	0.000406	0.001015	
* Cadmium, Total	7/18/22 15:05	7/19/22 10:01		1.015	0.00293	mg/L	0.000068	0.000203	
* Chromium, Total	7/18/22 15:05	7/19/22 10:01		1.015	0.000329	mg/L	0.000203	0.001015	J
* Cobalt, Total	7/18/22 15:05	7/19/22 10:01		1.015	0.340	mg/L	0.000068	0.000203	
* Lead, Total	7/18/22 15:05	7/19/22 10:01		1.015	0.00406	mg/L	0.000068	0.000203	
* Manganese, Total	7/18/22 15:05	7/20/22 14:11		92.365	14.3	mg/L	0.013855	0.018473	
* Molybdenum, Total	7/18/22 15:05	7/19/22 10:01		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Potassium, Total	7/18/22 15:05	7/19/22 10:01		1.015	4.89	mg/L	0.169505	0.5075	

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

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.  
 Alkalinity could not be performed, pH below titration end point of 4.5 SU.  
 Fluoride may have potential matrix interference.



# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-12H

**Location Code:** WMWGORG  
**Collected:** 7/13/22 10:45  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12858

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	7/18/22 15:05	7/19/22 10:01		1.015	0.00390	mg/L	0.000508	0.001015	
* Thallium, Total	7/18/22 15:05	7/19/22 10:01		1.015	0.000311	mg/L	0.000068	0.000203	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	7/18/22 08:58	7/19/22 12:33		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	7/18/22 08:58	7/20/22 12:26		92.365	11.0	mg/L	0.554190	0.92365	
* Arsenic, Dissolved	7/18/22 08:58	7/19/22 12:33		1.015	0.00121	mg/L	0.000081	0.000203	
* Barium, Dissolved	7/18/22 08:58	7/19/22 12:33		1.015	0.0140	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	7/18/22 08:58	7/19/22 12:33		1.015	0.00813	mg/L	0.000406	0.001015	
* Cadmium, Dissolved	7/18/22 08:58	7/19/22 12:33		1.015	0.00321	mg/L	0.000068	0.000203	
* Chromium, Dissolved	7/18/22 08:58	7/19/22 12:33		1.015	0.000345	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	7/18/22 08:58	7/19/22 12:33		1.015	0.379	mg/L	0.000068	0.000203	
* Lead, Dissolved	7/18/22 08:58	7/19/22 12:33		1.015	0.00404	mg/L	0.000068	0.000203	
* Manganese, Dissolved	7/18/22 08:58	7/20/22 12:26		92.365	14.3	mg/L	0.013855	0.018473	
* Molybdenum, Dissolved	7/18/22 08:58	7/19/22 12:33		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Potassium, Dissolved	7/18/22 08:58	7/19/22 12:33		1.015	5.47	mg/L	0.169505	0.5075	
* Selenium, Dissolved	7/18/22 08:58	7/19/22 12:33		1.015	0.00361	mg/L	0.000508	0.001015	
* Thallium, Dissolved	7/18/22 08:58	7/19/22 12:33		1.015	0.000308	mg/L	0.000068	0.000203	
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	7/15/22 16:07	7/15/22 20:32		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: CES</b>							
* Nitrogen, Nitrate/Nitrite	7/19/22 14:14	7/19/22 14:14		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	7/15/22 11:12	7/18/22 13:45		1	1270	mg/L		75.8	
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	7/14/22 22:33	7/14/22 22:33		1	1.14	mg/L	1.00	2	J
<b>Analytical Method: SM4500CI E</b>		<b>Analyst: JCC</b>							
* Chloride	7/20/22 09:08	7/20/22 09:08		1	1.77	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	7/20/22 12:17	7/20/22 12:17		1	Not Detected	mg/L	0.06	0.125	U
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	7/19/22 12:21	7/19/22 12:21		40	839	mg/L	24.0	80	

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

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.  
 Alkalinity could not be performed, pH below titration end point of 4.5 SU.  
 Fluoride may have potential matrix interference.

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-12H

**Location Code:** WMWGORG  
**Collected:** 7/13/22 10:45  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12858

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: Field Measurements</b>		<b>Analyst: TJD</b>							
Conductivity	7/13/22 10:41	7/13/22 10:41			1438.58	uS/cm			FA
pH	7/13/22 10:41	7/13/22 10:41			4.15	SU			FA
Temperature	7/13/22 10:41	7/13/22 10:41			20.22	C			FA
Turbidity	7/13/22 10:41	7/13/22 10:41			4.49	NTU			FA
Sulfide	7/13/22 10:41	7/13/22 10:41			0	mg/L			FA

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

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**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.  
 Alkalinity could not be performed, pH below titration end point of 4.5 SU.  
 Fluoride may have potential matrix interference.

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/13/22 10:45  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - MW-12H

**Laboratory ID Number:** BC12858

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BC12863	Aluminum, Dissolved	mg/L	0.000116	0.010	0.100	0.107	0.108	0.104	0.0850 to 0.115	107	70.0 to 130	0.930	20.0
BC12861	Aluminum, Total	mg/L	0.000319	0.010	0.100	18.2	18.9	0.104	0.0850 to 0.115	-400	70.0 to 130	3.77	20.0
BC12863	Antimony, Dissolved	mg/L	0.000265	0.00100	0.100	0.0950	0.0949	0.0890	0.0850 to 0.115	95.0	70.0 to 130	0.105	20.0
BC12861	Antimony, Total	mg/L	0.000312	0.00100	0.100	0.101	0.102	0.0939	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BC12863	Arsenic, Dissolved	mg/L	0.0000166	0.000176	0.100	0.106	0.108	0.103	0.0850 to 0.115	104	70.0 to 130	1.87	20.0
BC12861	Arsenic, Total	mg/L	0.0000069	0.000176	0.100	0.106	0.109	0.103	0.0850 to 0.115	101	70.0 to 130	2.79	20.0
BC12863	Barium, Dissolved	mg/L	-0.000033	0.00100	0.100	0.137	0.134	0.0964	0.0850 to 0.115	103	70.0 to 130	2.21	20.0
BC12861	Barium, Total	mg/L	-0.0000749	0.00100	0.100	0.110	0.110	0.0955	0.0850 to 0.115	101	70.0 to 130	0.00	20.0
BC12863	Beryllium, Dissolved	mg/L	0.0000386	0.000880	0.100	0.0949	0.0952	0.0951	0.0850 to 0.115	94.9	70.0 to 130	0.316	20.0
BC12861	Beryllium, Total	mg/L	0.0000247	0.000880	0.100	0.112	0.110	0.0974	0.0850 to 0.115	104	70.0 to 130	1.80	20.0
BC12862	Boron, Dissolved	mg/L	0.00411	0.0650	1.00	1.07	1.07	0.963	0.850 to 1.15	101	70.0 to 130	0.00	20.0
BC12861	Boron, Total	mg/L	-0.000693	0.0650	1.00	1.08	1.07	1.01	0.850 to 1.15	103	70.0 to 130	0.930	20.0
BC12863	Cadmium, Dissolved	mg/L	0.0000049	0.000147	0.100	0.103	0.0999	0.103	0.0850 to 0.115	103	70.0 to 130	3.06	20.0
BC12861	Cadmium, Total	mg/L	0.0000	0.000147	0.100	0.103	0.101	0.100	0.0850 to 0.115	103	70.0 to 130	1.96	20.0
BC12862	Calcium, Dissolved	mg/L	-0.0137	0.152	5.00	132	131	5.45	4.25 to 5.75	100	70.0 to 130	0.760	20.0
BC12861	Calcium, Total	mg/L	-0.0310	0.152	5.00	111	110	4.94	4.25 to 5.75	120	70.0 to 130	0.905	20.0
BC12861	Chloride	mg/L	0.0825	1.00	10.0	12.1	12.3	10.4	9.00 to 11.0	103	80.0 to 120	1.64	20.0
BC12863	Chromium, Dissolved	mg/L	-0.0000496	0.000440	0.100	0.103	0.102	0.102	0.0850 to 0.115	103	70.0 to 130	0.976	20.0
BC12861	Chromium, Total	mg/L	-0.0000122	0.000440	0.100	0.103	0.104	0.103	0.0850 to 0.115	101	70.0 to 130	0.966	20.0
BC12863	Cobalt, Dissolved	mg/L	-0.0000042	0.000147	0.100	0.106	0.106	0.105	0.0850 to 0.115	104	70.0 to 130	0.00	20.0
BC12861	Cobalt, Total	mg/L	-0.0000016	0.000147	0.100	0.230	0.229	0.104	0.0850 to 0.115	105	70.0 to 130	0.436	20.0
BC12857	Fluoride	mg/L	0.00152	0.125	2.50	2.79	2.95	2.62	2.25 to 2.75	99.6	80.0 to 120	5.57	20.0
BC12862	Iron, Dissolved	mg/L	-0.0002	0.0176	0.2	3.10	3.11	0.195	0.170 to 0.230	80.0	70.0 to 130	0.322	20.0
BC12861	Iron, Total	mg/L	0.000235	0.0176	0.2	13.8	13.7	0.200	0.170 to 0.230	200	70.0 to 130	0.727	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.  
 Alkalinity could not be performed, pH below titration end point of 4.5 SU.  
 Fluoride may have potential matrix interference.

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/13/22 10:45  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - MW-12H

**Laboratory ID Number:** BC12858

Sample	Analysis	Units	MB					Standard		Rec		Prec	Limit
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12863	Lead, Dissolved	mg/L	0.0000125	0.000147	0.100	0.110	0.111	0.108	0.0850 to 0.115	110	70.0 to 130	0.905	20.0
BC12861	Lead, Total	mg/L	0.0000058	0.000147	0.100	0.108	0.109	0.109	0.0850 to 0.115	108	70.0 to 130	0.922	20.0
BC12862	Lithium, Dissolved	mg/L	-0.000397	0.0154	0.200	0.299	0.296	0.195	0.170 to 0.230	107	70.0 to 130	1.01	20.0
BC12861	Lithium, Total	mg/L	-0.000367	0.0154	0.200	0.603	0.607	0.204	0.170 to 0.230	108	70.0 to 130	0.661	20.0
BC12862	Magnesium, Dissolved	mg/L	-0.00737	0.0462	5.00	58.3	57.9	4.80	4.25 to 5.75	98.0	70.0 to 130	0.688	20.0
BC12861	Magnesium, Total	mg/L	0.00801	0.0462	5.00	74.1	73.4	4.94	4.25 to 5.75	136	70.0 to 130	0.949	20.0
BC12863	Manganese, Dissolved	mg/L	0.000120	0.0002	0.100	1.06	1.05	0.102	0.0850 to 0.115	93.0	70.0 to 130	0.948	20.0
BC12861	Manganese, Total	mg/L	-0.0000273	0.0002	0.100	3.94	4.05	0.103	0.0850 to 0.115	0.00	70.0 to 130	2.75	20.0
BC12861	Mercury, Total by CVAA	mg/L	1.000E-05	0.000500	0.004	0.004	0.00397	0.00404	0.00340 to 0.00460	100	70.0 to 130	0.753	20.0
BC12863	Molybdenum, Dissolved	mg/L	0.000001	0.0002	0.100	0.103	0.102	0.100	0.0850 to 0.115	102	70.0 to 130	0.976	20.0
BC12861	Molybdenum, Total	mg/L	0.0000044	0.0002	0.100	0.0996	0.101	0.0990	0.0850 to 0.115	99.6	70.0 to 130	1.40	20.0
BC12863	Potassium, Dissolved	mg/L	0.0174	0.367	10.0	15.0	14.8	10.7	8.50 to 11.5	108	70.0 to 130	1.34	20.0
BC12861	Potassium, Total	mg/L	0.0116	0.367	10.0	11.4	13.0	10.4	8.50 to 11.5	86.2	70.0 to 130	13.1	20.0
BC12863	Selenium, Dissolved	mg/L	0.0000243	0.00100	0.100	0.103	0.106	0.105	0.0850 to 0.115	103	70.0 to 130	2.87	20.0
BC12861	Selenium, Total	mg/L	0.0000228	0.00100	0.100	0.107	0.108	0.106	0.0850 to 0.115	103	70.0 to 130	0.930	20.0
BC12862	Silicon, Dissolved	mg/L	0.000137	0.0440	1.00	11.0	11.1	0.959	0.850 to 1.15	90.0	70.0 to 130	0.905	20.0
BC12861	Silicon, Total	mg/L	0.000372	0.0440	1.00	21.9	21.9	1.04	0.850 to 1.15	120	70.0 to 130	0.00	20.0
BC12862	Sodium, Dissolved	mg/L	0.00136	0.0660	5.00	126	126	4.80	4.25 to 5.75	80.0	70.0 to 130	0.00	20.0
BC12861	Sodium, Total	mg/L	0.00321	0.0660	5.00	20.3	20.4	5.08	4.25 to 5.75	112	70.0 to 130	0.491	20.0
BC12861	Sulfate	mg/L	0.875	2.0	1600	2190	2250	19.5	18.0 to 22.0	101	80.0 to 120	2.70	20.0
BC12863	Thallium, Dissolved	mg/L	0.000006	0.000147	0.100	0.110	0.112	0.110	0.0850 to 0.115	110	70.0 to 130	1.80	20.0
BC12861	Thallium, Total	mg/L	0.0000049	0.000147	0.100	0.109	0.109	0.109	0.0850 to 0.115	109	70.0 to 130	0.00	20.0
BC12861	Total Organic Carbon	mg/L	0.201	1.00	10.0	10.9	10.9	9.79		97.4	80.0 to 120	0.00	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.  
 Alkalinity could not be performed, pH below titration end point of 4.5 SU.  
 Fluoride may have potential matrix interference.

## Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/13/22 10:45  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - MW-12H

**Laboratory ID Number:** BC12858

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC12861	Nitrogen, Nitrate/Nitrite	mg/L as N	0.09	0.200	2.00	2.32	0.193	1.90	1.80 to 2.20	116	90.0 to 110	0.00	15.0
BC12873	Solids, Dissolved	mg/L	1.00	25.0			4770	50.0	40.0 to 60.0			1.48	10.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.  
 Alkalinity could not be performed, pH below titration end point of 4.5 SU.  
 Fluoride may have potential matrix interference.

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-14H

**Location Code:** WMWGORG  
**Collected:** 7/13/22 11:40  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12859

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Total	7/18/22 11:51	7/21/22 10:42		1.015	0.106	mg/L	0.030000	0.1015	
* Calcium, Total	7/18/22 11:51	7/22/22 12:08		10.15	124	mg/L	0.70035	4.06	
* Iron, Total	7/18/22 11:51	7/22/22 12:08		10.15	11.0	mg/L	0.08120	0.406	
* Lithium, Total	7/18/22 11:51	7/21/22 10:42		1.015	0.428	mg/L	0.007105	0.01999956	
* Magnesium, Total	7/18/22 11:51	7/22/22 12:08		10.15	86.2	mg/L	0.21315	4.06	
Silica, Total (calc.)	7/18/22 11:51	7/22/22 12:08		1	55.4	mg/L			
Silicon, Total	7/18/22 11:51	7/22/22 12:08		10.15	25.9	mg/L	0.2030	2.5375	
* Sodium, Total	7/18/22 11:51	7/21/22 10:42		1.015	16.2	mg/L	0.03045	0.406	
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	7/19/22 11:38	7/19/22 12:34		1.015	0.109	mg/L	0.030000	0.1015	
* Calcium, Dissolved	7/19/22 11:38	7/19/22 15:05		10.15	130	mg/L	0.70035	4.06	
* Iron, Dissolved	7/19/22 11:38	7/19/22 15:05		10.15	11.0	mg/L	0.08120	0.406	
* Lithium, Dissolved	7/19/22 11:38	7/19/22 12:34		1.015	0.424	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	7/19/22 11:38	7/19/22 15:05		10.15	87.6	mg/L	0.21315	4.06	
Silica, Dissolved (calc.)	7/19/22 11:38	7/19/22 15:05		1	56.3	mg/L			
Silicon, Dissolved	7/19/22 11:38	7/19/22 15:05		10.15	26.3	mg/L	0.2030	2.5375	
* Sodium, Dissolved	7/19/22 11:38	7/19/22 12:34		1.015	15.7	mg/L	0.03045	0.406	
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: DLJ</b>		<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	7/18/22 15:05	7/19/22 10:04		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/18/22 15:05	7/20/22 14:18		92.365	13.6	mg/L	0.554190	0.92365	
* Arsenic, Total	7/18/22 15:05	7/19/22 10:04		1.015	0.00130	mg/L	0.000081	0.000203	
* Barium, Total	7/18/22 15:05	7/19/22 10:04		1.015	0.0104	mg/L	0.000508	0.001015	
* Beryllium, Total	7/18/22 15:05	7/19/22 10:04		1.015	0.00896	mg/L	0.000406	0.001015	
* Cadmium, Total	7/18/22 15:05	7/19/22 10:04		1.015	0.00128	mg/L	0.000068	0.000203	
* Chromium, Total	7/18/22 15:05	7/19/22 10:04		1.015	0.000526	mg/L	0.000203	0.001015	J
* Cobalt, Total	7/18/22 15:05	7/19/22 10:04		1.015	0.192	mg/L	0.000068	0.000203	
* Lead, Total	7/18/22 15:05	7/19/22 10:04		1.015	0.000874	mg/L	0.000068	0.000203	
* Manganese, Total	7/18/22 15:05	7/20/22 14:15		10.15	7.96	mg/L	0.001522	0.00203	
* Molybdenum, Total	7/18/22 15:05	7/19/22 10:04		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Potassium, Total	7/18/22 15:05	7/19/22 10:04		1.015	3.47	mg/L	0.169505	0.5075	

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

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.  
 Alkalinity could not be performed, pH below titration end point of 4.5 SU.  
 Fluoride may have potential matrix interference.

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-14H

**Location Code:** WMWGORG  
**Collected:** 7/13/22 11:40  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12859

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	7/18/22 15:05	7/19/22 10:04		1.015	0.00436	mg/L	0.000508	0.001015	
* Thallium, Total	7/18/22 15:05	7/19/22 10:04		1.015	0.0000766	mg/L	0.000068	0.000203	J
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	7/18/22 08:58	7/19/22 12:37		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	7/18/22 08:58	7/20/22 12:33		92.365	13.3	mg/L	0.554190	0.92365	
* Arsenic, Dissolved	7/18/22 08:58	7/19/22 12:37		1.015	0.00124	mg/L	0.000081	0.000203	
* Barium, Dissolved	7/18/22 08:58	7/19/22 12:37		1.015	0.0107	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	7/18/22 08:58	7/19/22 12:37		1.015	0.00806	mg/L	0.000406	0.001015	
* Cadmium, Dissolved	7/18/22 08:58	7/19/22 12:37		1.015	0.00132	mg/L	0.000068	0.000203	
* Chromium, Dissolved	7/18/22 08:58	7/19/22 12:37		1.015	0.000419	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	7/18/22 08:58	7/19/22 12:37		1.015	0.191	mg/L	0.000068	0.000203	
* Lead, Dissolved	7/18/22 08:58	7/19/22 12:37		1.015	0.000876	mg/L	0.000068	0.000203	
* Manganese, Dissolved	7/18/22 08:58	7/20/22 12:30		10.15	8.08	mg/L	0.001522	0.00203	
* Molybdenum, Dissolved	7/18/22 08:58	7/19/22 12:37		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Potassium, Dissolved	7/18/22 08:58	7/19/22 12:37		1.015	3.55	mg/L	0.169505	0.5075	
* Selenium, Dissolved	7/18/22 08:58	7/19/22 12:37		1.015	0.00419	mg/L	0.000508	0.001015	
* Thallium, Dissolved	7/18/22 08:58	7/19/22 12:37		1.015	0.0000689	mg/L	0.000068	0.000203	J
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	7/15/22 16:07	7/15/22 20:36		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: CES</b>							
* Nitrogen, Nitrate/Nitrite	7/19/22 14:16	7/19/22 14:16		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	7/15/22 11:12	7/18/22 13:45		1	1120	mg/L		75.8	
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	7/14/22 22:57	7/14/22 22:57		1	Not Detected	mg/L	1.00	2	U
<b>Analytical Method: SM4500CI E</b>		<b>Analyst: JCC</b>							
* Chloride	7/20/22 09:09	7/20/22 09:09		1	2.15	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	7/20/22 12:18	7/20/22 12:18		1	Not Detected	mg/L	0.06	0.125	U
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	7/19/22 12:23	7/19/22 12:23		40	707	mg/L	24.0	80	

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

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.  
 Alkalinity could not be performed, pH below titration end point of 4.5 SU.  
 Fluoride may have potential matrix interference.

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-14H

**Location Code:** WMWGORG  
**Collected:** 7/13/22 11:40  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12859

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: Field Measurements</b>		<b>Analyst: TJD</b>							
Conductivity	7/13/22 11:38	7/13/22 11:38			1288.81	uS/cm			FA
pH	7/13/22 11:38	7/13/22 11:38			3.94	SU			FA
Temperature	7/13/22 11:38	7/13/22 11:38			20.39	C			FA
Turbidity	7/13/22 11:38	7/13/22 11:38			2.78	NTU			FA
Sulfide	7/13/22 11:38	7/13/22 11:38			0	mg/L			FA

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

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**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.  
 Alkalinity could not be performed, pH below titration end point of 4.5 SU.  
 Fluoride may have potential matrix interference.



# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/13/22 11:40  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - MW-14H

**Laboratory ID Number:** BC12859

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BC12863	Aluminum, Dissolved	mg/L	0.000116	0.010	0.100	0.107	0.108	0.104	0.0850 to 0.115	107	70.0 to 130	0.930	20.0
BC12861	Aluminum, Total	mg/L	0.000319	0.010	0.100	18.2	18.9	0.104	0.0850 to 0.115	-400	70.0 to 130	3.77	20.0
BC12863	Antimony, Dissolved	mg/L	0.000265	0.00100	0.100	0.0950	0.0949	0.0890	0.0850 to 0.115	95.0	70.0 to 130	0.105	20.0
BC12861	Antimony, Total	mg/L	0.000312	0.00100	0.100	0.101	0.102	0.0939	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BC12863	Arsenic, Dissolved	mg/L	0.0000166	0.000176	0.100	0.106	0.108	0.103	0.0850 to 0.115	104	70.0 to 130	1.87	20.0
BC12861	Arsenic, Total	mg/L	0.0000069	0.000176	0.100	0.106	0.109	0.103	0.0850 to 0.115	101	70.0 to 130	2.79	20.0
BC12863	Barium, Dissolved	mg/L	-0.000033	0.00100	0.100	0.137	0.134	0.0964	0.0850 to 0.115	103	70.0 to 130	2.21	20.0
BC12861	Barium, Total	mg/L	-0.0000749	0.00100	0.100	0.110	0.110	0.0955	0.0850 to 0.115	101	70.0 to 130	0.00	20.0
BC12863	Beryllium, Dissolved	mg/L	0.0000386	0.000880	0.100	0.0949	0.0952	0.0951	0.0850 to 0.115	94.9	70.0 to 130	0.316	20.0
BC12861	Beryllium, Total	mg/L	0.0000247	0.000880	0.100	0.112	0.110	0.0974	0.0850 to 0.115	104	70.0 to 130	1.80	20.0
BC12862	Boron, Dissolved	mg/L	0.00411	0.0650	1.00	1.07	1.07	0.963	0.850 to 1.15	101	70.0 to 130	0.00	20.0
BC12861	Boron, Total	mg/L	-0.000693	0.0650	1.00	1.08	1.07	1.01	0.850 to 1.15	103	70.0 to 130	0.930	20.0
BC12863	Cadmium, Dissolved	mg/L	0.0000049	0.000147	0.100	0.103	0.0999	0.103	0.0850 to 0.115	103	70.0 to 130	3.06	20.0
BC12861	Cadmium, Total	mg/L	0.0000	0.000147	0.100	0.103	0.101	0.100	0.0850 to 0.115	103	70.0 to 130	1.96	20.0
BC12862	Calcium, Dissolved	mg/L	-0.0137	0.152	5.00	132	131	5.45	4.25 to 5.75	100	70.0 to 130	0.760	20.0
BC12861	Calcium, Total	mg/L	-0.0310	0.152	5.00	111	110	4.94	4.25 to 5.75	120	70.0 to 130	0.905	20.0
BC12861	Chloride	mg/L	0.0825	1.00	10.0	12.1	12.3	10.4	9.00 to 11.0	103	80.0 to 120	1.64	20.0
BC12863	Chromium, Dissolved	mg/L	-0.0000496	0.000440	0.100	0.103	0.102	0.102	0.0850 to 0.115	103	70.0 to 130	0.976	20.0
BC12861	Chromium, Total	mg/L	-0.0000122	0.000440	0.100	0.103	0.104	0.103	0.0850 to 0.115	101	70.0 to 130	0.966	20.0
BC12863	Cobalt, Dissolved	mg/L	-0.0000042	0.000147	0.100	0.106	0.106	0.105	0.0850 to 0.115	104	70.0 to 130	0.00	20.0
BC12861	Cobalt, Total	mg/L	-0.0000016	0.000147	0.100	0.230	0.229	0.104	0.0850 to 0.115	105	70.0 to 130	0.436	20.0
BC12857	Fluoride	mg/L	0.00152	0.125	2.50	2.79	2.95	2.62	2.25 to 2.75	99.6	80.0 to 120	5.57	20.0
BC12862	Iron, Dissolved	mg/L	-0.0002	0.0176	0.2	3.10	3.11	0.195	0.170 to 0.230	80.0	70.0 to 130	0.322	20.0
BC12861	Iron, Total	mg/L	0.000235	0.0176	0.2	13.8	13.7	0.200	0.170 to 0.230	200	70.0 to 130	0.727	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.  
 Alkalinity could not be performed, pH below titration end point of 4.5 SU.  
 Fluoride may have potential matrix interference.

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/13/22 11:40  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - MW-14H

**Laboratory ID Number:** BC12859

Sample	Analysis	Units	MB					Standard		Rec		Prec	Limit
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12863	Lead, Dissolved	mg/L	0.0000125	0.000147	0.100	0.110	0.111	0.108	0.0850 to 0.115	110	70.0 to 130	0.905	20.0
BC12861	Lead, Total	mg/L	0.0000058	0.000147	0.100	0.108	0.109	0.109	0.0850 to 0.115	108	70.0 to 130	0.922	20.0
BC12862	Lithium, Dissolved	mg/L	-0.000397	0.0154	0.200	0.299	0.296	0.195	0.170 to 0.230	107	70.0 to 130	1.01	20.0
BC12861	Lithium, Total	mg/L	-0.000367	0.0154	0.200	0.603	0.607	0.204	0.170 to 0.230	108	70.0 to 130	0.661	20.0
BC12862	Magnesium, Dissolved	mg/L	-0.00737	0.0462	5.00	58.3	57.9	4.80	4.25 to 5.75	98.0	70.0 to 130	0.688	20.0
BC12861	Magnesium, Total	mg/L	0.00801	0.0462	5.00	74.1	73.4	4.94	4.25 to 5.75	136	70.0 to 130	0.949	20.0
BC12863	Manganese, Dissolved	mg/L	0.000120	0.0002	0.100	1.06	1.05	0.102	0.0850 to 0.115	93.0	70.0 to 130	0.948	20.0
BC12861	Manganese, Total	mg/L	-0.0000273	0.0002	0.100	3.94	4.05	0.103	0.0850 to 0.115	0.00	70.0 to 130	2.75	20.0
BC12861	Mercury, Total by CVAA	mg/L	1.000E-05	0.000500	0.004	0.004	0.00397	0.00404	0.00340 to 0.00460	100	70.0 to 130	0.753	20.0
BC12863	Molybdenum, Dissolved	mg/L	0.000001	0.0002	0.100	0.103	0.102	0.100	0.0850 to 0.115	102	70.0 to 130	0.976	20.0
BC12861	Molybdenum, Total	mg/L	0.0000044	0.0002	0.100	0.0996	0.101	0.0990	0.0850 to 0.115	99.6	70.0 to 130	1.40	20.0
BC12863	Potassium, Dissolved	mg/L	0.0174	0.367	10.0	15.0	14.8	10.7	8.50 to 11.5	108	70.0 to 130	1.34	20.0
BC12861	Potassium, Total	mg/L	0.0116	0.367	10.0	11.4	13.0	10.4	8.50 to 11.5	86.2	70.0 to 130	13.1	20.0
BC12863	Selenium, Dissolved	mg/L	0.0000243	0.00100	0.100	0.103	0.106	0.105	0.0850 to 0.115	103	70.0 to 130	2.87	20.0
BC12861	Selenium, Total	mg/L	0.0000228	0.00100	0.100	0.107	0.108	0.106	0.0850 to 0.115	103	70.0 to 130	0.930	20.0
BC12862	Silicon, Dissolved	mg/L	0.000137	0.0440	1.00	11.0	11.1	0.959	0.850 to 1.15	90.0	70.0 to 130	0.905	20.0
BC12861	Silicon, Total	mg/L	0.000372	0.0440	1.00	21.9	21.9	1.04	0.850 to 1.15	120	70.0 to 130	0.00	20.0
BC12862	Sodium, Dissolved	mg/L	0.00136	0.0660	5.00	126	126	4.80	4.25 to 5.75	80.0	70.0 to 130	0.00	20.0
BC12861	Sodium, Total	mg/L	0.00321	0.0660	5.00	20.3	20.4	5.08	4.25 to 5.75	112	70.0 to 130	0.491	20.0
BC12861	Sulfate	mg/L	0.875	2.0	1600	2190	2250	19.5	18.0 to 22.0	101	80.0 to 120	2.70	20.0
BC12863	Thallium, Dissolved	mg/L	0.000006	0.000147	0.100	0.110	0.112	0.110	0.0850 to 0.115	110	70.0 to 130	1.80	20.0
BC12861	Thallium, Total	mg/L	0.0000049	0.000147	0.100	0.109	0.109	0.109	0.0850 to 0.115	109	70.0 to 130	0.00	20.0
BC12861	Total Organic Carbon	mg/L	0.201	1.00	10.0	10.9	10.9	9.79		97.4	80.0 to 120	0.00	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.  
 Alkalinity could not be performed, pH below titration end point of 4.5 SU.  
 Fluoride may have potential matrix interference.

## Batch QC Summary

**Customer Account:** WMWGORG

**Sample Date:** 7/13/22 11:40

**Customer ID:**

**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - MW-14H

**Laboratory ID Number:** BC12859

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC12861	Nitrogen, Nitrate/Nitrite	mg/L as N	0.09	0.200	2.00	2.32	0.193	1.90	1.80 to 2.20	116	90.0 to 110	0.00	15.0
BC12873	Solids, Dissolved	mg/L	1.00	25.0			4770	50.0	40.0 to 60.0			1.48	10.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.  
 Alkalinity could not be performed, pH below titration end point of 4.5 SU.  
 Fluoride may have potential matrix interference.

# Certificate Of Analysis

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

**Location Code:** WMWGORGFB  
**Collected:** 7/13/22 12:00  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12860

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Total	7/18/22 11:51	7/21/22 10:45		1.015	Not Detected	mg/L	0.030000	0.1015	U
* Calcium, Total	7/18/22 11:51	7/21/22 10:45		1.015	Not Detected	mg/L	0.070035	0.406	U
* Iron, Total	7/18/22 11:51	7/21/22 10:45		1.015	Not Detected	mg/L	0.008120	0.0406	U
* Lithium, Total	7/18/22 11:51	7/21/22 10:45		1.015	Not Detected	mg/L	0.007105	0.01999956	U
* Magnesium, Total	7/18/22 11:51	7/21/22 10:45		1.015	Not Detected	mg/L	0.021315	0.406	U
Silica, Total (calc.)	7/18/22 11:51	7/21/22 10:45		1	Not Detected	mg/L			
Silicon, Total	7/18/22 11:51	7/21/22 10:45		1.015	Not Detected	mg/L	0.02030	0.25375	U
* Sodium, Total	7/18/22 11:51	7/21/22 10:45		1.015	Not Detected	mg/L	0.03045	0.406	U
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: DLJ</b>		<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	7/18/22 15:05	7/19/22 10:08		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/18/22 15:05	7/19/22 10:08		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Total	7/18/22 15:05	7/19/22 10:08		1.015	Not Detected	mg/L	0.000081	0.000203	U
* Barium, Total	7/18/22 15:05	7/19/22 10:08		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Beryllium, Total	7/18/22 15:05	7/19/22 10:08		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	7/18/22 15:05	7/19/22 10:08		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	7/18/22 15:05	7/19/22 10:08		1.015	0.000249	mg/L	0.000203	0.001015	J
* Cobalt, Total	7/18/22 15:05	7/19/22 10:08		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Lead, Total	7/18/22 15:05	7/19/22 10:08		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	7/18/22 15:05	7/19/22 10:08		1.015	0.000276	mg/L	0.000152	0.000203	
* Molybdenum, Total	7/18/22 15:05	7/19/22 10:08		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Potassium, Total	7/18/22 15:05	7/19/22 10:08		1.015	Not Detected	mg/L	0.169505	0.5075	U
* Selenium, Total	7/18/22 15:05	7/19/22 10:08		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	7/18/22 15:05	7/19/22 10:08		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>			<b>Analyst: CRB</b>						
* Mercury, Total by CVAA	7/15/22 16:07	7/15/22 20:40		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>			<b>Analyst: CES</b>						
* Nitrogen, Nitrate/Nitrite	7/19/22 14:18	7/19/22 14:18		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2540C</b>			<b>Analyst: CNJ</b>						
* Solids, Dissolved	7/15/22 11:12	7/18/22 13:45		1	Not Detected	mg/L		25	U

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

**Comments:**

# Certificate Of Analysis

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

**Location Code:** WMWGORGFB

**Collected:** 7/13/22 12:00

**Customer ID:**

**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12860

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	7/14/22 23:16	7/14/22 23:16		1	Not Detected	mg/L	1.00	2	U
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	7/20/22 09:10	7/20/22 09:10		1	Not Detected	mg/L	0.50	1	U
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	7/20/22 12:19	7/20/22 12:19		1	Not Detected	mg/L	0.06	0.125	U
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	7/19/22 12:24	7/19/22 12:24		1	1.05	mg/L	0.6	2	J

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

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**Comments:**

# Batch QC Summary

**Customer Account:** WMWGORGFB

**Sample Date:** 7/13/22 12:00

**Customer ID:**

**Delivery Date:** 7/14/22 08:24

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

**Laboratory ID Number:** BC12860

Sample	Analysis	Units	MB					Standard		Rec		Prec	Limit
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12861	Aluminum, Total	mg/L	0.000319	0.010	0.100	18.2	18.9	0.104	0.0850 to 0.115	-400	70.0 to 130	3.77	20.0
BC12861	Antimony, Total	mg/L	0.000312	0.00100	0.100	0.101	0.102	0.0939	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BC12861	Arsenic, Total	mg/L	0.0000069	0.000176	0.100	0.106	0.109	0.103	0.0850 to 0.115	101	70.0 to 130	2.79	20.0
BC12861	Barium, Total	mg/L	-0.0000749	0.00100	0.100	0.110	0.110	0.0955	0.0850 to 0.115	101	70.0 to 130	0.00	20.0
BC12861	Beryllium, Total	mg/L	0.0000247	0.000880	0.100	0.112	0.110	0.0974	0.0850 to 0.115	104	70.0 to 130	1.80	20.0
BC12861	Boron, Total	mg/L	-0.000693	0.0650	1.00	1.08	1.07	1.01	0.850 to 1.15	103	70.0 to 130	0.930	20.0
BC12861	Cadmium, Total	mg/L	0.0000	0.000147	0.100	0.103	0.101	0.100	0.0850 to 0.115	103	70.0 to 130	1.96	20.0
BC12861	Calcium, Total	mg/L	-0.0310	0.152	5.00	111	110	4.94	4.25 to 5.75	120	70.0 to 130	0.905	20.0
BC12861	Chloride	mg/L	0.0825	1.00	10.0	12.1	12.3	10.4	9.00 to 11.0	103	80.0 to 120	1.64	20.0
BC12861	Chromium, Total	mg/L	-0.0000122	0.000440	0.100	0.103	0.104	0.103	0.0850 to 0.115	101	70.0 to 130	0.966	20.0
BC12861	Cobalt, Total	mg/L	-0.0000016	0.000147	0.100	0.230	0.229	0.104	0.0850 to 0.115	105	70.0 to 130	0.436	20.0
BC12857	Fluoride	mg/L	0.00152	0.125	2.50	2.79	2.95	2.62	2.25 to 2.75	99.6	80.0 to 120	5.57	20.0
BC12861	Iron, Total	mg/L	0.000235	0.0176	0.2	13.8	13.7	0.200	0.170 to 0.230	200	70.0 to 130	0.727	20.0
BC12861	Lead, Total	mg/L	0.0000058	0.000147	0.100	0.108	0.109	0.109	0.0850 to 0.115	108	70.0 to 130	0.922	20.0
BC12861	Lithium, Total	mg/L	-0.000367	0.0154	0.200	0.603	0.607	0.204	0.170 to 0.230	108	70.0 to 130	0.661	20.0
BC12861	Magnesium, Total	mg/L	0.00801	0.0462	5.00	74.1	73.4	4.94	4.25 to 5.75	136	70.0 to 130	0.949	20.0
BC12861	Manganese, Total	mg/L	-0.0000273	0.0002	0.100	3.94	4.05	0.103	0.0850 to 0.115	0.00	70.0 to 130	2.75	20.0
BC12861	Mercury, Total by CVAA	mg/L	1.000E-05	0.000500	0.004	0.004	0.00397	0.00404	0.00340 to 0.00460	100	70.0 to 130	0.753	20.0
BC12861	Molybdenum, Total	mg/L	0.0000044	0.0002	0.100	0.0996	0.101	0.0990	0.0850 to 0.115	99.6	70.0 to 130	1.40	20.0
BC12861	Potassium, Total	mg/L	0.0116	0.367	10.0	11.4	13.0	10.4	8.50 to 11.5	86.2	70.0 to 130	13.1	20.0
BC12861	Selenium, Total	mg/L	0.0000228	0.00100	0.100	0.107	0.108	0.106	0.0850 to 0.115	103	70.0 to 130	0.930	20.0
BC12861	Silicon, Total	mg/L	0.000372	0.0440	1.00	21.9	21.9	1.04	0.850 to 1.15	120	70.0 to 130	0.00	20.0
BC12861	Sodium, Total	mg/L	0.00321	0.0660	5.00	20.3	20.4	5.08	4.25 to 5.75	112	70.0 to 130	0.491	20.0
BC12861	Sulfate	mg/L	0.875	2.0	1600	2190	2250	19.5	18.0 to 22.0	101	80.0 to 120	2.70	20.0

**Comments:**

# Batch QC Summary

**Customer Account:** WMWGORGFB  
**Sample Date:** 7/13/22 12:00  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

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

**Laboratory ID Number:** BC12860

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit	Prec	Limit
BC12861	Thallium, Total	mg/L	0.0000049	0.000147	0.100	0.109	0.109	0.109	0.0850 to 0.115	109	70.0 to 130	0.00	20.0
BC12861	Total Organic Carbon	mg/L	0.201	1.00	10.0	10.9	10.9	9.79		97.4	80.0 to 120	0.00	20.0

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**Comments:**

## Batch QC Summary

**Customer Account:** WMWGORGFB

**Sample Date:** 7/13/22 12:00

**Customer ID:**

**Delivery Date:** 7/14/22 08:24

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

**Laboratory ID Number:** BC12860

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC12861	Nitrogen, Nitrate/Nitrite	mg/L as N	0.09	0.200	2.00	2.32	0.193	1.90	1.80 to 2.20	116	90.0 to 110	0.00	15.0
BC12873	Solids, Dissolved	mg/L	1.00	25.0			4770	50.0	40.0 to 60.0			1.48	10.0

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**Comments:**



# Certificate Of Analysis

**Description:** Gorgas Gypsum - PZ-18

**Location Code:** WMWGORG  
**Collected:** 7/12/22 09:06  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12861

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Total	7/18/22 11:51	7/21/22 10:48		1.015	0.0535	mg/L	0.030000	0.1015	J
* Calcium, Total	7/18/22 11:51	7/22/22 12:12		10.15	105	mg/L	0.70035	4.06	
* Iron, Total	7/18/22 11:51	7/22/22 12:12		10.15	13.4	mg/L	0.08120	0.406	RA
* Lithium, Total	7/18/22 11:51	7/21/22 10:48		1.015	0.387	mg/L	0.007105	0.01999956	
* Magnesium, Total	7/18/22 11:51	7/22/22 12:12		10.15	67.3	mg/L	0.21315	4.06	RA
Silica, Total (calc.)	7/18/22 11:51	7/22/22 12:12		1	44.3	mg/L			
Silicon, Total	7/18/22 11:51	7/22/22 12:12		10.15	20.7	mg/L	0.2030	2.5375	
* Sodium, Total	7/18/22 11:51	7/21/22 10:48		1.015	14.7	mg/L	0.03045	0.406	
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	7/19/22 11:38	7/19/22 12:37		1.015	0.0579	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	7/19/22 11:38	7/19/22 15:08		10.15	111	mg/L	0.70035	4.06	
* Iron, Dissolved	7/19/22 11:38	7/19/22 15:08		10.15	14.0	mg/L	0.08120	0.406	
* Lithium, Dissolved	7/19/22 11:38	7/19/22 12:37		1.015	0.365	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	7/19/22 11:38	7/19/22 15:08		10.15	68.7	mg/L	0.21315	4.06	
Silica, Dissolved (calc.)	7/19/22 11:38	7/19/22 12:37		1	42.2	mg/L			
Silicon, Dissolved	7/19/22 11:38	7/19/22 12:37		1.015	19.7	mg/L	0.02030	0.25375	
* Sodium, Dissolved	7/19/22 11:38	7/19/22 12:37		1.015	13.4	mg/L	0.03045	0.406	
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: DLJ</b>		<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	7/18/22 15:05	7/19/22 10:11		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/18/22 15:05	7/20/22 18:15		92.365	18.6	mg/L	0.554190	0.92365	RA
* Arsenic, Total	7/18/22 15:05	7/19/22 10:11		1.015	0.00530	mg/L	0.000081	0.000203	
* Barium, Total	7/18/22 15:05	7/19/22 10:11		1.015	0.00944	mg/L	0.000508	0.001015	
* Beryllium, Total	7/18/22 15:05	7/19/22 10:11		1.015	0.00757	mg/L	0.000406	0.001015	
* Cadmium, Total	7/18/22 15:05	7/19/22 10:11		1.015	0.000374	mg/L	0.000068	0.000203	
* Chromium, Total	7/18/22 15:05	7/19/22 10:11		1.015	0.00191	mg/L	0.000203	0.001015	
* Cobalt, Total	7/18/22 15:05	7/19/22 10:11		1.015	0.125	mg/L	0.000068	0.000203	
* Lead, Total	7/18/22 15:05	7/19/22 10:11		1.015	0.000400	mg/L	0.000068	0.000203	
* Manganese, Total	7/18/22 15:05	7/20/22 14:22		5.075	3.94	mg/L	0.000761	0.001015	RA
* Molybdenum, Total	7/18/22 15:05	7/19/22 10:11		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Potassium, Total	7/18/22 15:05	7/19/22 10:11		1.015	2.78	mg/L	0.169505	0.5075	

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

**Comments:** Nitrate/Nitrite MS recovery was outside the specification limit.  
 Alkalinity could not be performed, pH below titration end point of 4.5 SU.  
 Fluoride may have potential matrix interference.

# Certificate Of Analysis

**Description:** Gorgas Gypsum - PZ-18

**Location Code:** WMWGORG  
**Collected:** 7/12/22 09:06  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12861

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	7/18/22 15:05	7/19/22 10:11		1.015	0.00398	mg/L	0.000508	0.001015	
* Thallium, Total	7/18/22 15:05	7/19/22 10:11		1.015	0.0000948	mg/L	0.000068	0.000203	J
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	7/20/22 06:58	7/20/22 11:24		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	7/20/22 06:58	7/20/22 18:01		92.365	18.8	mg/L	0.554190	0.92365	RA
* Arsenic, Dissolved	7/20/22 06:58	7/20/22 11:24		1.015	0.00603	mg/L	0.000081	0.000203	
* Barium, Dissolved	7/20/22 06:58	7/20/22 11:24		1.015	0.00948	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	7/20/22 06:58	7/20/22 11:24		1.015	0.00673	mg/L	0.000406	0.001015	
* Cadmium, Dissolved	7/20/22 06:58	7/20/22 11:24		1.015	0.000289	mg/L	0.000068	0.000203	
* Chromium, Dissolved	7/20/22 06:58	7/20/22 11:24		1.015	0.00171	mg/L	0.000203	0.001015	
* Cobalt, Dissolved	7/20/22 06:58	7/20/22 11:24		1.015	0.128	mg/L	0.000068	0.000203	
* Lead, Dissolved	7/20/22 06:58	7/20/22 11:24		1.015	0.000418	mg/L	0.000068	0.000203	
* Manganese, Dissolved	7/20/22 06:58	7/20/22 11:38		5.075	3.96	mg/L	0.000761	0.001015	RA
* Molybdenum, Dissolved	7/20/22 06:58	7/20/22 11:24		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Potassium, Dissolved	7/20/22 06:58	7/20/22 11:24		1.015	2.86	mg/L	0.169505	0.5075	
* Selenium, Dissolved	7/20/22 06:58	7/20/22 11:24		1.015	0.00357	mg/L	0.000508	0.001015	
* Thallium, Dissolved	7/20/22 06:58	7/20/22 11:24		1.015	0.0000872	mg/L	0.000068	0.000203	J
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	7/15/22 16:07	7/15/22 20:44		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: CES</b>							
* Nitrogen, Nitrate/Nitrite	7/19/22 14:20	7/19/22 14:20		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	7/14/22 13:30	7/15/22 13:16		1	968	mg/L		50	
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	7/14/22 23:32	7/14/22 23:32		1	1.16	mg/L	1.00	2	J
<b>Analytical Method: SM4500CI E</b>		<b>Analyst: JCC</b>							
* Chloride	7/20/22 09:11	7/20/22 09:11		1	1.77	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	7/20/22 12:20	7/20/22 12:20		1	Not Detected	mg/L	0.06	0.125	U
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	7/19/22 12:25	7/19/22 12:25		80	578	mg/L	48.0	160	

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

**Comments:** Nitrate/Nitrite MS recovery was outside the specification limit.  
 Alkalinity could not be performed, pH below titration end point of 4.5 SU.  
 Fluoride may have potential matrix interference.

# Certificate Of Analysis

**Description:** Gorgas Gypsum - PZ-18

**Location Code:** WMWGORG  
**Collected:** 7/12/22 09:06  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12861

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: Field Measurements</b>		<b>Analyst: DKG</b>							
Conductivity	7/12/22 09:03	7/12/22 09:03			1101.69	uS/cm			FA
pH	7/12/22 09:03	7/12/22 09:03			4.03	SU			FA
Temperature	7/12/22 09:03	7/12/22 09:03			21.65	C			FA
Turbidity	7/12/22 09:03	7/12/22 09:03			0.77	NTU			FA
Sulfide	7/12/22 09:03	7/12/22 09:03			0	mg/L			FA

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

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**Comments:** Nitrate/Nitrite MS recovery was outside the specification limit.  
 Alkalinity could not be performed, pH below titration end point of 4.5 SU.  
 Fluoride may have potential matrix interference.

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/12/22 09:06  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - PZ-18

**Laboratory ID Number:** BC12861

Sample	Analysis	Units	MB					Standard		Rec		Prec	Limit
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12861	Aluminum, Dissolved	mg/L	-0.000241	0.010	0.100	18.6	18.8	0.105	0.0850 to 0.115	-200	70.0 to 130	1.07	20.0
BC12861	Aluminum, Total	mg/L	0.000319	0.010	0.100	18.2	18.9	0.104	0.0850 to 0.115	-400	70.0 to 130	3.77	20.0
BC12861	Antimony, Dissolved	mg/L	0.000370	0.00100	0.100	0.0995	0.0977	0.0852	0.0850 to 0.115	99.5	70.0 to 130	1.83	20.0
BC12861	Antimony, Total	mg/L	0.000312	0.00100	0.100	0.101	0.102	0.0939	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BC12861	Arsenic, Dissolved	mg/L	0.0000192	0.000176	0.100	0.110	0.110	0.112	0.0850 to 0.115	104	70.0 to 130	0.00	20.0
BC12861	Arsenic, Total	mg/L	0.0000069	0.000176	0.100	0.106	0.109	0.103	0.0850 to 0.115	101	70.0 to 130	2.79	20.0
BC12861	Barium, Dissolved	mg/L	-0.0000121	0.00100	0.100	0.113	0.110	0.0966	0.0850 to 0.115	104	70.0 to 130	2.69	20.0
BC12861	Barium, Total	mg/L	-0.0000749	0.00100	0.100	0.110	0.110	0.0955	0.0850 to 0.115	101	70.0 to 130	0.00	20.0
BC12861	Beryllium, Dissolved	mg/L	0.000248	0.000880	0.100	0.104	0.104	0.102	0.0850 to 0.115	97.3	70.0 to 130	0.00	20.0
BC12861	Beryllium, Total	mg/L	0.0000247	0.000880	0.100	0.112	0.110	0.0974	0.0850 to 0.115	104	70.0 to 130	1.80	20.0
BC12862	Boron, Dissolved	mg/L	0.00411	0.0650	1.00	1.07	1.07	0.963	0.850 to 1.15	101	70.0 to 130	0.00	20.0
BC12861	Boron, Total	mg/L	-0.000693	0.0650	1.00	1.08	1.07	1.01	0.850 to 1.15	103	70.0 to 130	0.930	20.0
BC12861	Cadmium, Dissolved	mg/L	-0.0000115	0.000147	0.100	0.106	0.105	0.105	0.0850 to 0.115	106	70.0 to 130	0.948	20.0
BC12861	Cadmium, Total	mg/L	0.0000	0.000147	0.100	0.103	0.101	0.100	0.0850 to 0.115	103	70.0 to 130	1.96	20.0
BC12862	Calcium, Dissolved	mg/L	-0.0137	0.152	5.00	132	131	5.45	4.25 to 5.75	100	70.0 to 130	0.760	20.0
BC12861	Calcium, Total	mg/L	-0.0310	0.152	5.00	111	110	4.94	4.25 to 5.75	120	70.0 to 130	0.905	20.0
BC12861	Chloride	mg/L	0.0825	1.00	10.0	12.1	12.3	10.4	9.00 to 11.0	103	80.0 to 120	1.64	20.0
BC12861	Chromium, Dissolved	mg/L	-0.0000977	0.000440	0.100	0.102	0.102	0.104	0.0850 to 0.115	100	70.0 to 130	0.00	20.0
BC12861	Chromium, Total	mg/L	-0.0000122	0.000440	0.100	0.103	0.104	0.103	0.0850 to 0.115	101	70.0 to 130	0.966	20.0
BC12861	Cobalt, Dissolved	mg/L	-0.0000317	0.000147	0.100	0.230	0.233	0.107	0.0850 to 0.115	102	70.0 to 130	1.30	20.0
BC12861	Cobalt, Total	mg/L	-0.0000016	0.000147	0.100	0.230	0.229	0.104	0.0850 to 0.115	105	70.0 to 130	0.436	20.0
BC12857	Fluoride	mg/L	0.00152	0.125	2.50	2.79	2.95	2.62	2.25 to 2.75	99.6	80.0 to 120	5.57	20.0
BC12862	Iron, Dissolved	mg/L	-0.0002	0.0176	0.2	3.10	3.11	0.195	0.170 to 0.230	80.0	70.0 to 130	0.322	20.0
BC12861	Iron, Total	mg/L	0.000235	0.0176	0.2	13.8	13.7	0.200	0.170 to 0.230	200	70.0 to 130	0.727	20.0

**Comments:** Nitrate/Nitrite MS recovery was outside the specification limit.  
 Alkalinity could not be performed, pH below titration end point of 4.5 SU.  
 Fluoride may have potential matrix interference.

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/12/22 09:06  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - PZ-18

**Laboratory ID Number:** BC12861

Sample	Analysis	Units	MB	MB		MS	MSD	Standard		Rec		Prec	Limit
				Limit	Spike			Standard	Limit	Rec	Limit		
BC12861	Lead, Dissolved	mg/L	0.000068	0.000147	0.100	0.107	0.107	0.110	0.0850 to 0.115	107	70.0 to 130	0.00	20.0
BC12861	Lead, Total	mg/L	0.000058	0.000147	0.100	0.108	0.109	0.109	0.0850 to 0.115	108	70.0 to 130	0.922	20.0
BC12862	Lithium, Dissolved	mg/L	-0.000397	0.0154	0.200	0.299	0.296	0.195	0.170 to 0.230	107	70.0 to 130	1.01	20.0
BC12861	Lithium, Total	mg/L	-0.000367	0.0154	0.200	0.603	0.607	0.204	0.170 to 0.230	108	70.0 to 130	0.661	20.0
BC12862	Magnesium, Dissolved	mg/L	-0.00737	0.0462	5.00	58.3	57.9	4.80	4.25 to 5.75	98.0	70.0 to 130	0.688	20.0
BC12861	Magnesium, Total	mg/L	0.00801	0.0462	5.00	74.1	73.4	4.94	4.25 to 5.75	136	70.0 to 130	0.949	20.0
BC12861	Manganese, Dissolved	mg/L	-0.000137	0.0002	0.100	4.11	4.16	0.105	0.0850 to 0.115	150	70.0 to 130	1.21	20.0
BC12861	Manganese, Total	mg/L	-0.0000273	0.0002	0.100	3.94	4.05	0.103	0.0850 to 0.115	0.00	70.0 to 130	2.75	20.0
BC12861	Mercury, Total by CVAA	mg/L	1.000E-05	0.000500	0.004	0.004	0.00397	0.00404	0.00340 to 0.00460	100	70.0 to 130	0.753	20.0
BC12861	Molybdenum, Dissolved	mg/L	-0.0000058	0.0002	0.100	0.0854	0.0837	0.101	0.0850 to 0.115	85.4	70.0 to 130	2.01	20.0
BC12861	Molybdenum, Total	mg/L	0.0000044	0.0002	0.100	0.0996	0.101	0.0990	0.0850 to 0.115	99.6	70.0 to 130	1.40	20.0
BC12861	Potassium, Dissolved	mg/L	-0.0265	0.367	10.0	13.4	13.2	10.8	8.50 to 11.5	105	70.0 to 130	1.50	20.0
BC12861	Potassium, Total	mg/L	0.0116	0.367	10.0	11.4	13.0	10.4	8.50 to 11.5	86.2	70.0 to 130	13.1	20.0
BC12861	Selenium, Dissolved	mg/L	0.000223	0.00100	0.100	0.110	0.108	0.112	0.0850 to 0.115	106	70.0 to 130	1.83	20.0
BC12861	Selenium, Total	mg/L	0.0000228	0.00100	0.100	0.107	0.108	0.106	0.0850 to 0.115	103	70.0 to 130	0.930	20.0
BC12862	Silicon, Dissolved	mg/L	0.000137	0.0440	1.00	11.0	11.1	0.959	0.850 to 1.15	90.0	70.0 to 130	0.905	20.0
BC12861	Silicon, Total	mg/L	0.000372	0.0440	1.00	21.9	21.9	1.04	0.850 to 1.15	120	70.0 to 130	0.00	20.0
BC12862	Sodium, Dissolved	mg/L	0.00136	0.0660	5.00	126	126	4.80	4.25 to 5.75	80.0	70.0 to 130	0.00	20.0
BC12861	Sodium, Total	mg/L	0.00321	0.0660	5.00	20.3	20.4	5.08	4.25 to 5.75	112	70.0 to 130	0.491	20.0
BC12861	Sulfate	mg/L	0.875	2.0	1600	2190	2250	19.5	18.0 to 22.0	101	80.0 to 120	2.70	20.0
BC12861	Thallium, Dissolved	mg/L	-0.0000067	0.000147	0.100	0.104	0.105	0.108	0.0850 to 0.115	104	70.0 to 130	0.957	20.0
BC12861	Thallium, Total	mg/L	0.0000049	0.000147	0.100	0.109	0.109	0.109	0.0850 to 0.115	109	70.0 to 130	0.00	20.0
BC12861	Total Organic Carbon	mg/L	0.201	1.00	10.0	10.9	10.9	9.79		97.4	80.0 to 120	0.00	20.0

**Comments:** Nitrate/Nitrite MS recovery was outside the specification limit.  
 Alkalinity could not be performed, pH below titration end point of 4.5 SU.  
 Fluoride may have potential matrix interference.

## Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/12/22 09:06  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - PZ-18

**Laboratory ID Number:** BC12861

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC12861	Nitrogen, Nitrate/Nitrite	mg/L as N	0.09	0.200	2.00	2.32	0.193	1.90	1.80 to 2.20	116	90.0 to 110	0.00	15.0
BC12871	Solids, Dissolved	mg/L	1.00	25.0			3120	48.0	40.0 to 60.0			0.966	10.0

**Comments:** Nitrate/Nitrite MS recovery was outside the specification limit.  
 Alkalinity could not be performed, pH below titration end point of 4.5 SU.  
 Fluoride may have potential matrix interference.

# Certificate Of Analysis

**Description:** Gorgas Gypsum - PZ-19

**Location Code:** WMWGORG  
**Collected:** 7/12/22 11:14  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12862

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Total	7/18/22 11:51	7/21/22 11:02		1.015	0.0555	mg/L	0.030000	0.1015	J
* Calcium, Total	7/18/22 11:51	7/22/22 12:29		10.15	123	mg/L	0.70035	4.06	
* Iron, Total	7/18/22 11:51	7/21/22 11:02		1.015	3.21	mg/L	0.008120	0.0406	
* Lithium, Total	7/18/22 11:51	7/21/22 11:02		1.015	0.0873	mg/L	0.007105	0.01999956	
* Magnesium, Total	7/18/22 11:51	7/22/22 12:29		10.15	53.8	mg/L	0.21315	4.06	
Silica, Total (calc.)	7/18/22 11:51	7/21/22 11:02		1	22.7	mg/L			
Silicon, Total	7/18/22 11:51	7/21/22 11:02		1.015	10.6	mg/L	0.02030	0.25375	
* Sodium, Total	7/18/22 11:51	7/22/22 12:29		10.15	123	mg/L	0.3045	4.06	
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	7/19/22 11:38	7/19/22 12:40		1.015	0.0607	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	7/19/22 11:38	7/19/22 15:12		10.15	127	mg/L	0.70035	4.06	
* Iron, Dissolved	7/19/22 11:38	7/19/22 12:40		1.015	2.94	mg/L	0.008120	0.0406	
* Lithium, Dissolved	7/19/22 11:38	7/19/22 12:40		1.015	0.0858	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	7/19/22 11:38	7/19/22 15:12		10.15	53.4	mg/L	0.21315	4.06	
Silica, Dissolved (calc.)	7/19/22 11:38	7/19/22 12:40		1	21.6	mg/L			
Silicon, Dissolved	7/19/22 11:38	7/19/22 12:40		1.015	10.1	mg/L	0.02030	0.25375	
* Sodium, Dissolved	7/19/22 11:38	7/19/22 15:12		10.15	122	mg/L	0.3045	4.06	
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: DLJ</b>		<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	7/18/22 15:05	7/19/22 10:33		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/18/22 15:05	7/19/22 10:33		1.015	0.0918	mg/L	0.006090	0.01015	
* Arsenic, Total	7/18/22 15:05	7/19/22 10:33		1.015	0.00162	mg/L	0.000081	0.000203	
* Barium, Total	7/18/22 15:05	7/19/22 10:33		1.015	0.0334	mg/L	0.000508	0.001015	
* Beryllium, Total	7/18/22 15:05	7/19/22 10:33		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	7/18/22 15:05	7/19/22 10:33		1.015	0.0000739	mg/L	0.000068	0.000203	J
* Chromium, Total	7/18/22 15:05	7/19/22 10:33		1.015	0.000327	mg/L	0.000203	0.001015	J
* Cobalt, Total	7/18/22 15:05	7/19/22 10:33		1.015	0.00217	mg/L	0.000068	0.000203	
* Lead, Total	7/18/22 15:05	7/19/22 10:33		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	7/18/22 15:05	7/19/22 10:33		1.015	0.933	mg/L	0.000152	0.000203	
* Molybdenum, Total	7/18/22 15:05	7/19/22 10:33		1.015	0.000511	mg/L	0.000102	0.000203	
* Potassium, Total	7/18/22 15:05	7/19/22 10:33		1.015	3.87	mg/L	0.169505	0.5075	

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

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

# Certificate Of Analysis

**Description:** Gorgas Gypsum - PZ-19

**Location Code:** WMWGORG  
**Collected:** 7/12/22 11:14  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12862

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	7/18/22 15:05	7/19/22 10:33		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	7/18/22 15:05	7/19/22 10:33		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	7/18/22 08:58	7/19/22 12:40		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	7/18/22 08:58	7/19/22 12:40		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Dissolved	7/18/22 08:58	7/19/22 12:40		1.015	0.00156	mg/L	0.000081	0.000203	
* Barium, Dissolved	7/18/22 08:58	7/19/22 12:40		1.015	0.0340	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	7/18/22 08:58	7/19/22 12:40		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	7/18/22 08:58	7/19/22 12:40		1.015	0.0000791	mg/L	0.000068	0.000203	J
* Chromium, Dissolved	7/18/22 08:58	7/19/22 12:40		1.015	0.000243	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	7/18/22 08:58	7/19/22 12:40		1.015	0.00235	mg/L	0.000068	0.000203	
* Lead, Dissolved	7/18/22 08:58	7/19/22 12:40		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	7/18/22 08:58	7/19/22 12:40		1.015	0.954	mg/L	0.000152	0.000203	
* Molybdenum, Dissolved	7/18/22 08:58	7/19/22 12:40		1.015	0.000466	mg/L	0.000102	0.000203	
* Potassium, Dissolved	7/18/22 08:58	7/19/22 12:40		1.015	4.24	mg/L	0.169505	0.5075	
* Selenium, Dissolved	7/18/22 08:58	7/19/22 12:40		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	7/18/22 08:58	7/19/22 12:40		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	7/15/22 16:07	7/15/22 21:03		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: CES</b>							
* Nitrogen, Nitrate/Nitrite	7/19/22 14:29	7/19/22 14:29		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
Alkalinity, Total as CaCO3	7/19/22 13:28	7/19/22 15:01		1	455	mg/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	7/14/22 13:30	7/15/22 13:16		1	839	mg/L		75.8	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
Bicarbonate Alkalinity, (calc.)	7/19/22 13:28	7/19/22 15:01		1	454	mg/L		1	A
Carbonate Alkalinity, (calc.)	7/19/22 13:28	7/19/22 15:01		1	0.58	mg/L		0.5	A
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	7/15/22 01:07	7/15/22 01:07		1	3.03	mg/L	1.00	2	

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

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



# Certificate Of Analysis

**Description:** Gorgas Gypsum - PZ-19

**Location Code:** WMWGORG  
**Collected:** 7/12/22 11:14  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12862

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	7/20/22 09:59	7/20/22 09:59		1	13.0	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	7/20/22 12:37	7/20/22 12:37		1	0.310	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	7/19/22 13:48	7/19/22 13:48		20	331	mg/L	12.0	40	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: DKG</b>							
Conductivity	7/12/22 11:11	7/12/22 11:11			1180.88	uS/cm			FA
pH	7/12/22 11:11	7/12/22 11:11			6.58	SU			FA
Temperature	7/12/22 11:11	7/12/22 11:11			19.19	C			FA
Turbidity	7/12/22 11:11	7/12/22 11:11			2.06	NTU			FA
Sulfide	7/12/22 11:11	7/12/22 11:11			0	mg/L			FA

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

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

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/12/22 11:14  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - PZ-19

**Laboratory ID Number:** BC12862

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12863	Aluminum, Dissolved	mg/L	0.000116	0.010	0.100	0.107	0.108	0.104	0.0850 to 0.115	107	70.0 to 130	0.930	20.0
BC12871	Aluminum, Total	mg/L	0.000319	0.010	0.100	0.135	0.134	0.104	0.0850 to 0.115	102	70.0 to 130	0.743	20.0
BC12863	Antimony, Dissolved	mg/L	0.000265	0.00100	0.100	0.0950	0.0949	0.0890	0.0850 to 0.115	95.0	70.0 to 130	0.105	20.0
BC12871	Antimony, Total	mg/L	0.000312	0.00100	0.100	0.103	0.102	0.0939	0.0850 to 0.115	103	70.0 to 130	0.976	20.0
BC12863	Arsenic, Dissolved	mg/L	0.0000166	0.000176	0.100	0.106	0.108	0.103	0.0850 to 0.115	104	70.0 to 130	1.87	20.0
BC12871	Arsenic, Total	mg/L	0.0000069	0.000176	0.100	0.107	0.105	0.103	0.0850 to 0.115	107	70.0 to 130	1.89	20.0
BC12863	Barium, Dissolved	mg/L	-0.000033	0.00100	0.100	0.137	0.134	0.0964	0.0850 to 0.115	103	70.0 to 130	2.21	20.0
BC12871	Barium, Total	mg/L	-0.0000749	0.00100	0.100	0.122	0.123	0.0955	0.0850 to 0.115	100	70.0 to 130	0.816	20.0
BC12863	Beryllium, Dissolved	mg/L	0.0000386	0.000880	0.100	0.0949	0.0952	0.0951	0.0850 to 0.115	94.9	70.0 to 130	0.316	20.0
BC12871	Beryllium, Total	mg/L	0.0000247	0.000880	0.100	0.0972	0.102	0.0974	0.0850 to 0.115	97.2	70.0 to 130	4.82	20.0
BC12862	Boron, Dissolved	mg/L	0.00411	0.0650	1.00	1.07	1.07	0.963	0.850 to 1.15	101	70.0 to 130	0.00	20.0
BC12871	Boron, Total	mg/L	-0.000693	0.0650	1.00	3.33	3.35	1.01	0.850 to 1.15	103	70.0 to 130	0.599	20.0
BC12863	Cadmium, Dissolved	mg/L	0.0000049	0.000147	0.100	0.103	0.0999	0.103	0.0850 to 0.115	103	70.0 to 130	3.06	20.0
BC12871	Cadmium, Total	mg/L	0.0000	0.000147	0.100	0.0988	0.0981	0.100	0.0850 to 0.115	98.8	70.0 to 130	0.711	20.0
BC12862	Calcium, Dissolved	mg/L	-0.0137	0.152	5.00	132	131	5.45	4.25 to 5.75	100	70.0 to 130	0.760	20.0
BC12871	Calcium, Total	mg/L	-0.0310	0.152	5.00	448	451	4.94	4.25 to 5.75	-60.0	70.0 to 130	0.667	20.0
BC12871	Chloride	mg/L	0.00362	1.00	200	325	326	10.5	9.00 to 11.0	102	80.0 to 120	0.307	20.0
BC12863	Chromium, Dissolved	mg/L	-0.0000496	0.000440	0.100	0.103	0.102	0.102	0.0850 to 0.115	103	70.0 to 130	0.976	20.0
BC12871	Chromium, Total	mg/L	-0.0000122	0.000440	0.100	0.101	0.101	0.103	0.0850 to 0.115	101	70.0 to 130	0.00	20.0
BC12863	Cobalt, Dissolved	mg/L	-0.0000042	0.000147	0.100	0.106	0.106	0.105	0.0850 to 0.115	104	70.0 to 130	0.00	20.0
BC12871	Cobalt, Total	mg/L	-0.0000016	0.000147	0.100	0.101	0.102	0.104	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BC12871	Fluoride	mg/L	-0.0209	0.125	2.50	2.80	2.85	2.69	2.25 to 2.75	108	80.0 to 120	1.77	20.0
BC12862	Iron, Dissolved	mg/L	-0.0002	0.0176	0.2	3.10	3.11	0.195	0.170 to 0.230	80.0	70.0 to 130	0.322	20.0
BC12871	Iron, Total	mg/L	0.000235	0.0176	0.2	26.0	26.1	0.200	0.170 to 0.230	-100	70.0 to 130	0.384	20.0

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

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/12/22 11:14  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - PZ-19

**Laboratory ID Number:** BC12862

Sample	Analysis	Units	MB					Standard		Rec		Prec	Limit
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12863	Lead, Dissolved	mg/L	0.0000125	0.000147	0.100	0.110	0.111	0.108	0.0850 to 0.115	110	70.0 to 130	0.905	20.0
BC12871	Lead, Total	mg/L	0.0000058	0.000147	0.100	0.109	0.109	0.109	0.0850 to 0.115	109	70.0 to 130	0.00	20.0
BC12862	Lithium, Dissolved	mg/L	-0.000397	0.0154	0.200	0.299	0.296	0.195	0.170 to 0.230	107	70.0 to 130	1.01	20.0
BC12871	Lithium, Total	mg/L	-0.000367	0.0154	0.200	0.428	0.445	0.204	0.170 to 0.230	120	70.0 to 130	3.89	20.0
BC12862	Magnesium, Dissolved	mg/L	-0.00737	0.0462	5.00	58.3	57.9	4.80	4.25 to 5.75	98.0	70.0 to 130	0.688	20.0
BC12871	Magnesium, Total	mg/L	0.00801	0.0462	5.00	270	272	4.94	4.25 to 5.75	0.00	70.0 to 130	0.738	20.0
BC12863	Manganese, Dissolved	mg/L	0.000120	0.0002	0.100	1.06	1.05	0.102	0.0850 to 0.115	93.0	70.0 to 130	0.948	20.0
BC12871	Manganese, Total	mg/L	-0.0000273	0.0002	0.100	15.2	14.8	0.103	0.0850 to 0.115	-100	70.0 to 130	2.67	20.0
BC12871	Mercury, Total by CVAA	mg/L	1.000E-05	0.000500	0.004	0.00402	0.00399	0.00404	0.00340 to 0.00460	100	70.0 to 130	0.749	20.0
BC12863	Molybdenum, Dissolved	mg/L	0.000001	0.0002	0.100	0.103	0.102	0.100	0.0850 to 0.115	102	70.0 to 130	0.976	20.0
BC12871	Molybdenum, Total	mg/L	0.0000044	0.0002	0.100	0.104	0.101	0.0990	0.0850 to 0.115	104	70.0 to 130	2.93	20.0
BC12863	Potassium, Dissolved	mg/L	0.0174	0.367	10.0	15.0	14.8	10.7	8.50 to 11.5	108	70.0 to 130	1.34	20.0
BC12871	Potassium, Total	mg/L	0.0116	0.367	10.0	18.0	18.4	10.4	8.50 to 11.5	100	70.0 to 130	2.20	20.0
BC12863	Selenium, Dissolved	mg/L	0.0000243	0.00100	0.100	0.103	0.106	0.105	0.0850 to 0.115	103	70.0 to 130	2.87	20.0
BC12871	Selenium, Total	mg/L	0.0000228	0.00100	0.100	0.109	0.107	0.106	0.0850 to 0.115	109	70.0 to 130	1.85	20.0
BC12862	Silicon, Dissolved	mg/L	0.000137	0.0440	1.00	11.0	11.1	0.959	0.850 to 1.15	90.0	70.0 to 130	0.905	20.0
BC12871	Silicon, Total	mg/L	0.000372	0.0440	1.00	7.72	7.79	1.04	0.850 to 1.15	91.0	70.0 to 130	0.903	20.0
BC12862	Sodium, Dissolved	mg/L	0.00136	0.0660	5.00	126	126	4.80	4.25 to 5.75	80.0	70.0 to 130	0.00	20.0
BC12871	Sodium, Total	mg/L	0.00321	0.0660	5.00	158	159	5.08	4.25 to 5.75	80.0	70.0 to 130	0.631	20.0
BC12871	Sulfate	mg/L	0.401	2.0	3200	5200	5180	19.9	18.0 to 22.0	108	80.0 to 120	0.385	20.0
BC12863	Thallium, Dissolved	mg/L	0.000006	0.000147	0.100	0.110	0.112	0.110	0.0850 to 0.115	110	70.0 to 130	1.80	20.0
BC12871	Thallium, Total	mg/L	0.0000049	0.000147	0.100	0.110	0.112	0.109	0.0850 to 0.115	110	70.0 to 130	1.80	20.0
BC12871	Total Organic Carbon	mg/L	0.154	1.00	10.0	11.2	12.6	9.57		79.5	80.0 to 120	11.8	20.0

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

## Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/12/22 11:14  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - PZ-19

**Laboratory ID Number:** BC12862

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC12864	Alkalinity, Total as CaCO3	mg/L					259	50.2	45.0 to 55.0			1.15	10.0
BC12871	Nitrogen, Nitrate/Nitrite	mg/L as N	0.10	0.200	2.00	2.45	0.290	2.03	1.80 to 2.20	110	90.0 to 110	12.8	15.0
BC12871	Solids, Dissolved	mg/L	1.00	25.0			3120	48.0	40.0 to 60.0			0.966	10.0

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

# Certificate Of Analysis

**Description:** Gorgas Gypsum - PZ-19 Dup

**Location Code:** WMWGORG  
**Collected:** 7/12/22 11:14  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12863

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Total	7/18/22 11:51	7/21/22 11:05		1.015	0.0553	mg/L	0.030000	0.1015	J
* Calcium, Total	7/18/22 11:51	7/22/22 12:32		10.15	117	mg/L	0.70035	4.06	
* Iron, Total	7/18/22 11:51	7/21/22 11:05		1.015	3.25	mg/L	0.008120	0.0406	
* Lithium, Total	7/18/22 11:51	7/21/22 11:05		1.015	0.0888	mg/L	0.007105	0.01999956	
* Magnesium, Total	7/18/22 11:51	7/22/22 12:32		10.15	51.2	mg/L	0.21315	4.06	
Silica, Total (calc.)	7/18/22 11:51	7/21/22 11:05		1	22.9	mg/L			
Silicon, Total	7/18/22 11:51	7/21/22 11:05		1.015	10.7	mg/L	0.02030	0.25375	
* Sodium, Total	7/18/22 11:51	7/22/22 12:32		10.15	117	mg/L	0.3045	4.06	
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	7/19/22 11:38	7/19/22 12:54		1.015	0.0619	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	7/19/22 11:38	7/19/22 15:39		10.15	130	mg/L	0.70035	4.06	
* Iron, Dissolved	7/19/22 11:38	7/19/22 12:54		1.015	2.92	mg/L	0.008120	0.0406	
* Lithium, Dissolved	7/19/22 11:38	7/19/22 12:54		1.015	0.0870	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	7/19/22 11:38	7/19/22 15:39		10.15	54.3	mg/L	0.21315	4.06	
Silica, Dissolved (calc.)	7/19/22 11:38	7/19/22 12:54		1	21.6	mg/L			
Silicon, Dissolved	7/19/22 11:38	7/19/22 12:54		1.015	10.1	mg/L	0.02030	0.25375	
* Sodium, Dissolved	7/19/22 11:38	7/19/22 15:39		10.15	123	mg/L	0.3045	4.06	
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: DLJ</b>		<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	7/18/22 15:05	7/19/22 10:36		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/18/22 15:05	7/19/22 10:36		1.015	0.105	mg/L	0.006090	0.01015	
* Arsenic, Total	7/18/22 15:05	7/19/22 10:36		1.015	0.00151	mg/L	0.000081	0.000203	
* Barium, Total	7/18/22 15:05	7/19/22 10:36		1.015	0.0335	mg/L	0.000508	0.001015	
* Beryllium, Total	7/18/22 15:05	7/19/22 10:36		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	7/18/22 15:05	7/19/22 10:36		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	7/18/22 15:05	7/19/22 10:36		1.015	0.000268	mg/L	0.000203	0.001015	J
* Cobalt, Total	7/18/22 15:05	7/19/22 10:36		1.015	0.00221	mg/L	0.000068	0.000203	
* Lead, Total	7/18/22 15:05	7/19/22 10:36		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	7/18/22 15:05	7/19/22 10:36		1.015	0.948	mg/L	0.000152	0.000203	
* Molybdenum, Total	7/18/22 15:05	7/19/22 10:36		1.015	0.000532	mg/L	0.000102	0.000203	
* Potassium, Total	7/18/22 15:05	7/19/22 10:36		1.015	3.95	mg/L	0.169505	0.5075	

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

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

# Certificate Of Analysis

**Description:** Gorgas Gypsum - PZ-19 Dup

**Location Code:** WMWGORG  
**Collected:** 7/12/22 11:14  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12863

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	7/18/22 15:05	7/19/22 10:36		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	7/18/22 15:05	7/19/22 10:36		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	7/18/22 08:58	7/19/22 12:44		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	7/18/22 08:58	7/19/22 12:44		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Dissolved	7/18/22 08:58	7/19/22 12:44		1.015	0.00154	mg/L	0.000081	0.000203	
* Barium, Dissolved	7/18/22 08:58	7/19/22 12:44		1.015	0.0344	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	7/18/22 08:58	7/19/22 12:44		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	7/18/22 08:58	7/19/22 12:44		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	7/18/22 08:58	7/19/22 12:44		1.015	0.000260	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	7/18/22 08:58	7/19/22 12:44		1.015	0.00241	mg/L	0.000068	0.000203	
* Lead, Dissolved	7/18/22 08:58	7/19/22 12:44		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	7/18/22 08:58	7/19/22 12:44		1.015	0.967	mg/L	0.000152	0.000203	
* Molybdenum, Dissolved	7/18/22 08:58	7/19/22 12:44		1.015	0.000508	mg/L	0.000102	0.000203	
* Potassium, Dissolved	7/18/22 08:58	7/19/22 12:44		1.015	4.24	mg/L	0.169505	0.5075	
* Selenium, Dissolved	7/18/22 08:58	7/19/22 12:44		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	7/18/22 08:58	7/19/22 12:44		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	7/15/22 16:07	7/15/22 21:07		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: CES</b>							
* Nitrogen, Nitrate/Nitrite	7/19/22 14:31	7/19/22 14:31		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
Alkalinity, Total as CaCO3	7/19/22 13:28	7/19/22 15:01		1	455	mg/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	7/14/22 13:30	7/15/22 13:16		1	861	mg/L		75.8	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
Bicarbonate Alkalinity, (calc.)	7/19/22 13:28	7/19/22 15:01		1	454	mg/L		1	A
Carbonate Alkalinity, (calc.)	7/19/22 13:28	7/19/22 15:01		1	0.56	mg/L		0.5	A
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	7/15/22 01:32	7/15/22 01:32		1	1.68	mg/L	1.00	2	J

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

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

# Certificate Of Analysis

**Description:** Gorgas Gypsum - PZ-19 Dup

**Location Code:** WMWGORG  
**Collected:** 7/12/22 11:14  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12863

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	7/20/22 10:01	7/20/22 10:01		1	12.9	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	7/20/22 12:40	7/20/22 12:40		1	0.214	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	7/19/22 13:49	7/19/22 13:49		20	331	mg/L	12.0	40	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: DKG</b>							
Conductivity	7/12/22 11:11	7/12/22 11:11			1180.88	uS/cm			FA
pH	7/12/22 11:11	7/12/22 11:11			6.58	SU			FA
Temperature	7/12/22 11:11	7/12/22 11:11			19.19	C			FA
Turbidity	7/12/22 11:11	7/12/22 11:11			2.06	NTU			FA
Sulfide	7/12/22 11:11	7/12/22 11:11			0	mg/L			FA

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

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

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/12/22 11:14  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - PZ-19 Dup

**Laboratory ID Number:** BC12863

Sample	Analysis	Units	MB					Standard		Rec		Prec	Limit
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12863	Aluminum, Dissolved	mg/L	0.000116	0.010	0.100	0.107	0.108	0.104	0.0850 to 0.115	107	70.0 to 130	0.930	20.0
BC12871	Aluminum, Total	mg/L	0.000319	0.010	0.100	0.135	0.134	0.104	0.0850 to 0.115	102	70.0 to 130	0.743	20.0
BC12863	Antimony, Dissolved	mg/L	0.000265	0.00100	0.100	0.0950	0.0949	0.0890	0.0850 to 0.115	95.0	70.0 to 130	0.105	20.0
BC12871	Antimony, Total	mg/L	0.000312	0.00100	0.100	0.103	0.102	0.0939	0.0850 to 0.115	103	70.0 to 130	0.976	20.0
BC12863	Arsenic, Dissolved	mg/L	0.0000166	0.000176	0.100	0.106	0.108	0.103	0.0850 to 0.115	104	70.0 to 130	1.87	20.0
BC12871	Arsenic, Total	mg/L	0.0000069	0.000176	0.100	0.107	0.105	0.103	0.0850 to 0.115	107	70.0 to 130	1.89	20.0
BC12863	Barium, Dissolved	mg/L	-0.000033	0.00100	0.100	0.137	0.134	0.0964	0.0850 to 0.115	103	70.0 to 130	2.21	20.0
BC12871	Barium, Total	mg/L	-0.0000749	0.00100	0.100	0.122	0.123	0.0955	0.0850 to 0.115	100	70.0 to 130	0.816	20.0
BC12863	Beryllium, Dissolved	mg/L	0.0000386	0.000880	0.100	0.0949	0.0952	0.0951	0.0850 to 0.115	94.9	70.0 to 130	0.316	20.0
BC12871	Beryllium, Total	mg/L	0.0000247	0.000880	0.100	0.0972	0.102	0.0974	0.0850 to 0.115	97.2	70.0 to 130	4.82	20.0
BC12872	Boron, Dissolved	mg/L	0.00411	0.0650	1.00	4.08	4.09	0.963	0.850 to 1.15	98.0	70.0 to 130	0.245	20.0
BC12871	Boron, Total	mg/L	-0.000693	0.0650	1.00	3.33	3.35	1.01	0.850 to 1.15	103	70.0 to 130	0.599	20.0
BC12863	Cadmium, Dissolved	mg/L	0.0000049	0.000147	0.100	0.103	0.0999	0.103	0.0850 to 0.115	103	70.0 to 130	3.06	20.0
BC12871	Cadmium, Total	mg/L	0.0000	0.000147	0.100	0.0988	0.0981	0.100	0.0850 to 0.115	98.8	70.0 to 130	0.711	20.0
BC12872	Calcium, Dissolved	mg/L	-0.0137	0.152	5.00	195	191	5.45	4.25 to 5.75	300	70.0 to 130	2.07	20.0
BC12871	Calcium, Total	mg/L	-0.0310	0.152	5.00	448	451	4.94	4.25 to 5.75	-60.0	70.0 to 130	0.667	20.0
BC12871	Chloride	mg/L	0.00362	1.00	200	325	326	10.5	9.00 to 11.0	102	80.0 to 120	0.307	20.0
BC12863	Chromium, Dissolved	mg/L	-0.0000496	0.000440	0.100	0.103	0.102	0.102	0.0850 to 0.115	103	70.0 to 130	0.976	20.0
BC12871	Chromium, Total	mg/L	-0.0000122	0.000440	0.100	0.101	0.101	0.103	0.0850 to 0.115	101	70.0 to 130	0.00	20.0
BC12863	Cobalt, Dissolved	mg/L	-0.0000042	0.000147	0.100	0.106	0.106	0.105	0.0850 to 0.115	104	70.0 to 130	0.00	20.0
BC12871	Cobalt, Total	mg/L	-0.0000016	0.000147	0.100	0.101	0.102	0.104	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BC12871	Fluoride	mg/L	-0.0209	0.125	2.50	2.80	2.85	2.69	2.25 to 2.75	108	80.0 to 120	1.77	20.0
BC12872	Iron, Dissolved	mg/L	-0.0002	0.0176	0.2	41.6	40.1	0.195	0.170 to 0.230	100	70.0 to 130	3.67	20.0
BC12871	Iron, Total	mg/L	0.000235	0.0176	0.2	26.0	26.1	0.200	0.170 to 0.230	-100	70.0 to 130	0.384	20.0

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



# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/12/22 11:14  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - PZ-19 Dup

**Laboratory ID Number:** BC12863

Sample	Analysis	Units	MB					Standard		Rec		Prec	Limit
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12863	Lead, Dissolved	mg/L	0.0000125	0.000147	0.100	0.110	0.111	0.108	0.0850 to 0.115	110	70.0 to 130	0.905	20.0
BC12871	Lead, Total	mg/L	0.0000058	0.000147	0.100	0.109	0.109	0.109	0.0850 to 0.115	109	70.0 to 130	0.00	20.0
BC12872	Lithium, Dissolved	mg/L	-0.000397	0.0154	0.200	0.521	0.535	0.195	0.170 to 0.230	104	70.0 to 130	2.65	20.0
BC12871	Lithium, Total	mg/L	-0.000367	0.0154	0.200	0.428	0.445	0.204	0.170 to 0.230	120	70.0 to 130	3.89	20.0
BC12872	Magnesium, Dissolved	mg/L	-0.00737	0.0462	5.00	126	124	4.80	4.25 to 5.75	220	70.0 to 130	1.60	20.0
BC12871	Magnesium, Total	mg/L	0.00801	0.0462	5.00	270	272	4.94	4.25 to 5.75	0.00	70.0 to 130	0.738	20.0
BC12863	Manganese, Dissolved	mg/L	0.000120	0.0002	0.100	1.06	1.05	0.102	0.0850 to 0.115	93.0	70.0 to 130	0.948	20.0
BC12871	Manganese, Total	mg/L	-0.0000273	0.0002	0.100	15.2	14.8	0.103	0.0850 to 0.115	-100	70.0 to 130	2.67	20.0
BC12871	Mercury, Total by CVAA	mg/L	1.000E-05	0.000500	0.004	0.00402	0.00399	0.00404	0.00340 to 0.00460	100	70.0 to 130	0.749	20.0
BC12863	Molybdenum, Dissolved	mg/L	0.000001	0.0002	0.100	0.103	0.102	0.100	0.0850 to 0.115	102	70.0 to 130	0.976	20.0
BC12871	Molybdenum, Total	mg/L	0.0000044	0.0002	0.100	0.104	0.101	0.0990	0.0850 to 0.115	104	70.0 to 130	2.93	20.0
BC12863	Potassium, Dissolved	mg/L	0.0174	0.367	10.0	15.0	14.8	10.7	8.50 to 11.5	108	70.0 to 130	1.34	20.0
BC12871	Potassium, Total	mg/L	0.0116	0.367	10.0	18.0	18.4	10.4	8.50 to 11.5	100	70.0 to 130	2.20	20.0
BC12863	Selenium, Dissolved	mg/L	0.0000243	0.00100	0.100	0.103	0.106	0.105	0.0850 to 0.115	103	70.0 to 130	2.87	20.0
BC12871	Selenium, Total	mg/L	0.0000228	0.00100	0.100	0.109	0.107	0.106	0.0850 to 0.115	109	70.0 to 130	1.85	20.0
BC12872	Silicon, Dissolved	mg/L	0.000137	0.0440	1.00	14.1	14.1	0.959	0.850 to 1.15	80.0	70.0 to 130	0.00	20.0
BC12871	Silicon, Total	mg/L	0.000372	0.0440	1.00	7.72	7.79	1.04	0.850 to 1.15	91.0	70.0 to 130	0.903	20.0
BC12872	Sodium, Dissolved	mg/L	0.00136	0.0660	5.00	32.8	33.8	4.80	4.25 to 5.75	96.0	70.0 to 130	3.00	20.0
BC12871	Sodium, Total	mg/L	0.00321	0.0660	5.00	158	159	5.08	4.25 to 5.75	80.0	70.0 to 130	0.631	20.0
BC12871	Sulfate	mg/L	0.401	2.0	3200	5200	5180	19.9	18.0 to 22.0	108	80.0 to 120	0.385	20.0
BC12863	Thallium, Dissolved	mg/L	0.000006	0.000147	0.100	0.110	0.112	0.110	0.0850 to 0.115	110	70.0 to 130	1.80	20.0
BC12871	Thallium, Total	mg/L	0.0000049	0.000147	0.100	0.110	0.112	0.109	0.0850 to 0.115	110	70.0 to 130	1.80	20.0
BC12871	Total Organic Carbon	mg/L	0.154	1.00	10.0	11.2	12.6	9.57		79.5	80.0 to 120	11.8	20.0

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

## Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/12/22 11:14  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - PZ-19 Dup

**Laboratory ID Number:** BC12863

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard Standard	Standard Limit	Rec Rec	Rec Limit	Prec	Prec Limit
BC12864	Alkalinity, Total as CaCO3	mg/L					259	50.2	45.0 to 55.0			1.15	10.0
BC12871	Nitrogen, Nitrate/Nitrite	mg/L as N	0.10	0.200	2.00	2.45	0.290	2.03	1.80 to 2.20	110	90.0 to 110	12.8	15.0
BC12871	Solids, Dissolved	mg/L	1.00	25.0			3120	48.0	40.0 to 60.0			0.966	10.0

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

# Certificate Of Analysis

**Description:** Gorgas Gypsum - PZ-20

**Location Code:** WMWGORG  
**Collected:** 7/12/22 12:44  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12864

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Total	7/18/22 11:51	7/21/22 11:08		1.015	0.0887	mg/L	0.030000	0.1015	J
* Calcium, Total	7/18/22 11:51	7/22/22 12:35		10.15	98.3	mg/L	0.70035	4.06	
* Iron, Total	7/18/22 11:51	7/22/22 12:35		10.15	5.64	mg/L	0.08120	0.406	
* Lithium, Total	7/18/22 11:51	7/21/22 11:08		1.015	0.0915	mg/L	0.007105	0.01999956	
* Magnesium, Total	7/18/22 11:51	7/22/22 12:35		10.15	52.9	mg/L	0.21315	4.06	
Silica, Total (calc.)	7/18/22 11:51	7/21/22 11:08		1	19.7	mg/L			
Silicon, Total	7/18/22 11:51	7/21/22 11:08		1.015	9.22	mg/L	0.02030	0.25375	
* Sodium, Total	7/18/22 11:51	7/22/22 12:35		10.15	104	mg/L	0.3045	4.06	
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	7/19/22 11:38	7/19/22 12:57		1.015	0.0946	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	7/19/22 11:38	7/19/22 15:42		10.15	107	mg/L	0.70035	4.06	
* Iron, Dissolved	7/19/22 11:38	7/19/22 15:42		10.15	5.70	mg/L	0.08120	0.406	
* Lithium, Dissolved	7/19/22 11:38	7/19/22 12:57		1.015	0.0910	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	7/19/22 11:38	7/19/22 15:42		10.15	55.4	mg/L	0.21315	4.06	
Silica, Dissolved (calc.)	7/19/22 11:38	7/19/22 12:57		1	18.8	mg/L			
Silicon, Dissolved	7/19/22 11:38	7/19/22 12:57		1.015	8.79	mg/L	0.02030	0.25375	
* Sodium, Dissolved	7/19/22 11:38	7/19/22 15:42		10.15	110	mg/L	0.3045	4.06	
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: DLJ</b>		<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	7/18/22 15:05	7/19/22 10:40		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/18/22 15:05	7/19/22 10:40		1.015	0.0156	mg/L	0.006090	0.01015	
* Arsenic, Total	7/18/22 15:05	7/19/22 10:40		1.015	0.00222	mg/L	0.000081	0.000203	
* Barium, Total	7/18/22 15:05	7/19/22 10:40		1.015	0.0187	mg/L	0.000508	0.001015	
* Beryllium, Total	7/18/22 15:05	7/19/22 10:40		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	7/18/22 15:05	7/19/22 10:40		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	7/18/22 15:05	7/19/22 10:40		1.015	0.000267	mg/L	0.000203	0.001015	J
* Cobalt, Total	7/18/22 15:05	7/19/22 10:40		1.015	0.00278	mg/L	0.000068	0.000203	
* Lead, Total	7/18/22 15:05	7/19/22 10:40		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	7/18/22 15:05	7/19/22 10:40		1.015	0.333	mg/L	0.000152	0.000203	
* Molybdenum, Total	7/18/22 15:05	7/19/22 10:40		1.015	0.00134	mg/L	0.000102	0.000203	
* Potassium, Total	7/18/22 15:05	7/19/22 10:40		1.015	4.85	mg/L	0.169505	0.5075	

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

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

# Certificate Of Analysis

**Description:** Gorgas Gypsum - PZ-20

**Location Code:** WMWGORG  
**Collected:** 7/12/22 12:44  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12864

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	7/18/22 15:05	7/19/22 10:40		1.015	0.00254	mg/L	0.000508	0.001015	
* Thallium, Total	7/18/22 15:05	7/19/22 10:40		1.015	0.000212	mg/L	0.000068	0.000203	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	7/18/22 08:58	7/19/22 13:05		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	7/18/22 08:58	7/19/22 13:05		1.015	0.00737	mg/L	0.006090	0.01015	J
* Arsenic, Dissolved	7/18/22 08:58	7/19/22 13:05		1.015	0.00217	mg/L	0.000081	0.000203	
* Barium, Dissolved	7/18/22 08:58	7/19/22 13:05		1.015	0.0188	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	7/18/22 08:58	7/19/22 13:05		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	7/18/22 08:58	7/19/22 13:05		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	7/18/22 08:58	7/19/22 13:05		1.015	0.000228	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	7/18/22 08:58	7/19/22 13:05		1.015	0.00277	mg/L	0.000068	0.000203	
* Lead, Dissolved	7/18/22 08:58	7/19/22 13:05		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	7/18/22 08:58	7/19/22 13:05		1.015	0.329	mg/L	0.000152	0.000203	
* Molybdenum, Dissolved	7/18/22 08:58	7/19/22 13:05		1.015	0.00177	mg/L	0.000102	0.000203	
* Potassium, Dissolved	7/18/22 08:58	7/19/22 13:05		1.015	4.93	mg/L	0.169505	0.5075	
* Selenium, Dissolved	7/18/22 08:58	7/19/22 13:05		1.015	0.00258	mg/L	0.000508	0.001015	
* Thallium, Dissolved	7/18/22 08:58	7/19/22 13:05		1.015	0.000215	mg/L	0.000068	0.000203	
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	7/15/22 16:07	7/15/22 21:11		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: CES</b>							
* Nitrogen, Nitrate/Nitrite	7/19/22 14:33	7/19/22 14:33		1	0.262	mg/L as N	0.20	0.3	J
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
Alkalinity, Total as CaCO3	7/19/22 13:28	7/19/22 15:01		1	262	mg/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	7/14/22 13:30	7/15/22 13:16		1	794	mg/L		50	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
Bicarbonate Alkalinity, (calc.)	7/19/22 13:28	7/19/22 15:01		1	262	mg/L		1	A
Carbonate Alkalinity, (calc.)	7/19/22 13:28	7/19/22 15:01		1	Not Detected	mg/L		0.5	A
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	7/15/22 01:53	7/15/22 01:53		1	2.08	mg/L	1.00	2	

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

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

# Certificate Of Analysis

**Description:** Gorgas Gypsum - PZ-20

**Location Code:** WMWGORG  
**Collected:** 7/12/22 12:44  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12864

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	7/20/22 10:02	7/20/22 10:02		1	11.5	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	7/20/22 12:41	7/20/22 12:41		1	0.177	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	7/19/22 13:51	7/19/22 13:51		25	404	mg/L	15.0	50	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: DKG</b>							
Conductivity	7/12/22 12:41	7/12/22 12:41			1084.10	uS/cm			FA
pH	7/12/22 12:41	7/12/22 12:41			6.41	SU			FA
Temperature	7/12/22 12:41	7/12/22 12:41			20.23	C			FA
Turbidity	7/12/22 12:41	7/12/22 12:41			4.61	NTU			FA
Sulfide	7/12/22 12:41	7/12/22 12:41			0	mg/L			FA

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

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

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/12/22 12:44  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - PZ-20

**Laboratory ID Number:** BC12864

Sample	Analysis	Units	MB	MB				Standard		Rec			Prec Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit	Prec	
BC12875	Aluminum, Dissolved	mg/L	0.000116	0.010	0.100	0.198	0.195	0.104	0.0850 to 0.115	100	70.0 to 130	1.53	20.0
BC12871	Aluminum, Total	mg/L	0.000319	0.010	0.100	0.135	0.134	0.104	0.0850 to 0.115	102	70.0 to 130	0.743	20.0
BC12875	Antimony, Dissolved	mg/L	0.000265	0.00100	0.100	0.106	0.104	0.0890	0.0850 to 0.115	106	70.0 to 130	1.90	20.0
BC12871	Antimony, Total	mg/L	0.000312	0.00100	0.100	0.103	0.102	0.0939	0.0850 to 0.115	103	70.0 to 130	0.976	20.0
BC12875	Arsenic, Dissolved	mg/L	0.0000166	0.000176	0.100	0.110	0.107	0.103	0.0850 to 0.115	109	70.0 to 130	2.76	20.0
BC12871	Arsenic, Total	mg/L	0.0000069	0.000176	0.100	0.107	0.105	0.103	0.0850 to 0.115	107	70.0 to 130	1.89	20.0
BC12875	Barium, Dissolved	mg/L	-0.000033	0.00100	0.100	0.114	0.116	0.0964	0.0850 to 0.115	102	70.0 to 130	1.74	20.0
BC12871	Barium, Total	mg/L	-0.0000749	0.00100	0.100	0.122	0.123	0.0955	0.0850 to 0.115	100	70.0 to 130	0.816	20.0
BC12875	Beryllium, Dissolved	mg/L	0.0000386	0.000880	0.100	0.0942	0.0928	0.0951	0.0850 to 0.115	92.2	70.0 to 130	1.50	20.0
BC12871	Beryllium, Total	mg/L	0.0000247	0.000880	0.100	0.0972	0.102	0.0974	0.0850 to 0.115	97.2	70.0 to 130	4.82	20.0
BC12872	Boron, Dissolved	mg/L	0.00411	0.0650	1.00	4.08	4.09	0.963	0.850 to 1.15	98.0	70.0 to 130	0.245	20.0
BC12871	Boron, Total	mg/L	-0.000693	0.0650	1.00	3.33	3.35	1.01	0.850 to 1.15	103	70.0 to 130	0.599	20.0
BC12875	Cadmium, Dissolved	mg/L	0.0000049	0.000147	0.100	0.101	0.0992	0.103	0.0850 to 0.115	101	70.0 to 130	1.80	20.0
BC12871	Cadmium, Total	mg/L	0.0000	0.000147	0.100	0.0988	0.0981	0.100	0.0850 to 0.115	98.8	70.0 to 130	0.711	20.0
BC12872	Calcium, Dissolved	mg/L	-0.0137	0.152	5.00	195	191	5.45	4.25 to 5.75	300	70.0 to 130	2.07	20.0
BC12871	Calcium, Total	mg/L	-0.0310	0.152	5.00	448	451	4.94	4.25 to 5.75	-60.0	70.0 to 130	0.667	20.0
BC12871	Chloride	mg/L	0.00362	1.00	200	325	326	10.5	9.00 to 11.0	102	80.0 to 120	0.307	20.0
BC12875	Chromium, Dissolved	mg/L	-0.0000496	0.000440	0.100	0.102	0.101	0.102	0.0850 to 0.115	102	70.0 to 130	0.985	20.0
BC12871	Chromium, Total	mg/L	-0.0000122	0.000440	0.100	0.101	0.101	0.103	0.0850 to 0.115	101	70.0 to 130	0.00	20.0
BC12875	Cobalt, Dissolved	mg/L	-0.0000042	0.000147	0.100	0.151	0.150	0.105	0.0850 to 0.115	103	70.0 to 130	0.664	20.0
BC12871	Cobalt, Total	mg/L	-0.0000016	0.000147	0.100	0.101	0.102	0.104	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BC12871	Fluoride	mg/L	-0.0209	0.125	2.50	2.80	2.85	2.69	2.25 to 2.75	108	80.0 to 120	1.77	20.0
BC12872	Iron, Dissolved	mg/L	-0.0002	0.0176	0.2	41.6	40.1	0.195	0.170 to 0.230	100	70.0 to 130	3.67	20.0
BC12871	Iron, Total	mg/L	0.000235	0.0176	0.2	26.0	26.1	0.200	0.170 to 0.230	-100	70.0 to 130	0.384	20.0

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

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/12/22 12:44  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - PZ-20

**Laboratory ID Number:** BC12864

Sample	Analysis	Units	MB					Standard		Rec		Prec	Limit
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12875	Lead, Dissolved	mg/L	0.0000125	0.000147	0.100	0.108	0.108	0.108	0.0850 to 0.115	108	70.0 to 130	0.00	20.0
BC12871	Lead, Total	mg/L	0.0000058	0.000147	0.100	0.109	0.109	0.109	0.0850 to 0.115	109	70.0 to 130	0.00	20.0
BC12872	Lithium, Dissolved	mg/L	-0.000397	0.0154	0.200	0.521	0.535	0.195	0.170 to 0.230	104	70.0 to 130	2.65	20.0
BC12871	Lithium, Total	mg/L	-0.000367	0.0154	0.200	0.428	0.445	0.204	0.170 to 0.230	120	70.0 to 130	3.89	20.0
BC12872	Magnesium, Dissolved	mg/L	-0.00737	0.0462	5.00	126	124	4.80	4.25 to 5.75	220	70.0 to 130	1.60	20.0
BC12871	Magnesium, Total	mg/L	0.00801	0.0462	5.00	270	272	4.94	4.25 to 5.75	0.00	70.0 to 130	0.738	20.0
BC12875	Manganese, Dissolved	mg/L	0.000120	0.0002	0.100	22.0	25.7	0.102	0.0850 to 0.115	-4200	70.0 to 130	15.5	20.0
BC12871	Manganese, Total	mg/L	-0.0000273	0.0002	0.100	15.2	14.8	0.103	0.0850 to 0.115	-100	70.0 to 130	2.67	20.0
BC12871	Mercury, Total by CVAA	mg/L	1.000E-05	0.000500	0.004	0.00402	0.00399	0.00404	0.00340 to 0.00460	100	70.0 to 130	0.749	20.0
BC12875	Molybdenum, Dissolved	mg/L	0.0000001	0.0002	0.100	0.103	0.103	0.100	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BC12871	Molybdenum, Total	mg/L	0.0000044	0.0002	0.100	0.104	0.101	0.0990	0.0850 to 0.115	104	70.0 to 130	2.93	20.0
BC12875	Potassium, Dissolved	mg/L	0.0174	0.367	10.0	23.2	22.7	10.7	8.50 to 11.5	109	70.0 to 130	2.18	20.0
BC12871	Potassium, Total	mg/L	0.0116	0.367	10.0	18.0	18.4	10.4	8.50 to 11.5	100	70.0 to 130	2.20	20.0
BC12875	Selenium, Dissolved	mg/L	0.0000243	0.00100	0.100	0.106	0.103	0.105	0.0850 to 0.115	105	70.0 to 130	2.87	20.0
BC12871	Selenium, Total	mg/L	0.0000228	0.00100	0.100	0.109	0.107	0.106	0.0850 to 0.115	109	70.0 to 130	1.85	20.0
BC12872	Silicon, Dissolved	mg/L	0.000137	0.0440	1.00	14.1	14.1	0.959	0.850 to 1.15	80.0	70.0 to 130	0.00	20.0
BC12871	Silicon, Total	mg/L	0.000372	0.0440	1.00	7.72	7.79	1.04	0.850 to 1.15	91.0	70.0 to 130	0.903	20.0
BC12872	Sodium, Dissolved	mg/L	0.00136	0.0660	5.00	32.8	33.8	4.80	4.25 to 5.75	96.0	70.0 to 130	3.00	20.0
BC12871	Sodium, Total	mg/L	0.00321	0.0660	5.00	158	159	5.08	4.25 to 5.75	80.0	70.0 to 130	0.631	20.0
BC12871	Sulfate	mg/L	0.401	2.0	3200	5200	5180	19.9	18.0 to 22.0	108	80.0 to 120	0.385	20.0
BC12875	Thallium, Dissolved	mg/L	0.000006	0.000147	0.100	0.107	0.111	0.110	0.0850 to 0.115	107	70.0 to 130	3.67	20.0
BC12871	Thallium, Total	mg/L	0.0000049	0.000147	0.100	0.110	0.112	0.109	0.0850 to 0.115	110	70.0 to 130	1.80	20.0
BC12871	Total Organic Carbon	mg/L	0.154	1.00	10.0	11.2	12.6	9.57		79.5	80.0 to 120	11.8	20.0

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

## Batch QC Summary

**Customer Account:** WMWGORG

**Sample Date:** 7/12/22 12:44

**Customer ID:**

**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - PZ-20

**Laboratory ID Number:** BC12864

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC12864	Alkalinity, Total as CaCO3	mg/L					259	50.2	45.0 to 55.0			1.15	10.0
BC12871	Nitrogen, Nitrate/Nitrite	mg/L as N	0.10	0.200	2.00	2.45	0.290	2.03	1.80 to 2.20	110	90.0 to 110	12.8	15.0
BC12871	Solids, Dissolved	mg/L	1.00	25.0			3120	48.0	40.0 to 60.0			0.966	10.0

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



# Certificate Of Analysis

**Description:** Gorgas Gypsum - PZ-21

**Location Code:** WMWGORG  
**Collected:** 7/12/22 14:33  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12865

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Total	7/18/22 11:51	7/21/22 11:11		1.015	Not Detected	mg/L	0.030000	0.1015	U
* Calcium, Total	7/18/22 11:51	7/22/22 12:39		10.15	44.2	mg/L	0.70035	4.06	
* Iron, Total	7/18/22 11:51	7/21/22 11:11		1.015	2.87	mg/L	0.008120	0.0406	
* Lithium, Total	7/18/22 11:51	7/21/22 11:11		1.015	0.0185	mg/L	0.007105	0.01999956	J
* Magnesium, Total	7/18/22 11:51	7/21/22 11:11		1.015	38.0	mg/L	0.021315	0.406	
Silica, Total (calc.)	7/18/22 11:51	7/21/22 11:11		1	18.5	mg/L			
Silicon, Total	7/18/22 11:51	7/21/22 11:11		1.015	8.66	mg/L	0.02030	0.25375	
* Sodium, Total	7/18/22 11:51	7/22/22 12:39		10.15	90.5	mg/L	0.3045	4.06	
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	7/19/22 11:38	7/19/22 13:00		1.015	Not Detected	mg/L	0.030000	0.1015	U
* Calcium, Dissolved	7/19/22 11:38	7/19/22 15:46		10.15	46.2	mg/L	0.70035	4.06	
* Iron, Dissolved	7/19/22 11:38	7/19/22 13:00		1.015	2.50	mg/L	0.008120	0.0406	
* Lithium, Dissolved	7/19/22 11:38	7/19/22 13:00		1.015	0.0171	mg/L	0.007105	0.01999956	J
* Magnesium, Dissolved	7/19/22 11:38	7/19/22 13:00		1.015	34.6	mg/L	0.021315	0.406	
Silica, Dissolved (calc.)	7/19/22 11:38	7/19/22 13:00		1	17.5	mg/L			
Silicon, Dissolved	7/19/22 11:38	7/19/22 13:00		1.015	8.17	mg/L	0.02030	0.25375	
* Sodium, Dissolved	7/19/22 11:38	7/19/22 15:46		10.15	89.8	mg/L	0.3045	4.06	
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: DLJ</b>		<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	7/18/22 15:05	7/19/22 10:43		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/18/22 15:05	7/19/22 10:43		1.015	0.00959	mg/L	0.006090	0.01015	J
* Arsenic, Total	7/18/22 15:05	7/19/22 10:43		1.015	0.00256	mg/L	0.000081	0.000203	
* Barium, Total	7/18/22 15:05	7/19/22 10:43		1.015	0.141	mg/L	0.000508	0.001015	
* Beryllium, Total	7/18/22 15:05	7/19/22 10:43		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	7/18/22 15:05	7/19/22 10:43		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	7/18/22 15:05	7/19/22 10:43		1.015	0.000293	mg/L	0.000203	0.001015	J
* Cobalt, Total	7/18/22 15:05	7/19/22 10:43		1.015	0.00307	mg/L	0.000068	0.000203	
* Lead, Total	7/18/22 15:05	7/19/22 10:43		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	7/18/22 15:05	7/20/22 14:44		5.075	1.31	mg/L	0.000761	0.001015	
* Molybdenum, Total	7/18/22 15:05	7/19/22 10:43		1.015	0.00279	mg/L	0.000102	0.000203	
* Potassium, Total	7/18/22 15:05	7/19/22 10:43		1.015	2.66	mg/L	0.169505	0.5075	

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

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

# Certificate Of Analysis

**Description:** Gorgas Gypsum - PZ-21

**Location Code:** WMWGORG  
**Collected:** 7/12/22 14:33  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12865

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	7/18/22 15:05	7/19/22 10:43		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	7/18/22 15:05	7/19/22 10:43		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	7/18/22 08:58	7/19/22 13:09		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	7/18/22 08:58	7/19/22 13:09		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Dissolved	7/18/22 08:58	7/19/22 13:09		1.015	0.00256	mg/L	0.000081	0.000203	
* Barium, Dissolved	7/18/22 08:58	7/19/22 13:09		1.015	0.144	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	7/18/22 08:58	7/19/22 13:09		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	7/18/22 08:58	7/19/22 13:09		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	7/18/22 08:58	7/19/22 13:09		1.015	0.000308	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	7/18/22 08:58	7/19/22 13:09		1.015	0.00312	mg/L	0.000068	0.000203	
* Lead, Dissolved	7/18/22 08:58	7/19/22 13:09		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	7/18/22 08:58	7/20/22 12:37		5.075	1.33	mg/L	0.000761	0.001015	
* Molybdenum, Dissolved	7/18/22 08:58	7/19/22 13:09		1.015	0.00283	mg/L	0.000102	0.000203	
* Potassium, Dissolved	7/18/22 08:58	7/19/22 13:09		1.015	2.79	mg/L	0.169505	0.5075	
* Selenium, Dissolved	7/18/22 08:58	7/19/22 13:09		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	7/18/22 08:58	7/19/22 13:09		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	7/15/22 16:07	7/15/22 21:15		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: CES</b>							
* Nitrogen, Nitrate/Nitrite	7/19/22 14:35	7/19/22 14:35		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: JAG</b>							
Alkalinity, Total as CaCO3	7/25/22 10:30	7/25/22 11:32		1	443	mg/L		0.01	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	7/14/22 13:30	7/15/22 13:16		1	458	mg/L		50	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: JAG</b>							
Bicarbonate Alkalinity, (calc.)	7/25/22 10:30	7/25/22 11:32		1	442	mg/L			
Carbonate Alkalinity, (calc.)	7/25/22 10:30	7/25/22 11:32		1	0.71	mg/L		0.5	
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	7/15/22 02:15	7/15/22 02:15		1	3.50	mg/L	1.00	2	

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

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

# Certificate Of Analysis

**Description:** Gorgas Gypsum - PZ-21

**Location Code:** WMWGORG  
**Collected:** 7/12/22 14:33  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12865

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	7/20/22 10:03	7/20/22 10:03		1	13.2	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	7/20/22 12:42	7/20/22 12:42		1	0.306	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	7/19/22 13:52	7/19/22 13:52		1	36.6	mg/L	0.6	2	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: DKG</b>							
Conductivity	7/12/22 14:30	7/12/22 14:30			797.16	uS/cm			FA
pH	7/12/22 14:30	7/12/22 14:30			6.96	SU			FA
Temperature	7/12/22 14:30	7/12/22 14:30			21.45	C			FA
Turbidity	7/12/22 14:30	7/12/22 14:30			3.88	NTU			FA
Sulfide	7/12/22 14:30	7/12/22 14:30			0	mg/L			FA

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

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

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/12/22 14:33  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - PZ-21

**Laboratory ID Number:** BC12865

Sample	Analysis	Units	MB	MB				Standard		Rec			Prec Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit	Prec	
BC12875	Aluminum, Dissolved	mg/L	0.000116	0.010	0.100	0.198	0.195	0.104	0.0850 to 0.115	100	70.0 to 130	1.53	20.0
BC12871	Aluminum, Total	mg/L	0.000319	0.010	0.100	0.135	0.134	0.104	0.0850 to 0.115	102	70.0 to 130	0.743	20.0
BC12875	Antimony, Dissolved	mg/L	0.000265	0.00100	0.100	0.106	0.104	0.0890	0.0850 to 0.115	106	70.0 to 130	1.90	20.0
BC12871	Antimony, Total	mg/L	0.000312	0.00100	0.100	0.103	0.102	0.0939	0.0850 to 0.115	103	70.0 to 130	0.976	20.0
BC12875	Arsenic, Dissolved	mg/L	0.0000166	0.000176	0.100	0.110	0.107	0.103	0.0850 to 0.115	109	70.0 to 130	2.76	20.0
BC12871	Arsenic, Total	mg/L	0.0000069	0.000176	0.100	0.107	0.105	0.103	0.0850 to 0.115	107	70.0 to 130	1.89	20.0
BC12875	Barium, Dissolved	mg/L	-0.000033	0.00100	0.100	0.114	0.116	0.0964	0.0850 to 0.115	102	70.0 to 130	1.74	20.0
BC12871	Barium, Total	mg/L	-0.0000749	0.00100	0.100	0.122	0.123	0.0955	0.0850 to 0.115	100	70.0 to 130	0.816	20.0
BC12875	Beryllium, Dissolved	mg/L	0.0000386	0.000880	0.100	0.0942	0.0928	0.0951	0.0850 to 0.115	92.2	70.0 to 130	1.50	20.0
BC12871	Beryllium, Total	mg/L	0.0000247	0.000880	0.100	0.0972	0.102	0.0974	0.0850 to 0.115	97.2	70.0 to 130	4.82	20.0
BC12872	Boron, Dissolved	mg/L	0.00411	0.0650	1.00	4.08	4.09	0.963	0.850 to 1.15	98.0	70.0 to 130	0.245	20.0
BC12871	Boron, Total	mg/L	-0.000693	0.0650	1.00	3.33	3.35	1.01	0.850 to 1.15	103	70.0 to 130	0.599	20.0
BC12875	Cadmium, Dissolved	mg/L	0.0000049	0.000147	0.100	0.101	0.0992	0.103	0.0850 to 0.115	101	70.0 to 130	1.80	20.0
BC12871	Cadmium, Total	mg/L	0.0000	0.000147	0.100	0.0988	0.0981	0.100	0.0850 to 0.115	98.8	70.0 to 130	0.711	20.0
BC12872	Calcium, Dissolved	mg/L	-0.0137	0.152	5.00	195	191	5.45	4.25 to 5.75	300	70.0 to 130	2.07	20.0
BC12871	Calcium, Total	mg/L	-0.0310	0.152	5.00	448	451	4.94	4.25 to 5.75	-60.0	70.0 to 130	0.667	20.0
BC12871	Chloride	mg/L	0.00362	1.00	200	325	326	10.5	9.00 to 11.0	102	80.0 to 120	0.307	20.0
BC12875	Chromium, Dissolved	mg/L	-0.0000496	0.000440	0.100	0.102	0.101	0.102	0.0850 to 0.115	102	70.0 to 130	0.985	20.0
BC12871	Chromium, Total	mg/L	-0.0000122	0.000440	0.100	0.101	0.101	0.103	0.0850 to 0.115	101	70.0 to 130	0.00	20.0
BC12875	Cobalt, Dissolved	mg/L	-0.0000042	0.000147	0.100	0.151	0.150	0.105	0.0850 to 0.115	103	70.0 to 130	0.664	20.0
BC12871	Cobalt, Total	mg/L	-0.0000016	0.000147	0.100	0.101	0.102	0.104	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BC12871	Fluoride	mg/L	-0.0209	0.125	2.50	2.80	2.85	2.69	2.25 to 2.75	108	80.0 to 120	1.77	20.0
BC12872	Iron, Dissolved	mg/L	-0.0002	0.0176	0.2	41.6	40.1	0.195	0.170 to 0.230	100	70.0 to 130	3.67	20.0
BC12871	Iron, Total	mg/L	0.000235	0.0176	0.2	26.0	26.1	0.200	0.170 to 0.230	-100	70.0 to 130	0.384	20.0

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

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/12/22 14:33  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - PZ-21

**Laboratory ID Number:** BC12865

Sample	Analysis	Units	MB					Standard		Rec			Prec Limit
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit	Prec	
BC12875	Lead, Dissolved	mg/L	0.0000125	0.000147	0.100	0.108	0.108	0.108	0.0850 to 0.115	108	70.0 to 130	0.00	20.0
BC12871	Lead, Total	mg/L	0.0000058	0.000147	0.100	0.109	0.109	0.109	0.0850 to 0.115	109	70.0 to 130	0.00	20.0
BC12872	Lithium, Dissolved	mg/L	-0.000397	0.0154	0.200	0.521	0.535	0.195	0.170 to 0.230	104	70.0 to 130	2.65	20.0
BC12871	Lithium, Total	mg/L	-0.000367	0.0154	0.200	0.428	0.445	0.204	0.170 to 0.230	120	70.0 to 130	3.89	20.0
BC12872	Magnesium, Dissolved	mg/L	-0.00737	0.0462	5.00	126	124	4.80	4.25 to 5.75	220	70.0 to 130	1.60	20.0
BC12871	Magnesium, Total	mg/L	0.00801	0.0462	5.00	270	272	4.94	4.25 to 5.75	0.00	70.0 to 130	0.738	20.0
BC12875	Manganese, Dissolved	mg/L	0.000120	0.0002	0.100	22.0	25.7	0.102	0.0850 to 0.115	-4200	70.0 to 130	15.5	20.0
BC12871	Manganese, Total	mg/L	-0.0000273	0.0002	0.100	15.2	14.8	0.103	0.0850 to 0.115	-100	70.0 to 130	2.67	20.0
BC12871	Mercury, Total by CVAA	mg/L	1.000E-05	0.000500	0.004	0.00402	0.00399	0.00404	0.00340 to 0.00460	100	70.0 to 130	0.749	20.0
BC12875	Molybdenum, Dissolved	mg/L	0.0000001	0.0002	0.100	0.103	0.103	0.100	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BC12871	Molybdenum, Total	mg/L	0.0000044	0.0002	0.100	0.104	0.101	0.0990	0.0850 to 0.115	104	70.0 to 130	2.93	20.0
BC12875	Potassium, Dissolved	mg/L	0.0174	0.367	10.0	23.2	22.7	10.7	8.50 to 11.5	109	70.0 to 130	2.18	20.0
BC12871	Potassium, Total	mg/L	0.0116	0.367	10.0	18.0	18.4	10.4	8.50 to 11.5	100	70.0 to 130	2.20	20.0
BC12875	Selenium, Dissolved	mg/L	0.0000243	0.00100	0.100	0.106	0.103	0.105	0.0850 to 0.115	105	70.0 to 130	2.87	20.0
BC12871	Selenium, Total	mg/L	0.0000228	0.00100	0.100	0.109	0.107	0.106	0.0850 to 0.115	109	70.0 to 130	1.85	20.0
BC12872	Silicon, Dissolved	mg/L	0.000137	0.0440	1.00	14.1	14.1	0.959	0.850 to 1.15	80.0	70.0 to 130	0.00	20.0
BC12871	Silicon, Total	mg/L	0.000372	0.0440	1.00	7.72	7.79	1.04	0.850 to 1.15	91.0	70.0 to 130	0.903	20.0
BC12872	Sodium, Dissolved	mg/L	0.00136	0.0660	5.00	32.8	33.8	4.80	4.25 to 5.75	96.0	70.0 to 130	3.00	20.0
BC12871	Sodium, Total	mg/L	0.00321	0.0660	5.00	158	159	5.08	4.25 to 5.75	80.0	70.0 to 130	0.631	20.0
BC12871	Sulfate	mg/L	0.401	2.0	3200	5200	5180	19.9	18.0 to 22.0	108	80.0 to 120	0.385	20.0
BC12875	Thallium, Dissolved	mg/L	0.000006	0.000147	0.100	0.107	0.111	0.110	0.0850 to 0.115	107	70.0 to 130	3.67	20.0
BC12871	Thallium, Total	mg/L	0.0000049	0.000147	0.100	0.110	0.112	0.109	0.0850 to 0.115	110	70.0 to 130	1.80	20.0
BC12871	Total Organic Carbon	mg/L	0.154	1.00	10.0	11.2	12.6	9.57		79.5	80.0 to 120	11.8	20.0

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

## Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/12/22 14:33  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - PZ-21

**Laboratory ID Number:** BC12865

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC12875	Alkalinity, Total as CaCO3	mg/L					70.2	51.1	45.0 to 55.0			0.428	10.0
BC12871	Nitrogen, Nitrate/Nitrite	mg/L as N	0.10	0.200	2.00	2.45	0.290	2.03	1.80 to 2.20	110	90.0 to 110	12.8	15.0
BC12871	Solids, Dissolved	mg/L	1.00	25.0			3120	48.0	40.0 to 60.0			0.966	10.0

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

# Certificate Of Analysis

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

**Location Code:** WMWGORGFB  
**Collected:** 7/12/22 15:20  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12866

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>					
* Boron, Total	7/18/22 11:51	7/21/22 11:14		1.015	Not Detected	mg/L	0.030000	0.1015	U	
* Calcium, Total	7/18/22 11:51	7/21/22 11:14		1.015	Not Detected	mg/L	0.070035	0.406	U	
* Iron, Total	7/18/22 11:51	7/21/22 11:14		1.015	Not Detected	mg/L	0.008120	0.0406	U	
* Lithium, Total	7/18/22 11:51	7/21/22 11:14		1.015	Not Detected	mg/L	0.007105	0.01999956	U	
* Magnesium, Total	7/18/22 11:51	7/21/22 11:14		1.015	Not Detected	mg/L	0.021315	0.406	U	
Silica, Total (calc.)	7/18/22 11:51	7/21/22 11:14		1	Not Detected	mg/L				
Silicon, Total	7/18/22 11:51	7/21/22 11:14		1.015	Not Detected	mg/L	0.02030	0.25375	U	
* Sodium, Total	7/18/22 11:51	7/22/22 12:42		1.015	Not Detected	mg/L	0.03045	0.406	U	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>			<b>Preparation Method: EPA 1638</b>					
* Antimony, Total	7/18/22 15:05	7/19/22 10:47		1.015	Not Detected	mg/L	0.000508	0.001015	U	
* Aluminum, Total	7/18/22 15:05	7/19/22 10:47		1.015	Not Detected	mg/L	0.006090	0.01015	U	
* Arsenic, Total	7/18/22 15:05	7/19/22 10:47		1.015	Not Detected	mg/L	0.000081	0.000203	U	
* Barium, Total	7/18/22 15:05	7/19/22 10:47		1.015	Not Detected	mg/L	0.000508	0.001015	U	
* Beryllium, Total	7/18/22 15:05	7/19/22 10:47		1.015	Not Detected	mg/L	0.000406	0.001015	U	
* Cadmium, Total	7/18/22 15:05	7/19/22 10:47		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Chromium, Total	7/18/22 15:05	7/19/22 10:47		1.015	0.000328	mg/L	0.000203	0.001015	J	
* Cobalt, Total	7/18/22 15:05	7/19/22 10:47		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Lead, Total	7/18/22 15:05	7/19/22 10:47		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Manganese, Total	7/18/22 15:05	7/19/22 10:47		1.015	Not Detected	mg/L	0.000152	0.000203	U	
* Molybdenum, Total	7/18/22 15:05	7/19/22 10:47		1.015	Not Detected	mg/L	0.000102	0.000203	U	
* Potassium, Total	7/18/22 15:05	7/19/22 10:47		1.015	Not Detected	mg/L	0.169505	0.5075	U	
* Selenium, Total	7/18/22 15:05	7/19/22 10:47		1.015	Not Detected	mg/L	0.000508	0.001015	U	
* Thallium, Total	7/18/22 15:05	7/19/22 10:47		1.015	Not Detected	mg/L	0.000068	0.000203	U	
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>								
* Mercury, Total by CVAA	7/15/22 16:07	7/15/22 21:19		1	Not Detected	mg/L	0.0003	0.0005	U	
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: CES</b>								
* Nitrogen, Nitrate/Nitrite	7/19/22 14:36	7/19/22 14:36		1	Not Detected	mg/L as N	0.20	0.3	U	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>								
* Solids, Dissolved	7/14/22 13:30	7/15/22 13:16		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 Gypsum Field Blank-1

**Location Code:** WMWGORGFB

**Collected:** 7/12/22 15:20

**Customer ID:**

**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12866

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	7/15/22 02:34	7/15/22 02:34		1	Not Detected	mg/L	1.00	2	U
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	7/20/22 10:04	7/20/22 10:04		1	Not Detected	mg/L	0.50	1	U
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	7/20/22 12:43	7/20/22 12:43		1	Not Detected	mg/L	0.06	0.125	U
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	7/19/22 13:53	7/19/22 13:53		1	Not Detected	mg/L	0.6	2	U

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

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**Comments:**



# Batch QC Summary

**Customer Account:** WMWGORGFB

**Sample Date:** 7/12/22 15:20

**Customer ID:**

**Delivery Date:** 7/14/22 08:24

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

**Laboratory ID Number:** BC12866

Sample	Analysis	Units	MB					Standard		Rec		Prec	Limit
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12871	Aluminum, Total	mg/L	0.000319	0.010	0.100	0.135	0.134	0.104	0.0850 to 0.115	102	70.0 to 130	0.743	20.0
BC12871	Antimony, Total	mg/L	0.000312	0.00100	0.100	0.103	0.102	0.0939	0.0850 to 0.115	103	70.0 to 130	0.976	20.0
BC12871	Arsenic, Total	mg/L	0.0000069	0.000176	0.100	0.107	0.105	0.103	0.0850 to 0.115	107	70.0 to 130	1.89	20.0
BC12871	Barium, Total	mg/L	-0.0000749	0.00100	0.100	0.122	0.123	0.0955	0.0850 to 0.115	100	70.0 to 130	0.816	20.0
BC12871	Beryllium, Total	mg/L	0.0000247	0.000880	0.100	0.0972	0.102	0.0974	0.0850 to 0.115	97.2	70.0 to 130	4.82	20.0
BC12871	Boron, Total	mg/L	-0.000693	0.0650	1.00	3.33	3.35	1.01	0.850 to 1.15	103	70.0 to 130	0.599	20.0
BC12871	Cadmium, Total	mg/L	0.0000	0.000147	0.100	0.0988	0.0981	0.100	0.0850 to 0.115	98.8	70.0 to 130	0.711	20.0
BC12871	Calcium, Total	mg/L	-0.0310	0.152	5.00	448	451	4.94	4.25 to 5.75	-60.0	70.0 to 130	0.667	20.0
BC12871	Chloride	mg/L	0.00362	1.00	200	325	326	10.5	9.00 to 11.0	102	80.0 to 120	0.307	20.0
BC12871	Chromium, Total	mg/L	-0.0000122	0.000440	0.100	0.101	0.101	0.103	0.0850 to 0.115	101	70.0 to 130	0.00	20.0
BC12871	Cobalt, Total	mg/L	-0.0000016	0.000147	0.100	0.101	0.102	0.104	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BC12871	Fluoride	mg/L	-0.0209	0.125	2.50	2.80	2.85	2.69	2.25 to 2.75	108	80.0 to 120	1.77	20.0
BC12871	Iron, Total	mg/L	0.000235	0.0176	0.2	26.0	26.1	0.200	0.170 to 0.230	-100	70.0 to 130	0.384	20.0
BC12871	Lead, Total	mg/L	0.0000058	0.000147	0.100	0.109	0.109	0.109	0.0850 to 0.115	109	70.0 to 130	0.00	20.0
BC12871	Lithium, Total	mg/L	-0.000367	0.0154	0.200	0.428	0.445	0.204	0.170 to 0.230	120	70.0 to 130	3.89	20.0
BC12871	Magnesium, Total	mg/L	0.00801	0.0462	5.00	270	272	4.94	4.25 to 5.75	0.00	70.0 to 130	0.738	20.0
BC12871	Manganese, Total	mg/L	-0.0000273	0.0002	0.100	15.2	14.8	0.103	0.0850 to 0.115	-100	70.0 to 130	2.67	20.0
BC12871	Mercury, Total by CVAA	mg/L	1.000E-05	0.000500	0.004	0.00402	0.00399	0.00404	0.00340 to 0.00460	100	70.0 to 130	0.749	20.0
BC12871	Molybdenum, Total	mg/L	0.0000044	0.0002	0.100	0.104	0.101	0.0990	0.0850 to 0.115	104	70.0 to 130	2.93	20.0
BC12871	Potassium, Total	mg/L	0.0116	0.367	10.0	18.0	18.4	10.4	8.50 to 11.5	100	70.0 to 130	2.20	20.0
BC12871	Selenium, Total	mg/L	0.0000228	0.00100	0.100	0.109	0.107	0.106	0.0850 to 0.115	109	70.0 to 130	1.85	20.0
BC12871	Silicon, Total	mg/L	0.000372	0.0440	1.00	7.72	7.79	1.04	0.850 to 1.15	91.0	70.0 to 130	0.903	20.0
BC12871	Sodium, Total	mg/L	0.00321	0.0660	5.00	158	159	5.08	4.25 to 5.75	80.0	70.0 to 130	0.631	20.0
BC12871	Sulfate	mg/L	0.401	2.0	3200	5200	5180	19.9	18.0 to 22.0	108	80.0 to 120	0.385	20.0

**Comments:**

# Batch QC Summary

**Customer Account:** WMWGORGFB  
**Sample Date:** 7/12/22 15:20  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

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

**Laboratory ID Number:** BC12866

Sample	Analysis	Units	MB	MB				MSD	Standard	Standard		Rec		Prec	Limit
				Limit	Spike	MS	Limit			Limit	Rec	Limit			
BC12871	Thallium, Total	mg/L	0.0000049	0.000147	0.100	0.110	0.112	0.109	0.0850 to 0.115		110	70.0 to 130		1.80	20.0
BC12871	Total Organic Carbon	mg/L	0.154	1.00	10.0	11.2	12.6	9.57			79.5	80.0 to 120		11.8	20.0

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**Comments:**

## Batch QC Summary

**Customer Account:** WMWGORGFB

**Sample Date:** 7/12/22 15:20

**Customer ID:**

**Delivery Date:** 7/14/22 08:24

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

**Laboratory ID Number:** BC12866

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC12871	Nitrogen, Nitrate/Nitrite	mg/L as N	0.10	0.200	2.00	2.45	0.290	2.03	1.80 to 2.20	110	90.0 to 110	12.8	15.0
BC12871	Solids, Dissolved	mg/L	1.00	25.0			3120	48.0	40.0 to 60.0			0.966	10.0

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**Comments:**

# Certificate Of Analysis

**Description:** Gorgas Gypsum - PZ-22

**Location Code:** WMWGORG  
**Collected:** 7/13/22 09:01  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12867

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Total	7/18/22 11:51	7/21/22 11:17		1.015	0.0664	mg/L	0.030000	0.1015	J
* Calcium, Total	7/18/22 11:51	7/22/22 12:46		101.5	72.8	mg/L	7.0035	40.6	
* Iron, Total	7/18/22 11:51	7/22/22 12:46		101.5	44.8	mg/L	0.8120	4.06	
* Lithium, Total	7/18/22 11:51	7/21/22 11:17		1.015	0.0682	mg/L	0.007105	0.01999956	
* Magnesium, Total	7/18/22 11:51	7/21/22 11:17		1.015	38.8	mg/L	0.021315	0.406	
Silica, Total (calc.)	7/18/22 11:51	7/21/22 11:17		1	18.1	mg/L			
Silicon, Total	7/18/22 11:51	7/21/22 11:17		1.015	8.44	mg/L	0.02030	0.25375	
* Sodium, Total	7/18/22 11:51	7/22/22 12:46		101.5	34.5	mg/L	3.045	40.6	J
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	7/19/22 11:38	7/19/22 13:03		1.015	0.0743	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	7/19/22 11:38	7/19/22 15:49		10.15	85.1	mg/L	0.70035	4.06	
* Iron, Dissolved	7/19/22 11:38	7/19/22 16:42		101.5	46.1	mg/L	0.8120	4.06	
* Lithium, Dissolved	7/19/22 11:38	7/19/22 13:03		1.015	0.0636	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	7/19/22 11:38	7/19/22 13:03		1.015	36.3	mg/L	0.021315	0.406	
Silica, Dissolved (calc.)	7/19/22 11:38	7/19/22 13:03		1	17.5	mg/L			
Silicon, Dissolved	7/19/22 11:38	7/19/22 13:03		1.015	8.17	mg/L	0.02030	0.25375	
* Sodium, Dissolved	7/19/22 11:38	7/19/22 13:03		1.015	38.7	mg/L	0.03045	0.406	
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: DLJ</b>		<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	7/18/22 15:05	7/19/22 10:50		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/18/22 15:05	7/19/22 10:50		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Total	7/18/22 15:05	7/19/22 10:50		1.015	0.0504	mg/L	0.000081	0.000203	
* Barium, Total	7/18/22 15:05	7/19/22 10:50		1.015	0.0170	mg/L	0.000508	0.001015	
* Beryllium, Total	7/18/22 15:05	7/19/22 10:50		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	7/18/22 15:05	7/19/22 10:50		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	7/18/22 15:05	7/19/22 10:50		1.015	0.000244	mg/L	0.000203	0.001015	J
* Cobalt, Total	7/18/22 15:05	7/19/22 10:50		1.015	0.00178	mg/L	0.000068	0.000203	
* Lead, Total	7/18/22 15:05	7/19/22 10:50		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	7/18/22 15:05	7/20/22 14:48		5.075	2.24	mg/L	0.000761	0.001015	
* Molybdenum, Total	7/18/22 15:05	7/19/22 10:50		1.015	0.00140	mg/L	0.000102	0.000203	
* Potassium, Total	7/18/22 15:05	7/19/22 10:50		1.015	6.87	mg/L	0.169505	0.5075	

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

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

# Certificate Of Analysis

**Description:** Gorgas Gypsum - PZ-22

**Location Code:** WMWGORG  
**Collected:** 7/13/22 09:01  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12867

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	7/18/22 15:05	7/19/22 10:50		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	7/18/22 15:05	7/19/22 10:50		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	7/20/22 06:58	7/20/22 11:20		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	7/20/22 06:58	7/20/22 11:20		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Dissolved	7/20/22 06:58	7/20/22 11:20		1.015	0.0542	mg/L	0.000081	0.000203	
* Barium, Dissolved	7/20/22 06:58	7/20/22 11:20		1.015	0.0181	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	7/20/22 06:58	7/20/22 11:20		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	7/20/22 06:58	7/20/22 11:20		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	7/20/22 06:58	7/20/22 11:20		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	7/20/22 06:58	7/20/22 11:20		1.015	0.00202	mg/L	0.000068	0.000203	
* Lead, Dissolved	7/20/22 06:58	7/20/22 11:20		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	7/20/22 06:58	7/20/22 11:35		5.075	2.28	mg/L	0.000761	0.001015	
* Molybdenum, Dissolved	7/20/22 06:58	7/20/22 11:20		1.015	0.00123	mg/L	0.000102	0.000203	
* Potassium, Dissolved	7/20/22 06:58	7/20/22 11:20		1.015	7.00	mg/L	0.169505	0.5075	
* Selenium, Dissolved	7/20/22 06:58	7/20/22 11:20		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	7/20/22 06:58	7/20/22 11:20		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	7/15/22 16:07	7/15/22 21:23		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: CES</b>							
* Nitrogen, Nitrate/Nitrite	7/19/22 14:38	7/19/22 14:38		1	0.333	mg/L as N	0.20	0.3	
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: JAG</b>							
Alkalinity, Total as CaCO3	7/25/22 10:30	7/25/22 11:32		1	80.9	mg/L		0.01	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	7/15/22 11:12	7/18/22 13:45		1	666	mg/L		50	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: JAG</b>							
Bicarbonate Alkalinity, (calc.)	7/25/22 10:30	7/25/22 11:32		1	80.9	mg/L		1	A
Carbonate Alkalinity, (calc.)	7/25/22 10:30	7/25/22 11:32		1	Not Detected	mg/L		0.5	A
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	7/15/22 02:55	7/15/22 02:55		1	2.48	mg/L	1.00	2	

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

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

# Certificate Of Analysis

**Description:** Gorgas Gypsum - PZ-22

**Location Code:** WMWGORG  
**Collected:** 7/13/22 09:01  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12867

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	7/20/22 10:05	7/20/22 10:05		1	5.52	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	7/20/22 12:45	7/20/22 12:45		1	0.0953	mg/L	0.06	0.125	J
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	7/19/22 13:54	7/19/22 13:54		25	410	mg/L	15.0	50	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: DKG</b>							
Conductivity	7/13/22 08:58	7/13/22 08:58			773.37	uS/cm			FA
pH	7/13/22 08:58	7/13/22 08:58			5.80	SU			FA
Temperature	7/13/22 08:58	7/13/22 08:58			19.76	C			FA
Turbidity	7/13/22 08:58	7/13/22 08:58			1.68	NTU			FA
Sulfide	7/13/22 08:58	7/13/22 08:58			0	mg/L			FA

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

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

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/13/22 09:01  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - PZ-22

**Laboratory ID Number:** BC12867

Sample	Analysis	Units	MB	MB				Standard		Rec			Prec Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit	Prec	
BC12861	Aluminum, Dissolved	mg/L	-0.000241	0.010	0.100	18.6	18.8	0.105	0.0850 to 0.115	-200	70.0 to 130	1.07	20.0
BC12871	Aluminum, Total	mg/L	0.000319	0.010	0.100	0.135	0.134	0.104	0.0850 to 0.115	102	70.0 to 130	0.743	20.0
BC12861	Antimony, Dissolved	mg/L	0.000370	0.00100	0.100	0.0995	0.0977	0.0852	0.0850 to 0.115	99.5	70.0 to 130	1.83	20.0
BC12871	Antimony, Total	mg/L	0.000312	0.00100	0.100	0.103	0.102	0.0939	0.0850 to 0.115	103	70.0 to 130	0.976	20.0
BC12861	Arsenic, Dissolved	mg/L	0.0000192	0.000176	0.100	0.110	0.110	0.112	0.0850 to 0.115	104	70.0 to 130	0.00	20.0
BC12871	Arsenic, Total	mg/L	0.0000069	0.000176	0.100	0.107	0.105	0.103	0.0850 to 0.115	107	70.0 to 130	1.89	20.0
BC12861	Barium, Dissolved	mg/L	-0.0000121	0.00100	0.100	0.113	0.110	0.0966	0.0850 to 0.115	104	70.0 to 130	2.69	20.0
BC12871	Barium, Total	mg/L	-0.0000749	0.00100	0.100	0.122	0.123	0.0955	0.0850 to 0.115	100	70.0 to 130	0.816	20.0
BC12861	Beryllium, Dissolved	mg/L	0.000248	0.000880	0.100	0.104	0.104	0.102	0.0850 to 0.115	97.3	70.0 to 130	0.00	20.0
BC12871	Beryllium, Total	mg/L	0.0000247	0.000880	0.100	0.0972	0.102	0.0974	0.0850 to 0.115	97.2	70.0 to 130	4.82	20.0
BC12872	Boron, Dissolved	mg/L	0.00411	0.0650	1.00	4.08	4.09	0.963	0.850 to 1.15	98.0	70.0 to 130	0.245	20.0
BC12871	Boron, Total	mg/L	-0.000693	0.0650	1.00	3.33	3.35	1.01	0.850 to 1.15	103	70.0 to 130	0.599	20.0
BC12861	Cadmium, Dissolved	mg/L	-0.0000115	0.000147	0.100	0.106	0.105	0.105	0.0850 to 0.115	106	70.0 to 130	0.948	20.0
BC12871	Cadmium, Total	mg/L	0.0000	0.000147	0.100	0.0988	0.0981	0.100	0.0850 to 0.115	98.8	70.0 to 130	0.711	20.0
BC12872	Calcium, Dissolved	mg/L	-0.0137	0.152	5.00	195	191	5.45	4.25 to 5.75	300	70.0 to 130	2.07	20.0
BC12871	Calcium, Total	mg/L	-0.0310	0.152	5.00	448	451	4.94	4.25 to 5.75	-60.0	70.0 to 130	0.667	20.0
BC12871	Chloride	mg/L	0.00362	1.00	200	325	326	10.5	9.00 to 11.0	102	80.0 to 120	0.307	20.0
BC12861	Chromium, Dissolved	mg/L	-0.0000977	0.000440	0.100	0.102	0.102	0.104	0.0850 to 0.115	100	70.0 to 130	0.00	20.0
BC12871	Chromium, Total	mg/L	-0.0000122	0.000440	0.100	0.101	0.101	0.103	0.0850 to 0.115	101	70.0 to 130	0.00	20.0
BC12861	Cobalt, Dissolved	mg/L	-0.0000317	0.000147	0.100	0.230	0.233	0.107	0.0850 to 0.115	102	70.0 to 130	1.30	20.0
BC12871	Cobalt, Total	mg/L	-0.0000016	0.000147	0.100	0.101	0.102	0.104	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BC12871	Fluoride	mg/L	-0.0209	0.125	2.50	2.80	2.85	2.69	2.25 to 2.75	108	80.0 to 120	1.77	20.0
BC12872	Iron, Dissolved	mg/L	-0.0002	0.0176	0.2	41.6	40.1	0.195	0.170 to 0.230	100	70.0 to 130	3.67	20.0
BC12871	Iron, Total	mg/L	0.000235	0.0176	0.2	26.0	26.1	0.200	0.170 to 0.230	-100	70.0 to 130	0.384	20.0

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

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/13/22 09:01  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - PZ-22

**Laboratory ID Number:** BC12867

Sample	Analysis	Units	MB					Standard		Rec		Prec	Limit
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12861	Lead, Dissolved	mg/L	0.0000068	0.000147	0.100	0.107	0.107	0.110	0.0850 to 0.115	107	70.0 to 130	0.00	20.0
BC12871	Lead, Total	mg/L	0.0000058	0.000147	0.100	0.109	0.109	0.109	0.0850 to 0.115	109	70.0 to 130	0.00	20.0
BC12872	Lithium, Dissolved	mg/L	-0.000397	0.0154	0.200	0.521	0.535	0.195	0.170 to 0.230	104	70.0 to 130	2.65	20.0
BC12871	Lithium, Total	mg/L	-0.000367	0.0154	0.200	0.428	0.445	0.204	0.170 to 0.230	120	70.0 to 130	3.89	20.0
BC12872	Magnesium, Dissolved	mg/L	-0.00737	0.0462	5.00	126	124	4.80	4.25 to 5.75	220	70.0 to 130	1.60	20.0
BC12871	Magnesium, Total	mg/L	0.00801	0.0462	5.00	270	272	4.94	4.25 to 5.75	0.00	70.0 to 130	0.738	20.0
BC12861	Manganese, Dissolved	mg/L	-0.000137	0.0002	0.100	4.11	4.16	0.105	0.0850 to 0.115	150	70.0 to 130	1.21	20.0
BC12871	Manganese, Total	mg/L	-0.0000273	0.0002	0.100	15.2	14.8	0.103	0.0850 to 0.115	-100	70.0 to 130	2.67	20.0
BC12871	Mercury, Total by CVAA	mg/L	1.000E-05	0.000500	0.004	0.00402	0.00399	0.00404	0.00340 to 0.00460	100	70.0 to 130	0.749	20.0
BC12861	Molybdenum, Dissolved	mg/L	-0.0000058	0.0002	0.100	0.0854	0.0837	0.101	0.0850 to 0.115	85.4	70.0 to 130	2.01	20.0
BC12871	Molybdenum, Total	mg/L	0.0000044	0.0002	0.100	0.104	0.101	0.0990	0.0850 to 0.115	104	70.0 to 130	2.93	20.0
BC12861	Potassium, Dissolved	mg/L	-0.0265	0.367	10.0	13.4	13.2	10.8	8.50 to 11.5	105	70.0 to 130	1.50	20.0
BC12871	Potassium, Total	mg/L	0.0116	0.367	10.0	18.0	18.4	10.4	8.50 to 11.5	100	70.0 to 130	2.20	20.0
BC12861	Selenium, Dissolved	mg/L	0.000223	0.00100	0.100	0.110	0.108	0.112	0.0850 to 0.115	106	70.0 to 130	1.83	20.0
BC12871	Selenium, Total	mg/L	0.0000228	0.00100	0.100	0.109	0.107	0.106	0.0850 to 0.115	109	70.0 to 130	1.85	20.0
BC12872	Silicon, Dissolved	mg/L	0.000137	0.0440	1.00	14.1	14.1	0.959	0.850 to 1.15	80.0	70.0 to 130	0.00	20.0
BC12871	Silicon, Total	mg/L	0.000372	0.0440	1.00	7.72	7.79	1.04	0.850 to 1.15	91.0	70.0 to 130	0.903	20.0
BC12872	Sodium, Dissolved	mg/L	0.00136	0.0660	5.00	32.8	33.8	4.80	4.25 to 5.75	96.0	70.0 to 130	3.00	20.0
BC12871	Sodium, Total	mg/L	0.00321	0.0660	5.00	158	159	5.08	4.25 to 5.75	80.0	70.0 to 130	0.631	20.0
BC12871	Sulfate	mg/L	0.401	2.0	3200	5200	5180	19.9	18.0 to 22.0	108	80.0 to 120	0.385	20.0
BC12861	Thallium, Dissolved	mg/L	-0.0000067	0.000147	0.100	0.104	0.105	0.108	0.0850 to 0.115	104	70.0 to 130	0.957	20.0
BC12871	Thallium, Total	mg/L	0.0000049	0.000147	0.100	0.110	0.112	0.109	0.0850 to 0.115	110	70.0 to 130	1.80	20.0
BC12871	Total Organic Carbon	mg/L	0.154	1.00	10.0	11.2	12.6	9.57		79.5	80.0 to 120	11.8	20.0

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



## Batch QC Summary

**Customer Account:** WMWGORG

**Sample Date:** 7/13/22 09:01

**Customer ID:**

**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - PZ-22

**Laboratory ID Number:** BC12867

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC12875	Alkalinity, Total as CaCO3	mg/L					70.2	51.1	45.0 to 55.0			0.428	10.0
BC12871	Nitrogen, Nitrate/Nitrite	mg/L as N	0.10	0.200	2.00	2.45	0.290	2.03	1.80 to 2.20	110	90.0 to 110	12.8	15.0
BC12873	Solids, Dissolved	mg/L	1.00	25.0			4770	50.0	40.0 to 60.0			1.48	10.0

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

# Certificate Of Analysis

**Description:** Gorgas Gypsum - PZ-17

**Location Code:** WMWGORG  
**Collected:** 7/13/22 10:21  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12868

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Total	7/18/22 11:51	7/21/22 11:20		1.015	0.0974	mg/L	0.030000	0.1015	J
* Calcium, Total	7/18/22 11:51	7/22/22 12:49		10.15	152	mg/L	0.70035	4.06	
* Iron, Total	7/18/22 11:51	7/22/22 12:49		10.15	37.2	mg/L	0.08120	0.406	
* Lithium, Total	7/18/22 11:51	7/21/22 11:20		1.015	0.779	mg/L	0.007105	0.01999956	
* Magnesium, Total	7/18/22 11:51	7/22/22 12:49		10.15	102	mg/L	0.21315	4.06	
Silica, Total (calc.)	7/18/22 11:51	7/21/22 11:20		1	31.0	mg/L			
Silicon, Total	7/18/22 11:51	7/21/22 11:20		1.015	14.5	mg/L	0.02030	0.25375	
* Sodium, Total	7/18/22 11:51	7/22/22 12:49		10.15	13.6	mg/L	0.3045	4.06	
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	7/19/22 11:38	7/19/22 13:06		1.015	0.102	mg/L	0.030000	0.1015	
* Calcium, Dissolved	7/19/22 11:38	7/19/22 15:52		10.15	166	mg/L	0.70035	4.06	
* Iron, Dissolved	7/19/22 11:38	7/19/22 16:46		101.5	42.1	mg/L	0.8120	4.06	
* Lithium, Dissolved	7/19/22 11:38	7/19/22 13:06		1.015	0.717	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	7/19/22 11:38	7/19/22 15:52		10.15	108	mg/L	0.21315	4.06	
Silica, Dissolved (calc.)	7/19/22 11:38	7/19/22 13:06		1	28.9	mg/L			
Silicon, Dissolved	7/19/22 11:38	7/19/22 13:06		1.015	13.5	mg/L	0.02030	0.25375	
* Sodium, Dissolved	7/19/22 11:38	7/19/22 13:06		1.015	15.4	mg/L	0.03045	0.406	
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: DLJ</b>		<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	7/18/22 15:05	7/19/22 10:54		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/18/22 15:05	7/20/22 14:55		92.365	19.2	mg/L	0.554190	0.92365	
* Arsenic, Total	7/18/22 15:05	7/19/22 10:54		1.015	0.00324	mg/L	0.000081	0.000203	
* Barium, Total	7/18/22 15:05	7/19/22 10:54		1.015	0.0165	mg/L	0.000508	0.001015	
* Beryllium, Total	7/18/22 15:05	7/19/22 10:54		1.015	0.00901	mg/L	0.000406	0.001015	
* Cadmium, Total	7/18/22 15:05	7/19/22 10:54		1.015	0.00124	mg/L	0.000068	0.000203	
* Chromium, Total	7/18/22 15:05	7/19/22 10:54		1.015	0.00159	mg/L	0.000203	0.001015	
* Cobalt, Total	7/18/22 15:05	7/19/22 10:54		1.015	0.260	mg/L	0.000068	0.000203	
* Lead, Total	7/18/22 15:05	7/19/22 10:54		1.015	0.00260	mg/L	0.000068	0.000203	
* Manganese, Total	7/18/22 15:05	7/20/22 14:51		10.15	8.15	mg/L	0.001522	0.00203	
* Molybdenum, Total	7/18/22 15:05	7/19/22 10:54		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Potassium, Total	7/18/22 15:05	7/19/22 10:54		1.015	4.95	mg/L	0.169505	0.5075	

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

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.  
 Alkalinity could not be performed, pH below titration end point of 4.5 SU.  
 Fluoride may have potential matrix interference.

# Certificate Of Analysis

**Description:** Gorgas Gypsum - PZ-17

**Location Code:** WMWGORG  
**Collected:** 7/13/22 10:21  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12868

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	7/18/22 15:05	7/19/22 10:54		1.015	0.00663	mg/L	0.000508	0.001015	
* Thallium, Total	7/18/22 15:05	7/19/22 10:54		1.015	0.000102	mg/L	0.000068	0.000203	J
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	7/18/22 08:58	7/19/22 13:12		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	7/18/22 08:58	7/20/22 12:55		92.365	17.2	mg/L	0.554190	0.92365	
* Arsenic, Dissolved	7/18/22 08:58	7/19/22 13:12		1.015	0.00318	mg/L	0.000081	0.000203	
* Barium, Dissolved	7/18/22 08:58	7/19/22 13:12		1.015	0.0172	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	7/18/22 08:58	7/19/22 13:12		1.015	0.00876	mg/L	0.000406	0.001015	
* Cadmium, Dissolved	7/18/22 08:58	7/19/22 13:12		1.015	0.000992	mg/L	0.000068	0.000203	
* Chromium, Dissolved	7/18/22 08:58	7/19/22 13:12		1.015	0.00165	mg/L	0.000203	0.001015	
* Cobalt, Dissolved	7/18/22 08:58	7/19/22 13:12		1.015	0.258	mg/L	0.000068	0.000203	
* Lead, Dissolved	7/18/22 08:58	7/19/22 13:12		1.015	0.00239	mg/L	0.000068	0.000203	
* Manganese, Dissolved	7/18/22 08:58	7/20/22 12:51		10.15	7.90	mg/L	0.001522	0.00203	
* Molybdenum, Dissolved	7/18/22 08:58	7/19/22 13:12		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Potassium, Dissolved	7/18/22 08:58	7/19/22 13:12		1.015	5.28	mg/L	0.169505	0.5075	
* Selenium, Dissolved	7/18/22 08:58	7/19/22 13:12		1.015	0.00593	mg/L	0.000508	0.001015	
* Thallium, Dissolved	7/18/22 08:58	7/19/22 13:12		1.015	0.0000938	mg/L	0.000068	0.000203	J
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	7/15/22 16:07	7/15/22 21:27		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: CES</b>							
* Nitrogen, Nitrate/Nitrite	7/19/22 14:40	7/19/22 14:40		1	0.282	mg/L as N	0.20	0.3	J
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	7/15/22 11:12	7/18/22 13:45		1	1410	mg/L		75.8	
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	7/15/22 03:16	7/15/22 03:16		1	1.39	mg/L	1.00	2	J
<b>Analytical Method: SM4500CI E</b>		<b>Analyst: JCC</b>							
* Chloride	7/20/22 10:07	7/20/22 10:07		1	1.73	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	7/20/22 12:46	7/20/22 12:46		1	Not Detected	mg/L	0.06	0.125	U
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	7/19/22 13:55	7/19/22 13:55		40	923	mg/L	24.0	80	

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

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.  
 Alkalinity could not be performed, pH below titration end point of 4.5 SU.  
 Fluoride may have potential matrix interference.

# Certificate Of Analysis

**Description:** Gorgas Gypsum - PZ-17

**Location Code:** WMWGORG  
**Collected:** 7/13/22 10:21  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12868

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: Field Measurements</b>		<b>Analyst: DKG</b>							
Conductivity	7/13/22 10:17	7/13/22 10:17			1423.88	uS/cm			FA
pH	7/13/22 10:17	7/13/22 10:17			4.48	SU			FA
Temperature	7/13/22 10:17	7/13/22 10:17			22.32	C			FA
Turbidity	7/13/22 10:17	7/13/22 10:17			1.84	NTU			FA
Sulfide	7/13/22 10:17	7/13/22 10:17			0	mg/L			FA

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

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**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.  
 Alkalinity could not be performed, pH below titration end point of 4.5 SU.  
 Fluoride may have potential matrix interference.

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/13/22 10:21  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - PZ-17

**Laboratory ID Number:** BC12868

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12875	Aluminum, Dissolved	mg/L	0.000116	0.010	0.100	0.198	0.195	0.104	0.0850 to 0.115	100	70.0 to 130	1.53	20.0
BC12871	Aluminum, Total	mg/L	0.000319	0.010	0.100	0.135	0.134	0.104	0.0850 to 0.115	102	70.0 to 130	0.743	20.0
BC12875	Antimony, Dissolved	mg/L	0.000265	0.00100	0.100	0.106	0.104	0.0890	0.0850 to 0.115	106	70.0 to 130	1.90	20.0
BC12871	Antimony, Total	mg/L	0.000312	0.00100	0.100	0.103	0.102	0.0939	0.0850 to 0.115	103	70.0 to 130	0.976	20.0
BC12875	Arsenic, Dissolved	mg/L	0.0000166	0.000176	0.100	0.110	0.107	0.103	0.0850 to 0.115	109	70.0 to 130	2.76	20.0
BC12871	Arsenic, Total	mg/L	0.0000069	0.000176	0.100	0.107	0.105	0.103	0.0850 to 0.115	107	70.0 to 130	1.89	20.0
BC12875	Barium, Dissolved	mg/L	-0.000033	0.00100	0.100	0.114	0.116	0.0964	0.0850 to 0.115	102	70.0 to 130	1.74	20.0
BC12871	Barium, Total	mg/L	-0.0000749	0.00100	0.100	0.122	0.123	0.0955	0.0850 to 0.115	100	70.0 to 130	0.816	20.0
BC12875	Beryllium, Dissolved	mg/L	0.0000386	0.000880	0.100	0.0942	0.0928	0.0951	0.0850 to 0.115	92.2	70.0 to 130	1.50	20.0
BC12871	Beryllium, Total	mg/L	0.0000247	0.000880	0.100	0.0972	0.102	0.0974	0.0850 to 0.115	97.2	70.0 to 130	4.82	20.0
BC12872	Boron, Dissolved	mg/L	0.00411	0.0650	1.00	4.08	4.09	0.963	0.850 to 1.15	98.0	70.0 to 130	0.245	20.0
BC12871	Boron, Total	mg/L	-0.000693	0.0650	1.00	3.33	3.35	1.01	0.850 to 1.15	103	70.0 to 130	0.599	20.0
BC12875	Cadmium, Dissolved	mg/L	0.0000049	0.000147	0.100	0.101	0.0992	0.103	0.0850 to 0.115	101	70.0 to 130	1.80	20.0
BC12871	Cadmium, Total	mg/L	0.0000	0.000147	0.100	0.0988	0.0981	0.100	0.0850 to 0.115	98.8	70.0 to 130	0.711	20.0
BC12872	Calcium, Dissolved	mg/L	-0.0137	0.152	5.00	195	191	5.45	4.25 to 5.75	300	70.0 to 130	2.07	20.0
BC12871	Calcium, Total	mg/L	-0.0310	0.152	5.00	448	451	4.94	4.25 to 5.75	-60.0	70.0 to 130	0.667	20.0
BC12871	Chloride	mg/L	0.00362	1.00	200	325	326	10.5	9.00 to 11.0	102	80.0 to 120	0.307	20.0
BC12875	Chromium, Dissolved	mg/L	-0.0000496	0.000440	0.100	0.102	0.101	0.102	0.0850 to 0.115	102	70.0 to 130	0.985	20.0
BC12871	Chromium, Total	mg/L	-0.0000122	0.000440	0.100	0.101	0.101	0.103	0.0850 to 0.115	101	70.0 to 130	0.00	20.0
BC12875	Cobalt, Dissolved	mg/L	-0.0000042	0.000147	0.100	0.151	0.150	0.105	0.0850 to 0.115	103	70.0 to 130	0.664	20.0
BC12871	Cobalt, Total	mg/L	-0.0000016	0.000147	0.100	0.101	0.102	0.104	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BC12871	Fluoride	mg/L	-0.0209	0.125	2.50	2.80	2.85	2.69	2.25 to 2.75	108	80.0 to 120	1.77	20.0
BC12872	Iron, Dissolved	mg/L	-0.0002	0.0176	0.2	41.6	40.1	0.195	0.170 to 0.230	100	70.0 to 130	3.67	20.0
BC12871	Iron, Total	mg/L	0.000235	0.0176	0.2	26.0	26.1	0.200	0.170 to 0.230	-100	70.0 to 130	0.384	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.  
 Alkalinity could not be performed, pH below titration end point of 4.5 SU.  
 Fluoride may have potential matrix interference.

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/13/22 10:21  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - PZ-17

**Laboratory ID Number:** BC12868

Sample	Analysis	Units	MB					Standard		Rec		Prec	Limit
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12875	Lead, Dissolved	mg/L	0.0000125	0.000147	0.100	0.108	0.108	0.108	0.0850 to 0.115	108	70.0 to 130	0.00	20.0
BC12871	Lead, Total	mg/L	0.0000058	0.000147	0.100	0.109	0.109	0.109	0.0850 to 0.115	109	70.0 to 130	0.00	20.0
BC12872	Lithium, Dissolved	mg/L	-0.000397	0.0154	0.200	0.521	0.535	0.195	0.170 to 0.230	104	70.0 to 130	2.65	20.0
BC12871	Lithium, Total	mg/L	-0.000367	0.0154	0.200	0.428	0.445	0.204	0.170 to 0.230	120	70.0 to 130	3.89	20.0
BC12872	Magnesium, Dissolved	mg/L	-0.00737	0.0462	5.00	126	124	4.80	4.25 to 5.75	220	70.0 to 130	1.60	20.0
BC12871	Magnesium, Total	mg/L	0.00801	0.0462	5.00	270	272	4.94	4.25 to 5.75	0.00	70.0 to 130	0.738	20.0
BC12875	Manganese, Dissolved	mg/L	0.000120	0.0002	0.100	22.0	25.7	0.102	0.0850 to 0.115	-4200	70.0 to 130	15.5	20.0
BC12871	Manganese, Total	mg/L	-0.0000273	0.0002	0.100	15.2	14.8	0.103	0.0850 to 0.115	-100	70.0 to 130	2.67	20.0
BC12871	Mercury, Total by CVAA	mg/L	1.000E-05	0.000500	0.004	0.00402	0.00399	0.00404	0.00340 to 0.00460	100	70.0 to 130	0.749	20.0
BC12875	Molybdenum, Dissolved	mg/L	0.000001	0.0002	0.100	0.103	0.103	0.100	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BC12871	Molybdenum, Total	mg/L	0.0000044	0.0002	0.100	0.104	0.101	0.0990	0.0850 to 0.115	104	70.0 to 130	2.93	20.0
BC12875	Potassium, Dissolved	mg/L	0.0174	0.367	10.0	23.2	22.7	10.7	8.50 to 11.5	109	70.0 to 130	2.18	20.0
BC12871	Potassium, Total	mg/L	0.0116	0.367	10.0	18.0	18.4	10.4	8.50 to 11.5	100	70.0 to 130	2.20	20.0
BC12875	Selenium, Dissolved	mg/L	0.0000243	0.00100	0.100	0.106	0.103	0.105	0.0850 to 0.115	105	70.0 to 130	2.87	20.0
BC12871	Selenium, Total	mg/L	0.0000228	0.00100	0.100	0.109	0.107	0.106	0.0850 to 0.115	109	70.0 to 130	1.85	20.0
BC12872	Silicon, Dissolved	mg/L	0.000137	0.0440	1.00	14.1	14.1	0.959	0.850 to 1.15	80.0	70.0 to 130	0.00	20.0
BC12871	Silicon, Total	mg/L	0.000372	0.0440	1.00	7.72	7.79	1.04	0.850 to 1.15	91.0	70.0 to 130	0.903	20.0
BC12872	Sodium, Dissolved	mg/L	0.00136	0.0660	5.00	32.8	33.8	4.80	4.25 to 5.75	96.0	70.0 to 130	3.00	20.0
BC12871	Sodium, Total	mg/L	0.00321	0.0660	5.00	158	159	5.08	4.25 to 5.75	80.0	70.0 to 130	0.631	20.0
BC12871	Sulfate	mg/L	0.401	2.0	3200	5200	5180	19.9	18.0 to 22.0	108	80.0 to 120	0.385	20.0
BC12875	Thallium, Dissolved	mg/L	0.000006	0.000147	0.100	0.107	0.111	0.110	0.0850 to 0.115	107	70.0 to 130	3.67	20.0
BC12871	Thallium, Total	mg/L	0.0000049	0.000147	0.100	0.110	0.112	0.109	0.0850 to 0.115	110	70.0 to 130	1.80	20.0
BC12871	Total Organic Carbon	mg/L	0.154	1.00	10.0	11.2	12.6	9.57		79.5	80.0 to 120	11.8	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.  
 Alkalinity could not be performed, pH below titration end point of 4.5 SU.  
 Fluoride may have potential matrix interference.

## Batch QC Summary

**Customer Account:** WMWGORG

**Sample Date:** 7/13/22 10:21

**Customer ID:**

**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - PZ-17

**Laboratory ID Number:** BC12868

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC12871	Nitrogen, Nitrate/Nitrite	mg/L as N	0.10	0.200	2.00	2.45	0.290	2.03	1.80 to 2.20	110	90.0 to 110	12.8	15.0
BC12873	Solids, Dissolved	mg/L	1.00	25.0			4770	50.0	40.0 to 60.0			1.48	10.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.  
 Alkalinity could not be performed, pH below titration end point of 4.5 SU.  
 Fluoride may have potential matrix interference.

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-3V

**Location Code:** WMWGORG  
**Collected:** 7/13/22 11:48  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12869

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Total	7/18/22 11:51	7/21/22 11:23		1.015	2.85	mg/L	0.030000	0.1015	
* Calcium, Total	7/18/22 11:51	7/22/22 12:52		101.5	442	mg/L	7.0035	40.6	
* Iron, Total	7/18/22 11:51	7/22/22 12:52		101.5	31.4	mg/L	0.8120	4.06	
* Lithium, Total	7/18/22 11:51	7/21/22 11:23		1.015	0.379	mg/L	0.007105	0.01999956	
* Magnesium, Total	7/18/22 11:51	7/22/22 12:52		101.5	232	mg/L	2.1315	40.6	
Silica, Total (calc.)	7/18/22 11:51	7/21/22 11:23		1	24.0	mg/L			
Silicon, Total	7/18/22 11:51	7/21/22 11:23		1.015	11.2	mg/L	0.02030	0.25375	
* Sodium, Total	7/18/22 11:51	7/22/22 12:52		101.5	212	mg/L	3.045	40.6	
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	7/19/22 11:38	7/19/22 13:09		1.015	2.78	mg/L	0.030000	0.1015	
* Calcium, Dissolved	7/19/22 11:38	7/19/22 15:56		101.5	464	mg/L	7.0035	40.6	
* Iron, Dissolved	7/19/22 11:38	7/19/22 15:56		101.5	32.1	mg/L	0.8120	4.06	
* Lithium, Dissolved	7/19/22 11:38	7/19/22 13:09		1.015	0.344	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	7/19/22 11:38	7/19/22 15:56		101.5	235	mg/L	2.1315	40.6	
Silica, Dissolved (calc.)	7/19/22 11:38	7/19/22 13:09		1	22.9	mg/L			
Silicon, Dissolved	7/19/22 11:38	7/19/22 13:09		1.015	10.7	mg/L	0.02030	0.25375	
* Sodium, Dissolved	7/19/22 11:38	7/19/22 15:56		101.5	215	mg/L	3.045	40.6	
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: DLJ</b>		<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	7/18/22 15:05	7/19/22 10:58		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/18/22 15:05	7/19/22 10:58		1.015	0.00969	mg/L	0.006090	0.01015	J
* Arsenic, Total	7/18/22 15:05	7/19/22 10:58		1.015	0.000178	mg/L	0.000081	0.000203	J
* Barium, Total	7/18/22 15:05	7/19/22 10:58		1.015	0.0145	mg/L	0.000508	0.001015	
* Beryllium, Total	7/18/22 15:05	7/19/22 10:58		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	7/18/22 15:05	7/19/22 10:58		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	7/18/22 15:05	7/19/22 10:58		1.015	0.000255	mg/L	0.000203	0.001015	J
* Cobalt, Total	7/18/22 15:05	7/19/22 10:58		1.015	0.0115	mg/L	0.000068	0.000203	
* Lead, Total	7/18/22 15:05	7/19/22 10:58		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	7/18/22 15:05	7/20/22 14:58		92.365	13.2	mg/L	0.013855	0.018473	
* Molybdenum, Total	7/18/22 15:05	7/19/22 10:58		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Potassium, Total	7/18/22 15:05	7/19/22 10:58		1.015	7.35	mg/L	0.169505	0.5075	

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

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



# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-3V

**Location Code:** WMWGORG  
**Collected:** 7/13/22 11:48  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12869

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	7/18/22 15:05	7/19/22 10:58		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	7/18/22 15:05	7/19/22 10:58		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	7/18/22 08:58	7/19/22 13:16		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	7/18/22 08:58	7/19/22 13:16		1.015	0.00791	mg/L	0.006090	0.01015	J
* Arsenic, Dissolved	7/18/22 08:58	7/19/22 13:16		1.015	0.000199	mg/L	0.000081	0.000203	J
* Barium, Dissolved	7/18/22 08:58	7/19/22 13:16		1.015	0.0150	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	7/18/22 08:58	7/19/22 13:16		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	7/18/22 08:58	7/19/22 13:16		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	7/18/22 08:58	7/19/22 13:16		1.015	0.000272	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	7/18/22 08:58	7/19/22 13:16		1.015	0.0109	mg/L	0.000068	0.000203	
* Lead, Dissolved	7/18/22 08:58	7/19/22 13:16		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	7/18/22 08:58	7/20/22 12:59		92.365	13.2	mg/L	0.013855	0.018473	
* Molybdenum, Dissolved	7/18/22 08:58	7/19/22 13:16		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Potassium, Dissolved	7/18/22 08:58	7/19/22 13:16		1.015	7.50	mg/L	0.169505	0.5075	
* Selenium, Dissolved	7/18/22 08:58	7/19/22 13:16		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	7/18/22 08:58	7/19/22 13:16		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	7/15/22 16:07	7/15/22 21:31		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: CES</b>							
* Nitrogen, Nitrate/Nitrite	7/19/22 14:42	7/19/22 14:42		1	0.273	mg/L as N	0.20	0.3	J
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: JAG</b>							
Alkalinity, Total as CaCO3	7/25/22 10:30	7/25/22 11:32		1	150	mg/L		0.01	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	7/15/22 11:12	7/18/22 13:45		1	3340	mg/L		208.3	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: JAG</b>							
Bicarbonate Alkalinity, (calc.)	7/25/22 10:30	7/25/22 11:32		1	150	mg/L		1	A
Carbonate Alkalinity, (calc.)	7/25/22 10:30	7/25/22 11:32		1	Not Detected	mg/L		0.5	A
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	7/15/22 03:36	7/15/22 03:36		1	1.75	mg/L	1.00	2	J

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

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

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-3V

**Location Code:** WMWGORG  
**Collected:** 7/13/22 11:48  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12869

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	7/20/22 10:30	7/20/22 10:30		40	285	mg/L	20.00	40	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	7/20/22 12:47	7/20/22 12:47		1	0.374	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	7/19/22 13:57	7/19/22 13:57		80	2040	mg/L	48.0	160	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: DKG</b>							
Conductivity	7/13/22 11:45	7/13/22 11:45			3030.91	uS/cm			FA
pH	7/13/22 11:45	7/13/22 11:45			5.98	SU			FA
Temperature	7/13/22 11:45	7/13/22 11:45			25.21	C			FA
Turbidity	7/13/22 11:45	7/13/22 11:45			1.29	NTU			FA
Sulfide	7/13/22 11:45	7/13/22 11:45			0	mg/L			FA

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

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

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/13/22 11:48  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - MW-3V

**Laboratory ID Number:** BC12869

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BC12875	Aluminum, Dissolved	mg/L	0.000116	0.010	0.100	0.198	0.195	0.104	0.0850 to 0.115	100	70.0 to 130	1.53	20.0
BC12871	Aluminum, Total	mg/L	0.000319	0.010	0.100	0.135	0.134	0.104	0.0850 to 0.115	102	70.0 to 130	0.743	20.0
BC12875	Antimony, Dissolved	mg/L	0.000265	0.00100	0.100	0.106	0.104	0.0890	0.0850 to 0.115	106	70.0 to 130	1.90	20.0
BC12871	Antimony, Total	mg/L	0.000312	0.00100	0.100	0.103	0.102	0.0939	0.0850 to 0.115	103	70.0 to 130	0.976	20.0
BC12875	Arsenic, Dissolved	mg/L	0.0000166	0.000176	0.100	0.110	0.107	0.103	0.0850 to 0.115	109	70.0 to 130	2.76	20.0
BC12871	Arsenic, Total	mg/L	0.0000069	0.000176	0.100	0.107	0.105	0.103	0.0850 to 0.115	107	70.0 to 130	1.89	20.0
BC12875	Barium, Dissolved	mg/L	-0.000033	0.00100	0.100	0.114	0.116	0.0964	0.0850 to 0.115	102	70.0 to 130	1.74	20.0
BC12871	Barium, Total	mg/L	-0.0000749	0.00100	0.100	0.122	0.123	0.0955	0.0850 to 0.115	100	70.0 to 130	0.816	20.0
BC12875	Beryllium, Dissolved	mg/L	0.0000386	0.000880	0.100	0.0942	0.0928	0.0951	0.0850 to 0.115	92.2	70.0 to 130	1.50	20.0
BC12871	Beryllium, Total	mg/L	0.0000247	0.000880	0.100	0.0972	0.102	0.0974	0.0850 to 0.115	97.2	70.0 to 130	4.82	20.0
BC12872	Boron, Dissolved	mg/L	0.00411	0.0650	1.00	4.08	4.09	0.963	0.850 to 1.15	98.0	70.0 to 130	0.245	20.0
BC12871	Boron, Total	mg/L	-0.000693	0.0650	1.00	3.33	3.35	1.01	0.850 to 1.15	103	70.0 to 130	0.599	20.0
BC12875	Cadmium, Dissolved	mg/L	0.0000049	0.000147	0.100	0.101	0.0992	0.103	0.0850 to 0.115	101	70.0 to 130	1.80	20.0
BC12871	Cadmium, Total	mg/L	0.0000	0.000147	0.100	0.0988	0.0981	0.100	0.0850 to 0.115	98.8	70.0 to 130	0.711	20.0
BC12872	Calcium, Dissolved	mg/L	-0.0137	0.152	5.00	195	191	5.45	4.25 to 5.75	300	70.0 to 130	2.07	20.0
BC12871	Calcium, Total	mg/L	-0.0310	0.152	5.00	448	451	4.94	4.25 to 5.75	-60.0	70.0 to 130	0.667	20.0
BC12871	Chloride	mg/L	0.00362	1.00	200	325	326	10.5	9.00 to 11.0	102	80.0 to 120	0.307	20.0
BC12875	Chromium, Dissolved	mg/L	-0.0000496	0.000440	0.100	0.102	0.101	0.102	0.0850 to 0.115	102	70.0 to 130	0.985	20.0
BC12871	Chromium, Total	mg/L	-0.0000122	0.000440	0.100	0.101	0.101	0.103	0.0850 to 0.115	101	70.0 to 130	0.00	20.0
BC12875	Cobalt, Dissolved	mg/L	-0.0000042	0.000147	0.100	0.151	0.150	0.105	0.0850 to 0.115	103	70.0 to 130	0.664	20.0
BC12871	Cobalt, Total	mg/L	-0.0000016	0.000147	0.100	0.101	0.102	0.104	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BC12871	Fluoride	mg/L	-0.0209	0.125	2.50	2.80	2.85	2.69	2.25 to 2.75	108	80.0 to 120	1.77	20.0
BC12872	Iron, Dissolved	mg/L	-0.0002	0.0176	0.2	41.6	40.1	0.195	0.170 to 0.230	100	70.0 to 130	3.67	20.0
BC12871	Iron, Total	mg/L	0.000235	0.0176	0.2	26.0	26.1	0.200	0.170 to 0.230	-100	70.0 to 130	0.384	20.0

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

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/13/22 11:48  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - MW-3V

**Laboratory ID Number:** BC12869

Sample	Analysis	Units	MB					Standard		Rec			Prec Limit
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit	Prec	
BC12875	Lead, Dissolved	mg/L	0.0000125	0.000147	0.100	0.108	0.108	0.108	0.0850 to 0.115	108	70.0 to 130	0.00	20.0
BC12871	Lead, Total	mg/L	0.0000058	0.000147	0.100	0.109	0.109	0.109	0.0850 to 0.115	109	70.0 to 130	0.00	20.0
BC12872	Lithium, Dissolved	mg/L	-0.000397	0.0154	0.200	0.521	0.535	0.195	0.170 to 0.230	104	70.0 to 130	2.65	20.0
BC12871	Lithium, Total	mg/L	-0.000367	0.0154	0.200	0.428	0.445	0.204	0.170 to 0.230	120	70.0 to 130	3.89	20.0
BC12872	Magnesium, Dissolved	mg/L	-0.00737	0.0462	5.00	126	124	4.80	4.25 to 5.75	220	70.0 to 130	1.60	20.0
BC12871	Magnesium, Total	mg/L	0.00801	0.0462	5.00	270	272	4.94	4.25 to 5.75	0.00	70.0 to 130	0.738	20.0
BC12875	Manganese, Dissolved	mg/L	0.000120	0.0002	0.100	22.0	25.7	0.102	0.0850 to 0.115	-4200	70.0 to 130	15.5	20.0
BC12871	Manganese, Total	mg/L	-0.0000273	0.0002	0.100	15.2	14.8	0.103	0.0850 to 0.115	-100	70.0 to 130	2.67	20.0
BC12871	Mercury, Total by CVAA	mg/L	1.000E-05	0.000500	0.004	0.00402	0.00399	0.00404	0.00340 to 0.00460	100	70.0 to 130	0.749	20.0
BC12875	Molybdenum, Dissolved	mg/L	0.0000001	0.0002	0.100	0.103	0.103	0.100	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BC12871	Molybdenum, Total	mg/L	0.0000044	0.0002	0.100	0.104	0.101	0.0990	0.0850 to 0.115	104	70.0 to 130	2.93	20.0
BC12875	Potassium, Dissolved	mg/L	0.0174	0.367	10.0	23.2	22.7	10.7	8.50 to 11.5	109	70.0 to 130	2.18	20.0
BC12871	Potassium, Total	mg/L	0.0116	0.367	10.0	18.0	18.4	10.4	8.50 to 11.5	100	70.0 to 130	2.20	20.0
BC12875	Selenium, Dissolved	mg/L	0.0000243	0.00100	0.100	0.106	0.103	0.105	0.0850 to 0.115	105	70.0 to 130	2.87	20.0
BC12871	Selenium, Total	mg/L	0.0000228	0.00100	0.100	0.109	0.107	0.106	0.0850 to 0.115	109	70.0 to 130	1.85	20.0
BC12872	Silicon, Dissolved	mg/L	0.000137	0.0440	1.00	14.1	14.1	0.959	0.850 to 1.15	80.0	70.0 to 130	0.00	20.0
BC12871	Silicon, Total	mg/L	0.000372	0.0440	1.00	7.72	7.79	1.04	0.850 to 1.15	91.0	70.0 to 130	0.903	20.0
BC12872	Sodium, Dissolved	mg/L	0.00136	0.0660	5.00	32.8	33.8	4.80	4.25 to 5.75	96.0	70.0 to 130	3.00	20.0
BC12871	Sodium, Total	mg/L	0.00321	0.0660	5.00	158	159	5.08	4.25 to 5.75	80.0	70.0 to 130	0.631	20.0
BC12871	Sulfate	mg/L	0.401	2.0	3200	5200	5180	19.9	18.0 to 22.0	108	80.0 to 120	0.385	20.0
BC12875	Thallium, Dissolved	mg/L	0.000006	0.000147	0.100	0.107	0.111	0.110	0.0850 to 0.115	107	70.0 to 130	3.67	20.0
BC12871	Thallium, Total	mg/L	0.0000049	0.000147	0.100	0.110	0.112	0.109	0.0850 to 0.115	110	70.0 to 130	1.80	20.0
BC12871	Total Organic Carbon	mg/L	0.154	1.00	10.0	11.2	12.6	9.57		79.5	80.0 to 120	11.8	20.0

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

## Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/13/22 11:48  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - MW-3V

**Laboratory ID Number:** BC12869

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC12875	Alkalinity, Total as CaCO3	mg/L					70.2	51.1	45.0 to 55.0			0.428	10.0
BC12871	Nitrogen, Nitrate/Nitrite	mg/L as N	0.10	0.200	2.00	2.45	0.290	2.03	1.80 to 2.20	110	90.0 to 110	12.8	15.0
BC12873	Solids, Dissolved	mg/L	1.00	25.0			4770	50.0	40.0 to 60.0			1.48	10.0

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

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-8V

**Location Code:** WMWGORG  
**Collected:** 7/12/22 13:00  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12870

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Total	7/18/22 11:51	7/21/22 11:25		1.015	0.148	mg/L	0.030000	0.1015	
* Calcium, Total	7/18/22 11:51	7/21/22 11:25		1.015	30.4	mg/L	0.070035	0.406	
* Iron, Total	7/18/22 11:51	7/21/22 11:25		1.015	0.0456	mg/L	0.008120	0.0406	
* Lithium, Total	7/18/22 11:51	7/21/22 11:25		1.015	0.269	mg/L	0.007105	0.01999956	
* Magnesium, Total	7/18/22 11:51	7/21/22 11:25		1.015	15.1	mg/L	0.021315	0.406	
Silica, Total (calc.)	7/18/22 11:51	7/21/22 11:25		1	19.5	mg/L			
Silicon, Total	7/18/22 11:51	7/21/22 11:25		1.015	9.12	mg/L	0.02030	0.25375	
* Sodium, Total	7/18/22 11:51	7/22/22 12:56		101.5	341	mg/L	3.045	40.6	
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	7/19/22 11:38	7/19/22 13:12		1.015	0.145	mg/L	0.030000	0.1015	
* Calcium, Dissolved	7/19/22 11:38	7/19/22 15:59		10.15	38.2	mg/L	0.70035	4.06	
* Iron, Dissolved	7/19/22 11:38	7/19/22 13:12		1.015	0.0241	mg/L	0.008120	0.0406	J
* Lithium, Dissolved	7/19/22 11:38	7/19/22 13:12		1.015	0.260	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	7/19/22 11:38	7/19/22 13:12		1.015	13.8	mg/L	0.021315	0.406	
Silica, Dissolved (calc.)	7/19/22 11:38	7/19/22 13:12		1	18.4	mg/L			
Silicon, Dissolved	7/19/22 11:38	7/19/22 13:12		1.015	8.60	mg/L	0.02030	0.25375	
* Sodium, Dissolved	7/19/22 11:38	7/19/22 15:59		10.15	379	mg/L	0.3045	4.06	
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: DLJ</b>		<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	7/18/22 15:05	7/19/22 11:01		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/18/22 15:05	7/19/22 11:01		1.015	0.0126	mg/L	0.006090	0.01015	
* Arsenic, Total	7/18/22 15:05	7/19/22 11:01		1.015	0.00276	mg/L	0.000081	0.000203	
* Barium, Total	7/18/22 15:05	7/19/22 11:01		1.015	0.0967	mg/L	0.000508	0.001015	
* Beryllium, Total	7/18/22 15:05	7/19/22 11:01		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	7/18/22 15:05	7/19/22 11:01		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	7/18/22 15:05	7/19/22 11:01		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Total	7/18/22 15:05	7/19/22 11:01		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Lead, Total	7/18/22 15:05	7/19/22 11:01		1.015	0.0000813	mg/L	0.000068	0.000203	J
* Manganese, Total	7/18/22 15:05	7/19/22 11:01		1.015	0.114	mg/L	0.000152	0.000203	
* Molybdenum, Total	7/18/22 15:05	7/19/22 11:01		1.015	0.000186	mg/L	0.000102	0.000203	J
* Potassium, Total	7/18/22 15:05	7/19/22 11:01		1.015	3.65	mg/L	0.169505	0.5075	

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

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

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-8V

**Location Code:** WMWGORG  
**Collected:** 7/12/22 13:00  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12870

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	7/18/22 15:05	7/19/22 11:01		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	7/18/22 15:05	7/19/22 11:01		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	7/18/22 08:58	7/19/22 13:19		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	7/18/22 08:58	7/19/22 13:19		1.015	0.00686	mg/L	0.006090	0.01015	J
* Arsenic, Dissolved	7/18/22 08:58	7/19/22 13:19		1.015	0.00159	mg/L	0.000081	0.000203	
* Barium, Dissolved	7/18/22 08:58	7/19/22 13:19		1.015	0.0904	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	7/18/22 08:58	7/19/22 13:19		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	7/18/22 08:58	7/19/22 13:19		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	7/18/22 08:58	7/19/22 13:19		1.015	0.000233	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	7/18/22 08:58	7/19/22 13:19		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Lead, Dissolved	7/18/22 08:58	7/19/22 13:19		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	7/18/22 08:58	7/19/22 13:19		1.015	0.0757	mg/L	0.000152	0.000203	
* Molybdenum, Dissolved	7/18/22 08:58	7/19/22 13:19		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Potassium, Dissolved	7/18/22 08:58	7/19/22 13:19		1.015	3.66	mg/L	0.169505	0.5075	
* Selenium, Dissolved	7/18/22 08:58	7/19/22 13:19		1.015	0.00855	mg/L	0.000508	0.001015	
* Thallium, Dissolved	7/18/22 08:58	7/19/22 13:19		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	7/15/22 16:07	7/15/22 21:35		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: CES</b>							
* Nitrogen, Nitrate/Nitrite	7/19/22 14:44	7/19/22 14:44		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: JAG</b>							
Alkalinity, Total as CaCO3	7/25/22 10:30	7/25/22 11:32		1	705	mg/L		0.01	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	7/14/22 13:30	7/15/22 13:16		1	1010	mg/L		100	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: JAG</b>							
Bicarbonate Alkalinity, (calc.)	7/25/22 10:30	7/25/22 11:32		1	701	mg/L		1	A
Carbonate Alkalinity, (calc.)	7/25/22 10:30	7/25/22 11:32		1	4.06	mg/L		0.5	A
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	7/15/22 03:54	7/15/22 03:54		1	3.13	mg/L	1.00	2	

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

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

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-8V

**Location Code:** WMWGORG  
**Collected:** 7/12/22 13:00  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12870

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	7/20/22 10:09	7/20/22 10:09		1	15.5	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	7/20/22 12:48	7/20/22 12:48		1	0.190	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	7/19/22 13:58	7/19/22 13:58		10	177	mg/L	6.0	20	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: AWG</b>							
Conductivity	7/12/22 12:55	7/12/22 12:55			1545.82	uS/cm			FA
pH	7/12/22 12:55	7/12/22 12:55			7.44	SU			FA
Temperature	7/12/22 12:55	7/12/22 12:55			24.24	C			FA
Turbidity	7/12/22 12:55	7/12/22 12:55			1.86	NTU			FA
Sulfide	7/12/22 12:55	7/12/22 12:55			8	mg/L			FA

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

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



# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/12/22 13:00  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - MW-8V

**Laboratory ID Number:** BC12870

Sample	Analysis	Units	MB				Standard		Rec		Prec	Limit	
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec			Limit
BC12875	Aluminum, Dissolved	mg/L	0.000116	0.010	0.100	0.198	0.195	0.104	0.0850 to 0.115	100	70.0 to 130	1.53	20.0
BC12871	Aluminum, Total	mg/L	0.000319	0.010	0.100	0.135	0.134	0.104	0.0850 to 0.115	102	70.0 to 130	0.743	20.0
BC12875	Antimony, Dissolved	mg/L	0.000265	0.00100	0.100	0.106	0.104	0.0890	0.0850 to 0.115	106	70.0 to 130	1.90	20.0
BC12871	Antimony, Total	mg/L	0.000312	0.00100	0.100	0.103	0.102	0.0939	0.0850 to 0.115	103	70.0 to 130	0.976	20.0
BC12875	Arsenic, Dissolved	mg/L	0.0000166	0.000176	0.100	0.110	0.107	0.103	0.0850 to 0.115	109	70.0 to 130	2.76	20.0
BC12871	Arsenic, Total	mg/L	0.0000069	0.000176	0.100	0.107	0.105	0.103	0.0850 to 0.115	107	70.0 to 130	1.89	20.0
BC12875	Barium, Dissolved	mg/L	-0.000033	0.00100	0.100	0.114	0.116	0.0964	0.0850 to 0.115	102	70.0 to 130	1.74	20.0
BC12871	Barium, Total	mg/L	-0.0000749	0.00100	0.100	0.122	0.123	0.0955	0.0850 to 0.115	100	70.0 to 130	0.816	20.0
BC12875	Beryllium, Dissolved	mg/L	0.0000386	0.000880	0.100	0.0942	0.0928	0.0951	0.0850 to 0.115	92.2	70.0 to 130	1.50	20.0
BC12871	Beryllium, Total	mg/L	0.0000247	0.000880	0.100	0.0972	0.102	0.0974	0.0850 to 0.115	97.2	70.0 to 130	4.82	20.0
BC12872	Boron, Dissolved	mg/L	0.00411	0.0650	1.00	4.08	4.09	0.963	0.850 to 1.15	98.0	70.0 to 130	0.245	20.0
BC12871	Boron, Total	mg/L	-0.000693	0.0650	1.00	3.33	3.35	1.01	0.850 to 1.15	103	70.0 to 130	0.599	20.0
BC12875	Cadmium, Dissolved	mg/L	0.0000049	0.000147	0.100	0.101	0.0992	0.103	0.0850 to 0.115	101	70.0 to 130	1.80	20.0
BC12871	Cadmium, Total	mg/L	0.0000	0.000147	0.100	0.0988	0.0981	0.100	0.0850 to 0.115	98.8	70.0 to 130	0.711	20.0
BC12872	Calcium, Dissolved	mg/L	-0.0137	0.152	5.00	195	191	5.45	4.25 to 5.75	300	70.0 to 130	2.07	20.0
BC12871	Calcium, Total	mg/L	-0.0310	0.152	5.00	448	451	4.94	4.25 to 5.75	-60.0	70.0 to 130	0.667	20.0
BC12871	Chloride	mg/L	0.00362	1.00	200	325	326	10.5	9.00 to 11.0	102	80.0 to 120	0.307	20.0
BC12875	Chromium, Dissolved	mg/L	-0.0000496	0.000440	0.100	0.102	0.101	0.102	0.0850 to 0.115	102	70.0 to 130	0.985	20.0
BC12871	Chromium, Total	mg/L	-0.0000122	0.000440	0.100	0.101	0.101	0.103	0.0850 to 0.115	101	70.0 to 130	0.00	20.0
BC12875	Cobalt, Dissolved	mg/L	-0.0000042	0.000147	0.100	0.151	0.150	0.105	0.0850 to 0.115	103	70.0 to 130	0.664	20.0
BC12871	Cobalt, Total	mg/L	-0.0000016	0.000147	0.100	0.101	0.102	0.104	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BC12871	Fluoride	mg/L	-0.0209	0.125	2.50	2.80	2.85	2.69	2.25 to 2.75	108	80.0 to 120	1.77	20.0
BC12872	Iron, Dissolved	mg/L	-0.0002	0.0176	0.2	41.6	40.1	0.195	0.170 to 0.230	100	70.0 to 130	3.67	20.0
BC12871	Iron, Total	mg/L	0.000235	0.0176	0.2	26.0	26.1	0.200	0.170 to 0.230	-100	70.0 to 130	0.384	20.0

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

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/12/22 13:00  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - MW-8V

**Laboratory ID Number:** BC12870

Sample	Analysis	Units	MB					Standard		Rec		Prec	Limit
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12875	Lead, Dissolved	mg/L	0.0000125	0.000147	0.100	0.108	0.108	0.108	0.0850 to 0.115	108	70.0 to 130	0.00	20.0
BC12871	Lead, Total	mg/L	0.0000058	0.000147	0.100	0.109	0.109	0.109	0.0850 to 0.115	109	70.0 to 130	0.00	20.0
BC12872	Lithium, Dissolved	mg/L	-0.000397	0.0154	0.200	0.521	0.535	0.195	0.170 to 0.230	104	70.0 to 130	2.65	20.0
BC12871	Lithium, Total	mg/L	-0.000367	0.0154	0.200	0.428	0.445	0.204	0.170 to 0.230	120	70.0 to 130	3.89	20.0
BC12872	Magnesium, Dissolved	mg/L	-0.00737	0.0462	5.00	126	124	4.80	4.25 to 5.75	220	70.0 to 130	1.60	20.0
BC12871	Magnesium, Total	mg/L	0.00801	0.0462	5.00	270	272	4.94	4.25 to 5.75	0.00	70.0 to 130	0.738	20.0
BC12875	Manganese, Dissolved	mg/L	0.000120	0.0002	0.100	22.0	25.7	0.102	0.0850 to 0.115	-4200	70.0 to 130	15.5	20.0
BC12871	Manganese, Total	mg/L	-0.0000273	0.0002	0.100	15.2	14.8	0.103	0.0850 to 0.115	-100	70.0 to 130	2.67	20.0
BC12871	Mercury, Total by CVAA	mg/L	1.000E-05	0.000500	0.004	0.00402	0.00399	0.00404	0.00340 to 0.00460	100	70.0 to 130	0.749	20.0
BC12875	Molybdenum, Dissolved	mg/L	0.0000001	0.0002	0.100	0.103	0.103	0.100	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BC12871	Molybdenum, Total	mg/L	0.0000044	0.0002	0.100	0.104	0.101	0.0990	0.0850 to 0.115	104	70.0 to 130	2.93	20.0
BC12875	Potassium, Dissolved	mg/L	0.0174	0.367	10.0	23.2	22.7	10.7	8.50 to 11.5	109	70.0 to 130	2.18	20.0
BC12871	Potassium, Total	mg/L	0.0116	0.367	10.0	18.0	18.4	10.4	8.50 to 11.5	100	70.0 to 130	2.20	20.0
BC12875	Selenium, Dissolved	mg/L	0.0000243	0.00100	0.100	0.106	0.103	0.105	0.0850 to 0.115	105	70.0 to 130	2.87	20.0
BC12871	Selenium, Total	mg/L	0.0000228	0.00100	0.100	0.109	0.107	0.106	0.0850 to 0.115	109	70.0 to 130	1.85	20.0
BC12872	Silicon, Dissolved	mg/L	0.000137	0.0440	1.00	14.1	14.1	0.959	0.850 to 1.15	80.0	70.0 to 130	0.00	20.0
BC12871	Silicon, Total	mg/L	0.000372	0.0440	1.00	7.72	7.79	1.04	0.850 to 1.15	91.0	70.0 to 130	0.903	20.0
BC12872	Sodium, Dissolved	mg/L	0.00136	0.0660	5.00	32.8	33.8	4.80	4.25 to 5.75	96.0	70.0 to 130	3.00	20.0
BC12871	Sodium, Total	mg/L	0.00321	0.0660	5.00	158	159	5.08	4.25 to 5.75	80.0	70.0 to 130	0.631	20.0
BC12871	Sulfate	mg/L	0.401	2.0	3200	5200	5180	19.9	18.0 to 22.0	108	80.0 to 120	0.385	20.0
BC12875	Thallium, Dissolved	mg/L	0.000006	0.000147	0.100	0.107	0.111	0.110	0.0850 to 0.115	107	70.0 to 130	3.67	20.0
BC12871	Thallium, Total	mg/L	0.0000049	0.000147	0.100	0.110	0.112	0.109	0.0850 to 0.115	110	70.0 to 130	1.80	20.0
BC12871	Total Organic Carbon	mg/L	0.154	1.00	10.0	11.2	12.6	9.57		79.5	80.0 to 120	11.8	20.0

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

## Batch QC Summary

**Customer Account:** WMWGORG

**Sample Date:** 7/12/22 13:00

**Customer ID:**

**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - MW-8V

**Laboratory ID Number:** BC12870

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC12875	Alkalinity, Total as CaCO3	mg/L					70.2	51.1	45.0 to 55.0			0.428	10.0
BC12871	Nitrogen, Nitrate/Nitrite	mg/L as N	0.10	0.200	2.00	2.45	0.290	2.03	1.80 to 2.20	110	90.0 to 110	12.8	15.0
BC12871	Solids, Dissolved	mg/L	1.00	25.0			3120	48.0	40.0 to 60.0			0.966	10.0

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

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-8

**Location Code:** WMWGORG  
**Collected:** 7/12/22 14:17  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12871

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Total	7/18/22 11:51	7/21/22 11:28		1.015	2.30	mg/L	0.030000	0.1015	
* Calcium, Total	7/18/22 11:51	7/22/22 12:59		101.5	451	mg/L	7.0035	40.6	RA
* Iron, Total	7/18/22 11:51	7/22/22 12:59		101.5	26.2	mg/L	0.8120	4.06	RA
* Lithium, Total	7/18/22 11:51	7/21/22 11:28		1.015	0.189	mg/L	0.007105	0.01999956	
* Magnesium, Total	7/18/22 11:51	7/22/22 12:59		101.5	270	mg/L	2.1315	40.6	RA
Silica, Total (calc.)	7/18/22 11:51	7/21/22 11:28		1	14.6	mg/L			
Silicon, Total	7/18/22 11:51	7/21/22 11:28		1.015	6.81	mg/L	0.02030	0.25375	
* Sodium, Total	7/18/22 11:51	7/22/22 12:59		101.5	154	mg/L	3.045	40.6	
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	7/19/22 11:38	7/19/22 13:15		1.015	2.29	mg/L	0.030000	0.1015	
* Calcium, Dissolved	7/19/22 11:38	7/19/22 16:02		101.5	452	mg/L	7.0035	40.6	
* Iron, Dissolved	7/19/22 11:38	7/19/22 16:02		101.5	25.4	mg/L	0.8120	4.06	
* Lithium, Dissolved	7/19/22 11:38	7/19/22 13:15		1.015	0.181	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	7/19/22 11:38	7/19/22 16:02		101.5	264	mg/L	2.1315	40.6	
Silica, Dissolved (calc.)	7/19/22 11:38	7/19/22 13:15		1	14.1	mg/L			
Silicon, Dissolved	7/19/22 11:38	7/19/22 13:15		1.015	6.57	mg/L	0.02030	0.25375	
* Sodium, Dissolved	7/19/22 11:38	7/19/22 16:02		101.5	150	mg/L	3.045	40.6	
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: DLJ</b>		<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	7/18/22 15:05	7/19/22 11:05		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/18/22 15:05	7/19/22 11:05		1.015	0.0328	mg/L	0.006090	0.01015	
* Arsenic, Total	7/18/22 15:05	7/19/22 11:05		1.015	0.000156	mg/L	0.000081	0.000203	J
* Barium, Total	7/18/22 15:05	7/19/22 11:05		1.015	0.0220	mg/L	0.000508	0.001015	
* Beryllium, Total	7/18/22 15:05	7/19/22 11:05		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	7/18/22 15:05	7/19/22 11:05		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	7/18/22 15:05	7/19/22 11:05		1.015	0.000258	mg/L	0.000203	0.001015	J
* Cobalt, Total	7/18/22 15:05	7/19/22 11:05		1.015	0.000233	mg/L	0.000068	0.000203	
* Lead, Total	7/18/22 15:05	7/19/22 11:05		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	7/18/22 15:05	7/20/22 15:02		92.365	15.3	mg/L	0.013855	0.018473	RA
* Molybdenum, Total	7/18/22 15:05	7/19/22 11:05		1.015	0.000122	mg/L	0.000102	0.000203	J
* Potassium, Total	7/18/22 15:05	7/19/22 11:05		1.015	8.00	mg/L	0.169505	0.5075	

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

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

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-8

**Location Code:** WMWGORG  
**Collected:** 7/12/22 14:17  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12871

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	7/18/22 15:05	7/19/22 11:05		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	7/18/22 15:05	7/19/22 11:05		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	7/18/22 08:58	7/19/22 13:23		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	7/18/22 08:58	7/19/22 13:23		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Dissolved	7/18/22 08:58	7/19/22 13:23		1.015	0.000159	mg/L	0.000081	0.000203	J
* Barium, Dissolved	7/18/22 08:58	7/19/22 13:23		1.015	0.0218	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	7/18/22 08:58	7/19/22 13:23		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	7/18/22 08:58	7/19/22 13:23		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	7/18/22 08:58	7/19/22 13:23		1.015	0.000266	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	7/18/22 08:58	7/19/22 13:23		1.015	0.0000836	mg/L	0.000068	0.000203	J
* Lead, Dissolved	7/18/22 08:58	7/19/22 13:23		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	7/18/22 08:58	7/20/22 13:02		92.365	15.0	mg/L	0.013855	0.018473	
* Molybdenum, Dissolved	7/18/22 08:58	7/19/22 13:23		1.015	0.000110	mg/L	0.000102	0.000203	J
* Potassium, Dissolved	7/18/22 08:58	7/19/22 13:23		1.015	8.23	mg/L	0.169505	0.5075	
* Selenium, Dissolved	7/18/22 08:58	7/19/22 13:23		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	7/18/22 08:58	7/19/22 13:23		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	7/15/22 16:07	7/15/22 21:39		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: CES</b>							
* Nitrogen, Nitrate/Nitrite	7/19/22 14:46	7/19/22 14:46		1	0.255	mg/L as N	0.20	0.3	J
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: JAG</b>							
Alkalinity, Total as CaCO3	7/25/22 10:30	7/25/22 11:32		1	525	mg/L		0.01	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	7/14/22 13:30	7/15/22 13:16		1	3090	mg/L		178.6	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: JAG</b>							
Bicarbonate Alkalinity, (calc.)	7/25/22 10:30	7/25/22 11:32		1	524	mg/L		1	A
Carbonate Alkalinity, (calc.)	7/25/22 10:30	7/25/22 11:32		1	0.64	mg/L		0.5	A
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	7/15/22 04:16	7/15/22 04:16		1	3.25	mg/L	1.00	2	R

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

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

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-8

**Location Code:** WMWGORG  
**Collected:** 7/12/22 14:17  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12871

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	7/20/22 10:32	7/20/22 10:32		20	120	mg/L	10.00	20	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	7/20/22 12:49	7/20/22 12:49		1	0.112	mg/L	0.06	0.125	J
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	7/19/22 13:59	7/19/22 13:59		160	1740	mg/L	96.0	320	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: AWG</b>							
Conductivity	7/12/22 14:14	7/12/22 14:14			3642.75	uS/cm			FA
pH	7/12/22 14:14	7/12/22 14:14			6.49	SU			FA
Temperature	7/12/22 14:14	7/12/22 14:14			24.04	C			FA
Turbidity	7/12/22 14:14	7/12/22 14:14			3.55	NTU			FA
Sulfide	7/12/22 14:14	7/12/22 14:14			0	mg/L			FA

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

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

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/12/22 14:17  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - MW-8

**Laboratory ID Number:** BC12871

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12875	Aluminum, Dissolved	mg/L	0.000116	0.010	0.100	0.198	0.195	0.104	0.0850 to 0.115	100	70.0 to 130	1.53	20.0
BC12871	Aluminum, Total	mg/L	0.000319	0.010	0.100	0.135	0.134	0.104	0.0850 to 0.115	102	70.0 to 130	0.743	20.0
BC12875	Antimony, Dissolved	mg/L	0.000265	0.00100	0.100	0.106	0.104	0.0890	0.0850 to 0.115	106	70.0 to 130	1.90	20.0
BC12871	Antimony, Total	mg/L	0.000312	0.00100	0.100	0.103	0.102	0.0939	0.0850 to 0.115	103	70.0 to 130	0.976	20.0
BC12875	Arsenic, Dissolved	mg/L	0.0000166	0.000176	0.100	0.110	0.107	0.103	0.0850 to 0.115	109	70.0 to 130	2.76	20.0
BC12871	Arsenic, Total	mg/L	0.0000069	0.000176	0.100	0.107	0.105	0.103	0.0850 to 0.115	107	70.0 to 130	1.89	20.0
BC12875	Barium, Dissolved	mg/L	-0.000033	0.00100	0.100	0.114	0.116	0.0964	0.0850 to 0.115	102	70.0 to 130	1.74	20.0
BC12871	Barium, Total	mg/L	-0.0000749	0.00100	0.100	0.122	0.123	0.0955	0.0850 to 0.115	100	70.0 to 130	0.816	20.0
BC12875	Beryllium, Dissolved	mg/L	0.0000386	0.000880	0.100	0.0942	0.0928	0.0951	0.0850 to 0.115	92.2	70.0 to 130	1.50	20.0
BC12871	Beryllium, Total	mg/L	0.0000247	0.000880	0.100	0.0972	0.102	0.0974	0.0850 to 0.115	97.2	70.0 to 130	4.82	20.0
BC12872	Boron, Dissolved	mg/L	0.00411	0.0650	1.00	4.08	4.09	0.963	0.850 to 1.15	98.0	70.0 to 130	0.245	20.0
BC12871	Boron, Total	mg/L	-0.000693	0.0650	1.00	3.33	3.35	1.01	0.850 to 1.15	103	70.0 to 130	0.599	20.0
BC12875	Cadmium, Dissolved	mg/L	0.0000049	0.000147	0.100	0.101	0.0992	0.103	0.0850 to 0.115	101	70.0 to 130	1.80	20.0
BC12871	Cadmium, Total	mg/L	0.0000	0.000147	0.100	0.0988	0.0981	0.100	0.0850 to 0.115	98.8	70.0 to 130	0.711	20.0
BC12872	Calcium, Dissolved	mg/L	-0.0137	0.152	5.00	195	191	5.45	4.25 to 5.75	300	70.0 to 130	2.07	20.0
BC12871	Calcium, Total	mg/L	-0.0310	0.152	5.00	448	451	4.94	4.25 to 5.75	-60.0	70.0 to 130	0.667	20.0
BC12871	Chloride	mg/L	0.00362	1.00	200	325	326	10.5	9.00 to 11.0	102	80.0 to 120	0.307	20.0
BC12875	Chromium, Dissolved	mg/L	-0.0000496	0.000440	0.100	0.102	0.101	0.102	0.0850 to 0.115	102	70.0 to 130	0.985	20.0
BC12871	Chromium, Total	mg/L	-0.0000122	0.000440	0.100	0.101	0.101	0.103	0.0850 to 0.115	101	70.0 to 130	0.00	20.0
BC12875	Cobalt, Dissolved	mg/L	-0.0000042	0.000147	0.100	0.151	0.150	0.105	0.0850 to 0.115	103	70.0 to 130	0.664	20.0
BC12871	Cobalt, Total	mg/L	-0.0000016	0.000147	0.100	0.101	0.102	0.104	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BC12871	Fluoride	mg/L	-0.0209	0.125	2.50	2.80	2.85	2.69	2.25 to 2.75	108	80.0 to 120	1.77	20.0
BC12872	Iron, Dissolved	mg/L	-0.0002	0.0176	0.2	41.6	40.1	0.195	0.170 to 0.230	100	70.0 to 130	3.67	20.0
BC12871	Iron, Total	mg/L	0.000235	0.0176	0.2	26.0	26.1	0.200	0.170 to 0.230	-100	70.0 to 130	0.384	20.0

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

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/12/22 14:17  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - MW-8

**Laboratory ID Number:** BC12871

Sample	Analysis	Units	MB					Standard		Rec		Prec	Limit
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12875	Lead, Dissolved	mg/L	0.0000125	0.000147	0.100	0.108	0.108	0.108	0.0850 to 0.115	108	70.0 to 130	0.00	20.0
BC12871	Lead, Total	mg/L	0.0000058	0.000147	0.100	0.109	0.109	0.109	0.0850 to 0.115	109	70.0 to 130	0.00	20.0
BC12872	Lithium, Dissolved	mg/L	-0.000397	0.0154	0.200	0.521	0.535	0.195	0.170 to 0.230	104	70.0 to 130	2.65	20.0
BC12871	Lithium, Total	mg/L	-0.000367	0.0154	0.200	0.428	0.445	0.204	0.170 to 0.230	120	70.0 to 130	3.89	20.0
BC12872	Magnesium, Dissolved	mg/L	-0.00737	0.0462	5.00	126	124	4.80	4.25 to 5.75	220	70.0 to 130	1.60	20.0
BC12871	Magnesium, Total	mg/L	0.00801	0.0462	5.00	270	272	4.94	4.25 to 5.75	0.00	70.0 to 130	0.738	20.0
BC12875	Manganese, Dissolved	mg/L	0.000120	0.0002	0.100	22.0	25.7	0.102	0.0850 to 0.115	-4200	70.0 to 130	15.5	20.0
BC12871	Manganese, Total	mg/L	-0.0000273	0.0002	0.100	15.2	14.8	0.103	0.0850 to 0.115	-100	70.0 to 130	2.67	20.0
BC12871	Mercury, Total by CVAA	mg/L	1.000E-05	0.000500	0.004	0.00402	0.00399	0.00404	0.00340 to 0.00460	100	70.0 to 130	0.749	20.0
BC12875	Molybdenum, Dissolved	mg/L	0.000001	0.0002	0.100	0.103	0.103	0.100	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BC12871	Molybdenum, Total	mg/L	0.0000044	0.0002	0.100	0.104	0.101	0.0990	0.0850 to 0.115	104	70.0 to 130	2.93	20.0
BC12875	Potassium, Dissolved	mg/L	0.0174	0.367	10.0	23.2	22.7	10.7	8.50 to 11.5	109	70.0 to 130	2.18	20.0
BC12871	Potassium, Total	mg/L	0.0116	0.367	10.0	18.0	18.4	10.4	8.50 to 11.5	100	70.0 to 130	2.20	20.0
BC12875	Selenium, Dissolved	mg/L	0.0000243	0.00100	0.100	0.106	0.103	0.105	0.0850 to 0.115	105	70.0 to 130	2.87	20.0
BC12871	Selenium, Total	mg/L	0.0000228	0.00100	0.100	0.109	0.107	0.106	0.0850 to 0.115	109	70.0 to 130	1.85	20.0
BC12872	Silicon, Dissolved	mg/L	0.000137	0.0440	1.00	14.1	14.1	0.959	0.850 to 1.15	80.0	70.0 to 130	0.00	20.0
BC12871	Silicon, Total	mg/L	0.000372	0.0440	1.00	7.72	7.79	1.04	0.850 to 1.15	91.0	70.0 to 130	0.903	20.0
BC12872	Sodium, Dissolved	mg/L	0.00136	0.0660	5.00	32.8	33.8	4.80	4.25 to 5.75	96.0	70.0 to 130	3.00	20.0
BC12871	Sodium, Total	mg/L	0.00321	0.0660	5.00	158	159	5.08	4.25 to 5.75	80.0	70.0 to 130	0.631	20.0
BC12871	Sulfate	mg/L	0.401	2.0	3200	5200	5180	19.9	18.0 to 22.0	108	80.0 to 120	0.385	20.0
BC12875	Thallium, Dissolved	mg/L	0.000006	0.000147	0.100	0.107	0.111	0.110	0.0850 to 0.115	107	70.0 to 130	3.67	20.0
BC12871	Thallium, Total	mg/L	0.0000049	0.000147	0.100	0.110	0.112	0.109	0.0850 to 0.115	110	70.0 to 130	1.80	20.0
BC12871	Total Organic Carbon	mg/L	0.154	1.00	10.0	11.2	12.6	9.57		79.5	80.0 to 120	11.8	20.0

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



## Batch QC Summary

**Customer Account:** WMWGORG

**Sample Date:** 7/12/22 14:17

**Customer ID:**

**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - MW-8

**Laboratory ID Number:** BC12871

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Limit	Prec	Limit
BC12875	Alkalinity, Total as CaCO3	mg/L					70.2	51.1	45.0 to 55.0			0.428	10.0
BC12871	Nitrogen, Nitrate/Nitrite	mg/L as N	0.10	0.200	2.00	2.45	0.290	2.03	1.80 to 2.20	110	90.0 to 110	12.8	15.0
BC12871	Solids, Dissolved	mg/L	1.00	25.0			3120	48.0	40.0 to 60.0			0.966	10.0

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

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-4V

**Location Code:** WMWGORG  
**Collected:** 7/13/22 09:31  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12872

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Total	7/18/22 11:51	7/21/22 11:49		1.015	3.15	mg/L	0.030000	0.1015	
* Calcium, Total	7/18/22 11:51	7/22/22 13:23		10.15	165	mg/L	0.70035	4.06	
* Iron, Total	7/18/22 11:51	7/22/22 13:23		10.15	38.8	mg/L	0.08120	0.406	
* Lithium, Total	7/18/22 11:51	7/21/22 11:49		1.015	0.329	mg/L	0.007105	0.01999956	
* Magnesium, Total	7/18/22 11:51	7/22/22 13:23		10.15	109	mg/L	0.21315	4.06	
Silica, Total (calc.)	7/18/22 11:51	7/21/22 11:49		1	31.5	mg/L			
Silicon, Total	7/18/22 11:51	7/21/22 11:49		1.015	14.7	mg/L	0.02030	0.25375	
* Sodium, Total	7/18/22 11:51	7/22/22 13:23		10.15	25.1	mg/L	0.3045	4.06	
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	7/19/22 11:38	7/19/22 13:20		1.015	3.10	mg/L	0.030000	0.1015	
* Calcium, Dissolved	7/19/22 11:38	7/19/22 16:11		10.15	180	mg/L	0.70035	4.06	RA
* Iron, Dissolved	7/19/22 11:38	7/19/22 16:49		101.5	41.4	mg/L	0.8120	4.06	RA
* Lithium, Dissolved	7/19/22 11:38	7/19/22 13:20		1.015	0.312	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	7/19/22 11:38	7/19/22 16:11		10.15	115	mg/L	0.21315	4.06	RA
Silica, Dissolved (calc.)	7/19/22 11:38	7/19/22 13:20		1	28.5	mg/L			
Silicon, Dissolved	7/19/22 11:38	7/19/22 13:20		1.015	13.3	mg/L	0.02030	0.25375	
* Sodium, Dissolved	7/19/22 11:38	7/19/22 13:20		1.015	28.0	mg/L	0.03045	0.406	
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: DLJ</b>		<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	7/18/22 15:05	7/19/22 11:33		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/18/22 15:05	7/20/22 15:21		5.075	4.50	mg/L	0.030450	0.05075	
* Arsenic, Total	7/18/22 15:05	7/19/22 11:33		1.015	0.00117	mg/L	0.000081	0.000203	
* Barium, Total	7/18/22 15:05	7/19/22 11:33		1.015	0.00969	mg/L	0.000508	0.001015	
* Beryllium, Total	7/18/22 15:05	7/19/22 11:33		1.015	0.00607	mg/L	0.000406	0.001015	
* Cadmium, Total	7/18/22 15:05	7/19/22 11:33		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	7/18/22 15:05	7/19/22 11:33		1.015	0.000390	mg/L	0.000203	0.001015	J
* Cobalt, Total	7/18/22 15:05	7/19/22 11:33		1.015	0.137	mg/L	0.000068	0.000203	
* Lead, Total	7/18/22 15:05	7/19/22 11:33		1.015	0.0000796	mg/L	0.000068	0.000203	J
* Manganese, Total	7/18/22 15:05	7/20/22 15:21		5.075	5.22	mg/L	0.000761	0.001015	
* Molybdenum, Total	7/18/22 15:05	7/19/22 11:33		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Potassium, Total	7/18/22 15:05	7/19/22 11:33		1.015	4.64	mg/L	0.169505	0.5075	

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

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

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-4V

**Location Code:** WMWGORG  
**Collected:** 7/13/22 09:31  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12872

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	7/18/22 15:05	7/19/22 11:33		1.015	0.00111	mg/L	0.000508	0.001015	
* Thallium, Total	7/18/22 15:05	7/19/22 11:33		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	7/18/22 08:58	7/19/22 13:26		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	7/18/22 08:58	7/19/22 13:26		1.015	0.599	mg/L	0.006090	0.01015	
* Arsenic, Dissolved	7/18/22 08:58	7/19/22 13:26		1.015	0.00105	mg/L	0.000081	0.000203	
* Barium, Dissolved	7/18/22 08:58	7/19/22 13:26		1.015	0.00968	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	7/18/22 08:58	7/19/22 13:26		1.015	0.00359	mg/L	0.000406	0.001015	
* Cadmium, Dissolved	7/18/22 08:58	7/19/22 13:26		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	7/18/22 08:58	7/19/22 13:26		1.015	0.000312	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	7/18/22 08:58	7/19/22 13:26		1.015	0.141	mg/L	0.000068	0.000203	
* Lead, Dissolved	7/18/22 08:58	7/19/22 13:26		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	7/18/22 08:58	7/20/22 13:17		5.075	5.22	mg/L	0.000761	0.001015	
* Molybdenum, Dissolved	7/18/22 08:58	7/19/22 13:26		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Potassium, Dissolved	7/18/22 08:58	7/19/22 13:26		1.015	4.89	mg/L	0.169505	0.5075	
* Selenium, Dissolved	7/18/22 08:58	7/19/22 13:26		1.015	0.00108	mg/L	0.000508	0.001015	
* Thallium, Dissolved	7/18/22 08:58	7/19/22 13:26		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	7/15/22 16:07	7/15/22 22:06		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: CES</b>							
* Nitrogen, Nitrate/Nitrite	7/19/22 14:54	7/19/22 14:54		1	0.287	mg/L as N	0.20	0.3	J
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: JAG</b>							
Alkalinity, Total as CaCO3	7/25/22 10:30	7/25/22 11:32		1	35.4	mg/L		0.01	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	7/15/22 11:12	7/18/22 13:45		1	1380	mg/L		75.8	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: JAG</b>							
Bicarbonate Alkalinity, (calc.)	7/25/22 10:30	7/25/22 11:32		1	35.4	mg/L		1	A
Carbonate Alkalinity, (calc.)	7/25/22 10:30	7/25/22 11:32		1	Not Detected	mg/L		0.5	A
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	7/15/22 05:55	7/15/22 05:55		1	Not Detected	mg/L	1.00	2	U

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

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

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-4V

**Location Code:** WMWGORG  
**Collected:** 7/13/22 09:31  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12872

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	7/20/22 10:46	7/20/22 10:46		4	47.2	mg/L	2.00	4	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	7/20/22 13:04	7/20/22 13:04		1	0.536	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	7/19/22 14:13	7/19/22 14:13		40	858	mg/L	24.0	80	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: AWG</b>							
Conductivity	7/13/22 09:29	7/13/22 09:29			1664.39	uS/cm			FA
pH	7/13/22 09:29	7/13/22 09:29			5.66	SU			FA
Temperature	7/13/22 09:29	7/13/22 09:29			20.44	C			FA
Turbidity	7/13/22 09:29	7/13/22 09:29			9.71	NTU			FA
Sulfide	7/13/22 09:29	7/13/22 09:29			0	mg/L			FA

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

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

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/13/22 09:31  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - MW-4V

**Laboratory ID Number:** BC12872

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12875	Aluminum, Dissolved	mg/L	0.000116	0.010	0.100	0.198	0.195	0.104	0.0850 to 0.115	100	70.0 to 130	1.53	20.0
BC12875	Aluminum, Total	mg/L	0.000340	0.010	0.100	0.266	0.261	0.102	0.0850 to 0.115	105	70.0 to 130	1.90	20.0
BC12875	Antimony, Dissolved	mg/L	0.000265	0.00100	0.100	0.106	0.104	0.0890	0.0850 to 0.115	106	70.0 to 130	1.90	20.0
BC12875	Antimony, Total	mg/L	0.000301	0.00100	0.100	0.104	0.104	0.0905	0.0850 to 0.115	104	70.0 to 130	0.00	20.0
BC12875	Arsenic, Dissolved	mg/L	0.0000166	0.000176	0.100	0.110	0.107	0.103	0.0850 to 0.115	109	70.0 to 130	2.76	20.0
BC12875	Arsenic, Total	mg/L	0.0000093	0.000176	0.100	0.106	0.104	0.0997	0.0850 to 0.115	106	70.0 to 130	1.90	20.0
BC12875	Barium, Dissolved	mg/L	-0.000033	0.00100	0.100	0.114	0.116	0.0964	0.0850 to 0.115	102	70.0 to 130	1.74	20.0
BC12875	Barium, Total	mg/L	-0.0000676	0.00100	0.100	0.114	0.112	0.0918	0.0850 to 0.115	102	70.0 to 130	1.77	20.0
BC12875	Beryllium, Dissolved	mg/L	0.0000386	0.000880	0.100	0.0942	0.0928	0.0951	0.0850 to 0.115	92.2	70.0 to 130	1.50	20.0
BC12875	Beryllium, Total	mg/L	0.0000249	0.000880	0.100	0.106	0.104	0.105	0.0850 to 0.115	104	70.0 to 130	1.90	20.0
BC12872	Boron, Dissolved	mg/L	0.00411	0.0650	1.00	4.08	4.09	0.963	0.850 to 1.15	98.0	70.0 to 130	0.245	20.0
BC12875	Boron, Total	mg/L	-0.000487	0.0650	1.00	2.34	2.38	0.991	0.850 to 1.15	105	70.0 to 130	1.69	20.0
BC12875	Cadmium, Dissolved	mg/L	0.0000049	0.000147	0.100	0.101	0.0992	0.103	0.0850 to 0.115	101	70.0 to 130	1.80	20.0
BC12875	Cadmium, Total	mg/L	0.0000091	0.000147	0.100	0.0988	0.0973	0.0963	0.0850 to 0.115	98.8	70.0 to 130	1.53	20.0
BC12872	Calcium, Dissolved	mg/L	-0.0137	0.152	5.00	195	191	5.45	4.25 to 5.75	300	70.0 to 130	2.07	20.0
BC12875	Calcium, Total	mg/L	-0.0165	0.152	5.00	549	582	4.66	4.25 to 5.75	0.00	70.0 to 130	5.84	20.0
BC12875	Chloride	mg/L	0.0194	1.00	500	809	840	10.5	9.00 to 11.0	116	80.0 to 120	3.76	20.0
BC12875	Chromium, Dissolved	mg/L	-0.0000496	0.000440	0.100	0.102	0.101	0.102	0.0850 to 0.115	102	70.0 to 130	0.985	20.0
BC12875	Chromium, Total	mg/L	0.0000038	0.000440	0.100	0.104	0.100	0.100	0.0850 to 0.115	104	70.0 to 130	3.92	20.0
BC12875	Cobalt, Dissolved	mg/L	-0.0000042	0.000147	0.100	0.151	0.150	0.105	0.0850 to 0.115	103	70.0 to 130	0.664	20.0
BC12875	Cobalt, Total	mg/L	-0.0000027	0.000147	0.100	0.150	0.147	0.101	0.0850 to 0.115	104	70.0 to 130	2.02	20.0
BC12875	Fluoride	mg/L	-0.0178	0.125	2.50	2.97	3.09	2.54	2.25 to 2.75	106	80.0 to 120	3.96	20.0
BC12872	Iron, Dissolved	mg/L	-0.0002	0.0176	0.2	41.6	40.1	0.195	0.170 to 0.230	100	70.0 to 130	3.67	20.0
BC12875	Iron, Total	mg/L	0.000698	0.0176	0.2	236	254	0.195	0.170 to 0.230	-1500	70.0 to 130	7.35	20.0

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

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/13/22 09:31  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - MW-4V

**Laboratory ID Number:** BC12872

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12875	Lead, Dissolved	mg/L	0.0000125	0.000147	0.100	0.108	0.108	0.108	0.0850 to 0.115	108	70.0 to 130	0.00	20.0
BC12875	Lead, Total	mg/L	0.000011	0.000147	0.100	0.111	0.109	0.106	0.0850 to 0.115	111	70.0 to 130	1.82	20.0
BC12872	Lithium, Dissolved	mg/L	-0.000397	0.0154	0.200	0.521	0.535	0.195	0.170 to 0.230	104	70.0 to 130	2.65	20.0
BC12875	Lithium, Total	mg/L	-0.000201	0.0154	0.200	0.664	0.687	0.224	0.170 to 0.230	122	70.0 to 130	3.40	20.0
BC12872	Magnesium, Dissolved	mg/L	-0.00737	0.0462	5.00	126	124	4.80	4.25 to 5.75	220	70.0 to 130	1.60	20.0
BC12875	Magnesium, Total	mg/L	0.00593	0.0462	5.00	323	342	5.09	4.25 to 5.75	80.0	70.0 to 130	5.71	20.0
BC12875	Manganese, Dissolved	mg/L	0.000120	0.0002	0.100	22.0	25.7	0.102	0.0850 to 0.115	-4200	70.0 to 130	15.5	20.0
BC12875	Manganese, Total	mg/L	0.000057	0.0002	0.100	24.9	25.3	0.0992	0.0850 to 0.115	-500	70.0 to 130	1.59	20.0
BC12875	Mercury, Total by CVAA	mg/L	0.00000	0.000500	0.004	0.00394	0.00396	0.00398	0.00340 to 0.00460	98.5	70.0 to 130	0.506	20.0
BC12875	Molybdenum, Dissolved	mg/L	0.000001	0.0002	0.100	0.103	0.103	0.100	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BC12875	Molybdenum, Total	mg/L	0.0000299	0.0002	0.100	0.102	0.102	0.100	0.0850 to 0.115	102	70.0 to 130	0.00	20.0
BC12875	Potassium, Dissolved	mg/L	0.0174	0.367	10.0	23.2	22.7	10.7	8.50 to 11.5	109	70.0 to 130	2.18	20.0
BC12875	Potassium, Total	mg/L	0.00902	0.367	10.0	22.2	22.0	10.8	8.50 to 11.5	104	70.0 to 130	0.905	20.0
BC12875	Selenium, Dissolved	mg/L	0.0000243	0.00100	0.100	0.106	0.103	0.105	0.0850 to 0.115	105	70.0 to 130	2.87	20.0
BC12875	Selenium, Total	mg/L	0.0000035	0.00100	0.100	0.106	0.106	0.103	0.0850 to 0.115	104	70.0 to 130	0.00	20.0
BC12872	Silicon, Dissolved	mg/L	0.000137	0.0440	1.00	14.1	14.1	0.959	0.850 to 1.15	80.0	70.0 to 130	0.00	20.0
BC12875	Silicon, Total	mg/L	0.000558	0.0440	1.00	10.3	11.5	1.03	0.850 to 1.15	91.0	70.0 to 130	11.0	20.0
BC12872	Sodium, Dissolved	mg/L	0.00136	0.0660	5.00	32.8	33.8	4.80	4.25 to 5.75	96.0	70.0 to 130	3.00	20.0
BC12875	Sodium, Total	mg/L	-0.000106	0.0660	5.00	242	254	4.71	4.25 to 5.75	80.0	70.0 to 130	4.84	20.0
BC12875	Sulfate	mg/L	0.767	2.0	4000	7210	7500	20.2	18.0 to 22.0	101	80.0 to 120	3.94	20.0
BC12875	Thallium, Dissolved	mg/L	0.000006	0.000147	0.100	0.107	0.111	0.110	0.0850 to 0.115	107	70.0 to 130	3.67	20.0
BC12875	Thallium, Total	mg/L	0.0000045	0.000147	0.100	0.113	0.109	0.108	0.0850 to 0.115	113	70.0 to 130	3.60	20.0
BC12875	Total Organic Carbon	mg/L	0.374	1.00	10.0	9.51	10.4	9.69		95.1	80.0 to 120	8.94	20.0

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

## Batch QC Summary

**Customer Account:** WMWGORG

**Sample Date:** 7/13/22 09:31

**Customer ID:**

**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - MW-4V

**Laboratory ID Number:** BC12872

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC12875	Alkalinity, Total as CaCO3	mg/L					70.2	51.1	45.0 to 55.0			0.428	10.0
BC12875	Nitrogen, Nitrate/Nitrite	mg/L as N	0.12	0.200	2.00	1.94	0.393	2.04	1.80 to 2.20	75.6	90.0 to 110	8.53	15.0
BC12873	Solids, Dissolved	mg/L	1.00	25.0			4770	50.0	40.0 to 60.0			1.48	10.0

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

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-4

**Location Code:** WMWGORG  
**Collected:** 7/13/22 10:18  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12873

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Total	7/18/22 11:51	7/21/22 11:52		1.015	7.29	mg/L	0.030000	0.1015	
* Calcium, Total	7/18/22 11:51	7/22/22 13:26		10.15	385	mg/L	0.70035	4.06	
* Iron, Total	7/18/22 11:51	7/22/22 14:17		101.5	208	mg/L	0.8120	4.06	
* Lithium, Total	7/18/22 11:51	7/21/22 11:52		1.015	1.89	mg/L	0.007105	0.01999956	
* Magnesium, Total	7/18/22 11:51	7/22/22 13:26		10.15	347	mg/L	0.21315	4.06	
Silica, Total (calc.)	7/18/22 11:51	7/22/22 13:26		1	69.1	mg/L			
Silicon, Total	7/18/22 11:51	7/22/22 13:26		10.15	32.3	mg/L	0.2030	2.5375	
* Sodium, Total	7/18/22 11:51	7/22/22 13:26		10.15	77.2	mg/L	0.3045	4.06	
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	7/19/22 11:38	7/19/22 13:41		1.015	7.11	mg/L	0.030000	0.1015	
* Calcium, Dissolved	7/19/22 11:38	7/19/22 16:59		101.5	406	mg/L	7.0035	40.6	RA
* Iron, Dissolved	7/19/22 11:38	7/19/22 16:59		101.5	212	mg/L	0.8120	4.06	RA
* Lithium, Dissolved	7/19/22 11:38	7/19/22 13:41		1.015	1.80	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	7/19/22 11:38	7/19/22 16:59		101.5	350	mg/L	2.1315	40.6	RA
Silica, Dissolved (calc.)	7/19/22 11:38	7/19/22 16:59		1	70.2	mg/L			
Silicon, Dissolved	7/19/22 11:38	7/19/22 16:59		101.5	32.8	mg/L	2.030	25.375	RA
* Sodium, Dissolved	7/19/22 11:38	7/19/22 16:59		101.5	71.3	mg/L	3.045	40.6	
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: DLJ</b>		<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	7/18/22 15:05	7/19/22 11:37		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/18/22 15:05	7/20/22 15:25		92.365	98.3	mg/L	0.554190	0.92365	
* Arsenic, Total	7/18/22 15:05	7/19/22 11:37		1.015	0.00694	mg/L	0.000081	0.000203	
* Barium, Total	7/18/22 15:05	7/19/22 11:37		1.015	0.00947	mg/L	0.000508	0.001015	
* Beryllium, Total	7/18/22 15:05	7/19/22 11:37		1.015	0.0228	mg/L	0.000406	0.001015	
* Cadmium, Total	7/18/22 15:05	7/19/22 11:37		1.015	0.00687	mg/L	0.000068	0.000203	
* Chromium, Total	7/18/22 15:05	7/19/22 11:37		1.015	0.00355	mg/L	0.000203	0.001015	
* Cobalt, Total	7/18/22 15:05	7/19/22 11:37		1.015	0.878	mg/L	0.000068	0.000203	
* Lead, Total	7/18/22 15:05	7/19/22 11:37		1.015	0.00228	mg/L	0.000068	0.000203	
* Manganese, Total	7/18/22 15:05	7/20/22 15:25		92.365	38.3	mg/L	0.013855	0.018473	
* Molybdenum, Total	7/18/22 15:05	7/19/22 11:37		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Potassium, Total	7/18/22 15:05	7/19/22 11:37		1.015	5.34	mg/L	0.169505	0.5075	

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

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.  
 Alkalinity could not be performed, pH below titration end point of 4.5 SU.  
 Fluoride may have potential matrix interference.



# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-4

**Location Code:** WMWGORG  
**Collected:** 7/13/22 10:18  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12873

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	7/18/22 15:05	7/19/22 11:37		1.015	0.0226	mg/L	0.000508	0.001015	
* Thallium, Total	7/18/22 15:05	7/19/22 11:37		1.015	0.000447	mg/L	0.000068	0.000203	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	7/18/22 08:58	7/19/22 13:30		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	7/18/22 08:58	7/20/22 13:20		92.365	96.0	mg/L	0.554190	0.92365	
* Arsenic, Dissolved	7/18/22 08:58	7/19/22 13:30		1.015	0.00713	mg/L	0.000081	0.000203	
* Barium, Dissolved	7/18/22 08:58	7/19/22 13:30		1.015	0.0102	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	7/18/22 08:58	7/19/22 13:30		1.015	0.0210	mg/L	0.000406	0.001015	
* Cadmium, Dissolved	7/18/22 08:58	7/19/22 13:30		1.015	0.00662	mg/L	0.000068	0.000203	
* Chromium, Dissolved	7/18/22 08:58	7/19/22 13:30		1.015	0.00321	mg/L	0.000203	0.001015	
* Cobalt, Dissolved	7/18/22 08:58	7/19/22 13:30		1.015	0.848	mg/L	0.000068	0.000203	
* Lead, Dissolved	7/18/22 08:58	7/19/22 13:30		1.015	0.00231	mg/L	0.000068	0.000203	
* Manganese, Dissolved	7/18/22 08:58	7/20/22 13:20		92.365	37.5	mg/L	0.013855	0.018473	
* Molybdenum, Dissolved	7/18/22 08:58	7/19/22 13:30		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Potassium, Dissolved	7/18/22 08:58	7/19/22 13:30		1.015	5.45	mg/L	0.169505	0.5075	
* Selenium, Dissolved	7/18/22 08:58	7/19/22 13:30		1.015	0.0216	mg/L	0.000508	0.001015	
* Thallium, Dissolved	7/18/22 08:58	7/19/22 13:30		1.015	0.000433	mg/L	0.000068	0.000203	
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	7/15/22 16:07	7/15/22 22:10		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: CES</b>							
* Nitrogen, Nitrate/Nitrite	7/19/22 14:55	7/19/22 14:55		1	0.412	mg/L as N	0.20	0.3	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	7/15/22 11:12	7/18/22 13:45		1	4700	mg/L		227.3	
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	7/15/22 06:17	7/15/22 06:17		1	1.53	mg/L	1.00	2	J
<b>Analytical Method: SM4500CI E</b>		<b>Analyst: JCC</b>							
* Chloride	7/20/22 10:45	7/20/22 10:45		10	199	mg/L	5.00	10	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	7/20/22 13:06	7/20/22 13:06		1	Not Detected	mg/L	0.06	0.125	U
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	7/19/22 14:14	7/19/22 14:14		125	3040	mg/L	75.0	250	

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

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.  
 Alkalinity could not be performed, pH below titration end point of 4.5 SU.  
 Fluoride may have potential matrix interference.

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-4

**Location Code:** WMWGORG  
**Collected:** 7/13/22 10:18  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12873

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: Field Measurements</b>		<b>Analyst: AWG</b>							
Conductivity	7/13/22 10:16	7/13/22 10:16			4505.26	uS/cm			FA
pH	7/13/22 10:16	7/13/22 10:16			3.43	SU			FA
Temperature	7/13/22 10:16	7/13/22 10:16			21.18	C			FA
Turbidity	7/13/22 10:16	7/13/22 10:16			4.72	NTU			FA
Sulfide	7/13/22 10:16	7/13/22 10:16			0	mg/L			FA

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

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**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.  
 Alkalinity could not be performed, pH below titration end point of 4.5 SU.  
 Fluoride may have potential matrix interference.

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/13/22 10:18  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - MW-4

**Laboratory ID Number:** BC12873

Sample	Analysis	Units	MB	MB				Standard		Rec			Prec Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit	Prec	
BC12875	Aluminum, Dissolved	mg/L	0.000116	0.010	0.100	0.198	0.195	0.104	0.0850 to 0.115	100	70.0 to 130	1.53	20.0
BC12875	Aluminum, Total	mg/L	0.000340	0.010	0.100	0.266	0.261	0.102	0.0850 to 0.115	105	70.0 to 130	1.90	20.0
BC12875	Antimony, Dissolved	mg/L	0.000265	0.00100	0.100	0.106	0.104	0.0890	0.0850 to 0.115	106	70.0 to 130	1.90	20.0
BC12875	Antimony, Total	mg/L	0.000301	0.00100	0.100	0.104	0.104	0.0905	0.0850 to 0.115	104	70.0 to 130	0.00	20.0
BC12875	Arsenic, Dissolved	mg/L	0.0000166	0.000176	0.100	0.110	0.107	0.103	0.0850 to 0.115	109	70.0 to 130	2.76	20.0
BC12875	Arsenic, Total	mg/L	0.0000093	0.000176	0.100	0.106	0.104	0.0997	0.0850 to 0.115	106	70.0 to 130	1.90	20.0
BC12875	Barium, Dissolved	mg/L	-0.000033	0.00100	0.100	0.114	0.116	0.0964	0.0850 to 0.115	102	70.0 to 130	1.74	20.0
BC12875	Barium, Total	mg/L	-0.0000676	0.00100	0.100	0.114	0.112	0.0918	0.0850 to 0.115	102	70.0 to 130	1.77	20.0
BC12875	Beryllium, Dissolved	mg/L	0.0000386	0.000880	0.100	0.0942	0.0928	0.0951	0.0850 to 0.115	92.2	70.0 to 130	1.50	20.0
BC12875	Beryllium, Total	mg/L	0.0000249	0.000880	0.100	0.106	0.104	0.105	0.0850 to 0.115	104	70.0 to 130	1.90	20.0
BC12873	Boron, Dissolved	mg/L	0.00544	0.0650	1.00	8.07	7.98	0.975	0.850 to 1.15	96.0	70.0 to 130	1.12	20.0
BC12875	Boron, Total	mg/L	-0.000487	0.0650	1.00	2.34	2.38	0.991	0.850 to 1.15	105	70.0 to 130	1.69	20.0
BC12875	Cadmium, Dissolved	mg/L	0.0000049	0.000147	0.100	0.101	0.0992	0.103	0.0850 to 0.115	101	70.0 to 130	1.80	20.0
BC12875	Cadmium, Total	mg/L	0.0000091	0.000147	0.100	0.0988	0.0973	0.0963	0.0850 to 0.115	98.8	70.0 to 130	1.53	20.0
BC12873	Calcium, Dissolved	mg/L	-0.0158	0.152	5.00	413	408	5.35	4.25 to 5.75	140	70.0 to 130	1.22	20.0
BC12875	Calcium, Total	mg/L	-0.0165	0.152	5.00	549	582	4.66	4.25 to 5.75	0.00	70.0 to 130	5.84	20.0
BC12875	Chloride	mg/L	0.0194	1.00	500	809	840	10.5	9.00 to 11.0	116	80.0 to 120	3.76	20.0
BC12875	Chromium, Dissolved	mg/L	-0.0000496	0.000440	0.100	0.102	0.101	0.102	0.0850 to 0.115	102	70.0 to 130	0.985	20.0
BC12875	Chromium, Total	mg/L	0.0000038	0.000440	0.100	0.104	0.100	0.100	0.0850 to 0.115	104	70.0 to 130	3.92	20.0
BC12875	Cobalt, Dissolved	mg/L	-0.0000042	0.000147	0.100	0.151	0.150	0.105	0.0850 to 0.115	103	70.0 to 130	0.664	20.0
BC12875	Cobalt, Total	mg/L	-0.0000027	0.000147	0.100	0.150	0.147	0.101	0.0850 to 0.115	104	70.0 to 130	2.02	20.0
BC12875	Fluoride	mg/L	-0.0178	0.125	2.50	2.97	3.09	2.54	2.25 to 2.75	106	80.0 to 120	3.96	20.0
BC12873	Iron, Dissolved	mg/L	-0.000077	0.0176	0.2	211	209	0.192	0.170 to 0.230	-500	70.0 to 130	0.952	20.0
BC12875	Iron, Total	mg/L	0.000698	0.0176	0.2	236	254	0.195	0.170 to 0.230	-1500	70.0 to 130	7.35	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.  
 Alkalinity could not be performed, pH below titration end point of 4.5 SU.  
 Fluoride may have potential matrix interference.

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/13/22 10:18  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - MW-4

**Laboratory ID Number:** BC12873

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12875	Lead, Dissolved	mg/L	0.0000125	0.000147	0.100	0.108	0.108	0.108	0.0850 to 0.115	108	70.0 to 130	0.00	20.0
BC12875	Lead, Total	mg/L	0.000011	0.000147	0.100	0.111	0.109	0.106	0.0850 to 0.115	111	70.0 to 130	1.82	20.0
BC12873	Lithium, Dissolved	mg/L	-0.000626	0.0154	0.200	2.06	2.06	0.201	0.170 to 0.230	130	70.0 to 130	0.00	20.0
BC12875	Lithium, Total	mg/L	-0.000201	0.0154	0.200	0.664	0.687	0.224	0.170 to 0.230	122	70.0 to 130	3.40	20.0
BC12873	Magnesium, Dissolved	mg/L	-0.00281	0.0462	5.00	358	353	4.72	4.25 to 5.75	160	70.0 to 130	1.41	20.0
BC12875	Magnesium, Total	mg/L	0.00593	0.0462	5.00	323	342	5.09	4.25 to 5.75	80.0	70.0 to 130	5.71	20.0
BC12875	Manganese, Dissolved	mg/L	0.000120	0.0002	0.100	22.0	25.7	0.102	0.0850 to 0.115	-4200	70.0 to 130	15.5	20.0
BC12875	Manganese, Total	mg/L	0.000057	0.0002	0.100	24.9	25.3	0.0992	0.0850 to 0.115	-500	70.0 to 130	1.59	20.0
BC12875	Mercury, Total by CVAA	mg/L	0.00000	0.000500	0.004	0.00394	0.00396	0.00398	0.00340 to 0.00460	98.5	70.0 to 130	0.506	20.0
BC12875	Molybdenum, Dissolved	mg/L	0.000001	0.0002	0.100	0.103	0.103	0.100	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BC12875	Molybdenum, Total	mg/L	0.0000299	0.0002	0.100	0.102	0.102	0.100	0.0850 to 0.115	102	70.0 to 130	0.00	20.0
BC12875	Potassium, Dissolved	mg/L	0.0174	0.367	10.0	23.2	22.7	10.7	8.50 to 11.5	109	70.0 to 130	2.18	20.0
BC12875	Potassium, Total	mg/L	0.00902	0.367	10.0	22.2	22.0	10.8	8.50 to 11.5	104	70.0 to 130	0.905	20.0
BC12875	Selenium, Dissolved	mg/L	0.0000243	0.00100	0.100	0.106	0.103	0.105	0.0850 to 0.115	105	70.0 to 130	2.87	20.0
BC12875	Selenium, Total	mg/L	0.0000035	0.00100	0.100	0.106	0.106	0.103	0.0850 to 0.115	104	70.0 to 130	0.00	20.0
BC12873	Silicon, Dissolved	mg/L	0.000378	0.0440	1.00	33.2	33.4	0.958	0.850 to 1.15	40.0	70.0 to 130	0.601	20.0
BC12875	Silicon, Total	mg/L	0.000558	0.0440	1.00	10.3	11.5	1.03	0.850 to 1.15	91.0	70.0 to 130	11.0	20.0
BC12873	Sodium, Dissolved	mg/L	0.00439	0.0660	5.00	76.2	75.2	4.95	4.25 to 5.75	98.0	70.0 to 130	1.32	20.0
BC12875	Sodium, Total	mg/L	-0.000106	0.0660	5.00	242	254	4.71	4.25 to 5.75	80.0	70.0 to 130	4.84	20.0
BC12875	Sulfate	mg/L	0.767	2.0	4000	7210	7500	20.2	18.0 to 22.0	101	80.0 to 120	3.94	20.0
BC12875	Thallium, Dissolved	mg/L	0.000006	0.000147	0.100	0.107	0.111	0.110	0.0850 to 0.115	107	70.0 to 130	3.67	20.0
BC12875	Thallium, Total	mg/L	0.0000045	0.000147	0.100	0.113	0.109	0.108	0.0850 to 0.115	113	70.0 to 130	3.60	20.0
BC12875	Total Organic Carbon	mg/L	0.374	1.00	10.0	9.51	10.4	9.69		95.1	80.0 to 120	8.94	20.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.  
 Alkalinity could not be performed, pH below titration end point of 4.5 SU.  
 Fluoride may have potential matrix interference.

## Batch QC Summary

**Customer Account:** WMWGORG

**Sample Date:** 7/13/22 10:18

**Customer ID:**

**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - MW-4

**Laboratory ID Number:** BC12873

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC12875	Nitrogen, Nitrate/Nitrite	mg/L as N	0.12	0.200	2.00	1.94	0.393	2.04	1.80 to 2.20	75.6	90.0 to 110	8.53	15.0
BC12873	Solids, Dissolved	mg/L	1.00	25.0			4770	50.0	40.0 to 60.0			1.48	10.0

**Comments:** Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.  
 Alkalinity could not be performed, pH below titration end point of 4.5 SU.  
 Fluoride may have potential matrix interference.

# Certificate Of Analysis

**Description:** Gorgas Gypsum Equipment Blank-1

**Location Code:** WMWGORGEB  
**Collected:** 7/13/22 10:50  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12874

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Total	7/18/22 11:51	7/21/22 11:55		1.015	Not Detected	mg/L	0.030000	0.1015	U
* Calcium, Total	7/18/22 11:51	7/21/22 11:55		1.015	Not Detected	mg/L	0.070035	0.406	U
* Iron, Total	7/18/22 11:51	7/21/22 11:55		1.015	Not Detected	mg/L	0.008120	0.0406	U
* Lithium, Total	7/18/22 11:51	7/21/22 11:55		1.015	Not Detected	mg/L	0.007105	0.01999956	U
* Magnesium, Total	7/18/22 11:51	7/21/22 11:55		1.015	Not Detected	mg/L	0.021315	0.406	U
Silica, Total (calc.)	7/18/22 11:51	7/21/22 11:55		1	Not Detected	mg/L			
Silicon, Total	7/18/22 11:51	7/21/22 11:55		1.015	Not Detected	mg/L	0.02030	0.25375	U
* Sodium, Total	7/18/22 11:51	7/22/22 13:29		1.015	Not Detected	mg/L	0.03045	0.406	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>			<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	7/18/22 15:05	7/19/22 11:40		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/18/22 15:05	7/19/22 11:40		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Total	7/18/22 15:05	7/19/22 11:40		1.015	Not Detected	mg/L	0.000081	0.000203	U
* Barium, Total	7/18/22 15:05	7/19/22 11:40		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Beryllium, Total	7/18/22 15:05	7/19/22 11:40		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	7/18/22 15:05	7/19/22 11:40		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	7/18/22 15:05	7/19/22 11:40		1.015	0.000277	mg/L	0.000203	0.001015	J
* Cobalt, Total	7/18/22 15:05	7/19/22 11:40		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Lead, Total	7/18/22 15:05	7/19/22 11:40		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	7/18/22 15:05	7/19/22 11:40		1.015	0.000905	mg/L	0.000152	0.000203	
* Molybdenum, Total	7/18/22 15:05	7/19/22 11:40		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Potassium, Total	7/18/22 15:05	7/19/22 11:40		1.015	Not Detected	mg/L	0.169505	0.5075	U
* Selenium, Total	7/18/22 15:05	7/19/22 11:40		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	7/18/22 15:05	7/19/22 11:40		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	7/15/22 16:07	7/15/22 22:14		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: CES</b>							
* Nitrogen, Nitrate/Nitrite	7/19/22 14:56	7/19/22 14:56		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	7/15/22 11:12	7/18/22 13:45		1	Not Detected	mg/L		25	U

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

**Comments:**

# Certificate Of Analysis

**Description:** Gorgas Gypsum Equipment Blank-1

**Location Code:** WMWGORGE B

**Collected:** 7/13/22 10:50

**Customer ID:**

**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12874

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	7/15/22 06:38	7/15/22 06:38		1	Not Detected	mg/L	1.00	2	U
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	7/20/22 10:47	7/20/22 10:47		1	Not Detected	mg/L	0.50	1	U
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	7/20/22 13:07	7/20/22 13:07		1	Not Detected	mg/L	0.06	0.125	U
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	7/19/22 14:16	7/19/22 14:16		1	1.08	mg/L	0.6	2	J

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

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**Comments:**

# Batch QC Summary

**Customer Account:** WMWGORGEB

**Sample Date:** 7/13/22 10:50

**Customer ID:**

**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum Equipment Blank-1

**Laboratory ID Number:** BC12874

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12875	Aluminum, Total	mg/L	0.000340	0.010	0.100	0.266	0.261	0.102	0.0850 to 0.115	105	70.0 to 130	1.90	20.0
BC12875	Antimony, Total	mg/L	0.000301	0.00100	0.100	0.104	0.104	0.0905	0.0850 to 0.115	104	70.0 to 130	0.00	20.0
BC12875	Arsenic, Total	mg/L	0.0000093	0.000176	0.100	0.106	0.104	0.0997	0.0850 to 0.115	106	70.0 to 130	1.90	20.0
BC12875	Barium, Total	mg/L	-0.0000676	0.00100	0.100	0.114	0.112	0.0918	0.0850 to 0.115	102	70.0 to 130	1.77	20.0
BC12875	Beryllium, Total	mg/L	0.0000249	0.000880	0.100	0.106	0.104	0.105	0.0850 to 0.115	104	70.0 to 130	1.90	20.0
BC12875	Boron, Total	mg/L	-0.000487	0.0650	1.00	2.34	2.38	0.991	0.850 to 1.15	105	70.0 to 130	1.69	20.0
BC12875	Cadmium, Total	mg/L	0.0000091	0.000147	0.100	0.0988	0.0973	0.0963	0.0850 to 0.115	98.8	70.0 to 130	1.53	20.0
BC12875	Calcium, Total	mg/L	-0.0165	0.152	5.00	549	582	4.66	4.25 to 5.75	0.00	70.0 to 130	5.84	20.0
BC12875	Chloride	mg/L	0.0194	1.00	500	809	840	10.5	9.00 to 11.0	116	80.0 to 120	3.76	20.0
BC12875	Chromium, Total	mg/L	0.0000038	0.000440	0.100	0.104	0.100	0.100	0.0850 to 0.115	104	70.0 to 130	3.92	20.0
BC12875	Cobalt, Total	mg/L	-0.0000027	0.000147	0.100	0.150	0.147	0.101	0.0850 to 0.115	104	70.0 to 130	2.02	20.0
BC12875	Fluoride	mg/L	-0.0178	0.125	2.50	2.97	3.09	2.54	2.25 to 2.75	106	80.0 to 120	3.96	20.0
BC12875	Iron, Total	mg/L	0.000698	0.0176	0.2	236	254	0.195	0.170 to 0.230	-1500	70.0 to 130	7.35	20.0
BC12875	Lead, Total	mg/L	0.000011	0.000147	0.100	0.111	0.109	0.106	0.0850 to 0.115	111	70.0 to 130	1.82	20.0
BC12875	Lithium, Total	mg/L	-0.000201	0.0154	0.200	0.664	0.687	0.224	0.170 to 0.230	122	70.0 to 130	3.40	20.0
BC12875	Magnesium, Total	mg/L	0.00593	0.0462	5.00	323	342	5.09	4.25 to 5.75	80.0	70.0 to 130	5.71	20.0
BC12875	Manganese, Total	mg/L	0.000057	0.0002	0.100	24.9	25.3	0.0992	0.0850 to 0.115	-500	70.0 to 130	1.59	20.0
BC12875	Mercury, Total by CVAA	mg/L	0.00000	0.000500	0.004	0.00394	0.00396	0.00398	0.00340 to 0.00460	98.5	70.0 to 130	0.506	20.0
BC12875	Molybdenum, Total	mg/L	0.0000299	0.0002	0.100	0.102	0.102	0.100	0.0850 to 0.115	102	70.0 to 130	0.00	20.0
BC12875	Potassium, Total	mg/L	0.00902	0.367	10.0	22.2	22.0	10.8	8.50 to 11.5	104	70.0 to 130	0.905	20.0
BC12875	Selenium, Total	mg/L	0.0000035	0.00100	0.100	0.106	0.106	0.103	0.0850 to 0.115	104	70.0 to 130	0.00	20.0
BC12875	Silicon, Total	mg/L	0.000558	0.0440	1.00	10.3	11.5	1.03	0.850 to 1.15	91.0	70.0 to 130	11.0	20.0
BC12875	Sodium, Total	mg/L	-0.000106	0.0660	5.00	242	254	4.71	4.25 to 5.75	80.0	70.0 to 130	4.84	20.0
BC12875	Sulfate	mg/L	0.767	2.0	4000	7210	7500	20.2	18.0 to 22.0	101	80.0 to 120	3.94	20.0

**Comments:**



# Batch QC Summary

**Customer Account:** WMWGORGEB

**Sample Date:** 7/13/22 10:50

**Customer ID:**

**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum Equipment Blank-1

**Laboratory ID Number:** BC12874

Sample	Analysis	Units	MB	MB				MSD	Standard	Standard		Rec		Prec	Limit
				Limit	Spike	MS	Standard			Limit	Rec	Limit	Prec		
BC12875	Thallium, Total	mg/L	0.0000045	0.000147	0.100	0.113	0.109	0.108	0.0850 to 0.115		113	70.0 to 130		3.60	20.0
BC12875	Total Organic Carbon	mg/L	0.374	1.00	10.0	9.51	10.4	9.69			95.1	80.0 to 120		8.94	20.0

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**Comments:**

## Batch QC Summary

**Customer Account:** WMWGORGEB

**Sample Date:** 7/13/22 10:50

**Customer ID:**

**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum Equipment Blank-1

**Laboratory ID Number:** BC12874

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC12875	Nitrogen, Nitrate/Nitrite	mg/L as N	0.12	0.200	2.00	1.94	0.393	2.04	1.80 to 2.20	75.6	90.0 to 110	8.53	15.0
BC12875	Solids, Dissolved	mg/L	1.00	25.0			4930	50.0	40.0 to 60.0			0.607	10.0

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**Comments:**

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-3

**Location Code:** WMWGORG  
**Collected:** 7/13/22 11:09  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12875

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Total	7/18/22 11:51	7/21/22 11:57		1.015	1.29	mg/L	0.030000	0.1015	
* Calcium, Total	7/18/22 11:51	7/22/22 13:33		101.5	549	mg/L	7.0035	40.6	RA
* Iron, Total	7/18/22 11:51	7/22/22 13:33		101.5	239	mg/L	0.8120	4.06	RA
* Lithium, Total	7/18/22 11:51	7/21/22 11:57		1.015	0.421	mg/L	0.007105	0.01999956	R
* Magnesium, Total	7/18/22 11:51	7/22/22 13:33		101.5	319	mg/L	2.1315	40.6	RA
Silica, Total (calc.)	7/18/22 11:51	7/21/22 11:57		1	20.1	mg/L			
Silicon, Total	7/18/22 11:51	7/21/22 11:57		1.015	9.39	mg/L	0.02030	0.25375	R
* Sodium, Total	7/18/22 11:51	7/22/22 13:33		101.5	238	mg/L	3.045	40.6	RA
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	7/19/22 11:38	7/19/22 13:17		1.015	1.29	mg/L	0.030000	0.1015	
* Calcium, Dissolved	7/19/22 11:38	7/19/22 16:08		101.5	566	mg/L	7.0035	40.6	
* Iron, Dissolved	7/19/22 11:38	7/19/22 16:08		101.5	244	mg/L	0.8120	4.06	
* Lithium, Dissolved	7/19/22 11:38	7/19/22 13:17		1.015	0.403	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	7/19/22 11:38	7/19/22 16:08		101.5	320	mg/L	2.1315	40.6	
Silica, Dissolved (calc.)	7/19/22 11:38	7/19/22 13:17		1	19.2	mg/L			
Silicon, Dissolved	7/19/22 11:38	7/19/22 13:17		1.015	8.95	mg/L	0.02030	0.25375	
* Sodium, Dissolved	7/19/22 11:38	7/19/22 16:08		101.5	239	mg/L	3.045	40.6	
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: DLJ</b>		<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	7/18/22 15:05	7/19/22 11:43		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/18/22 15:05	7/19/22 11:43		1.015	0.161	mg/L	0.006090	0.01015	
* Arsenic, Total	7/18/22 15:05	7/19/22 11:43		1.015	0.000491	mg/L	0.000081	0.000203	
* Barium, Total	7/18/22 15:05	7/19/22 11:43		1.015	0.0118	mg/L	0.000508	0.001015	
* Beryllium, Total	7/18/22 15:05	7/19/22 11:43		1.015	0.00204	mg/L	0.000406	0.001015	
* Cadmium, Total	7/18/22 15:05	7/19/22 11:43		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	7/18/22 15:05	7/19/22 11:43		1.015	0.000341	mg/L	0.000203	0.001015	J
* Cobalt, Total	7/18/22 15:05	7/19/22 11:43		1.015	0.0460	mg/L	0.000068	0.000203	
* Lead, Total	7/18/22 15:05	7/19/22 11:43		1.015	0.0000953	mg/L	0.000068	0.000203	J
* Manganese, Total	7/18/22 15:05	7/20/22 15:28		92.365	25.4	mg/L	0.013855	0.018473	RA
* Molybdenum, Total	7/18/22 15:05	7/19/22 11:43		1.015	0.000257	mg/L	0.000102	0.000203	
* Potassium, Total	7/18/22 15:05	7/19/22 11:43		1.015	11.8	mg/L	0.169505	0.5075	

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

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

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-3

**Location Code:** WMWGORG  
**Collected:** 7/13/22 11:09  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12875

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	7/18/22 15:05	7/19/22 11:43		1.015	0.00151	mg/L	0.000508	0.001015	
* Thallium, Total	7/18/22 15:05	7/19/22 11:43		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	7/18/22 08:58	7/19/22 13:33		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	7/18/22 08:58	7/19/22 13:33		1.015	0.0980	mg/L	0.006090	0.01015	
* Arsenic, Dissolved	7/18/22 08:58	7/19/22 13:33		1.015	0.000512	mg/L	0.000081	0.000203	
* Barium, Dissolved	7/18/22 08:58	7/19/22 13:33		1.015	0.0118	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	7/18/22 08:58	7/19/22 13:33		1.015	0.00196	mg/L	0.000406	0.001015	
* Cadmium, Dissolved	7/18/22 08:58	7/19/22 13:33		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	7/18/22 08:58	7/19/22 13:33		1.015	0.000243	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	7/18/22 08:58	7/19/22 13:33		1.015	0.0482	mg/L	0.000068	0.000203	
* Lead, Dissolved	7/18/22 08:58	7/19/22 13:33		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	7/18/22 08:58	7/20/22 13:24		92.365	26.2	mg/L	0.013855	0.018473	RA
* Molybdenum, Dissolved	7/18/22 08:58	7/19/22 13:33		1.015	0.000267	mg/L	0.000102	0.000203	
* Potassium, Dissolved	7/18/22 08:58	7/19/22 13:33		1.015	12.3	mg/L	0.169505	0.5075	
* Selenium, Dissolved	7/18/22 08:58	7/19/22 13:33		1.015	0.00146	mg/L	0.000508	0.001015	
* Thallium, Dissolved	7/18/22 08:58	7/19/22 13:33		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	7/15/22 16:07	7/15/22 22:18		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: CES</b>							
* Nitrogen, Nitrate/Nitrite	7/19/22 14:56	7/19/22 14:56		1	0.428	mg/L as N	0.20	0.3	R
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: JAG</b>							
Alkalinity, Total as CaCO3	7/25/22 10:30	7/25/22 11:32		1	69.9	mg/L		0.01	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	7/15/22 11:12	7/18/22 13:45		1	4960	mg/L		250	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: JAG</b>							
Bicarbonate Alkalinity, (calc.)	7/25/22 10:30	7/25/22 11:32		1	69.9	mg/L		1	A
Carbonate Alkalinity, (calc.)	7/25/22 10:30	7/25/22 11:32		1	Not Detected	mg/L		0.5	A
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	7/15/22 06:58	7/15/22 06:58		1	Not Detected	mg/L	1.00	2	U

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

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

# Certificate Of Analysis

**Description:** Gorgas Gypsum - MW-3

**Location Code:** WMWGORG  
**Collected:** 7/13/22 11:09  
**Customer ID:**  
**Submittal Date:** 7/14/22 08:24

**Laboratory ID Number:** BC12875

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	7/20/22 10:48	7/20/22 10:48		50	228	mg/L	25.00	50	R
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	7/20/22 13:08	7/20/22 13:08		1	0.324	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	7/19/22 14:17	7/19/22 14:17		200	3180	mg/L	120.0	400	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: AWG</b>							
Conductivity	7/13/22 11:07	7/13/22 11:07			5084.48	uS/cm			FA
pH	7/13/22 11:07	7/13/22 11:07			5.92	SU			FA
Temperature	7/13/22 11:07	7/13/22 11:07			21.82	C			FA
Turbidity	7/13/22 11:07	7/13/22 11:07			4.61	NTU			FA
Sulfide	7/13/22 11:07	7/13/22 11:07			0	mg/L			FA

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

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

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/13/22 11:09  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - MW-3

**Laboratory ID Number:** BC12875

Sample	Analysis	Units	MB				Standard			Rec		Prec	Limit
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12875	Aluminum, Dissolved	mg/L	0.000116	0.010	0.100	0.198	0.195	0.104	0.0850 to 0.115	100	70.0 to 130	1.53	20.0
BC12875	Aluminum, Total	mg/L	0.000340	0.010	0.100	0.266	0.261	0.102	0.0850 to 0.115	105	70.0 to 130	1.90	20.0
BC12875	Antimony, Dissolved	mg/L	0.000265	0.00100	0.100	0.106	0.104	0.0890	0.0850 to 0.115	106	70.0 to 130	1.90	20.0
BC12875	Antimony, Total	mg/L	0.000301	0.00100	0.100	0.104	0.104	0.0905	0.0850 to 0.115	104	70.0 to 130	0.00	20.0
BC12875	Arsenic, Dissolved	mg/L	0.0000166	0.000176	0.100	0.110	0.107	0.103	0.0850 to 0.115	109	70.0 to 130	2.76	20.0
BC12875	Arsenic, Total	mg/L	0.0000093	0.000176	0.100	0.106	0.104	0.0997	0.0850 to 0.115	106	70.0 to 130	1.90	20.0
BC12875	Barium, Dissolved	mg/L	-0.000033	0.00100	0.100	0.114	0.116	0.0964	0.0850 to 0.115	102	70.0 to 130	1.74	20.0
BC12875	Barium, Total	mg/L	-0.0000676	0.00100	0.100	0.114	0.112	0.0918	0.0850 to 0.115	102	70.0 to 130	1.77	20.0
BC12875	Beryllium, Dissolved	mg/L	0.0000386	0.000880	0.100	0.0942	0.0928	0.0951	0.0850 to 0.115	92.2	70.0 to 130	1.50	20.0
BC12875	Beryllium, Total	mg/L	0.0000249	0.000880	0.100	0.106	0.104	0.105	0.0850 to 0.115	104	70.0 to 130	1.90	20.0
BC12872	Boron, Dissolved	mg/L	0.00411	0.0650	1.00	4.08	4.09	0.963	0.850 to 1.15	98.0	70.0 to 130	0.245	20.0
BC12875	Boron, Total	mg/L	-0.000487	0.0650	1.00	2.34	2.38	0.991	0.850 to 1.15	105	70.0 to 130	1.69	20.0
BC12875	Cadmium, Dissolved	mg/L	0.0000049	0.000147	0.100	0.101	0.0992	0.103	0.0850 to 0.115	101	70.0 to 130	1.80	20.0
BC12875	Cadmium, Total	mg/L	0.0000091	0.000147	0.100	0.0988	0.0973	0.0963	0.0850 to 0.115	98.8	70.0 to 130	1.53	20.0
BC12872	Calcium, Dissolved	mg/L	-0.0137	0.152	5.00	195	191	5.45	4.25 to 5.75	300	70.0 to 130	2.07	20.0
BC12875	Calcium, Total	mg/L	-0.0165	0.152	5.00	549	582	4.66	4.25 to 5.75	0.00	70.0 to 130	5.84	20.0
BC12875	Chloride	mg/L	0.0194	1.00	500	809	840	10.5	9.00 to 11.0	116	80.0 to 120	3.76	20.0
BC12875	Chromium, Dissolved	mg/L	-0.0000496	0.000440	0.100	0.102	0.101	0.102	0.0850 to 0.115	102	70.0 to 130	0.985	20.0
BC12875	Chromium, Total	mg/L	0.0000038	0.000440	0.100	0.104	0.100	0.100	0.0850 to 0.115	104	70.0 to 130	3.92	20.0
BC12875	Cobalt, Dissolved	mg/L	-0.0000042	0.000147	0.100	0.151	0.150	0.105	0.0850 to 0.115	103	70.0 to 130	0.664	20.0
BC12875	Cobalt, Total	mg/L	-0.0000027	0.000147	0.100	0.150	0.147	0.101	0.0850 to 0.115	104	70.0 to 130	2.02	20.0
BC12875	Fluoride	mg/L	-0.0178	0.125	2.50	2.97	3.09	2.54	2.25 to 2.75	106	80.0 to 120	3.96	20.0
BC12872	Iron, Dissolved	mg/L	-0.0002	0.0176	0.2	41.6	40.1	0.195	0.170 to 0.230	100	70.0 to 130	3.67	20.0
BC12875	Iron, Total	mg/L	0.000698	0.0176	0.2	236	254	0.195	0.170 to 0.230	-1500	70.0 to 130	7.35	20.0

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

# Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/13/22 11:09  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - MW-3

**Laboratory ID Number:** BC12875

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12875	Lead, Dissolved	mg/L	0.0000125	0.000147	0.100	0.108	0.108	0.108	0.0850 to 0.115	108	70.0 to 130	0.00	20.0
BC12875	Lead, Total	mg/L	0.000011	0.000147	0.100	0.111	0.109	0.106	0.0850 to 0.115	111	70.0 to 130	1.82	20.0
BC12872	Lithium, Dissolved	mg/L	-0.000397	0.0154	0.200	0.521	0.535	0.195	0.170 to 0.230	104	70.0 to 130	2.65	20.0
BC12875	Lithium, Total	mg/L	-0.000201	0.0154	0.200	0.664	0.687	0.224	0.170 to 0.230	122	70.0 to 130	3.40	20.0
BC12872	Magnesium, Dissolved	mg/L	-0.00737	0.0462	5.00	126	124	4.80	4.25 to 5.75	220	70.0 to 130	1.60	20.0
BC12875	Magnesium, Total	mg/L	0.00593	0.0462	5.00	323	342	5.09	4.25 to 5.75	80.0	70.0 to 130	5.71	20.0
BC12875	Manganese, Dissolved	mg/L	0.000120	0.0002	0.100	22.0	25.7	0.102	0.0850 to 0.115	-4200	70.0 to 130	15.5	20.0
BC12875	Manganese, Total	mg/L	0.000057	0.0002	0.100	24.9	25.3	0.0992	0.0850 to 0.115	-500	70.0 to 130	1.59	20.0
BC12875	Mercury, Total by CVAA	mg/L	0.00000	0.000500	0.004	0.00394	0.00396	0.00398	0.00340 to 0.00460	98.5	70.0 to 130	0.506	20.0
BC12875	Molybdenum, Dissolved	mg/L	0.000001	0.0002	0.100	0.103	0.103	0.100	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BC12875	Molybdenum, Total	mg/L	0.0000299	0.0002	0.100	0.102	0.102	0.100	0.0850 to 0.115	102	70.0 to 130	0.00	20.0
BC12875	Potassium, Dissolved	mg/L	0.0174	0.367	10.0	23.2	22.7	10.7	8.50 to 11.5	109	70.0 to 130	2.18	20.0
BC12875	Potassium, Total	mg/L	0.00902	0.367	10.0	22.2	22.0	10.8	8.50 to 11.5	104	70.0 to 130	0.905	20.0
BC12875	Selenium, Dissolved	mg/L	0.0000243	0.00100	0.100	0.106	0.103	0.105	0.0850 to 0.115	105	70.0 to 130	2.87	20.0
BC12875	Selenium, Total	mg/L	0.0000035	0.00100	0.100	0.106	0.106	0.103	0.0850 to 0.115	104	70.0 to 130	0.00	20.0
BC12872	Silicon, Dissolved	mg/L	0.000137	0.0440	1.00	14.1	14.1	0.959	0.850 to 1.15	80.0	70.0 to 130	0.00	20.0
BC12875	Silicon, Total	mg/L	0.000558	0.0440	1.00	10.3	11.5	1.03	0.850 to 1.15	91.0	70.0 to 130	11.0	20.0
BC12872	Sodium, Dissolved	mg/L	0.00136	0.0660	5.00	32.8	33.8	4.80	4.25 to 5.75	96.0	70.0 to 130	3.00	20.0
BC12875	Sodium, Total	mg/L	-0.000106	0.0660	5.00	242	254	4.71	4.25 to 5.75	80.0	70.0 to 130	4.84	20.0
BC12875	Sulfate	mg/L	0.767	2.0	4000	7210	7500	20.2	18.0 to 22.0	101	80.0 to 120	3.94	20.0
BC12875	Thallium, Dissolved	mg/L	0.000006	0.000147	0.100	0.107	0.111	0.110	0.0850 to 0.115	107	70.0 to 130	3.67	20.0
BC12875	Thallium, Total	mg/L	0.0000045	0.000147	0.100	0.113	0.109	0.108	0.0850 to 0.115	113	70.0 to 130	3.60	20.0
BC12875	Total Organic Carbon	mg/L	0.374	1.00	10.0	9.51	10.4	9.69		95.1	80.0 to 120	8.94	20.0

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

## Batch QC Summary

**Customer Account:** WMWGORG  
**Sample Date:** 7/13/22 11:09  
**Customer ID:**  
**Delivery Date:** 7/14/22 08:24

**Description:** Gorgas Gypsum - MW-3

**Laboratory ID Number:** BC12875

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC12875	Alkalinity, Total as CaCO3	mg/L					70.2	51.1	45.0 to 55.0			0.428	10.0
BC12875	Nitrogen, Nitrate/Nitrite	mg/L as N	0.12	0.200	2.00	1.94	0.393	2.04	1.80 to 2.20	75.6	90.0 to 110	8.53	15.0
BC12875	Solids, Dissolved	mg/L	1.00	25.0			4930	50.0	40.0 to 60.0			0.607	10.0

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



# Definitions

**Project Number:** WMWGORG\_1376

Abbreviation	Description
DF	Dilution Factor
LCS	Lab Control Sample
LFM	Lab Fortified Matrix
MB	Method Blank
MDL	Method Detection Limit; minimum concentration of an analyte that can be determined with 99% confidence that the concentration is greater than zero.
MS	Matrix Spike
MSD	Matrix Spike Duplicate
Prec	Precision (% RPD)
Q	Qualifier; comment used to note deviations or additional information associated with analytical results.
QC	Quality Control
Rec	Recovery of Matrix Spike
RL	Reporting Limit; lowest concentration at which an analyte can be quantitatively measured.
Vio Spec	Violation Specification; regulatory limit which has been exceeded by the sample analyzed.

Qualifier	Description
A	Bicarbonate alkalinity, carbonate alkalinity, hydroxide alkalinity, free carbon dioxide, and/or total carbon dioxide calculations are estimates due to pH>10SU and/or TDS>500mg/L.
FA	Field results were reviewed by the Water Field Group. Refer to APC Field Case Narrative.
J	Reported value is an estimate because concentration is less than reporting limit.
R	Matrix spike recovery and/or matrix spike duplicate recovery is outside of specification 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: Anthony Goggins		Requested By
		Location	Gorgas Gypsum

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

Comments

Sample #	Date	Time	Bottle Count	Description	Lab Filter	Lab Id
MW-8V	07/12/2022	13:00	6	Groundwater		BC12870
MW-8	07/12/2022	14:17	6	Groundwater		BC12871
MW-4V	07/13/2022	09:31	6	Groundwater		BC12872
MW-4	07/13/2022	10:18	6	Groundwater		BC12873
EB-1	07/13/2022	10:50	5	Equipment Blank		BC12874
MW-3	07/13/2022	11:09	6	Groundwater		BC12875

Relinquished By	Received By	Date/Time
<i>Anthony Goggins</i>	<i>Greg Dyer</i>	07/14/2022 08:08

SmarTroll ID	7586-41442-5-1	All pH requirements have been met <input checked="" type="checkbox"/>	
Turbidity ID	4677-23342-4-2		
Sample Event	1376		
		Cooler Temp	2.3 °C
		Thermometer ID	7044-38282-2-2
		pH Strip ID	10275-59506-10-2

Bottles/Pre-Preserved Bottles are provided by the GTL.  
Total Metals and Alkalinity are not performed on Dissolved Sets  
Dissolved Metals and Alkalinity are not performed on blanks i.e. Field Blanks or Equipment Blanks



# Chain of Custody

## Groundwater

APC General Testing Laboratory

Field Complete  
 Lab Complete

Outside Lab

Lab ETA

Requested Complete Date	Routine	Results To	Dustin Brooks, Greg Dyer
	Collector: Dallas Gentry		Requested By: Greg Dyer
		Location	Gorgas Gypsum

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

Comments

Sample #	Date	Time	Bottle Count	Description	Lab Filter	Lab Id
PZ-18	07/12/2022	09:06	6	Groundwater		BC12861
PZ-19	07/12/2022	11:14	6	Groundwater		BC12862
PZ-19 dup	07/12/2022	11:14	6	Sample Duplicate		BC12863
PZ-20	07/12/2022	12:44	6	Groundwater		BC12864
PZ-21	07/12/2022	14:33	6	Groundwater		BC12865
FB-1	07/12/2022	15:20	5	Field Blank		BC12866
PZ-22	07/13/2022	09:01	6	Groundwater		BC12867
PZ-17	07/13/2022	10:21	6	Groundwater		BC12868
MW-3V	07/13/2022	11:48	6	Groundwater		BC12869

Relinquished By	Received By	Date/Time
<i>M. Dyer</i>	<i>Renee Jones</i>	07/14/2022 08:09

SmarTroll ID	7586-41444-5-3	All pH requirements have been met <input checked="" type="checkbox"/>
Turbidity ID	3901-20010-2-2	
Sample Event	1376	
Cooler Temp	1.5 °C	
Thermometer ID	7044-38282-2-2	
pH Strip ID	10275-59506-10-2	

Bottles/Pre-Preserved Bottles are provided by the GTL.  
 Total Metals and Alkalinity are not performed on Dissolved Sets  
 Dissolved Metals and Alkalinity are not performed on blanks i.e. Field Blanks or Equipment Blanks



# Chain of Custody

## Groundwater

APC General Testing Laboratory

Field Complete  
 Lab Complete

Outside Lab

Lab ETA

Requested Complete Date	Routine	Results To	Dustin Brooks, Greg Dyer		
	Collector		TJ Daugherty	Requested By	Greg Dyer
					Location

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

Comments

Sample #	Date	Time	Bottle Count	Description	Lab Filter	Lab Id
MW-11H	07/12/2022	10:25	6	Groundwater		BC12852
MW-13H	07/12/2022	12:00	6	Groundwater		BC12853
MW-13H Dup	07/12/2022	12:00	6	Sample Duplicate		BC12854
MW-9H	07/12/2022	13:18	6	Groundwater		BC12855
MW-9V	07/12/2022	14:47	6	Groundwater		BC12856
MW-12V	07/13/2022	09:30	6	Groundwater		BC12857
MW-12H	07/13/2022	10:45	6	Groundwater		BC12858
MW-14H	07/13/2022	11:40	6	Groundwater		BC12859
FB-2	07/13/2022	12:00	5	Field Blank		BC12860

Relinquished By	Received By	Date/Time
		07/14/2022 08:09

SmarTroll ID	7586-41446-5-5	All pH requirements have been met <input checked="" type="checkbox"/>	
Turbidity ID	4677-23342-4-1		
Sample Event	1376		
		Cooler Temp	3.0 °C
		Thermometer ID	7044-38282-2-2
		pH Strip ID	10275-59506-10-2

Bottles/Pre-Preserved Bottles are provided by the GTL.  
 Total Metals and Alkalinity are not performed on Dissolved Sets  
 Dissolved Metals and Alkalinity are not performed on blanks i.e. Field Blanks or Equipment Blanks



# Chain of Custody Groundwater

APC General Testing Laboratory

Field Complete  
 Lab Complete

Outside Lab

Lab ETA

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

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

Comments: MS/MSD collected @ MW-3

Sample #	Date	Time	Bottle Count	Description	Lab Filter	Lab Id
MW-8V	07/12/2022	13:00	1	Groundwater		BC12894
MW-8	07/12/2022	14:17	1	Groundwater		BC12895
MW-4V	07/13/2022	09:31	1	Groundwater		BC12896
MW-4	07/13/2022	10:18	1	Groundwater		BC12897
EB-1	07/13/2022	10:50	1	Equipment Blank		BC12898
MW-3	07/13/2022	11:09	3	Groundwater		BC12899

Relinquished By <i>Anthony Goggins</i>	Received By <i>Russell</i>	Date/Time 07/14/2022 08:08

SmarTroll ID	7586-41442-5-1	All pH requirements have been met <input checked="" type="checkbox"/>	
Turbidity ID	4677-23342-4-2		
Sample Event	1376		
		Cooler Temp	N/A
		Thermometer ID	N/A
		pH Strip ID	10275-59506-10-2

Bottles/Pre-Preserved Bottles are provided by the GTL  
Total Metals and Alkalinity are not performed on Dissolved Sets  
Dissolved Metals and Alkalinity are not performed on blanks i.e. Field Blanks or Equipment Blanks



# Chain of Custody Groundwater

APC General Testing Laboratory

Field Complete

Outside Lab

Lab Complete

Lab ETA

Requested Complete Date	Routine	Results To	Dustin Brooks, Greg Dyer
	Collector: Dallas Gentry		Requested By
		Location	Gorgas Gypsum

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

Comments

Sample #	Date	Time	Bottle Count	Description	Lab Filter	Lab Id
PZ-18	07/12/2022	09:06	1	Groundwater		BC12885
PZ-19	07/12/2022	11:14	1	Groundwater		BC12886
PZ-19 dup	07/12/2022	11:14	1	Sample Duplicate		BC12887
PZ-20	07/12/2022	12:44	1	Groundwater		BC12888
PZ-21	07/12/2022	14:33	1	Groundwater		BC12889
FB-1	07/12/2022	15:20	1	Field Blank		BC12890
PZ-22	07/13/2022	09:01	1	Groundwater		BC12891
PZ-17	07/13/2022	10:21	1	Groundwater		BC12892
MW-3V	07/13/2022	11:48	1	Groundwater		BC12893

Relinquished By	Received By	Date/Time
		07/14/2022 08:09

SmarTroll ID	7586-41444-5-3	All pH requirements have been met <input checked="" type="checkbox"/>
Turbidity ID	3901-20010-2-2	
Sample Event	1376	
Cooler Temp	N/A	
Thermometer ID	N/A	
pH Strip ID	10275-59506-10-2	

Bottles/Pre-Preserved Bottles are provided by the GTL.  
Total Metals and Alkalinity are not performed on Dissolved Sets  
Dissolved Metals and Alkalinity are not performed on blanks i.e. Field Blanks or Equipment Blanks



# Chain of Custody Groundwater

APC General Testing Laboratory

Field Complete  
 Lab Complete

Outside Lab

Lab ETA

Requested Complete Date	Routine		Results To	Dustin Brooks, Greg Dyer		
	Collector: TJ Daugherty			Requested By	Greg Dyer	
					Location: Gorgas Gypsum	

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

Comments: Rad MS/MSD @ MW-11H

Sample #	Date	Time	Bottle Count	Description	Lab Filter	Lab Id
MW-11H	07/12/2022	10:25	3	Groundwater		BC12876
MW-13H	07/12/2022	12:00	1	Groundwater		BC12877
MW-13H Dup	07/12/2022	12:00	1	Sample Duplicate		BC12878
MW-9H	07/12/2022	13:18	1	Groundwater		BC12879
MW-9V	07/12/2022	14:47	1	Groundwater		BC12880
MW-12V	07/13/2022	09:30	1	Groundwater		BC12881
MW-12H	07/13/2022	10:45	1	Groundwater		BC12882
MW-14H	07/13/2022	11:40	1	Groundwater		BC12883
FB-2	07/13/2022	12:00	1	Field Blank		BC12884

Relinquished By	Received By	Date/Time
		07/14/2022 08:09

SmarTroll ID	7586-41446-5-5	All pH requirements have been met <input checked="" type="checkbox"/>	
Turbidity ID	4677-23342-4-1		
Sample Event	1376		
		Cooler Temp	N/A
		Thermometer ID	N/A
		pH Strip ID	10275-59506-10-2

Bottles/Pre-Preserved Bottles are provided by the GTL.  
Total Metals and Alkalinity are not performed on Dissolved Sets.  
Dissolved Metals and Alkalinity are not performed on blanks i.e. Field Blanks or Equipment Blanks

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

# *Analytical Report*



**Sample Group :** WMWGORPU\_1374

**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 :** Renee Jernigan  
rgarner@southernco.com  
(205) 664-6247



August 02, 2022

Dear Dustin Brooks,

Enclosed are the analytical results for sample(s) received by the laboratory on July 07, 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, 2023

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

Sincerely,

Quality Control: **Renee  
Jernigan**

Digitally signed by Renee  
Jernigan  
Date: 2022.08.02  
14:39:40 -05'00'

Supervision: **T Durant  
Maske**

Digitally signed by T Durant Maske  
DN: cn=T Durant Maske, gn=T Durant  
Maske, c=US, United States, l=US, United  
States, e=tdmaske@southernco.com  
Reason: I am the author of this document  
Location:  
Date: 2022-08-02 17:50-05:00



### 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 Pooled Upgradient

WMWGORPU\_1374

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>
BC12375	731030	WMWGORPU_1374
BC12376	731030	WMWGORPU_1374
BC12377	731030	WMWGORPU_1374
BC12378	731030	WMWGORPU_1374
BC12379	731030	WMWGORPU_1374
BC12380	731030	WMWGORPU_1374
BC12381	731030	WMWGORPU_1374

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:
    - BC12380 Calcium and Magnesium MS/MSD spike levels were less than 30% of the sample concentrations.
    - BC12380 Lithium MS/MSD recovery was outside of the specification limits.
  - A matrix spike and matrix spike duplicate were digested and analyzed with each ICP batch. All acceptance criteria for precision were met.
7. The following sample was diluted due to the analyzed sample concentration being greater than the high standard of the calibration curve:

<u>Sample ID</u>	<u>Analyte</u>	<u>Dilution Factor</u>
BC12375	Calcium, Magnesium	10.15
BC12376	Calcium, Magnesium	10.15
BC12377	Calcium, Magnesium	10.15
BC12378	Calcium, Sodium, Silicon	10.15
BC12378	Magnesium	101.5
BC12380	Calcium, Magnesium	101.5

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

Dissolved Metals ICP

Gorgas Pooled Upgradient

WMWGORPU\_1374

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>
BC12375	730629	WMWGORPU_1374
BC12376	730629	WMWGORPU_1374
BC12377	730629	WMWGORPU_1374
BC12378	730629	WMWGORPU_1374
BC12380	730629	WMWGORPU_1374

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:

Revision 5

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:
    - BC12380 Calcium, Magnesium and Sodium MS/MSD spike levels were less than 30% of the sample concentrations.
  - A matrix spike and matrix spike duplicate were analyzed with each ICP batch. All acceptance criteria for precision were met.
7. The following samples were diluted due to the analyzed sample concentration being greater than the high standard of the calibration curve:

<u>Sample ID</u>	<u>Analyte</u>	<u>Dilution Factor</u>
BC12375	Calcium, Magnesium	10.15
BC12376	Calcium, Magnesium	10.15
BC12377	Calcium, Magnesium	10.15
BC12378	Calcium, Magnesium, Sodium	101.5
BC12380	Calcium, Magnesium	101.5

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

Total Metals ICPMS

Gorgas Pooled Upgradient

WMWGORPU\_1374

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>
BC12375	730858	WMWGORPU_1374
BC12376	730858	WMWGORPU_1374
BC12377	730858	WMWGORPU_1374
BC12378	730858	WMWGORPU_1374
BC12379	730858	WMWGORPU_1374
BC12380	730858	WMWGORPU_1374
BC12381	730858	WMWGORPU_1374

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>
BC12375	Manganese	10.15
BC12376	Manganese	10.15
BC12377	Manganese	10.15
BC12378	Manganese	10.15
BC12378	Aluminum	5.075

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

Dissolved Metals ICPMS

Gorgas Pooled Upgradient

WMWGORPU\_1374

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>
BC12375	730829	WMWGORPU_1374
BC12376	730829	WMWGORPU_1374
BC12377	730829	WMWGORPU_1374
BC12378	730829	WMWGORPU_1374
BC12380	730829	WMWGORPU_1374

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>
BC12375	Manganese	10.15
BC12376	Manganese	10.15
BC12377	Manganese	10.15
BC12378	Manganese	10.15
BC12378	Aluminum	5.075

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

Mercury

Gorgas Pooled Upgradient

WMWGORPU\_1374

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>
BC12375	730170	WMWGORPU_1374
BC12376	730170	WMWGORPU_1374
BC12377	730170	WMWGORPU_1374
BC12378	730170	WMWGORPU_1374
BC12379	730170	WMWGORPU_1374
BC12380	730170	WMWGORPU_1374
BC12381	730170	WMWGORPU_1374

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.

Revision 5

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

Total Dissolved Solids

Gorgas Pooled Upgradient

WMWGORPU\_1374

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>
BC12375	730171	WMWGORPU_1374
BC12376	730171	WMWGORPU_1374
BC12377	730171	WMWGORPU_1374
BC12378	730171	WMWGORPU_1374
BC12379	730171	WMWGORPU_1374
BC12380	730171	WMWGORPU_1374
BC12381	730171	WMWGORPU_1374

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:
  - BC12379
  - BC12381

## Anions

### Gorgas Pooled Upgradient

#### WMWGORPU\_1374

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>
BC12375	730361,730405,731019	WMWGORPU_1374
BC12376	730361,730405,731019	WMWGORPU_1374
BC12377	730361,730405,731019	WMWGORPU_1374
BC12378	730361,730405,731019	WMWGORPU_1374
BC12379	730361,730405,731019	WMWGORPU_1374
BC12380	730361,730405,731019	WMWGORPU_1374
BC12381	730361,730405,731019	WMWGORPU_1374

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

#### General Quality Control Procedures:

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

#### Matrix Specific Quality Control Procedures:

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

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

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

<u>Sample ID</u>	<u>Analyte</u>	<u>Dilution Factor</u>
BC12375	Sulfate	50
BC12376	Sulfate	40
BC12377	Sulfate	40
BC12378	Sulfate	100
BC12380	Sulfate	100

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

## Alkalinity

### Gorgas Pooled Upgradient

#### WMWGORPU\_1374

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>
BC12375	730300; 730301	WMWGORPU_1374
BC12376	730300; 730301	WMWGORPU_1374
BC12377	730300; 730301	WMWGORPU_1374
BC12378	730300; 730301	WMWGORPU_1374
BC12380	730300; 730301	WMWGORPU_1374

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

#### General Quality Control Procedures:

- An initial pH check was analyzed with each batch. The acceptance criteria were met.
  - A final pH check was analyzed with each batch. The acceptance criteria were met.
  - An alkalinity laboratory control sample was analyzed with each batch. Range criteria of within 10% of true value was met.
  - An alkalinity sample duplicate was analyzed with each batch. Precision criteria less than 10 RPD was met.
7. The following samples had pH>10 and/or TDS>500mg/L. Therefore, the calculations for carbonate and bicarbonate are estimates:
    - BC12375
    - BC12376
    - BC12377
    - BC12378
    - BC12380

Nitrate-Nitrite

Gorgas Pooled Upgradient

WMWGORPU\_1374

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>
BC12375	730144	WMWGORPU_1374
BC12376	730144	WMWGORPU_1374
BC12377	730144	WMWGORPU_1374
BC12378	730144	WMWGORPU_1374
BC12379	730144	WMWGORPU_1374
BC12380	730144	WMWGORPU_1374
BC12381	730144	WMWGORPU_1374

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

#### General Quality Control Procedures:

- Water baseline report was run and met criteria.
- All calibration met criteria for the requested analytes.
- Prior to sample analysis, an initial calibration verification (ICV) was analyzed and met all criteria.
- All continued calibration verification (CCV) were within the acceptance criteria.
- Prior to sample analysis, an initial calibration blank (ICB) was analyzed and were below limit of detection.
- All continued calibration blanks (CCB) were below the limit of detection.

#### EPA 353.2 Specific QC:

- Prior to sample analysis, Cadmium coil reduction efficiency check met criteria.
- Matrix Specific QC:
  - A sample duplicate was run and criteria for precision was met.
  - A matrix spike was run and criteria for accuracy was met.
- 7. All samples were analyzed without a dilution factor.
- 8. The raw data results are shown with dilution factors included.



Total Organic Carbon

Gorgas Pooled Upgradient

WMWGORPU\_1374

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>
BC12375	730355	WMWGORPU_1374
BC12376	730355	WMWGORPU_1374
BC12377	730355	WMWGORPU_1374
BC12378	730355	WMWGORPU_1374
BC12379	730355	WMWGORPU_1374
BC12380	730355	WMWGORPU_1374
BC12381	730355	WMWGORPU_1374

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:** 7/5/22 11:40

**Customer ID:**

**Submittal Date:** 7/7/22 10:45

**Laboratory ID Number:** BC12375

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>					
* Boron, Total	7/19/22 08:22	7/19/22 12:29		1.015	Not Detected	mg/L	0.030000	0.1015	U	
* Calcium, Total	7/19/22 08:22	7/19/22 13:47		10.15	168	mg/L	0.70035	4.06		
* Iron, Total	7/19/22 08:22	7/19/22 12:29		1.015	Not Detected	mg/L	0.008120	0.0406	U	
* Lithium, Total	7/19/22 08:22	7/19/22 12:29		1.015	0.0274	mg/L	0.007105	0.01999956		
* Magnesium, Total	7/19/22 08:22	7/19/22 13:47		10.15	307	mg/L	0.21315	4.06		
Silica, Total (calc.)	7/19/22 08:22	7/19/22 12:29		1	25.5	mg/L				
Silicon, Total	7/19/22 08:22	7/19/22 12:29		1.015	11.9	mg/L	0.02030	0.25375		
* Sodium, Total	7/19/22 08:22	7/19/22 12:29		1.015	38.2	mg/L	0.03045	0.406		
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>					
* Boron, Dissolved	7/12/22 12:45	7/13/22 15:36		1.015	Not Detected	mg/L	0.030000	0.1015	U	
* Calcium, Dissolved	7/12/22 12:45	7/14/22 13:04		10.15	158	mg/L	0.70035	4.06		
* Iron, Dissolved	7/12/22 12:45	7/13/22 15:36		1.015	Not Detected	mg/L	0.008120	0.0406	U	
* Lithium, Dissolved	7/12/22 12:45	7/13/22 15:36		1.015	0.0237	mg/L	0.007105	0.01999956		
* Magnesium, Dissolved	7/12/22 12:45	7/14/22 13:04		10.15	285	mg/L	0.21315	4.06		
Silica, Dissolved (calc.)	7/12/22 12:45	7/13/22 15:36		1	23.8	mg/L				
Silicon, Dissolved	7/12/22 12:45	7/13/22 15:36		1.015	11.1	mg/L	0.02030	0.25375		
* Sodium, Dissolved	7/12/22 12:45	7/14/22 12:40		1.015	34.8	mg/L	0.03045	0.406		
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>			<b>Preparation Method: EPA 1638</b>					
* Antimony, Total	7/7/22 16:48	7/8/22 12:20		1.015	Not Detected	mg/L	0.000508	0.001015	U	
* Aluminum, Total	7/7/22 16:48	7/8/22 12:20		1.015	0.114	mg/L	0.006090	0.01015		
* Arsenic, Total	7/7/22 16:48	7/8/22 12:20		1.015	0.000281	mg/L	0.000081	0.000203		
* Barium, Total	7/7/22 16:48	7/8/22 12:20		1.015	0.0100	mg/L	0.000508	0.001015		
* Beryllium, Total	7/7/22 16:48	7/8/22 12:20		1.015	Not Detected	mg/L	0.000406	0.001015	U	
* Cadmium, Total	7/7/22 16:48	7/8/22 12:20		1.015	0.00211	mg/L	0.000068	0.000203		
* Chromium, Total	7/7/22 16:48	7/8/22 12:20		1.015	0.000364	mg/L	0.000203	0.001015	J	
* Cobalt, Total	7/7/22 16:48	7/8/22 12:20		1.015	0.0627	mg/L	0.000068	0.000203		
* Lead, Total	7/7/22 16:48	7/8/22 12:20		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Manganese, Total	7/7/22 16:48	7/13/22 12:07		10.15	10.4	mg/L	0.001522	0.00203		
* Molybdenum, Total	7/7/22 16:48	7/8/22 12:20		1.015	Not Detected	mg/L	0.000102	0.000203	U	
* Potassium, Total	7/7/22 16:48	7/8/22 12:20		1.015	7.28	mg/L	0.169505	0.5075		

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

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

# Certificate Of Analysis

**Description:** Gorgas Pooled Upgradient - MW-1

**Location Code:** WMWGORPU

**Collected:** 7/5/22 11:40

**Customer ID:**

**Submittal Date:** 7/7/22 10:45

**Laboratory ID Number:** BC12375

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	7/7/22 16:48	7/8/22 12:20		1.015	0.00269	mg/L	0.000508	0.001015	
* Thallium, Total	7/7/22 16:48	7/8/22 12:20		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	7/7/22 13:37	7/8/22 10:15		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	7/7/22 13:37	7/8/22 10:15		1.015	0.112	mg/L	0.006090	0.01015	
* Arsenic, Dissolved	7/7/22 13:37	7/8/22 10:15		1.015	0.000282	mg/L	0.000081	0.000203	
* Barium, Dissolved	7/7/22 13:37	7/8/22 10:15		1.015	0.00930	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	7/7/22 13:37	7/8/22 10:15		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	7/7/22 13:37	7/8/22 10:15		1.015	0.00211	mg/L	0.000068	0.000203	
* Chromium, Dissolved	7/7/22 13:37	7/8/22 10:15		1.015	0.000359	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	7/7/22 13:37	7/8/22 10:15		1.015	0.0631	mg/L	0.000068	0.000203	
* Lead, Dissolved	7/7/22 13:37	7/8/22 10:15		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	7/7/22 13:37	7/13/22 12:36		10.15	10.3	mg/L	0.001522	0.00203	
* Molybdenum, Dissolved	7/7/22 13:37	7/8/22 10:15		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Potassium, Dissolved	7/7/22 13:37	7/8/22 10:15		1.015	7.29	mg/L	0.169505	0.5075	
* Selenium, Dissolved	7/7/22 13:37	7/8/22 10:15		1.015	0.00269	mg/L	0.000508	0.001015	
* Thallium, Dissolved	7/7/22 13:37	7/8/22 10:15		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	7/7/22 16:18	7/7/22 21:00		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: CES</b>							
* Nitrogen, Nitrate/Nitrite	7/13/22 12:12	7/13/22 12:12		1	1.57	mg/L as N	0.20	0.3	
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
Alkalinity, Total as CaCO3	7/8/22 13:04	7/8/22 14:52		1	25.7	mg/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	7/7/22 13:38	7/11/22 10:04		1	2100	mg/L		100	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
Bicarbonate Alkalinity, (calc.)	7/8/22 13:04	7/8/22 14:52		1	25.7	mg/L		1	A
Carbonate Alkalinity, (calc.)	7/8/22 13:04	7/8/22 14:52		1	Not Detected	mg/L		0.5	A
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	7/13/22 05:38	7/13/22 05:38		1	1.14	mg/L	1.00	2	J

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

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

# Certificate Of Analysis

**Description:** Gorgas Pooled Upgradient - MW-1

**Location Code:** WMWGORPU

**Collected:** 7/5/22 11:40

**Customer ID:**

**Submittal Date:** 7/7/22 10:45

**Laboratory ID Number:** BC12375

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	7/12/22 15:09	7/12/22 15:09		1	2.07	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	7/13/22 12:07	7/13/22 12:07		1	0.110	mg/L	0.06	0.125	J
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	7/19/22 11:37	7/19/22 11:37		50	1600	mg/L	30.0	100	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: TJD</b>							
Conductivity	7/5/22 11:36	7/5/22 11:36			2312.33	uS/cm			FA
pH	7/5/22 11:36	7/5/22 11:36			5.01	SU			FA
Temperature	7/5/22 11:36	7/5/22 11:36			20.80	C			FA
Turbidity	7/5/22 11:36	7/5/22 11:36			0.23	NTU			FA
Sulfide	7/5/22 11:36	7/5/22 11:36			0	mg/L			FA

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

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

# Batch QC Summary

**Customer Account:** WMWGORPU

**Sample Date:** 7/5/22 11:40

**Customer ID:**

**Delivery Date:** 7/7/22 10:45

**Description:** Gorgas Pooled Upgradient - MW-1

**Laboratory ID Number:** BC12375

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12380	Aluminum, Dissolved	mg/L	0.0000266	0.010	0.100	0.0964	0.101	0.102	0.0850 to 0.115	96.4	70.0 to 130	4.66	20.0
BC12381	Aluminum, Total	mg/L	0.000648	0.010	0.100	0.108	0.107	0.106	0.0850 to 0.115	108	70.0 to 130	0.930	20.0
BC12380	Antimony, Dissolved	mg/L	0.000330	0.00100	0.100	0.0939	0.0909	0.0905	0.0850 to 0.115	93.9	70.0 to 130	3.25	20.0
BC12381	Antimony, Total	mg/L	0.000333	0.00100	0.100	0.0872	0.0919	0.0896	0.0850 to 0.115	87.2	70.0 to 130	5.25	20.0
BC12380	Arsenic, Dissolved	mg/L	0.0000060	0.000176	0.100	0.0990	0.104	0.106	0.0850 to 0.115	98.9	70.0 to 130	4.93	20.0
BC12381	Arsenic, Total	mg/L	0.0000064	0.000176	0.100	0.102	0.102	0.0993	0.0850 to 0.115	102	70.0 to 130	0.00	20.0
BC12380	Barium, Dissolved	mg/L	-0.0000157	0.00100	0.100	0.103	0.110	0.0944	0.0850 to 0.115	91.5	70.0 to 130	6.57	20.0
BC12381	Barium, Total	mg/L	-0.0000569	0.00100	0.100	0.0966	0.101	0.0931	0.0850 to 0.115	96.6	70.0 to 130	4.45	20.0
BC12380	Beryllium, Dissolved	mg/L	0.0000278	0.000880	0.100	0.0974	0.101	0.0964	0.0850 to 0.115	97.4	70.0 to 130	3.63	20.0
BC12381	Beryllium, Total	mg/L	0.0000196	0.000880	0.100	0.112	0.105	0.106	0.0850 to 0.115	112	70.0 to 130	6.45	20.0
BC12380	Boron, Dissolved	mg/L	-0.000393	0.0650	1.00	1.05	1.06	0.988	0.850 to 1.15	101	70.0 to 130	0.948	20.0
BC12380	Boron, Total	mg/L	0.000548	0.0650	1.00	1.10	1.12	1.01	0.850 to 1.15	106	70.0 to 130	1.80	20.0
BC12380	Cadmium, Dissolved	mg/L	0.0000051	0.000147	0.100	0.0904	0.0969	0.0963	0.0850 to 0.115	90.3	70.0 to 130	6.94	20.0
BC12381	Cadmium, Total	mg/L	0.0000000	0.000147	0.100	0.0984	0.0977	0.0980	0.0850 to 0.115	98.4	70.0 to 130	0.714	20.0
BC12380	Calcium, Dissolved	mg/L	-0.0163	0.152	5.00	280	273	4.79	4.25 to 5.75	180	70.0 to 130	2.53	20.0
BC12380	Calcium, Total	mg/L	-0.0137	0.152	5.00	302	287	5.43	4.25 to 5.75	160	70.0 to 130	5.09	20.0
BC12381	Chloride	mg/L	0.0125	1.00	10.0	10.7	10.6	10.5	9.00 to 11.0	107	80.0 to 120	0.939	20.0
BC12380	Chromium, Dissolved	mg/L	-0.0000406	0.000440	0.100	0.0931	0.0968	0.0998	0.0850 to 0.115	93.1	70.0 to 130	3.90	20.0
BC12381	Chromium, Total	mg/L	-0.0000979	0.000440	0.100	0.0987	0.0995	0.0978	0.0850 to 0.115	98.7	70.0 to 130	0.807	20.0
BC12380	Cobalt, Dissolved	mg/L	-0.0000720	0.000147	0.100	0.0946	0.0991	0.101	0.0850 to 0.115	94.6	70.0 to 130	4.65	20.0
BC12381	Cobalt, Total	mg/L	-0.0000764	0.000147	0.100	0.101	0.102	0.0998	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BC12381	Fluoride	mg/L	0.0205	0.125	2.50	2.68	2.68	2.62	2.25 to 2.75	107	80.0 to 120	0.00	20.0
BC12380	Iron, Dissolved	mg/L	-0.000152	0.0176	0.2	0.190	0.188	0.199	0.170 to 0.230	95.0	70.0 to 130	1.06	20.0
BC12380	Iron, Total	mg/L	0.000166	0.0176	0.2	0.234	0.242	0.208	0.170 to 0.230	106	70.0 to 130	3.36	20.0

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

# Batch QC Summary

**Customer Account:** WMWGORPU

**Sample Date:** 7/5/22 11:40

**Customer ID:**

**Delivery Date:** 7/7/22 10:45

**Description:** Gorgas Pooled Upgradient - MW-1

**Laboratory ID Number:** BC12375

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12380	Lead, Dissolved	mg/L	0.000067	0.000147	0.100	0.100	0.101	0.102	0.0850 to 0.115	100	70.0 to 130	0.995	20.0
BC12381	Lead, Total	mg/L	0.000057	0.000147	0.100	0.104	0.103	0.100	0.0850 to 0.115	104	70.0 to 130	0.966	20.0
BC12380	Lithium, Dissolved	mg/L	-0.000204	0.0154	0.200	0.273	0.267	0.211	0.170 to 0.230	112	70.0 to 130	2.22	20.0
BC12380	Lithium, Total	mg/L	2.570E-05	0.0154	0.200	0.319	0.327	0.200	0.170 to 0.230	131	70.0 to 130	2.48	20.0
BC12380	Magnesium, Dissolved	mg/L	-0.00942	0.0462	5.00	406	412	5.05	4.25 to 5.75	180	70.0 to 130	1.47	20.0
BC12380	Magnesium, Total	mg/L	-0.000351	0.0462	5.00	462	436	5.22	4.25 to 5.75	220	70.0 to 130	5.79	20.0
BC12380	Manganese, Dissolved	mg/L	-0.000043	0.0002	0.100	0.0956	0.0999	0.104	0.0850 to 0.115	95.2	70.0 to 130	4.40	20.0
BC12381	Manganese, Total	mg/L	0.0000175	0.0002	0.100	0.102	0.102	0.100	0.0850 to 0.115	102	70.0 to 130	0.00	20.0
BC12381	Mercury, Total by CVAA	mg/L	0.00000	0.000500	0.004	0.00398	0.0039	0.00395	0.00340 to 0.00460	99.5	70.0 to 130	2.03	20.0
BC12380	Molybdenum, Dissolved	mg/L	0.0000052	0.0002	0.100	0.101	0.0976	0.101	0.0850 to 0.115	101	70.0 to 130	3.42	20.0
BC12381	Molybdenum, Total	mg/L	0.0000041	0.0002	0.100	0.0986	0.0995	0.0965	0.0850 to 0.115	98.6	70.0 to 130	0.909	20.0
BC12380	Potassium, Dissolved	mg/L	0.00113	0.367	10.0	18.4	18.2	10.5	8.50 to 11.5	102	70.0 to 130	1.09	20.0
BC12381	Potassium, Total	mg/L	-0.00145	0.367	10.0	10.7	10.6	10.7	8.50 to 11.5	107	70.0 to 130	0.939	20.0
BC12380	Selenium, Dissolved	mg/L	0.0000779	0.00100	0.100	0.103	0.110	0.111	0.0850 to 0.115	102	70.0 to 130	6.57	20.0
BC12381	Selenium, Total	mg/L	0.000159	0.00100	0.100	0.106	0.107	0.104	0.0850 to 0.115	106	70.0 to 130	0.939	20.0
BC12380	Silicon, Dissolved	mg/L	-0.000546	0.0440	1.00	6.72	6.71	0.988	0.850 to 1.15	91.0	70.0 to 130	0.149	20.0
BC12380	Silicon, Total	mg/L	-0.000327	0.0440	1.00	7.34	7.44	0.922	0.850 to 1.15	104	70.0 to 130	1.35	20.0
BC12380	Sodium, Dissolved	mg/L	0.000456	0.0660	5.00	39.3	37.9	5.16	4.25 to 5.75	88.0	70.0 to 130	3.63	20.0
BC12380	Sodium, Total	mg/L	-0.00364	0.0660	5.00	45.2	45.6	4.96	4.25 to 5.75	120	70.0 to 130	0.881	20.0
BC12381	Sulfate	mg/L	0.422	2.0	20.0	20.7	20.3	20.1	18.0 to 22.0	100	80.0 to 120	1.95	20.0
BC12380	Thallium, Dissolved	mg/L	-0.0000836	0.000147	0.100	0.102	0.104	0.103	0.0850 to 0.115	102	70.0 to 130	1.94	20.0
BC12381	Thallium, Total	mg/L	-0.0000808	0.000147	0.100	0.108	0.107	0.103	0.0850 to 0.115	108	70.0 to 130	0.930	20.0
BC12381	Total Organic Carbon	mg/L	0.152	1.00	10	9.10	9.89	9.77		91.0	80.0 to 120	8.32	20.0

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

## Batch QC Summary

**Customer Account:** WMWGORPU

**Sample Date:** 7/5/22 11:40

**Customer ID:**

**Delivery Date:** 7/7/22 10:45

**Description:** Gorgas Pooled Upgradient - MW-1

**Laboratory ID Number:** BC12375

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC12380	Alkalinity, Total as CaCO3	mg/L					182	50.3	45.0 to 55.0			4.83	10.0
BC12381	Nitrogen, Nitrate/Nitrite	mg/L as N	0.13	0.200	2.00	2.18	0.156	2.10	1.80 to 2.20	109	90.0 to 110	0.00	15.0
BC12380	Solids, Dissolved	mg/L	2.00	25.0			3220	42.0	40.0 to 60.0			0.619	10.0

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

# Certificate Of Analysis

**Description:** Gorgas Pooled Upgradient - MW-2

**Location Code:** WMWGORPU  
**Collected:** 7/5/22 12:40  
**Customer ID:**  
**Submittal Date:** 7/7/22 10:45

**Laboratory ID Number:** BC12376

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Total	7/19/22 08:22	7/19/22 12:33		1.015	Not Detected	mg/L	0.030000	0.1015	U
* Calcium, Total	7/19/22 08:22	7/19/22 13:50		10.15	172	mg/L	0.70035	4.06	
* Iron, Total	7/19/22 08:22	7/19/22 12:33		1.015	1.24	mg/L	0.008120	0.0406	
* Lithium, Total	7/19/22 08:22	7/19/22 12:33		1.015	0.0469	mg/L	0.007105	0.01999956	
* Magnesium, Total	7/19/22 08:22	7/19/22 13:50		10.15	181	mg/L	0.21315	4.06	
Silica, Total (calc.)	7/19/22 08:22	7/19/22 12:33		1	11.9	mg/L			
Silicon, Total	7/19/22 08:22	7/19/22 12:33		1.015	5.57	mg/L	0.02030	0.25375	
* Sodium, Total	7/19/22 08:22	7/19/22 12:33		1.015	20.2	mg/L	0.03045	0.406	
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	7/12/22 12:45	7/13/22 15:39		1.015	Not Detected	mg/L	0.030000	0.1015	U
* Calcium, Dissolved	7/12/22 12:45	7/14/22 13:07		10.15	168	mg/L	0.70035	4.06	
* Iron, Dissolved	7/12/22 12:45	7/13/22 15:39		1.015	1.05	mg/L	0.008120	0.0406	
* Lithium, Dissolved	7/12/22 12:45	7/13/22 15:39		1.015	0.0412	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	7/12/22 12:45	7/14/22 13:07		10.15	169	mg/L	0.21315	4.06	
Silica, Dissolved (calc.)	7/12/22 12:45	7/13/22 15:39		1	11.3	mg/L			
Silicon, Dissolved	7/12/22 12:45	7/13/22 15:39		1.015	5.28	mg/L	0.02030	0.25375	
* Sodium, Dissolved	7/12/22 12:45	7/14/22 12:43		1.015	17.2	mg/L	0.03045	0.406	
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: DLJ</b>		<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	7/7/22 16:48	7/8/22 12:24		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/7/22 16:48	7/8/22 12:24		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Total	7/7/22 16:48	7/8/22 12:24		1.015	0.000350	mg/L	0.000081	0.000203	
* Barium, Total	7/7/22 16:48	7/8/22 12:24		1.015	0.0116	mg/L	0.000508	0.001015	
* Beryllium, Total	7/7/22 16:48	7/8/22 12:24		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	7/7/22 16:48	7/8/22 12:24		1.015	0.0000840	mg/L	0.000068	0.000203	J
* Chromium, Total	7/7/22 16:48	7/8/22 12:24		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Total	7/7/22 16:48	7/8/22 12:24		1.015	0.0184	mg/L	0.000068	0.000203	
* Lead, Total	7/7/22 16:48	7/8/22 12:24		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	7/7/22 16:48	7/13/22 12:11		10.15	5.62	mg/L	0.001522	0.00203	
* Molybdenum, Total	7/7/22 16:48	7/8/22 12:24		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Potassium, Total	7/7/22 16:48	7/8/22 12:24		1.015	5.86	mg/L	0.169505	0.5075	

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

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



# Certificate Of Analysis

**Description:** Gorgas Pooled Upgradient - MW-2

**Location Code:** WMWGORPU

**Collected:** 7/5/22 12:40

**Customer ID:**

**Submittal Date:** 7/7/22 10:45

**Laboratory ID Number:** BC12376

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	7/7/22 16:48	7/8/22 12:24		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	7/7/22 16:48	7/8/22 12:24		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	7/7/22 13:37	7/8/22 10:18		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	7/7/22 13:37	7/8/22 10:18		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Dissolved	7/7/22 13:37	7/8/22 10:18		1.015	0.000278	mg/L	0.000081	0.000203	
* Barium, Dissolved	7/7/22 13:37	7/8/22 10:18		1.015	0.0124	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	7/7/22 13:37	7/8/22 10:18		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	7/7/22 13:37	7/8/22 10:18		1.015	0.0000962	mg/L	0.000068	0.000203	J
* Chromium, Dissolved	7/7/22 13:37	7/8/22 10:18		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	7/7/22 13:37	7/8/22 10:18		1.015	0.0187	mg/L	0.000068	0.000203	
* Lead, Dissolved	7/7/22 13:37	7/8/22 10:18		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	7/7/22 13:37	7/13/22 12:39		10.15	5.69	mg/L	0.001522	0.00203	
* Molybdenum, Dissolved	7/7/22 13:37	7/8/22 10:18		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Potassium, Dissolved	7/7/22 13:37	7/8/22 10:18		1.015	5.85	mg/L	0.169505	0.5075	
* Selenium, Dissolved	7/7/22 13:37	7/8/22 10:18		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	7/7/22 13:37	7/8/22 10:18		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	7/7/22 16:18	7/7/22 21:04		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: CES</b>							
* Nitrogen, Nitrate/Nitrite	7/13/22 12:13	7/13/22 12:13		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
Alkalinity, Total as CaCO3	7/8/22 13:04	7/8/22 14:52		1	360	mg/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	7/7/22 13:38	7/11/22 10:04		1	1250	mg/L		100	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
Bicarbonate Alkalinity, (calc.)	7/8/22 13:04	7/8/22 14:52		1	360	mg/L		1	A
Carbonate Alkalinity, (calc.)	7/8/22 13:04	7/8/22 14:52		1	Not Detected	mg/L		0.5	A
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	7/13/22 05:55	7/13/22 05:55		1	1.59	mg/L	1.00	2	J

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

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

# Certificate Of Analysis

**Description:** Gorgas Pooled Upgradient - MW-2

**Location Code:** WMWGORPU

**Collected:** 7/5/22 12:40

**Customer ID:**

**Submittal Date:** 7/7/22 10:45

**Laboratory ID Number:** BC12376

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	7/12/22 15:10	7/12/22 15:10		1	2.53	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	7/13/22 12:08	7/13/22 12:08		1	0.200	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	7/19/22 11:38	7/19/22 11:38		40	819	mg/L	24.0	80	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: TJD</b>							
Conductivity	7/5/22 12:35	7/5/22 12:35			1626.22	uS/cm			FA
pH	7/5/22 12:35	7/5/22 12:35			6.15	SU			FA
Temperature	7/5/22 12:35	7/5/22 12:35			20.66	C			FA
Turbidity	7/5/22 12:35	7/5/22 12:35			1.76	NTU			FA
Sulfide	7/5/22 12:35	7/5/22 12:35			0	mg/L			FA

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

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

# Batch QC Summary

**Customer Account:** WMWGORPU

**Sample Date:** 7/5/22 12:40

**Customer ID:**

**Delivery Date:** 7/7/22 10:45

**Description:** Gorgas Pooled Upgradient - MW-2

**Laboratory ID Number:** BC12376

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12380	Aluminum, Dissolved	mg/L	0.0000266	0.010	0.100	0.0964	0.101	0.102	0.0850 to 0.115	96.4	70.0 to 130	4.66	20.0
BC12381	Aluminum, Total	mg/L	0.000648	0.010	0.100	0.108	0.107	0.106	0.0850 to 0.115	108	70.0 to 130	0.930	20.0
BC12380	Antimony, Dissolved	mg/L	0.000330	0.00100	0.100	0.0939	0.0909	0.0905	0.0850 to 0.115	93.9	70.0 to 130	3.25	20.0
BC12381	Antimony, Total	mg/L	0.000333	0.00100	0.100	0.0872	0.0919	0.0896	0.0850 to 0.115	87.2	70.0 to 130	5.25	20.0
BC12380	Arsenic, Dissolved	mg/L	0.0000060	0.000176	0.100	0.0990	0.104	0.106	0.0850 to 0.115	98.9	70.0 to 130	4.93	20.0
BC12381	Arsenic, Total	mg/L	0.0000064	0.000176	0.100	0.102	0.102	0.0993	0.0850 to 0.115	102	70.0 to 130	0.00	20.0
BC12380	Barium, Dissolved	mg/L	-0.0000157	0.00100	0.100	0.103	0.110	0.0944	0.0850 to 0.115	91.5	70.0 to 130	6.57	20.0
BC12381	Barium, Total	mg/L	-0.0000569	0.00100	0.100	0.0966	0.101	0.0931	0.0850 to 0.115	96.6	70.0 to 130	4.45	20.0
BC12380	Beryllium, Dissolved	mg/L	0.0000278	0.000880	0.100	0.0974	0.101	0.0964	0.0850 to 0.115	97.4	70.0 to 130	3.63	20.0
BC12381	Beryllium, Total	mg/L	0.0000196	0.000880	0.100	0.112	0.105	0.106	0.0850 to 0.115	112	70.0 to 130	6.45	20.0
BC12380	Boron, Dissolved	mg/L	-0.000393	0.0650	1.00	1.05	1.06	0.988	0.850 to 1.15	101	70.0 to 130	0.948	20.0
BC12380	Boron, Total	mg/L	0.000548	0.0650	1.00	1.10	1.12	1.01	0.850 to 1.15	106	70.0 to 130	1.80	20.0
BC12380	Cadmium, Dissolved	mg/L	0.0000051	0.000147	0.100	0.0904	0.0969	0.0963	0.0850 to 0.115	90.3	70.0 to 130	6.94	20.0
BC12381	Cadmium, Total	mg/L	0.0000000	0.000147	0.100	0.0984	0.0977	0.0980	0.0850 to 0.115	98.4	70.0 to 130	0.714	20.0
BC12380	Calcium, Dissolved	mg/L	-0.0163	0.152	5.00	280	273	4.79	4.25 to 5.75	180	70.0 to 130	2.53	20.0
BC12380	Calcium, Total	mg/L	-0.0137	0.152	5.00	302	287	5.43	4.25 to 5.75	160	70.0 to 130	5.09	20.0
BC12381	Chloride	mg/L	0.0125	1.00	10.0	10.7	10.6	10.5	9.00 to 11.0	107	80.0 to 120	0.939	20.0
BC12380	Chromium, Dissolved	mg/L	-0.0000406	0.000440	0.100	0.0931	0.0968	0.0998	0.0850 to 0.115	93.1	70.0 to 130	3.90	20.0
BC12381	Chromium, Total	mg/L	-0.0000979	0.000440	0.100	0.0987	0.0995	0.0978	0.0850 to 0.115	98.7	70.0 to 130	0.807	20.0
BC12380	Cobalt, Dissolved	mg/L	-0.0000720	0.000147	0.100	0.0946	0.0991	0.101	0.0850 to 0.115	94.6	70.0 to 130	4.65	20.0
BC12381	Cobalt, Total	mg/L	-0.0000764	0.000147	0.100	0.101	0.102	0.0998	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BC12381	Fluoride	mg/L	0.0205	0.125	2.50	2.68	2.68	2.62	2.25 to 2.75	107	80.0 to 120	0.00	20.0
BC12380	Iron, Dissolved	mg/L	-0.000152	0.0176	0.2	0.190	0.188	0.199	0.170 to 0.230	95.0	70.0 to 130	1.06	20.0
BC12380	Iron, Total	mg/L	0.000166	0.0176	0.2	0.234	0.242	0.208	0.170 to 0.230	106	70.0 to 130	3.36	20.0

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

# Batch QC Summary

**Customer Account:** WMWGORPU

**Sample Date:** 7/5/22 12:40

**Customer ID:**

**Delivery Date:** 7/7/22 10:45

**Description:** Gorgas Pooled Upgradient - MW-2

**Laboratory ID Number:** BC12376

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12380	Lead, Dissolved	mg/L	0.000067	0.000147	0.100	0.100	0.101	0.102	0.0850 to 0.115	100	70.0 to 130	0.995	20.0
BC12381	Lead, Total	mg/L	0.000057	0.000147	0.100	0.104	0.103	0.100	0.0850 to 0.115	104	70.0 to 130	0.966	20.0
BC12380	Lithium, Dissolved	mg/L	-0.000204	0.0154	0.200	0.273	0.267	0.211	0.170 to 0.230	112	70.0 to 130	2.22	20.0
BC12380	Lithium, Total	mg/L	2.570E-05	0.0154	0.200	0.319	0.327	0.200	0.170 to 0.230	131	70.0 to 130	2.48	20.0
BC12380	Magnesium, Dissolved	mg/L	-0.00942	0.0462	5.00	406	412	5.05	4.25 to 5.75	180	70.0 to 130	1.47	20.0
BC12380	Magnesium, Total	mg/L	-0.000351	0.0462	5.00	462	436	5.22	4.25 to 5.75	220	70.0 to 130	5.79	20.0
BC12380	Manganese, Dissolved	mg/L	-0.000043	0.0002	0.100	0.0956	0.0999	0.104	0.0850 to 0.115	95.2	70.0 to 130	4.40	20.0
BC12381	Manganese, Total	mg/L	0.0000175	0.0002	0.100	0.102	0.102	0.100	0.0850 to 0.115	102	70.0 to 130	0.00	20.0
BC12381	Mercury, Total by CVAA	mg/L	0.00000	0.000500	0.004	0.00398	0.0039	0.00395	0.00340 to 0.00460	99.5	70.0 to 130	2.03	20.0
BC12380	Molybdenum, Dissolved	mg/L	0.0000052	0.0002	0.100	0.101	0.0976	0.101	0.0850 to 0.115	101	70.0 to 130	3.42	20.0
BC12381	Molybdenum, Total	mg/L	0.0000041	0.0002	0.100	0.0986	0.0995	0.0965	0.0850 to 0.115	98.6	70.0 to 130	0.909	20.0
BC12380	Potassium, Dissolved	mg/L	0.00113	0.367	10.0	18.4	18.2	10.5	8.50 to 11.5	102	70.0 to 130	1.09	20.0
BC12381	Potassium, Total	mg/L	-0.00145	0.367	10.0	10.7	10.6	10.7	8.50 to 11.5	107	70.0 to 130	0.939	20.0
BC12380	Selenium, Dissolved	mg/L	0.0000779	0.00100	0.100	0.103	0.110	0.111	0.0850 to 0.115	102	70.0 to 130	6.57	20.0
BC12381	Selenium, Total	mg/L	0.000159	0.00100	0.100	0.106	0.107	0.104	0.0850 to 0.115	106	70.0 to 130	0.939	20.0
BC12380	Silicon, Dissolved	mg/L	-0.000546	0.0440	1.00	6.72	6.71	0.988	0.850 to 1.15	91.0	70.0 to 130	0.149	20.0
BC12380	Silicon, Total	mg/L	-0.000327	0.0440	1.00	7.34	7.44	0.922	0.850 to 1.15	104	70.0 to 130	1.35	20.0
BC12380	Sodium, Dissolved	mg/L	0.000456	0.0660	5.00	39.3	37.9	5.16	4.25 to 5.75	88.0	70.0 to 130	3.63	20.0
BC12380	Sodium, Total	mg/L	-0.00364	0.0660	5.00	45.2	45.6	4.96	4.25 to 5.75	120	70.0 to 130	0.881	20.0
BC12381	Sulfate	mg/L	0.422	2.0	20.0	20.7	20.3	20.1	18.0 to 22.0	100	80.0 to 120	1.95	20.0
BC12380	Thallium, Dissolved	mg/L	-0.0000836	0.000147	0.100	0.102	0.104	0.103	0.0850 to 0.115	102	70.0 to 130	1.94	20.0
BC12381	Thallium, Total	mg/L	-0.0000808	0.000147	0.100	0.108	0.107	0.103	0.0850 to 0.115	108	70.0 to 130	0.930	20.0
BC12381	Total Organic Carbon	mg/L	0.152	1.00	10	9.10	9.89	9.77		91.0	80.0 to 120	8.32	20.0

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

## Batch QC Summary

**Customer Account:** WMWGORPU

**Sample Date:** 7/5/22 12:40

**Customer ID:**

**Delivery Date:** 7/7/22 10:45

**Description:** Gorgas Pooled Upgradient - MW-2

**Laboratory ID Number:** BC12376

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC12380	Alkalinity, Total as CaCO3	mg/L					182	50.3	45.0 to 55.0			4.83	10.0
BC12381	Nitrogen, Nitrate/Nitrite	mg/L as N	0.13	0.200	2.00	2.18	0.156	2.10	1.80 to 2.20	109	90.0 to 110	0.00	15.0
BC12380	Solids, Dissolved	mg/L	2.00	25.0			3220	42.0	40.0 to 60.0			0.619	10.0

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

# Certificate Of Analysis

**Description:** Gorgas Pooled Upgradient - MW-2 Dup

**Location Code:** WMWGORPU  
**Collected:** 7/5/22 12:40  
**Customer ID:**  
**Submittal Date:** 7/7/22 10:45

**Laboratory ID Number:** BC12377

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Total	7/19/22 08:22	7/19/22 12:36		1.015	Not Detected	mg/L	0.030000	0.1015	U
* Calcium, Total	7/19/22 08:22	7/19/22 13:54		10.15	174	mg/L	0.70035	4.06	
* Iron, Total	7/19/22 08:22	7/19/22 12:36		1.015	1.29	mg/L	0.008120	0.0406	
* Lithium, Total	7/19/22 08:22	7/19/22 12:36		1.015	0.0475	mg/L	0.007105	0.01999956	
* Magnesium, Total	7/19/22 08:22	7/19/22 13:54		10.15	184	mg/L	0.21315	4.06	
Silica, Total (calc.)	7/19/22 08:22	7/19/22 12:36		1	12.0	mg/L			
Silicon, Total	7/19/22 08:22	7/19/22 12:36		1.015	5.60	mg/L	0.02030	0.25375	
* Sodium, Total	7/19/22 08:22	7/19/22 12:36		1.015	20.1	mg/L	0.03045	0.406	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	7/12/22 12:45	7/13/22 15:42		1.015	Not Detected	mg/L	0.030000	0.1015	U
* Calcium, Dissolved	7/12/22 12:45	7/14/22 13:09		10.15	169	mg/L	0.70035	4.06	
* Iron, Dissolved	7/12/22 12:45	7/13/22 15:42		1.015	1.05	mg/L	0.008120	0.0406	
* Lithium, Dissolved	7/12/22 12:45	7/13/22 15:42		1.015	0.0411	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	7/12/22 12:45	7/14/22 13:09		10.15	168	mg/L	0.21315	4.06	
Silica, Dissolved (calc.)	7/12/22 12:45	7/13/22 15:42		1	11.2	mg/L			
Silicon, Dissolved	7/12/22 12:45	7/13/22 15:42		1.015	5.22	mg/L	0.02030	0.25375	
* Sodium, Dissolved	7/12/22 12:45	7/14/22 12:46		1.015	17.5	mg/L	0.03045	0.406	
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>			<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	7/7/22 16:48	7/8/22 12:27		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/7/22 16:48	7/8/22 12:27		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Total	7/7/22 16:48	7/8/22 12:27		1.015	0.000352	mg/L	0.000081	0.000203	
* Barium, Total	7/7/22 16:48	7/8/22 12:27		1.015	0.0128	mg/L	0.000508	0.001015	
* Beryllium, Total	7/7/22 16:48	7/8/22 12:27		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	7/7/22 16:48	7/8/22 12:27		1.015	0.000117	mg/L	0.000068	0.000203	J
* Chromium, Total	7/7/22 16:48	7/8/22 12:27		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Total	7/7/22 16:48	7/8/22 12:27		1.015	0.0186	mg/L	0.000068	0.000203	
* Lead, Total	7/7/22 16:48	7/8/22 12:27		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	7/7/22 16:48	7/13/22 12:14		10.15	5.61	mg/L	0.001522	0.00203	
* Molybdenum, Total	7/7/22 16:48	7/8/22 12:27		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Potassium, Total	7/7/22 16:48	7/8/22 12:27		1.015	6.02	mg/L	0.169505	0.5075	

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

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

# Certificate Of Analysis

**Description:** Gorgas Pooled Upgradient - MW-2 Dup

**Location Code:** WMWGORPU  
**Collected:** 7/5/22 12:40  
**Customer ID:**  
**Submittal Date:** 7/7/22 10:45

**Laboratory ID Number:** BC12377

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	7/7/22 16:48	7/8/22 12:27		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	7/7/22 16:48	7/8/22 12:27		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	7/7/22 13:37	7/8/22 10:22		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	7/7/22 13:37	7/8/22 10:22		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Dissolved	7/7/22 13:37	7/8/22 10:22		1.015	0.000310	mg/L	0.000081	0.000203	
* Barium, Dissolved	7/7/22 13:37	7/8/22 10:22		1.015	0.0130	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	7/7/22 13:37	7/8/22 10:22		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	7/7/22 13:37	7/8/22 10:22		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	7/7/22 13:37	7/8/22 10:22		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	7/7/22 13:37	7/8/22 10:22		1.015	0.0192	mg/L	0.000068	0.000203	
* Lead, Dissolved	7/7/22 13:37	7/8/22 10:22		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	7/7/22 13:37	7/13/22 12:43		10.15	5.68	mg/L	0.001522	0.00203	
* Molybdenum, Dissolved	7/7/22 13:37	7/8/22 10:22		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Potassium, Dissolved	7/7/22 13:37	7/8/22 10:22		1.015	5.92	mg/L	0.169505	0.5075	
* Selenium, Dissolved	7/7/22 13:37	7/8/22 10:22		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	7/7/22 13:37	7/8/22 10:22		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	7/7/22 16:18	7/7/22 21:08		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: CES</b>							
* Nitrogen, Nitrate/Nitrite	7/13/22 12:15	7/13/22 12:15		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
Alkalinity, Total as CaCO3	7/8/22 13:04	7/8/22 14:52		1	321	mg/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	7/7/22 13:38	7/11/22 10:04		1	1260	mg/L		100	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
Bicarbonate Alkalinity, (calc.)	7/8/22 13:04	7/8/22 14:52		1	319	mg/L		1	A
Carbonate Alkalinity, (calc.)	7/8/22 13:04	7/8/22 14:52		1	1.58	mg/L		0.5	A
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	7/13/22 06:16	7/13/22 06:16		1	1.63	mg/L	1.00	2	J

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

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

# Certificate Of Analysis

**Description:** Gorgas Pooled Upgradient - MW-2 Dup

**Location Code:** WMWGORPU

**Collected:** 7/5/22 12:40

**Customer ID:**

**Submittal Date:** 7/7/22 10:45

**Laboratory ID Number:** BC12377

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	7/12/22 15:12	7/12/22 15:12		1	2.62	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	7/13/22 12:10	7/13/22 12:10		1	0.183	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	7/19/22 11:39	7/19/22 11:39		40	844	mg/L	24.0	80	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: TJD</b>							
Conductivity	7/5/22 12:35	7/5/22 12:35			1626.22	uS/cm			FA
pH	7/5/22 12:35	7/5/22 12:35			6.15	SU			FA
Temperature	7/5/22 12:35	7/5/22 12:35			20.66	C			FA
Turbidity	7/5/22 12:35	7/5/22 12:35			1.76	NTU			FA
Sulfide	7/5/22 12:35	7/5/22 12:35			0	mg/L			FA

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

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



# Batch QC Summary

**Customer Account:** WMWGORPU

**Sample Date:** 7/5/22 12:40

**Customer ID:**

**Delivery Date:** 7/7/22 10:45

**Description:** Gorgas Pooled Upgradient - MW-2 Dup

**Laboratory ID Number:** BC12377

Sample	Analysis	Units	MB	MB		MS	MSD	Standard		Rec		Prec	Limit
				Limit	Spike			Standard	Limit	Rec	Limit		
BC12380	Aluminum, Dissolved	mg/L	0.0000266	0.010	0.100	0.0964	0.101	0.102	0.0850 to 0.115	96.4	70.0 to 130	4.66	20.0
BC12381	Aluminum, Total	mg/L	0.000648	0.010	0.100	0.108	0.107	0.106	0.0850 to 0.115	108	70.0 to 130	0.930	20.0
BC12380	Antimony, Dissolved	mg/L	0.000330	0.00100	0.100	0.0939	0.0909	0.0905	0.0850 to 0.115	93.9	70.0 to 130	3.25	20.0
BC12381	Antimony, Total	mg/L	0.000333	0.00100	0.100	0.0872	0.0919	0.0896	0.0850 to 0.115	87.2	70.0 to 130	5.25	20.0
BC12380	Arsenic, Dissolved	mg/L	0.0000060	0.000176	0.100	0.0990	0.104	0.106	0.0850 to 0.115	98.9	70.0 to 130	4.93	20.0
BC12381	Arsenic, Total	mg/L	0.0000064	0.000176	0.100	0.102	0.102	0.0993	0.0850 to 0.115	102	70.0 to 130	0.00	20.0
BC12380	Barium, Dissolved	mg/L	-0.0000157	0.00100	0.100	0.103	0.110	0.0944	0.0850 to 0.115	91.5	70.0 to 130	6.57	20.0
BC12381	Barium, Total	mg/L	-0.0000569	0.00100	0.100	0.0966	0.101	0.0931	0.0850 to 0.115	96.6	70.0 to 130	4.45	20.0
BC12380	Beryllium, Dissolved	mg/L	0.0000278	0.000880	0.100	0.0974	0.101	0.0964	0.0850 to 0.115	97.4	70.0 to 130	3.63	20.0
BC12381	Beryllium, Total	mg/L	0.0000196	0.000880	0.100	0.112	0.105	0.106	0.0850 to 0.115	112	70.0 to 130	6.45	20.0
BC12380	Boron, Dissolved	mg/L	-0.000393	0.0650	1.00	1.05	1.06	0.988	0.850 to 1.15	101	70.0 to 130	0.948	20.0
BC12380	Boron, Total	mg/L	0.000548	0.0650	1.00	1.10	1.12	1.01	0.850 to 1.15	106	70.0 to 130	1.80	20.0
BC12380	Cadmium, Dissolved	mg/L	0.0000051	0.000147	0.100	0.0904	0.0969	0.0963	0.0850 to 0.115	90.3	70.0 to 130	6.94	20.0
BC12381	Cadmium, Total	mg/L	0.0000000	0.000147	0.100	0.0984	0.0977	0.0980	0.0850 to 0.115	98.4	70.0 to 130	0.714	20.0
BC12380	Calcium, Dissolved	mg/L	-0.0163	0.152	5.00	280	273	4.79	4.25 to 5.75	180	70.0 to 130	2.53	20.0
BC12380	Calcium, Total	mg/L	-0.0137	0.152	5.00	302	287	5.43	4.25 to 5.75	160	70.0 to 130	5.09	20.0
BC12381	Chloride	mg/L	0.0125	1.00	10.0	10.7	10.6	10.5	9.00 to 11.0	107	80.0 to 120	0.939	20.0
BC12380	Chromium, Dissolved	mg/L	-0.0000406	0.000440	0.100	0.0931	0.0968	0.0998	0.0850 to 0.115	93.1	70.0 to 130	3.90	20.0
BC12381	Chromium, Total	mg/L	-0.0000979	0.000440	0.100	0.0987	0.0995	0.0978	0.0850 to 0.115	98.7	70.0 to 130	0.807	20.0
BC12380	Cobalt, Dissolved	mg/L	-0.0000720	0.000147	0.100	0.0946	0.0991	0.101	0.0850 to 0.115	94.6	70.0 to 130	4.65	20.0
BC12381	Cobalt, Total	mg/L	-0.0000764	0.000147	0.100	0.101	0.102	0.0998	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BC12381	Fluoride	mg/L	0.0205	0.125	2.50	2.68	2.68	2.62	2.25 to 2.75	107	80.0 to 120	0.00	20.0
BC12380	Iron, Dissolved	mg/L	-0.000152	0.0176	0.2	0.190	0.188	0.199	0.170 to 0.230	95.0	70.0 to 130	1.06	20.0
BC12380	Iron, Total	mg/L	0.000166	0.0176	0.2	0.234	0.242	0.208	0.170 to 0.230	106	70.0 to 130	3.36	20.0

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

# Batch QC Summary

**Customer Account:** WMWGORPU

**Sample Date:** 7/5/22 12:40

**Customer ID:**

**Delivery Date:** 7/7/22 10:45

**Description:** Gorgas Pooled Upgradient - MW-2 Dup

**Laboratory ID Number:** BC12377

Sample	Analysis	Units	MB	MB				Standard		Rec			Prec Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit	Prec	
BC12380	Lead, Dissolved	mg/L	0.000067	0.000147	0.100	0.100	0.101	0.102	0.0850 to 0.115	100	70.0 to 130	0.995	20.0
BC12381	Lead, Total	mg/L	0.000057	0.000147	0.100	0.104	0.103	0.100	0.0850 to 0.115	104	70.0 to 130	0.966	20.0
BC12380	Lithium, Dissolved	mg/L	-0.000204	0.0154	0.200	0.273	0.267	0.211	0.170 to 0.230	112	70.0 to 130	2.22	20.0
BC12380	Lithium, Total	mg/L	2.570E-05	0.0154	0.200	0.319	0.327	0.200	0.170 to 0.230	131	70.0 to 130	2.48	20.0
BC12380	Magnesium, Dissolved	mg/L	-0.00942	0.0462	5.00	406	412	5.05	4.25 to 5.75	180	70.0 to 130	1.47	20.0
BC12380	Magnesium, Total	mg/L	-0.000351	0.0462	5.00	462	436	5.22	4.25 to 5.75	220	70.0 to 130	5.79	20.0
BC12380	Manganese, Dissolved	mg/L	-0.000043	0.0002	0.100	0.0956	0.0999	0.104	0.0850 to 0.115	95.2	70.0 to 130	4.40	20.0
BC12381	Manganese, Total	mg/L	0.0000175	0.0002	0.100	0.102	0.102	0.100	0.0850 to 0.115	102	70.0 to 130	0.00	20.0
BC12381	Mercury, Total by CVAA	mg/L	0.00000	0.000500	0.004	0.00398	0.0039	0.00395	0.00340 to 0.00460	99.5	70.0 to 130	2.03	20.0
BC12380	Molybdenum, Dissolved	mg/L	0.0000052	0.0002	0.100	0.101	0.0976	0.101	0.0850 to 0.115	101	70.0 to 130	3.42	20.0
BC12381	Molybdenum, Total	mg/L	0.0000041	0.0002	0.100	0.0986	0.0995	0.0965	0.0850 to 0.115	98.6	70.0 to 130	0.909	20.0
BC12380	Potassium, Dissolved	mg/L	0.00113	0.367	10.0	18.4	18.2	10.5	8.50 to 11.5	102	70.0 to 130	1.09	20.0
BC12381	Potassium, Total	mg/L	-0.00145	0.367	10.0	10.7	10.6	10.7	8.50 to 11.5	107	70.0 to 130	0.939	20.0
BC12380	Selenium, Dissolved	mg/L	0.0000779	0.00100	0.100	0.103	0.110	0.111	0.0850 to 0.115	102	70.0 to 130	6.57	20.0
BC12381	Selenium, Total	mg/L	0.000159	0.00100	0.100	0.106	0.107	0.104	0.0850 to 0.115	106	70.0 to 130	0.939	20.0
BC12380	Silicon, Dissolved	mg/L	-0.000546	0.0440	1.00	6.72	6.71	0.988	0.850 to 1.15	91.0	70.0 to 130	0.149	20.0
BC12380	Silicon, Total	mg/L	-0.000327	0.0440	1.00	7.34	7.44	0.922	0.850 to 1.15	104	70.0 to 130	1.35	20.0
BC12380	Sodium, Dissolved	mg/L	0.000456	0.0660	5.00	39.3	37.9	5.16	4.25 to 5.75	88.0	70.0 to 130	3.63	20.0
BC12380	Sodium, Total	mg/L	-0.00364	0.0660	5.00	45.2	45.6	4.96	4.25 to 5.75	120	70.0 to 130	0.881	20.0
BC12381	Sulfate	mg/L	0.422	2.0	20.0	20.7	20.3	20.1	18.0 to 22.0	100	80.0 to 120	1.95	20.0
BC12380	Thallium, Dissolved	mg/L	-0.0000836	0.000147	0.100	0.102	0.104	0.103	0.0850 to 0.115	102	70.0 to 130	1.94	20.0
BC12381	Thallium, Total	mg/L	-0.0000808	0.000147	0.100	0.108	0.107	0.103	0.0850 to 0.115	108	70.0 to 130	0.930	20.0
BC12381	Total Organic Carbon	mg/L	0.152	1.00	10	9.10	9.89	9.77		91.0	80.0 to 120	8.32	20.0

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

## Batch QC Summary

**Customer Account:** WMWGORPU

**Sample Date:** 7/5/22 12:40

**Customer ID:**

**Delivery Date:** 7/7/22 10:45

**Description:** Gorgas Pooled Upgradient - MW-2 Dup

**Laboratory ID Number:** BC12377

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC12380	Alkalinity, Total as CaCO3	mg/L					182	50.3	45.0 to 55.0			4.83	10.0
BC12381	Nitrogen, Nitrate/Nitrite	mg/L as N	0.13	0.200	2.00	2.18	0.156	2.10	1.80 to 2.20	109	90.0 to 110	0.00	15.0
BC12380	Solids, Dissolved	mg/L	2.00	25.0			3220	42.0	40.0 to 60.0			0.619	10.0

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

# Certificate Of Analysis

**Description:** Gorgas Pooled Upgradient - MW-3

**Location Code:** WMWGORPU  
**Collected:** 7/5/22 13:57  
**Customer ID:**  
**Submittal Date:** 7/7/22 10:45

**Laboratory ID Number:** BC12378

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Total	7/19/22 08:22	7/19/22 12:39		1.015	0.0374	mg/L	0.030000	0.1015	J
* Calcium, Total	7/19/22 08:22	7/19/22 13:57		10.15	369	mg/L	0.70035	4.06	
* Iron, Total	7/19/22 08:22	7/19/22 12:39		1.015	0.700	mg/L	0.008120	0.0406	
* Lithium, Total	7/19/22 08:22	7/19/22 12:39		1.015	0.251	mg/L	0.007105	0.01999956	
* Magnesium, Total	7/19/22 08:22	7/19/22 14:00		101.5	587	mg/L	2.1315	40.6	
Silica, Total (calc.)	7/19/22 08:22	7/19/22 13:57		1	43.4	mg/L			
Silicon, Total	7/19/22 08:22	7/19/22 13:57		10.15	20.3	mg/L	0.2030	2.5375	
* Sodium, Total	7/19/22 08:22	7/19/22 13:57		10.15	54.9	mg/L	0.3045	4.06	
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	7/12/22 12:45	7/13/22 15:45		1.015	0.0350	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	7/12/22 12:45	7/14/22 13:12		101.5	376	mg/L	7.0035	40.6	
* Iron, Dissolved	7/12/22 12:45	7/13/22 15:45		1.015	1.42	mg/L	0.008120	0.0406	
* Lithium, Dissolved	7/12/22 12:45	7/13/22 15:45		1.015	0.217	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	7/12/22 12:45	7/14/22 13:12		101.5	561	mg/L	2.1315	40.6	
Silica, Dissolved (calc.)	7/12/22 12:45	7/13/22 15:45		1	39.8	mg/L			
Silicon, Dissolved	7/12/22 12:45	7/13/22 15:45		1.015	18.6	mg/L	0.02030	0.25375	
* Sodium, Dissolved	7/12/22 12:45	7/14/22 13:12		101.5	53.2	mg/L	3.045	40.6	
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: DLJ</b>		<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	7/7/22 16:48	7/8/22 12:31		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/7/22 16:48	7/13/22 12:22		5.075	1.28	mg/L	0.030450	0.05075	
* Arsenic, Total	7/7/22 16:48	7/8/22 12:31		1.015	0.00374	mg/L	0.000081	0.000203	
* Barium, Total	7/7/22 16:48	7/8/22 12:31		1.015	0.0155	mg/L	0.000508	0.001015	
* Beryllium, Total	7/7/22 16:48	7/8/22 12:31		1.015	0.00139	mg/L	0.000406	0.001015	
* Cadmium, Total	7/7/22 16:48	7/8/22 12:31		1.015	0.00835	mg/L	0.000068	0.000203	
* Chromium, Total	7/7/22 16:48	7/8/22 12:31		1.015	0.000250	mg/L	0.000203	0.001015	J
* Cobalt, Total	7/7/22 16:48	7/8/22 12:31		1.015	0.195	mg/L	0.000068	0.000203	
* Lead, Total	7/7/22 16:48	7/8/22 12:31		1.015	0.0000733	mg/L	0.000068	0.000203	J
* Manganese, Total	7/7/22 16:48	7/13/22 12:18		10.15	5.11	mg/L	0.001522	0.00203	
* Molybdenum, Total	7/7/22 16:48	7/8/22 12:31		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Potassium, Total	7/7/22 16:48	7/8/22 12:31		1.015	8.78	mg/L	0.169505	0.5075	

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

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

# Certificate Of Analysis

**Description:** Gorgas Pooled Upgradient - MW-3

**Location Code:** WMWGORPU  
**Collected:** 7/5/22 13:57  
**Customer ID:**  
**Submittal Date:** 7/7/22 10:45

**Laboratory ID Number:** BC12378

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	7/7/22 16:48	7/8/22 12:31		1.015	0.0205	mg/L	0.000508	0.001015	
* Thallium, Total	7/7/22 16:48	7/8/22 12:31		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	7/7/22 13:37	7/8/22 10:26		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	7/7/22 13:37	7/13/22 12:50		5.075	1.90	mg/L	0.030450	0.05075	
* Arsenic, Dissolved	7/7/22 13:37	7/8/22 10:26		1.015	0.00426	mg/L	0.000081	0.000203	
* Barium, Dissolved	7/7/22 13:37	7/8/22 10:26		1.015	0.0151	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	7/7/22 13:37	7/8/22 10:26		1.015	0.00237	mg/L	0.000406	0.001015	
* Cadmium, Dissolved	7/7/22 13:37	7/8/22 10:26		1.015	0.00848	mg/L	0.000068	0.000203	
* Chromium, Dissolved	7/7/22 13:37	7/8/22 10:26		1.015	0.000235	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	7/7/22 13:37	7/8/22 10:26		1.015	0.263	mg/L	0.000068	0.000203	J
* Lead, Dissolved	7/7/22 13:37	7/8/22 10:26		1.015	0.000185	mg/L	0.000068	0.000203	J
* Manganese, Dissolved	7/7/22 13:37	7/13/22 12:47		10.15	5.99	mg/L	0.001522	0.00203	
* Molybdenum, Dissolved	7/7/22 13:37	7/8/22 10:26		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Potassium, Dissolved	7/7/22 13:37	7/8/22 10:26		1.015	8.78	mg/L	0.169505	0.5075	
* Selenium, Dissolved	7/7/22 13:37	7/8/22 10:26		1.015	0.0238	mg/L	0.000508	0.001015	
* Thallium, Dissolved	7/7/22 13:37	7/8/22 10:26		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	7/7/22 16:18	7/7/22 21:12		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: CES</b>							
* Nitrogen, Nitrate/Nitrite	7/13/22 12:16	7/13/22 12:16		1	0.582	mg/L as N	0.20	0.3	
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
Alkalinity, Total as CaCO3	7/8/22 13:04	7/8/22 14:52		1	11.3	mg/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	7/7/22 13:38	7/11/22 10:04		1	4220	mg/L		208.3	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
Bicarbonate Alkalinity, (calc.)	7/8/22 13:04	7/8/22 14:52		1	11.3	mg/L		1	A
Carbonate Alkalinity, (calc.)	7/8/22 13:04	7/8/22 14:52		1	Not Detected	mg/L		0.5	A
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	7/13/22 06:36	7/13/22 06:36		1	Not Detected	mg/L	1.00	2	U

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

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

# Certificate Of Analysis

**Description:** Gorgas Pooled Upgradient - MW-3

**Location Code:** WMWGORPU

**Collected:** 7/5/22 13:57

**Customer ID:**

**Submittal Date:** 7/7/22 10:45

**Laboratory ID Number:** BC12378

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	7/12/22 15:13	7/12/22 15:13		1	1.59	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	7/13/22 12:11	7/13/22 12:11		1	0.386	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	7/19/22 11:40	7/19/22 11:40		100	3110	mg/L	60.0	200	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: TJD</b>							
Conductivity	7/5/22 13:52	7/5/22 13:52			3672.69	uS/cm			FA
pH	7/5/22 13:52	7/5/22 13:52			5.34	SU			FA
Temperature	7/5/22 13:52	7/5/22 13:52			29.15	C			FA
Turbidity	7/5/22 13:52	7/5/22 13:52			4.93	NTU			FA
Sulfide	7/5/22 13:52	7/5/22 13:52			0	mg/L			FA

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

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

# Batch QC Summary

**Customer Account:** WMWGORPU  
**Sample Date:** 7/5/22 13:57  
**Customer ID:**  
**Delivery Date:** 7/7/22 10:45

**Description:** Gorgas Pooled Upgradient - MW-3

**Laboratory ID Number:** BC12378

Sample	Analysis	Units	MB	MB		MS	MSD	Standard		Rec		Prec	Limit
				Limit	Spike			Standard	Limit	Rec	Limit		
BC12380	Aluminum, Dissolved	mg/L	0.0000266	0.010	0.100	0.0964	0.101	0.102	0.0850 to 0.115	96.4	70.0 to 130	4.66	20.0
BC12381	Aluminum, Total	mg/L	0.000648	0.010	0.100	0.108	0.107	0.106	0.0850 to 0.115	108	70.0 to 130	0.930	20.0
BC12380	Antimony, Dissolved	mg/L	0.000330	0.00100	0.100	0.0939	0.0909	0.0905	0.0850 to 0.115	93.9	70.0 to 130	3.25	20.0
BC12381	Antimony, Total	mg/L	0.000333	0.00100	0.100	0.0872	0.0919	0.0896	0.0850 to 0.115	87.2	70.0 to 130	5.25	20.0
BC12380	Arsenic, Dissolved	mg/L	0.0000060	0.000176	0.100	0.0990	0.104	0.106	0.0850 to 0.115	98.9	70.0 to 130	4.93	20.0
BC12381	Arsenic, Total	mg/L	0.0000064	0.000176	0.100	0.102	0.102	0.0993	0.0850 to 0.115	102	70.0 to 130	0.00	20.0
BC12380	Barium, Dissolved	mg/L	-0.0000157	0.00100	0.100	0.103	0.110	0.0944	0.0850 to 0.115	91.5	70.0 to 130	6.57	20.0
BC12381	Barium, Total	mg/L	-0.0000569	0.00100	0.100	0.0966	0.101	0.0931	0.0850 to 0.115	96.6	70.0 to 130	4.45	20.0
BC12380	Beryllium, Dissolved	mg/L	0.0000278	0.000880	0.100	0.0974	0.101	0.0964	0.0850 to 0.115	97.4	70.0 to 130	3.63	20.0
BC12381	Beryllium, Total	mg/L	0.0000196	0.000880	0.100	0.112	0.105	0.106	0.0850 to 0.115	112	70.0 to 130	6.45	20.0
BC12380	Boron, Dissolved	mg/L	-0.000393	0.0650	1.00	1.05	1.06	0.988	0.850 to 1.15	101	70.0 to 130	0.948	20.0
BC12380	Boron, Total	mg/L	0.000548	0.0650	1.00	1.10	1.12	1.01	0.850 to 1.15	106	70.0 to 130	1.80	20.0
BC12380	Cadmium, Dissolved	mg/L	0.0000051	0.000147	0.100	0.0904	0.0969	0.0963	0.0850 to 0.115	90.3	70.0 to 130	6.94	20.0
BC12381	Cadmium, Total	mg/L	0.0000000	0.000147	0.100	0.0984	0.0977	0.0980	0.0850 to 0.115	98.4	70.0 to 130	0.714	20.0
BC12380	Calcium, Dissolved	mg/L	-0.0163	0.152	5.00	280	273	4.79	4.25 to 5.75	180	70.0 to 130	2.53	20.0
BC12380	Calcium, Total	mg/L	-0.0137	0.152	5.00	302	287	5.43	4.25 to 5.75	160	70.0 to 130	5.09	20.0
BC12381	Chloride	mg/L	0.0125	1.00	10.0	10.7	10.6	10.5	9.00 to 11.0	107	80.0 to 120	0.939	20.0
BC12380	Chromium, Dissolved	mg/L	-0.0000406	0.000440	0.100	0.0931	0.0968	0.0998	0.0850 to 0.115	93.1	70.0 to 130	3.90	20.0
BC12381	Chromium, Total	mg/L	-0.0000979	0.000440	0.100	0.0987	0.0995	0.0978	0.0850 to 0.115	98.7	70.0 to 130	0.807	20.0
BC12380	Cobalt, Dissolved	mg/L	-0.0000720	0.000147	0.100	0.0946	0.0991	0.101	0.0850 to 0.115	94.6	70.0 to 130	4.65	20.0
BC12381	Cobalt, Total	mg/L	-0.0000764	0.000147	0.100	0.101	0.102	0.0998	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BC12381	Fluoride	mg/L	0.0205	0.125	2.50	2.68	2.68	2.62	2.25 to 2.75	107	80.0 to 120	0.00	20.0
BC12380	Iron, Dissolved	mg/L	-0.000152	0.0176	0.2	0.190	0.188	0.199	0.170 to 0.230	95.0	70.0 to 130	1.06	20.0
BC12380	Iron, Total	mg/L	0.000166	0.0176	0.2	0.234	0.242	0.208	0.170 to 0.230	106	70.0 to 130	3.36	20.0

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

# Batch QC Summary

**Customer Account:** WMWGORPU

**Sample Date:** 7/5/22 13:57

**Customer ID:**

**Delivery Date:** 7/7/22 10:45

**Description:** Gorgas Pooled Upgradient - MW-3

**Laboratory ID Number:** BC12378

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12380	Lead, Dissolved	mg/L	0.000067	0.000147	0.100	0.100	0.101	0.102	0.0850 to 0.115	100	70.0 to 130	0.995	20.0
BC12381	Lead, Total	mg/L	0.000057	0.000147	0.100	0.104	0.103	0.100	0.0850 to 0.115	104	70.0 to 130	0.966	20.0
BC12380	Lithium, Dissolved	mg/L	-0.000204	0.0154	0.200	0.273	0.267	0.211	0.170 to 0.230	112	70.0 to 130	2.22	20.0
BC12380	Lithium, Total	mg/L	2.570E-05	0.0154	0.200	0.319	0.327	0.200	0.170 to 0.230	131	70.0 to 130	2.48	20.0
BC12380	Magnesium, Dissolved	mg/L	-0.00942	0.0462	5.00	406	412	5.05	4.25 to 5.75	180	70.0 to 130	1.47	20.0
BC12380	Magnesium, Total	mg/L	-0.000351	0.0462	5.00	462	436	5.22	4.25 to 5.75	220	70.0 to 130	5.79	20.0
BC12380	Manganese, Dissolved	mg/L	-0.000043	0.0002	0.100	0.0956	0.0999	0.104	0.0850 to 0.115	95.2	70.0 to 130	4.40	20.0
BC12381	Manganese, Total	mg/L	0.0000175	0.0002	0.100	0.102	0.102	0.100	0.0850 to 0.115	102	70.0 to 130	0.00	20.0
BC12381	Mercury, Total by CVAA	mg/L	0.00000	0.000500	0.004	0.00398	0.0039	0.00395	0.00340 to 0.00460	99.5	70.0 to 130	2.03	20.0
BC12380	Molybdenum, Dissolved	mg/L	0.0000052	0.0002	0.100	0.101	0.0976	0.101	0.0850 to 0.115	101	70.0 to 130	3.42	20.0
BC12381	Molybdenum, Total	mg/L	0.0000041	0.0002	0.100	0.0986	0.0995	0.0965	0.0850 to 0.115	98.6	70.0 to 130	0.909	20.0
BC12380	Potassium, Dissolved	mg/L	0.00113	0.367	10.0	18.4	18.2	10.5	8.50 to 11.5	102	70.0 to 130	1.09	20.0
BC12381	Potassium, Total	mg/L	-0.00145	0.367	10.0	10.7	10.6	10.7	8.50 to 11.5	107	70.0 to 130	0.939	20.0
BC12380	Selenium, Dissolved	mg/L	0.0000779	0.00100	0.100	0.103	0.110	0.111	0.0850 to 0.115	102	70.0 to 130	6.57	20.0
BC12381	Selenium, Total	mg/L	0.000159	0.00100	0.100	0.106	0.107	0.104	0.0850 to 0.115	106	70.0 to 130	0.939	20.0
BC12380	Silicon, Dissolved	mg/L	-0.000546	0.0440	1.00	6.72	6.71	0.988	0.850 to 1.15	91.0	70.0 to 130	0.149	20.0
BC12380	Silicon, Total	mg/L	-0.000327	0.0440	1.00	7.34	7.44	0.922	0.850 to 1.15	104	70.0 to 130	1.35	20.0
BC12380	Sodium, Dissolved	mg/L	0.000456	0.0660	5.00	39.3	37.9	5.16	4.25 to 5.75	88.0	70.0 to 130	3.63	20.0
BC12380	Sodium, Total	mg/L	-0.00364	0.0660	5.00	45.2	45.6	4.96	4.25 to 5.75	120	70.0 to 130	0.881	20.0
BC12381	Sulfate	mg/L	0.422	2.0	20.0	20.7	20.3	20.1	18.0 to 22.0	100	80.0 to 120	1.95	20.0
BC12380	Thallium, Dissolved	mg/L	-0.0000836	0.000147	0.100	0.102	0.104	0.103	0.0850 to 0.115	102	70.0 to 130	1.94	20.0
BC12381	Thallium, Total	mg/L	-0.0000808	0.000147	0.100	0.108	0.107	0.103	0.0850 to 0.115	108	70.0 to 130	0.930	20.0
BC12381	Total Organic Carbon	mg/L	0.152	1.00	10	9.10	9.89	9.77		91.0	80.0 to 120	8.32	20.0

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



## Batch QC Summary

**Customer Account:** WMWGORPU

**Sample Date:** 7/5/22 13:57

**Customer ID:**

**Delivery Date:** 7/7/22 10:45

**Description:** Gorgas Pooled Upgradient - MW-3

**Laboratory ID Number:** BC12378

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC12380	Alkalinity, Total as CaCO3	mg/L					182	50.3	45.0 to 55.0			4.83	10.0
BC12381	Nitrogen, Nitrate/Nitrite	mg/L as N	0.13	0.200	2.00	2.18	0.156	2.10	1.80 to 2.20	109	90.0 to 110	0.00	15.0
BC12380	Solids, Dissolved	mg/L	2.00	25.0			3220	42.0	40.0 to 60.0			0.619	10.0

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

# Certificate Of Analysis

**Description:** Gorgas Pooled Upgradient Field Blank-1

**Location Code:** WMWGORPUFB  
**Collected:** 7/5/22 14:55  
**Customer ID:**  
**Submittal Date:** 7/7/22 10:45

**Laboratory ID Number:** BC12379

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>			
* Boron, Total	7/19/22 08:22	7/19/22 12:43		1.015	Not Detected	mg/L	0.030000	0.1015	U
* Calcium, Total	7/19/22 08:22	7/19/22 13:40		1.015	Not Detected	mg/L	0.070035	0.406	U
* Iron, Total	7/19/22 08:22	7/19/22 12:43		1.015	Not Detected	mg/L	0.008120	0.0406	U
* Lithium, Total	7/19/22 08:22	7/19/22 12:43		1.015	Not Detected	mg/L	0.007105	0.01999956	U
* Magnesium, Total	7/19/22 08:22	7/19/22 13:40		1.015	Not Detected	mg/L	0.021315	0.406	U
Silica, Total (calc.)	7/19/22 08:22	7/19/22 12:43		1	Not Detected	mg/L			
Silicon, Total	7/19/22 08:22	7/19/22 12:43		1.015	Not Detected	mg/L	0.02030	0.25375	U
* Sodium, Total	7/19/22 08:22	7/19/22 12:43		1.015	Not Detected	mg/L	0.03045	0.406	U
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: DLJ</b>			<b>Preparation Method: EPA 1638</b>			
* Antimony, Total	7/7/22 16:48	7/8/22 12:35		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/7/22 16:48	7/8/22 12:35		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Total	7/7/22 16:48	7/8/22 12:35		1.015	Not Detected	mg/L	0.000081	0.000203	U
* Barium, Total	7/7/22 16:48	7/8/22 12:35		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Beryllium, Total	7/7/22 16:48	7/8/22 12:35		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	7/7/22 16:48	7/8/22 12:35		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	7/7/22 16:48	7/8/22 12:35		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Total	7/7/22 16:48	7/8/22 12:35		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Lead, Total	7/7/22 16:48	7/8/22 12:35		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	7/7/22 16:48	7/8/22 12:35		1.015	Not Detected	mg/L	0.000152	0.000203	U
* Molybdenum, Total	7/7/22 16:48	7/8/22 12:35		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Potassium, Total	7/7/22 16:48	7/8/22 12:35		1.015	Not Detected	mg/L	0.169505	0.5075	U
* Selenium, Total	7/7/22 16:48	7/8/22 12:35		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	7/7/22 16:48	7/8/22 12:35		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>			<b>Analyst: CRB</b>						
* Mercury, Total by CVAA	7/7/22 16:18	7/7/22 21:16		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>			<b>Analyst: CES</b>						
* Nitrogen, Nitrate/Nitrite	7/13/22 12:17	7/13/22 12:17		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2540C</b>			<b>Analyst: CNJ</b>						
* Solids, Dissolved	7/7/22 13:38	7/11/22 10:04		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:** 7/5/22 14:55

**Customer ID:**

**Submittal Date:** 7/7/22 10:45

**Laboratory ID Number:** BC12379

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	7/13/22 06:55	7/13/22 06:55		1	Not Detected	mg/L	1.00	2	U
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	7/12/22 15:14	7/12/22 15:14		1	Not Detected	mg/L	0.50	1	U
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	7/13/22 12:12	7/13/22 12:12		1	Not Detected	mg/L	0.06	0.125	U
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	7/19/22 11:42	7/19/22 11:42		1	1.16	mg/L	0.6	2	J

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

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**Comments:**

# Batch QC Summary

**Customer Account:** WMWGORPUFB

**Sample Date:** 7/5/22 14:55

**Customer ID:**

**Delivery Date:** 7/7/22 10:45

**Description:** Gorgas Pooled Upgradient Field Blank-1

**Laboratory ID Number:** BC12379

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12381	Aluminum, Total	mg/L	0.000648	0.010	0.100	0.108	0.107	0.106	0.0850 to 0.115	108	70.0 to 130	0.930	20.0
BC12381	Antimony, Total	mg/L	0.000333	0.00100	0.100	0.0872	0.0919	0.0896	0.0850 to 0.115	87.2	70.0 to 130	5.25	20.0
BC12381	Arsenic, Total	mg/L	0.0000064	0.000176	0.100	0.102	0.102	0.0993	0.0850 to 0.115	102	70.0 to 130	0.00	20.0
BC12381	Barium, Total	mg/L	-0.0000569	0.00100	0.100	0.0966	0.101	0.0931	0.0850 to 0.115	96.6	70.0 to 130	4.45	20.0
BC12381	Beryllium, Total	mg/L	0.0000196	0.000880	0.100	0.112	0.105	0.106	0.0850 to 0.115	112	70.0 to 130	6.45	20.0
BC12380	Boron, Total	mg/L	0.000548	0.0650	1.00	1.10	1.12	1.01	0.850 to 1.15	106	70.0 to 130	1.80	20.0
BC12381	Cadmium, Total	mg/L	0.0000000	0.000147	0.100	0.0984	0.0977	0.0980	0.0850 to 0.115	98.4	70.0 to 130	0.714	20.0
BC12380	Calcium, Total	mg/L	-0.0137	0.152	5.00	302	287	5.43	4.25 to 5.75	160	70.0 to 130	5.09	20.0
BC12381	Chloride	mg/L	0.0125	1.00	10.0	10.7	10.6	10.5	9.00 to 11.0	107	80.0 to 120	0.939	20.0
BC12381	Chromium, Total	mg/L	-0.0000979	0.000440	0.100	0.0987	0.0995	0.0978	0.0850 to 0.115	98.7	70.0 to 130	0.807	20.0
BC12381	Cobalt, Total	mg/L	-0.0000764	0.000147	0.100	0.101	0.102	0.0998	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BC12381	Fluoride	mg/L	0.0205	0.125	2.50	2.68	2.68	2.62	2.25 to 2.75	107	80.0 to 120	0.00	20.0
BC12380	Iron, Total	mg/L	0.000166	0.0176	0.2	0.234	0.242	0.208	0.170 to 0.230	106	70.0 to 130	3.36	20.0
BC12381	Lead, Total	mg/L	0.0000057	0.000147	0.100	0.104	0.103	0.100	0.0850 to 0.115	104	70.0 to 130	0.966	20.0
BC12380	Lithium, Total	mg/L	2.570E-05	0.0154	0.200	0.319	0.327	0.200	0.170 to 0.230	131	70.0 to 130	2.48	20.0
BC12380	Magnesium, Total	mg/L	-0.000351	0.0462	5.00	462	436	5.22	4.25 to 5.75	220	70.0 to 130	5.79	20.0
BC12381	Manganese, Total	mg/L	0.0000175	0.0002	0.100	0.102	0.102	0.100	0.0850 to 0.115	102	70.0 to 130	0.00	20.0
BC12381	Mercury, Total by CVAA	mg/L	0.00000	0.000500	0.004	0.00398	0.0039	0.00395	0.00340 to 0.00460	99.5	70.0 to 130	2.03	20.0
BC12381	Molybdenum, Total	mg/L	0.0000041	0.0002	0.100	0.0986	0.0995	0.0965	0.0850 to 0.115	98.6	70.0 to 130	0.909	20.0
BC12381	Potassium, Total	mg/L	-0.00145	0.367	10.0	10.7	10.6	10.7	8.50 to 11.5	107	70.0 to 130	0.939	20.0
BC12381	Selenium, Total	mg/L	0.000159	0.00100	0.100	0.106	0.107	0.104	0.0850 to 0.115	106	70.0 to 130	0.939	20.0
BC12380	Silicon, Total	mg/L	-0.000327	0.0440	1.00	7.34	7.44	0.922	0.850 to 1.15	104	70.0 to 130	1.35	20.0
BC12380	Sodium, Total	mg/L	-0.00364	0.0660	5.00	45.2	45.6	4.96	4.25 to 5.75	120	70.0 to 130	0.881	20.0
BC12381	Sulfate	mg/L	0.422	2.0	20.0	20.7	20.3	20.1	18.0 to 22.0	100	80.0 to 120	1.95	20.0

**Comments:**

# Batch QC Summary

**Customer Account:** WMWGORPUFB

**Sample Date:** 7/5/22 14:55

**Customer ID:**

**Delivery Date:** 7/7/22 10:45

**Description:** Gorgas Pooled Upgradient Field Blank-1

**Laboratory ID Number:** BC12379

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit	Prec	Limit
BC12381	Thallium, Total	mg/L	-0.0000808	0.000147	0.100	0.108	0.107	0.103	0.0850 to 0.115	108	70.0 to 130	0.930	20.0
BC12381	Total Organic Carbon	mg/L	0.152	1.00	10	9.10	9.89	9.77		91.0	80.0 to 120	8.32	20.0

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**Comments:**

## Batch QC Summary

**Customer Account:** WMWGORPUFB

**Sample Date:** 7/5/22 14:55

**Customer ID:**

**Delivery Date:** 7/7/22 10:45

**Description:** Gorgas Pooled Upgradient Field Blank-1

**Laboratory ID Number:** BC12379

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC12381	Nitrogen, Nitrate/Nitrite	mg/L as N	0.13	0.200	2.00	2.18	0.156	2.10	1.80 to 2.20	109	90.0 to 110	0.00	15.0
BC12380	Solids, Dissolved	mg/L	2.00	25.0			3220	42.0	40.0 to 60.0			0.619	10.0

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**Comments:**

# Certificate Of Analysis

**Description:** Gorgas Pooled Upgradient - MW-4

**Location Code:** WMWGORPU  
**Collected:** 7/5/22 15:30  
**Customer ID:**  
**Submittal Date:** 7/7/22 10:45

**Laboratory ID Number:** BC12380

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Total	7/19/22 08:22	7/19/22 12:50		1.015	0.0433	mg/L	0.030000	0.1015	J
* Calcium, Total	7/19/22 08:22	7/19/22 14:04		101.5	294	mg/L	7.0035	40.6	RA
* Iron, Total	7/19/22 08:22	7/19/22 12:50		1.015	0.0217	mg/L	0.008120	0.0406	J
* Lithium, Total	7/19/22 08:22	7/19/22 12:50		1.015	0.0566	mg/L	0.007105	0.01999956	R
* Magnesium, Total	7/19/22 08:22	7/19/22 14:04		101.5	451	mg/L	2.1315	40.6	RA
Silica, Total (calc.)	7/19/22 08:22	7/19/22 12:50		1	13.5	mg/L			
Silicon, Total	7/19/22 08:22	7/19/22 12:50		1.015	6.30	mg/L	0.02030	0.25375	
* Sodium, Total	7/19/22 08:22	7/19/22 12:50		1.015	39.2	mg/L	0.03045	0.406	
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Dissolved	7/12/22 12:45	7/13/22 15:48		1.015	0.0417	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	7/12/22 12:45	7/14/22 13:15		101.5	271	mg/L	7.0035	40.6	RA
* Iron, Dissolved	7/12/22 12:45	7/13/22 15:48		1.015	Not Detected	mg/L	0.008120	0.0406	U
* Lithium, Dissolved	7/12/22 12:45	7/13/22 15:48		1.015	0.0484	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	7/12/22 12:45	7/14/22 13:15		101.5	397	mg/L	2.1315	40.6	RA
Silica, Dissolved (calc.)	7/12/22 12:45	7/13/22 15:48		1	12.4	mg/L			
Silicon, Dissolved	7/12/22 12:45	7/13/22 15:48		1.015	5.81	mg/L	0.02030	0.25375	
* Sodium, Dissolved	7/12/22 12:45	7/14/22 12:49		1.015	34.9	mg/L	0.03045	0.406	RA
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: DLJ</b>		<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	7/7/22 16:48	7/8/22 12:38		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/7/22 16:48	7/8/22 12:38		1.015	0.00913	mg/L	0.006090	0.01015	J
* Arsenic, Total	7/7/22 16:48	7/8/22 12:38		1.015	0.000118	mg/L	0.000081	0.000203	J
* Barium, Total	7/7/22 16:48	7/8/22 12:38		1.015	0.0113	mg/L	0.000508	0.001015	
* Beryllium, Total	7/7/22 16:48	7/8/22 12:38		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	7/7/22 16:48	7/8/22 12:38		1.015	0.0000746	mg/L	0.000068	0.000203	J
* Chromium, Total	7/7/22 16:48	7/8/22 12:38		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Total	7/7/22 16:48	7/8/22 12:38		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Lead, Total	7/7/22 16:48	7/8/22 12:38		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	7/7/22 16:48	7/8/22 12:38		1.015	0.000820	mg/L	0.000152	0.000203	
* Molybdenum, Total	7/7/22 16:48	7/8/22 12:38		1.015	0.000108	mg/L	0.000102	0.000203	J
* Potassium, Total	7/7/22 16:48	7/8/22 12:38		1.015	8.20	mg/L	0.169505	0.5075	

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

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

# Certificate Of Analysis

**Description:** Gorgas Pooled Upgradient - MW-4

**Location Code:** WMWGORPU  
**Collected:** 7/5/22 15:30  
**Customer ID:**  
**Submittal Date:** 7/7/22 10:45

**Laboratory ID Number:** BC12380

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	7/7/22 16:48	7/8/22 12:38		1.015	0.000961	mg/L	0.000508	0.001015	J
* Thallium, Total	7/7/22 16:48	7/8/22 12:38		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Antimony, Dissolved	7/7/22 13:37	7/8/22 10:29		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	7/7/22 13:37	7/8/22 10:29		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Dissolved	7/7/22 13:37	7/8/22 10:29		1.015	0.0000956	mg/L	0.000081	0.000203	J
* Barium, Dissolved	7/7/22 13:37	7/8/22 10:29		1.015	0.0115	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	7/7/22 13:37	7/8/22 10:29		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	7/7/22 13:37	7/8/22 10:29		1.015	0.0000694	mg/L	0.000068	0.000203	J
* Chromium, Dissolved	7/7/22 13:37	7/8/22 10:29		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	7/7/22 13:37	7/8/22 10:29		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Lead, Dissolved	7/7/22 13:37	7/8/22 10:29		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	7/7/22 13:37	7/8/22 10:29		1.015	0.000414	mg/L	0.000152	0.000203	
* Molybdenum, Dissolved	7/7/22 13:37	7/8/22 10:29		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Potassium, Dissolved	7/7/22 13:37	7/8/22 10:29		1.015	8.19	mg/L	0.169505	0.5075	
* Selenium, Dissolved	7/7/22 13:37	7/8/22 10:29		1.015	0.000967	mg/L	0.000508	0.001015	J
* Thallium, Dissolved	7/7/22 13:37	7/8/22 10:29		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	7/7/22 16:18	7/7/22 21:20		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>		<b>Analyst: CES</b>							
* Nitrogen, Nitrate/Nitrite	7/13/22 12:18	7/13/22 12:18		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: ALH</b>							
Alkalinity, Total as CaCO3	7/8/22 13:04	7/8/22 14:52		1	191	mg/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	7/7/22 13:38	7/11/22 10:04		1	3240	mg/L		147.1	
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: ALH</b>							
Bicarbonate Alkalinity, (calc.)	7/8/22 13:04	7/8/22 14:52		1	190	mg/L		1	A
Carbonate Alkalinity, (calc.)	7/8/22 13:04	7/8/22 14:52		1	0.64	mg/L		0.5	A
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	7/13/22 07:20	7/13/22 07:20		1	1.07	mg/L	1.00	2	J

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

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



# Certificate Of Analysis

**Description:** Gorgas Pooled Upgradient - MW-4

**Location Code:** WMWGORPU

**Collected:** 7/5/22 15:30

**Customer ID:**

**Submittal Date:** 7/7/22 10:45

**Laboratory ID Number:** BC12380

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	7/12/22 15:15	7/12/22 15:15		1	1.63	mg/L	0.50	1	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	7/13/22 12:13	7/13/22 12:13		1	0.362	mg/L	0.06	0.125	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	7/19/22 11:43	7/19/22 11:43		100	2380	mg/L	60.0	200	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: TJD</b>							
Conductivity	7/5/22 15:28	7/5/22 15:28			3243.59	uS/cm			FA
pH	7/5/22 15:28	7/5/22 15:28			6.12	SU			FA
Temperature	7/5/22 15:28	7/5/22 15:28			21.75	C			FA
Turbidity	7/5/22 15:28	7/5/22 15:28			0.89	NTU			FA
Sulfide	7/5/22 15:28	7/5/22 15:28			0	mg/L			FA

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

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

# Batch QC Summary

**Customer Account:** WMWGORPU

**Sample Date:** 7/5/22 15:30

**Customer ID:**

**Delivery Date:** 7/7/22 10:45

**Description:** Gorgas Pooled Upgradient - MW-4

**Laboratory ID Number:** BC12380

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12380	Aluminum, Dissolved	mg/L	0.0000266	0.010	0.100	0.0964	0.101	0.102	0.0850 to 0.115	96.4	70.0 to 130	4.66	20.0
BC12381	Aluminum, Total	mg/L	0.000648	0.010	0.100	0.108	0.107	0.106	0.0850 to 0.115	108	70.0 to 130	0.930	20.0
BC12380	Antimony, Dissolved	mg/L	0.000330	0.00100	0.100	0.0939	0.0909	0.0905	0.0850 to 0.115	93.9	70.0 to 130	3.25	20.0
BC12381	Antimony, Total	mg/L	0.000333	0.00100	0.100	0.0872	0.0919	0.0896	0.0850 to 0.115	87.2	70.0 to 130	5.25	20.0
BC12380	Arsenic, Dissolved	mg/L	0.0000060	0.000176	0.100	0.0990	0.104	0.106	0.0850 to 0.115	98.9	70.0 to 130	4.93	20.0
BC12381	Arsenic, Total	mg/L	0.0000064	0.000176	0.100	0.102	0.102	0.0993	0.0850 to 0.115	102	70.0 to 130	0.00	20.0
BC12380	Barium, Dissolved	mg/L	-0.0000157	0.00100	0.100	0.103	0.110	0.0944	0.0850 to 0.115	91.5	70.0 to 130	6.57	20.0
BC12381	Barium, Total	mg/L	-0.0000569	0.00100	0.100	0.0966	0.101	0.0931	0.0850 to 0.115	96.6	70.0 to 130	4.45	20.0
BC12380	Beryllium, Dissolved	mg/L	0.0000278	0.000880	0.100	0.0974	0.101	0.0964	0.0850 to 0.115	97.4	70.0 to 130	3.63	20.0
BC12381	Beryllium, Total	mg/L	0.0000196	0.000880	0.100	0.112	0.105	0.106	0.0850 to 0.115	112	70.0 to 130	6.45	20.0
BC12380	Boron, Dissolved	mg/L	-0.000393	0.0650	1.00	1.05	1.06	0.988	0.850 to 1.15	101	70.0 to 130	0.948	20.0
BC12380	Boron, Total	mg/L	0.000548	0.0650	1.00	1.10	1.12	1.01	0.850 to 1.15	106	70.0 to 130	1.80	20.0
BC12380	Cadmium, Dissolved	mg/L	0.0000051	0.000147	0.100	0.0904	0.0969	0.0963	0.0850 to 0.115	90.3	70.0 to 130	6.94	20.0
BC12381	Cadmium, Total	mg/L	0.0000000	0.000147	0.100	0.0984	0.0977	0.0980	0.0850 to 0.115	98.4	70.0 to 130	0.714	20.0
BC12380	Calcium, Dissolved	mg/L	-0.0163	0.152	5.00	280	273	4.79	4.25 to 5.75	180	70.0 to 130	2.53	20.0
BC12380	Calcium, Total	mg/L	-0.0137	0.152	5.00	302	287	5.43	4.25 to 5.75	160	70.0 to 130	5.09	20.0
BC12381	Chloride	mg/L	0.0125	1.00	10.0	10.7	10.6	10.5	9.00 to 11.0	107	80.0 to 120	0.939	20.0
BC12380	Chromium, Dissolved	mg/L	-0.0000406	0.000440	0.100	0.0931	0.0968	0.0998	0.0850 to 0.115	93.1	70.0 to 130	3.90	20.0
BC12381	Chromium, Total	mg/L	-0.0000979	0.000440	0.100	0.0987	0.0995	0.0978	0.0850 to 0.115	98.7	70.0 to 130	0.807	20.0
BC12380	Cobalt, Dissolved	mg/L	-0.0000720	0.000147	0.100	0.0946	0.0991	0.101	0.0850 to 0.115	94.6	70.0 to 130	4.65	20.0
BC12381	Cobalt, Total	mg/L	-0.0000764	0.000147	0.100	0.101	0.102	0.0998	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BC12381	Fluoride	mg/L	0.0205	0.125	2.50	2.68	2.68	2.62	2.25 to 2.75	107	80.0 to 120	0.00	20.0
BC12380	Iron, Dissolved	mg/L	-0.000152	0.0176	0.2	0.190	0.188	0.199	0.170 to 0.230	95.0	70.0 to 130	1.06	20.0
BC12380	Iron, Total	mg/L	0.000166	0.0176	0.2	0.234	0.242	0.208	0.170 to 0.230	106	70.0 to 130	3.36	20.0

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

# Batch QC Summary

**Customer Account:** WMWGORPU

**Sample Date:** 7/5/22 15:30

**Customer ID:**

**Delivery Date:** 7/7/22 10:45

**Description:** Gorgas Pooled Upgradient - MW-4

**Laboratory ID Number:** BC12380

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12380	Lead, Dissolved	mg/L	0.000067	0.000147	0.100	0.100	0.101	0.102	0.0850 to 0.115	100	70.0 to 130	0.995	20.0
BC12381	Lead, Total	mg/L	0.000057	0.000147	0.100	0.104	0.103	0.100	0.0850 to 0.115	104	70.0 to 130	0.966	20.0
BC12380	Lithium, Dissolved	mg/L	-0.000204	0.0154	0.200	0.273	0.267	0.211	0.170 to 0.230	112	70.0 to 130	2.22	20.0
BC12380	Lithium, Total	mg/L	2.570E-05	0.0154	0.200	0.319	0.327	0.200	0.170 to 0.230	131	70.0 to 130	2.48	20.0
BC12380	Magnesium, Dissolved	mg/L	-0.00942	0.0462	5.00	406	412	5.05	4.25 to 5.75	180	70.0 to 130	1.47	20.0
BC12380	Magnesium, Total	mg/L	-0.000351	0.0462	5.00	462	436	5.22	4.25 to 5.75	220	70.0 to 130	5.79	20.0
BC12380	Manganese, Dissolved	mg/L	-0.000043	0.0002	0.100	0.0956	0.0999	0.104	0.0850 to 0.115	95.2	70.0 to 130	4.40	20.0
BC12381	Manganese, Total	mg/L	0.0000175	0.0002	0.100	0.102	0.102	0.100	0.0850 to 0.115	102	70.0 to 130	0.00	20.0
BC12381	Mercury, Total by CVAA	mg/L	0.00000	0.000500	0.004	0.00398	0.0039	0.00395	0.00340 to 0.00460	99.5	70.0 to 130	2.03	20.0
BC12380	Molybdenum, Dissolved	mg/L	0.0000052	0.0002	0.100	0.101	0.0976	0.101	0.0850 to 0.115	101	70.0 to 130	3.42	20.0
BC12381	Molybdenum, Total	mg/L	0.0000041	0.0002	0.100	0.0986	0.0995	0.0965	0.0850 to 0.115	98.6	70.0 to 130	0.909	20.0
BC12380	Potassium, Dissolved	mg/L	0.00113	0.367	10.0	18.4	18.2	10.5	8.50 to 11.5	102	70.0 to 130	1.09	20.0
BC12381	Potassium, Total	mg/L	-0.00145	0.367	10.0	10.7	10.6	10.7	8.50 to 11.5	107	70.0 to 130	0.939	20.0
BC12380	Selenium, Dissolved	mg/L	0.0000779	0.00100	0.100	0.103	0.110	0.111	0.0850 to 0.115	102	70.0 to 130	6.57	20.0
BC12381	Selenium, Total	mg/L	0.000159	0.00100	0.100	0.106	0.107	0.104	0.0850 to 0.115	106	70.0 to 130	0.939	20.0
BC12380	Silicon, Dissolved	mg/L	-0.000546	0.0440	1.00	6.72	6.71	0.988	0.850 to 1.15	91.0	70.0 to 130	0.149	20.0
BC12380	Silicon, Total	mg/L	-0.000327	0.0440	1.00	7.34	7.44	0.922	0.850 to 1.15	104	70.0 to 130	1.35	20.0
BC12380	Sodium, Dissolved	mg/L	0.000456	0.0660	5.00	39.3	37.9	5.16	4.25 to 5.75	88.0	70.0 to 130	3.63	20.0
BC12380	Sodium, Total	mg/L	-0.00364	0.0660	5.00	45.2	45.6	4.96	4.25 to 5.75	120	70.0 to 130	0.881	20.0
BC12381	Sulfate	mg/L	0.422	2.0	20.0	20.7	20.3	20.1	18.0 to 22.0	100	80.0 to 120	1.95	20.0
BC12380	Thallium, Dissolved	mg/L	-0.0000836	0.000147	0.100	0.102	0.104	0.103	0.0850 to 0.115	102	70.0 to 130	1.94	20.0
BC12381	Thallium, Total	mg/L	-0.0000808	0.000147	0.100	0.108	0.107	0.103	0.0850 to 0.115	108	70.0 to 130	0.930	20.0
BC12381	Total Organic Carbon	mg/L	0.152	1.00	10	9.10	9.89	9.77		91.0	80.0 to 120	8.32	20.0

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

## Batch QC Summary

**Customer Account:** WMWGORPU

**Sample Date:** 7/5/22 15:30

**Customer ID:**

**Delivery Date:** 7/7/22 10:45

**Description:** Gorgas Pooled Upgradient - MW-4

**Laboratory ID Number:** BC12380

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Limit	Prec	Limit
BC12380	Alkalinity, Total as CaCO3	mg/L					182	50.3	45.0 to 55.0			4.83	10.0
BC12381	Nitrogen, Nitrate/Nitrite	mg/L as N	0.13	0.200	2.00	2.18	0.156	2.10	1.80 to 2.20	109	90.0 to 110	0.00	15.0
BC12380	Solids, Dissolved	mg/L	2.00	25.0			3220	42.0	40.0 to 60.0			0.619	10.0

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

# Certificate Of Analysis

**Description:** Gorgas Pooled Upgradient Equipment Blank-1

**Location Code:** WMWGORPUEB  
**Collected:** 7/5/22 16:00  
**Customer ID:**  
**Submittal Date:** 7/7/22 10:45

**Laboratory ID Number:** BC12381

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: ABB</b>			<b>Preparation Method: EPA 1638</b>			
* Boron, Total	7/19/22 08:22	7/19/22 12:46		1.015	Not Detected	mg/L	0.030000	0.1015	U
* Calcium, Total	7/19/22 08:22	7/19/22 13:43		1.015	Not Detected	mg/L	0.070035	0.406	U
* Iron, Total	7/19/22 08:22	7/19/22 12:46		1.015	Not Detected	mg/L	0.008120	0.0406	U
* Lithium, Total	7/19/22 08:22	7/19/22 12:46		1.015	Not Detected	mg/L	0.007105	0.01999956	U
* Magnesium, Total	7/19/22 08:22	7/19/22 13:43		1.015	Not Detected	mg/L	0.021315	0.406	U
Silica, Total (calc.)	7/19/22 08:22	7/19/22 12:46		1	Not Detected	mg/L			
Silicon, Total	7/19/22 08:22	7/19/22 12:46		1.015	Not Detected	mg/L	0.02030	0.25375	U
* Sodium, Total	7/19/22 08:22	7/19/22 12:46		1.015	Not Detected	mg/L	0.03045	0.406	U
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: DLJ</b>			<b>Preparation Method: EPA 1638</b>			
* Antimony, Total	7/7/22 16:48	7/8/22 12:42		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/7/22 16:48	7/8/22 12:42		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Total	7/7/22 16:48	7/8/22 12:42		1.015	Not Detected	mg/L	0.000081	0.000203	U
* Barium, Total	7/7/22 16:48	7/8/22 12:42		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Beryllium, Total	7/7/22 16:48	7/8/22 12:42		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	7/7/22 16:48	7/8/22 12:42		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	7/7/22 16:48	7/8/22 12:42		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Total	7/7/22 16:48	7/8/22 12:42		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Lead, Total	7/7/22 16:48	7/8/22 12:42		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	7/7/22 16:48	7/8/22 12:42		1.015	Not Detected	mg/L	0.000152	0.000203	U
* Molybdenum, Total	7/7/22 16:48	7/8/22 12:42		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Potassium, Total	7/7/22 16:48	7/8/22 12:42		1.015	Not Detected	mg/L	0.169505	0.5075	U
* Selenium, Total	7/7/22 16:48	7/8/22 12:42		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	7/7/22 16:48	7/8/22 12:42		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>			<b>Analyst: CRB</b>						
* Mercury, Total by CVAA	7/7/22 16:18	7/7/22 21:24		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: EPA 353.2</b>			<b>Analyst: CES</b>						
* Nitrogen, Nitrate/Nitrite	7/13/22 12:19	7/13/22 12:19		1	Not Detected	mg/L as N	0.20	0.3	U
<b>Analytical Method: SM 2540C</b>			<b>Analyst: CNJ</b>						
* Solids, Dissolved	7/7/22 13:38	7/11/22 10:04		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:** 7/5/22 16:00

**Customer ID:**

**Submittal Date:** 7/7/22 10:45

**Laboratory ID Number:** BC12381

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM 5310 B</b>		<b>Analyst: ELH</b>							
* Total Organic Carbon	7/13/22 07:42	7/13/22 07:42		1	Not Detected	mg/L	1.00	2	U
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	7/12/22 15:16	7/12/22 15:16		1	Not Detected	mg/L	0.50	1	U
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	7/13/22 12:15	7/13/22 12:15		1	Not Detected	mg/L	0.06	0.125	U
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	7/19/22 11:44	7/19/22 11:44		1	0.634	mg/L	0.6	2	J

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

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**Comments:**

# Batch QC Summary

**Customer Account:** WMWGORPUEB

**Sample Date:** 7/5/22 16:00

**Customer ID:**

**Delivery Date:** 7/7/22 10:45

**Description:** Gorgas Pooled Upgradient Equipment Blank-1

**Laboratory ID Number:** BC12381

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BC12381	Aluminum, Total	mg/L	0.000648	0.010	0.100	0.108	0.107	0.106	0.0850 to 0.115	108	70.0 to 130	0.930	20.0
BC12381	Antimony, Total	mg/L	0.000333	0.00100	0.100	0.0872	0.0919	0.0896	0.0850 to 0.115	87.2	70.0 to 130	5.25	20.0
BC12381	Arsenic, Total	mg/L	0.0000064	0.000176	0.100	0.102	0.102	0.0993	0.0850 to 0.115	102	70.0 to 130	0.00	20.0
BC12381	Barium, Total	mg/L	-0.0000569	0.00100	0.100	0.0966	0.101	0.0931	0.0850 to 0.115	96.6	70.0 to 130	4.45	20.0
BC12381	Beryllium, Total	mg/L	0.0000196	0.000880	0.100	0.112	0.105	0.106	0.0850 to 0.115	112	70.0 to 130	6.45	20.0
BC12380	Boron, Total	mg/L	0.000548	0.0650	1.00	1.10	1.12	1.01	0.850 to 1.15	106	70.0 to 130	1.80	20.0
BC12381	Cadmium, Total	mg/L	0.0000000	0.000147	0.100	0.0984	0.0977	0.0980	0.0850 to 0.115	98.4	70.0 to 130	0.714	20.0
BC12380	Calcium, Total	mg/L	-0.0137	0.152	5.00	302	287	5.43	4.25 to 5.75	160	70.0 to 130	5.09	20.0
BC12381	Chloride	mg/L	0.0125	1.00	10.0	10.7	10.6	10.5	9.00 to 11.0	107	80.0 to 120	0.939	20.0
BC12381	Chromium, Total	mg/L	-0.0000979	0.000440	0.100	0.0987	0.0995	0.0978	0.0850 to 0.115	98.7	70.0 to 130	0.807	20.0
BC12381	Cobalt, Total	mg/L	-0.0000764	0.000147	0.100	0.101	0.102	0.0998	0.0850 to 0.115	101	70.0 to 130	0.985	20.0
BC12381	Fluoride	mg/L	0.0205	0.125	2.50	2.68	2.68	2.62	2.25 to 2.75	107	80.0 to 120	0.00	20.0
BC12380	Iron, Total	mg/L	0.000166	0.0176	0.2	0.234	0.242	0.208	0.170 to 0.230	106	70.0 to 130	3.36	20.0
BC12381	Lead, Total	mg/L	0.0000057	0.000147	0.100	0.104	0.103	0.100	0.0850 to 0.115	104	70.0 to 130	0.966	20.0
BC12380	Lithium, Total	mg/L	2.570E-05	0.0154	0.200	0.319	0.327	0.200	0.170 to 0.230	131	70.0 to 130	2.48	20.0
BC12380	Magnesium, Total	mg/L	-0.000351	0.0462	5.00	462	436	5.22	4.25 to 5.75	220	70.0 to 130	5.79	20.0
BC12381	Manganese, Total	mg/L	0.0000175	0.0002	0.100	0.102	0.102	0.100	0.0850 to 0.115	102	70.0 to 130	0.00	20.0
BC12381	Mercury, Total by CVAA	mg/L	0.00000	0.000500	0.004	0.00398	0.0039	0.00395	0.00340 to 0.00460	99.5	70.0 to 130	2.03	20.0
BC12381	Molybdenum, Total	mg/L	0.0000041	0.0002	0.100	0.0986	0.0995	0.0965	0.0850 to 0.115	98.6	70.0 to 130	0.909	20.0
BC12381	Potassium, Total	mg/L	-0.00145	0.367	10.0	10.7	10.6	10.7	8.50 to 11.5	107	70.0 to 130	0.939	20.0
BC12381	Selenium, Total	mg/L	0.000159	0.00100	0.100	0.106	0.107	0.104	0.0850 to 0.115	106	70.0 to 130	0.939	20.0
BC12380	Silicon, Total	mg/L	-0.000327	0.0440	1.00	7.34	7.44	0.922	0.850 to 1.15	104	70.0 to 130	1.35	20.0
BC12380	Sodium, Total	mg/L	-0.00364	0.0660	5.00	45.2	45.6	4.96	4.25 to 5.75	120	70.0 to 130	0.881	20.0
BC12381	Sulfate	mg/L	0.422	2.0	20.0	20.7	20.3	20.1	18.0 to 22.0	100	80.0 to 120	1.95	20.0

**Comments:**

# Batch QC Summary

**Customer Account:** WMWGORPUEB

**Sample Date:** 7/5/22 16:00

**Customer ID:**

**Delivery Date:** 7/7/22 10:45

**Description:** Gorgas Pooled Upgradient Equipment Blank-1

**Laboratory ID Number:** BC12381

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit	Prec	Limit
BC12381	Thallium, Total	mg/L	-0.0000808	0.000147	0.100	0.108	0.107	0.103	0.0850 to 0.115	108	70.0 to 130	0.930	20.0
BC12381	Total Organic Carbon	mg/L	0.152	1.00	10	9.10	9.89	9.77		91.0	80.0 to 120	8.32	20.0

**Comments:**



## Batch QC Summary

**Customer Account:** WMWGORPUEB

**Sample Date:** 7/5/22 16:00

**Customer ID:**

**Delivery Date:** 7/7/22 10:45

**Description:** Gorgas Pooled Upgradient Equipment Blank-1

**Laboratory ID Number:** BC12381

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC12381	Nitrogen, Nitrate/Nitrite	mg/L as N	0.13	0.200	2.00	2.18	0.156	2.10	1.80 to 2.20	109	90.0 to 110	0.00	15.0
BC12380	Solids, Dissolved	mg/L	2.00	25.0			3220	42.0	40.0 to 60.0			0.619	10.0

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**Comments:**

# Definitions

**Project Number:** WMWGORPU\_1374

Abbreviation	Description
DF	Dilution Factor
LCS	Lab Control Sample
LFM	Lab Fortified Matrix
MB	Method Blank
MDL	Method Detection Limit; minimum concentration of an analyte that can be determined with 99% confidence that the concentration is greater than zero.
MS	Matrix Spike
MSD	Matrix Spike Duplicate
Prec	Precision (% RPD)
Q	Qualifier; comment used to note deviations or additional information associated with analytical results.
QC	Quality Control
Rec	Recovery of Matrix Spike
RL	Reporting Limit; lowest concentration at which an analyte can be quantitatively measured.
Vio Spec	Violation Specification; regulatory limit which has been exceeded by the sample analyzed.

Qualifier	Description
A	Bicarbonate alkalinity, carbonate alkalinity, hydroxide alkalinity, free carbon dioxide, and/or total carbon dioxide calculations are estimates due to pH>10SU and/or TDS>500mg/L.
FA	Field results were reviewed by the Water Field Group. Refer to APC Field Case Narrative.
J	Reported value is an estimate because concentration is less than reporting limit.
R	Matrix spike recovery and/or matrix spike duplicate recovery is outside of specification limit.
RA	Matrix spike is invalid due to sample concentration.
U	Compound was analyzed, but not detected.



# Chain of Custody

## Groundwater

APC General Testing Laboratory

Field Complete  
 Lab Complete

Outside Lab

Lab ETA

Requested Complete Date	Routine	Results To	Dustin Brooks, Greg Dyer
	Collector: TJ Daugherty		Requested By: Greg Dyer
		Location	Gorgas Pooled Upgradient



  

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

Comments

Sample #	Date	Time	Bottle Count	Description	Lab Filter	Lab Id
MW-1	07/05/2022	11:40	6	Groundwater		BC12375
MW-2	07/05/2022	12:40	6	Groundwater		BC12376
MW-2 Dup	07/05/2022	12:40	6	Sample Duplicate		BC12377
MW-3	07/05/2022	13:57	6	Groundwater		BC12378
FB-1	07/05/2022	14:55	5	Field Blank		BC12379
MW-4	07/05/2022	15:30	6	Groundwater		BC12380
EB-1	07/05/2022	16:00	5	Equipment Blank		BC12381

Relinquished By	Received By	Date/Time
		07/07/2022 08:46

SmarTroll ID	7586-41446-5-5	All pH requirements have been met <input checked="" type="checkbox"/>
Turbidity ID	4677-23342-4-1	
Sample Event	1374	
	Cooler Temp	0.5 °C
	Thermometer ID	7044-38282-2-2
	pH Strip ID	10275-59506-10-2

Bottles/Pre-Preserved Bottles are provided by the GTL  
Total Metals and Alkalinity are not performed on Dissolved Sets  
Dissolved Metals and Alkalinity are not performed on blanks i.e. Field Blanks or Equipment Blanks



# Chain of Custody Groundwater

APC General Testing Laboratory

Field Complete  
 Lab Complete

Outside Lab

Lab ETA

Requested Complete Date	Routine	Results To	Dustin Brooks, Greg Dyer
	Collector: TJ Daugherty		Requested By: Greg Dyer
		Location	Gorgas Pooled Upgradient

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

Comments: Rad MS/MSD collected @ MW-1

Sample #	Date	Time	Bottle Count	Description	Lab Filter	Lab Id
MW-1	07/05/2022	11:40	3	Groundwater		BC12382
MW-2	07/05/2022	12:40	1	Groundwater		BC12383
MW-2 Dup	07/05/2022	12:40	1	Sample Duplicate		BC12384
MW-3	07/05/2022	13:57	1	Groundwater		BC12385
FB-1	07/05/2022	14:55	1	Field Blank		BC12386
MW-4	07/05/2022	15:30	1	Groundwater		BC12387
EB-1	07/05/2022	16:00	1	Equipment Blank		BC12388

Relinquished By	Received By	Date/Time
		07/07/2022 08:46

SmarTroll ID	7586-41446-5-5	All pH requirements have been met <input checked="" type="checkbox"/>	
Turbidity ID	4677-23342-4-1		
Sample Event	1374		
		Cooler Temp	N/A
		Thermometer ID	N/A
		pH Strip ID	10275-59506-10-2

Bottles/Pre-Preserved Bottles are provided by the GTL  
Total Metals and Alkalinity are not performed on Dissolved Sets  
Dissolved Metals and Alkalinity are not performed on blanks i.e. Field Blanks or Equipment Blanks

August 10, 2022

Brooke Caton  
Alabama Power  
744 Highway 87  
Calera, AL 35040

RE: Project: WMWGORG\_1376  
Pace Project No.: 30507347

Dear Brooke Caton:

Enclosed are the analytical results for sample(s) received by the laboratory on July 19, 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

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

Sincerely,



Skyler C. Richmond  
skyler.richmond@pacelabs.com  
(724)850-5600  
Project Manager

Enclosures

cc: Blaine Denton, Alabama Power  
Renee Jernigan, Alabama Power



## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## CERTIFICATIONS

Project: WMWGORG\_1376  
Pace Project No.: 30507347

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### **Pace Analytical Services Pennsylvania**

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601  
ANAB DOD-ELAP Rad Accreditation #: L2417  
Alabama Certification #: 41590  
Arizona Certification #: AZ0734  
Arkansas Certification  
California Certification #: 04222CA  
Colorado Certification #: PA01547  
Connecticut Certification #: PH-0694  
Delaware Certification  
EPA Region 4 DW Rad  
Florida/TNI Certification #: E87683  
Georgia Certification #: C040  
Florida: Cert E871149 SEKS WET  
Guam Certification  
Hawaii Certification  
Idaho Certification  
Illinois Certification  
Indiana Certification  
Iowa Certification #: 391  
Kansas/TNI Certification #: E-10358  
Kentucky Certification #: KY90133  
KY WW Permit #: KY0098221  
KY WW Permit #: KY0000221  
Louisiana DHH/TNI Certification #: LA180012  
Louisiana DEQ/TNI Certification #: 4086  
Maine Certification #: 2017020  
Maryland Certification #: 308  
Massachusetts Certification #: M-PA1457  
Michigan/PADEP Certification #: 9991

Missouri Certification #: 235  
Montana Certification #: Cert0082  
Nebraska Certification #: NE-OS-29-14  
Nevada Certification #: PA014572018-1  
New Hampshire/TNI Certification #: 297617  
New Jersey/TNI Certification #: PA051  
New Mexico Certification #: PA01457  
New York/TNI Certification #: 10888  
North Carolina Certification #: 42706  
North Dakota Certification #: R-190  
Ohio EPA Rad Approval: #41249  
Oregon/TNI Certification #: PA200002-010  
Pennsylvania/TNI Certification #: 65-00282  
Puerto Rico Certification #: PA01457  
Rhode Island Certification #: 65-00282  
South Dakota Certification  
Tennessee Certification #: 02867  
Texas/TNI Certification #: T104704188-17-3  
Utah/TNI Certification #: PA014572017-9  
USDA Soil Permit #: P330-17-00091  
Vermont Dept. of Health: ID# VT-0282  
Virgin Island/PADEP Certification  
Virginia/VELAP Certification #: 460198  
Washington Certification #: C868  
West Virginia DEP Certification #: 143  
West Virginia DHHR Certification #: 9964C  
Wisconsin Approve List for Rad  
Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: WMWGORG\_1376

Pace Project No.: 30507347

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30507347001	BC12876 MW-11H	Water	07/12/22 10:25	07/19/22 10:00
30507347002	BC12876 MW-11H MS	Water	07/12/22 10:25	07/19/22 10:00
30507347003	BC12876 MW-11H MSD	Water	07/12/22 10:25	07/19/22 10:00
30507347004	BC12877 MW-13H	Water	07/12/22 12:00	07/19/22 10:00
30507347005	BC12878 MW-13H DUP	Water	07/12/22 12:00	07/19/22 10:00
30507347006	BC12879 MW-9H	Water	07/12/22 13:18	07/19/22 10:00
30507347007	BC12880 MW-9V	Water	07/12/22 14:47	07/19/22 10:00
30507347008	BC12881 MW-12V	Water	07/13/22 09:30	07/19/22 10:00
30507347009	BC12882 MW-12H	Water	07/13/22 10:45	07/19/22 10:00
30507347010	BC12883 MW-14H	Water	07/13/22 11:40	07/19/22 10:00
30507347011	BC12884 FB-2	Water	07/13/22 12:00	07/19/22 10:00
30507347012	BC12885 PZ-18	Water	07/12/22 09:06	07/19/22 10:00
30507347013	BC12886 PZ-19	Water	07/12/22 11:14	07/19/22 10:00
30507347014	BC12887 PZ-19 DUP	Water	07/12/22 11:14	07/19/22 10:00
30507347015	BC12888 PZ-20	Water	07/12/22 12:44	07/19/22 10:00
30507347016	BC12889 PZ-21	Water	07/12/22 14:33	07/19/22 10:00
30507347017	BC12890 FB-1	Water	07/12/22 15:20	07/19/22 10:00
30507347018	BC12891 PZ-22	Water	07/13/22 09:01	07/19/22 10:00
30507347019	BC12892 PZ-17	Water	07/13/22 10:21	07/19/22 10:00
30507347020	BC12893 MW-3V	Water	07/13/22 11:48	07/19/22 10:00
30507347021	BC12894 MW-8V	Water	07/12/22 13:00	07/19/22 10:00
30507347022	BC12895 MW-8	Water	07/12/22 14:17	07/19/22 10:00
30507347023	BC12896 MW-4V	Water	07/13/22 09:31	07/19/22 10:00
30507347024	BC12897 MW-4	Water	07/13/22 10:18	07/19/22 10:00
30507347025	BC12898 EB-1	Water	07/13/22 10:50	07/19/22 10:00
30507347026	BC12899 MW-3	Water	07/13/22 11:09	07/19/22 10:00
30507347027	BC12899 MW-3 MS	Water	07/13/22 11:09	07/19/22 10:00
30507347028	BC12899 MW-3 MSD	Water	07/13/22 11:09	07/19/22 10:00

## REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: WMWGORG\_1376  
Pace Project No.: 30507347

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30507347001	BC12876 MW-11H	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30507347002	BC12876 MW-11H MS	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
30507347003	BC12876 MW-11H MSD	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
30507347004	BC12877 MW-13H	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30507347005	BC12878 MW-13H DUP	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30507347006	BC12879 MW-9H	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30507347007	BC12880 MW-9V	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30507347008	BC12881 MW-12V	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30507347009	BC12882 MW-12H	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30507347010	BC12883 MW-14H	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30507347011	BC12884 FB-2	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30507347012	BC12885 PZ-18	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30507347013	BC12886 PZ-19	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA

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### SAMPLE ANALYTE COUNT

Project: WMWGORG\_1376  
Pace Project No.: 30507347

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30507347014	BC12887 PZ-19 DUP	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30507347015	BC12888 PZ-20	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30507347016	BC12889 PZ-21	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30507347017	BC12890 FB-1	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30507347018	BC12891 PZ-22	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30507347019	BC12892 PZ-17	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30507347020	BC12893 MW-3V	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30507347021	BC12894 MW-8V	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30507347022	BC12895 MW-8	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30507347023	BC12896 MW-4V	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30507347024	BC12897 MW-4	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30507347025	BC12898 EB-1	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30507347026	BC12899 MW-3	EPA 9315	RMS	1	PASI-PA

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### SAMPLE ANALYTE COUNT

Project: WMWGORG\_1376

Pace Project No.: 30507347

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30507347027	BC12899 MW-3 MS	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
30507347028	BC12899 MW-3 MSD	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

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## PROJECT NARRATIVE

Project: WMWGORG\_1376

Pace Project No.: 30507347

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**Method:** EPA 9315

**Description:** 9315 Total Radium

**Client:** Alabama Power

**Date:** August 10, 2022

**General Information:**

28 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: WMWGORG\_1376

Pace Project No.: 30507347

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**Method:** EPA 9320

**Description:** 9320 Radium 228

**Client:** Alabama Power

**Date:** August 10, 2022

**General Information:**

28 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: WMWGORG\_1376

Pace Project No.: 30507347

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**Method:** Total Radium Calculation

**Description:** Total Radium 228+226

**Client:** Alabama Power

**Date:** August 10, 2022

**General Information:**

24 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: WMWGORG\_1376

Pace Project No.: 30507347

**Sample: BC12876 MW-11H**      **Lab ID: 30507347001**      Collected: 07/12/22 10:25      Received: 07/19/22 10:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.0220U ± 0.153 (0.409)</b> <b>C:94% T:NA</b>	pCi/L	08/09/22 10:24	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.975 ± 0.420 (0.640)</b> <b>C:63% T:92%</b>	pCi/L	08/04/22 12:05	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.997U ± 0.573 (1.05)</b>	pCi/L	08/09/22 17:11	7440-14-4	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1376

Pace Project No.: 30507347

**Sample: BC12876 MW-11H MS**      **Lab ID: 30507347002**      Collected: 07/12/22 10:25      Received: 07/19/22 10:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>100.18 %REC ± NA (NA)</b> <b>C:NA T:NA</b>	pCi/L	08/09/22 10:24	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>100.30 %REC ± NA (NA)</b> <b>C:NA T:NA</b>	pCi/L	08/04/22 12:05	15262-20-1	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1376

Pace Project No.: 30507347

**Sample: BC12876 MW-11H MSD**      **Lab ID: 30507347003**      Collected: 07/12/22 10:25      Received: 07/19/22 10:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>103.13 %REC 2.90RPD ±</b> <b>NA (NA)</b> <b>C:NA T:NA</b>	pCi/L	08/09/22 10:48	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>106.65 %REC 6.13 RPD ±</b> <b>NA (NA)</b> <b>C:NA T:NA</b>	pCi/L	08/04/22 12:05	15262-20-1	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1376

Pace Project No.: 30507347

**Sample: BC12877 MW-13H**      **Lab ID: 30507347004**      Collected: 07/12/22 12:00      Received: 07/19/22 10:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>0.166U ± 0.199 (0.399)</b> <b>C:94% T:NA</b>	pCi/L	08/09/22 10:48	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>0.503U ± 0.371 (0.719)</b> <b>C:69% T:92%</b>	pCi/L	08/03/22 15:06	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>0.669U ± 0.570 (1.12)</b>	pCi/L	08/09/22 17:11	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1376

Pace Project No.: 30507347

**Sample: BC12878 MW-13H DUP**      **Lab ID: 30507347005**      Collected: 07/12/22 12:00      Received: 07/19/22 10:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>0.431U ± 0.281 (0.436)</b> <b>C:94% T:NA</b>	pCi/L	08/09/22 10:48	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>0.803 ± 0.387 (0.632)</b> <b>C:69% T:90%</b>	pCi/L	08/03/22 15:06	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>1.23 ± 0.668 (1.07)</b>	pCi/L	08/09/22 17:11	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1376

Pace Project No.: 30507347

**Sample: BC12879 MW-9H**      **Lab ID: 30507347006**      Collected: 07/12/22 13:18      Received: 07/19/22 10:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.00981U ± 0.129 (0.368)</b> <b>C:91% T:NA</b>	pCi/L	08/09/22 10:48	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.808 ± 0.408 (0.701)</b> <b>C:70% T:92%</b>	pCi/L	08/03/22 15:06	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.818U ± 0.537 (1.07)</b>	pCi/L	08/09/22 17:11	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1376

Pace Project No.: 30507347

**Sample: BC12880 MW-9V**      **Lab ID: 30507347007**      Collected: 07/12/22 14:47      Received: 07/19/22 10:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>0.286U ± 0.213 (0.311)</b> <b>C:93% T:NA</b>	pCi/L	08/09/22 10:48	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>0.432U ± 0.364 (0.727)</b> <b>C:69% T:94%</b>	pCi/L	08/03/22 15:06	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>0.718U ± 0.577 (1.04)</b>	pCi/L	08/09/22 17:11	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1376

Pace Project No.: 30507347

**Sample: BC12881 MW-12V**      **Lab ID: 30507347008**      Collected: 07/13/22 09:30      Received: 07/19/22 10:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.0125U ± 0.128 (0.361)</b> <b>C:93% T:NA</b>	pCi/L	08/09/22 10:48	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.360U ± 0.317 (0.633)</b> <b>C:69% T:95%</b>	pCi/L	08/03/22 15:06	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.373U ± 0.445 (0.994)</b>	pCi/L	08/09/22 17:11	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1376

Pace Project No.: 30507347

**Sample: BC12882 MW-12H**      **Lab ID: 30507347009**      Collected: 07/13/22 10:45      Received: 07/19/22 10:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.302U ± 0.260 (0.469)</b> <b>C:94% T:NA</b>	pCi/L	08/09/22 10:48	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>1.25 ± 0.498 (0.765)</b> <b>C:71% T:88%</b>	pCi/L	08/03/22 15:06	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>1.55 ± 0.758 (1.23)</b>	pCi/L	08/09/22 17:11	7440-14-4	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1376

Pace Project No.: 30507347

**Sample: BC12883 MW-14H**      **Lab ID: 30507347010**      Collected: 07/13/22 11:40      Received: 07/19/22 10:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.0703U ± 0.138 (0.317)</b> <b>C:95% T:NA</b>	pCi/L	08/09/22 10:51	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.931 ± 0.452 (0.749)</b> <b>C:69% T:80%</b>	pCi/L	08/03/22 15:06	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>1.00U ± 0.590 (1.07)</b>	pCi/L	08/09/22 17:11	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1376

Pace Project No.: 30507347

**Sample: BC12884 FB-2**      **Lab ID: 30507347011**      Collected: 07/13/22 12:00      Received: 07/19/22 10:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.0344U ± 0.138 (0.361)</b> <b>C:98% T:NA</b>	pCi/L	08/09/22 10:51	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.694U ± 0.434 (0.804)</b> <b>C:67% T:83%</b>	pCi/L	08/03/22 15:07	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.728U ± 0.572 (1.17)</b>	pCi/L	08/09/22 17:11	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1376

Pace Project No.: 30507347

**Sample: BC12885 PZ-18**      **Lab ID: 30507347012**      Collected: 07/12/22 09:06      Received: 07/19/22 10:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.0763U ± 0.258 (0.629)</b> <b>C:92% T:NA</b>	pCi/L	08/09/22 10:51	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.158U ± 0.351 (0.780)</b> <b>C:62% T:87%</b>	pCi/L	08/03/22 15:07	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.234U ± 0.609 (1.41)</b>	pCi/L	08/09/22 17:11	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1376

Pace Project No.: 30507347

**Sample: BC12886 PZ-19**      **Lab ID: 30507347013**      Collected: 07/12/22 11:14      Received: 07/19/22 10:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.0680U ± 0.178 (0.433)</b> <b>C:88% T:NA</b>	pCi/L	08/09/22 10:51	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.465U ± 0.363 (0.707)</b> <b>C:68% T:87%</b>	pCi/L	08/03/22 15:07	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.533U ± 0.541 (1.14)</b>	pCi/L	08/09/22 17:11	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1376

Pace Project No.: 30507347

**Sample: BC12887 PZ-19 DUP**      **Lab ID: 30507347014**      Collected: 07/12/22 11:14      Received: 07/19/22 10:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.0985U ± 0.194 (0.447)</b> <b>C:93% T:NA</b>	pCi/L	08/09/22 12:02	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.319U ± 0.359 (0.749)</b> <b>C:65% T:92%</b>	pCi/L	08/03/22 15:07	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.418U ± 0.553 (1.20)</b>	pCi/L	08/09/22 17:11	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1376

Pace Project No.: 30507347

**Sample: BC12888 PZ-20**      **Lab ID: 30507347015**      Collected: 07/12/22 12:44      Received: 07/19/22 10:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>0.0949U ± 0.188 (0.436)</b> <b>C:91% T:NA</b>	pCi/L	08/09/22 12:02	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>0.570U ± 0.361 (0.675)</b> <b>C:74% T:92%</b>	pCi/L	08/04/22 12:05	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>0.665U ± 0.549 (1.11)</b>	pCi/L	08/09/22 17:11	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1376

Pace Project No.: 30507347

**Sample: BC12889 PZ-21**      **Lab ID: 30507347016**      Collected: 07/12/22 14:33      Received: 07/19/22 10:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>0.322U ± 0.267 (0.474)</b> <b>C:87% T:NA</b>	pCi/L	08/09/22 12:02	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>0.614 ± 0.336 (0.590)</b> <b>C:70% T:98%</b>	pCi/L	08/04/22 12:06	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>0.936U ± 0.603 (1.06)</b>	pCi/L	08/09/22 17:13	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1376

Pace Project No.: 30507347

**Sample: BC12890 FB-1**      **Lab ID: 30507347017**      Collected: 07/12/22 15:20      Received: 07/19/22 10:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>0.0246U ± 0.139 (0.372)</b> <b>C:93% T:NA</b>	pCi/L	08/09/22 12:02	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>0.339U ± 0.315 (0.635)</b> <b>C:69% T:92%</b>	pCi/L	08/04/22 12:06	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>0.364U ± 0.454 (1.01)</b>	pCi/L	08/09/22 17:13	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1376

Pace Project No.: 30507347

**Sample: BC12891 PZ-22**      **Lab ID: 30507347018**      Collected: 07/13/22 09:01      Received: 07/19/22 10:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>0.0268U ± 0.165 (0.440)</b> <b>C:85% T:NA</b>	pCi/L	08/09/22 12:02	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>0.712 ± 0.393 (0.699)</b> <b>C:66% T:94%</b>	pCi/L	08/04/22 12:06	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>0.739U ± 0.558 (1.14)</b>	pCi/L	08/09/22 17:13	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1376

Pace Project No.: 30507347

**Sample: BC12892 PZ-17**      **Lab ID: 30507347019**      Collected: 07/13/22 10:21      Received: 07/19/22 10:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>0.448U ± 0.319 (0.560)</b> <b>C:90% T:NA</b>	pCi/L	08/09/22 12:02	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>0.344U ± 0.333 (0.676)</b> <b>C:69% T:89%</b>	pCi/L	08/04/22 12:06	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>0.792U ± 0.652 (1.24)</b>	pCi/L	08/09/22 17:13	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1376

Pace Project No.: 30507347

**Sample: BC12893 MW-3V**      **Lab ID: 30507347020**      Collected: 07/13/22 11:48      Received: 07/19/22 10:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.142U ± 0.197 (0.417)</b> <b>C:96% T:NA</b>	pCi/L	08/09/22 12:02	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.981 ± 0.415 (0.641)</b> <b>C:70% T:88%</b>	pCi/L	08/04/22 12:06	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>1.12 ± 0.612 (1.06)</b>	pCi/L	08/09/22 17:13	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1376

Pace Project No.: 30507347

**Sample: BC12894 MW-8V**      **Lab ID: 30507347021**      Collected: 07/12/22 13:00      Received: 07/19/22 10:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.708 ± 0.389 (0.435)</b> <b>C:96% T:NA</b>	pCi/L	08/09/22 12:33	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.333U ± 0.323 (0.659)</b> <b>C:69% T:96%</b>	pCi/L	08/04/22 12:06	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>1.04U ± 0.712 (1.09)</b>	pCi/L	08/09/22 17:13	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1376

Pace Project No.: 30507347

**Sample: BC12895 MW-8**      **Lab ID: 30507347022**      Collected: 07/12/22 14:17      Received: 07/19/22 10:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>0.104U ± 0.240 (0.573)</b> <b>C:99% T:NA</b>	pCi/L	08/09/22 12:33	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>0.641U ± 0.400 (0.727)</b> <b>C:61% T:88%</b>	pCi/L	08/04/22 15:10	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>0.745U ± 0.640 (1.30)</b>	pCi/L	08/09/22 17:13	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1376

Pace Project No.: 30507347

**Sample: BC12896 MW-4V**      **Lab ID: 30507347023**      Collected: 07/13/22 09:31      Received: 07/19/22 10:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>0.376U ± 0.334 (0.582)</b> <b>C:93% T:NA</b>	pCi/L	08/09/22 12:33	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>0.244U ± 0.304 (0.641)</b> <b>C:63% T:94%</b>	pCi/L	08/04/22 15:10	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>0.620U ± 0.638 (1.22)</b>	pCi/L	08/09/22 17:13	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1376

Pace Project No.: 30507347

**Sample: BC12897 MW-4**      **Lab ID: 30507347024**      Collected: 07/13/22 10:18      Received: 07/19/22 10:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>0.752 ± 0.435 (0.626)</b> <b>C:97% T:NA</b>	pCi/L	08/09/22 12:33	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>0.622U ± 0.355 (0.642)</b> <b>C:75% T:97%</b>	pCi/L	08/04/22 15:11	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>1.37 ± 0.790 (1.27)</b>	pCi/L	08/09/22 17:13	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1376

Pace Project No.: 30507347

**Sample: BC12898 EB-1**      **Lab ID: 30507347025**      Collected: 07/13/22 10:50      Received: 07/19/22 10:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.103U ± 0.221 (0.521)</b> <b>C:93% T:NA</b>	pCi/L	08/09/22 12:34	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>-0.0417U ± 0.295 (0.705)</b> <b>C:69% T:93%</b>	pCi/L	08/04/22 15:11	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.103U ± 0.516 (1.23)</b>	pCi/L	08/09/22 17:13	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1376

Pace Project No.: 30507347

**Sample: BC12899 MW-3**      **Lab ID: 30507347026**      Collected: 07/13/22 11:09      Received: 07/19/22 10:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.0626U ± 0.202 (0.516)</b> <b>C:98% T:NA</b>	pCi/L	08/09/22 12:34	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.176U ± 0.350 (0.773)</b> <b>C:65% T:85%</b>	pCi/L	08/05/22 12:40	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.239U ± 0.552 (1.29)</b>	pCi/L	08/09/22 17:13	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1376

Pace Project No.: 30507347

**Sample: BC12899 MW-3 MS**      **Lab ID: 30507347027**      Collected: 07/13/22 11:09      Received: 07/19/22 10:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>92.95 %REC ± NA (NA)</b> <b>C:NA T:NA</b>	pCi/L	08/09/22 12:34	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>110.63 %REC ± NA (NA)</b> <b>C:NA T:NA%</b>	pCi/L	08/05/22 12:40	15262-20-1	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORG\_1376

Pace Project No.: 30507347

**Sample: BC12899 MW-3 MSD**      **Lab ID: 30507347028**      Collected: 07/13/22 11:09      Received: 07/19/22 10:00      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>95.90 %REC 3.13RPD ± NA</b> <b>(NA)</b> <b>C:NA T:NA</b>	pCi/L	08/09/22 12:34	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>102.49 %REC 7.64 RPD ±</b> <b>NA (NA)</b> <b>C:NA T:NA%</b>	pCi/L	08/05/22 12:40	15262-20-1	

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### QUALITY CONTROL - RADIOCHEMISTRY

Project: WMWGORG\_1376

Pace Project No.: 30507347

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QC Batch:	520944	Analysis Method:	EPA 9320
QC Batch Method:	EPA 9320	Analysis Description:	9320 Radium 228
		Laboratory:	Pace Analytical Services - Greensburg

Associated Lab Samples: 30507347004, 30507347005, 30507347006, 30507347007, 30507347008, 30507347009, 30507347010, 30507347011, 30507347012, 30507347013, 30507347014

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METHOD BLANK: 2525769 Matrix: Water

Associated Lab Samples: 30507347004, 30507347005, 30507347006, 30507347007, 30507347008, 30507347009, 30507347010, 30507347011, 30507347012, 30507347013, 30507347014

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.321 ± 0.291 (0.581) C:70% T:92%	pCi/L	08/03/22 11:53	

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### QUALITY CONTROL - RADIOCHEMISTRY

Project: WMWGORG\_1376

Pace Project No.: 30507347

QC Batch: 520946

Analysis Method: EPA 9320

QC Batch Method: EPA 9320

Analysis Description: 9320 Radium 228

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 30507347026, 30507347027, 30507347028

METHOD BLANK: 2525771

Matrix: Water

Associated Lab Samples: 30507347026, 30507347027, 30507347028

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.490 ± 0.343 (0.661) C:76% T:94%	pCi/L	08/05/22 12:40	

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### QUALITY CONTROL - RADIOCHEMISTRY

Project: WMWGORG\_1376  
Pace Project No.: 30507347

QC Batch:	520418	Analysis Method:	EPA 9315
QC Batch Method:	EPA 9315	Analysis Description:	9315 Total Radium
		Laboratory:	Pace Analytical Services - Greensburg

Associated Lab Samples: 30507347001, 30507347002, 30507347003, 30507347004, 30507347005, 30507347006, 30507347007, 30507347008, 30507347009, 30507347010, 30507347011, 30507347012, 30507347013, 30507347014, 30507347015, 30507347016, 30507347017, 30507347018, 30507347019, 30507347020

METHOD BLANK:	2523329	Matrix:	Water
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Associated Lab Samples: 30507347001, 30507347002, 30507347003, 30507347004, 30507347005, 30507347006, 30507347007, 30507347008, 30507347009, 30507347010, 30507347011, 30507347012, 30507347013, 30507347014, 30507347015, 30507347016, 30507347017, 30507347018, 30507347019, 30507347020

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.329 ± 0.261 (0.442) C:91% T:NA	pCi/L	08/09/22 10:24	

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: WMWGORG\_1376

Pace Project No.: 30507347

QC Batch: 521067

Analysis Method: EPA 9315

QC Batch Method: EPA 9315

Analysis Description: 9315 Total Radium

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 30507347021, 30507347022, 30507347023, 30507347024, 30507347025, 30507347026, 30507347027, 30507347028

METHOD BLANK: 2526237

Matrix: Water

Associated Lab Samples: 30507347021, 30507347022, 30507347023, 30507347024, 30507347025, 30507347026, 30507347027, 30507347028

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.151 ± 0.267 (0.601) C:96% T:NA	pCi/L	08/09/22 12:33	

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: WMWGORG\_1376

Pace Project No.: 30507347

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QC Batch:	520945	Analysis Method:	EPA 9320
QC Batch Method:	EPA 9320	Analysis Description:	9320 Radium 228
		Laboratory:	Pace Analytical Services - Greensburg

Associated Lab Samples: 30507347001, 30507347002, 30507347003, 30507347015, 30507347016, 30507347017, 30507347018, 30507347019, 30507347020, 30507347021, 30507347022, 30507347023, 30507347024, 30507347025

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METHOD BLANK:	2525770	Matrix:	Water
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Associated Lab Samples: 30507347001, 30507347002, 30507347003, 30507347015, 30507347016, 30507347017, 30507347018, 30507347019, 30507347020, 30507347021, 30507347022, 30507347023, 30507347024, 30507347025

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.546 ± 0.350 (0.641) C:63% T:94%	pCi/L	08/04/22 12:05	

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: WMWGORG\_1376  
Pace Project No.: 30507347

---

### 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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without the written consent of Pace Analytical Services, LLC.

### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WMWGORG\_1376

Pace Project No.: 30507347

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30507347001	BC12876 MW-11H	EPA 9315	520418		
30507347002	BC12876 MW-11H MS	EPA 9315	520418		
30507347003	BC12876 MW-11H MSD	EPA 9315	520418		
30507347004	BC12877 MW-13H	EPA 9315	520418		
30507347005	BC12878 MW-13H DUP	EPA 9315	520418		
30507347006	BC12879 MW-9H	EPA 9315	520418		
30507347007	BC12880 MW-9V	EPA 9315	520418		
30507347008	BC12881 MW-12V	EPA 9315	520418		
30507347009	BC12882 MW-12H	EPA 9315	520418		
30507347010	BC12883 MW-14H	EPA 9315	520418		
30507347011	BC12884 FB-2	EPA 9315	520418		
30507347012	BC12885 PZ-18	EPA 9315	520418		
30507347013	BC12886 PZ-19	EPA 9315	520418		
30507347014	BC12887 PZ-19 DUP	EPA 9315	520418		
30507347015	BC12888 PZ-20	EPA 9315	520418		
30507347016	BC12889 PZ-21	EPA 9315	520418		
30507347017	BC12890 FB-1	EPA 9315	520418		
30507347018	BC12891 PZ-22	EPA 9315	520418		
30507347019	BC12892 PZ-17	EPA 9315	520418		
30507347020	BC12893 MW-3V	EPA 9315	520418		
30507347021	BC12894 MW-8V	EPA 9315	521067		
30507347022	BC12895 MW-8	EPA 9315	521067		
30507347023	BC12896 MW-4V	EPA 9315	521067		
30507347024	BC12897 MW-4	EPA 9315	521067		
30507347025	BC12898 EB-1	EPA 9315	521067		
30507347026	BC12899 MW-3	EPA 9315	521067		
30507347027	BC12899 MW-3 MS	EPA 9315	521067		
30507347028	BC12899 MW-3 MSD	EPA 9315	521067		
30507347001	BC12876 MW-11H	EPA 9320	520945		
30507347002	BC12876 MW-11H MS	EPA 9320	520945		
30507347003	BC12876 MW-11H MSD	EPA 9320	520945		
30507347004	BC12877 MW-13H	EPA 9320	520944		
30507347005	BC12878 MW-13H DUP	EPA 9320	520944		
30507347006	BC12879 MW-9H	EPA 9320	520944		
30507347007	BC12880 MW-9V	EPA 9320	520944		
30507347008	BC12881 MW-12V	EPA 9320	520944		
30507347009	BC12882 MW-12H	EPA 9320	520944		
30507347010	BC12883 MW-14H	EPA 9320	520944		
30507347011	BC12884 FB-2	EPA 9320	520944		
30507347012	BC12885 PZ-18	EPA 9320	520944		
30507347013	BC12886 PZ-19	EPA 9320	520944		
30507347014	BC12887 PZ-19 DUP	EPA 9320	520944		
30507347015	BC12888 PZ-20	EPA 9320	520945		
30507347016	BC12889 PZ-21	EPA 9320	520945		
30507347017	BC12890 FB-1	EPA 9320	520945		
30507347018	BC12891 PZ-22	EPA 9320	520945		
30507347019	BC12892 PZ-17	EPA 9320	520945		

### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WMWGORG\_1376

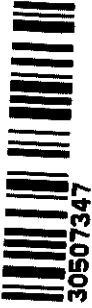
Pace Project No.: 30507347

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30507347020	BC12893 MW-3V	EPA 9320	520945		
30507347021	BC12894 MW-8V	EPA 9320	520945		
30507347022	BC12895 MW-8	EPA 9320	520945		
30507347023	BC12896 MW-4V	EPA 9320	520945		
30507347024	BC12897 MW-4	EPA 9320	520945		
30507347025	BC12898 EB-1	EPA 9320	520945		
30507347026	BC12899 MW-3	EPA 9320	520946		
30507347027	BC12899 MW-3 MS	EPA 9320	520946		
30507347028	BC12899 MW-3 MSD	EPA 9320	520946		
30507347001	BC12876 MW-11H	Total Radium Calculation	524701		
30507347004	BC12877 MW-13H	Total Radium Calculation	524701		
30507347005	BC12878 MW-13H DUP	Total Radium Calculation	524701		
30507347006	BC12879 MW-9H	Total Radium Calculation	524701		
30507347007	BC12880 MW-9V	Total Radium Calculation	524701		
30507347008	BC12881 MW-12V	Total Radium Calculation	524701		
30507347009	BC12882 MW-12H	Total Radium Calculation	524701		
30507347010	BC12883 MW-14H	Total Radium Calculation	524701		
30507347011	BC12884 FB-2	Total Radium Calculation	524701		
30507347012	BC12885 PZ-18	Total Radium Calculation	524701		
30507347013	BC12886 PZ-19	Total Radium Calculation	524701		
30507347014	BC12887 PZ-19 DUP	Total Radium Calculation	524701		
30507347015	BC12888 PZ-20	Total Radium Calculation	524701		
30507347016	BC12889 PZ-21	Total Radium Calculation	524704		
30507347017	BC12890 FB-1	Total Radium Calculation	524704		
30507347018	BC12891 PZ-22	Total Radium Calculation	524704		
30507347019	BC12892 PZ-17	Total Radium Calculation	524704		
30507347020	BC12893 MW-3V	Total Radium Calculation	524704		
30507347021	BC12894 MW-8V	Total Radium Calculation	524704		
30507347022	BC12895 MW-8	Total Radium Calculation	524704		
30507347023	BC12896 MW-4V	Total Radium Calculation	524704		
30507347024	BC12897 MW-4	Total Radium Calculation	524704		
30507347025	BC12898 EB-1	Total Radium Calculation	524704		
30507347026	BC12899 MW-3	Total Radium Calculation	524704		

### REPORT OF LABORATORY ANALYSIS

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# WO#: 30507347



## CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Alabama Power Company	Report To:	Renee Jernigan	Attention:	Renee Jernigan
Address:	744 Highway 87 GSC Bldg #8 Calera, AL 35040	Copy To:	Brooke Caton & Blaine Denton	Company Name:	Alabama Power Co.
Email To:	rgamer@southernco.com	Purchase Order #:	APC10755638	Address:	744 Highway 87 GSC Bldg #8
Phone:	205-664-6247 Fax	Project Name:	Plant Gorgas Gypsum	Pace Quote:	CCR
Requested Due Date:	Normal	Project Number:	WNVGORG-1376	Pace Project Manager:	Skyler Richmond
				Pace Profile #:	16788
				State / Location	AL
				Regulatory Agency	

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample IDs must be unique	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		DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLER CONDITIONS											
					Sample Duplicate	Matrix Spike/Matrix Spike Duplicate	Field Filtered	Matrix Code	Matrix Code	Matrix Code	Matrix Code	START	TIME																								
					Matrix Spike/Matrix Spike Duplicate	Field Filtered	Matrix Code	Matrix Code	Matrix Code	Matrix Code	START	TIME																									
1	BC12876	MW-11H	APCO-GS-GSA-MW-11H	APCO_Gorgas_GypsumStore						X					GW	G	7/12/2022	10:25																			
2	BC12877	MW-13H	APCO-GS-GSA-MW-13H	APCO_Gorgas_GypsumStore											GW	G	7/12/2022	12:00																			
3	BC12878	MW-13H DUP	APCO-GS-GSA-MW-13H	APCO_Gorgas_GypsumStore	X										GW	G	7/12/2022	12:00																			
4	BC12879	MW-9H	APCO-GS-GSA-MW-9H	APCO_Gorgas_GypsumStore											GW	G	7/12/2022	13:16																			
5	BC12880	MW-9V	APCO-GS-GSA-MW-9V	APCO_Gorgas_GypsumStore											GW	G	7/12/2022	14:47																			
6	BC12881	MW-12V	APCO-GS-GSA-MW-12V	APCO_Gorgas_GypsumStore											GW	G	7/13/2022	9:30																			
7	BC12882	MW-12H	APCO-GS-GSA-MW-12H	APCO_Gorgas_GypsumStore											GW	G	7/13/2022	10:45																			
8	BC12883	MW-14H	APCO-GS-GSA-MW-14H	APCO_Gorgas_GypsumStore											GW	G	7/13/2022	11:40																			
9	BC12884	FB-2	APCO-GS-GSA-FB-2	APCO_Gorgas_GypsumStore											GW	G	7/13/2022	12:00																			
10																																					
11																																					
12																																					

REQUISITION COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	TEMP IN C	Received on	Sealed	Custody	Cooler	Shippers	(Y/N)
	Renee Jernigan / APC GTL	7/14/2022	15:15	<i>[Signature]</i>	7-19-22	10:00							(Y/N)
SAMPLER NAME AND SIGNATURE		PRINT Name of SAMPLER:		SIGNATURE of SAMPLER:		DATE Signed:		TJ Daugherty					

**WO# : 30507347**

**PM : SCR      Due Date : 08/09/22  
CLIENT : ALABAMA PMR**

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

<b>Section A</b>		<b>Section B</b>		<b>Section C</b>	
<b>Required Client Information:</b>		<b>Required Project Information:</b>		<b>Invoice Information:</b>	
Company:	Alabama Power Company	Report To:	Renee Jernigan	Company Name:	Alabama Power Co.
Address:	744 Highway 87 GSC Bldg #8 Calera, AL 35040	Copy To:	Brooke Caton & Blaine Denton	Address:	744 Highway 87 GSC Bldg #8 CCR
Email To:	rgamer@southernco.com	Purchase Order #:	APC10755638	Pace Quote:	CCR
Phone:	205-664-6247 Fax	Project Name:	Plant Gorgas Gypsum	Pace Project Manager:	Skyler Richmond
Requested Due Date:	Normal	Project Number:	WMMGORG_1376	Pace Profile #:	16788
			Regulatory/Agency: AL		
			State / Location:		

ITEM #	DESCRIPTION	STATION NAME LOCATION_CODE	SITE NAME FACILITY_ID	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	START TIME	FIELD FILTERED	MATRIX CODE	# OF CONTAINERS	PRESERVATIVES				ANALYTES TEST	DATE	TIME	SAMPLE CONDITIONS
										UNPRESERVED	NaOH/Znacetate	HNO3	Y/N				
1	BC12885	PZ-18	APCO-GS-GSA-PZ-18	APCO_Gorgas_GypsumStore	GW G	7/12/2022	9:06	GW G	1				X	X	X		
2	BC12886	PZ-19	APCO-GS-GSA-PZ-19	APCO_Gorgas_GypsumStore	GW G	7/12/2022	11:14	GW G	1				X	X	X		
3	BC12887	PZ-19 DUP	APCO-GS-GSA-PZ-19	APCO_Gorgas_GypsumStore	GW G	7/12/2022	11:14	GW G	1				X	X	X		
4	BC12888	PZ-20	APCO-GS-GSA-PZ-20	APCO_Gorgas_GypsumStore	GW G	7/12/2022	12:44	GW G	1				X	X	X		
5	BC12889	PZ-21	APCO-GS-GSA-PZ-21	APCO_Gorgas_GypsumStore	GW G	7/12/2022	14:33	GW G	1				X	X	X		
6	BC12890	FB-1	APCO-GS-GSA-FB-1	APCO_Gorgas_GypsumStore	GW G	7/12/2022	15:20	GW G	1				X	X	X		
7	BC12891	PZ-22	APCO-GS-GSA-PZ-22	APCO_Gorgas_GypsumStore	GW G	7/13/2022	9:01	GW G	1				X	X	X		
8	BC12892	PZ-17	APCO-GS-GSA-PZ-17	APCO_Gorgas_GypsumStore	GW G	7/13/2022	10:21	GW G	1				X	X	X		
9	BC12893	MW-3V	APCO-GS-GSA-MW-3V	APCO_Gorgas_GypsumStore	GW G	7/13/2022	11:48	GW G	1				X	X	X		
10																	
11																	
12																	

<b>RELINQUISHED BY / AFFILIATION</b>		<b>DATE</b>		<b>TIME</b>	
Renee Jernigan/ APC GTL		7/14/2022		15:15	
<b>ACCEPTED BY / AFFILIATION</b>		<b>DATE</b>		<b>TIME</b>	
<i>[Signature]</i>		7-19-22		15:00	
<b>ADDITIONAL COMMENTS</b>		<b>DATE</b>		<b>TIME</b>	
<b>RECEIVED ON</b>		<b>TEMP IN C</b>		<b>RECEIVED BY</b>	
<b>SAMPLER NAME AND SIGNATURE</b>		<b>DATE SIGNED</b>		<b>RECEIVED BY</b>	
<i>[Signature]</i>		Dallas Gentry		<i>[Signature]</i>	
<b>SIGNATURE OF SAMPLER:</b>		<b>DATE SIGNED:</b>		<b>RECEIVED BY:</b>	

WO#: 30507347

PM: SCR Due Date: 08/09/22

CLIENT: ALABAMA PWR

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be filled in.

**Section A Required Client Information:**  
 Company: Alabama Power Company  
 Address: 744 Highway 87 GSC Bldg #8  
 Address: Calera, AL 35040  
 Email To: igamer@southernco.com  
 Phone: 205-664-6247 Fax  
 Requested Due Date: Normal

**Section B Required Project Information:**  
 Report To: Renee Jernigan  
 Copy To: Brooke Caton & Blaine Denton  
 Attention: Renee Jernigan  
 Company Name: Alabama Power Co.  
 Address: 744 Highway 87 GSC Bldg #8  
 Pace Quote: CCR  
 Pace Project Manager: Skyler Richmond  
 Pace Profile #: 16788

**Section C Invoice Information:**  
 Station Name: Plant Gorgas Gypsum  
 Location Code: WMWGORG\_1376  
 Project Number:  
 Station Name: Plant Gorgas Gypsum  
 Location Code: WMWGORG\_1376  
 Project Number:  
 Site Name: Skyler Richmond  
 Facility ID: AL

Regulatory Agency  
 State / Location

Page: 3 Of 3

ITEM #	DESCRIPTION	STATION NAME LOCATION CODE	SITE NAME FACILITY ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE TIME	# OF CONTAINERS	PRESERVATIVES	ANALYSES TEST Y/N	REQUIRED ANALYSES FILTERED (Y/N)		DATE	TIME	SAMPLE CONDITIONS	
										Field Filtered	Matrix Spike/Matrix Spike Duplicate				EPA 9315
1	BC12884	MW-8V	APCO-GS-GSA-MW-8V	APCO_Gorgas_GypsumStore	GW	G	7/12/2022 13:00	1			X	X	X		
2	BC12895	MW-8	APCO-GS-GSA-MW-8	APCO_Gorgas_GypsumStore	GW	G	7/12/2022 14:17	1			X	X	X		
3	BC12896	MW-4V	APCO-GS-GSA-MW-4V	APCO_Gorgas_GypsumStore	GW	G	7/13/2022 9:31	1			X	X	X		
4	BC12897	MW-4	APCO-GS-GSA-MW-4	APCO_Gorgas_GypsumStore	GW	G	7/13/2022 10:18	1			X	X	X		
5	BC12898	EB-1	APCO-GS-GSA-EB-1	APCO_Gorgas_GypsumStore	GW	G	7/13/2022 10:50	1			X	X	X		
6	BC12899	MW-3	APCO-GS-GSA-MW-3	APCO_Gorgas_GypsumStore	GW	G	7/13/2022 11:09	3			X	X	X		
7															
8															
9															
10															
11															
12															

**REMOVED BY / AFFILIATION** DATE TIME  
 Renee Jernigan/ APC GTL 7/14/2022 15:15

**ACCEPTED BY / AFFILIATION** DATE TIME  
 [Signature] 7-19-22-19:10

**ADDITIONAL COMMENTS**

**RECEIVED ON** (Y/N) (Y/N) (Y/N) (Y/N)  
 Received on Ice Custody Sealed Cooler (Y/N) (Y/N) (Y/N) (Y/N)

**SAMPLER NAME AND SIGNATURE**  
 PRINT Name of SAMPLER: Anthony Goggins  
 SIGNATURE OF SAMPLER: [Signature]

DATE Signed:

Pittsburgh Lab Sample Condition Upon Receipt



Client Name: Alabama Power Project # \_\_\_\_\_

Courier:  Fed Ex  UPS  USPS  Client  Commercial  Pace Other \_\_\_\_\_

Tracking #: 5870 1897 3718

Label	<u>PS</u>
LIMS Login	<u>VP</u>

Custody Seal on Cooler/Box Present:  yes  no Seals intact:  yes  no

Thermometer Used \_\_\_\_\_ Type of Ice: Wet Blue Norie

Cooler Temperature Observed Temp \_\_\_\_\_ °C Correction Factor: \_\_\_\_\_ °C Final Temp: \_\_\_\_\_ °C

Temp should be above freezing to 6°C

pH paper Lot#	<u>1000421</u>
Date and Initials of person examining contents:	<u>PS 7/20/22</u>

Comments:

	Yes	No	N/A	
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 type="checkbox"/>	<input checked="" 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	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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>PHC2</u>
All containers meet method preservation requirements.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Initial when completed: <u>PS</u> Date/time of preservation: _____
				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 checked="" type="checkbox"/>	<input type="checkbox"/>	18.
Trip Blank Custody Seals Present	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Rad Samples Screened < 0.5 mrem/hr	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Initial when completed: <u>PS</u> Date: <u>7/20/22</u> Survey Meter SN: <u>1563</u>

**WO#: 30507347**  
 PM: SCR Due Date: 08/09/22  
 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.

Alabama Power

Please Log This project ~~as the~~ following

These examples on COC  
each ~~bottle~~ sample is 1 BPIN \*

- 001 BC12876 MW-11H
- 002 BC12876 MW-11H MS
- 003 BC12876 MW-11H MSD

Samples 004 - 025

sample ID and Description

Samples

- 026 BC12899 MW-3
- 027 BC12899 MW-3 MS
- 028 BC12899 MW-3 MSD

**WO#: 30507347**  
Due Date: 08/09/22  
PH: SCR  
CLIENT: ALABAMA PWR

Please ask if you have questions



Pace Greensburg Lab -Sample Container Count

Client

Profile Number

Site

Notes

Plant Gargas Gypsum

16788

1/3

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	WG9U	WGKU	ZPLC	
1																													
2																													
3																													
4																													
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12																													

WO#: 30507347

PM: SCR Due Date: 08/09/22  
CLIENT: ALABAMA PWR

Container Codes

Glass	
GJN	1 Gallon Jug with HNO3
AG5U	100mL amber glass unpreserved
AG5T	100mL amber glass Na Thiosulfate
GJN	1 Gallon Jug
AG1S	1L amber glass H2SO4
AG1H	1L amber glass HCl
AG1T	1L amber glass Na Thiosulfate
BG1U	1L clear glass unpreserved
AG3S	250mL amber glass H2SO4
AG3U	250mL amber glass unpreserved
DG9S	40mL amber VOA vial H2SO4
VG9U	40mL clear VOA vial
VG9T	40mL clear VOA vial Na Thiosulfate
VG9H	40mL clear VOA vial HCl
JGFU	4oz amber wide jar
WG9U	4oz wide jar 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
EZ1	5g Encore
VOAK	Kit for Volatile Solid
I	Wipe/Swab
ZPLC	Ziploc Bag
WT	Water
SL	Solid
OL	Non-aqueous liquid
WP	Wipe

2/3

Pace Greensburg Lab -Sample Container Count



Client \_\_\_\_\_ Profile Number \_\_\_\_\_

Site \_\_\_\_\_ Notes \_\_\_\_\_

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	WG9U	WGKU	ZPLC
513																												
214																												
315																												
416																												
517																												
618																												
719																												
820																												
921																												
1022																												
1123																												
1224																												

**WO#: 30507347**  
 PM: SCR Due Date: 08/09/22  
 CLIENT: ALABAMA PMR

Container Codes

Glass	
GJN	1 Gallon Jug with HNO3
AG5U	100mL amber glass unpreserved
AG5T	100mL amber glass Na Thiosulfate
GJN	1 Gallon Jug
AG1S	1L amber glass H2SO4
AG1H	1L amber glass HCl
AG1T	1L amber glass Na Thiosulfate
BG1U	1L clear glass unpreserved
AG3S	250mL amber glass H2SO4
AG3U	250mL amber glass unpreserved
DG9S	40mL amber VOA vial H2SO4
VG9U	40mL clear VOA vial
VG9T	40mL clear VOA vial Na Thiosulfate
VG9H	40mL clear VOA vial HCl
JGFU	4oz amber wide jar
WG9U	4oz wide jar unpreserved
BG2U	500mL clear glass unpreserved
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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
IWP	Wipe



3/3

Pace Greensburg Lab -Sample Container Count



Client \_\_\_\_\_ Profile Number \_\_\_\_\_

Site \_\_\_\_\_ Notes \_\_\_\_\_

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	WG9U	WGKU	ZPLC	
1																													
2																													
3																													
4																													
5																													
6																													
7																													
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
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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
WIP	Wipe

**WO#: 30507347**

PH: SCR Due Date: 08/09/22  
 CLIENT: ALABAMA PWR

# Quality Control Sample Performance Assessment



**Analyt. Must Manually Enter All Fields Highlighted in Yellow.**

Test: Ra-228  
Analyst: VAL  
Date: 7/28/2022  
Worklist: 67899  
Matrix: WT

**Method Blank Assessment**

MB Sample ID: 2525770  
 MB concentration: 0.546  
 MB 2 Sigma CSU: 0.350  
 MB MDC: 0.641  
 MB Numerical Performance Indicator: 3.06  
 MB Status vs Numerical Indicator: Fail\*  
 MB Status vs. MDC: Pass

**Laboratory Control Sample Assessment**

LCS#	Y or N?	N
LCS#67899	8/4/2022	LCS#67899
Count Date:	8/4/2022	
Spike I.D.:	22-016	
Decay Corrected Spike Concentration (pCi/mL):	34.800	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.807	
Target Conc. (pCi/L, g, F):	4.315	
Uncertainty (Calculated):	0.211	
Result (pCi/L, g, F):	3.743	
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	0.853	
Numerical Performance Indicator:	-1.27	
Percent Recovery:	86.76%	
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: 7/12/2022  
 Sample I.D.: 30507347001  
 Sample MS I.D.: 30507347002  
 Sample MSD I.D.: 30507347003  
 Spike I.D.: 22-016  
 MS/MSD Decay Corrected Spike Concentration (pCi/mL): 35.066  
 Spike Volume Used in MS (mL): 0.20  
 MS Aliquot (L, g, F): 0.804  
 MS Target Conc. (pCi/L, g, F): 8.725  
 MSD Aliquot (L, g, F): 0.802  
 MSD Target Conc. (pCi/L, g, F): 8.748  
 MS Spike Uncertainty (calculated): 0.428  
 MSD Spike Uncertainty (calculated): 0.429  
 Sample Result: 0.975  
 Sample Matrix Spike Result: 0.420  
 Matrix Spike Result 2 Sigma CSU (pCi/L, g, F): 9.726  
 Sample Matrix Spike Duplicate Result: 1.942  
 Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F): 10.304  
 MS Numerical Performance Indicator: 2.050  
 MSD Numerical Performance Indicator: 0.025  
 MS Percent Recovery: 0.534  
 MSD Percent Recovery: 100.30%  
 MS Status vs Numerical Indicator: 106.65%  
 MSD Status vs Numerical Indicator: Pass  
 MS Status vs Recovery: Pass  
 MSD Status vs Recovery: Pass  
 MS/MSD Upper % Recovery Limits: 135%  
 MS/MSD Lower % Recovery Limits: 60%

**Matrix Spike/Matrix Spike Duplicate Sample Assessment**

Sample I.D.: 30507347001  
 Sample MS I.D.: 30507347002  
 Sample MSD I.D.: 30507347003  
 Spike I.D.: 9.726  
 Matrix Spike Result 2 Sigma CSU (pCi/L, g, F): 1.942  
 Sample Matrix Spike Duplicate Result: 10.304  
 Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F): 2.050  
 Duplicate Numerical Performance Indicator: -0.401  
 Duplicate RPD: 6.13%  
 Duplicate Status vs Numerical Indicator: Pass  
 Duplicate Status vs RPD: Pass  
 % RPD Limit: 36%

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

Comments:

\*If the lowest activity sample in this batch is greater than 10 times the blank value, the blank is acceptable; otherwise this batch must be re-prepped.

*sub activity < MDC, Pass*

*MS/MSD*

# Quality Control Sample Performance Assessment



**Analyst Must Manually Enter All Fields Highlighted in Yellow.**

Test: Ra-226  
Analyst: RMS  
Date: 7/27/2022  
Worklist: 67874  
Matrix: DW

Method Blank Assessment	
MB Sample ID	2523329
MB concentration:	0.329
M/B Counting Uncertainty:	0.256
MB MDC:	0.442
MB Numerical Performance Indicator:	2.52
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	
	LCSD67874	Y
Count Date:	8/9/2022	LCSD67874
Spike I.D.:	19-033	8/9/2022
Decay Corrected Spike Concentration (pCi/mL):	24.025	19-033
Volume Used (mL):	0.10	24.025
Aliquot Volume (L, g, F):	0.196	0.10
Target Conc. (pCi/L, g, F):	12.241	0.197
Uncertainty (Calculated):	0.147	12.170
Result (pCi/L, g, F):	13.459	0.146
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	1.255	12.258
Numerical Performance Indicator:	1.89	1.203
Percent Recovery:	109.95%	0.14
Status vs Numerical Indicator:	N/A	100.72%
Upper % Recovery Limits:	125%	N/A
Lower % Recovery Limits:	75%	Pass

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Sample Collection Date:	7/12/2022	
Sample MS I.D.:	30507347001	
Sample MSD I.D.:	30507347002	
Spike I.D.:	19-033	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	24.025	
Spike Volume Used in MS (mL):	0.20	
Spike Volume Used in MSD (mL):	0.20	
MS Aliquot (L, g, F):	0.198	
MS Target Conc. (pCi/L, g, F):	24.316	
MSD Aliquot (L, g, F):	0.195	
MSD Target Conc. (pCi/L, g, F):	24.587	
MS Spike Uncertainty (calculated):	0.292	
MSD Spike Uncertainty (calculated):	0.295	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.022	
Sample Matrix Spike Result:	24.382	
Matrix Spike Result Uncertainty (pCi/L, g, F):	1.710	
Sample Matrix Spike Duplicate Result:	25.380	
MS Numerical Performance Indicator:	1.782	
MSD Numerical Performance Indicator:	0.833	
MS Percent Recovery:	100.18%	
MSD Percent Recovery:	103.13%	
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%	

Duplicate Sample Assessment	Matrix Spike/Matrix Spike Duplicate Sample Assessment
Sample I.D.:	30507347001
Duplicate Sample I.D.:	30507347002
Sample Result (pCi/L, g, F):	24.382
Sample Duplicate Result (pCi/L, g, F):	1.710
Sample Result Counting Uncertainty (pCi/L, g, F):	1.782
Sample Duplicate Counting Uncertainty (pCi/L, g, F):	-0.792
Are sample and/or duplicate results below RL?	2.90%
Duplicate Numerical Performance Indicator:	N/A
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	Pass
Duplicate Status vs Numerical Indicator:	Pass
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:

*Handwritten signature and date: 8/10/2022*

# Quality Control Sample Performance Assessment

**Analyst Must Manually Enter All Fields Highlighted in Yellow.**



Test: Ra-226  
Analyst: RMS  
Date: 8/5/2022  
Worklist: 67952  
Matrix: DW

Method Blank Assessment	
MB Sample ID	2526237
MB concentration:	0.151
MB Counting Uncertainty:	0.266
MB MDC:	0.601
MB Numerical Performance Indicator:	1.11
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment		LCSD (Y or N)?	N
Count Date:	8/9/2022	LCSD67952	
Spike I.D.:	19-033		
Decay Corrected Spike Concentration (pCi/mL):	24.025		
Volume Used (mL):	0.10		
Aliquot Volume (L, g, F):	0.194		
Target Conc. (pCi/L, g, F):	12.383		
Uncertainty (Calculated):	0.149		
Result (pCi/L, g, F):	12.509		
LCSD/LCSD Counting Uncertainty (pCi/L, g, F):	1.498		
Numerical Performance Indicator:	0.16		
Percent Recovery:	101.02%		
Status vs Numerical Indicator:	N/A		
Status vs Recovery:	Pass		
Upper % Recovery Limits:	125%		
Lower % Recovery Limits:	75%		

Duplicate Sample Assessment	
Sample I.D.:	See Below ##
Duplicate Sample I.D.:	
Sample Result (pCi/L, g, F):	
Duplicate Result (pCi/L, g, F):	
Sample Result Counting Uncertainty (pCi/L, g, F):	
Duplicate Result Counting Uncertainty (pCi/L, g, F):	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	
Duplicate Duplicate Result Counting Uncertainty (pCi/L, g, F):	
Are sample and/or duplicate results below RL?	
Duplicate Numerical Performance Indicator:	
Duplicate RPD:	
Duplicate Status vs Numerical Indicator:	
Duplicate Status vs RPD:	
% RPD Limit:	

Sample Matrix Spike Control Assessment		MS/MSD 1	MS/MSD 2
Sample Collection Date:	7/13/2022		
Sample I.D.:	30507347026		
Sample MS I.D.:	30507347027		
Sample MSD I.D.:	30507347028		
Spike I.D.:	19-033		
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	24.025		
Spike Volume Used in MS (mL):	0.20		
MS Aliquot (L, g, F):	0.200		
MS Target Conc. (pCi/L, g, F):	24.076		
MSD Aliquot (L, g, F):	0.194		
MSD Target Conc. (pCi/L, g, F):	24.766		
MS Spike Uncertainty (calculated):	0.289		
MSD Spike Uncertainty (calculated):	0.297		
Sample Result Counting Uncertainty (pCi/L, g, F):	0.063		
Sample Matrix Spike Result:	22.440		
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	1.988		
Sample Matrix Spike Duplicate Result:	23.814		
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	1.993		
MS Numerical Performance Indicator:	-1.649		
MSD Numerical Performance Indicator:	-0.982		
MS Percent Recovery:	92.95%		
MSD Percent Recovery:	95.90%		
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.:	30507347026
Sample MS I.D.:	30507347027
Sample MSD I.D.:	30507347028
Sample Matrix Spike Result:	22.440
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	1.988
Sample Matrix Spike Duplicate Result:	23.814
Sample Matrix Spike Duplicate Counting Uncertainty (pCi/L, g, F):	1.993
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	-0.957
Duplicate Numerical Performance Indicator:	3.13%
(Based on the Percent Recoveries) MS/MSD Duplicate RPD:	6.14%
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:

*89-20*

*LAM 8/9/22*

# Quality Control Sample Performance Assessment



Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test: Ra-228  
Analyst: VAL  
Date: 7/28/2022  
Worklist: 67898  
Matrix: WT

Method Blank Assessment	
MB Sample ID	2525769
MB concentration:	0.321
M/B 2 Sigma CSU:	0.291
MB MDC:	0.581
MB Numerical Performance Indicator:	2.16
MB Status vs Numerical Indicator:	Warning
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	
LCSID (Y or N)?	N
LCS67898	LCS067898
Count Date:	8/3/2022
Spike I.D.:	22-016
Decay Corrected Spike Concentration (pCi/mL):	34.812
Volume Used (mL):	0.10
Aliquot Volume (L, g, F):	0.809
Target Conc. (pCi/L, g, F):	4.305
Uncertainty (Calculated):	0.211
Result (pCi/L, g, F):	4.784
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	1.030
Numerical Performance Indicator:	110.65%
Percent Recovery:	N/A
Status vs Numerical Indicator:	Pass
Upper % Recovery Limits:	135%
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:	

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

Comments:

*Handwritten signature and date: 8/14/22*

Sample Matrix Spike Control Assessment	
Sample Collection Date:	MS/MSD 1 7/15/2022
Sample I.D.:	MS/MSD 2 30505103001
Sample MS I.D.:	30505103002
Sample MSD I.D.:	30505103003
Spike I.D.:	22-016
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	35.147
Spike Volume Used in MS (mL):	0.20
Spike Volume Used in MSD (mL):	0.20
MS Aliquot (L, g, F):	0.804
MS Target Conc. (pCi/L, g, F):	8.739
MSD Aliquot (L, g, F):	0.807
MSD Target Conc. (pCi/L, g, F):	8.708
MS Spike Uncertainty (calculated):	0.428
MSD Spike Uncertainty (calculated):	0.427
Sample Result:	1.316
Sample Result 2 Sigma CSU (pCi/L, g, F):	0.463
Sample Matrix Spike Result:	11.797
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):	2.318
Sample Matrix Spike Duplicate Result:	9.718
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.915
MS Numerical Performance Indicator:	1.422
MSD Numerical Performance Indicator:	-0.297
MS Percent Recovery:	119.94%
MSD Percent Recovery:	96.49%
MS Status vs Numerical Indicator:	Pass
MSD Status vs Numerical Indicator:	Pass
MS Status vs Recovery:	Pass
MSD Status vs Recovery:	Pass
MS/MSD Upper % Recovery Limits:	135%
MS/MSD Lower % Recovery Limits:	60%

Matrix Spike/Matrix Spike Duplicate Sample Assessment	
Sample I.D.:	30505103001
Sample MS I.D.:	30505103002
Sample MSD I.D.:	30505103003
Spike I.D.:	11.797
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):	2.318
Sample Matrix Spike Duplicate Result:	9.718
Sample Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.915
Matrix Spike Duplicate Numerical Performance Indicator:	1.355
Duplicate Numerical Performance Indicator:	21.67%
(Based on the Percent Recoveries) MS/MSD Duplicate RPD:	Pass
MS/MSD Duplicate Status vs Numerical Indicator:	Pass
MS/MSD Duplicate Status vs RPD:	Pass
% RPD Limit:	36%

# Quality Control Sample Performance Assessment



Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test: Ra-228  
 Analyst: VAL  
 Date: 7/28/2022  
 Worklist: 67900  
 Matrix: WT

Method Blank Assessment	
MB Sample ID	2525771
MB concentration:	0.490
M/B 2 Sigma CSU:	0.343
MB MDC:	0.661
MB Numerical Performance Indicator:	2.80
MB Status vs Numerical Indicator:	Warning
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment		
LCS#	(Y or N)?	N
LCS#67900		LCS#67900
Count Date:	8/5/2022	
Spike I.D.:	22-016	
Decay Corrected Spike Concentration (pCi/mL):	34.789	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.805	
Target Conc. (pCi/L, g, F):	4.319	
Uncertainty (Calculated):	0.212	
Result (pCi/L, g, F):	3.952	
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	0.927	
Numerical Performance Indicator:	-0.76	
Percent Recovery:	91.51%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	135%	
Lower % Recovery Limits:	60%	

Duplicate Sample Assessment	
Sample I.D.:	Enter Duplicate sample IDs if other than LCS/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:	

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

Comments:

Sample Matrix Spike Control Assessment	
Sample Collection Date:	MS/MSD 1 7/16/2022
Sample I.D.:	30507705006
Sample MS I.D.:	30507705007
Sample MSD I.D.:	30507705008
Spike I.D.:	22-016
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	35.137
Spike Volume Used in MS (mL):	0.20
Spike Volume Used in MSD (mL):	0.20
MS Aliquot (L, g, F):	0.811
MS Target Conc. (pCi/L, g, F):	8.668
MSD Aliquot (L, g, F):	0.805
MSD Target Conc. (pCi/L, g, F):	8.729
MS Spike Uncertainty (calculated):	0.425
MSD Spike Uncertainty (calculated):	0.428
Sample Result 2 Sigma CSU (pCi/L, g, F):	-0.002
Sample Matrix Spike Result:	0.341
Sample Matrix Spike Duplicate Result:	10.122
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):	2.057
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):	8.131
MS Numerical Performance Indicator:	1.656
MS Numerical Performance Indicator:	1.342
MS Percent Recovery:	-0.670
MSD Percent Recovery:	116.81%
MS Status vs Numerical Indicator:	110.63%
MSD Status vs Numerical Indicator:	102.49%
MS Status vs Recovery:	Pass
MSD Status vs Recovery:	Pass
MS/MSD Upper % Recovery Limits:	135%
MS/MSD Lower % Recovery Limits:	60%

Matrix Spike/Matrix Spike Duplicate Sample Assessment	
Sample I.D.:	30507705006
Sample MS I.D.:	30507705007
Sample MSD I.D.:	30507705008
Sample Matrix Spike Result:	10.122
Sample Matrix Spike Duplicate Result:	2.057
Sample Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):	8.131
Sample Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.656
Duplicate Numerical Performance Indicator:	1.478
Duplicate Numerical Performance Indicator:	22.51%
(Based on the Percent Recoveries) MS/MSD Duplicate RPD:	Pass
MS/MSD Duplicate Status vs Numerical Indicator:	Pass
MS/MSD Duplicate Status vs RPD:	Pass
% RPD Limit:	36%

*[Handwritten signature]*

August 10, 2022

Brooke Caton  
Alabama Power  
744 Highway 87  
Calera, AL 35040

RE: Project: WMWGORPU\_1374  
Pace Project No.: 30505103

Dear Brooke Caton:

Enclosed are the analytical results for sample(s) received by the laboratory on July 11, 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

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

Sincerely,



Skyler C. Richmond  
skyler.richmond@pacelabs.com  
(724)850-5600  
Project Manager

Enclosures

cc: Blaine Denton, Alabama Power  
Renee Jernigan, Alabama Power



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: WMWGORPU\_1374  
Pace Project No.: 30505103

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### **Pace Analytical Services Pennsylvania**

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification #: PA01547

Connecticut Certification #: PH-0694

Delaware Certification

EPA Region 4 DW Rad

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Florida: Cert E871149 SEKS WET

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: KY90133

KY WW Permit #: KY0098221

KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification #: 9991

Missouri Certification #: 235

Montana Certification #: Cert0082

Nebraska Certification #: NE-OS-29-14

Nevada Certification #: PA014572018-1

New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3

Utah/TNI Certification #: PA014572017-9

USDA Soil Permit #: P330-17-00091

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: WMWGORPU\_1374  
Pace Project No.: 30505103

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30505103001	BC12382 MW1	Water	07/05/22 11:40	07/11/22 10:45
30505103002	BC12382 MW1 MS	Water	07/05/22 11:40	07/11/22 10:45
30505103003	BC12382 MW1 MSD	Water	07/05/22 11:40	07/11/22 10:45
30505103004	BC12383 MW2	Water	07/05/22 12:40	07/11/22 10:45
30505103005	BC12384 MW2 DUP	Water	07/05/22 12:40	07/11/22 10:45
30505103006	BC12385 MW3	Water	07/05/22 13:57	07/11/22 10:45
30505103007	BC12386 FB-1	Water	07/05/22 14:55	07/11/22 10:45
30505103008	BC12387 MW-4	Water	07/05/22 15:30	07/11/22 10:45
30505103009	BC12388 EB-1	Water	07/05/22 16:00	07/11/22 10:45

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### SAMPLE ANALYTE COUNT

Project: WMWGORPU\_1374  
Pace Project No.: 30505103

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30505103001	BC12382 MW1	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30505103002	BC12382 MW1 MS	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
30505103003	BC12382 MW1 MSD	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
30505103004	BC12383 MW2	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30505103005	BC12384 MW2 DUP	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30505103006	BC12385 MW3	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30505103007	BC12386 FB-1	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30505103008	BC12387 MW-4	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30505103009	BC12388 EB-1	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

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## PROJECT NARRATIVE

Project: WMWGORPU\_1374  
Pace Project No.: 30505103

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**Method:** EPA 9315  
**Description:** 9315 Total Radium  
**Client:** Alabama Power  
**Date:** August 10, 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\_1374  
Pace Project No.: 30505103

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**Method:** EPA 9320  
**Description:** 9320 Radium 228  
**Client:** Alabama Power  
**Date:** August 10, 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\_1374

Pace Project No.: 30505103

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**Method:** Total Radium Calculation

**Description:** Total Radium 228+226

**Client:** Alabama Power

**Date:** August 10, 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\_1374

Pace Project No.: 30505103

**Sample: BC12382 MW1**      **Lab ID: 30505103001**      Collected: 07/05/22 11:40      Received: 07/11/22 10:45      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>0.166U ± 0.186 (0.355)</b> <b>C:93% T:NA</b>	pCi/L	08/09/22 09:33	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>1.32 ± 0.463 (0.606)</b> <b>C:71% T:86%</b>	pCi/L	08/03/22 11:53	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>1.49 ± 0.649 (0.961)</b>	pCi/L	08/09/22 17:11	7440-14-4	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORPU\_1374

Pace Project No.: 30505103

**Sample: BC12382 MW1 MS**      **Lab ID: 30505103002**      Collected: 07/05/22 11:40      Received: 07/11/22 10:45      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.0108U ± 0.171 (0.467)</b> <b>C:95% T:NA</b>	pCi/L	08/09/22 09:33	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>119.94 %REC ± NA (NA)</b> <b>C:NA T:NA%</b>	pCi/L	08/03/22 11:53	15262-20-1	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORPU\_1374

Pace Project No.: 30505103

**Sample: BC12382 MW1 MSD**      **Lab ID: 30505103003**      Collected: 07/05/22 11:40      Received: 07/11/22 10:45      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>0.184U ± 0.230 (0.475)</b> <b>C:94% T:NA</b>	pCi/L	08/09/22 09:33	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>96.49 %REC 21.67 RPD ±</b> <b>NA (NA)</b> <b>C:NA T:NA%</b>	pCi/L	08/03/22 11:53	15262-20-1	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORPU\_1374

Pace Project No.: 30505103

**Sample: BC12383 MW2**      **Lab ID: 30505103004**      Collected: 07/05/22 12:40      Received: 07/11/22 10:45      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.261U ± 0.233 (0.415)</b> <b>C:92% T:NA</b>	pCi/L	08/09/22 09:33	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>1.05 ± 0.430 (0.670)</b> <b>C:73% T:91%</b>	pCi/L	08/03/22 11:53	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>1.31 ± 0.663 (1.09)</b>	pCi/L	08/09/22 17:11	7440-14-4	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORPU\_1374

Pace Project No.: 30505103

**Sample: BC12384 MW2 DUP**      **Lab ID: 30505103005**      Collected: 07/05/22 12:40      Received: 07/11/22 10:45      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.117U ± 0.182 (0.395)</b> <b>C:85% T:NA</b>	pCi/L	08/09/22 09:31	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>1.17 ± 0.424 (0.591)</b> <b>C:76% T:89%</b>	pCi/L	08/03/22 11:53	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>1.29 ± 0.606 (0.986)</b>	pCi/L	08/09/22 17:11	7440-14-4	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORPU\_1374

Pace Project No.: 30505103

**Sample: BC12385 MW3**      **Lab ID: 30505103006**      Collected: 07/05/22 13:57      Received: 07/11/22 10:45      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>-0.0418U ± 0.147 (0.453)</b> <b>C:86% T:NA</b>	pCi/L	08/09/22 10:24	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>1.33 ± 0.448 (0.580)</b> <b>C:70% T:97%</b>	pCi/L	08/03/22 11:54	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>1.33 ± 0.595 (1.03)</b>	pCi/L	08/09/22 17:11	7440-14-4	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORPU\_1374

Pace Project No.: 30505103

**Sample: BC12386 FB-1**      **Lab ID: 30505103007**      Collected: 07/05/22 14:55      Received: 07/11/22 10:45      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.00285U ± 0.159 (0.445)</b> <b>C:84% T:NA</b>	pCi/L	08/09/22 10:24	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>1.16 ± 0.447 (0.664)</b> <b>C:69% T:92%</b>	pCi/L	08/03/22 11:54	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>1.16 ± 0.606 (1.11)</b>	pCi/L	08/09/22 17:11	7440-14-4	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORPU\_1374

Pace Project No.: 30505103

**Sample: BC12387 MW-4**      **Lab ID: 30505103008**      Collected: 07/05/22 15:30      Received: 07/11/22 10:45      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.0836U ± 0.195 (0.464)</b> <b>C:85% T:NA</b>	pCi/L	08/09/22 10:24	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>1.02 ± 0.406 (0.606)</b> <b>C:75% T:89%</b>	pCi/L	08/03/22 11:54	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>1.10 ± 0.601 (1.07)</b>	pCi/L	08/09/22 17:11	7440-14-4	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORPU\_1374

Pace Project No.: 30505103

**Sample: BC12388 EB-1**      **Lab ID: 30505103009**      Collected: 07/05/22 16:00      Received: 07/11/22 10:45      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>0.233U ± 0.215 (0.382)</b> <b>C:85% T:NA</b>	pCi/L	08/09/22 10:24	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>0.600U ± 0.378 (0.686)</b> <b>C:64% T:88%</b>	pCi/L	08/03/22 15:06	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>0.833U ± 0.593 (1.07)</b>	pCi/L	08/09/22 17:11	7440-14-4	

### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL - RADIOCHEMISTRY

Project: WMWGORPU\_1374

Pace Project No.: 30505103

QC Batch: 520944

Analysis Method: EPA 9320

QC Batch Method: EPA 9320

Analysis Description: 9320 Radium 228

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 30505103001, 30505103002, 30505103003, 30505103004, 30505103005, 30505103006, 30505103007, 30505103008, 30505103009

METHOD BLANK: 2525769

Matrix: Water

Associated Lab Samples: 30505103001, 30505103002, 30505103003, 30505103004, 30505103005, 30505103006, 30505103007, 30505103008, 30505103009

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.321 ± 0.291 (0.581) C:70% T:92%	pCi/L	08/03/22 11:53	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL - RADIOCHEMISTRY

Project: WMWGORPU\_1374

Pace Project No.: 30505103

QC Batch: 519425

Analysis Method: EPA 9315

QC Batch Method: EPA 9315

Analysis Description: 9315 Total Radium

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 30505103001, 30505103002, 30505103003, 30505103004, 30505103005, 30505103006, 30505103007, 30505103008, 30505103009

METHOD BLANK: 2518115

Matrix: Water

Associated Lab Samples: 30505103001, 30505103002, 30505103003, 30505103004, 30505103005, 30505103006, 30505103007, 30505103008, 30505103009

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.101 ± 0.247 (0.586) C:93% T:NA	pCi/L	08/09/22 10:17	

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.

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## QUALIFIERS

Project: WMWGORPU\_1374

Pace Project No.: 30505103

---

### 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\_1374  
Pace Project No.: 30505103

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30505103001	BC12382 MW1	EPA 9315	519425		
30505103002	BC12382 MW1 MS	EPA 9315	519425		
30505103003	BC12382 MW1 MSD	EPA 9315	519425		
30505103004	BC12383 MW2	EPA 9315	519425		
30505103005	BC12384 MW2 DUP	EPA 9315	519425		
30505103006	BC12385 MW3	EPA 9315	519425		
30505103007	BC12386 FB-1	EPA 9315	519425		
30505103008	BC12387 MW-4	EPA 9315	519425		
30505103009	BC12388 EB-1	EPA 9315	519425		
30505103001	BC12382 MW1	EPA 9320	520944		
30505103002	BC12382 MW1 MS	EPA 9320	520944		
30505103003	BC12382 MW1 MSD	EPA 9320	520944		
30505103004	BC12383 MW2	EPA 9320	520944		
30505103005	BC12384 MW2 DUP	EPA 9320	520944		
30505103006	BC12385 MW3	EPA 9320	520944		
30505103007	BC12386 FB-1	EPA 9320	520944		
30505103008	BC12387 MW-4	EPA 9320	520944		
30505103009	BC12388 EB-1	EPA 9320	520944		
30505103001	BC12382 MW1	Total Radium Calculation	524701		
30505103004	BC12383 MW2	Total Radium Calculation	524701		
30505103005	BC12384 MW2 DUP	Total Radium Calculation	524701		
30505103006	BC12385 MW3	Total Radium Calculation	524701		
30505103007	BC12386 FB-1	Total Radium Calculation	524701		
30505103008	BC12387 MW-4	Total Radium Calculation	524701		
30505103009	BC12388 EB-1	Total Radium Calculation	524701		

### 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.

<b>Section A</b>		<b>Section B</b>		<b>Section C</b>	
<b>Required Client Information:</b>		<b>Required Project Information:</b>		<b>Invoice Information:</b>	
Company: Alabama Power Company	Report To: Renee Jernigan	Company Name: Alabama Power Co.	Attention: Renee Jernigan	Regulatory Agency	
Address: 744 Highway 87 GSC Bldg #8	Copy To: Brooke Caton & Blaine Denton	Address: 744 Highway 87 GSC Bldg #8	Address: Alabama Power Co.	State / Location	
Calera, AL 35040			CCR	AL	
Email To: igamer@southernco.com	Purchase Order #: APC10755638	Project Name: Plant Gorgas Pooled Upgradient	Pass Project Manager: Skyler Richmond	Requester	
Phone: 205-664-6247 Fax	Project Number: WMMGORPU_3374	Pass Profile #: 16788		Requester Analysts Filtered (TM)	
Requested Due Date: Normal					

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		Preservatives	Analytes Test	EPA 9315	EPA 9320	Total Radium Sum	Total Sulfide	Residual Chlorine (Y/N)	Received on	Ice	Custody	Sealed	Cooler	Infect Samples	
									START DATE	TIME														
1	BC12382	APCO-GS-UP-MW-1	APCO_Gorgas_Pooled_Upgradient		X		GW	G	7/5/2022	11:40	X	X	X	X	X	X	X	001.002, 003						
2	BC12383	APCO-GS-UP-MW-2	APCO_Gorgas_Pooled_Upgradient				GW	G	7/5/2022	12:40	X	X	X	X	X	X	X	004						
3	BC12384	APCO-GS-UP-MW-2	APCO_Gorgas_Pooled_Upgradient	X			GW	G	7/5/2022	12:40	X	X	X	X	X	X	X	005						
4	BC12385	APCO-GS-UP-MW-3	APCO_Gorgas_Pooled_Upgradient				GW	G	7/5/2022	13:57	X	X	X	X	X	X	X	006						
5	BC12386	APCO-GS-UP-FB-01	APCO_Gorgas_Pooled_Upgradient				GW	G	7/5/2022	14:55	X	X	X	X	X	X	X	007						
6	BC12387	APCO-GS-UP-MW-4	APCO_Gorgas_Pooled_Upgradient				GW	G	7/5/2022	15:30	X	X	X	X	X	X	X	008						
7	BC12388	APCO-GS-UP-EB-01	APCO_Gorgas_Pooled_Upgradient				GW	G	7/5/2022	16:00	X	X	X	X	X	X	X	009						
8																								
9																								
10																								
11																								
12																								

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Renee Jernigan/ APC STL	7/7/2022	13:15	Renee Jernigan	7/11/22	10:45	

**WO#: 30505103**

30505103

PRINT Name of SAMPLER: \_\_\_\_\_ DATE Signed: \_\_\_\_\_

SIGNATURE of SAMPLER: \_\_\_\_\_

TJ Daugherty

Pittsburgh Lab Sample Condition Upon Receipt



Client Name: Alabama Power Project # \_\_\_\_\_

Courier:  Fed Ex  UPS  USPS  Client  Commercial  Pace Other \_\_\_\_\_

Tracking #: 5870 1897 3394

Label	<u>PS</u>
LIMS Login	<u>VP</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>1004611</u>
				<u>PS 7/11/22</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 type="checkbox"/>	<input checked="" 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	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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>PHC2</u>
All containers meet method preservation requirements.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Initial when completed <u>PS</u> Date/time of preservation
				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 checked="" type="checkbox"/>	<input type="checkbox"/>	18.
Trip Blank Custody Seals Present	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Rad Samples Screened < 0.5 mrem/hr	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Initial when completed: <u>B</u> Date: <u>7/11/22</u> Survey Meter SN: <u>1563</u>

**WO#: 30505103**  
 Due Date: 08/01/22  
 PM: SCR  
 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: 7/28/2022  
Worklist: 67898  
Matrix: WT

**Method Blank Assessment**

MB Sample ID: 2525769  
 MB concentration: 0.321  
 M/B 2 Sigma CSU: 0.291  
 MB MDC: 0.581  
 MB Numerical Performance Indicator: 2.16  
 MB Status vs Numerical Indicator: Warning  
 MB Status vs. MDC: Pass

Laboratory Control Sample Assessment		LCS/D (Y or N)?	N
Count Date:	8/3/2022	LCS67898	LCS067898
Spike I.D.:	22-016		
Decay Corrected Spike Concentration (pCi/mL):	34.812		
Volume Used (mL):	0.10		
Aliquot Volume (L, g, F):	0.809		
Target Conc. (pCi/L, g, F):	4.305		
Uncertainty (Calculated):	0.211		
Result (pCi/L, g, F):	4.764		
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	1.030		
Numerical Performance Indicator:	110.65%		
Percent Recovery:	0.85		
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: 7/15/2022  
 Sample I.D.: 30505103001  
 Sample MS I.D.: 30505103002  
 Sample MSD I.D.: 30505103003  
 Spike I.D.: 22-016  
 Spike I.D.: 35.147  
 MS/MSD Decay Corrected Spike Concentration (pCi/mL): 0.20  
 Spike Volume Used in MS (mL): 0.20  
 Spike Volume Used in MSD (mL): 0.804  
 MS Aliquot (L, g, F): 8.739  
 MS Target Conc. (pCi/L, g, F): 8.708  
 MSD Aliquot (L, g, F): 8.708  
 MSD Target Conc. (pCi/L, g, F): 0.428  
 MS Spike Uncertainty (calculated): 0.427  
 MSD Spike Uncertainty (calculated): 1.316  
 Sample Result: 0.463  
 Sample Result: 11.797  
 Sample Matrix Spike Result: 2.318  
 Matrix Spike Result 2 Sigma CSU (pCi/L, g, F): 9.718  
 Sample Matrix Spike Duplicate Result: 1.915  
 Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F): 1.422  
 MS Numerical Performance Indicator: -0.297  
 MSD Numerical Performance Indicator: 119.94%  
 MS Percent Recovery: 96.49%  
 MSD Percent Recovery: Pass  
 MS Status vs Numerical Indicator: Pass  
 MS Status vs Recovery: Pass  
 MS/MSD Upper % Recovery Limits: 135%  
 MS/MSD Lower % Recovery Limits: 60%

**Matrix Spike/Matrix Spike Duplicate Sample Assessment**

Sample I.D.: 30505103001  
 Sample MS I.D.: 30505103002  
 Sample MSD I.D.: 30505103003  
 Spike I.D.: 11.797  
 Matrix Spike Result 2 Sigma CSU (pCi/L, g, F): 2.318  
 Sample Matrix Spike Duplicate Result: 9.718  
 Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F): 1.915  
 Duplicate Numerical Performance Indicator: 1.355  
 Duplicate Numerical Performance Indicator: 21.67%  
 (Based on the Percent Recoveries) MS/MSD Duplicate RPD:  
 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:

*Handwritten signature and date: 8/14/22*

# Quality Control Sample Performance Assessment



**Analyst Must Manually Enter All Fields Highlighted in Yellow.**

Test: Ra-226  
Analyst: RMS  
Date: 7/20/2022  
Worklist: 67806  
Matrix: DW

Method Blank Assessment	
MB Sample ID	2518115
MB concentration:	0.101
M/B Counting Uncertainty:	0.246
MB MDC:	0.586
MB Numerical Performance Indicator:	0.80
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCS (Y or N)?	
	LCS67806	LCS067806
Count Date:	8/9/2022	8/9/2022
Spike I.D.:	19-033	19-033
Decay Corrected Spike Concentration (pCi/mL):	24.025	24.025
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.200	0.197
Target Conc. (pCi/L, g, F):	12.006	12.192
Uncertainty (Calculated):	0.144	0.146
Result (pCi/L, g, F):	13.354	12.326
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	1.289	1.214
Numerical Performance Indicator:	2.04	0.21
Percent Recovery:	111.23%	101.10%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	125%	125%
Lower % Recovery Limits:	75%	75%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Sample Collection Date: Sample I.D. Sample MS I.D. Sample MSD I.D. Spike I.D.: MS/MSD Decay Corrected Spike Concentration (pCi/mL): Spike Volume Used in MS (mL): Spike Volume Used in MSD (mL): MS Aliquot (L, g, F): MS Target Conc. (pCi/L, g, F): MSD Aliquot (L, g, F): MSD Target Conc. (pCi/L, g, F): MS Spike Uncertainty (calculated): MSD Spike Uncertainty (calculated): Sample Result: Sample Matrix Spike Result: Matrix Spike Counting Uncertainty (pCi/L, g, F): Sample Matrix Spike Duplicate Result: Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F): MS Numerical Performance Indicator: MS Percent Recovery: MSD Percent Recovery: MS Status vs Numerical Indicator: MSD Status vs Numerical Indicator: MS Status vs Recovery: MSD Status vs Recovery: MS/MSD Upper % Recovery Limits: MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment
Sample I.D.: Duplicate Sample I.D.: Sample Result (pCi/L, g, F): Sample Duplicate Result (pCi/L, g, F): Sample Duplicate Counting Uncertainty (pCi/L, g, F): Are sample and/or duplicate results below RL? Duplicate Numerical Performance Indicator: Duplicate Numerical Performance Indicator: Duplicate Status vs Numerical Indicator: Duplicate Status vs RPD: % RPD Limit:

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

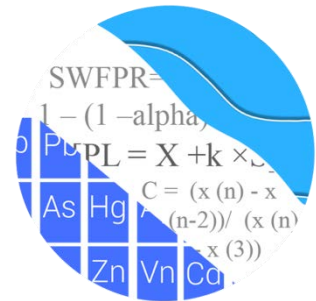
## Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

*Op 8/10/22*

# Appendix D

## GROUNDWATER STATS CONSULTING



May 12, 2022

Southern Company Services  
Attn: Mr. Greg Dyer  
3535 Colonnade Parkway  
Birmingham, AL 35243

Re: Plant Gorgas Gypsum Pond  
1<sup>st</sup> Semi-Annual Statistical Analysis – January 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 2022 1<sup>st</sup> semi-annual sample event for Alabama Power Company's Plant Gorgas Gypsum Pond. 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:** GS-GSA-MW-3, GS-GSA-MW-4, and GS-GSA-MW-8
- **Delineation wells:** GS-GSA-MW-3V, GS-GSA-MW-4V, GS-GSA-MW-8V, GS-GSA-MW-9H, GS-GSA-MW-9V, GS-GSA-MW-11H, GS-GSA-MW-12H, GS-GSA-MW-12V, GS-GSA-MW-13H, and GS-GSA-MW-14H
- **Piezometers:** GS-GSA-MW-01, GS-GSA-MW-02, GS-GSA-MW-10H, GS-GSA-MW-15H, GS-GSA-PZ-16, GS-GSA-PZ-17, GS-GSA-PZ-18, GS-GSA-PZ-19, GS-GSA-PZ-20, GS-GSA-PZ-21, GS-GSA-PZ-22, GS-GSA-MW-23VA, and GS-GSA-PZ-2A

Note that data from delineation wells did not require statistics; therefore, data were plotted only on time series and box plots. Piezometers only monitor water levels; therefore, they are not included in this analysis.



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 Andrew Collins, Project Manager of 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): 16
- # Background Samples (Interwell): 98
- # Constituents: 7
- # Downgradient wells: 3

### **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 pH, sulfate, and TDS
- Interwell prediction limits, combined with a 1-of-2 resample plan for boron, calcium, chloride, and fluoride

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 (US EPA, 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. While 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 pH, 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 with the exception of TDS for downgradient well GS-GSA-MW-8 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 boron, calcium, chloride, and fluoride. 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 performing prediction limits, proposed background data--through March 2021 for intrawell parameters and through July 2021 for interwell parameters--were reviewed through visual screening to identify any newly suspected outliers at all wells for pH, sulfate, and TDS, and at upgradient wells for boron, calcium, chloride, and fluoride. When values are identified as outliers, these measurements are flagged with "o" and excluded to reduce variation, better represent background conditions, and provide limits that are conservative from a regulatory perspective.

During the screening, a high non-detect value for boron in upgradient well MW-4 and high detected values for sulfate and TDS in upgradient well MW-1 were flagged as outliers. Additionally, a low value for pH in upgradient well MW-3 was flagged. As mentioned above, flagged data are displayed in a lighter font and as a disconnected symbol on the time series graphs, as well as in a lighter font on the accompanying data pages. A summary of flagged outliers follows this report (Figure C).

### Intrawell – Mann-Whitney

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 March 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:

#### Increase

- None

#### Decrease

- pH: MW-1 (upgradient)

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.

Although a statistically significant decrease was identified for pH in upgradient well MW-1, the decrease in median concentrations was upgradient of the facility and not a representation of impacts from the facility. Additionally, the magnitude of the difference was small relative to the existing concentrations in background, and the compliance samples were stable. Therefore, this record was updated and 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 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 except for increasing trends for boron and fluoride in upgradient well MW-2; however, the increasing trends for boron is the result of high non-detects in the latter part of the record and the trend in fluoride is small relative to average concentrations. Therefore, no adjustments were made at this time. A summary of the results were submitted with the screening.

## **Evaluation of Appendix III Parameters – January 2022**

### Prediction Limits

Intrawell prediction limits, combined with a 1-of-2 resample plan, were constructed for pH, sulfate, and TDS at each well using screened background data through March 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 2022 observation at each well 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 boron, calcium, chloride, and fluoride (Figure E). Interwell prediction limits pool upgradient well data through January 2022 to establish a background limit for an individual constituent. The January 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:

- pH: MW-2, MW-4 (both upgradient), and GS-GSA-MW-3
- Sulfate: GS-GSA-MW-4
- TDS: GS-GSA-MW-4

Interwell:

- Boron: GS-GSA-MW-3, GS-GSA-MW-4, and GS-GSA-MW-8
- Calcium: GS-GSA-MW-3 and GS-GSA-MW-8
- Chloride: GS-GSA-MW-3, GS-GSA-MW-4, and GS-GSA-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. Statistically significant trends were identified for the following well/constituent pairs:

#### Increasing

- Boron: MW-2 (upgradient) and GS-GSA-MW-8
- Calcium: GS-GSA-MW-8
- Chloride: GS-GSA-MW-8
- pH: MW-2 (upgradient)
- TDS: MW-1 (upgradient)

#### Decreasing

- Chloride: GS-GSA-MW-4
- pH: MW-1 (upgradient)
- Sulfate: MW-4 (upgradient)
- TDS: MW-4 (upgradient)

### **Evaluation of Appendix IV Parameters – January 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 all flagged outliers follows this report (Figure C).

In accordance with Alabama Department of Environmental Management, the Groundwater Protections Standards (GWPS) were updated during the 2021 2<sup>nd</sup> semi-annual statistical analysis. The GWPS will be updated again during the 2023 2<sup>nd</sup> semi-annual statistical analysis. The methodology used to create these GWPS is described below.

#### Interwell Upper Tolerance Limits

First, background limits were determined using tolerance limits constructed from pooled upgradient well data through July 2021 (Figure G). The tolerance limits contain a known fraction (coverage) of the background population with a known level of confidence. The confidence and coverage levels for nonparametric tolerance limits are dependent upon the number of background samples. As requested by ADEM to eliminate variation among upgradient well data, nonparametric tolerance limits, which use the highest value in background as the statistical limit, were constructed.

## 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 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 Gypsum Pond. If you have any questions or comments, please feel free to contact us.

For Groundwater Stats Consulting,



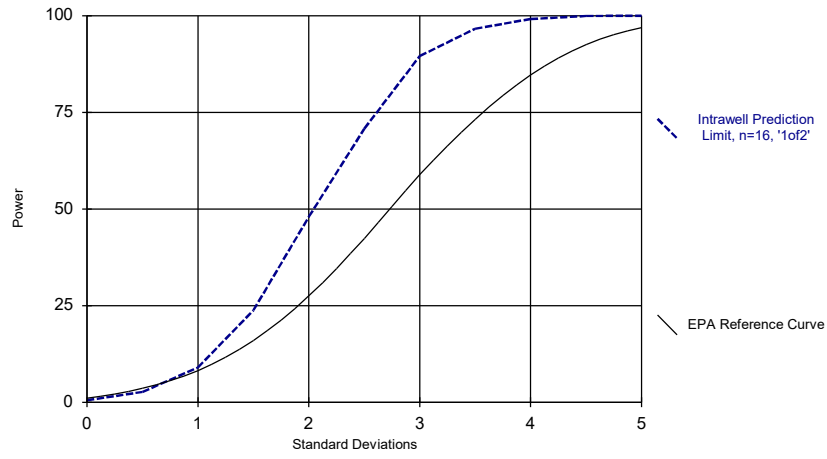
Abdul Diane  
Groundwater Analyst



Andrew T. Collins  
Project Manager



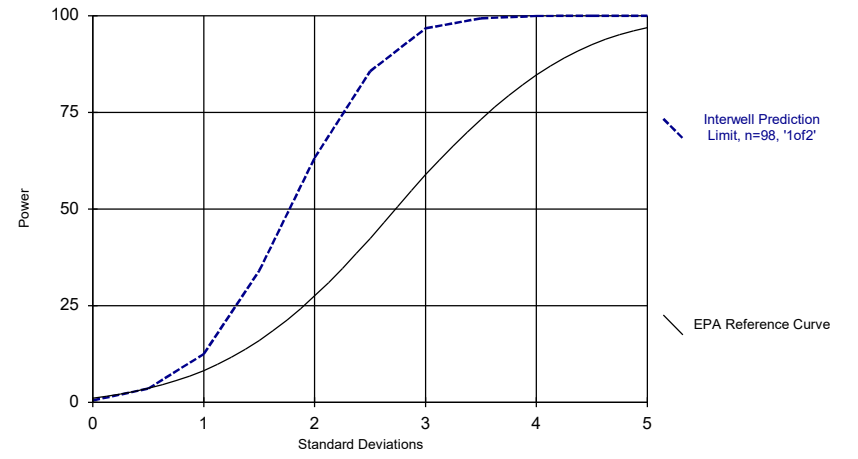
### Intrawell Power Curve



Kappa = 1.97, based on 3 compliance wells and 7 constituents, evaluated semi-annually (this report reflects annual total).

Analysis Run 5/12/2022 1:50 PM View: Appendix III - Interwell PL  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Interwell Power Curve



Kappa = 1.674, based on 3 compliance wells and 7 constituents, evaluated semi-annually (this report reflects annual total).

Analysis Run 5/12/2022 1:50 PM View: Appendix III - Interwell PL  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

# 100% Non-Detects: Appendix IV Downgradient

Analysis Run 5/11/2022 6:37 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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Beryllium (mg/L)  
GS-GSA-MW-8

Cadmium (mg/L)  
GS-GSA-MW-3, GS-GSA-MW-8

Mercury (mg/L)  
GS-GSA-MW-3, GS-GSA-MW-4, GS-GSA-MW-8

Molybdenum (mg/L)  
GS-GSA-MW-4

Selenium (mg/L)  
GS-GSA-MW-8

Thallium (mg/L)  
GS-GSA-MW-3, GS-GSA-MW-8

# Appendix III Intrawell Prediction Limits - Significant Results

Plant Gorgas Client: Southern Company Data: Gorgas GSA Printed 5/11/2022, 6:15 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
pH (pH)	GS-GSA-MW-3	6.38	5.66	1/26/2022	6.52	Yes	17	6.02	0.1846	0	None	No	0.001253	Param Intra 1 of 2
pH (pH)	MW-2	6.145	5.788	1/25/2022	6.22	Yes	23	5.967	0.09604	0	None	No	0.001253	Param Intra 1 of 2
pH (pH)	MW-4	6.237	6.076	1/25/2022	6.3	Yes	23	6.157	0.04323	0	None	No	0.001253	Param Intra 1 of 2
Sulfate (mg/L)	GS-GSA-MW-4	653.2	n/a	1/27/2022	1130	Yes	16	569.6	42.43	0	None	No	0.002505	Param Intra 1 of 2
Total dissolved solids (mg/L)	GS-GSA-MW-4	1084	n/a	1/27/2022	1840	Yes	16	987.9	48.59	0	None	No	0.002505	Param Intra 1 of 2

# Appendix III Intrawell Prediction Limits - All Results

Plant Gorgas Client: Southern Company Data: Gorgas GSA Printed 5/11/2022, 6:15 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
<b>pH (pH)</b>	<b>GS-GSA-MW-3</b>	<b>6.38</b>	<b>5.66</b>	<b>1/26/2022</b>	<b>6.52</b>	<b>Yes</b>	<b>17</b>	<b>6.02</b>	<b>0.1846</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.001253</b>	<b>Param Intra 1 of 2</b>
pH (pH)	GS-GSA-MW-4	3.896	3.699	1/27/2022	3.73	No	17	3.798	0.05044	0	None	No	0.001253	Param Intra 1 of 2
pH (pH)	GS-GSA-MW-8	7.149	6.399	1/27/2022	6.85	No	17	6.774	0.1922	0	None	No	0.001253	Param Intra 1 of 2
pH (pH)	MW-1	5.249	5.046	1/25/2022	5.11	No	23	5.147	0.05471	0	None	No	0.001253	Param Intra 1 of 2
<b>pH (pH)</b>	<b>MW-2</b>	<b>6.145</b>	<b>5.788</b>	<b>1/25/2022</b>	<b>6.22</b>	<b>Yes</b>	<b>23</b>	<b>5.967</b>	<b>0.09604</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.001253</b>	<b>Param Intra 1 of 2</b>
pH (pH)	MW-3	5.987	4.38	1/25/2022	5.9	No	23	149.3	35.15	0	None	x^3	0.001253	Param Intra 1 of 2
<b>pH (pH)</b>	<b>MW-4</b>	<b>6.237</b>	<b>6.076</b>	<b>1/25/2022</b>	<b>6.3</b>	<b>Yes</b>	<b>23</b>	<b>6.157</b>	<b>0.04323</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.001253</b>	<b>Param Intra 1 of 2</b>
Sulfate (mg/L)	GS-GSA-MW-3	3163	n/a	1/26/2022	2620	No	16	2.3e10	4.4e9	0	None	x^3	0.002505	Param Intra 1 of 2
<b>Sulfate (mg/L)</b>	<b>GS-GSA-MW-4</b>	<b>653.2</b>	<b>n/a</b>	<b>1/27/2022</b>	<b>1130</b>	<b>Yes</b>	<b>16</b>	<b>569.6</b>	<b>42.43</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.002505</b>	<b>Param Intra 1 of 2</b>
Sulfate (mg/L)	GS-GSA-MW-8	2169	n/a	1/27/2022	2000	No	16	1541	318.8	0	None	No	0.002505	Param Intra 1 of 2
Sulfate (mg/L)	MW-1	1653	n/a	1/25/2022	1430	No	22	1456	105.3	0	None	No	0.002505	Param Intra 1 of 2
Sulfate (mg/L)	MW-2	1257	n/a	1/25/2022	842	No	23	1001	137.9	0	None	No	0.002505	Param Intra 1 of 2
Sulfate (mg/L)	MW-3	3195	n/a	1/25/2022	2550	No	23	2487	381.4	0	None	No	0.002505	Param Intra 1 of 2
Sulfate (mg/L)	MW-4	3107	n/a	1/25/2022	1930	No	22	2505	321.9	0	None	No	0.002505	Param Intra 1 of 2
Total dissolved solids (mg/L)	GS-GSA-MW-3	5170	n/a	1/26/2022	4260	No	16	n/a	n/a	0	n/a	n/a	0.006456	NP Intra (normality) 1 of 2
<b>Total dissolved solids (mg/L)</b>	<b>GS-GSA-MW-4</b>	<b>1084</b>	<b>n/a</b>	<b>1/27/2022</b>	<b>1840</b>	<b>Yes</b>	<b>16</b>	<b>987.9</b>	<b>48.59</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.002505</b>	<b>Param Intra 1 of 2</b>
Total dissolved solids (mg/L)	GS-GSA-MW-8	4017	n/a	1/27/2022	3290	No	16	2978	527.4	0	None	No	0.002505	Param Intra 1 of 2
Total dissolved solids (mg/L)	MW-1	2516	n/a	1/25/2022	2150	No	22	2201	168.2	0	None	No	0.002505	Param Intra 1 of 2
Total dissolved solids (mg/L)	MW-2	2005	n/a	1/25/2022	1500	No	23	1648	192.4	0	None	No	0.002505	Param Intra 1 of 2
Total dissolved solids (mg/L)	MW-3	4954	n/a	1/25/2022	3950	No	23	3773	635.9	0	None	No	0.002505	Param Intra 1 of 2
Total dissolved solids (mg/L)	MW-4	4484	n/a	1/25/2022	3180	No	22	5.8e10	1.7e10	0	None	x^3	0.002505	Param Intra 1 of 2

# Appendix III Interwell Prediction Limits - Significant Results

Plant Gorgas Client: Southern Company Data: Gorgas GSA Printed 5/11/2022, 6:12 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Obsrv.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	GS-GSA-MW-3	0.0596	n/a	1/26/2022	2.5	Yes	98	n/a	n/a	21.43	n/a	n/a	0.0002025	NP Inter (normality) 1 of 2
Boron (mg/L)	GS-GSA-MW-4	0.0596	n/a	1/27/2022	6.1	Yes	98	n/a	n/a	21.43	n/a	n/a	0.0002025	NP Inter (normality) 1 of 2
Boron (mg/L)	GS-GSA-MW-8	0.0596	n/a	1/27/2022	2.76	Yes	98	n/a	n/a	21.43	n/a	n/a	0.0002025	NP Inter (normality) 1 of 2
Calcium (mg/L)	GS-GSA-MW-3	431	n/a	1/26/2022	517	Yes	99	n/a	n/a	0	n/a	n/a	0.0001981	NP Inter (normality) 1 of 2
Calcium (mg/L)	GS-GSA-MW-8	431	n/a	1/27/2022	491	Yes	99	n/a	n/a	0	n/a	n/a	0.0001981	NP Inter (normality) 1 of 2
Chloride (mg/L)	GS-GSA-MW-3	3.664	n/a	1/26/2022	255	Yes	99	1.291	0.15	3.03	None	x^(1/3)	0.002505	Param Inter 1 of 2
Chloride (mg/L)	GS-GSA-MW-4	3.664	n/a	1/27/2022	103	Yes	99	1.291	0.15	3.03	None	x^(1/3)	0.002505	Param Inter 1 of 2
Chloride (mg/L)	GS-GSA-MW-8	3.664	n/a	1/27/2022	122	Yes	99	1.291	0.15	3.03	None	x^(1/3)	0.002505	Param Inter 1 of 2

# Appendix III Interwell Prediction Limits - All Results

Plant Gorgas Client: Southern Company Data: Gorgas GSA Printed 5/11/2022, 6:12 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Obsrv.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	GS-GSA-MW-3	0.0596	n/a	1/26/2022	2.5	Yes	98	n/a	n/a	21.43	n/a	n/a	0.0002025	NP Inter (normality) 1 of 2
Boron (mg/L)	GS-GSA-MW-4	0.0596	n/a	1/27/2022	6.1	Yes	98	n/a	n/a	21.43	n/a	n/a	0.0002025	NP Inter (normality) 1 of 2
Boron (mg/L)	GS-GSA-MW-8	0.0596	n/a	1/27/2022	2.76	Yes	98	n/a	n/a	21.43	n/a	n/a	0.0002025	NP Inter (normality) 1 of 2
Calcium (mg/L)	GS-GSA-MW-3	431	n/a	1/26/2022	517	Yes	99	n/a	n/a	0	n/a	n/a	0.0001981	NP Inter (normality) 1 of 2
Calcium (mg/L)	GS-GSA-MW-4	431	n/a	1/27/2022	181	No	99	n/a	n/a	0	n/a	n/a	0.0001981	NP Inter (normality) 1 of 2
Calcium (mg/L)	GS-GSA-MW-8	431	n/a	1/27/2022	491	Yes	99	n/a	n/a	0	n/a	n/a	0.0001981	NP Inter (normality) 1 of 2
Chloride (mg/L)	GS-GSA-MW-3	3.664	n/a	1/26/2022	255	Yes	99	1.291	0.15	3.03	None	x^(1/3)	0.002505	Param Inter 1 of 2
Chloride (mg/L)	GS-GSA-MW-4	3.664	n/a	1/27/2022	103	Yes	99	1.291	0.15	3.03	None	x^(1/3)	0.002505	Param Inter 1 of 2
Chloride (mg/L)	GS-GSA-MW-8	3.664	n/a	1/27/2022	122	Yes	99	1.291	0.15	3.03	None	x^(1/3)	0.002505	Param Inter 1 of 2
Fluoride (mg/L)	GS-GSA-MW-3	0.63	n/a	1/26/2022	0.447	No	103	n/a	n/a	0.9709	n/a	n/a	0.0001849	NP Inter (normality) 1 of 2
Fluoride (mg/L)	GS-GSA-MW-4	0.63	n/a	1/27/2022	0.05ND	No	103	n/a	n/a	0.9709	n/a	n/a	0.0001849	NP Inter (normality) 1 of 2
Fluoride (mg/L)	GS-GSA-MW-8	0.63	n/a	1/27/2022	0.179	No	103	n/a	n/a	0.9709	n/a	n/a	0.0001849	NP Inter (normality) 1 of 2

# Appendix III Trend Test Summary - Significant Results

Plant Gorgas Client: Southern Company Data: Gorgas GSA Printed 5/11/2022, 6:32 PM

<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
Boron (mg/L)	GS-GSA-MW-8	0.4163	119	68	Yes	18	0	n/a	n/a	0.01	NP
Boron (mg/L)	MW-2 (bg)	0.003945	129	111	Yes	25	24	n/a	n/a	0.01	NP
Calcium (mg/L)	GS-GSA-MW-8	61.21	87	68	Yes	18	0	n/a	n/a	0.01	NP
Chloride (mg/L)	GS-GSA-MW-4	-14.3	-75	-68	Yes	18	0	n/a	n/a	0.01	NP
Chloride (mg/L)	GS-GSA-MW-8	26.11	93	68	Yes	18	0	n/a	n/a	0.01	NP
pH (pH)	MW-1 (bg)	-0.01883	-147	-111	Yes	25	0	n/a	n/a	0.01	NP
pH (pH)	MW-2 (bg)	0.039	127	111	Yes	25	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-4 (bg)	-137.6	-125	-105	Yes	24	0	n/a	n/a	0.01	NP
Total dissolved solids (mg/L)	MW-1 (bg)	56.43	113	105	Yes	24	0	n/a	n/a	0.01	NP
Total dissolved solids (mg/L)	MW-4 (bg)	-177.4	-123	-105	Yes	24	0	n/a	n/a	0.01	NP

# Appendix III Trend Test Summary - All Results

Plant Gorgas    Client: Southern Company    Data: Gorgas GSA    Printed 5/11/2022, 6:32 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	GS-GSA-MW-3	0.1215	11	68	No	18	0	n/a	n/a	0.01	NP
Boron (mg/L)	GS-GSA-MW-4	-0.3832	-53	-68	No	18	0	n/a	n/a	0.01	NP
<b>Boron (mg/L)</b>	<b>GS-GSA-MW-8</b>	<b>0.4163</b>	<b>119</b>	<b>68</b>	<b>Yes</b>	<b>18</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Boron (mg/L)	MW-1 (bg)	0.003819	110	111	No	25	32	n/a	n/a	0.01	NP
<b>Boron (mg/L)</b>	<b>MW-2 (bg)</b>	<b>0.003945</b>	<b>129</b>	<b>111</b>	<b>Yes</b>	<b>25</b>	<b>24</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Boron (mg/L)	MW-3 (bg)	0.002231	87	111	No	25	28	n/a	n/a	0.01	NP
Boron (mg/L)	MW-4 (bg)	-0.0003942	-28	-98	No	23	0	n/a	n/a	0.01	NP
Calcium (mg/L)	GS-GSA-MW-3	-6.045	-27	-68	No	18	0	n/a	n/a	0.01	NP
<b>Calcium (mg/L)</b>	<b>GS-GSA-MW-8</b>	<b>61.21</b>	<b>87</b>	<b>68</b>	<b>Yes</b>	<b>18</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Calcium (mg/L)	MW-1 (bg)	2.531	86	111	No	25	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-2 (bg)	2.037	42	111	No	25	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-3 (bg)	10.56	65	111	No	25	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-4 (bg)	-6.803	-60	-105	No	24	0	n/a	n/a	0.01	NP
Chloride (mg/L)	GS-GSA-MW-3	-6.058	-18	-68	No	18	0	n/a	n/a	0.01	NP
<b>Chloride (mg/L)</b>	<b>GS-GSA-MW-4</b>	<b>-14.3</b>	<b>-75</b>	<b>-68</b>	<b>Yes</b>	<b>18</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
<b>Chloride (mg/L)</b>	<b>GS-GSA-MW-8</b>	<b>26.11</b>	<b>93</b>	<b>68</b>	<b>Yes</b>	<b>18</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Chloride (mg/L)	MW-1 (bg)	-0.02423	-34	-111	No	25	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-2 (bg)	-0.09448	-35	-111	No	25	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-3 (bg)	0.09968	71	111	No	25	8	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-4 (bg)	-0.06727	-80	-105	No	24	4.167	n/a	n/a	0.01	NP
pH (pH)	GS-GSA-MW-3	-0.06414	-61	-74	No	19	0	n/a	n/a	0.01	NP
<b>pH (pH)</b>	<b>MW-1 (bg)</b>	<b>-0.01883</b>	<b>-147</b>	<b>-111</b>	<b>Yes</b>	<b>25</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
<b>pH (pH)</b>	<b>MW-2 (bg)</b>	<b>0.039</b>	<b>127</b>	<b>111</b>	<b>Yes</b>	<b>25</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
pH (pH)	MW-3 (bg)	0	-1	-111	No	25	0	n/a	n/a	0.01	NP
pH (pH)	MW-4 (bg)	0.008156	45	111	No	25	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	GS-GSA-MW-4	9.649	25	68	No	18	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-1 (bg)	14.12	44	105	No	24	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-2 (bg)	-36.24	-65	-111	No	25	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-3 (bg)	110.7	99	111	No	25	0	n/a	n/a	0.01	NP
<b>Sulfate (mg/L)</b>	<b>MW-4 (bg)</b>	<b>-137.6</b>	<b>-125</b>	<b>-105</b>	<b>Yes</b>	<b>24</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Total dissolved solids (mg/L)	GS-GSA-MW-4	5.547	17	68	No	18	0	n/a	n/a	0.01	NP
<b>Total dissolved solids (mg/L)</b>	<b>MW-1 (bg)</b>	<b>56.43</b>	<b>113</b>	<b>105</b>	<b>Yes</b>	<b>24</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Total dissolved solids (mg/L)	MW-2 (bg)	-28.02	-47	-111	No	25	0	n/a	n/a	0.01	NP
Total dissolved solids (mg/L)	MW-3 (bg)	192.9	99	111	No	25	0	n/a	n/a	0.01	NP
<b>Total dissolved solids (mg/L)</b>	<b>MW-4 (bg)</b>	<b>-177.4</b>	<b>-123</b>	<b>-105</b>	<b>Yes</b>	<b>24</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>



# Upper Tolerance Limits Summary Table

Plant Gorgas Client: Southern Company Data: Gorgas GSA Printed 11/16/2021, 4:56 PM

<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	95	n/a	n/a	93.68	n/a	n/a	0.007651	NP Inter
Arsenic (mg/L)	n/a	0.005	n/a	n/a	n/a	95	n/a	n/a	83.16	n/a	n/a	0.007651	NP Inter
Barium (mg/L)	n/a	0.0166	n/a	n/a	n/a	95	n/a	n/a	0	n/a	n/a	0.007651	NP Inter
Beryllium (mg/L)	n/a	0.0121	n/a	n/a	n/a	93	n/a	n/a	83.87	n/a	n/a	0.008478	NP Inter
Cadmium (mg/L)	n/a	0.00652	n/a	n/a	n/a	94	n/a	n/a	44.68	n/a	n/a	0.008054	NP Inter
Chromium (mg/L)	n/a	0.0105	n/a	n/a	n/a	95	n/a	n/a	89.47	n/a	n/a	0.007651	NP Inter
Cobalt (mg/L)	n/a	0.64	n/a	n/a	n/a	93	n/a	n/a	24.73	n/a	n/a	0.008478	NP Inter
Combined Radium 226 + 228 (pCi/L)	n/a	1.47	n/a	n/a	n/a	81	n/a	n/a	0	n/a	n/a	0.01569	NP Inter
Fluoride (mg/L)	n/a	0.63	n/a	n/a	n/a	99	n/a	n/a	1.01	n/a	n/a	0.006232	NP Inter
Lead (mg/L)	n/a	0.002	n/a	n/a	n/a	94	n/a	n/a	94.68	n/a	n/a	0.008054	NP Inter
Lithium (mg/L)	n/a	0.419	n/a	n/a	n/a	95	n/a	n/a	0	n/a	n/a	0.007651	NP Inter
Mercury (mg/L)	n/a	0.0005	n/a	n/a	n/a	95	n/a	n/a	100	n/a	n/a	0.007651	NP Inter
Molybdenum (mg/L)	n/a	0.0002	n/a	n/a	n/a	95	n/a	n/a	97.89	n/a	n/a	0.007651	NP Inter
Selenium (mg/L)	n/a	0.0209	n/a	n/a	n/a	95	n/a	n/a	58.95	n/a	n/a	0.007651	NP Inter
Thallium (mg/L)	n/a	0.000226	n/a	n/a	n/a	95	n/a	n/a	96.84	n/a	n/a	0.007651	NP Inter

<b>GORGAS GYPSUM POND GWPS</b>			
<b>Analyte</b>	<b>Units</b>	<b>Background</b>	<b>GWPS</b>
Antimony	mg/L	0.00143	0.006
Arsenic	mg/L	0.005	0.01
Barium	mg/L	0.0166	2
Beryllium	mg/L	0.0121	0.004
Cadmium	mg/L	0.00652	0.005
Chromium	mg/L	0.0105	0.1
Cobalt	mg/L	0.64	0.64
Combined Radium-226/228	pCi/L	1.47	5
Fluoride	mg/L	0.63	4
Lead	mg/L	0.00692	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	0.0181	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.

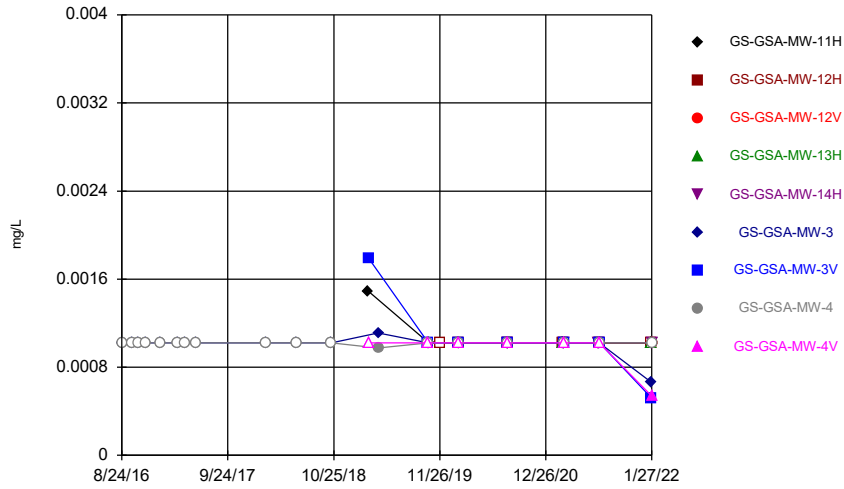
# Confidence Interval Summary Table - All Results (No Significant)

Plant Gorgas    Client: Southern Company    Data: Gorgas GSA    Printed 5/11/2022, 6:38 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Std. Dev.	%NDs	Transform	Alpha	Method
Antimony (mg/L)	GS-GSA-MW-3	0.00111	0.00066	0.006	No	8	0.0001355	75	No	0.004	NP (NDs)
Antimony (mg/L)	GS-GSA-MW-4	0.00102	0.000976	0.006	No	8	0.00001556	87.5	No	0.004	NP (NDs)
Antimony (mg/L)	GS-GSA-MW-8	0.00102	0.00102	0.006	No	8	1.2e-11	87.5	No	0.004	NP (NDs)
Arsenic (mg/L)	GS-GSA-MW-3	0.005	0.00057	0.01	No	8	0.002081	50	No	0.004	NP (normality)
Arsenic (mg/L)	GS-GSA-MW-4	0.005	0.00115	0.01	No	8	0.001323	12.5	No	0.004	NP (normality)
Arsenic (mg/L)	GS-GSA-MW-8	0.005	0.00024	0.01	No	8	0.002393	62.5	No	0.004	NP (NDs)
Barium (mg/L)	GS-GSA-MW-3	0.01522	0.01286	2	No	8	0.001115	0	No	0.01	Param.
Barium (mg/L)	GS-GSA-MW-4	0.01418	0.01174	2	No	8	0.001149	0	No	0.01	Param.
Barium (mg/L)	GS-GSA-MW-8	0.0235	0.02	2	No	8	0.001653	0	No	0.01	Param.
Beryllium (mg/L)	GS-GSA-MW-3	0.00345	0.00141	0.004	No	8	0.0006843	0	No	0.004	NP (normality)
Beryllium (mg/L)	GS-GSA-MW-4	0.00768	0.00369	0.004	No	8	0.001358	0	No	0.004	NP (normality)
Cadmium (mg/L)	GS-GSA-MW-4	0.00336	0.00143	0.005	No	8	0.0006563	0	No	0.004	NP (normality)
Chromium (mg/L)	GS-GSA-MW-3	0.01	0.000386	0.1	No	8	0.004959	62.5	No	0.004	NP (NDs)
Chromium (mg/L)	GS-GSA-MW-4	0.01	0.000567	0.1	No	8	0.004774	62.5	No	0.004	NP (NDs)
Chromium (mg/L)	GS-GSA-MW-8	0.01	0.0003	0.1	No	8	0.004972	62.5	No	0.004	NP (NDs)
Cobalt (mg/L)	GS-GSA-MW-3	0.136	0.06788	0.64	No	8	0.03212	0	No	0.01	Param.
Cobalt (mg/L)	GS-GSA-MW-4	0.3289	0.1716	0.64	No	8	0.07419	0	No	0.01	Param.
Cobalt (mg/L)	GS-GSA-MW-8	0.00546	0.00026	0.64	No	8	0.002143	62.5	No	0.004	NP (NDs)
Combined Radium 226 + 228 (pCi/L)	GS-GSA-MW-3	0.6243	0.2672	5	No	8	0.1726	0	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	GS-GSA-MW-4	1.168	0.277	5	No	8	0.4204	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	GS-GSA-MW-8	1.021	-0.01234	5	No	8	0.4876	0	No	0.01	Param.
Fluoride (mg/L)	GS-GSA-MW-3	0.7083	0.393	4	No	8	0.1488	0	No	0.01	Param.
Fluoride (mg/L)	GS-GSA-MW-4	0.44	0.05	4	No	8	0.1379	87.5	No	0.004	NP (NDs)
Fluoride (mg/L)	GS-GSA-MW-8	0.1894	0.1083	4	No	8	0.03827	0	No	0.01	Param.
Lead (mg/L)	GS-GSA-MW-3	0.0002	0.00014	0.015	No	8	0.00002378	62.5	No	0.004	NP (NDs)
Lead (mg/L)	GS-GSA-MW-4	0.00103	0.0002	0.015	No	8	0.0003351	62.5	No	0.004	NP (NDs)
Lead (mg/L)	GS-GSA-MW-8	0.0002	0.000145	0.015	No	8	0.00002434	75	No	0.004	NP (NDs)
Lithium (mg/L)	GS-GSA-MW-3	0.4994	0.3666	0.419	No	8	0.06719	0	x^2	0.01	Param.
Lithium (mg/L)	GS-GSA-MW-4	0.671	0.262	0.419	No	8	0.1473	0	No	0.004	NP (normality)
Lithium (mg/L)	GS-GSA-MW-8	0.2131	0.1702	0.419	No	8	0.02023	0	No	0.01	Param.
Molybdenum (mg/L)	GS-GSA-MW-3	0.01	0.00022	0.1	No	8	0.005055	62.5	No	0.004	NP (NDs)
Molybdenum (mg/L)	GS-GSA-MW-8	0.01	0.00012	0.1	No	8	0.004722	62.5	No	0.004	NP (NDs)
Selenium (mg/L)	GS-GSA-MW-3	0.01	0.00117	0.05	No	8	0.004498	50	No	0.004	NP (normality)
Selenium (mg/L)	GS-GSA-MW-4	0.01	0.00294	0.05	No	8	0.003295	37.5	No	0.004	NP (normality)
Thallium (mg/L)	GS-GSA-MW-4	0.001	0.00009	0.002	No	8	0.0004436	50	No	0.004	NP (normality)

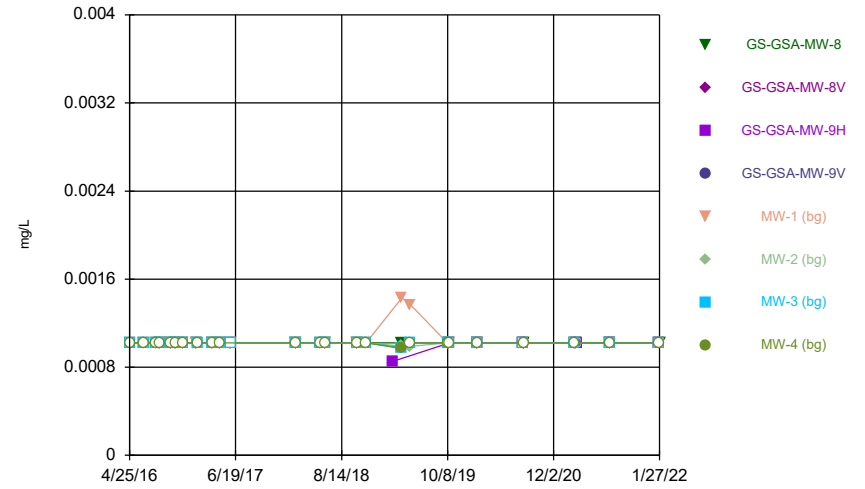
FIGURE A.

Time Series



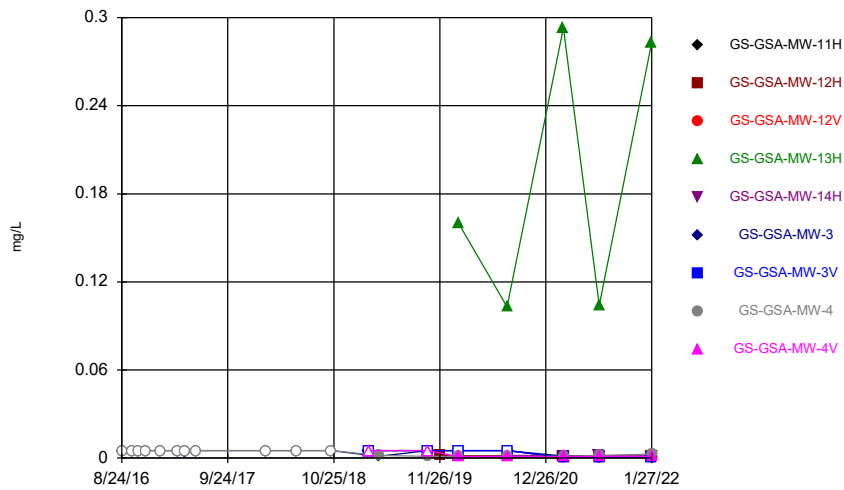
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Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



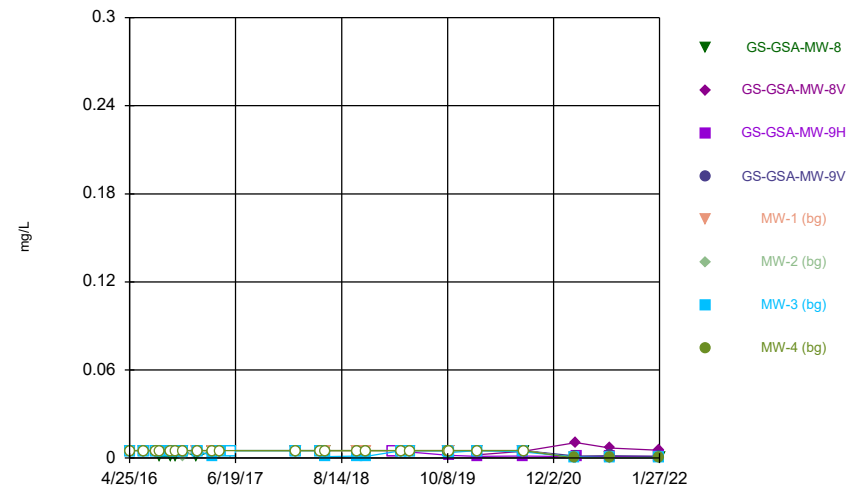
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Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



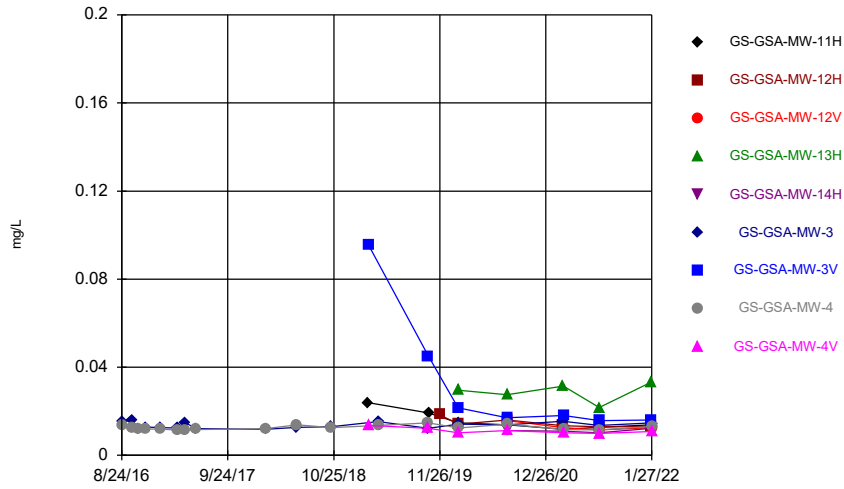
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Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



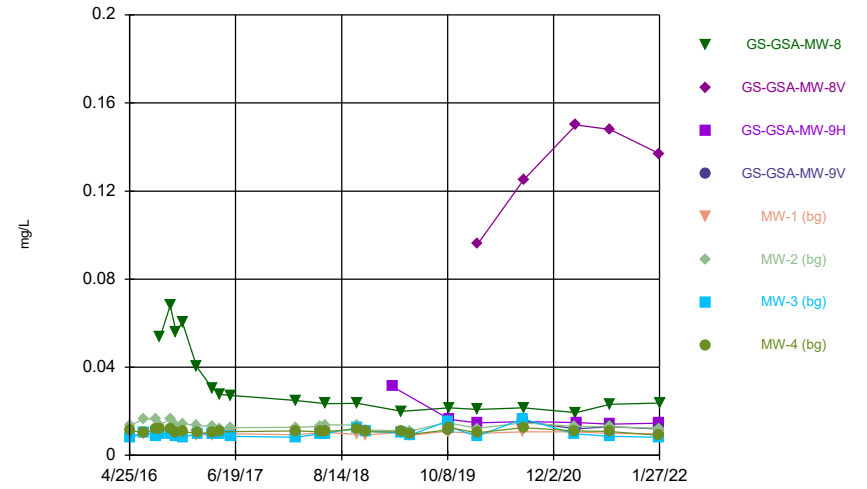
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Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



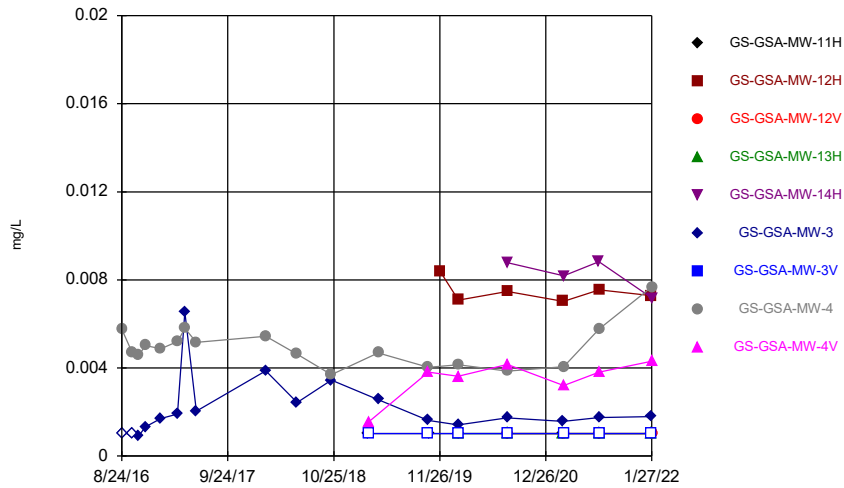
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 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



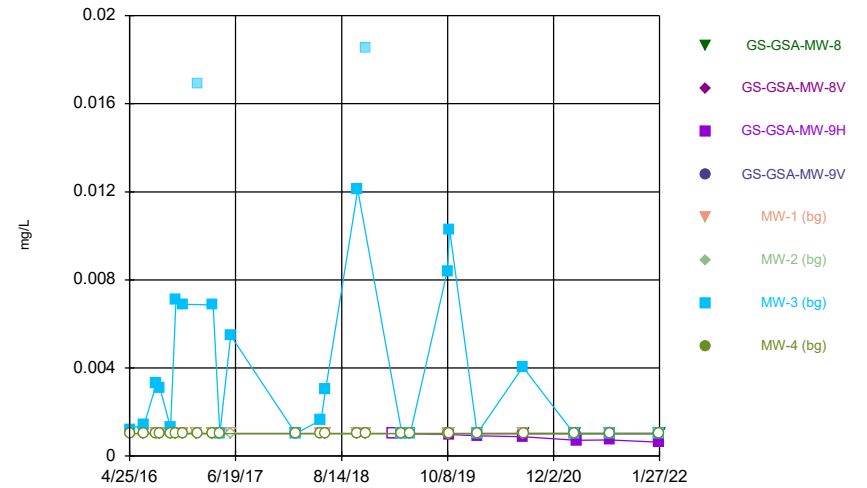
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 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



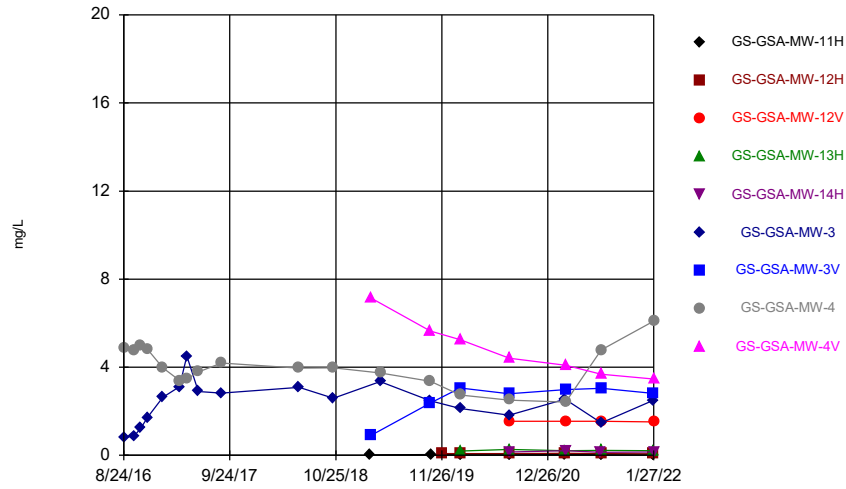
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 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



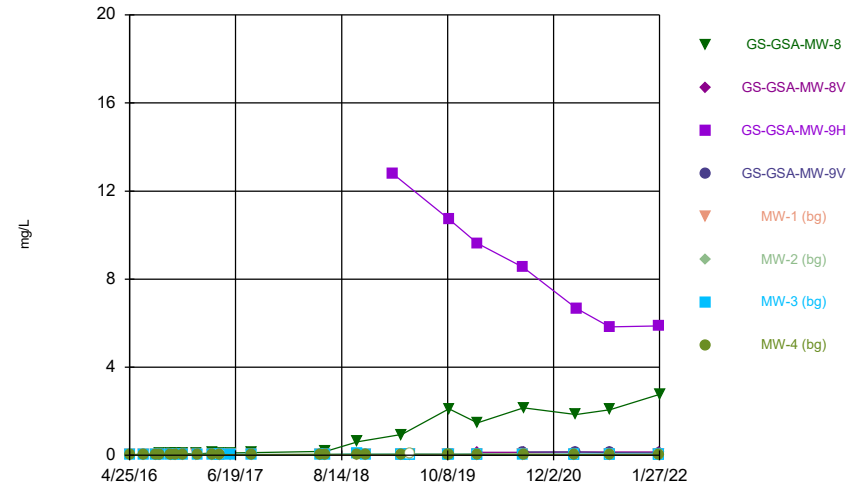
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 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Time Series



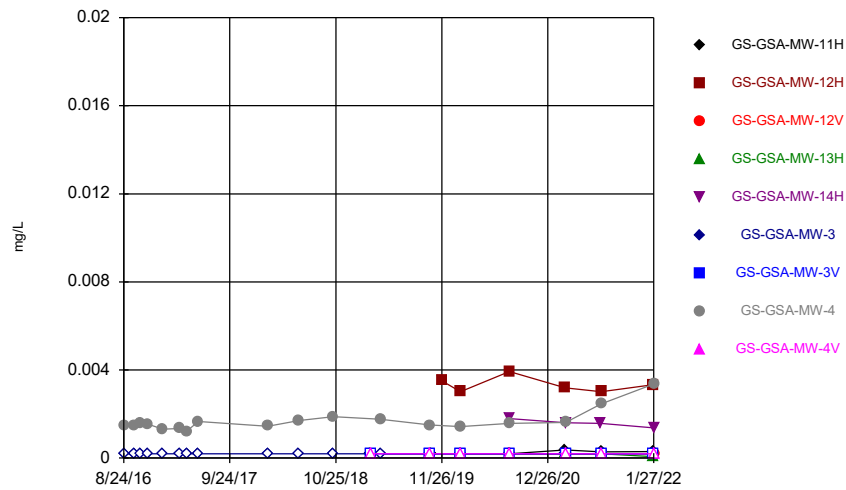
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Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Time Series



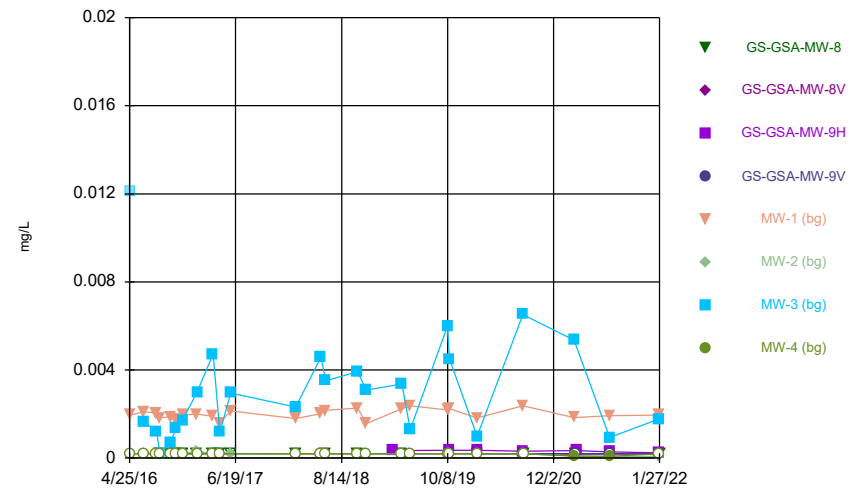
Constituent: Boron Analysis Run 5/11/2022 6:04 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Time Series



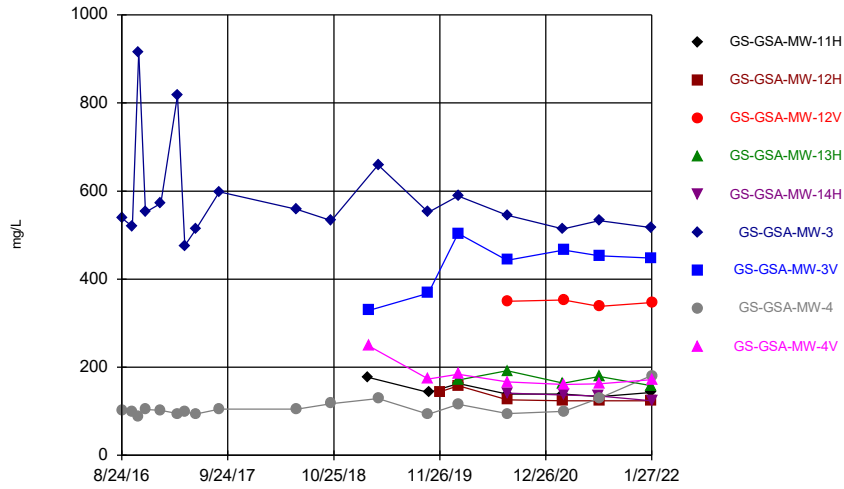
Constituent: Cadmium Analysis Run 5/11/2022 6:04 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Time Series



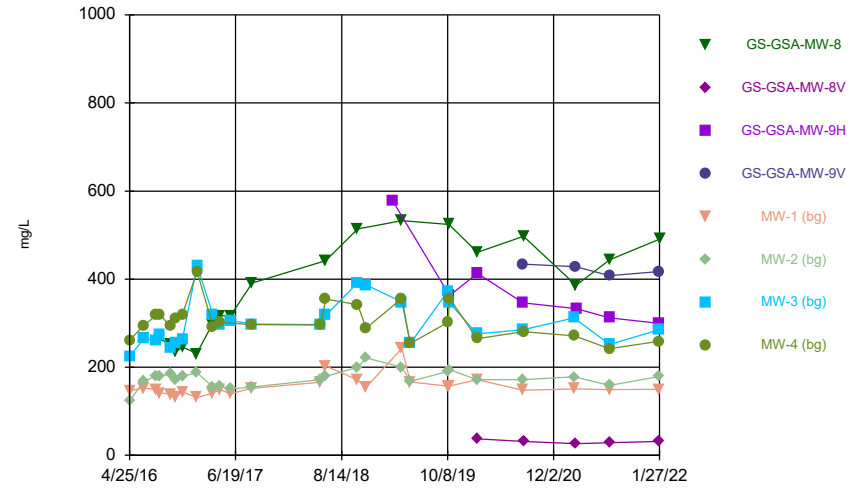
Constituent: Cadmium Analysis Run 5/11/2022 6:04 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



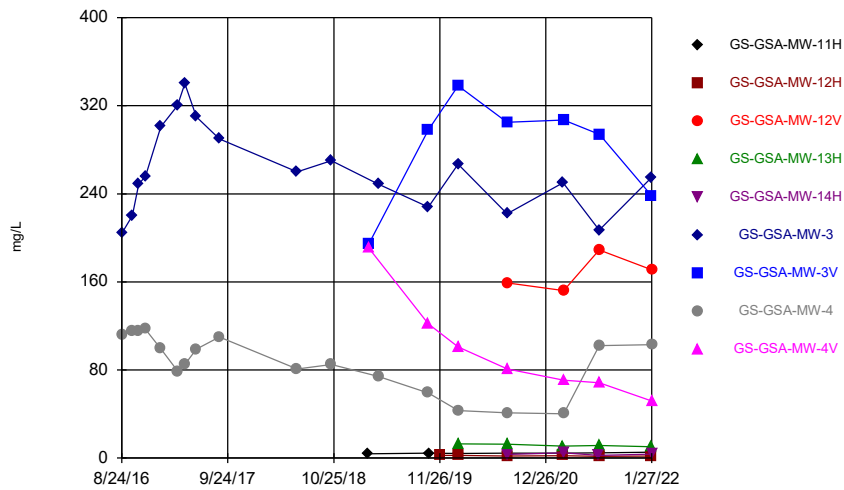
Constituent: Calcium Analysis Run 5/11/2022 6:04 PM View: Constituents View  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



Constituent: Calcium Analysis Run 5/11/2022 6:04 PM View: Constituents View  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

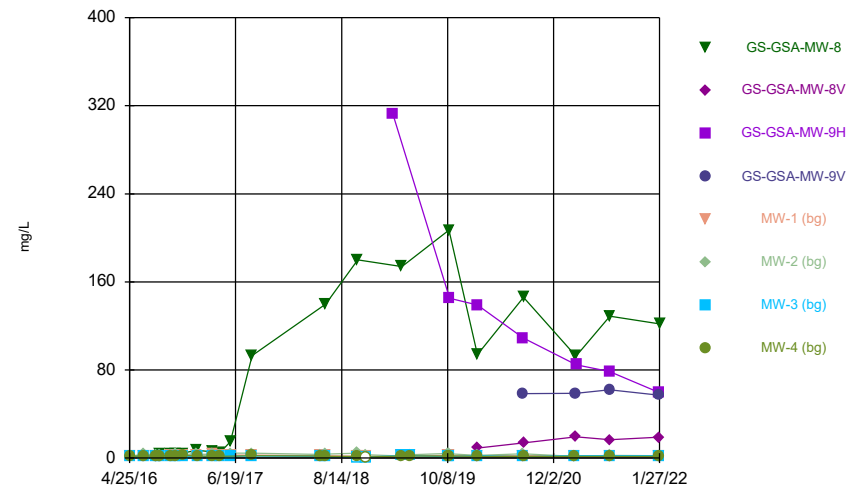
Time Series



Constituent: Chloride Analysis Run 5/11/2022 6:04 PM View: Constituents View  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Hollow symbols indicate censored values.

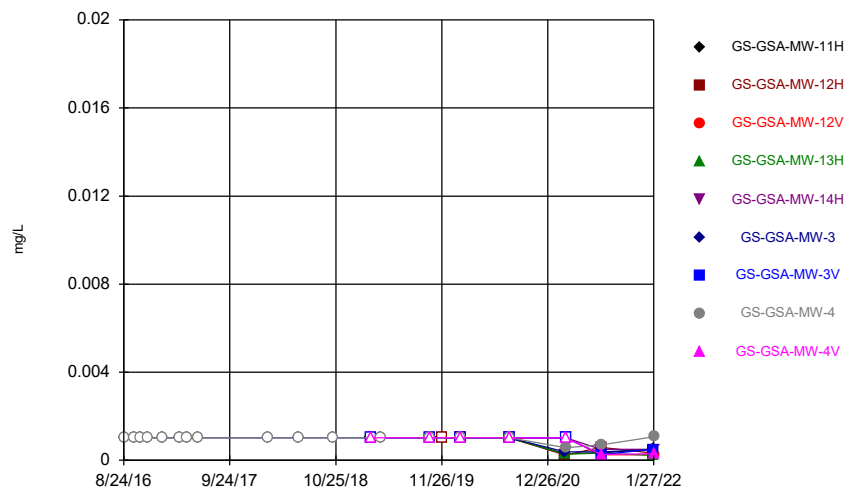
Time Series



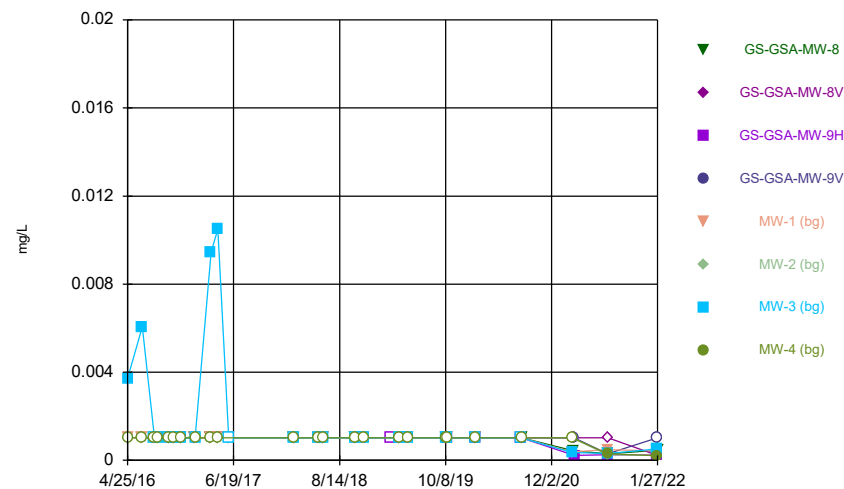
Constituent: Chloride Analysis Run 5/11/2022 6:04 PM View: Constituents View  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA



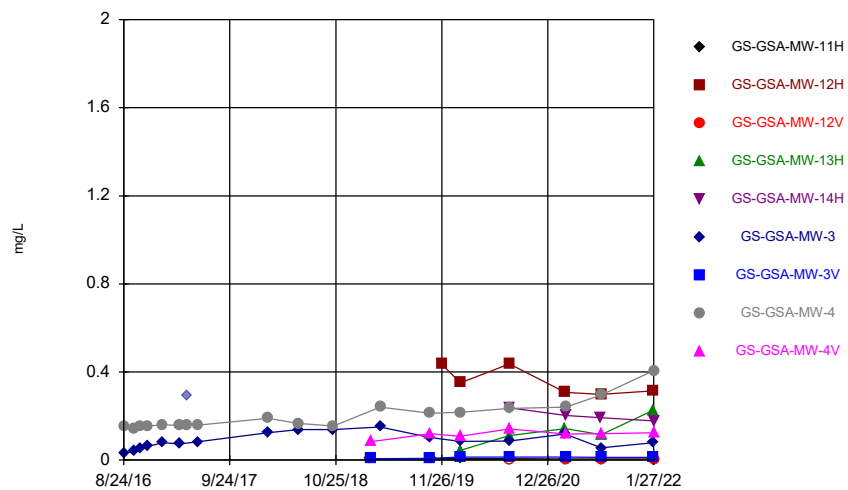
### Time Series



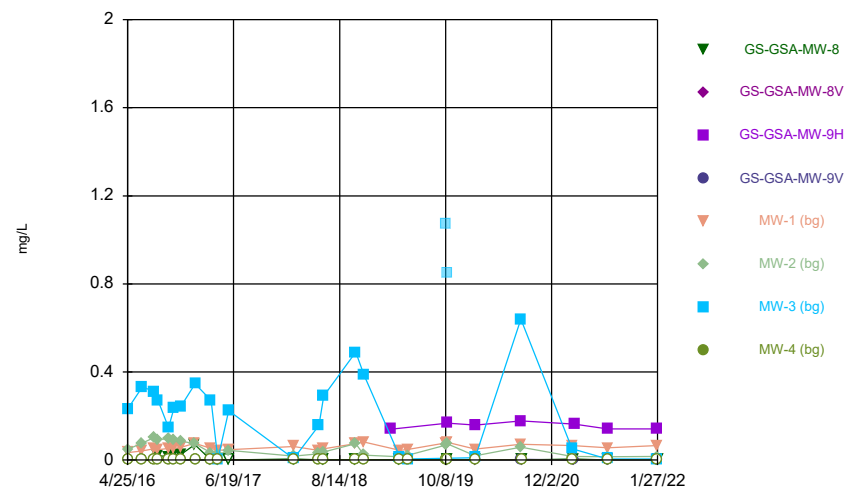
### Time Series



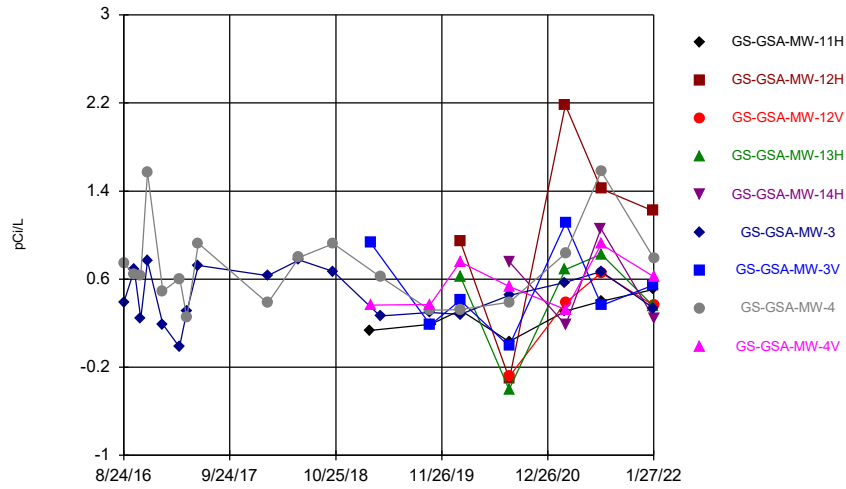
### Time Series



### Time Series

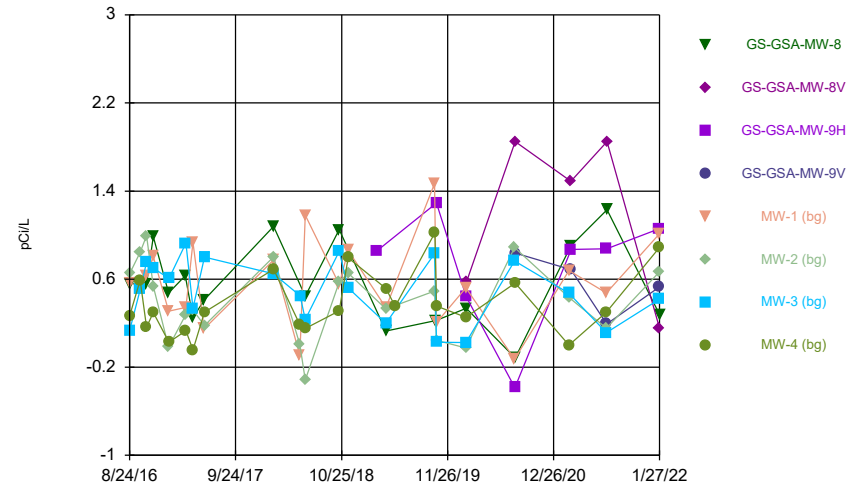


Time Series



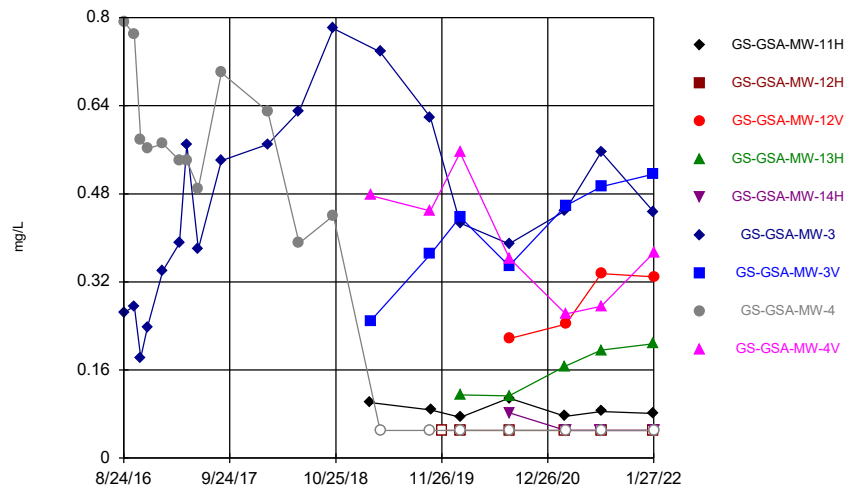
Constituent: Combined Radium 226 + 228 Analysis Run 5/11/2022 6:04 PM View: Constituents View  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



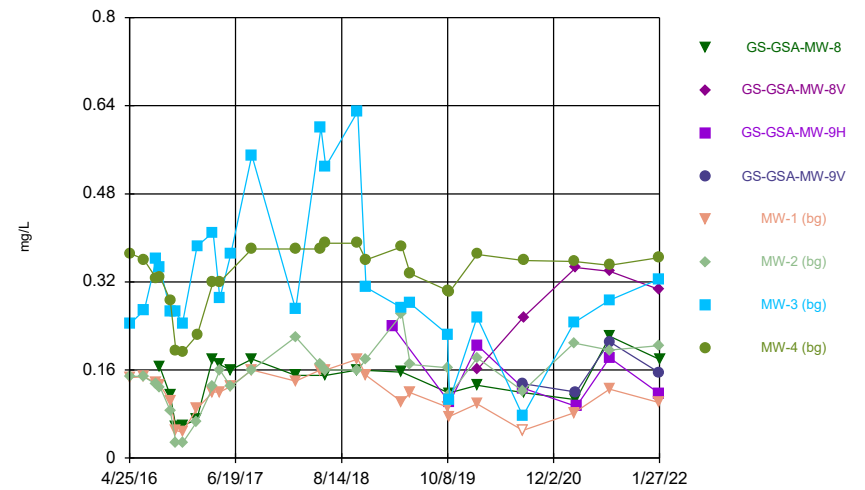
Constituent: Combined Radium 226 + 228 Analysis Run 5/11/2022 6:04 PM View: Constituents View  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



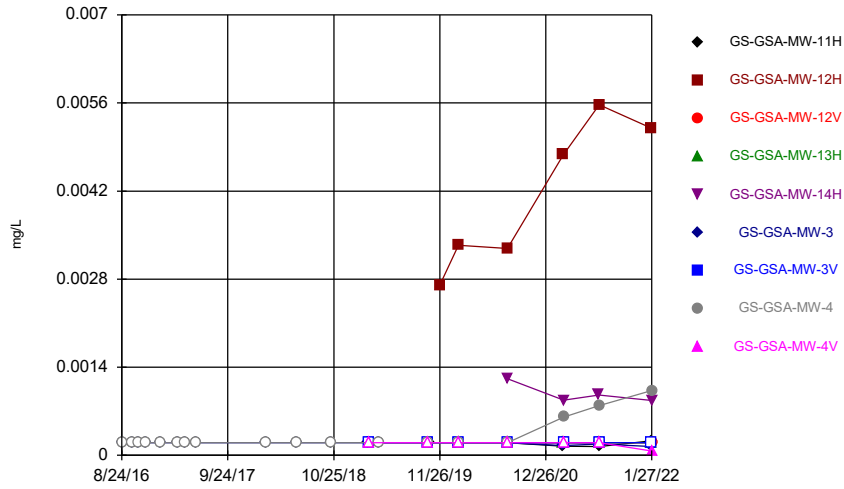
Constituent: Fluoride Analysis Run 5/11/2022 6:04 PM View: Constituents View  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



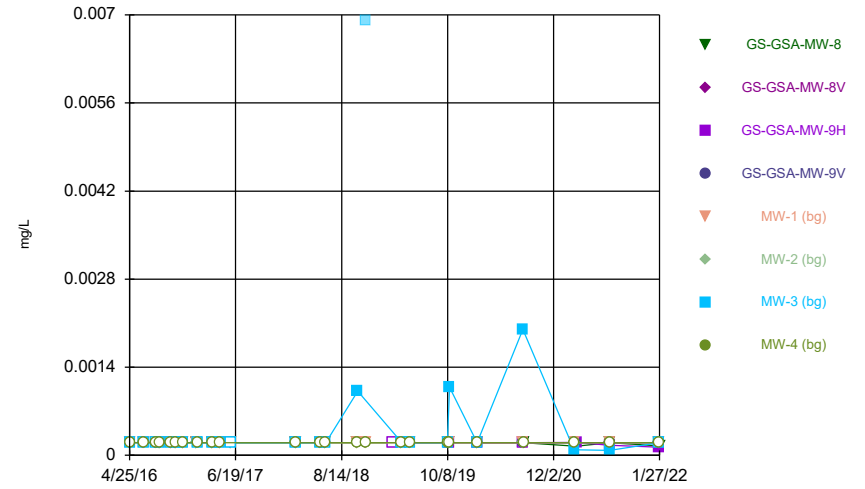
Constituent: Fluoride Analysis Run 5/11/2022 6:04 PM View: Constituents View  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Time Series



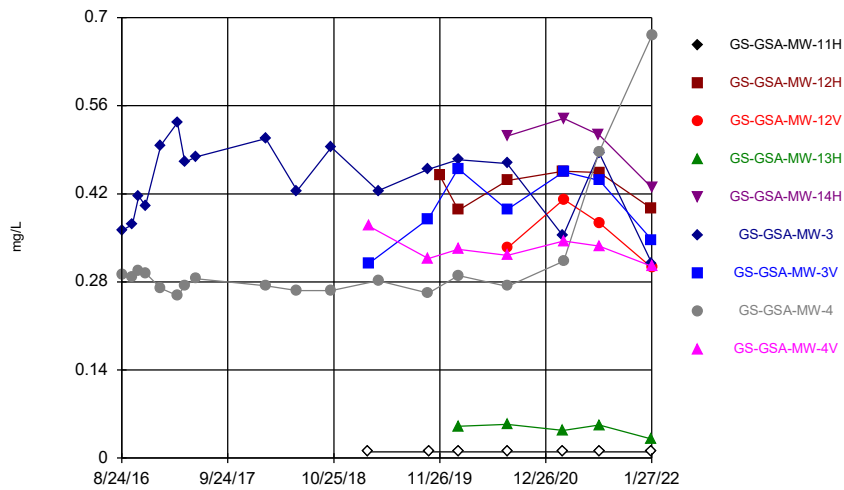
Constituent: Lead Analysis Run 5/11/2022 6:04 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Time Series



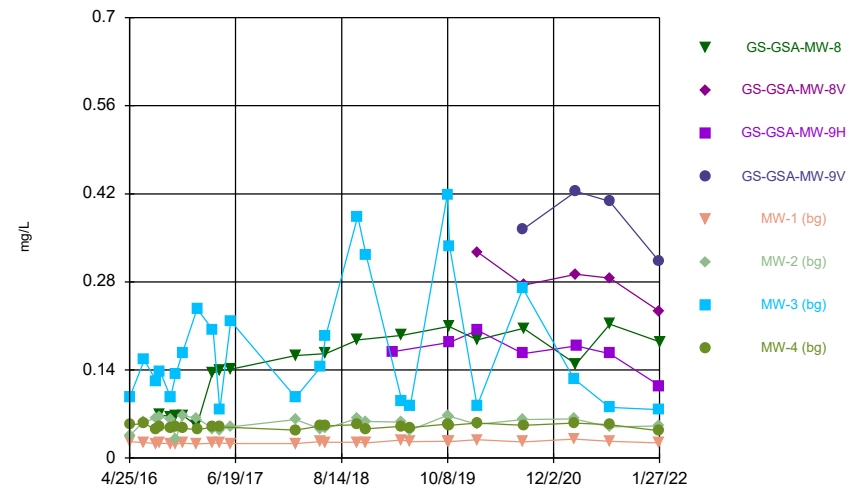
Constituent: Lead Analysis Run 5/11/2022 6:04 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Time Series



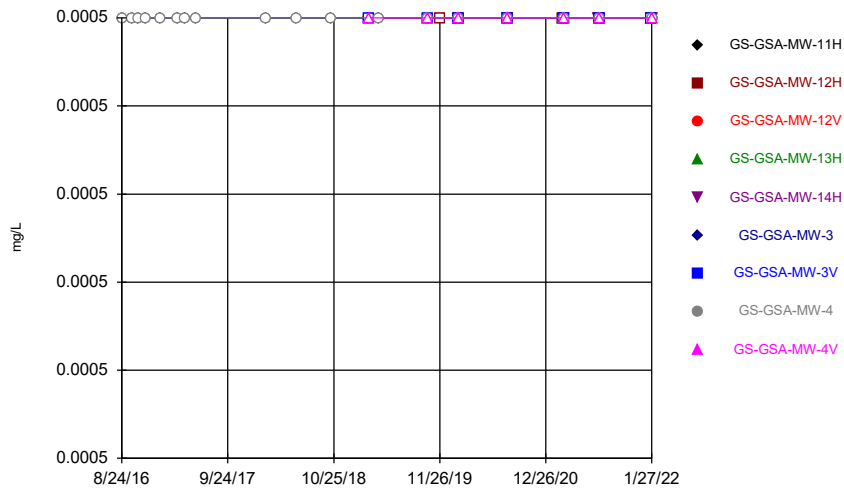
Constituent: Lithium Analysis Run 5/11/2022 6:04 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Time Series



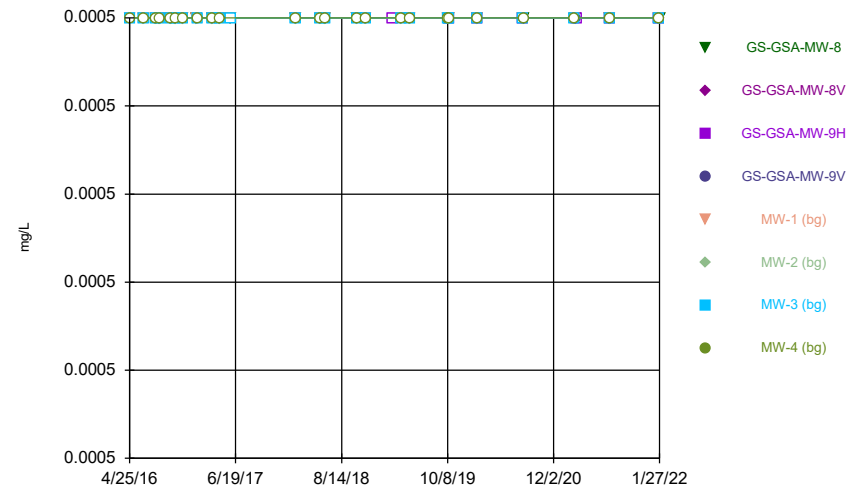
Constituent: Lithium Analysis Run 5/11/2022 6:04 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



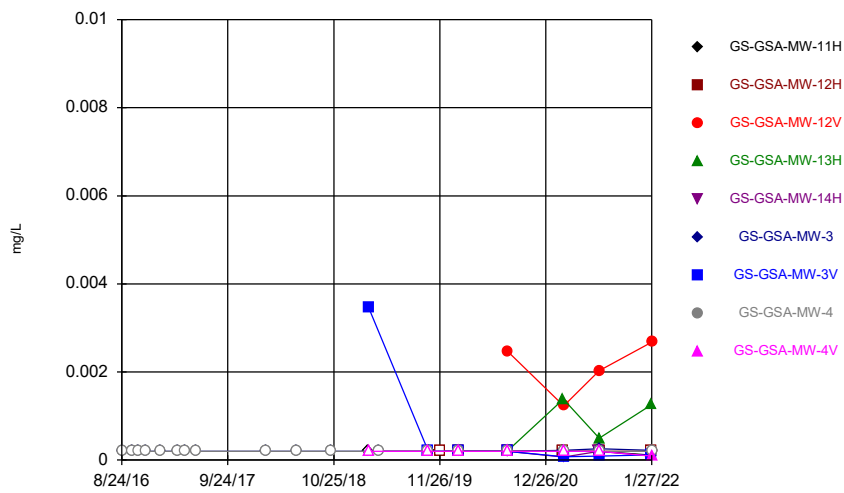
Constituent: Mercury Analysis Run 5/11/2022 6:04 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



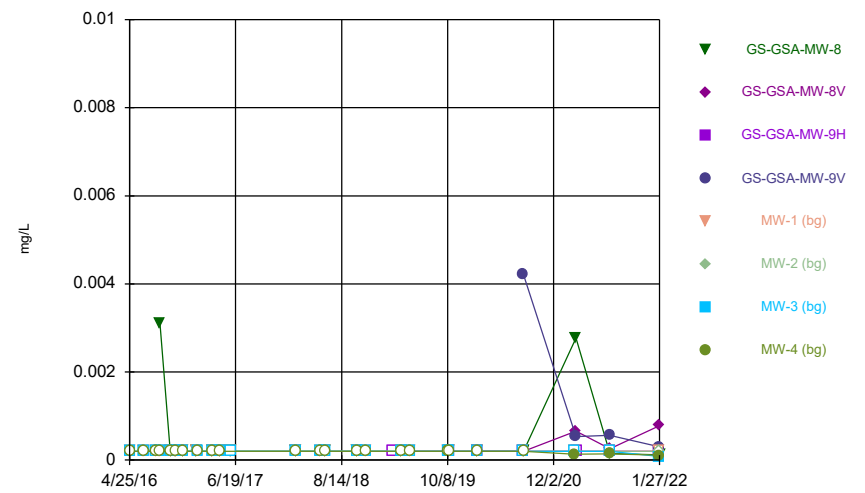
Constituent: Mercury Analysis Run 5/11/2022 6:04 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



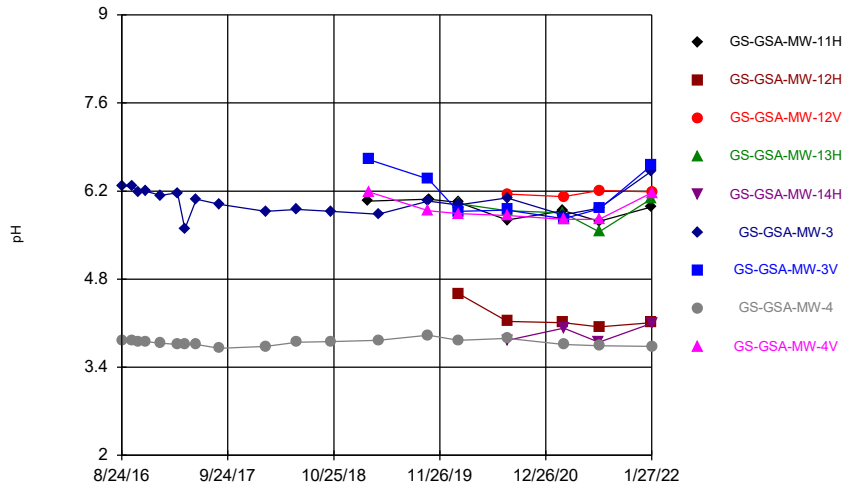
Constituent: Molybdenum Analysis Run 5/11/2022 6:04 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



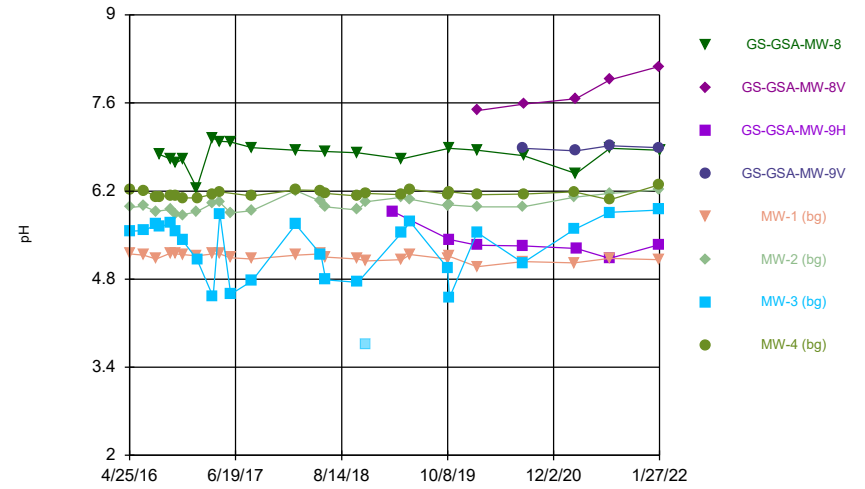
Constituent: Molybdenum Analysis Run 5/11/2022 6:04 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



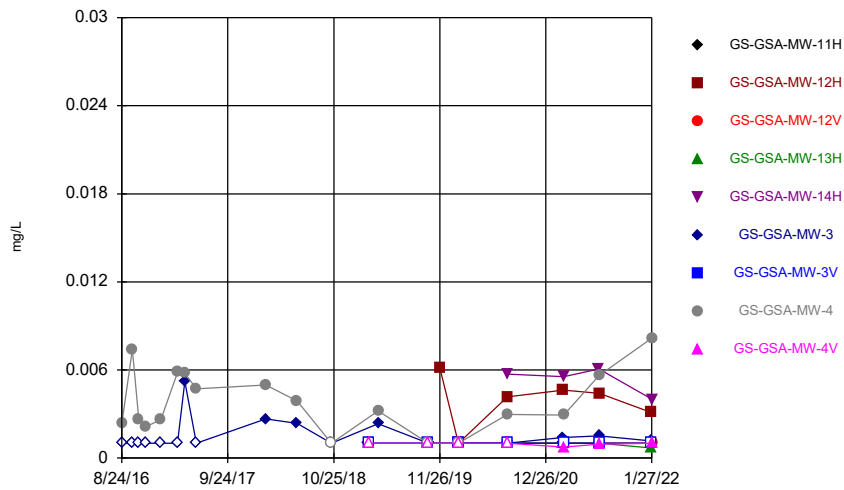
Constituent: pH Analysis Run 5/11/2022 6:04 PM View: Constituents View  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



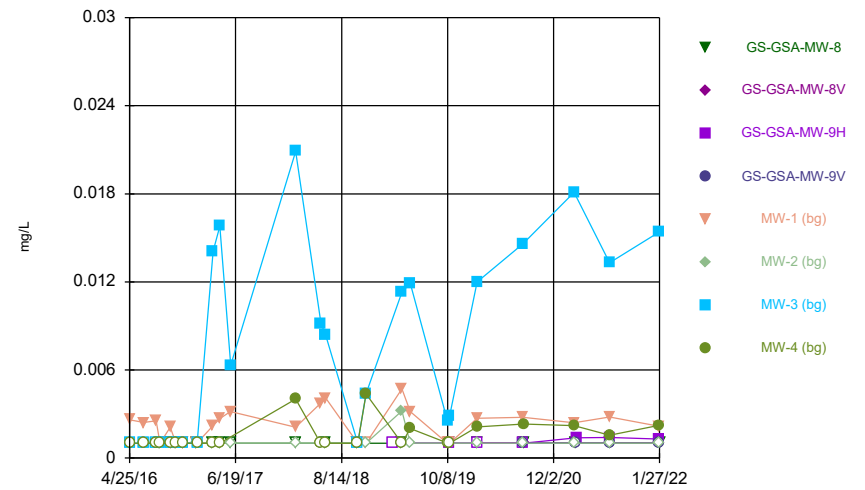
Constituent: pH Analysis Run 5/11/2022 6:04 PM View: Constituents View  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



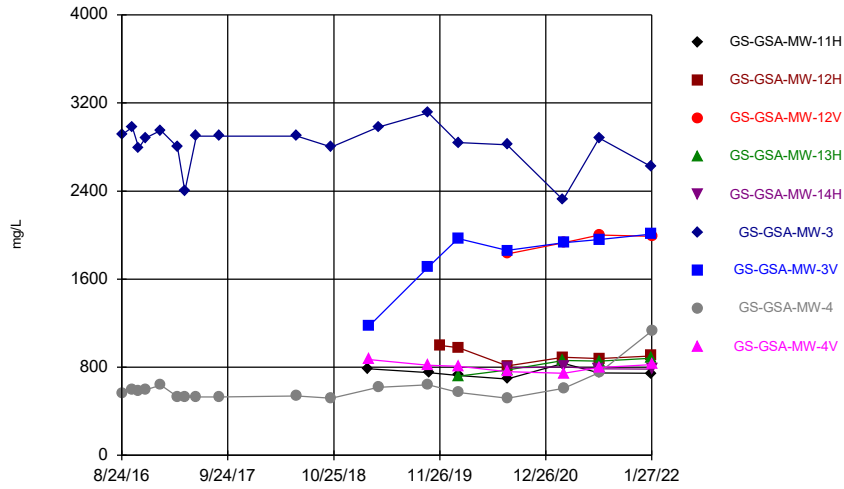
Constituent: Selenium Analysis Run 5/11/2022 6:04 PM View: Constituents View  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



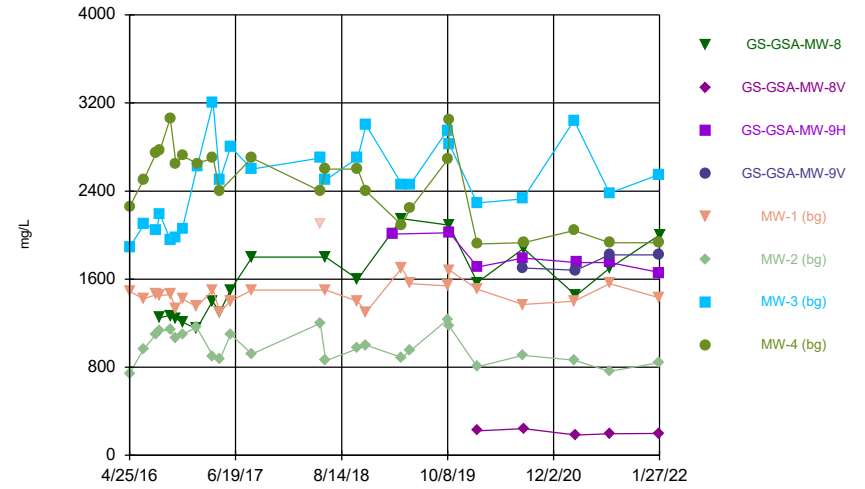
Constituent: Selenium Analysis Run 5/11/2022 6:04 PM View: Constituents View  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



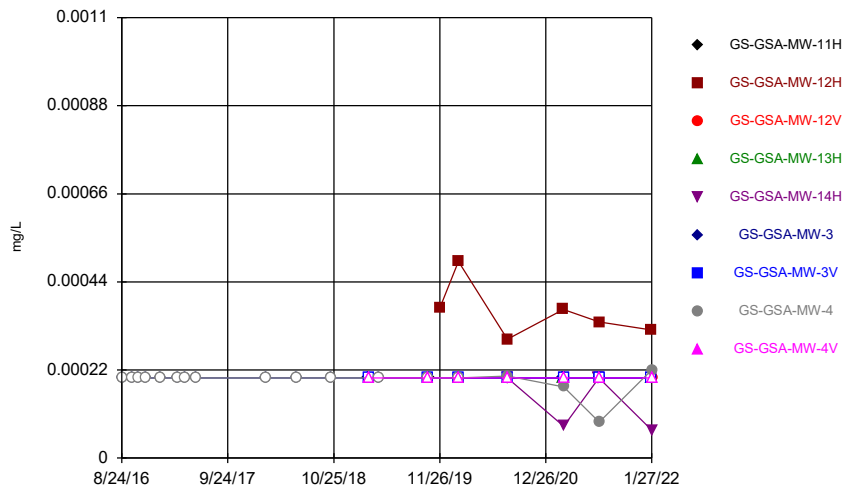
Constituent: Sulfate Analysis Run 5/11/2022 6:05 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



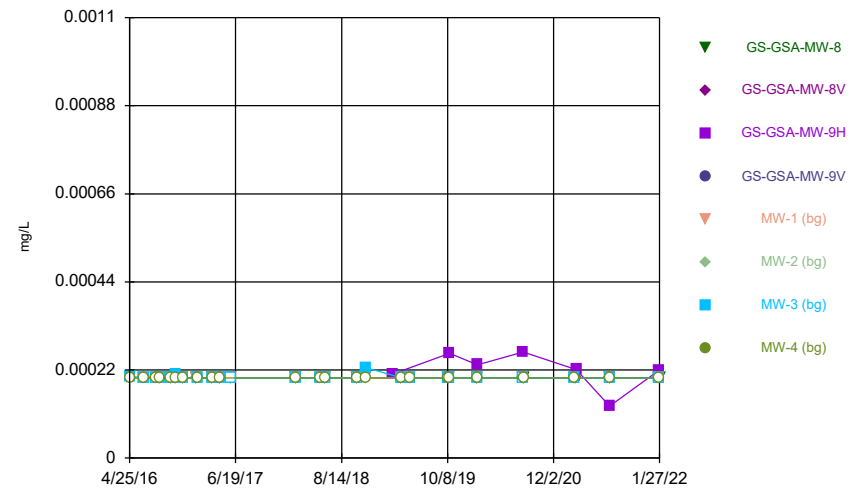
Constituent: Sulfate Analysis Run 5/11/2022 6:05 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



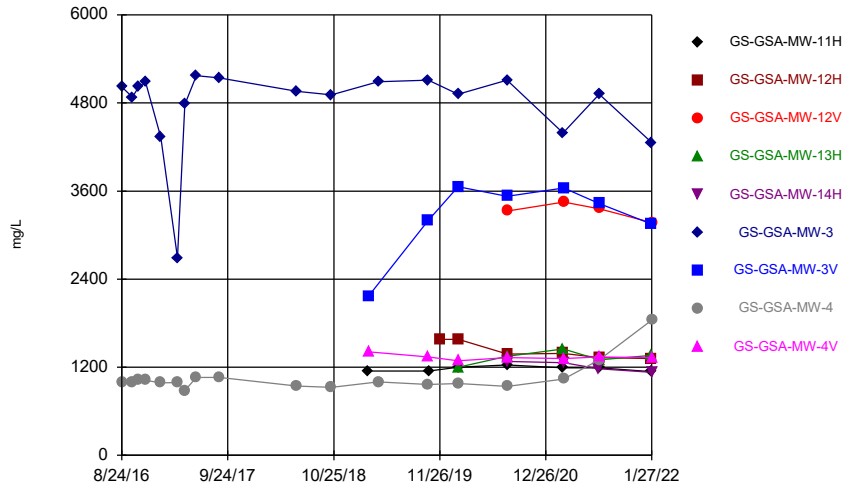
Constituent: Thallium Analysis Run 5/11/2022 6:05 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



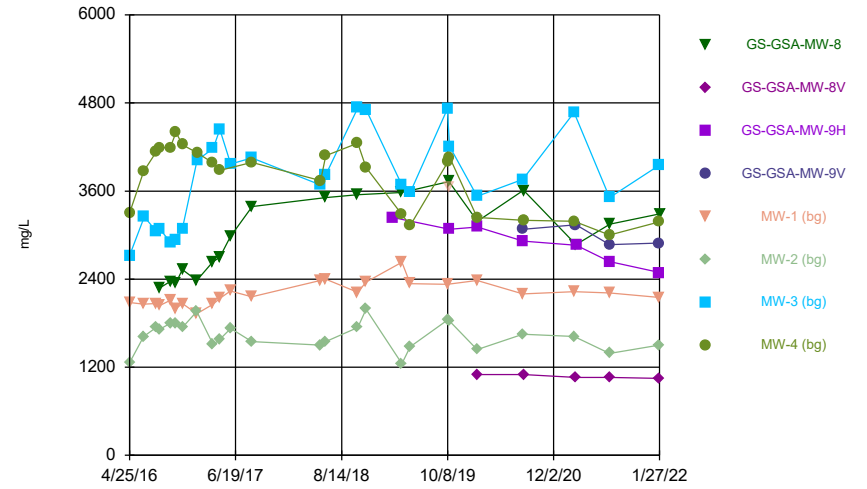
Constituent: Thallium Analysis Run 5/11/2022 6:05 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Time Series



Constituent: Total dissolved solids Analysis Run 5/11/2022 6:05 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Time Series



Constituent: Total dissolved solids Analysis Run 5/11/2022 6:05 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

# Time Series

Constituent: Antimony (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						<0.00102		<0.00102	
10/3/2016						<0.00102		<0.00102	
10/26/2016						<0.00102		<0.00102	
11/21/2016						<0.00102		<0.00102	
1/17/2017						<0.00102		<0.00102	
3/20/2017						<0.00102			
3/21/2017								<0.00102	
4/17/2017						<0.00102		<0.00102	
5/30/2017						<0.00102		<0.00102	
2/13/2018						<0.00102		<0.00102	
6/11/2018						<0.00102		<0.00102	
10/17/2018						<0.00102		<0.00102	
3/4/2019	0.00149 (J)								
3/5/2019							0.00179 (J)		<0.00102
4/10/2019						0.00111 (J)		0.000976 (J)	
10/14/2019						<0.00102	<0.00102	<0.00102	<0.00102
10/16/2019	<0.00102								
11/26/2019		<0.00102							
2/3/2020						<0.00102	<0.00102		<0.00102
2/4/2020	<0.00102	<0.00102		<0.00102				<0.00102	
8/4/2020	<0.00102			<0.00102		<0.00102	<0.00102		
8/5/2020		<0.00102	<0.00102		<0.00102			<0.00102	<0.00102
3/1/2021						<0.00102			
3/2/2021	<0.00102	<0.00102		<0.00102					
3/3/2021			<0.00102		<0.00102		<0.00102	<0.00102	<0.00102
7/13/2021					<0.00102				
7/14/2021	<0.00102	<0.00102	<0.00102	<0.00102		<0.00102		<0.00102	<0.00102
7/15/2021							<0.00102		
1/25/2022		<0.00102							
1/26/2022	<0.00102			<0.00102		0.00066 (J)	0.00052 (J)		
1/27/2022			<0.00102		<0.00102			<0.00102	0.00054 (J)



# Time Series

Constituent: Antimony (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	GS-GSA-MW-9V	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	<0.00102
10/3/2016	<0.00102				<0.00102	<0.00102		<0.00102
10/4/2016							<0.00102	
10/26/2016	<0.00102				<0.00102	<0.00102	<0.00102	<0.00102
11/21/2016	<0.00102				<0.00102	<0.00102	<0.00102	<0.00102
1/17/2017	<0.00102				<0.00102	<0.00102		
1/18/2017							<0.00102	<0.00102
3/20/2017	<0.00102							
3/22/2017					<0.00102	<0.00102	<0.00102	<0.00102
4/18/2017	<0.00102				<0.00102	<0.00102	<0.00102	<0.00102
5/30/2017	<0.00102				<0.00102			
5/31/2017						<0.00102	<0.00102	
2/13/2018	<0.00102				<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	<0.00102
10/17/2018	<0.00102				<0.00102	<0.00102	<0.00102	<0.00102
11/19/2018					<0.00102	<0.00102	<0.00102	<0.00102
3/5/2019			0.000852 (J)					
4/10/2019	0.00102 (J)				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
10/14/2019	<0.00102							
10/16/2019			<0.00102		<0.00102	<0.00102	<0.00102	<0.00102
2/3/2020					<0.00102	<0.00102	<0.00102	<0.00102
2/4/2020	<0.00102		<0.00102					
2/5/2020		<0.00102						
8/3/2020					<0.00102	<0.00102	<0.00102	
8/4/2020			<0.00102	<0.00102				
8/5/2020	<0.00102	<0.00102						<0.00102
2/22/2021					<0.00102	<0.00102	<0.00102	<0.00102
3/1/2021	<0.00102	<0.00102		<0.00102				
3/2/2021			<0.00102					
7/12/2021					<0.00102	<0.00102	<0.00102	<0.00102
7/13/2021			<0.00102	<0.00102				
7/14/2021	<0.00102	<0.00102						
1/25/2022					<0.00102	<0.00102	<0.00102	<0.00102
1/26/2022		<0.00102	<0.00102	<0.00102				
1/27/2022	<0.00102							

# Time Series

Constituent: Arsenic (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						<0.005		<0.005	
10/3/2016						<0.005		<0.005	
10/26/2016						<0.005		<0.005	
11/21/2016						<0.005		<0.005	
1/17/2017						<0.005		<0.005	
3/20/2017						<0.005			
3/21/2017								<0.005	
4/17/2017						0.00405 (J)		<0.005	
5/30/2017						<0.005		<0.005	
2/13/2018						<0.005		<0.005	
6/11/2018						<0.005		<0.005	
10/17/2018						<0.005		<0.005	
3/4/2019	<0.005								
3/5/2019							<0.005		<0.005
4/10/2019						0.00121 (J)		0.00176 (J)	
10/14/2019						<0.005	<0.005	0.0012 (J)	<0.005
10/16/2019	<0.005								
11/26/2019		0.00194 (J)							
2/3/2020						<0.005	<0.005		0.00101 (J)
2/4/2020	<0.005	0.00157 (J)		0.16				0.00128 (J)	
8/4/2020	<0.005			0.103		<0.005	<0.005		
8/5/2020		0.00158 (J)	<0.005		0.00181 (J)			0.00115 (J)	0.00116 (J)
3/1/2021						0.0014			
3/2/2021	0.00039	0.00138		0.293					
3/3/2021			0.000339		0.00155		0.000296	0.00116	0.00107
7/13/2021					0.00172				
7/14/2021	0.00041	0.00161	0.00048	0.104		0.00057		0.00174	0.00118
7/15/2021							0.00028		
1/25/2022		0.00129							
1/26/2022	0.00043			0.283		0.00136	0.00036		
1/27/2022			0.00066		0.00128			0.00274	0.00124

# Time Series

Constituent: Arsenic (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	GS-GSA-MW-9V	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	0.00119 (J)				<0.005	<0.005	<0.005	<0.005
10/3/2016	0.00114 (J)				<0.005	<0.005		<0.005
10/4/2016							<0.005	
10/26/2016	0.0011 (J)				<0.005	<0.005	<0.005	<0.005
11/21/2016	<0.005				<0.005	0.00111 (J)	<0.005	<0.005
1/17/2017	0.00103 (J)				<0.005	<0.005		
1/18/2017							<0.005	<0.005
3/20/2017	<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	<0.005
5/30/2017	<0.005				<0.005			
5/31/2017						<0.005	<0.005	
2/13/2018	<0.005				<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	<0.005	0.00103 (J)	<0.005
10/17/2018	<0.005				<0.005	<0.005	0.00133 (J)	<0.005
11/19/2018					<0.005	<0.005	0.0012 (J)	<0.005
3/5/2019			<0.005					
4/10/2019	<0.005				<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
10/14/2019	<0.005							
10/16/2019			0.0019 (J)		<0.005	<0.005	0.00389 (J)	<0.005
2/3/2020					<0.005	<0.005	<0.005	<0.005
2/4/2020	<0.005		0.00123 (J)					
2/5/2020		0.00232 (J)						
8/3/2020					<0.005	<0.005	0.00426 (J)	
8/4/2020			0.00137 (J)	<0.005				
8/5/2020	<0.005	0.00476 (J)						<0.005
2/22/2021					0.000403	0.000295	0.000789	0.000125 (J)
3/1/2021	0.000633	0.0105		0.00136				
3/2/2021			0.00105					
7/12/2021					0.00036	0.00036	0.00038	0.00012 (J)
7/13/2021			0.00113	0.00168				
7/14/2021	0.00024	0.00692						
1/25/2022					0.00025	0.00033	0.00027	9E-05 (J)
1/26/2022		0.00542	0.00113	0.00128				
1/27/2022	0.00027							

# Time Series

Constituent: Barium (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

Date	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						0.0155		0.0135	
10/3/2016						0.0156		0.0127	
10/26/2016						0.0122		0.0118	
11/21/2016						0.0128		0.012	
1/17/2017						0.0125		0.0119	
3/20/2017						0.0124			
3/21/2017								0.0116	
4/17/2017						0.0149		0.0112	
5/30/2017						0.0121		0.0117	
2/13/2018						0.0118		0.0121	
6/11/2018						0.0127		0.0139	
10/17/2018						0.013		0.0125	
3/4/2019	0.0239								
3/5/2019							0.0956		0.0136
4/10/2019						0.0153		0.0136	
10/14/2019						0.0122	0.0451	0.0147	0.0123
10/16/2019	0.0192								
11/26/2019		0.0184							
2/3/2020						0.0141	0.0215		0.0103
2/4/2020	0.0148	0.0141		0.0296				0.0124	
8/4/2020	0.0138			0.0275		0.0139	0.017		
8/5/2020		0.016	0.0157		0.0113			0.0142	0.0112
3/1/2021						0.0154			
3/2/2021	0.0118	0.0134		0.0315					
3/3/2021			0.0126		0.0109		0.0181	0.0117	0.0103
7/13/2021					0.0102				
7/14/2021	0.0127	0.013	0.0116	0.0217		0.0136		0.0115	0.01
7/15/2021							0.0157		
1/25/2022		0.013							
1/26/2022	0.0139			0.0334		0.0148	0.0161		
1/27/2022			0.0125		0.0122			0.0131	0.0108

# Time Series

Constituent: Barium (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	GS-GSA-MW-9V	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	0.0536				0.00949 (J)	0.0139	0.00962 (J)	0.0118
10/3/2016	0.0681				0.0105	0.0164		0.0119
10/4/2016							0.00984 (J)	
10/26/2016	0.0562				0.00931 (J)	0.0138	0.00878 (J)	0.0104
11/21/2016	0.0604				0.00879 (J)	0.0144	0.00833 (J)	0.0106
1/17/2017	0.0402				0.00929 (J)	0.0135		
1/18/2017							0.00966 (J)	0.0101
3/20/2017	0.0305							
3/22/2017					0.00938 (J)	0.0132	0.00991 (J)	0.0103
4/18/2017	0.0276				0.00964 (J)	0.012	0.00976 (J)	0.0107
5/30/2017	0.0272				0.00982 (J)			
5/31/2017						0.0126	0.00866 (J)	
2/13/2018	0.0249				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	0.0234				0.0104	0.0138	0.00997 (J)	0.0108
10/17/2018	0.0236				0.00952 (J)	0.0137	0.0126	0.0119
11/19/2018					0.00915 (J)	0.0115	0.0109	0.0107
3/5/2019			0.0312					
4/10/2019	0.02				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
10/14/2019	0.0215							
10/16/2019			0.0163		0.0106	0.0146	0.0128	0.0125
2/3/2020					0.00995 (J)	0.0122	0.0086 (J)	0.0103
2/4/2020	0.0209		0.0148					
2/5/2020		0.096						
8/3/2020					0.0107	0.0147	0.0166	
8/4/2020			0.0153	0.0155				
8/5/2020	0.0216	0.125						0.0125
2/22/2021					0.0107	0.0132	0.00981	0.0111
3/1/2021	0.0194	0.15		0.012				
3/2/2021			0.0149					
7/12/2021					0.00991	0.013	0.00857	0.0108
7/13/2021			0.0141	0.013				
7/14/2021	0.0232	0.148						
1/25/2022					0.0098	0.0122	0.00821	0.00908
1/26/2022		0.137	0.0146	0.012				
1/27/2022	0.0238							

# Time Series

Constituent: Beryllium (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						<0.00102		0.00576	
10/3/2016						<0.00102		0.00469	
10/26/2016						0.000922 (J)		0.00459	
11/21/2016						0.00133 (J)		0.00502	
1/17/2017						0.0017 (J)		0.00488	
3/20/2017						0.00191 (J)			
3/21/2017								0.00521	
4/17/2017						0.00655		0.0058	
5/30/2017						0.00204 (J)		0.00517	
2/13/2018						0.00387		0.00544	
6/11/2018						0.00244 (J)		0.00463	
10/17/2018						0.00345		0.00369	
3/4/2019	<0.00102								
3/5/2019							<0.00102		0.00155 (J)
4/10/2019						0.00257 (J)		0.00469	
10/14/2019						0.00162 (J)	<0.00102	0.00403	0.00382
10/16/2019	<0.00102								
11/26/2019		0.0084							
2/3/2020						0.00141 (J)	<0.00102		0.00362
2/4/2020	<0.00102	0.00709		<0.00102				0.00415	
8/4/2020	<0.00102			<0.00102		0.00174 (J)	<0.00102		
8/5/2020		0.00747	<0.00102		0.00879			0.00385	0.00416
3/1/2021						0.00157			
3/2/2021	<0.00102	0.00703		<0.00102					
3/3/2021			<0.00102		0.00818		<0.00102	0.00406	0.0032
7/13/2021					0.00883				
7/14/2021	<0.00102	0.00755	<0.00102	<0.00102		0.00175		0.00577	0.00381
7/15/2021							<0.00102		
1/25/2022		0.00729							
1/26/2022	<0.00102			<0.00102		0.00179	<0.00102		
1/27/2022			<0.00102		0.00718			0.00768	0.00431

# Time Series

Constituent: Beryllium (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	GS-GSA-MW-9V	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	<0.00102	0.00308	<0.00102
10/3/2016	<0.00102				<0.00102	<0.00102		<0.00102
10/4/2016							0.00129 (J)	
10/26/2016	<0.00102				<0.00102	<0.00102	0.0071	<0.00102
11/21/2016	<0.00102				<0.00102	<0.00102	0.00689	<0.00102
1/17/2017	<0.00102				<0.00102	<0.00102		
1/18/2017							0.0169 (o)	<0.00102
3/20/2017	<0.00102							
3/22/2017					<0.00102	<0.00102	0.00686	<0.00102
4/18/2017	<0.00102				<0.00102	<0.00102	<0.00102	<0.00102
5/30/2017	<0.00102				<0.00102			
5/31/2017						<0.00102	0.00547	
2/13/2018	<0.00102				<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	<0.00102	0.00306	<0.00102
10/17/2018	<0.00102				<0.00102	<0.00102	0.0121	<0.00102
11/19/2018					<0.00102	<0.00102	0.0185 (o)	<0.00102
3/5/2019			<0.00102					
4/10/2019	<0.00102				<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
10/14/2019	<0.00102							
10/16/2019			0.000985 (J)		<0.00102	<0.00102	0.0103	<0.00102
2/3/2020					<0.00102	<0.00102	<0.00102	<0.00102
2/4/2020	<0.00102		0.000929 (J)					
2/5/2020		<0.00102						
8/3/2020					<0.00102	<0.00102	0.00405	
8/4/2020			0.000882 (J)	<0.00102				
8/5/2020	<0.00102	<0.00102						<0.00102
2/22/2021					<0.00102	<0.00102	<0.00102	<0.00102
3/1/2021	<0.00102	<0.00102			<0.00102			
3/2/2021			0.000724 (J)					
7/12/2021					<0.00102	<0.00102	<0.00102	<0.00102
7/13/2021			0.00073 (J)	<0.00102				
7/14/2021	<0.00102	<0.00102						
1/25/2022					<0.00102	<0.00102	<0.00102	<0.00102
1/26/2022		<0.00102	0.00063 (J)	<0.00102				
1/27/2022	<0.00102							

# Time Series

Constituent: Boron (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						0.799		4.88	
10/3/2016						0.889		4.75	
10/26/2016						1.23		4.96	
11/21/2016						1.72		4.82	
1/17/2017						2.63		3.97	
3/20/2017						3.11			
3/21/2017								3.39	
4/17/2017						4.51		3.46	
5/30/2017						2.9		3.79	
8/24/2017						2.83		4.19	
6/11/2018						3.09		3.96	
10/17/2018						2.59		3.98	
3/4/2019	0.0235 (J)								
3/5/2019							0.895		7.15
4/10/2019						3.35		3.74	
10/14/2019						2.48	2.38	3.37	5.64
10/16/2019	0.0352 (J)								
11/26/2019		0.0798 (J)							
2/3/2020						2.13	3.06		5.25
2/4/2020	<0.1015	0.0748 (J)		0.202				2.74	
8/4/2020	<0.1015			0.263		1.82	2.8		
8/5/2020		0.0748 (J)	1.55		0.158			2.51	4.41
3/1/2021						2.55			
3/2/2021	0.0305 (J)	0.0875 (J)							
3/3/2021			1.54		0.203		2.99	2.42	4.09
7/13/2021					0.139				
7/14/2021	<0.1015	0.0742 (J)	1.55	0.229		1.47		4.78	3.68
7/15/2021							3.04		
1/25/2022		0.0645 (J)							
1/26/2022	<0.1015			0.206		2.5	2.81		
1/27/2022			1.52		0.148			6.1	3.47



# Time Series

Constituent: Boron (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

Date	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	GS-GSA-MW-9V	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	0.0898 (J)				0.0247 (J)	0.0316 (J)	0.0431 (J)	0.0451 (J)
10/3/2016	0.0821 (J)				0.0307 (J)	0.0367 (J)		0.0511 (J)
10/4/2016							0.04 (J)	
10/26/2016	0.0889 (J)				0.0241 (J)	0.0331 (J)	0.0375 (J)	0.0507 (J)
11/21/2016	0.0788 (J)				0.0202 (J)	0.035 (J)	0.0406 (J)	0.0458 (J)
1/17/2017	0.0607 (J)				0.0201 (J)	0.0259 (J)		
1/18/2017							0.0548 (J)	0.0445 (J)
3/20/2017	0.114							
3/22/2017					0.0224 (J)	0.0243 (J)	0.0344 (J)	0.0432 (J)
4/18/2017	0.108				<0.1015	0.0206 (J)	<0.1015	0.0409 (J)
5/30/2017	0.105				<0.1015			
5/31/2017						0.0234 (J)	0.0454 (J)	
8/23/2017					0.0253 (J)	0.0267 (J)	0.0425 (J)	0.042 (J)
8/24/2017	0.12							
5/22/2018					0.0224 (J)	0.0251 (J)		
5/23/2018								0.0433 (J)
5/24/2018							0.0339 (J)	
6/12/2018	0.181				0.0214 (J)	0.0275 (J)	0.0371 (J)	0.0478 (J)
10/17/2018	0.616				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)
3/5/2019		12.8						
4/10/2019	0.944				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)
10/14/2019	2.11							
10/16/2019			10.7		0.0385 (J)	0.0419 (J)	0.05 (J)	0.0505 (J)
2/3/2020					<0.1015	<0.1015	<0.1015	0.0433 (J)
2/4/2020	1.47		9.63					
2/5/2020		0.136						
8/3/2020					<0.1015	0.0317 (J)	0.0424 (J)	
8/4/2020			8.53	0.149				
8/5/2020	2.16	0.131						0.0459 (J)
2/22/2021					0.0307 (J)	<0.1015	<0.1015	0.0397 (J)
3/1/2021	1.85	0.145		0.147				
3/2/2021			6.68					
7/12/2021					<0.1015	<0.1015	<0.1015	0.0411 (J)
7/13/2021			5.84	0.125				
7/14/2021	2.07	0.147						
1/25/2022					<0.1015	<0.1015	<0.1015	0.0408 (J)
1/26/2022		0.153	5.87	0.11				
1/27/2022	2.76							

# Time Series

Constituent: Cadmium (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						<0.0002		0.00148	
10/3/2016						<0.0002		0.00147	
10/26/2016						<0.0002		0.00157	
11/21/2016						<0.0002		0.00154	
1/17/2017						<0.0002		0.00131	
3/20/2017						<0.0002			
3/21/2017								0.00134	
4/17/2017						<0.0002		0.00122	
5/30/2017						<0.0002		0.00167	
2/13/2018						<0.0002		0.00145	
6/11/2018						<0.0002		0.00171	
10/17/2018						<0.0002		0.00188	
3/4/2019	<0.0002								
3/5/2019							<0.0002		<0.0002
4/10/2019						<0.0002		0.00176	
10/14/2019						<0.0002	<0.0002	0.0015	<0.0002
10/16/2019	<0.0002								
11/26/2019		0.00351							
2/3/2020						<0.0002	<0.0002		<0.0002
2/4/2020	<0.0002	0.00301		<0.0002				0.00143	
8/4/2020	<0.0002			<0.0002		<0.0002	<0.0002		
8/5/2020		0.00393	<0.0002		0.0018			0.00157	<0.0002
3/1/2021						<0.0002			
3/2/2021	0.000366	0.00319		<0.0002					
3/3/2021			<0.0002		0.0016		<0.0002	0.00162	<0.0002
7/13/2021					0.00157				
7/14/2021	0.00028	0.00301	<0.0002	<0.0002		<0.0002		0.00246	<0.0002
7/15/2021							<0.0002		
1/25/2022		0.00333							
1/26/2022	0.00029			7E-05 (J)		<0.0002	<0.0002		
1/27/2022			<0.0002		0.00137			0.00336	<0.0002

# Time Series

Constituent: Cadmium (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	GS-GSA-MW-9V	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	<0.0002				0.00182	<0.0002	<0.0002	<0.0002
10/3/2016	<0.0002				0.00188	<0.0002		<0.0002
10/4/2016							0.000689 (J)	
10/26/2016	<0.0002				0.00175	<0.0002	0.00136	<0.0002
11/21/2016	<0.0002				0.00197	<0.0002	0.00171	<0.0002
1/17/2017	<0.0002				0.002	0.000311 (J)		
1/18/2017							0.003	<0.0002
3/20/2017	<0.0002							
3/22/2017					0.0019	<0.0002	0.00473	<0.0002
4/18/2017	<0.0002				0.00159	<0.0002	0.00117	<0.0002
5/30/2017	<0.0002				0.00214			
5/31/2017						0.000212 (J)	0.00296	
2/13/2018	<0.0002				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	<0.0002				0.00217	<0.0002	0.00351	<0.0002
10/17/2018	<0.0002				0.00228	<0.0002	0.00393	<0.0002
11/19/2018					0.00156	<0.0002	0.00309	<0.0002
3/5/2019			0.000336 (J)					
4/10/2019	<0.0002				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
10/14/2019	<0.0002							
10/16/2019			0.000362 (J)		0.00225	<0.0002	0.00448	<0.0002
2/3/2020					0.00182	<0.0002	0.000988 (J)	<0.0002
2/4/2020	<0.0002		0.000349 (J)					
2/5/2020		<0.0002						
8/3/2020					0.00237	<0.0002	0.00652	
8/4/2020			0.000308 (J)	<0.0002				
8/5/2020	<0.0002	<0.0002						<0.0002
2/22/2021					0.00184	8.96E-05 (J)	0.00536	8.96E-05 (J)
3/1/2021	<0.0002	<0.0002		<0.0002				
3/2/2021			0.000338					
7/12/2021					0.00193	8E-05 (J)	0.00094	8E-05 (J)
7/13/2021			0.00028	<0.0002				
7/14/2021	<0.0002	<0.0002						
1/25/2022					0.00196	8E-05 (J)	0.00178	<0.0002
1/26/2022		<0.0002	0.00024	<0.0002				
1/27/2022	<0.0002							

# Time Series

Constituent: Calcium (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						539		102	
10/3/2016						519.7		98.4	
10/26/2016						916		88.7	
11/21/2016						552		104	
1/17/2017						572		102	
3/20/2017						817			
3/21/2017								94.7	
4/17/2017						476		97.9	
5/30/2017						515		93.9	
8/24/2017						598		105	
6/11/2018						558		105	
10/17/2018						533		117	
3/4/2019	177								
3/5/2019							329		249
4/10/2019						659		129	
10/14/2019						552	368	93.5	173
10/16/2019	143								
11/26/2019		144							
2/3/2020						589	504		184
2/4/2020	163	158		171				116	
8/4/2020	139			192		545	443		
8/5/2020		126	350		141			94.7	167
3/1/2021						514			
3/2/2021	139	124		164					
3/3/2021			353		137		466	100	161
7/13/2021					135				
7/14/2021	133	124	338	179		533		130	162
7/15/2021							453		
1/25/2022		124							
1/26/2022	143			158		517	448		
1/27/2022			347		124			181	172

# Time Series

Constituent: Calcium (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	GS-GSA-MW-9V	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	263				142	180	274	319
10/3/2016	253				139	184		293
10/4/2016							243	
10/26/2016	235				133	171	254	311
11/21/2016	246				144	179	263	320
1/17/2017	231				131	188		
1/18/2017							431	417
3/20/2017	298							
3/22/2017					141	155	318	292
4/18/2017	317				149	156	296	302
5/30/2017	316				140			
5/31/2017						151	306	
8/23/2017					152	155	298	297
8/24/2017	391							
5/22/2018					166	172		
5/23/2018								296
5/24/2018							297	
6/12/2018	442				203	179	318	355
10/17/2018	514				171	200	392	342
11/19/2018					154	221	387	289
3/5/2019			578					
4/10/2019	533				243	200	348	356
5/14/2019					167	168	254	254
10/8/2019					157	190	371	
10/10/2019								302
10/14/2019	524							
10/16/2019			363		157	194	346	356
2/3/2020					172	172	276	265
2/4/2020	461		413					
2/5/2020		37.3						
8/3/2020					148	172	285	
8/4/2020			346	434				
8/5/2020	497	31.9						281
2/22/2021					151	178	312	271
3/1/2021	386	26.2		428				
3/2/2021			333					
7/12/2021					149	159	252	242
7/13/2021			312	408				
7/14/2021	444	29						
1/25/2022					150	179	285	259
1/26/2022		31.5	300	417				
1/27/2022	491							

# Time Series

Constituent: Chloride (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						204		112	
10/3/2016						220		115	
10/26/2016						249		115	
11/21/2016						256		117	
1/17/2017						301		99.3	
3/20/2017						320			
3/21/2017								79	
4/17/2017						340		85	
5/30/2017						310		99	
8/24/2017						290		110	
6/11/2018						260		81	
10/17/2018						270		85	
3/4/2019	3.81								
3/5/2019							194		191
4/10/2019						249		74.3	
10/14/2019						228	298	59.1	122
10/16/2019	4.45								
11/26/2019		2.43							
2/3/2020						267	338		101
2/4/2020	4.27	2.34		12.9				43.2	
8/4/2020	4.51			12.7		222	305		
8/5/2020		2	159		3.28			41	80.9
3/1/2021						250			
3/2/2021	4.63	2.28		10.9					
3/3/2021			152		4.8		307	40.3	70.8
7/13/2021					2.41				
7/14/2021	4.7	1.69	189	11.5		207		102	68.4
7/15/2021							294		
1/25/2022		1.83							
1/26/2022	5.4			10.2		255	238		
1/27/2022			171		3.75			103	51.9

# Time Series

Constituent: Chloride (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	GS-GSA-MW-9V	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	4.03				2.22	3.23	1.47	2.07
10/3/2016	3.87				2.34	3.21		2.02
10/4/2016							1.59	
10/26/2016	4.08				2.34	3.35	1.27	2.07
11/21/2016	4.39				2.5	3.34	1.38	2.39
1/17/2017	7.22				2.68	3.58		
1/18/2017							1.34	1.9
3/20/2017	5.7							
3/22/2017					3.7	3.4	2	1.5 (J)
4/18/2017	4.7				2.4	2.6	2.2	1.6 (J)
5/30/2017	15				2.6			
5/31/2017						4.4	1.5 (J)	
8/23/2017					2.7	4.4	1.8 (J)	2.3
8/24/2017	93							
5/22/2018					2.3	3.2		
5/23/2018								2
5/24/2018							1.6 (J)	
6/12/2018	140				2.3	3.7	1.4 (J)	1.7 (J)
10/17/2018	180				1.7 (J)	4.6	<2	1.5 (J)
11/19/2018					1.7 (J)	3	<2	<2
3/5/2019			313					
4/10/2019	174				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
10/14/2019	207							
10/16/2019			145		2.42	4.04	1.4	1.92
2/3/2020					2.07	2.48	2.12	1.72
2/4/2020	94.1		139					
2/5/2020		9.05						
8/3/2020					2.05	4.03	1.17	
8/4/2020			109	58.6				
8/5/2020	146	13.9						1.57
2/22/2021					2.16	1.72	2.22	1.52
3/1/2021	92.5	19.4		58.7				
3/2/2021			84.7					
7/12/2021					2.19	2.36	2.13	1.56
7/13/2021			78.6	62				
7/14/2021	129	16.7						
1/25/2022					2.09	2.14	2.12	1.54
1/26/2022		18.9	59.3	57.2				
1/27/2022	122							

# Time Series

Constituent: Chromium (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						<0.00102		<0.00102	
10/3/2016						<0.00102		<0.00102	
10/26/2016						<0.00102		<0.00102	
11/21/2016						<0.00102		<0.00102	
1/17/2017						<0.00102		<0.00102	
3/20/2017						<0.00102			
3/21/2017								<0.00102	
4/17/2017						<0.00102		<0.00102	
5/30/2017						<0.00102		<0.00102	
2/13/2018						<0.00102		<0.00102	
6/11/2018						<0.00102		<0.00102	
10/17/2018						<0.00102		<0.00102	
3/4/2019	<0.00102								
3/5/2019							<0.00102		<0.00102
4/10/2019						<0.00102		<0.00102	
10/14/2019						<0.00102	<0.00102	<0.00102	<0.00102
10/16/2019	<0.00102								
11/26/2019		<0.00102							
2/3/2020						<0.00102	<0.00102		<0.00102
2/4/2020	<0.00102	<0.00102		<0.00102				<0.00102	
8/4/2020	<0.00102			<0.00102		<0.00102	<0.00102		
8/5/2020		<0.00102	<0.00102		<0.00102			<0.00102	<0.00102
3/1/2021						0.000386 (J)			
3/2/2021	0.000295 (J)	0.000242 (J)		0.000285 (J)					
3/3/2021			<0.00102		<0.00102		<0.00102	0.000567 (J)	<0.00102
7/13/2021					0.0005 (J)				
7/14/2021	0.00034 (J)	0.00059 (J)	0.00025 (J)	0.00032 (J)		0.00039 (J)		0.0007 (J)	0.00027 (J)
7/15/2021							0.00027 (J)		
1/25/2022		0.00033 (J)							
1/26/2022	0.00052 (J)			0.00023 (J)		0.00048 (J)	0.0005 (J)		
1/27/2022			0.00025 (J)		0.0005 (J)			0.00107	0.00029 (J)



# Time Series

Constituent: Chromium (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	GS-GSA-MW-9V	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	<0.00102
10/3/2016	<0.00102				<0.00102	<0.00102		<0.00102
10/4/2016							<0.00102	
10/26/2016	<0.00102				<0.00102	<0.00102	<0.00102	<0.00102
11/21/2016	<0.00102				<0.00102	<0.00102	<0.00102	<0.00102
1/17/2017	<0.00102				<0.00102	<0.00102		
1/18/2017							<0.00102	<0.00102
3/20/2017	<0.00102							
3/22/2017					<0.00102	<0.00102	0.00945 (J)	<0.00102
4/18/2017	<0.00102				<0.00102	<0.00102	0.0105	<0.00102
5/30/2017	<0.00102				<0.00102			
5/31/2017						<0.00102	<0.00102	
2/13/2018	<0.00102				<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	<0.00102
10/17/2018	<0.00102				<0.00102	<0.00102	<0.00102	<0.00102
11/19/2018					<0.00102	<0.00102	<0.00102	<0.00102
3/5/2019			<0.00102					
4/10/2019	<0.00102				<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
10/14/2019	<0.00102							
10/16/2019			<0.00102		<0.00102	<0.00102	<0.00102	<0.00102
2/3/2020					<0.00102	<0.00102	<0.00102	<0.00102
2/4/2020	<0.00102		<0.00102					
2/5/2020		<0.00102						
8/3/2020					<0.00102	<0.00102	<0.00102	
8/4/2020			<0.00102	<0.00102				
8/5/2020	<0.00102	<0.00102						<0.00102
2/22/2021					0.000382 (J)	<0.00102	0.00035 (J)	<0.00102
3/1/2021	0.000423 (J)	<0.00102		<0.00102				
3/2/2021			0.000218 (J)					
7/12/2021					0.00049 (J)	0.00025 (J)	0.00031 (J)	0.0003 (J)
7/13/2021			0.00026 (J)	0.0003 (J)				
7/14/2021	0.0003 (J)	<0.00102						
1/25/2022					0.00043 (J)	0.00022 (J)	0.00051 (J)	0.00021 (J)
1/26/2022		0.00023 (J)	0.00024 (J)	<0.00102				
1/27/2022	0.00046 (J)							

# Time Series

Constituent: Cobalt (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						0.0303		0.151	
10/3/2016						0.041		0.143	
10/26/2016						0.0505		0.154	
11/21/2016						0.0617		0.155	
1/17/2017						0.0793		0.16	
3/20/2017						0.0726			
3/21/2017								0.158	
4/17/2017						0.294 (o)		0.159	
5/30/2017						0.0832		0.159	
2/13/2018						0.124		0.19	
6/11/2018						0.138		0.166	
10/17/2018						0.138		0.154	
3/4/2019	0.0066								
3/5/2019							0.0059		0.0836
4/10/2019						0.151		0.241	
10/14/2019						0.102	0.00845	0.213	0.12
10/16/2019	0.00598								
11/26/2019		0.435							
2/3/2020						0.0843	0.0135		0.108
2/4/2020	0.00582	0.351		0.0442				0.217	
8/4/2020	0.0061			0.111		0.0862	0.0133		
8/5/2020		0.436	<0.0002		0.237			0.235	0.141
3/1/2021						0.119			
3/2/2021	0.00512	0.307		0.143					
3/3/2021			0.00028		0.202		0.0134	0.24	0.118
7/13/2021					0.193				
7/14/2021	0.00475	0.299	0.00018 (J)	0.116		0.0555		0.296	0.12
7/15/2021							0.0121		
1/25/2022		0.315							
1/26/2022	0.00479			0.228		0.0794	0.012		
1/27/2022			0.00022		0.178			0.406	0.124

# Time Series

Constituent: Cobalt (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	GS-GSA-MW-9V	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	0.0201				0.0471	0.093	0.271	<0.0002
10/3/2016	0.0167				0.0525	0.0964		<0.0002
10/4/2016							0.148	
10/26/2016	0.0253				0.0527	0.0904	0.236	<0.0002
11/21/2016	0.0233				0.0569	0.0857	0.241	<0.0002
1/17/2017	0.0708				0.0768	0.0745		
1/18/2017							0.347	<0.0002
3/20/2017	0.00277 (J)							
3/22/2017					0.0535	0.0328	0.271	<0.0002
4/18/2017	<0.0002				0.0442	0.0242	0.00324 (J)	<0.0002
5/30/2017	<0.0002				0.0465			
5/31/2017						0.0441	0.225	
2/13/2018	0.00492 (J)				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	<0.0002				0.0512	0.0366	0.291	<0.0002
10/17/2018	<0.0002				0.0751	0.0745	0.49	<0.0002
11/19/2018					0.0825	0.0225	0.386	<0.0002
3/5/2019			0.14					
4/10/2019	<0.0002				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
10/14/2019	<0.0002							
10/16/2019			0.168		0.08	0.073	0.848 (o)	<0.0002
2/3/2020					0.0495	0.0193	0.0114	<0.0002
2/4/2020	<0.0002		0.159					
2/5/2020		<0.0002						
8/3/2020					0.0722	0.0589	0.64	
8/4/2020			0.178	0.00412 (J)				
8/5/2020	<0.0002	<0.0002						<0.0002
2/22/2021					0.0657	0.0161	0.0515	<0.0002
3/1/2021	0.00546	<0.0002		0.000992				
3/2/2021			0.163					
7/12/2021					0.0556	0.0155	0.00567	<0.0002
7/13/2021			0.141	0.00077				
7/14/2021	0.00026	<0.0002						
1/25/2022					0.0654	0.0166	0.0051	<0.0002
1/26/2022		<0.0002	0.141	0.00054				
1/27/2022	0.00067							

# Time Series

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						0.389 (U)		0.741	
10/3/2016						0.683		0.648	
10/26/2016						0.242 (U)		0.632	
11/21/2016						0.764		1.57	
1/17/2017						0.191 (U)		0.493	
3/20/2017						-0.0158 (U)			
3/21/2017								0.604 (U)	
4/17/2017						0.307 (U)		0.252 (U)	
5/30/2017						0.724		0.925	
2/13/2018						0.633		0.382	
6/11/2018						0.773		0.796	
10/17/2018						0.668		0.922	
3/4/2019	0.135 (U)								
3/5/2019							0.932		0.364 (U)
4/10/2019						0.265 (U)		0.622	
10/14/2019						0.297 (U)	0.184 (U)	0.317 (U)	0.369 (U)
10/16/2019	0.189 (U)								
2/3/2020						0.28 (U)	0.408 (U)		0.758
2/4/2020	0.319 (U)	0.939		0.624				0.324 (U)	
8/4/2020	0.0315 (U)			-0.402 (U)		0.45 (U)	-0.00668 (U)		
8/5/2020		-0.306 (U)	-0.284 (U)		0.758 (U)			0.389 (U)	0.533 (U)
3/1/2021						0.57 (U)			
3/2/2021	0.308 (U)	2.18		0.686 (U)					
3/3/2021			0.388 (U)		0.185 (U)		1.11 (U)	0.836 (U)	0.325 (U)
7/13/2021					1.06 (U)				
7/14/2021	0.398 (U)	1.42	0.657 (U)	0.826 (U)		0.668 (U)		1.58	0.917 (U)
7/15/2021							0.362 (U)		
1/25/2022		1.22 (U)							
1/26/2022	0.506 (U)			0.354 (U)		0.335 (U)	0.546 (U)		
1/27/2022			0.361 (U)		0.247 (U)			0.791 (U)	0.624 (U)

# Time Series

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	GS-GSA-MW-9V	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
8/24/2016	0.558 (U)				0.566 (U)	0.65	0.131 (U)	0.266 (U)
10/3/2016	0.565				0.537 (U)	0.845		0.59 (U)
10/4/2016							0.514 (U)	
10/26/2016	0.555 (U)				0.636	0.994	0.755	0.164 (U)
11/21/2016	0.987				0.807	0.537 (U)	0.7	0.296 (U)
1/17/2017	0.476 (U)				0.308 (U)	-0.0159 (U)		
1/18/2017							0.606	0.0267 (U)
3/20/2017	0.633 (U)							
3/22/2017					0.344 (U)	0.279 (U)	0.927	0.132 (U)
4/18/2017	0.248 (U)				0.934	0.32 (U)	0.334 (U)	-0.0439 (U)
5/30/2017	0.412 (U)				0.149 (U)			
5/31/2017						0.178 (U)	0.8	0.3 (U)
2/13/2018	1.08				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	0.446 (U)				1.18	-0.315 (U)	0.234 (U)	0.153 (U)
10/17/2018	1.05				0.553 (U)	0.574 (U)	0.852	0.313 (U)
11/19/2018					0.862	0.654	0.521	0.794
3/5/2019			0.852					
4/10/2019	0.128 (U)				0.342 (U)	0.329 (U)	0.198 (U)	0.515
5/14/2019								0.352 (U)
10/8/2019					1.47	0.493 (U)	0.833 (U)	
10/10/2019								1.02 (U)
10/14/2019	0.225 (U)							
10/16/2019			1.29		0.204 (U)	0.046 (U)	0.0279 (U)	0.356 (U)
2/3/2020					0.521 (U)	-0.0245 (U)	0.0246 (U)	0.254 (U)
2/4/2020	0.336 (U)		0.441 (U)					
2/5/2020		0.576						
8/3/2020					-0.127 (U)	0.888 (U)	0.765 (U)	
8/4/2020			-0.385 (U)	0.837 (U)				
8/5/2020	-0.115 (U)	1.85						0.565 (U)
2/22/2021					0.677 (U)	0.434 (U)	0.472 (U)	0 (U)
3/1/2021	0.902 (U)	1.49		0.686 (U)				
3/2/2021			0.87 (U)					
7/12/2021					0.476 (U)	0.155 (U)	0.114 (U)	0.301 (U)
7/13/2021			0.877 (U)	0.194 (U)				
7/14/2021	1.23 (U)	1.85						
1/25/2022					1.01 (U)	0.663 (U)	0.418 (U)	0.884 (U)
1/26/2022		0.155 (U)	1.06	0.53 (U)				
1/27/2022	0.28 (U)							

# Time Series

Constituent: Fluoride (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						0.264 (J)		0.793	
10/3/2016						0.276 (J)		0.769	
10/26/2016						0.182 (J)		0.578	
11/21/2016						0.238 (J)		0.562	
1/17/2017						0.34		0.571	
3/20/2017						0.39			
3/21/2017								0.54	
4/17/2017						0.57		0.54	
5/30/2017						0.38		0.49	
8/24/2017						0.54		0.7	
2/13/2018						0.57		0.63	
6/11/2018						0.63		0.39	
10/17/2018						0.78		0.44	
3/4/2019	0.101								
3/5/2019							0.249		0.477
4/10/2019						0.738		<0.1	
10/14/2019						0.619	0.37	<0.1	0.449
10/16/2019	0.0875 (J)								
11/26/2019		<0.1							
2/3/2020						0.427	0.438		0.555
2/4/2020	0.0743 (J)	<0.1		0.115				<0.1	
8/4/2020	0.109			0.113		0.389	0.349		
8/5/2020		<0.1	0.217		0.082 (J)			<0.1	0.363
3/1/2021						0.449			
3/2/2021	0.0758 (J)	<0.1		0.167					
3/3/2021			0.243		<0.1		0.458	<0.1	0.262
7/13/2021					<0.1				
7/14/2021	0.0848 (J)	<0.1	0.335	0.196		0.556		<0.1	0.276
7/15/2021							0.493		
1/25/2022		<0.1							
1/26/2022	0.0809 (J)			0.208		0.447	0.516		
1/27/2022			0.329		<0.1			<0.1	0.373

# Time Series

Constituent: Fluoride (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	GS-GSA-MW-9V	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	0.165 (J)				0.133 (J)	0.129 (J)	0.346	0.329
10/3/2016	0.114 (J)				0.103 (J)	0.086 (J)		0.287 (J)
10/4/2016							0.266 (J)	
10/26/2016	0.056 (J)				0.05 (J)	0.027 (J)	0.266 (J)	0.194 (J)
11/21/2016	0.059 (J)				0.047 (J)	0.027 (J)	0.244 (J)	0.192 (J)
1/17/2017	0.07 (J)				0.09 (J)	0.066 (J)		
1/18/2017							0.385	0.223 (J)
3/20/2017	0.18							
3/22/2017					0.12	0.13	0.41	0.32
4/18/2017	0.17				0.12	0.16	0.29	0.32
5/30/2017	0.16				0.13			
5/31/2017						0.13	0.37	
8/23/2017					0.16	0.16	0.55	0.38
8/24/2017	0.18							
2/13/2018	0.15				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	0.15				0.16	0.16	0.53	0.39
10/17/2018	0.16				0.18	0.16	0.63	0.39
11/19/2018					0.15	0.18	0.31	0.36
3/5/2019			0.239					
4/10/2019	0.156				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
10/14/2019	0.118							
10/16/2019			0.101		0.0756 (J)	0.114	0.106	0.302
2/3/2020					0.0982 (J)	0.182	0.256	0.37
2/4/2020	0.132		0.205					
2/5/2020		0.162						
8/3/2020					<0.1	0.122	0.0766 (J)	
8/4/2020			0.127	0.135				
8/5/2020	0.119	0.256						0.359
2/22/2021					0.082 (J)	0.209	0.246	0.357
3/1/2021	0.106	0.346		0.12				
3/2/2021			0.094 (J)					
7/12/2021					0.125	0.196	0.287	0.35
7/13/2021			0.182	0.211				
7/14/2021	0.221	0.339						
1/25/2022					0.101	0.204	0.325	0.364
1/26/2022		0.306	0.117	0.155				
1/27/2022	0.179							

# Time Series

Constituent: Lead (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						<0.0002		<0.0002	
10/3/2016						<0.0002		<0.0002	
10/26/2016						<0.0002		<0.0002	
11/21/2016						<0.0002		<0.0002	
1/17/2017						<0.0002		<0.0002	
3/20/2017						<0.0002			
3/21/2017								<0.0002	
4/17/2017						<0.0002		<0.0002	
5/30/2017						<0.0002		<0.0002	
2/13/2018						<0.0002		<0.0002	
6/11/2018						<0.0002		<0.0002	
10/17/2018						<0.0002		<0.0002	
3/4/2019	<0.0002								
3/5/2019							<0.0002		<0.0002
4/10/2019						<0.0002		<0.0002	
10/14/2019						<0.0002	<0.0002	<0.0002	<0.0002
10/16/2019	<0.0002								
11/26/2019		0.00271 (J)							
2/3/2020						<0.0002	<0.0002		<0.0002
2/4/2020	<0.0002	0.00334 (J)		<0.0002				<0.0002	
8/4/2020	<0.0002			<0.0002		<0.0002	<0.0002		
8/5/2020		0.00329 (J)	<0.0002		0.00122 (J)			<0.0002	<0.0002
3/1/2021						0.000157 (J)			
3/2/2021	0.000145 (J)	0.00478		<0.0002					
3/3/2021			<0.0002		0.000876		<0.0002	0.000609	<0.0002
7/13/2021					0.00096				
7/14/2021	0.00014 (J)	0.00557	<0.0002	<0.0002		0.00018 (J)		0.00079	<0.0002
7/15/2021							<0.0002		
1/25/2022		0.0052							
1/26/2022	0.00023			<0.0002		0.00014 (J)	<0.0002		
1/27/2022			<0.0002		0.00087			0.00103	7E-05 (J)



# Time Series

Constituent: Lead (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	GS-GSA-MW-9V	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	<0.0002
10/3/2016	<0.0002				<0.0002	<0.0002		<0.0002
10/4/2016							<0.0002	
10/26/2016	<0.0002				<0.0002	<0.0002	<0.0002	<0.0002
11/21/2016	<0.0002				<0.0002	<0.0002	<0.0002	<0.0002
1/17/2017	<0.0002				<0.0002	<0.0002		
1/18/2017							<0.0002	<0.0002
3/20/2017	<0.0002							
3/22/2017					<0.0002	<0.0002	<0.0002	<0.0002
4/18/2017	<0.0002				<0.0002	<0.0002	<0.0002	<0.0002
5/30/2017	<0.0002				<0.0002			
5/31/2017						<0.0002	<0.0002	
2/13/2018	<0.0002				<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	<0.0002
10/17/2018	<0.0002				<0.0002	<0.0002	0.00102 (J)	<0.0002
11/19/2018					<0.0002	<0.0002	0.00692 (o)	<0.0002
3/5/2019			<0.0002					
4/10/2019	<0.0002				<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
10/14/2019	<0.0002							
10/16/2019			<0.0002		<0.0002	<0.0002	0.00108 (J)	<0.0002
2/3/2020					<0.0002	<0.0002	<0.0002	<0.0002
2/4/2020	<0.0002		<0.0002					
2/5/2020		<0.0002						
8/3/2020					<0.0002	<0.0002	0.002 (J)	
8/4/2020			<0.0002	<0.0002				
8/5/2020	<0.0002	<0.0002						<0.0002
2/22/2021					<0.0002	<0.0002	8.8E-05 (J)	<0.0002
3/1/2021	0.000145 (J)	<0.0002		<0.0002				
3/2/2021			0.000206					
7/12/2021					<0.0002	<0.0002	8E-05 (J)	<0.0002
7/13/2021			0.00016 (J)	<0.0002				
7/14/2021	<0.0002	<0.0002						
1/25/2022					<0.0002	<0.0002	<0.0002	<0.0002
1/26/2022		<0.0002	0.00013 (J)	<0.0002				
1/27/2022	0.00015 (J)							

# Time Series

Constituent: Lithium (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						0.362		0.291	
10/3/2016						0.371		0.287	
10/26/2016						0.416		0.298	
11/21/2016						0.401		0.294	
1/17/2017						0.497		0.27	
3/20/2017						0.533			
3/21/2017								0.258	
4/17/2017						0.47		0.274	
5/30/2017						0.479		0.285	
2/13/2018						0.508		0.274	
6/11/2018						0.425		0.266	
10/17/2018						0.494		0.266	
3/4/2019	<0.02								
3/5/2019							0.309		0.369
4/10/2019						0.425		0.282	
10/14/2019						0.459	0.38	0.262	0.317
10/16/2019	<0.02								
11/26/2019		0.449							
2/3/2020						0.474	0.46		0.332
2/4/2020	<0.02	0.394		0.0506				0.29	
8/4/2020	<0.02			0.0534		0.468	0.395		
8/5/2020		0.441	0.334		0.512			0.273	0.322
3/1/2021						0.353			
3/2/2021	<0.02	0.456		0.0439					
3/3/2021			0.411		0.54		0.455	0.313	0.345
7/13/2021					0.514				
7/14/2021	<0.02	0.454	0.374	0.0524		0.485		0.487	0.337
7/15/2021							0.441		
1/25/2022		0.397							
1/26/2022	<0.02			0.0301		0.31	0.347		
1/27/2022			0.303		0.43			0.671	0.305

# Time Series

Constituent: Lithium (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	GS-GSA-MW-9V	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	0.0683				0.0236 (J)	0.0651	0.138	0.0488 (J)
10/3/2016	0.0661				0.0229 (J)	0.0622		0.0476 (J)
10/4/2016							0.0966	
10/26/2016	0.0681				0.0227 (J)	0.0293 (J)	0.134	0.049 (J)
11/21/2016	0.0682				0.0236 (J)	0.0667	0.167	0.0477 (J)
1/17/2017	0.0516				0.0228 (J)	0.0636		
1/18/2017							0.237	0.045 (J)
3/20/2017	0.135							
3/22/2017					0.0238 (J)	0.0464 (J)	0.203	0.0493 (J)
4/18/2017	0.139				0.0242 (J)	0.0446 (J)	0.0764	0.0494 (J)
5/30/2017	0.141				0.0229 (J)			
5/31/2017						0.0496 (J)	0.218	
2/13/2018	0.163				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	0.166				0.0251 (J)	0.0472 (J)	0.194	0.0511
10/17/2018	0.188				0.025 (J)	0.0633	0.384	0.0532
11/19/2018					0.0241	0.0584	0.323	0.0467
3/5/2019			0.169					
4/10/2019	0.195				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
10/14/2019	0.209							
10/16/2019			0.184		0.0263	0.0661	0.337	0.052
2/3/2020					0.0292	0.0534	0.0825	0.0556
2/4/2020	0.188		0.203					
2/5/2020		0.327						
8/3/2020					0.0259	0.0611	0.27	
8/4/2020			0.166	0.364				
8/5/2020	0.206	0.275						0.0519
2/22/2021					0.0301	0.0625	0.126	0.0558
3/1/2021	0.149	0.292		0.424				
3/2/2021			0.178					
7/12/2021					0.0266	0.0495	0.0808	0.0533
7/13/2021			0.166	0.408				
7/14/2021	0.213	0.286						
1/25/2022					0.0239	0.051	0.077	0.0433
1/26/2022		0.233	0.115	0.312				
1/27/2022	0.185							

# Time Series

Constituent: Mercury (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						<0.0005		<0.0005	
10/3/2016						<0.0005		<0.0005	
10/26/2016						<0.0005		<0.0005	
11/21/2016						<0.0005		<0.0005	
1/17/2017						<0.0005		<0.0005	
3/20/2017						<0.0005			
3/21/2017								<0.0005	
4/17/2017						<0.0005		<0.0005	
5/30/2017						<0.0005		<0.0005	
2/13/2018						<0.0005		<0.0005	
6/11/2018						<0.0005		<0.0005	
10/17/2018						<0.0005		<0.0005	
3/4/2019	<0.0005								
3/5/2019							<0.0005		<0.0005
4/10/2019						<0.0005		<0.0005	
10/14/2019						<0.0005	<0.0005	<0.0005	<0.0005
10/16/2019	<0.0005								
11/26/2019		<0.0005							
2/3/2020						<0.0005	<0.0005		<0.0005
2/4/2020	<0.0005	<0.0005		<0.0005				<0.0005	
8/4/2020	<0.0005			<0.0005		<0.0005	<0.0005		
8/5/2020		<0.0005	<0.0005		<0.0005			<0.0005	<0.0005
3/1/2021						<0.0005			
3/2/2021	<0.0005	<0.0005		<0.0005					
3/3/2021			<0.0005		<0.0005		<0.0005	<0.0005	<0.0005
7/13/2021					<0.0005				
7/14/2021	<0.0005	<0.0005	<0.0005	<0.0005		<0.0005		<0.0005	<0.0005
7/15/2021							<0.0005		
1/25/2022		<0.0005							
1/26/2022	<0.0005			<0.0005		<0.0005	<0.0005		
1/27/2022			<0.0005		<0.0005			<0.0005	<0.0005

# Time Series

Constituent: Mercury (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	GS-GSA-MW-9V	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	<0.0005
10/3/2016	<0.0005				<0.0005	<0.0005		<0.0005
10/4/2016							<0.0005	
10/26/2016	<0.0005				<0.0005	<0.0005	<0.0005	<0.0005
11/21/2016	<0.0005				<0.0005	<0.0005	<0.0005	<0.0005
1/17/2017	<0.0005				<0.0005	<0.0005		
1/18/2017							<0.0005	<0.0005
3/20/2017	<0.0005							
3/22/2017					<0.0005	<0.0005	<0.0005	<0.0005
4/18/2017	<0.0005				<0.0005	<0.0005	<0.0005	<0.0005
5/30/2017	<0.0005				<0.0005			
5/31/2017						<0.0005	<0.0005	
2/13/2018	<0.0005				<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	<0.0005
10/17/2018	<0.0005				<0.0005	<0.0005	<0.0005	<0.0005
11/19/2018					<0.0005	<0.0005	<0.0005	<0.0005
3/5/2019			<0.0005					
4/10/2019	<0.0005				<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
10/14/2019	<0.0005							
10/16/2019			<0.0005		<0.0005	<0.0005	<0.0005	<0.0005
2/3/2020					<0.0005	<0.0005	<0.0005	<0.0005
2/4/2020	<0.0005		<0.0005					
2/5/2020		<0.0005						
8/3/2020					<0.0005	<0.0005	<0.0005	
8/4/2020			<0.0005	<0.0005				
8/5/2020	<0.0005	<0.0005						<0.0005
2/22/2021					<0.0005	<0.0005	<0.0005	<0.0005
3/1/2021	<0.0005	<0.0005		<0.0005				
3/2/2021			<0.0005					
7/12/2021					<0.0005	<0.0005	<0.0005	<0.0005
7/13/2021			<0.0005	<0.0005				
7/14/2021	<0.0005	<0.0005						
1/25/2022					<0.0005	<0.0005	<0.0005	<0.0005
1/26/2022		<0.0005	<0.0005	<0.0005				
1/27/2022	<0.0005							

# Time Series

Constituent: Molybdenum (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						<0.0002		<0.0002	
10/3/2016						<0.0002		<0.0002	
10/26/2016						<0.0002		<0.0002	
11/21/2016						<0.0002		<0.0002	
1/17/2017						<0.0002		<0.0002	
3/20/2017						<0.0002			
3/21/2017								<0.0002	
4/17/2017						<0.0002		<0.0002	
5/30/2017						<0.0002		<0.0002	
2/13/2018						<0.0002		<0.0002	
6/11/2018						<0.0002		<0.0002	
10/17/2018						<0.0002		<0.0002	
3/4/2019	<0.0002								
3/5/2019							0.00347 (J)		<0.0002
4/10/2019						<0.0002		<0.0002	
10/14/2019						<0.0002	<0.0002	<0.0002	<0.0002
10/16/2019	<0.0002								
11/26/2019		<0.0002							
2/3/2020						<0.0002	<0.0002		<0.0002
2/4/2020	<0.0002	<0.0002		<0.0002				<0.0002	
8/4/2020	<0.0002			<0.0002		<0.0002	<0.0002		
8/5/2020		<0.0002	0.00247 (J)		<0.0002			<0.0002	<0.0002
3/1/2021						0.00022			
3/2/2021	<0.0002	<0.0002		0.00138					
3/3/2021			0.00123		7.06E-05 (J)		7.93E-05 (J)	<0.0002	<0.0002
7/13/2021					<0.0002				
7/14/2021	<0.0002	<0.0002	0.00203	0.0005		0.00026		<0.0002	<0.0002
7/15/2021							9E-05 (J)		
1/25/2022		<0.0002							
1/26/2022	0.00011 (J)			0.00126		0.00022	0.00012 (J)		
1/27/2022			0.00268		9E-05 (J)			<0.0002	9E-05 (J)

# Time Series

Constituent: Molybdenum (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	GS-GSA-MW-9V	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	0.0031 (J)				<0.0002	<0.0002	<0.0002	<0.0002
10/3/2016	<0.0002				<0.0002	<0.0002		<0.0002
10/4/2016							<0.0002	
10/26/2016	<0.0002				<0.0002	<0.0002	<0.0002	<0.0002
11/21/2016	<0.0002				<0.0002	<0.0002	<0.0002	<0.0002
1/17/2017	<0.0002				<0.0002	<0.0002		
1/18/2017							<0.0002	<0.0002
3/20/2017	<0.0002							
3/22/2017					<0.0002	<0.0002	<0.0002	<0.0002
4/18/2017	<0.0002				<0.0002	<0.0002	<0.0002	<0.0002
5/30/2017	<0.0002				<0.0002			
5/31/2017						<0.0002	<0.0002	
2/13/2018	<0.0002				<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	<0.0002
10/17/2018	<0.0002				<0.0002	<0.0002	<0.0002	<0.0002
11/19/2018					<0.0002	<0.0002	<0.0002	<0.0002
3/5/2019			<0.0002					
4/10/2019	<0.0002				<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
10/14/2019	<0.0002							
10/16/2019			<0.0002		<0.0002	<0.0002	<0.0002	<0.0002
2/3/2020					<0.0002	<0.0002	<0.0002	<0.0002
2/4/2020	<0.0002		<0.0002					
2/5/2020		<0.0002						
8/3/2020					<0.0002	<0.0002	<0.0002	
8/4/2020			<0.0002	0.00423 (J)				
8/5/2020	<0.0002	<0.0002						<0.0002
2/22/2021					<0.0002	<0.0002	<0.0002	0.000131 (J)
3/1/2021	0.00277	0.000654		0.000532				
3/2/2021			<0.0002					
7/12/2021					<0.0002	<0.0002	<0.0002	0.00014 (J)
7/13/2021			<0.0002	0.00056				
7/14/2021	0.00015 (J)	0.00026						
1/25/2022					<0.0002	<0.0002	8E-05 (J)	0.00011 (J)
1/26/2022		0.00078	<0.0002	0.0003				
1/27/2022	0.00012 (J)							

# Time Series

Constituent: pH (pH) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						6.28		3.83 (E)	
10/3/2016						6.28		3.82 (E)	
10/26/2016						6.19		3.81 (E)	
11/21/2016						6.2		3.81	
1/17/2017						6.13		3.78	
3/20/2017						6.17			
3/21/2017								3.76	
4/17/2017						5.6		3.76	
5/30/2017						6.07		3.76	
8/24/2017						5.99		3.7	
2/13/2018						5.88		3.73	
6/11/2018						5.91		3.8	
10/17/2018						5.88		3.81	
3/4/2019	6.04								
3/5/2019							6.7		6.19
4/10/2019						5.83		3.83	
10/14/2019						6.04	6.39	3.91	5.89
10/16/2019	6.07								
2/3/2020						5.98	5.88		5.84
2/4/2020	6.02	4.57		6				3.83	
8/4/2020	5.74			5.89		6.09	5.9		
8/5/2020		4.13	6.15		3.83			3.86	5.81
3/1/2021						5.82			
3/2/2021	5.89	4.11			5.85				
3/3/2021			6.11		4.02		5.76	3.76	5.75
7/13/2021					3.8				
7/14/2021	5.72	4.04	6.21	5.55		5.93		3.74	5.75
7/15/2021							5.92		
1/25/2022		4.11							
1/26/2022	5.95			6.08		6.52	6.61		
1/27/2022			6.19		4.1			3.73	6.17



# Time Series

Constituent: pH (pH) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	GS-GSA-MW-9V	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	6.78						5.63	6.11
10/3/2016	6.71				5.21	5.91		6.13
10/4/2016							5.69	
10/26/2016	6.65				5.2	5.84	5.56	6.12
11/21/2016	6.7				5.19	5.82	5.42	6.09
1/17/2017	6.25				5.17	5.87		
1/18/2017							5.11	6.09
3/20/2017	7.04							
3/22/2017					5.2	6.01	4.52	6.15
4/18/2017	6.99				5.2	6.02	5.84	6.19
5/30/2017	6.98				5.14			
5/31/2017						5.85	4.56	
8/23/2017					5.12	5.89	4.77	6.12
8/24/2017	6.89							
2/13/2018	6.85				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	6.83				5.15	5.95	4.79	6.16
10/17/2018	6.81				5.12	5.9	4.75	6.12
11/19/2018					5.09	6.03	3.77 (o)	6.16
3/5/2019			5.88					
4/10/2019	6.71				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
10/14/2019	6.88							
10/16/2019			5.43		5.16	5.98	4.51	6.19
2/3/2020					5	5.95	5.54	6.14
2/4/2020	6.85		5.34					
2/5/2020		7.48						
8/3/2020					5.08	5.95	5.06	
8/4/2020			5.33	6.88				
8/5/2020	6.76	7.58						6.15
2/22/2021					5.06	6.1	5.59	6.19
3/1/2021	6.48	7.67		6.84				
3/2/2021			5.29					
7/12/2021					5.13	6.16	5.86	6.06
7/13/2021			5.13	6.92				
7/14/2021	6.88	7.97						
1/25/2022					5.11	6.22	5.9	6.3
1/26/2022		8.18	5.35	6.89				
1/27/2022	6.85							

# Time Series

Constituent: Selenium (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						<0.00102		0.00234 (J)	
10/3/2016						<0.00102		0.00739 (J)	
10/26/2016						<0.00102		0.00266 (J)	
11/21/2016						<0.00102		0.00212 (J)	
1/17/2017						<0.00102		0.00263 (J)	
3/20/2017						<0.00102			
3/21/2017								0.00588 (J)	
4/17/2017						0.00521 (J)		0.00579 (J)	
5/30/2017						<0.00102		0.00471 (J)	
2/13/2018						0.00267 (J)		0.00498 (J)	
6/11/2018						0.00236 (J)		0.00388 (J)	
10/17/2018						<0.00102		<0.00102	
3/4/2019	<0.00102								
3/5/2019							<0.00102		<0.00102
4/10/2019						0.00234 (J)		0.00322 (J)	
10/14/2019						<0.00102	<0.00102	<0.00102	<0.00102
10/16/2019	<0.00102								
11/26/2019		0.00614 (J)							
2/3/2020						<0.00102	<0.00102		<0.00102
2/4/2020	<0.00102	<0.00102		<0.00102				<0.00102	
8/4/2020	<0.00102			<0.00102		<0.00102	<0.00102		
8/5/2020		0.00417 (J)	<0.00102		0.00571 (J)			0.00298 (J)	<0.00102
3/1/2021						0.00141			
3/2/2021	<0.00102	0.00463		<0.00102					
3/3/2021			<0.00102		0.00554		<0.00102	0.00294	0.000749 (J)
7/13/2021					0.00607				
7/14/2021	<0.00102	0.00441	<0.00102	<0.00102		0.00151		0.00563	0.00095 (J)
7/15/2021							<0.00102		
1/25/2022		0.00311							
1/26/2022	<0.00102			0.00069 (J)		0.00117	<0.00102		
1/27/2022			<0.00102		0.00401			0.00817	0.00101 (J)

# Time Series

Constituent: Selenium (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	GS-GSA-MW-9V	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	<0.00102
10/3/2016	<0.00102				0.00211 (J)	<0.00102		<0.00102
10/4/2016							<0.00102	
10/26/2016	<0.00102				<0.00102	<0.00102	<0.00102	<0.00102
11/21/2016	<0.00102				<0.00102	<0.00102	<0.00102	<0.00102
1/17/2017	<0.00102				<0.00102	<0.00102		
1/18/2017							<0.00102	<0.00102
3/20/2017	<0.00102							
3/22/2017					0.0022 (J)	<0.00102	0.0141	<0.00102
4/18/2017	<0.00102				0.0027 (J)	<0.00102	0.0158	<0.00102
5/30/2017	<0.00102				0.00316 (J)			
5/31/2017						<0.00102	0.00632 (J)	
2/13/2018	<0.00102				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	<0.00102				0.00409 (J)	<0.00102	0.00836 (J)	<0.00102
10/17/2018	<0.00102				<0.00102	<0.00102	<0.00102	<0.00102
11/19/2018					<0.00102	<0.00102	0.00439 (J)	0.00436 (J)
3/5/2019			<0.00102					
4/10/2019	<0.00102				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
10/14/2019	<0.00102							
10/16/2019			<0.00102		<0.00102	<0.00102	0.00286 (J)	<0.00102
2/3/2020					0.00272 (J)	<0.00102	0.012	0.00212 (J)
2/4/2020	<0.00102		<0.00102					
2/5/2020		<0.00102						
8/3/2020					0.00278 (J)	<0.00102	0.0146	
8/4/2020			<0.00102	<0.00102				
8/5/2020	<0.00102	<0.00102						0.00232 (J)
2/22/2021					0.00241	<0.00102	0.0181	0.00222
3/1/2021	<0.00102	<0.00102		<0.00102				
3/2/2021			0.00138					
7/12/2021					0.0028	<0.00102	0.0133	0.00155
7/13/2021			0.00141	<0.00102				
7/14/2021	<0.00102	<0.00102						
1/25/2022					0.00216	<0.00102	0.0154	0.00224
1/26/2022		<0.00102	0.00129	<0.00102				
1/27/2022	<0.00102							

# Time Series

Constituent: Sulfate (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						2910		567	
10/3/2016						2980		596	
10/26/2016						2790		585	
11/21/2016						2880		593	
1/17/2017						2950		637	
3/20/2017						2800			
3/21/2017								530	
4/17/2017						2400		530	
5/30/2017						2900		530	
8/24/2017						2900		530	
6/11/2018						2900		540	
10/17/2018						2800		520	
3/4/2019	785								
3/5/2019							1170		871
4/10/2019						2980		616	
10/14/2019						3110	1710	641	818
10/16/2019	750								
11/26/2019		997							
2/3/2020						2840	1970		808
2/4/2020	725	978		720				571	
8/4/2020	694			773		2820	1860		
8/5/2020		811	1830		796			519	761
3/1/2021						2320			
3/2/2021	835	890		861					
3/3/2021			1930		803		1930	609	746
7/13/2021					787				
7/14/2021	747	878	2000	857		2880		752	797
7/15/2021							1960		
1/25/2022		903							
1/26/2022	745			883		2620	2010		
1/27/2022			1990		784			1130	825

# Time Series

Constituent: Sulfate (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	GS-GSA-MW-9V	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	1250				1450	1130	2190	2770
10/3/2016	1270				1460	1140		3060
10/4/2016							1950	
10/26/2016	1240				1330	1060	1980	2650
11/21/2016	1210				1420	1100	2060	2720
1/17/2017	1150				1350	1160		
1/18/2017							2620	2650
3/20/2017	1400							
3/22/2017					1500	900	3200	2700
4/18/2017	1300				1300	870	2500	2400
5/30/2017	1500				1400			
5/31/2017						1100	2800	
8/23/2017					1500	920	2600	2700
8/24/2017	1800							
5/22/2018					2100 (o)	1200		
5/23/2018								2400
5/24/2018							2700	
6/12/2018	1800				1500	860	2500	2600
10/17/2018	1600				1400	970	2700	2600
11/19/2018					1300	1000	3000	2400
3/5/2019			2010					
4/10/2019	2150				1700	889	2460	2090
5/14/2019					1560	948	2460	2240
10/8/2019					1540	1230	2950	
10/10/2019								2690
10/14/2019	2090							
10/16/2019			2020		1680	1170	2820	3050
2/3/2020					1510	803	2290	1920
2/4/2020	1570		1710					
2/5/2020		223						
8/3/2020					1370	907	2330	
8/4/2020			1790	1700				
8/5/2020	1880	243						1930
2/22/2021					1400	864	3040	2040
3/1/2021	1450	183		1680				
3/2/2021			1750					
7/12/2021					1560	763	2380	1930
7/13/2021			1750	1820				
7/14/2021	1700	196						
1/25/2022					1430	842	2550	1930
1/26/2022		199	1660	1820				
1/27/2022	2000							

# Time Series

Constituent: Thallium (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						<0.0002		<0.0002	
10/3/2016						<0.0002		<0.0002	
10/26/2016						<0.0002		<0.0002	
11/21/2016						<0.0002		<0.0002	
1/17/2017						<0.0002		<0.0002	
3/20/2017						<0.0002			
3/21/2017								<0.0002	
4/17/2017						<0.0002		<0.0002	
5/30/2017						<0.0002		<0.0002	
2/13/2018						<0.0002		<0.0002	
6/11/2018						<0.0002		<0.0002	
10/17/2018						<0.0002		<0.0002	
3/4/2019	<0.0002								
3/5/2019							<0.0002		<0.0002
4/10/2019						<0.0002		<0.0002	
10/14/2019						<0.0002	<0.0002	<0.0002	<0.0002
10/16/2019	<0.0002								
11/26/2019		0.000375 (J)							
2/3/2020						<0.0002	<0.0002		<0.0002
2/4/2020	<0.0002	0.000491 (J)		<0.0002				<0.0002	
8/4/2020	<0.0002			<0.0002		<0.0002	<0.0002		
8/5/2020		0.000297 (J)	<0.0002		<0.0002			0.000205 (J)	<0.0002
3/1/2021						<0.0002			
3/2/2021	<0.0002	0.000371		<0.0002					
3/3/2021			<0.0002		7.98E-05 (J)		<0.0002	0.000178 (J)	<0.0002
7/13/2021					<0.0002				
7/14/2021	<0.0002	0.00034	<0.0002	<0.0002		<0.0002		9E-05 (J)	<0.0002
7/15/2021							<0.0002		
1/25/2022		0.00032							
1/26/2022	<0.0002			<0.0002		<0.0002	<0.0002		
1/27/2022			<0.0002		7E-05 (J)			0.00022	<0.0002

# Time Series

Constituent: Thallium (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	GS-GSA-MW-9V	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	<0.0002
10/3/2016	<0.0002				<0.0002	<0.0002		<0.0002
10/4/2016							<0.0002	
10/26/2016	<0.0002				<0.0002	<0.0002	0.000209 (J)	<0.0002
11/21/2016	<0.0002				<0.0002	<0.0002	<0.0002	<0.0002
1/17/2017	<0.0002				<0.0002	<0.0002		
1/18/2017							<0.0002	<0.0002
3/20/2017	<0.0002							
3/22/2017					<0.0002	<0.0002	<0.0002	<0.0002
4/18/2017	<0.0002				<0.0002	<0.0002	<0.0002	<0.0002
5/30/2017	<0.0002				<0.0002			
5/31/2017						<0.0002	<0.0002	
2/13/2018	<0.0002				<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	<0.0002
10/17/2018	<0.0002				<0.0002	<0.0002	<0.0002	<0.0002
11/19/2018					<0.0002	<0.0002	0.000226 (J)	<0.0002
3/5/2019			0.00021 (J)					
4/10/2019	<0.0002				<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
10/14/2019	<0.0002							
10/16/2019			0.000262 (J)		<0.0002	<0.0002	<0.0002	<0.0002
2/3/2020					<0.0002	<0.0002	<0.0002	<0.0002
2/4/2020	<0.0002		0.000233 (J)					
2/5/2020		<0.0002						
8/3/2020					<0.0002	<0.0002	<0.0002	
8/4/2020			0.000265 (J)	<0.0002				
8/5/2020	<0.0002	<0.0002						<0.0002
2/22/2021					<0.0002	<0.0002	<0.0002	<0.0002
3/1/2021	<0.0002	<0.0002		<0.0002				
3/2/2021			0.000221					
7/12/2021					<0.0002	<0.0002	<0.0002	<0.0002
7/13/2021			0.00013 (J)	<0.0002				
7/14/2021	<0.0002	<0.0002						
1/25/2022					<0.0002	<0.0002	<0.0002	<0.0002
1/26/2022		<0.0002	0.00022	<0.0002				
1/27/2022	<0.0002							

# Time Series

Constituent: Total dissolved solids (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						5020		992	
10/3/2016						4880		988	
10/26/2016						5020		1030	
11/21/2016						5090		1020	
1/17/2017						4330		988	
3/20/2017						2690			
3/21/2017								990	
4/17/2017						4780		884	
5/30/2017						5170		1060	
8/24/2017						5140		1060	
6/11/2018						4960		944	
10/17/2018						4910		928	
3/4/2019	1150								
3/5/2019							2170		1410
4/10/2019						5090		1000	
10/14/2019						5110	3200	967	1340
10/16/2019	1150								
11/26/2019		1580							
2/3/2020						4920	3660		1290
2/4/2020	1200	1580		1200				978	
8/4/2020	1230			1350		5110	3530		
8/5/2020		1380	3330		1280			938	1330
3/1/2021						4390			
3/2/2021	1190	1390		1450					
3/3/2021			3450				3640	1040	1320
7/13/2021					1180				
7/14/2021	1190	1330	3360	1300		4920		1300	1340
7/15/2021							3430		
1/25/2022		1320							
1/26/2022	1140			1360		4260	3150		
1/27/2022			3170		1130			1840	1330



# Time Series

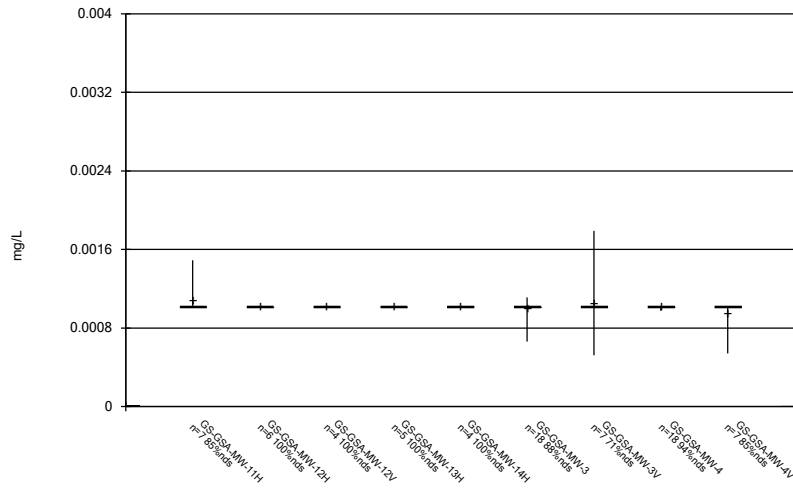
Constituent: Total dissolved solids (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	GS-GSA-MW-9V	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	2280				2040	1720	3080	4190
10/3/2016	2370				2110	1800		4190
10/4/2016							2900	
10/26/2016	2350				2000	1800	2940	4400
11/21/2016	2530				2070	1740	3090	4230
1/17/2017	2380				1930	1960		
1/18/2017							4020	4120
3/20/2017	2630							
3/22/2017					2060	1510	4180	3980
4/18/2017	2700				2140	1580	4440	3880
5/30/2017	2980				2240			
5/31/2017						1730	3970	
8/23/2017					2160	1550	4050	3990
8/24/2017	3390							
5/22/2018					2380	1500		
5/23/2018								3740
5/24/2018							3680	
6/12/2018	3510				2400	1550	3820	4080
10/17/2018	3550				2220	1740	4730	4250
11/19/2018					2360	1990	4710	3920
3/5/2019			3240					
4/10/2019	3580				2630	1250	3680	3280
5/14/2019					2340	1480	3580	3130 (D)
10/8/2019					2330	1840	4720	
10/10/2019								4000
10/14/2019	3730							
10/16/2019			3080		3650 (o)	1830	4210	4060
2/3/2020					2380	1440	3530	3240
2/4/2020	3190		3110					
2/5/2020		1100						
8/3/2020					2200	1650	3760	
8/4/2020			2920	3080				
8/5/2020	3610	1100						3200
2/22/2021					2230	1620	4670	3190
3/1/2021	2870	1060		3140				
3/2/2021			2860					
7/12/2021					2210	1390	3510	3000
7/13/2021			2640	2870				
7/14/2021	3150	1060						
1/25/2022					2150	1500	3950	3180
1/26/2022		1050	2490	2890				
1/27/2022	3290							

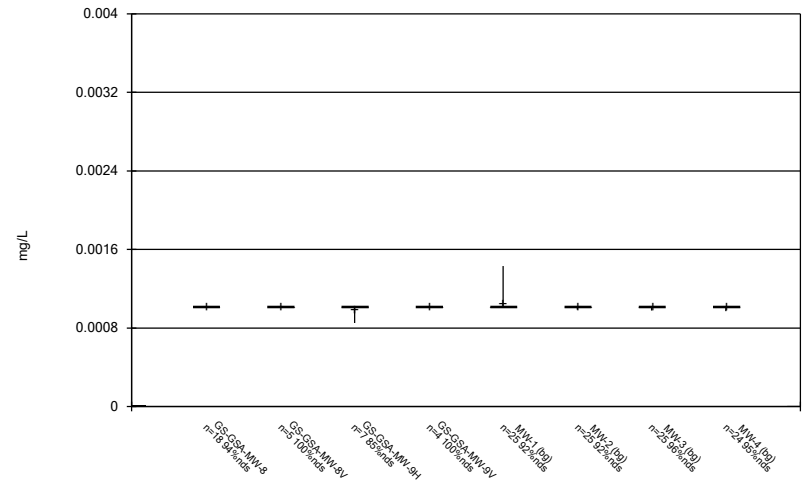
FIGURE B.

Box & Whiskers Plot



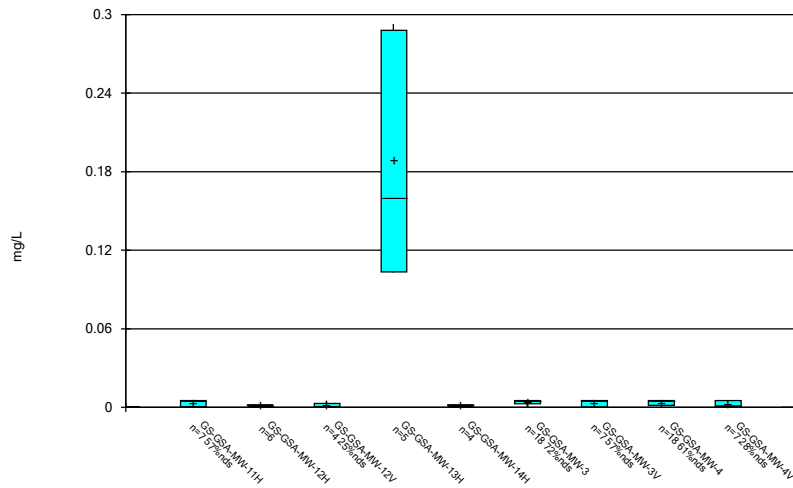
Constituent: Antimony Analysis Run 5/11/2022 6:05 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



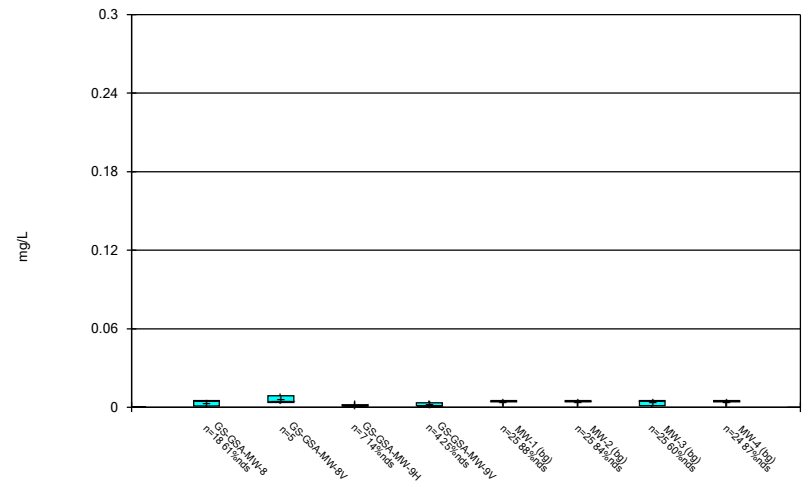
Constituent: Antimony Analysis Run 5/11/2022 6:05 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



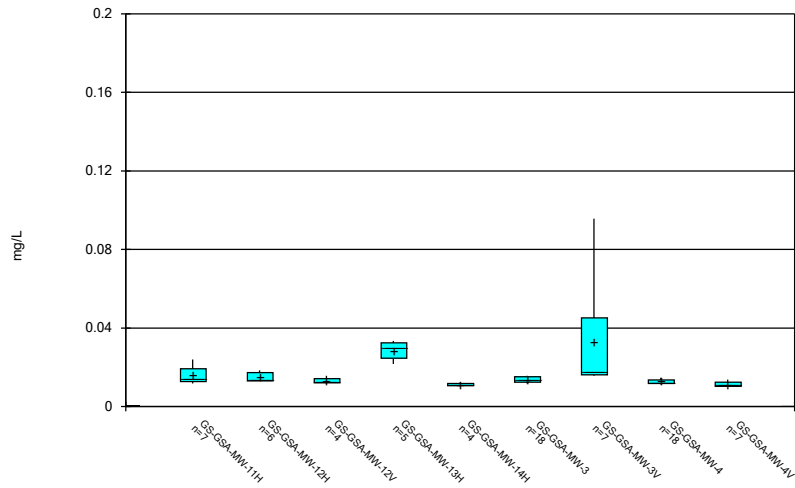
Constituent: Arsenic Analysis Run 5/11/2022 6:05 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



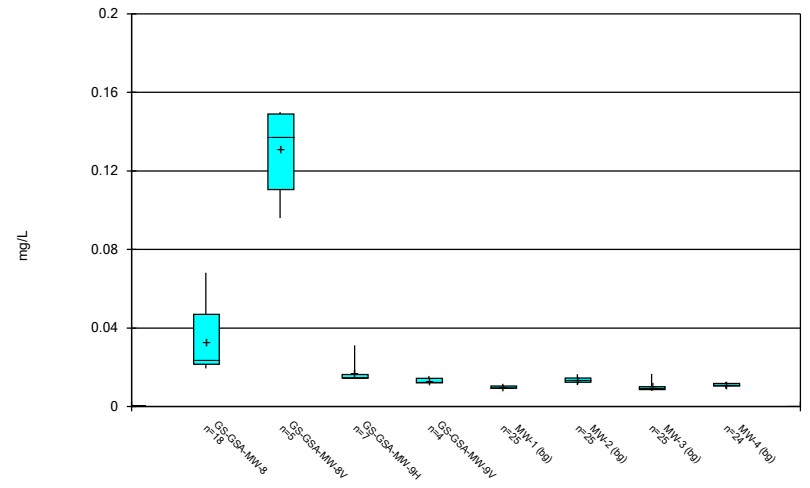
Constituent: Arsenic Analysis Run 5/11/2022 6:05 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



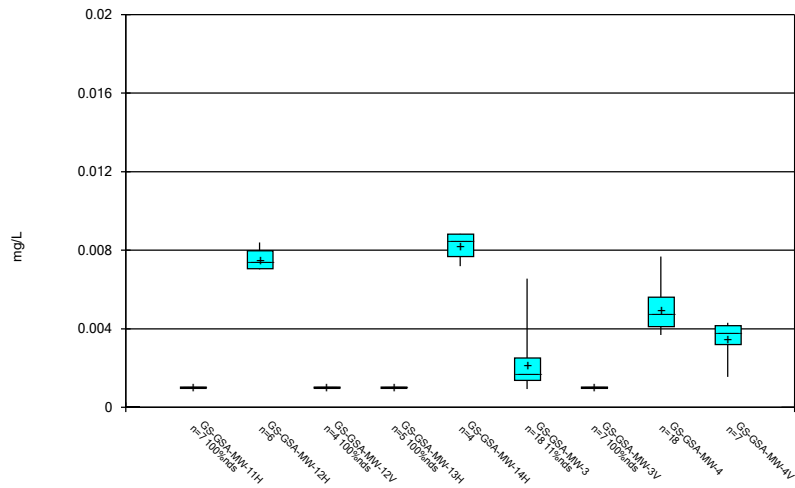
Constituent: Barium Analysis Run 5/11/2022 6:05 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



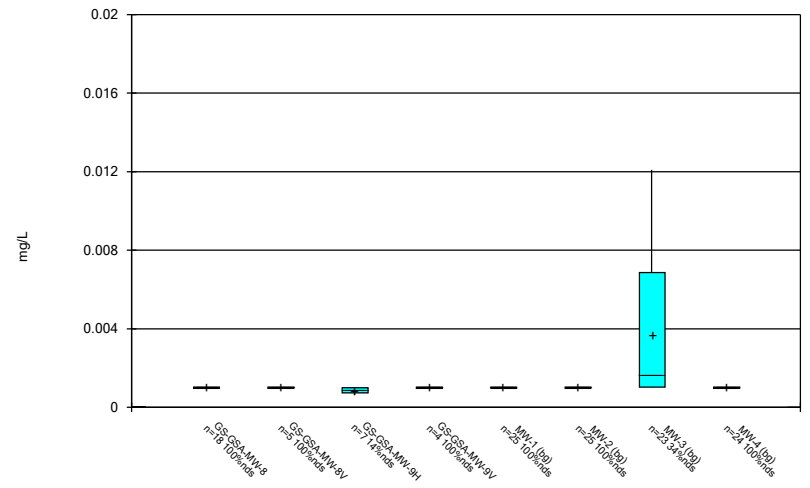
Constituent: Barium Analysis Run 5/11/2022 6:05 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



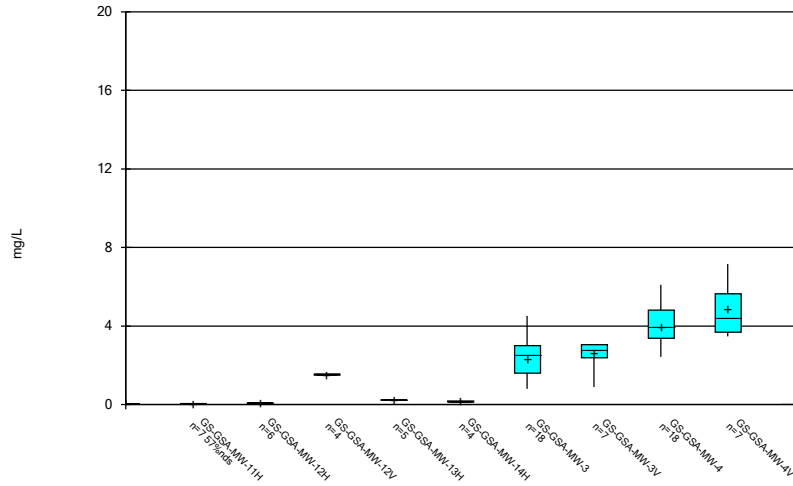
Constituent: Beryllium Analysis Run 5/11/2022 6:05 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



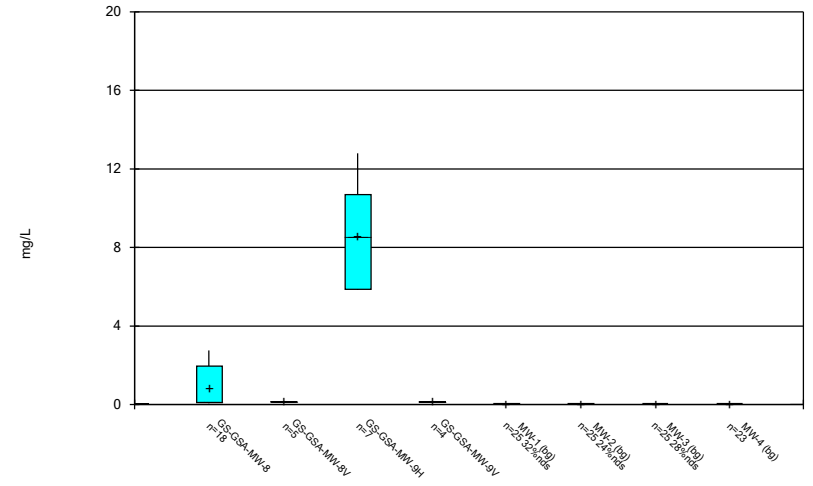
Constituent: Beryllium Analysis Run 5/11/2022 6:05 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



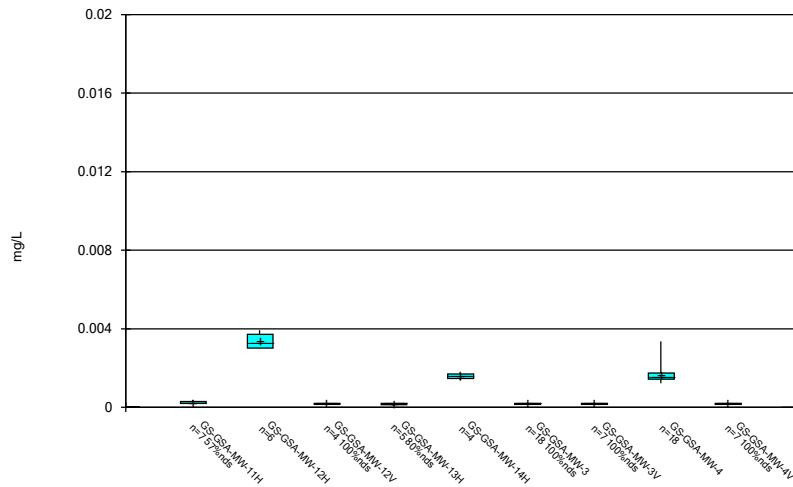
Constituent: Boron Analysis Run 5/11/2022 6:05 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



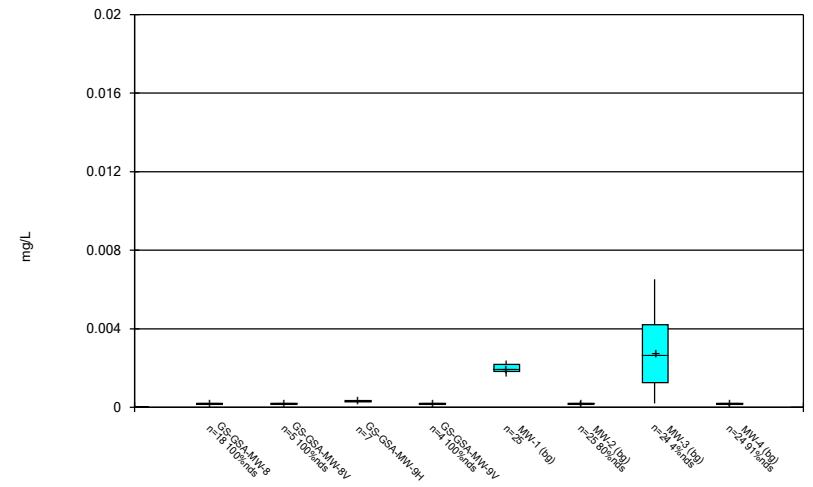
Constituent: Boron Analysis Run 5/11/2022 6:05 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



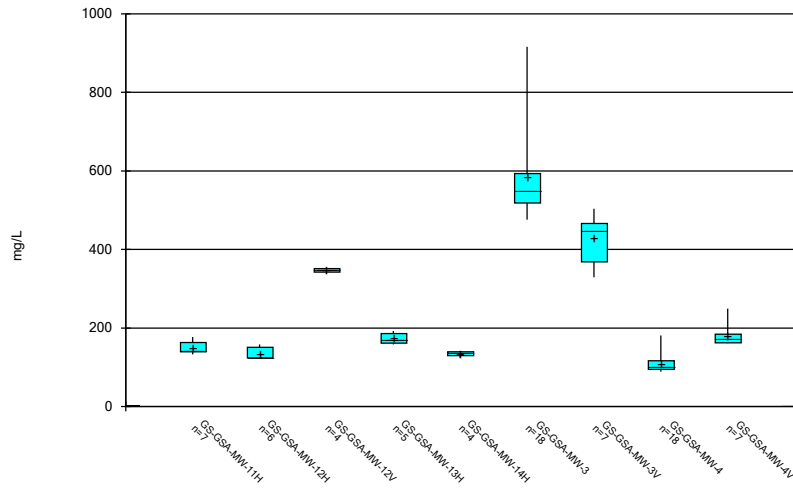
Constituent: Cadmium Analysis Run 5/11/2022 6:06 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



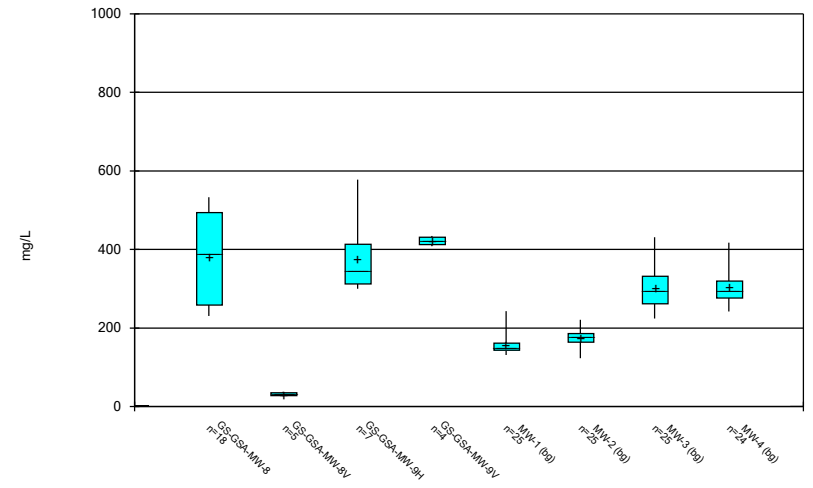
Constituent: Cadmium Analysis Run 5/11/2022 6:06 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



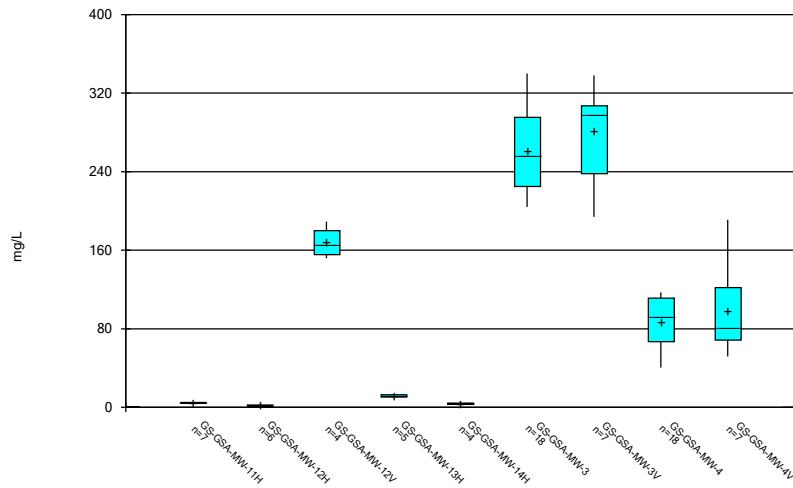
Constituent: Calcium Analysis Run 5/11/2022 6:06 PM View: Constituents View  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



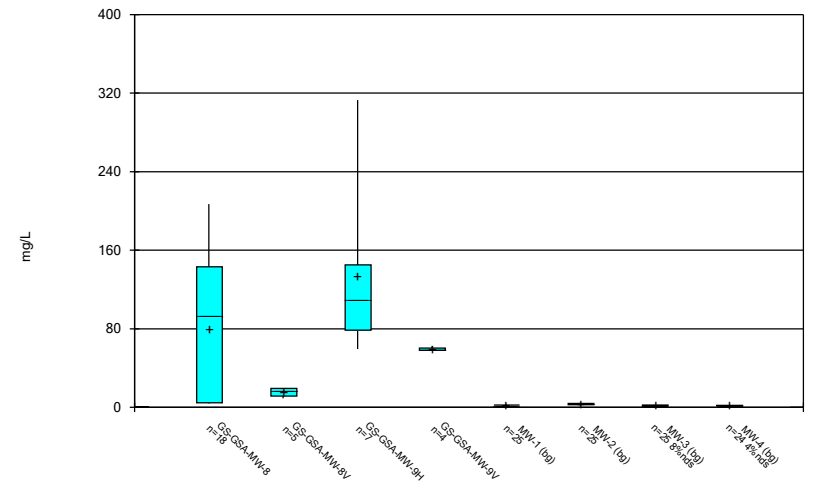
Constituent: Calcium Analysis Run 5/11/2022 6:06 PM View: Constituents View  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



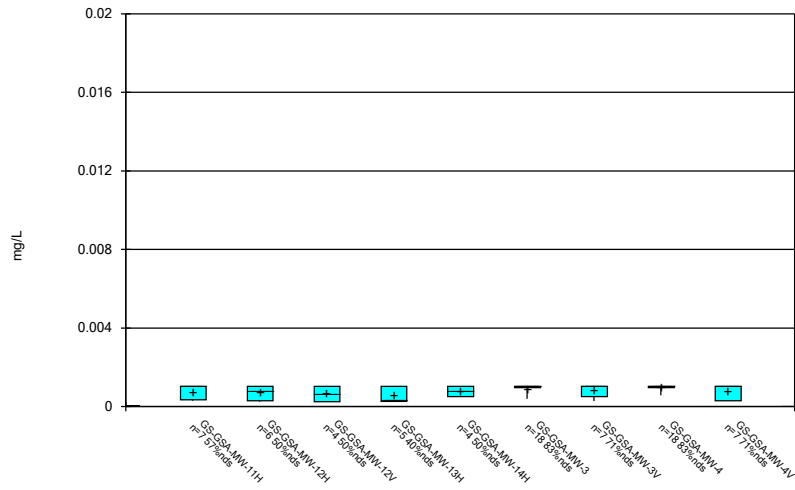
Constituent: Chloride Analysis Run 5/11/2022 6:06 PM View: Constituents View  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



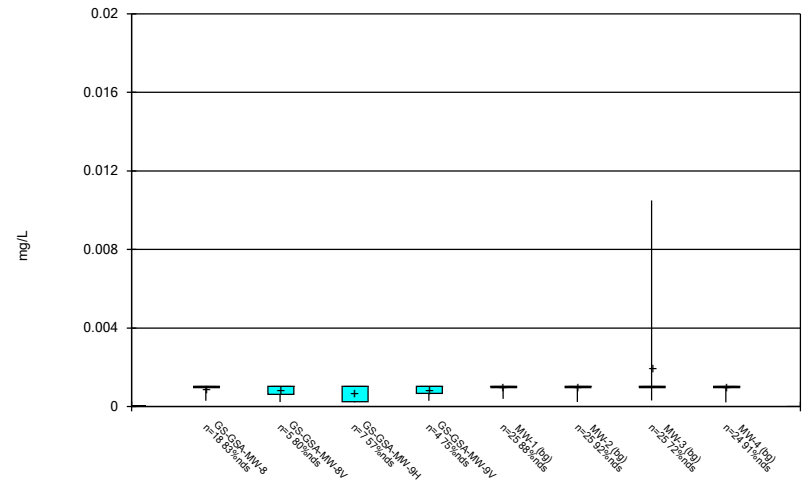
Constituent: Chloride Analysis Run 5/11/2022 6:06 PM View: Constituents View  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



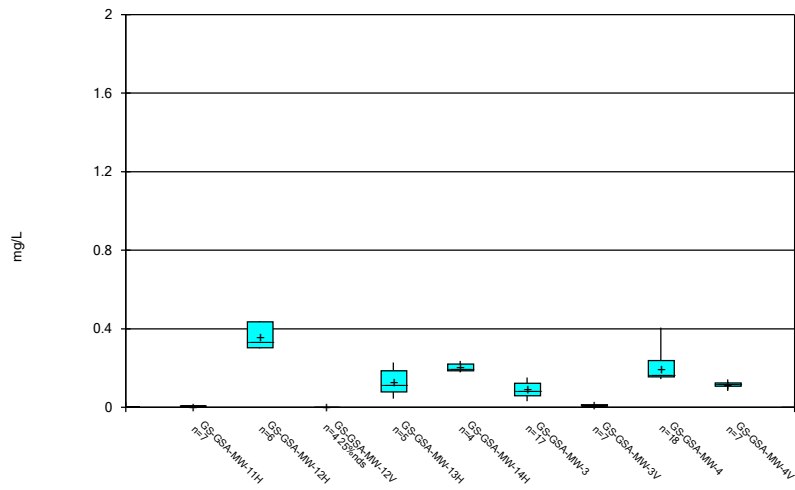
Constituent: Chromium Analysis Run 5/11/2022 6:06 PM View: Constituents View  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



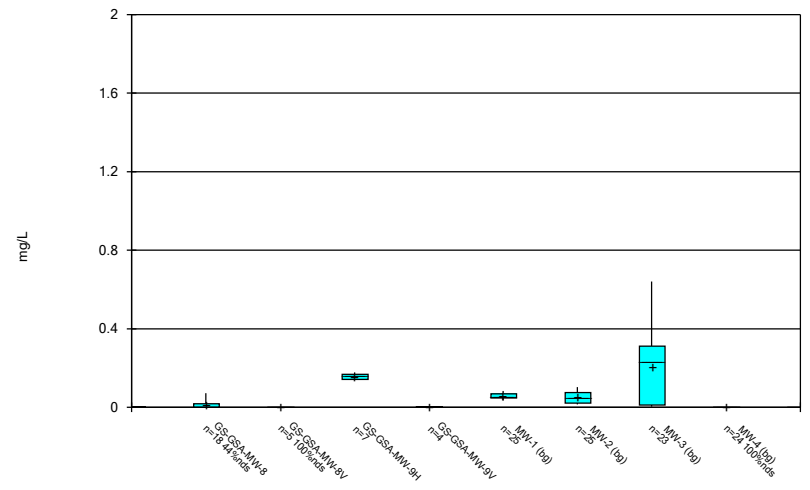
Constituent: Chromium Analysis Run 5/11/2022 6:06 PM View: Constituents View  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



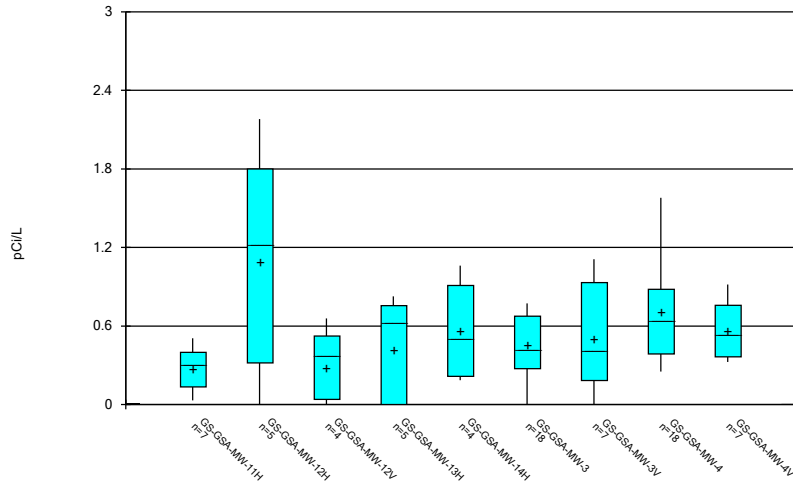
Constituent: Cobalt Analysis Run 5/11/2022 6:06 PM View: Constituents View  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



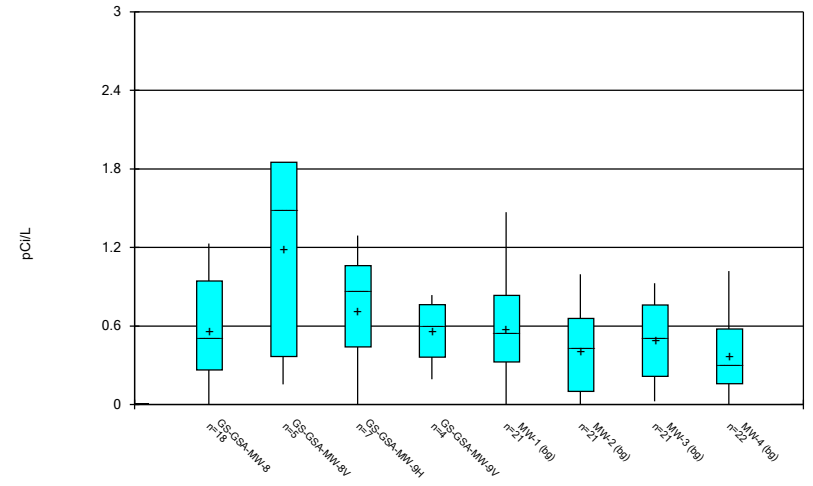
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 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



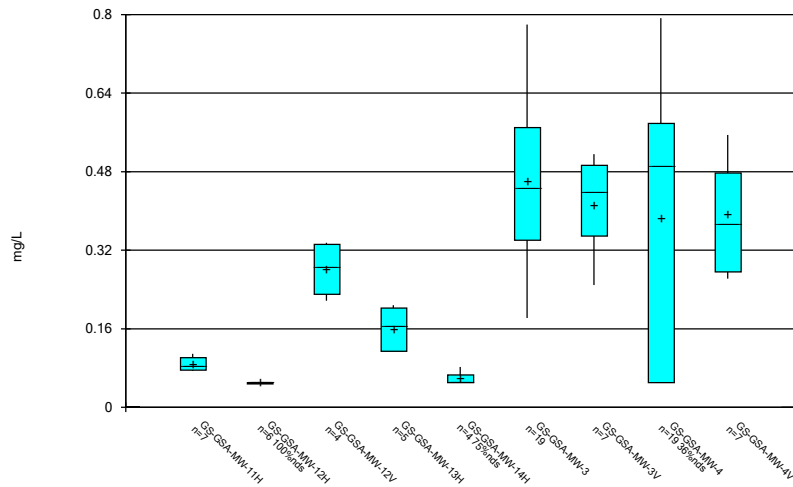
Constituent: Combined Radium 226 + 228 Analysis Run 5/11/2022 6:06 PM View: Constituents View  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



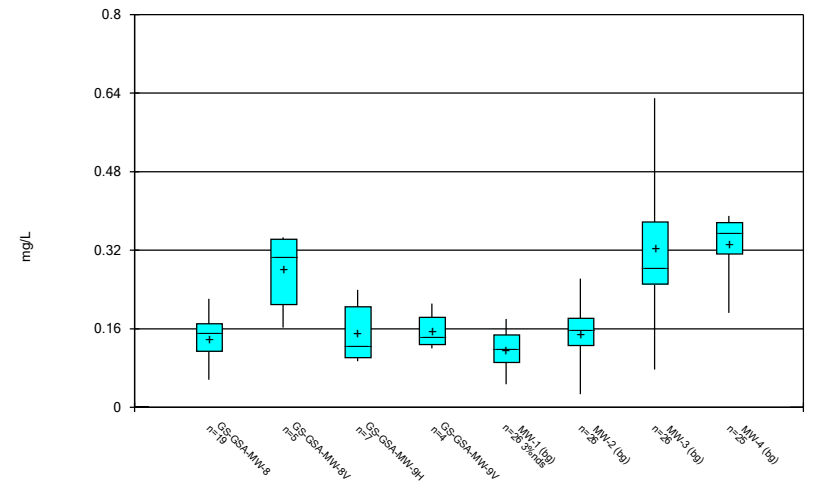
Constituent: Combined Radium 226 + 228 Analysis Run 5/11/2022 6:06 PM View: Constituents View  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



Constituent: Fluoride Analysis Run 5/11/2022 6:06 PM View: Constituents View  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

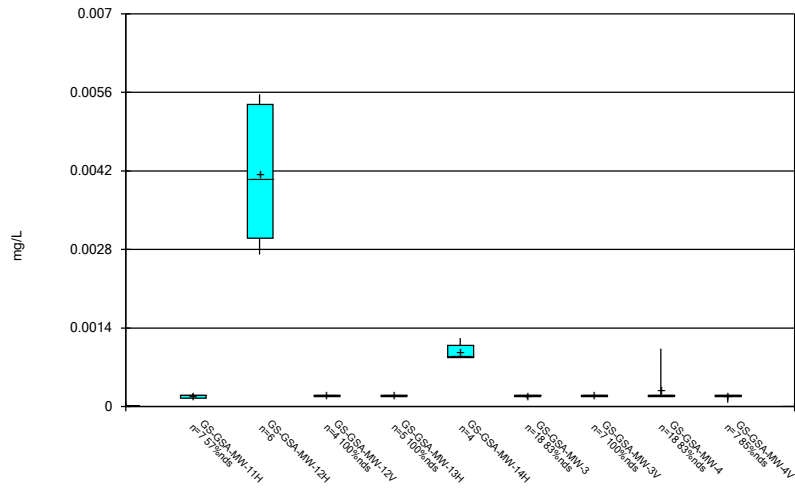
Box & Whiskers Plot



Constituent: Fluoride Analysis Run 5/11/2022 6:06 PM View: Constituents View  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

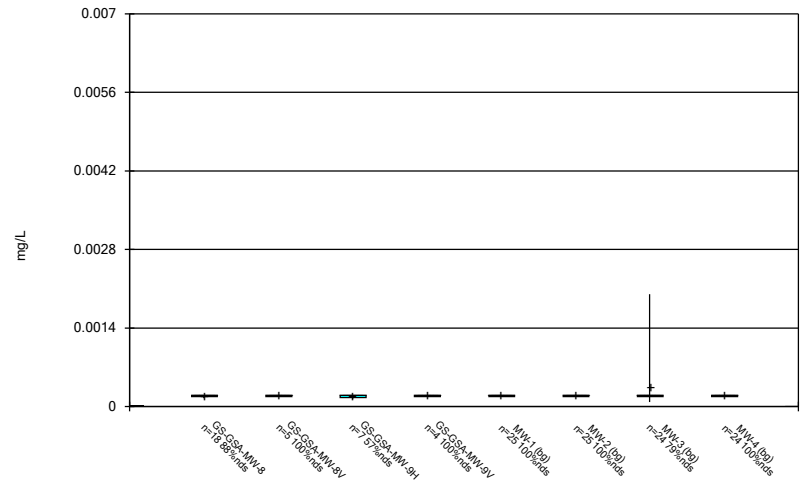


Box & Whiskers Plot



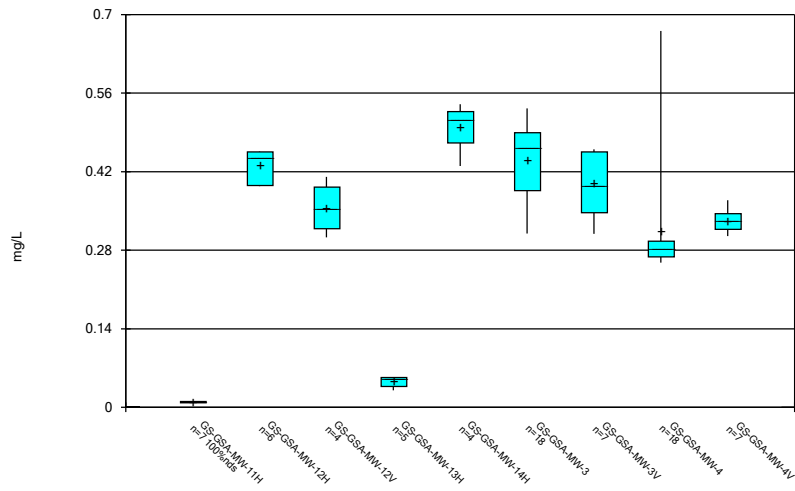
Constituent: Lead Analysis Run 5/11/2022 6:06 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



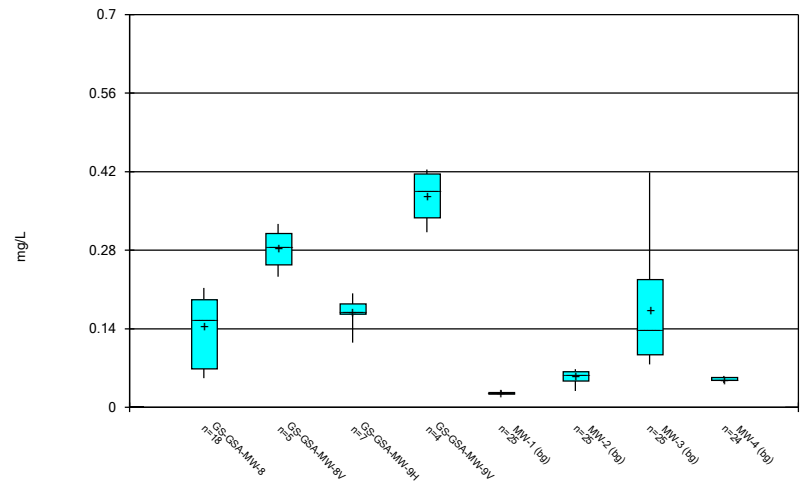
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Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



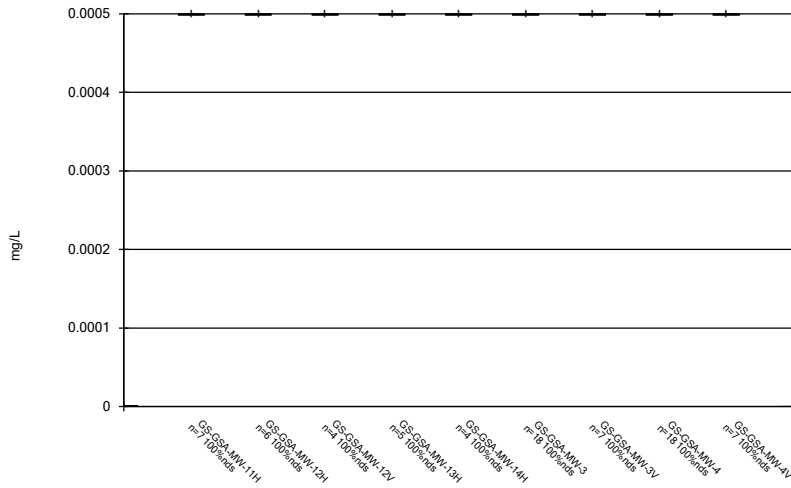
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Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



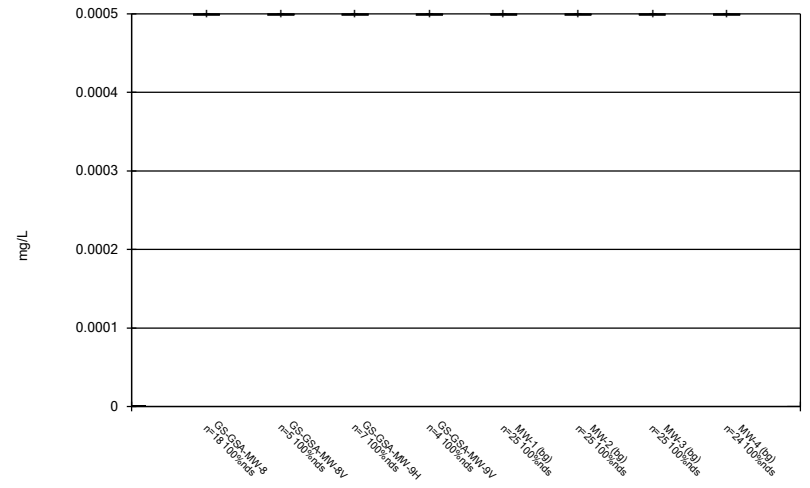
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Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



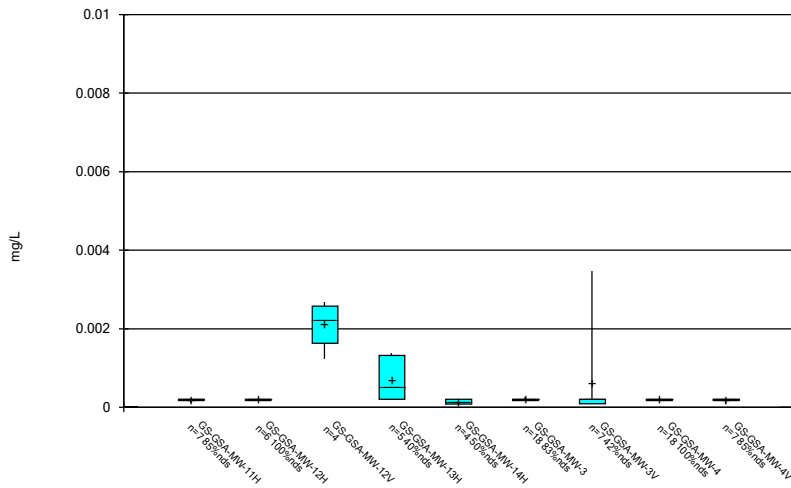
Constituent: Mercury Analysis Run 5/11/2022 6:06 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



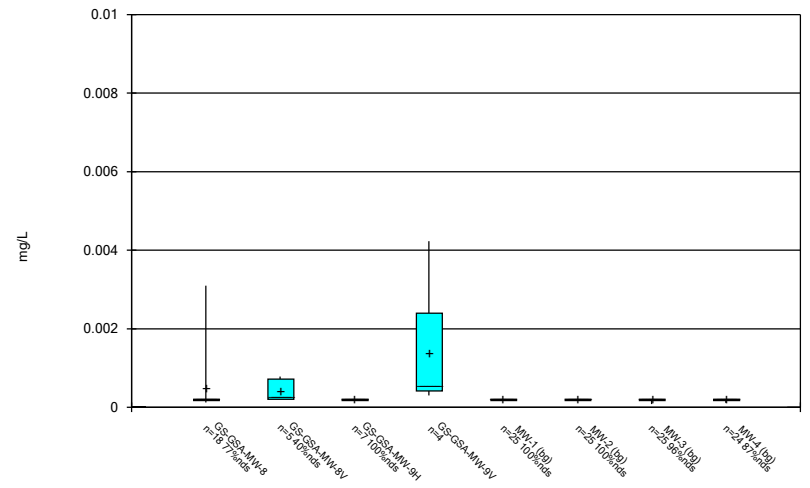
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Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



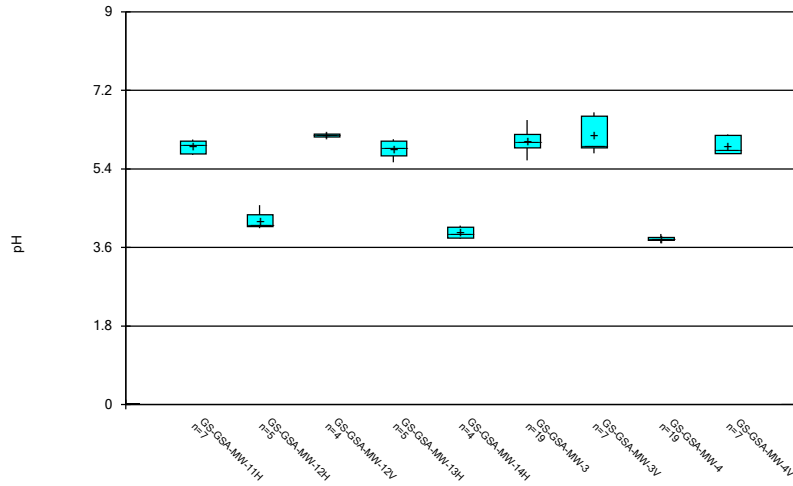
Constituent: Molybdenum Analysis Run 5/11/2022 6:06 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



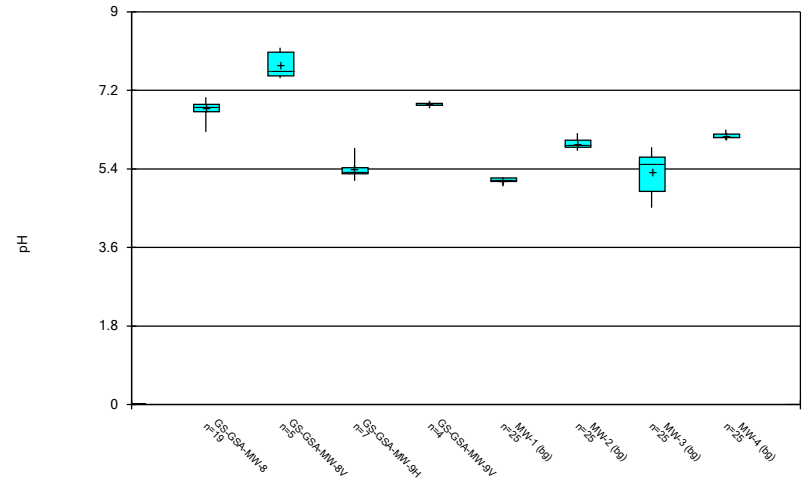
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Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



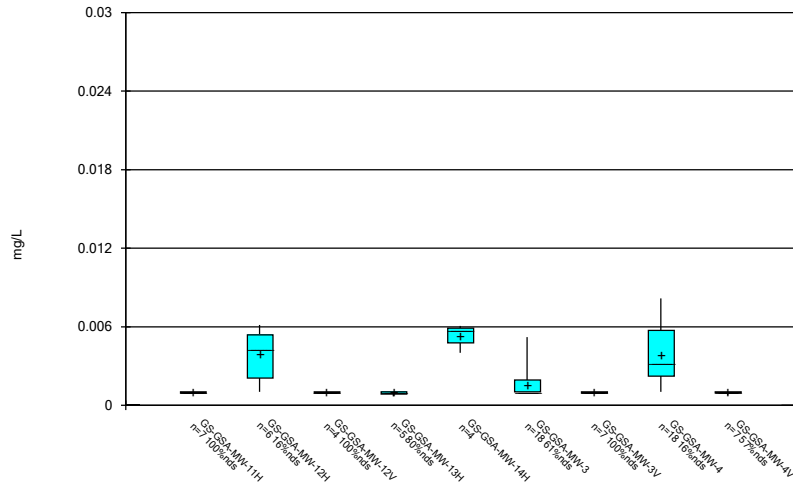
Constituent: pH Analysis Run 5/11/2022 6:06 PM View: Constituents View  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



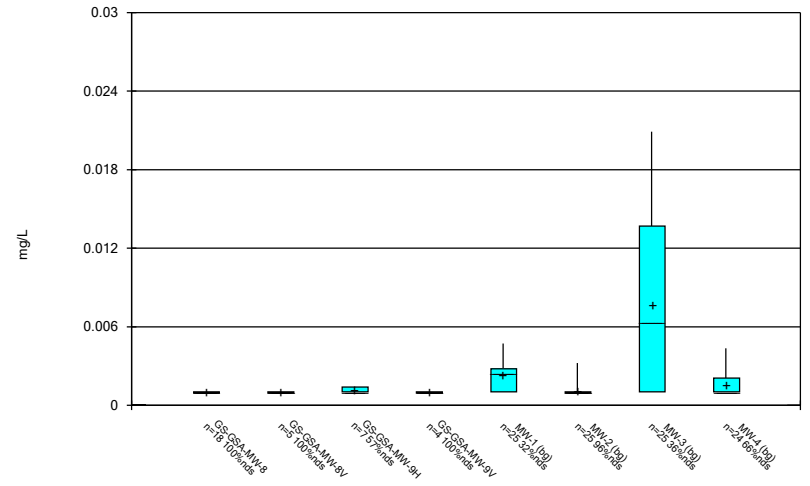
Constituent: pH Analysis Run 5/11/2022 6:06 PM View: Constituents View  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



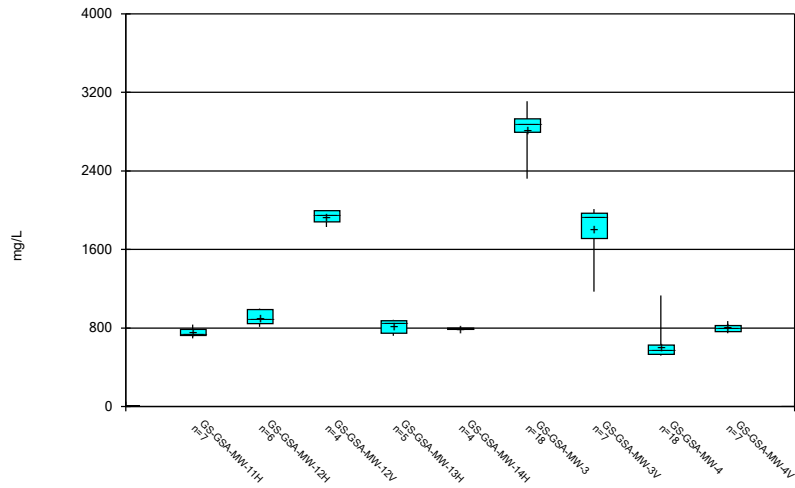
Constituent: Selenium Analysis Run 5/11/2022 6:06 PM View: Constituents View  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



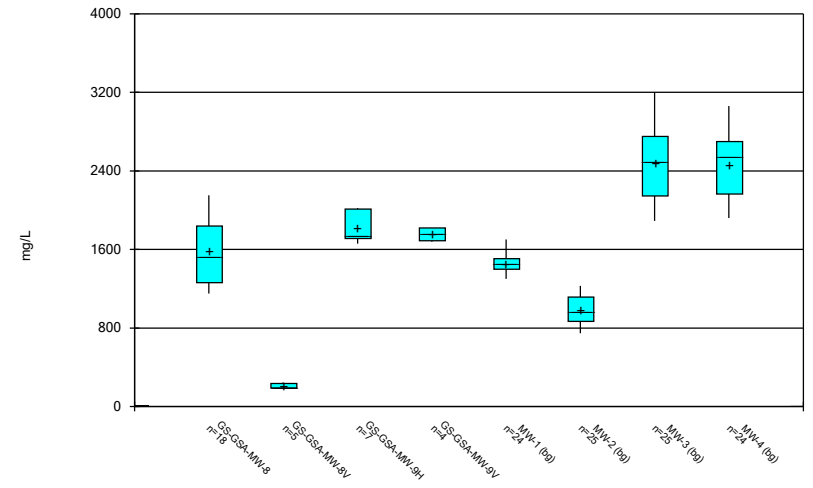
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 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



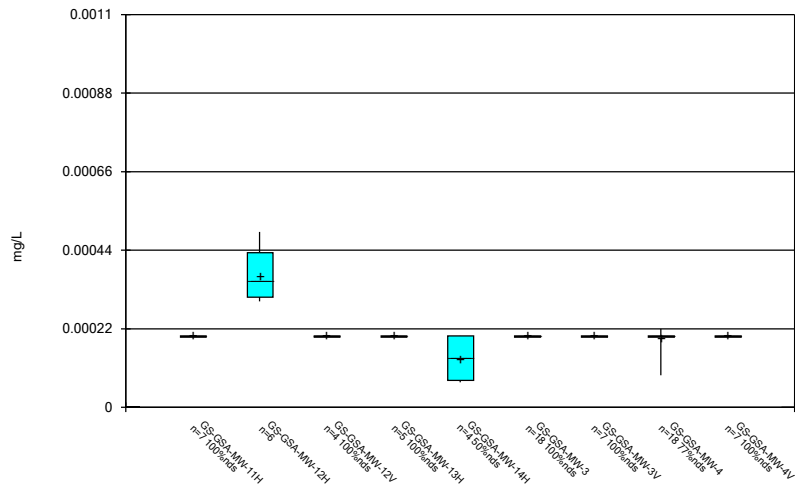
Constituent: Sulfate Analysis Run 5/11/2022 6:06 PM View: Constituents View  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



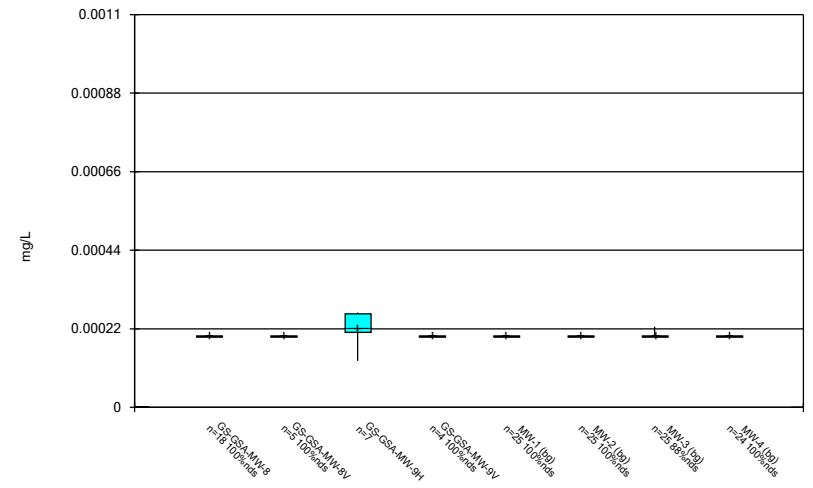
Constituent: Sulfate Analysis Run 5/11/2022 6:06 PM View: Constituents View  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



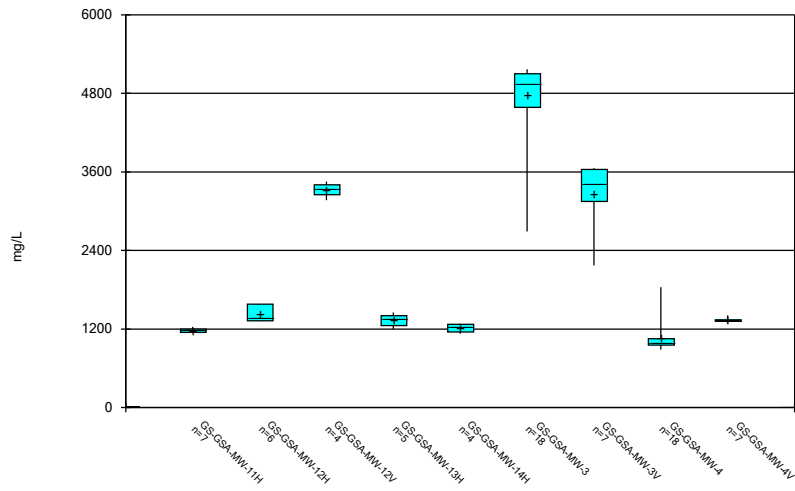
Constituent: Thallium Analysis Run 5/11/2022 6:06 PM View: Constituents View  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



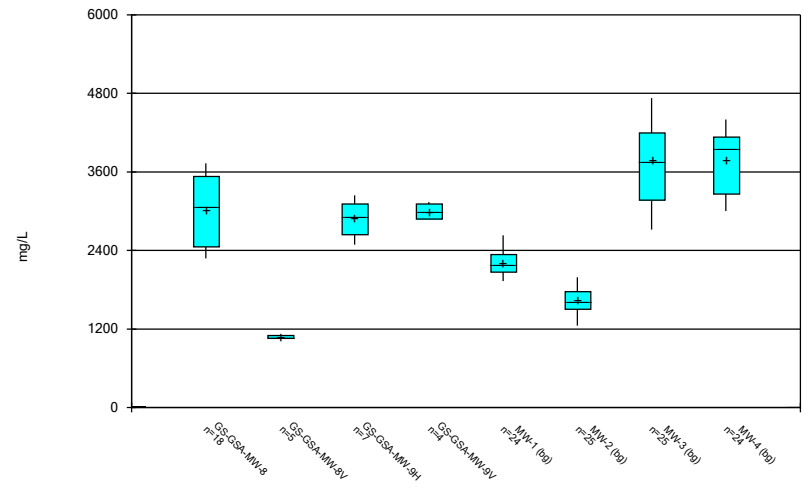
Constituent: Thallium Analysis Run 5/11/2022 6:06 PM View: Constituents View  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



Constituent: Total dissolved solids Analysis Run 5/11/2022 6:06 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



Constituent: Total dissolved solids Analysis Run 5/11/2022 6:06 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

FIGURE C.

# Outlier Summary

Plant Gorgas Client: Southern Company Data: Gorgas GSA Printed 5/11/2022, 6:07 PM

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	MW-3 Beryllium (mg/L)	MW-4 Boron (mg/L)	MW-3 Cadmium (mg/L)	GS-GSA-MW-3 Cobalt (mg/L)	MW-3 Cobalt (mg/L)	MW-3 Lead (mg/L)	MW-3 pH (pH)	MW-1 Sulfate (mg/L)	MW-1 Total dissolved solids (mg/L)
4/25/2016			0.0121 (o)						
1/18/2017	0.0169 (o)								
4/17/2017			0.294 (o)						
5/22/2018								2100 (o)	
11/19/2018	0.0185 (o)				0.00692 (o)	3.77 (o)			
5/14/2019		<0.203 (o)							
10/8/2019					1.07 (o)				
10/16/2019					0.848 (o)				3650 (o)

FIGURE D.



# Appendix III Intrawell Prediction Limits - Significant Results

Plant Gorgas Client: Southern Company Data: Gorgas GSA Printed 5/11/2022, 6:15 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
pH (pH)	GS-GSA-MW-3	6.38	5.66	1/26/2022	6.52	Yes	17	6.02	0.1846	0	None	No	0.001253	Param Intra 1 of 2
pH (pH)	MW-2	6.145	5.788	1/25/2022	6.22	Yes	23	5.967	0.09604	0	None	No	0.001253	Param Intra 1 of 2
pH (pH)	MW-4	6.237	6.076	1/25/2022	6.3	Yes	23	6.157	0.04323	0	None	No	0.001253	Param Intra 1 of 2
Sulfate (mg/L)	GS-GSA-MW-4	653.2	n/a	1/27/2022	1130	Yes	16	569.6	42.43	0	None	No	0.002505	Param Intra 1 of 2
Total dissolved solids (mg/L)	GS-GSA-MW-4	1084	n/a	1/27/2022	1840	Yes	16	987.9	48.59	0	None	No	0.002505	Param Intra 1 of 2

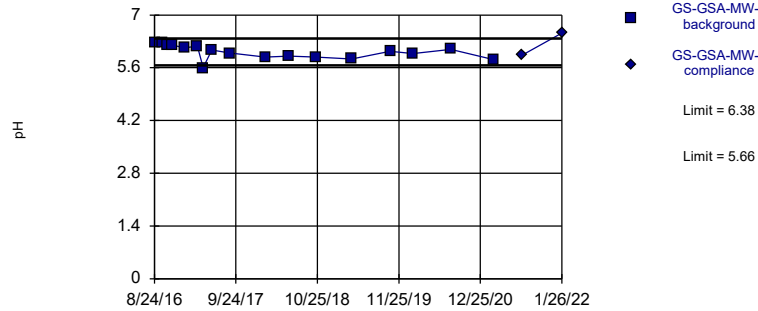
# Appendix III Intrawell Prediction Limits - All Results

Plant Gorgas Client: Southern Company Data: Gorgas GSA Printed 5/11/2022, 6:15 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
<b>pH (pH)</b>	<b>GS-GSA-MW-3</b>	<b>6.38</b>	<b>5.66</b>	<b>1/26/2022</b>	<b>6.52</b>	<b>Yes</b>	<b>17</b>	<b>6.02</b>	<b>0.1846</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.001253</b>	<b>Param Intra 1 of 2</b>
pH (pH)	GS-GSA-MW-4	3.896	3.699	1/27/2022	3.73	No	17	3.798	0.05044	0	None	No	0.001253	Param Intra 1 of 2
pH (pH)	GS-GSA-MW-8	7.149	6.399	1/27/2022	6.85	No	17	6.774	0.1922	0	None	No	0.001253	Param Intra 1 of 2
pH (pH)	MW-1	5.249	5.046	1/25/2022	5.11	No	23	5.147	0.05471	0	None	No	0.001253	Param Intra 1 of 2
<b>pH (pH)</b>	<b>MW-2</b>	<b>6.145</b>	<b>5.788</b>	<b>1/25/2022</b>	<b>6.22</b>	<b>Yes</b>	<b>23</b>	<b>5.967</b>	<b>0.09604</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.001253</b>	<b>Param Intra 1 of 2</b>
pH (pH)	MW-3	5.987	4.38	1/25/2022	5.9	No	23	149.3	35.15	0	None	x^3	0.001253	Param Intra 1 of 2
<b>pH (pH)</b>	<b>MW-4</b>	<b>6.237</b>	<b>6.076</b>	<b>1/25/2022</b>	<b>6.3</b>	<b>Yes</b>	<b>23</b>	<b>6.157</b>	<b>0.04323</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.001253</b>	<b>Param Intra 1 of 2</b>
Sulfate (mg/L)	GS-GSA-MW-3	3163	n/a	1/26/2022	2620	No	16	2.3e10	4.4e9	0	None	x^3	0.002505	Param Intra 1 of 2
<b>Sulfate (mg/L)</b>	<b>GS-GSA-MW-4</b>	<b>653.2</b>	<b>n/a</b>	<b>1/27/2022</b>	<b>1130</b>	<b>Yes</b>	<b>16</b>	<b>569.6</b>	<b>42.43</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.002505</b>	<b>Param Intra 1 of 2</b>
Sulfate (mg/L)	GS-GSA-MW-8	2169	n/a	1/27/2022	2000	No	16	1541	318.8	0	None	No	0.002505	Param Intra 1 of 2
Sulfate (mg/L)	MW-1	1653	n/a	1/25/2022	1430	No	22	1456	105.3	0	None	No	0.002505	Param Intra 1 of 2
Sulfate (mg/L)	MW-2	1257	n/a	1/25/2022	842	No	23	1001	137.9	0	None	No	0.002505	Param Intra 1 of 2
Sulfate (mg/L)	MW-3	3195	n/a	1/25/2022	2550	No	23	2487	381.4	0	None	No	0.002505	Param Intra 1 of 2
Sulfate (mg/L)	MW-4	3107	n/a	1/25/2022	1930	No	22	2505	321.9	0	None	No	0.002505	Param Intra 1 of 2
Total dissolved solids (mg/L)	GS-GSA-MW-3	5170	n/a	1/26/2022	4260	No	16	n/a	n/a	0	n/a	n/a	0.006456	NP Intra (normality) 1 of 2
<b>Total dissolved solids (mg/L)</b>	<b>GS-GSA-MW-4</b>	<b>1084</b>	<b>n/a</b>	<b>1/27/2022</b>	<b>1840</b>	<b>Yes</b>	<b>16</b>	<b>987.9</b>	<b>48.59</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.002505</b>	<b>Param Intra 1 of 2</b>
Total dissolved solids (mg/L)	GS-GSA-MW-8	4017	n/a	1/27/2022	3290	No	16	2978	527.4	0	None	No	0.002505	Param Intra 1 of 2
Total dissolved solids (mg/L)	MW-1	2516	n/a	1/25/2022	2150	No	22	2201	168.2	0	None	No	0.002505	Param Intra 1 of 2
Total dissolved solids (mg/L)	MW-2	2005	n/a	1/25/2022	1500	No	23	1648	192.4	0	None	No	0.002505	Param Intra 1 of 2
Total dissolved solids (mg/L)	MW-3	4954	n/a	1/25/2022	3950	No	23	3773	635.9	0	None	No	0.002505	Param Intra 1 of 2
Total dissolved solids (mg/L)	MW-4	4484	n/a	1/25/2022	3180	No	22	5.8e10	1.7e10	0	None	x^3	0.002505	Param Intra 1 of 2

Exceeds Limits

### Prediction Limit Intrawell Parametric

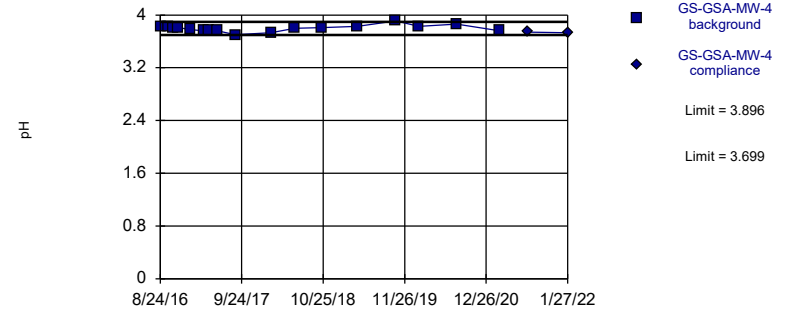


Background Data Summary: Mean=6.02, Std. Dev.=0.1846, n=17. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9599, critical = 0.851. Kappa = 1.951 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: pH Analysis Run 5/11/2022 6:13 PM View: Appendix III - Intrawell PLs  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Within Limits

### Prediction Limit Intrawell Parametric

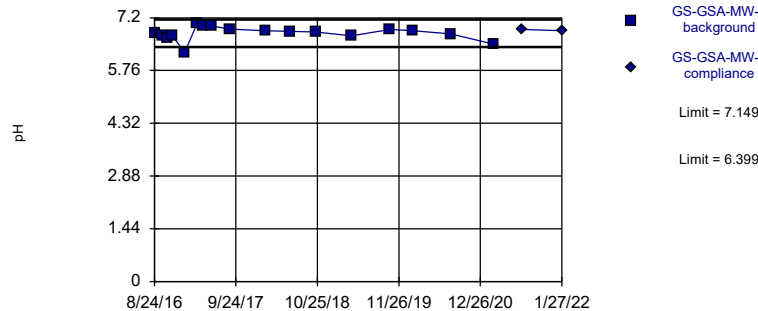


Background Data Summary: Mean=3.798, Std. Dev.=0.05044, n=17. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9673, critical = 0.851. Kappa = 1.951 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: pH Analysis Run 5/11/2022 6:13 PM View: Appendix III - Intrawell PLs  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Within Limits

### Prediction Limit Intrawell Parametric

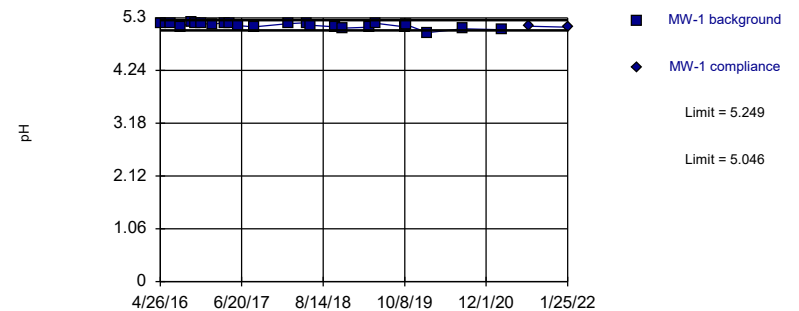


Background Data Summary: Mean=6.774, Std. Dev.=0.1922, n=17. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9038, critical = 0.851. Kappa = 1.951 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: pH Analysis Run 5/11/2022 6:13 PM View: Appendix III - Intrawell PLs  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Within Limits

### Prediction Limit Intrawell Parametric

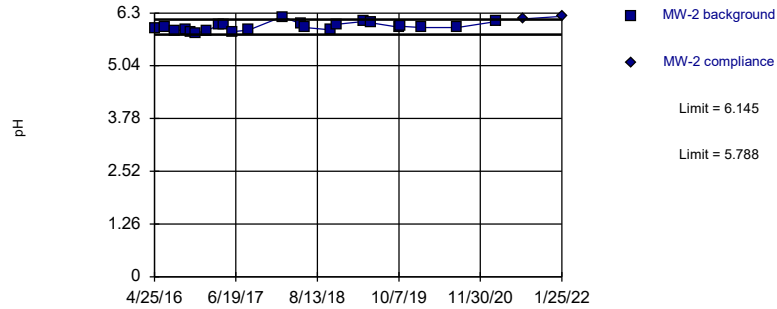


Background Data Summary: Mean=5.147, Std. Dev.=0.05471, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8955, critical = 0.881. Kappa = 1.857 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: pH Analysis Run 5/11/2022 6:13 PM View: Appendix III - Intrawell PLs  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Exceeds Limits

### Prediction Limit Intrawell Parametric

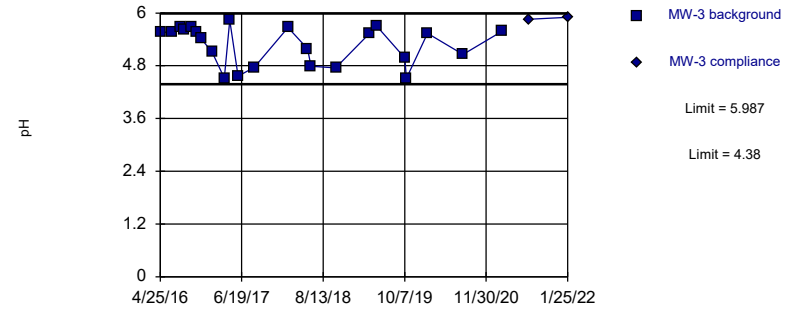


Background Data Summary: Mean=5.967, Std. Dev.=0.09604, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9622, critical = 0.881. Kappa = 1.857 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: pH Analysis Run 5/11/2022 6:13 PM View: Appendix III - Intrawell PLs  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Within Limits

### Prediction Limit Intrawell Parametric

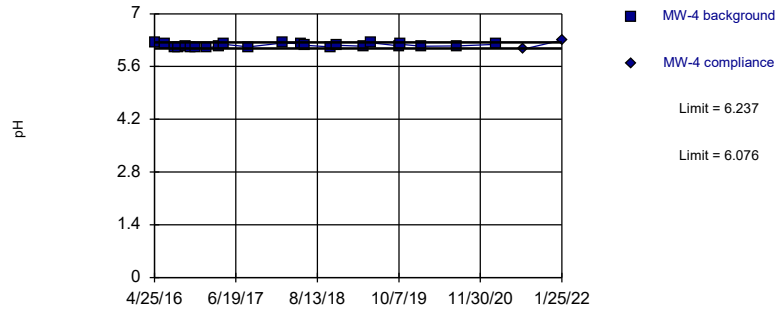


Background Data Summary (based on cube transformation): Mean=149.3, Std. Dev.=35.15, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8845, critical = 0.881. Kappa = 1.857 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: pH Analysis Run 5/11/2022 6:13 PM View: Appendix III - Intrawell PLs  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Exceeds Limits

### Prediction Limit Intrawell Parametric

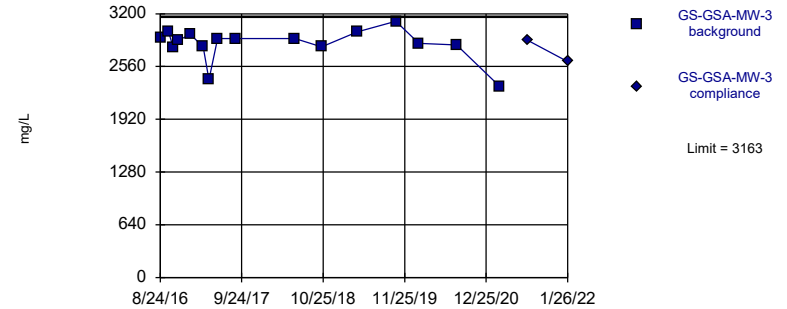


Background Data Summary: Mean=6.157, Std. Dev.=0.04323, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9401, critical = 0.881. Kappa = 1.857 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: pH Analysis Run 5/11/2022 6:13 PM View: Appendix III - Intrawell PLs  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Within Limit

### Prediction Limit Intrawell Parametric

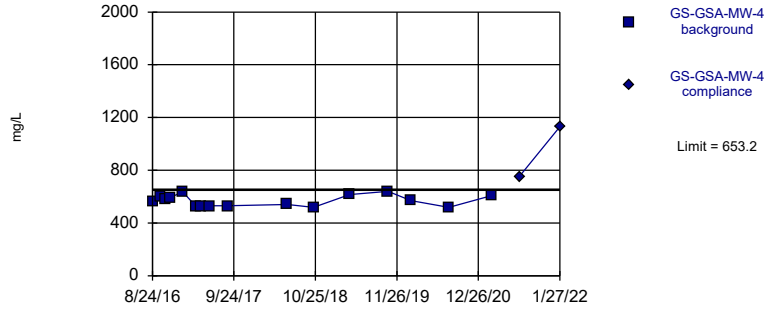


Background Data Summary (based on cube transformation): Mean=2.3e10, Std. Dev.=4.4e9, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8468, critical = 0.844. Kappa = 1.97 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: Sulfate Analysis Run 5/11/2022 6:13 PM View: Appendix III - Intrawell PLs  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Exceeds Limit

Prediction Limit  
Intrawell Parametric

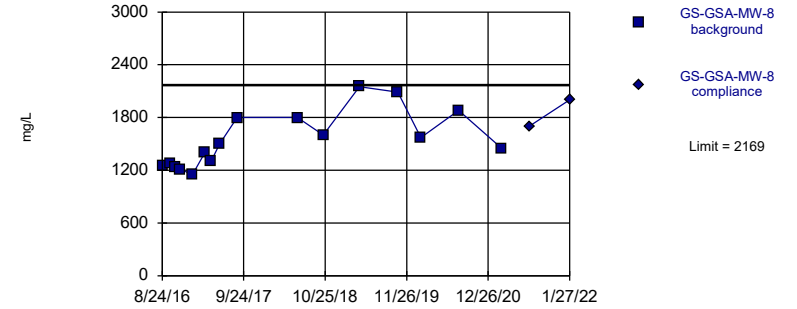


Background Data Summary: Mean=569.6, Std. Dev.=42.43, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8989, critical = 0.844. Kappa = 1.97 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: Sulfate Analysis Run 5/11/2022 6:14 PM View: Appendix III - Intrawell PLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Within Limit

Prediction Limit  
Intrawell Parametric

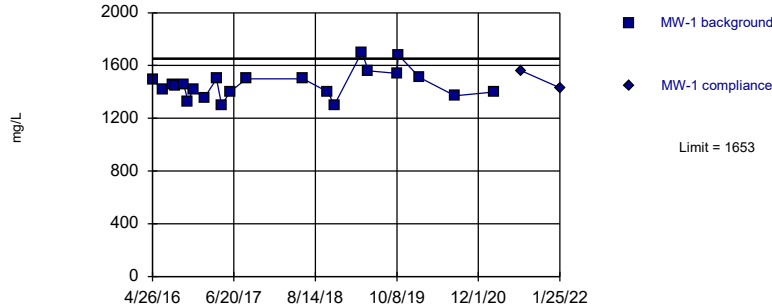


Background Data Summary: Mean=1541, Std. Dev.=318.8, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9147, critical = 0.844. Kappa = 1.97 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: Sulfate Analysis Run 5/11/2022 6:14 PM View: Appendix III - Intrawell PLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Within Limit

Prediction Limit  
Intrawell Parametric

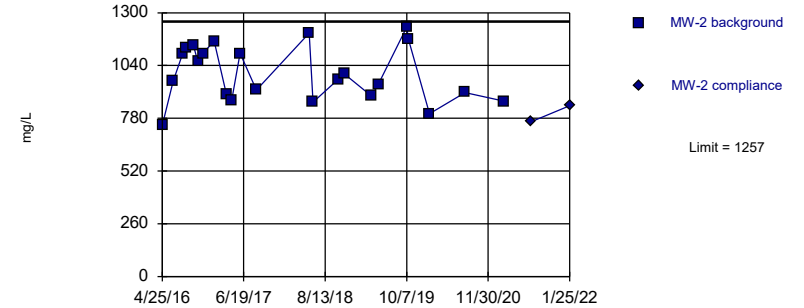


Background Data Summary: Mean=1456, Std. Dev.=105.3, n=22. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9431, critical = 0.878. Kappa = 1.869 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: Sulfate Analysis Run 5/11/2022 6:14 PM View: Appendix III - Intrawell PLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Within Limit

Prediction Limit  
Intrawell Parametric

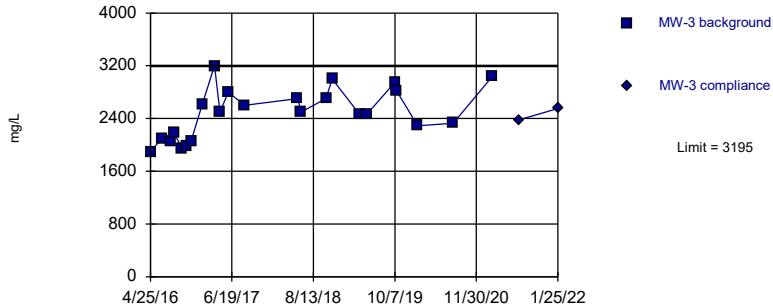


Background Data Summary: Mean=1001, Std. Dev.=137.9, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9535, critical = 0.881. Kappa = 1.857 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: Sulfate Analysis Run 5/11/2022 6:14 PM View: Appendix III - Intrawell PLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Within Limit

Prediction Limit  
Intrawell Parametric

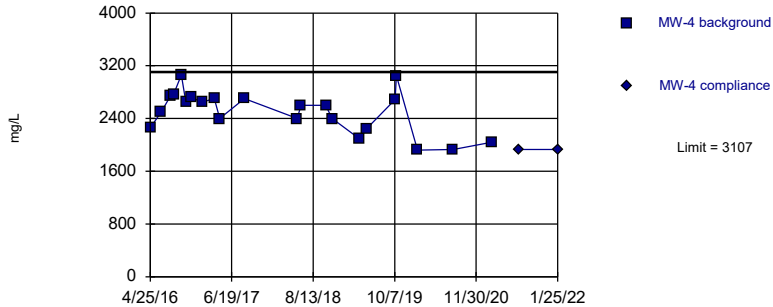


Background Data Summary: Mean=2487, Std. Dev.=381.4, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.964, critical = 0.881. Kappa = 1.857 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: Sulfate Analysis Run 5/11/2022 6:14 PM View: Appendix III - Intrawell PLS  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

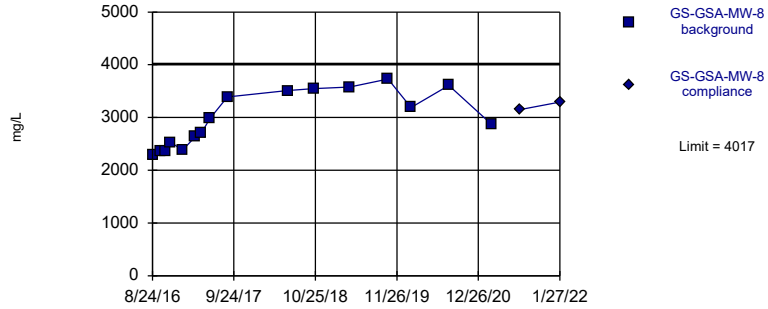
Within Limit

Prediction Limit  
Intrawell Parametric



Within Limit

Prediction Limit  
Intrawell Parametric

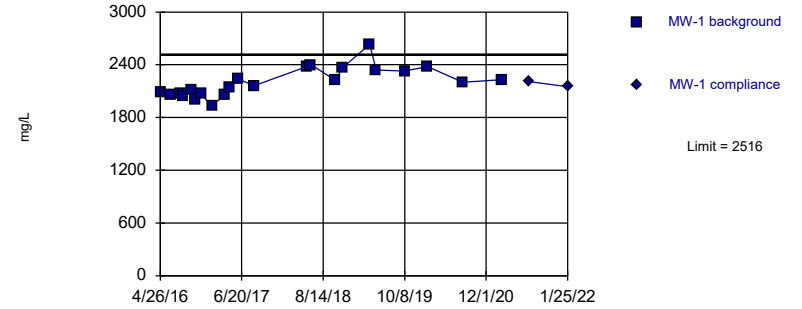


Background Data Summary: Mean=2978, Std. Dev.=527.4, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8919, critical = 0.844. Kappa = 1.97 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: Total dissolved solids Analysis Run 5/11/2022 6:14 PM View: Appendix III - Intrawell PLS  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Within Limit

Prediction Limit  
Intrawell Parametric

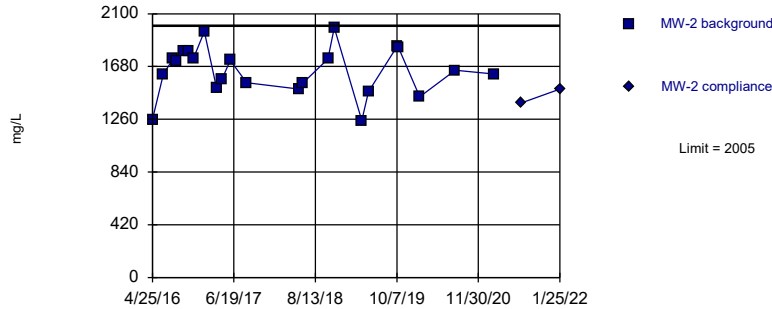


Background Data Summary: Mean=2201, Std. Dev.=168.2, n=22. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9467, critical = 0.878. Kappa = 1.869 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: Total dissolved solids Analysis Run 5/11/2022 6:14 PM View: Appendix III - Intrawell PLS  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Within Limit

Prediction Limit  
Intrawell Parametric

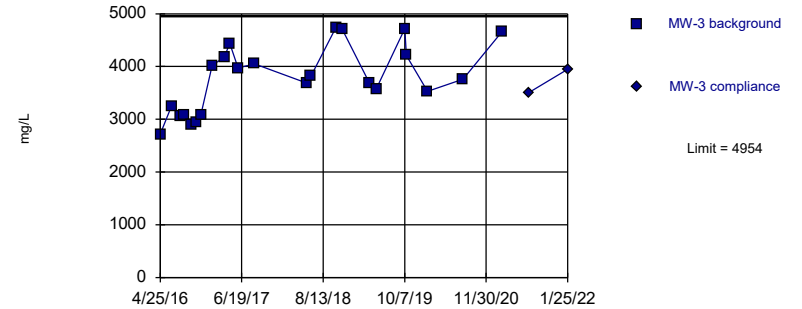


Background Data Summary: Mean=1648, Std. Dev.=192.4, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.968, critical = 0.881. Kappa = 1.857 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: Total dissolved solids Analysis Run 5/11/2022 6:14 PM View: Appendix III - Intrawell PLS  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Within Limit

Prediction Limit  
Intrawell Parametric

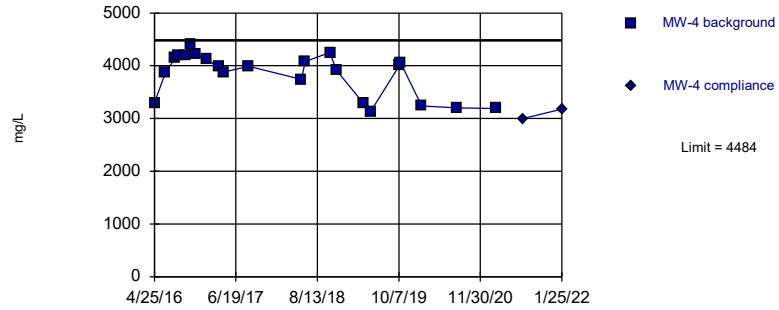


Background Data Summary: Mean=3773, Std. Dev.=635.9, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9443, critical = 0.881. Kappa = 1.857 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: Total dissolved solids Analysis Run 5/11/2022 6:14 PM View: Appendix III - Intrawell PLS  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Within Limit

### Prediction Limit Intrawell Parametric



Background Data Summary (based on cube transformation): Mean=5.8e10, Std. Dev.=1.7e10, n=22. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8912, critical = 0.878. Kappa = 1.869 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: Total dissolved solids    Analysis Run 5/11/2022 6:14 PM    View: Appendix III - Intrawell PLs  
Plant Gorgas    Client: Southern Company    Data: Gorgas GSA



# Prediction Limit

Constituent: pH (pH) Analysis Run 5/11/2022 6:15 PM View: Appendix III - Intravel PLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-3	GS-GSA-MW-3
8/24/2016	6.28	
10/3/2016	6.28	
10/26/2016	6.19	
11/21/2016	6.2	
1/17/2017	6.13	
3/20/2017	6.17	
4/17/2017	5.6	
5/30/2017	6.07	
8/24/2017	5.99	
2/13/2018	5.88	
6/11/2018	5.91	
10/17/2018	5.88	
4/10/2019	5.83	
10/14/2019	6.04	
2/3/2020	5.98	
8/4/2020	6.09	
3/1/2021	5.82	
7/14/2021		5.93
1/26/2022		6.52

# Prediction Limit

Constituent: pH (pH) Analysis Run 5/11/2022 6:15 PM View: Appendix III - Intravel PLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-4	GS-GSA-MW-4
8/24/2016	3.83 (E)	
10/3/2016	3.82 (E)	
10/26/2016	3.81 (E)	
11/21/2016	3.81	
1/17/2017	3.78	
3/21/2017	3.76	
4/17/2017	3.76	
5/30/2017	3.76	
8/24/2017	3.7	
2/13/2018	3.73	
6/11/2018	3.8	
10/17/2018	3.81	
4/10/2019	3.83	
10/14/2019	3.91	
2/4/2020	3.83	
8/5/2020	3.86	
3/3/2021	3.76	
7/14/2021		3.74
1/27/2022		3.73

# Prediction Limit

Constituent: pH (pH) Analysis Run 5/11/2022 6:15 PM View: Appendix III - Intravel PLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-8	GS-GSA-MW-8
8/24/2016	6.78	
10/3/2016	6.71	
10/26/2016	6.65	
11/21/2016	6.7	
1/17/2017	6.25	
3/20/2017	7.04	
4/18/2017	6.99	
5/30/2017	6.98	
8/24/2017	6.89	
2/13/2018	6.85	
6/12/2018	6.83	
10/17/2018	6.81	
4/10/2019	6.71	
10/14/2019	6.88	
2/4/2020	6.85	
8/5/2020	6.76	
3/1/2021	6.48	
7/14/2021		6.88
1/27/2022		6.85

# Prediction Limit

Constituent: pH (pH) Analysis Run 5/11/2022 6:15 PM View: Appendix III - Intravel PLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	MW-1	MW-1
4/26/2016	5.2	
6/20/2016	5.18	
8/8/2016	5.12	
10/3/2016	5.21	
10/26/2016	5.2	
11/21/2016	5.19	
1/17/2017	5.17	
3/22/2017	5.2	
4/18/2017	5.2	
5/30/2017	5.14	
8/23/2017	5.12	
2/13/2018	5.18	
5/22/2018	5.2	
6/12/2018	5.15	
10/17/2018	5.12	
11/19/2018	5.09	
4/10/2019	5.11	
5/14/2019	5.19	
10/8/2019	5.12	
10/16/2019	5.16	
2/3/2020	5	
8/3/2020	5.08	
2/22/2021	5.06	
7/12/2021		5.13
1/25/2022		5.11

# Prediction Limit

Constituent: pH (pH) Analysis Run 5/11/2022 6:15 PM View: Appendix III - Inrawell PLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	MW-2	MW-2
4/25/2016	5.94	
6/20/2016	5.96	
8/8/2016	5.88	
10/3/2016	5.91	
10/26/2016	5.84	
11/21/2016	5.82	
1/17/2017	5.87	
3/22/2017	6.01	
4/18/2017	6.02	
5/31/2017	5.85	
8/23/2017	5.89	
2/13/2018	6.21	
5/22/2018	6.04	
6/12/2018	5.95	
10/17/2018	5.9	
11/19/2018	6.03	
4/10/2019	6.1	
5/14/2019	6.07	
10/8/2019	5.96	
10/16/2019	5.98	
2/3/2020	5.95	
8/3/2020	5.95	
2/22/2021	6.1	
7/12/2021		6.16
1/25/2022		6.22

# Prediction Limit

Constituent: pH (pH) Analysis Run 5/11/2022 6:16 PM View: Appendix III - Intravel PLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	MW-3	MW-3
4/25/2016	5.56	
6/22/2016	5.57	
8/9/2016	5.67	
8/24/2016	5.63	
10/4/2016	5.69	
10/26/2016	5.56	
11/21/2016	5.42	
1/18/2017	5.11	
3/22/2017	4.52	
4/18/2017	5.84	
5/31/2017	4.56	
8/23/2017	4.77	
2/13/2018	5.67	
5/24/2018	5.19	
6/12/2018	4.79	
10/17/2018	4.75	
11/19/2018	3.77 (o)	
4/10/2019	5.54	
5/14/2019	5.71	
10/8/2019	4.98	
10/16/2019	4.51	
2/3/2020	5.54	
8/3/2020	5.06	
2/22/2021	5.59	
7/12/2021		5.86
1/25/2022		5.9

# Prediction Limit

Constituent: pH (pH) Analysis Run 5/11/2022 6:16 PM View: Appendix III - Inrawell PLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	MW-4	MW-4
4/25/2016	6.22	
6/20/2016	6.21	
8/9/2016	6.11	
8/24/2016	6.11	
10/3/2016	6.13	
10/26/2016	6.12	
11/21/2016	6.09	
1/18/2017	6.09	
3/22/2017	6.15	
4/18/2017	6.19	
8/23/2017	6.12	
2/13/2018	6.22	
5/23/2018	6.21	
6/12/2018	6.16	
10/17/2018	6.12	
11/19/2018	6.16	
4/10/2019	6.14	
5/14/2019	6.23	
10/10/2019	6.15	
10/16/2019	6.19	
2/3/2020	6.14	
8/5/2020	6.15	
2/22/2021	6.19	
7/12/2021		6.06
1/25/2022		6.3

# Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 5/11/2022 6:16 PM View: Appendix III - Intrawell PLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-3	GS-GSA-MW-3
8/24/2016	2910	
10/3/2016	2980	
10/26/2016	2790	
11/21/2016	2880	
1/17/2017	2950	
3/20/2017	2800	
4/17/2017	2400	
5/30/2017	2900	
8/24/2017	2900	
6/11/2018	2900	
10/17/2018	2800	
4/10/2019	2980	
10/14/2019	3110	
2/3/2020	2840	
8/4/2020	2820	
3/1/2021	2320	
7/14/2021		2880
1/26/2022		2620



# Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 5/11/2022 6:16 PM View: Appendix III - Intrawell PLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-4	GS-GSA-MW-4
8/24/2016	567	
10/3/2016	596	
10/26/2016	585	
11/21/2016	593	
1/17/2017	637	
3/21/2017	530	
4/17/2017	530	
5/30/2017	530	
8/24/2017	530	
6/11/2018	540	
10/17/2018	520	
4/10/2019	616	
10/14/2019	641	
2/4/2020	571	
8/5/2020	519	
3/3/2021	609	
7/14/2021		752
1/27/2022		1130

# Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 5/11/2022 6:16 PM View: Appendix III - Intrawell PLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-8	GS-GSA-MW-8
8/24/2016	1250	
10/3/2016	1270	
10/26/2016	1240	
11/21/2016	1210	
1/17/2017	1150	
3/20/2017	1400	
4/18/2017	1300	
5/30/2017	1500	
8/24/2017	1800	
6/12/2018	1800	
10/17/2018	1600	
4/10/2019	2150	
10/14/2019	2090	
2/4/2020	1570	
8/5/2020	1880	
3/1/2021	1450	
7/14/2021		1700
1/27/2022		2000

# Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 5/11/2022 6:16 PM View: Appendix III - Intrawell PLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	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	
2/3/2020	1510	
8/3/2020	1370	
2/22/2021	1400	
7/12/2021		1560
1/25/2022		1430

# Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 5/11/2022 6:16 PM View: Appendix III - Intrawell PLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	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	
2/3/2020	803	
8/3/2020	907	
2/22/2021	864	
7/12/2021		763
1/25/2022		842

# Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 5/11/2022 6:16 PM View: Appendix III - Intrawell PLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	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	
2/3/2020	2290	
8/3/2020	2330	
2/22/2021	3040	
7/12/2021		2380
1/25/2022		2550

# Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 5/11/2022 6:16 PM View: Appendix III - Intrawell PLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	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	
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	
2/3/2020	1920	
8/5/2020	1930	
2/22/2021	2040	
7/12/2021		1930
1/25/2022		1930

# Prediction Limit

Constituent: Total dissolved solids (mg/L) Analysis Run 5/11/2022 6:16 PM View: Appendix III - IntraWell PLs

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-3	GS-GSA-MW-3
8/24/2016	5020	
10/3/2016	4880	
10/26/2016	5020	
11/21/2016	5090	
1/17/2017	4330	
3/20/2017	2690	
4/17/2017	4780	
5/30/2017	5170	
8/24/2017	5140	
6/11/2018	4960	
10/17/2018	4910	
4/10/2019	5090	
10/14/2019	5110	
2/3/2020	4920	
8/4/2020	5110	
3/1/2021	4390	
7/14/2021		4920
1/26/2022		4260

# Prediction Limit

Constituent: Total dissolved solids (mg/L) Analysis Run 5/11/2022 6:16 PM View: Appendix III - IntraWell PLs

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-4	GS-GSA-MW-4
8/24/2016	992	
10/3/2016	988	
10/26/2016	1030	
11/21/2016	1020	
1/17/2017	988	
3/21/2017	990	
4/17/2017	884	
5/30/2017	1060	
8/24/2017	1060	
6/11/2018	944	
10/17/2018	928	
4/10/2019	1000	
10/14/2019	967	
2/4/2020	978	
8/5/2020	938	
3/3/2021	1040	
7/14/2021		1300
1/27/2022		1840



# Prediction Limit

Constituent: Total dissolved solids (mg/L) Analysis Run 5/11/2022 6:16 PM View: Appendix III - IntraWell PLs

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-8	GS-GSA-MW-8
8/24/2016	2280	
10/3/2016	2370	
10/26/2016	2350	
11/21/2016	2530	
1/17/2017	2380	
3/20/2017	2630	
4/18/2017	2700	
5/30/2017	2980	
8/24/2017	3390	
6/12/2018	3510	
10/17/2018	3550	
4/10/2019	3580	
10/14/2019	3730	
2/4/2020	3190	
8/5/2020	3610	
3/1/2021	2870	
7/14/2021		3150
1/27/2022		3290

# Prediction Limit

Constituent: Total dissolved solids (mg/L) Analysis Run 5/11/2022 6:16 PM View: Appendix III - IntraWell PLs

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	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)	
2/3/2020	2380	
8/3/2020	2200	
2/22/2021	2230	
7/12/2021		2210
1/25/2022		2150

# Prediction Limit

Constituent: Total dissolved solids (mg/L) Analysis Run 5/11/2022 6:16 PM View: Appendix III - IntraWell PLs

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	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	
2/3/2020	1440	
8/3/2020	1650	
2/22/2021	1620	
7/12/2021		1390
1/25/2022		1500

# Prediction Limit

Constituent: Total dissolved solids (mg/L) Analysis Run 5/11/2022 6:16 PM View: Appendix III - IntraWell PLs

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	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	
2/3/2020	3530	
8/3/2020	3760	
2/22/2021	4670	
7/12/2021		3510
1/25/2022		3950

# Prediction Limit

Constituent: Total dissolved solids (mg/L) Analysis Run 5/11/2022 6:16 PM View: Appendix III - IntraWell PLs

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	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	
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	
2/3/2020	3240	
8/5/2020	3200	
2/22/2021	3190	
7/12/2021		3000
1/25/2022		3180

FIGURE E.

# Appendix III Interwell Prediction Limits - Significant Results

Plant Gorgas Client: Southern Company Data: Gorgas GSA Printed 5/11/2022, 6:12 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Obsrv.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	GS-GSA-MW-3	0.0596	n/a	1/26/2022	2.5	Yes	98	n/a	n/a	21.43	n/a	n/a	0.0002025	NP Inter (normality) 1 of 2
Boron (mg/L)	GS-GSA-MW-4	0.0596	n/a	1/27/2022	6.1	Yes	98	n/a	n/a	21.43	n/a	n/a	0.0002025	NP Inter (normality) 1 of 2
Boron (mg/L)	GS-GSA-MW-8	0.0596	n/a	1/27/2022	2.76	Yes	98	n/a	n/a	21.43	n/a	n/a	0.0002025	NP Inter (normality) 1 of 2
Calcium (mg/L)	GS-GSA-MW-3	431	n/a	1/26/2022	517	Yes	99	n/a	n/a	0	n/a	n/a	0.0001981	NP Inter (normality) 1 of 2
Calcium (mg/L)	GS-GSA-MW-8	431	n/a	1/27/2022	491	Yes	99	n/a	n/a	0	n/a	n/a	0.0001981	NP Inter (normality) 1 of 2
Chloride (mg/L)	GS-GSA-MW-3	3.664	n/a	1/26/2022	255	Yes	99	1.291	0.15	3.03	None	x^(1/3)	0.002505	Param Inter 1 of 2
Chloride (mg/L)	GS-GSA-MW-4	3.664	n/a	1/27/2022	103	Yes	99	1.291	0.15	3.03	None	x^(1/3)	0.002505	Param Inter 1 of 2
Chloride (mg/L)	GS-GSA-MW-8	3.664	n/a	1/27/2022	122	Yes	99	1.291	0.15	3.03	None	x^(1/3)	0.002505	Param Inter 1 of 2

# Appendix III Interwell Prediction Limits - All Results

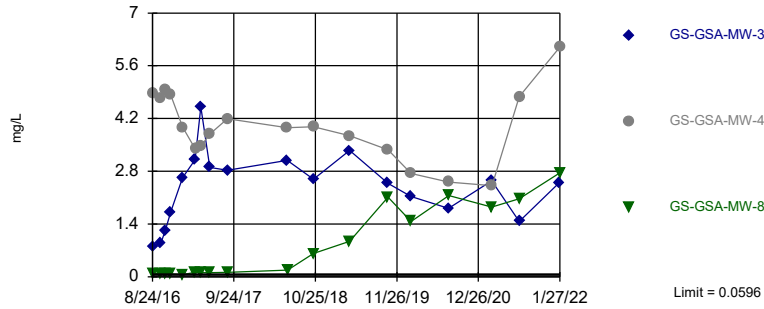
Plant Gorgas Client: Southern Company Data: Gorgas GSA Printed 5/11/2022, 6:12 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Obsrv.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	GS-GSA-MW-3	0.0596	n/a	1/26/2022	2.5	Yes	98	n/a	n/a	21.43	n/a	n/a	0.0002025	NP Inter (normality) 1 of 2
Boron (mg/L)	GS-GSA-MW-4	0.0596	n/a	1/27/2022	6.1	Yes	98	n/a	n/a	21.43	n/a	n/a	0.0002025	NP Inter (normality) 1 of 2
Boron (mg/L)	GS-GSA-MW-8	0.0596	n/a	1/27/2022	2.76	Yes	98	n/a	n/a	21.43	n/a	n/a	0.0002025	NP Inter (normality) 1 of 2
Calcium (mg/L)	GS-GSA-MW-3	431	n/a	1/26/2022	517	Yes	99	n/a	n/a	0	n/a	n/a	0.0001981	NP Inter (normality) 1 of 2
Calcium (mg/L)	GS-GSA-MW-4	431	n/a	1/27/2022	181	No	99	n/a	n/a	0	n/a	n/a	0.0001981	NP Inter (normality) 1 of 2
Calcium (mg/L)	GS-GSA-MW-8	431	n/a	1/27/2022	491	Yes	99	n/a	n/a	0	n/a	n/a	0.0001981	NP Inter (normality) 1 of 2
Chloride (mg/L)	GS-GSA-MW-3	3.664	n/a	1/26/2022	255	Yes	99	1.291	0.15	3.03	None	x^(1/3)	0.002505	Param Inter 1 of 2
Chloride (mg/L)	GS-GSA-MW-4	3.664	n/a	1/27/2022	103	Yes	99	1.291	0.15	3.03	None	x^(1/3)	0.002505	Param Inter 1 of 2
Chloride (mg/L)	GS-GSA-MW-8	3.664	n/a	1/27/2022	122	Yes	99	1.291	0.15	3.03	None	x^(1/3)	0.002505	Param Inter 1 of 2
Fluoride (mg/L)	GS-GSA-MW-3	0.63	n/a	1/26/2022	0.447	No	103	n/a	n/a	0.9709	n/a	n/a	0.0001849	NP Inter (normality) 1 of 2
Fluoride (mg/L)	GS-GSA-MW-4	0.63	n/a	1/27/2022	0.05ND	No	103	n/a	n/a	0.9709	n/a	n/a	0.0001849	NP Inter (normality) 1 of 2
Fluoride (mg/L)	GS-GSA-MW-8	0.63	n/a	1/27/2022	0.179	No	103	n/a	n/a	0.9709	n/a	n/a	0.0001849	NP Inter (normality) 1 of 2



Exceeds Limit: GS-GSA-MW-3, GS-GSA-MW-4, GS-GSA-MW-8

Prediction Limit  
Interwell Non-parametric

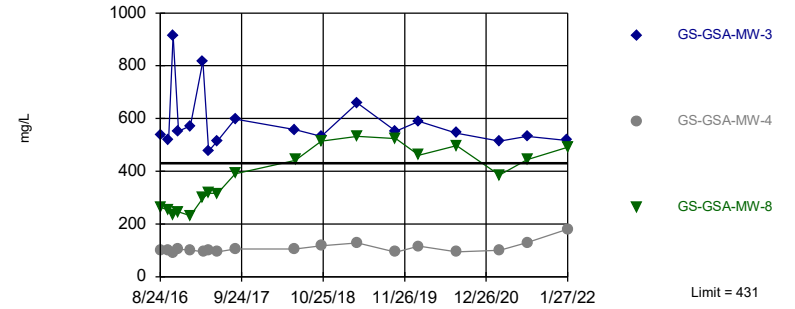


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 98 background values. 21.43% NDs. Annual per-constituent alpha = 0.001215. Individual comparison alpha = 0.0002025 (1 of 2). Comparing 3 points to limit.

Constituent: Boron Analysis Run 5/11/2022 6:10 PM View: Appendix III - Interwell PL  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Exceeds Limit: GS-GSA-MW-3, GS-GSA-MW-8

Prediction Limit  
Interwell Non-parametric

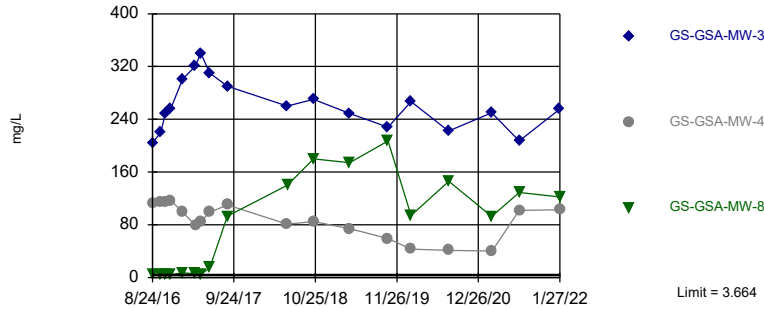


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 99 background values. Annual per-constituent alpha = 0.001188. Individual comparison alpha = 0.0001981 (1 of 2). Comparing 3 points to limit.

Constituent: Calcium Analysis Run 5/11/2022 6:10 PM View: Appendix III - Interwell PL  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Exceeds Limit: GS-GSA-MW-3, GS-GSA-MW-4, GS-GSA-MW-8

Prediction Limit  
Interwell Parametric

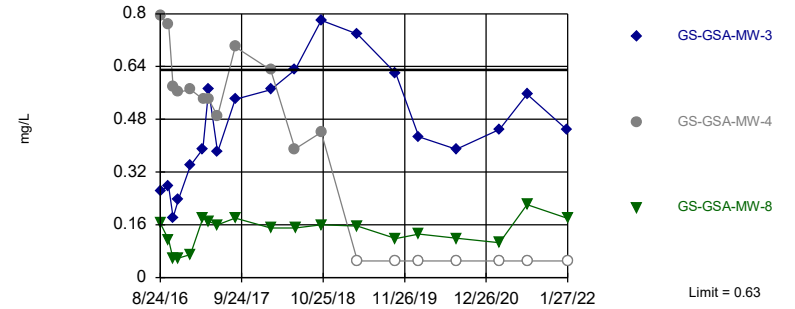


Background Data Summary (based on cube root transformation): Mean=1.291, Std. Dev.=0.15, n=99, 3.03% NDs. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9683, critical = 0.967. Kappa = 1.673 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.002505. Comparing 3 points to limit.

Constituent: Chloride Analysis Run 5/11/2022 6:10 PM View: Appendix III - Interwell PL  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Hollow symbols indicate censored values.  
Within Limit

Prediction Limit  
Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Chi Squared normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 103 background values. 0.9709% NDs. Annual per-constituent alpha = 0.001109. Individual comparison alpha = 0.0001849 (1 of 2). Comparing 3 points to limit.

Constituent: Fluoride Analysis Run 5/11/2022 6:10 PM View: Appendix III - Interwell PL  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

# Prediction Limit

Constituent: Boron (mg/L) Analysis Run 5/11/2022 6:12 PM View: Appendix III - Interwell PL

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	MW-2 (bg)	MW-4 (bg)	MW-3 (bg)	MW-1 (bg)	GS-GSA-MW-4	GS-GSA-MW-3	GS-GSA-MW-8
4/25/2016	0.0241 (J)	0.0414 (J)	0.028 (J)				
4/26/2016				0.0231 (J)			
6/20/2016	0.0284 (J)	0.0434 (J)		0.0227 (J)			
6/22/2016			0.0433 (J)				
8/8/2016	0.034 (J)			0.0278 (J)			
8/9/2016		0.0453 (J)	0.0429 (J)				
8/24/2016	0.0316 (J)	0.0451 (J)	0.0431 (J)	0.0247 (J)	4.88	0.799	0.0898 (J)
10/3/2016	0.0367 (J)	0.0511 (J)		0.0307 (J)	4.75	0.889	0.0821 (J)
10/4/2016			0.04 (J)				
10/26/2016	0.0331 (J)	0.0507 (J)	0.0375 (J)	0.0241 (J)	4.96	1.23	0.0889 (J)
11/21/2016	0.035 (J)	0.0458 (J)	0.0406 (J)	0.0202 (J)	4.82	1.72	0.0788 (J)
1/17/2017	0.0259 (J)			0.0201 (J)	3.97	2.63	0.0607 (J)
1/18/2017		0.0445 (J)	0.0548 (J)				
3/20/2017						3.11	0.114
3/21/2017					3.39		
3/22/2017	0.0243 (J)	0.0432 (J)	0.0344 (J)	0.0224 (J)			
4/17/2017					3.46	4.51	
4/18/2017	0.0206 (J)	0.0409 (J)	<0.1015	<0.1015			0.108
5/30/2017				<0.1015	3.79	2.9	0.105
5/31/2017	0.0234 (J)		0.0454 (J)				
8/23/2017	0.0267 (J)	0.042 (J)	0.0425 (J)	0.0253 (J)			
8/24/2017					4.19	2.83	0.12
5/22/2018	0.0251 (J)			0.0224 (J)			
5/23/2018		0.0433 (J)					
5/24/2018			0.0339 (J)				
6/11/2018					3.96	3.09	
6/12/2018	0.0275 (J)	0.0478 (J)	0.0371 (J)	0.0214 (J)			0.181
10/17/2018	0.0321 (J)	0.0468 (J)	0.0596 (J)	0.0216 (J)	3.98	2.59	0.616
11/19/2018	0.0324 (J)	0.0526 (J)	0.0514 (J)	0.0237 (J)			
4/10/2019	<0.1015	0.0438 (J)	<0.1015	0.0304 (J)	3.74	3.35	0.944
5/14/2019	<0.1015	<0.203 (o)	<0.1015	<0.1015			
10/8/2019	0.0371 (J)		0.0537 (J)	<0.1015			
10/10/2019		0.0487 (J)					
10/14/2019					3.37	2.48	2.11
10/16/2019	0.0419 (J)	0.0505 (J)	0.05 (J)	0.0385 (J)			
2/3/2020	<0.1015	0.0433 (J)	<0.1015	<0.1015		2.13	
2/4/2020					2.74		1.47
8/3/2020	0.0317 (J)		0.0424 (J)	<0.1015			
8/4/2020						1.82	
8/5/2020		0.0459 (J)			2.51		2.16
2/22/2021	<0.1015	0.0397 (J)	<0.1015	0.0307 (J)			
3/1/2021						2.55	1.85
3/3/2021					2.42		
7/12/2021	<0.1015	0.0411 (J)	<0.1015	<0.1015			
7/14/2021					4.78	1.47	2.07
1/25/2022	<0.1015	0.0408 (J)	<0.1015	<0.1015			
1/26/2022						2.5	
1/27/2022					6.1		2.76





# Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 5/11/2022 6:12 PM View: Appendix III - Interwell PL  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

	MW-4 (bg)	MW-3 (bg)	MW-2 (bg)	MW-1 (bg)	GS-GSA-MW-8	GS-GSA-MW-4	GS-GSA-MW-3
4/25/2016	0.372	0.243 (J)	0.149 (J)				
4/26/2016				0.146 (J)			
6/20/2016	0.361		0.148 (J)	0.148 (J)			
6/22/2016		0.269 (J)					
8/8/2016			0.134 (J)	0.137 (J)			
8/9/2016	0.326	0.363					
8/24/2016	0.329	0.346	0.129 (J)	0.133 (J)	0.165 (J)	0.793	0.264 (J)
10/3/2016	0.287 (J)		0.086 (J)	0.103 (J)	0.114 (J)	0.769	0.276 (J)
10/4/2016		0.266 (J)					
10/26/2016	0.194 (J)	0.266 (J)	0.027 (J)	0.05 (J)	0.056 (J)	0.578	0.182 (J)
11/21/2016	0.192 (J)	0.244 (J)	0.027 (J)	0.047 (J)	0.059 (J)	0.562	0.238 (J)
1/17/2017			0.066 (J)	0.09 (J)	0.07 (J)	0.571	0.34
1/18/2017	0.223 (J)	0.385					
3/20/2017					0.18		0.39
3/21/2017						0.54	
3/22/2017	0.32	0.41	0.13	0.12			
4/17/2017						0.54	0.57
4/18/2017	0.32	0.29	0.16	0.12	0.17		
5/30/2017				0.13	0.16	0.49	0.38
5/31/2017		0.37	0.13				
8/23/2017	0.38	0.55	0.16	0.16			
8/24/2017					0.18	0.7	0.54
2/13/2018	0.38	0.27	0.22	0.14	0.15	0.63	0.57
5/22/2018			0.17	0.16			
5/23/2018	0.38						
5/24/2018		0.6					
6/11/2018						0.39	0.63
6/12/2018	0.39	0.53	0.16	0.16	0.15		
10/17/2018	0.39	0.63	0.16	0.18	0.16	0.44	0.78
11/19/2018	0.36	0.31	0.18	0.15			
4/10/2019	0.384	0.273	0.262	0.102	0.156	<0.1	0.738
5/14/2019	0.335	0.281	0.17	0.119			
10/8/2019		0.225	0.164	0.0924 (J)			
10/10/2019	0.304						
10/14/2019					0.118	<0.1	0.619
10/16/2019	0.302	0.106	0.114	0.0756 (J)			
2/3/2020	0.37	0.256	0.182	0.0982 (J)			0.427
2/4/2020					0.132	<0.1	
8/3/2020		0.0766 (J)	0.122	<0.1			
8/4/2020							0.389
8/5/2020	0.359				0.119	<0.1	
2/22/2021	0.357	0.246	0.209	0.082 (J)			
3/1/2021					0.106		0.449
3/3/2021						<0.1	
7/12/2021	0.35	0.287	0.196	0.125			
7/14/2021					0.221	<0.1	0.556
1/25/2022	0.364	0.325	0.204	0.101			
1/26/2022							0.447
1/27/2022					0.179	<0.1	

FIGURE F.

# Appendix III Trend Test Summary - Significant Results

Plant Gorgas Client: Southern Company Data: Gorgas GSA Printed 5/11/2022, 6:32 PM

<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
Boron (mg/L)	GS-GSA-MW-8	0.4163	119	68	Yes	18	0	n/a	n/a	0.01	NP
Boron (mg/L)	MW-2 (bg)	0.003945	129	111	Yes	25	24	n/a	n/a	0.01	NP
Calcium (mg/L)	GS-GSA-MW-8	61.21	87	68	Yes	18	0	n/a	n/a	0.01	NP
Chloride (mg/L)	GS-GSA-MW-4	-14.3	-75	-68	Yes	18	0	n/a	n/a	0.01	NP
Chloride (mg/L)	GS-GSA-MW-8	26.11	93	68	Yes	18	0	n/a	n/a	0.01	NP
pH (pH)	MW-1 (bg)	-0.01883	-147	-111	Yes	25	0	n/a	n/a	0.01	NP
pH (pH)	MW-2 (bg)	0.039	127	111	Yes	25	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-4 (bg)	-137.6	-125	-105	Yes	24	0	n/a	n/a	0.01	NP
Total dissolved solids (mg/L)	MW-1 (bg)	56.43	113	105	Yes	24	0	n/a	n/a	0.01	NP
Total dissolved solids (mg/L)	MW-4 (bg)	-177.4	-123	-105	Yes	24	0	n/a	n/a	0.01	NP

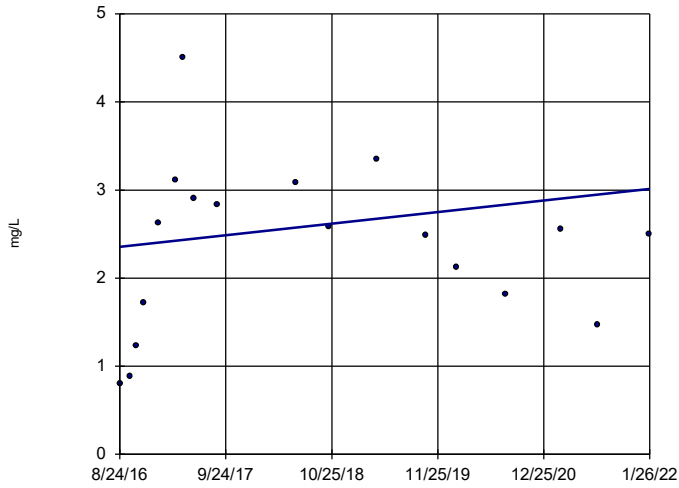
# Appendix III Trend Test Summary - All Results

Plant Gorgas    Client: Southern Company    Data: Gorgas GSA    Printed 5/11/2022, 6:32 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	GS-GSA-MW-3	0.1215	11	68	No	18	0	n/a	n/a	0.01	NP
Boron (mg/L)	GS-GSA-MW-4	-0.3832	-53	-68	No	18	0	n/a	n/a	0.01	NP
<b>Boron (mg/L)</b>	<b>GS-GSA-MW-8</b>	<b>0.4163</b>	<b>119</b>	<b>68</b>	<b>Yes</b>	<b>18</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Boron (mg/L)	MW-1 (bg)	0.003819	110	111	No	25	32	n/a	n/a	0.01	NP
<b>Boron (mg/L)</b>	<b>MW-2 (bg)</b>	<b>0.003945</b>	<b>129</b>	<b>111</b>	<b>Yes</b>	<b>25</b>	<b>24</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Boron (mg/L)	MW-3 (bg)	0.002231	87	111	No	25	28	n/a	n/a	0.01	NP
Boron (mg/L)	MW-4 (bg)	-0.0003942	-28	-98	No	23	0	n/a	n/a	0.01	NP
Calcium (mg/L)	GS-GSA-MW-3	-6.045	-27	-68	No	18	0	n/a	n/a	0.01	NP
<b>Calcium (mg/L)</b>	<b>GS-GSA-MW-8</b>	<b>61.21</b>	<b>87</b>	<b>68</b>	<b>Yes</b>	<b>18</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Calcium (mg/L)	MW-1 (bg)	2.531	86	111	No	25	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-2 (bg)	2.037	42	111	No	25	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-3 (bg)	10.56	65	111	No	25	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-4 (bg)	-6.803	-60	-105	No	24	0	n/a	n/a	0.01	NP
Chloride (mg/L)	GS-GSA-MW-3	-6.058	-18	-68	No	18	0	n/a	n/a	0.01	NP
<b>Chloride (mg/L)</b>	<b>GS-GSA-MW-4</b>	<b>-14.3</b>	<b>-75</b>	<b>-68</b>	<b>Yes</b>	<b>18</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
<b>Chloride (mg/L)</b>	<b>GS-GSA-MW-8</b>	<b>26.11</b>	<b>93</b>	<b>68</b>	<b>Yes</b>	<b>18</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Chloride (mg/L)	MW-1 (bg)	-0.02423	-34	-111	No	25	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-2 (bg)	-0.09448	-35	-111	No	25	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-3 (bg)	0.09968	71	111	No	25	8	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-4 (bg)	-0.06727	-80	-105	No	24	4.167	n/a	n/a	0.01	NP
pH (pH)	GS-GSA-MW-3	-0.06414	-61	-74	No	19	0	n/a	n/a	0.01	NP
<b>pH (pH)</b>	<b>MW-1 (bg)</b>	<b>-0.01883</b>	<b>-147</b>	<b>-111</b>	<b>Yes</b>	<b>25</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
<b>pH (pH)</b>	<b>MW-2 (bg)</b>	<b>0.039</b>	<b>127</b>	<b>111</b>	<b>Yes</b>	<b>25</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
pH (pH)	MW-3 (bg)	0	-1	-111	No	25	0	n/a	n/a	0.01	NP
pH (pH)	MW-4 (bg)	0.008156	45	111	No	25	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	GS-GSA-MW-4	9.649	25	68	No	18	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-1 (bg)	14.12	44	105	No	24	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-2 (bg)	-36.24	-65	-111	No	25	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-3 (bg)	110.7	99	111	No	25	0	n/a	n/a	0.01	NP
<b>Sulfate (mg/L)</b>	<b>MW-4 (bg)</b>	<b>-137.6</b>	<b>-125</b>	<b>-105</b>	<b>Yes</b>	<b>24</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Total dissolved solids (mg/L)	GS-GSA-MW-4	5.547	17	68	No	18	0	n/a	n/a	0.01	NP
<b>Total dissolved solids (mg/L)</b>	<b>MW-1 (bg)</b>	<b>56.43</b>	<b>113</b>	<b>105</b>	<b>Yes</b>	<b>24</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Total dissolved solids (mg/L)	MW-2 (bg)	-28.02	-47	-111	No	25	0	n/a	n/a	0.01	NP
Total dissolved solids (mg/L)	MW-3 (bg)	192.9	99	111	No	25	0	n/a	n/a	0.01	NP
<b>Total dissolved solids (mg/L)</b>	<b>MW-4 (bg)</b>	<b>-177.4</b>	<b>-123</b>	<b>-105</b>	<b>Yes</b>	<b>24</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>

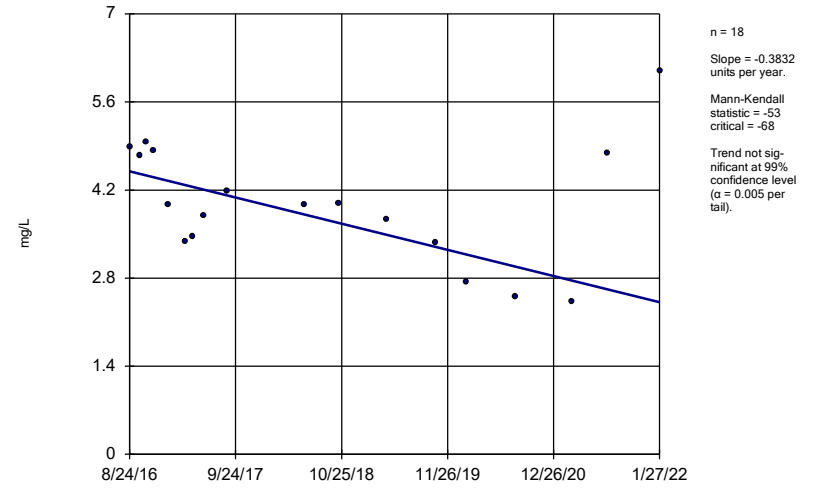


Sen's Slope Estimator  
GS-GSA-MW-3



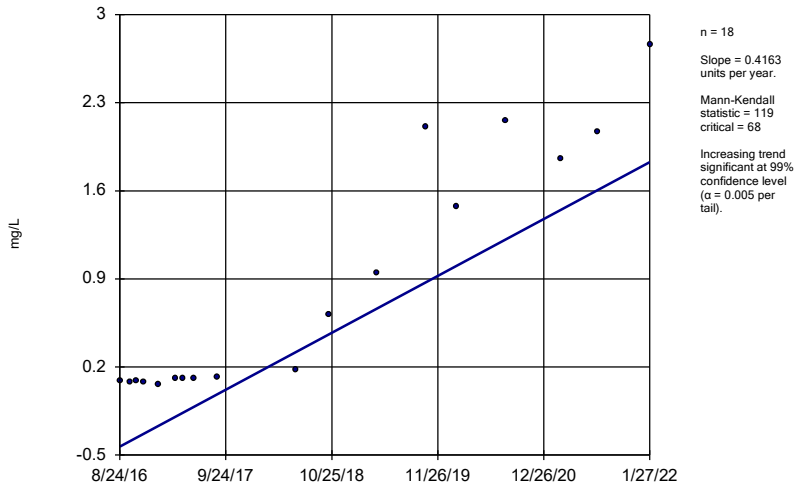
Constituent: Boron Analysis Run 5/11/2022 6:18 PM View: Appendix III - Trend Test  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Sen's Slope Estimator  
GS-GSA-MW-4



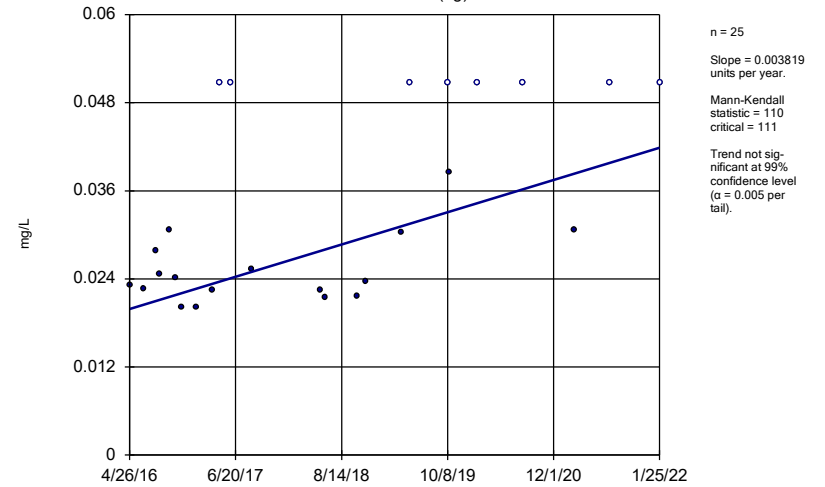
Constituent: Boron Analysis Run 5/11/2022 6:18 PM View: Appendix III - Trend Test  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Sen's Slope Estimator  
GS-GSA-MW-8



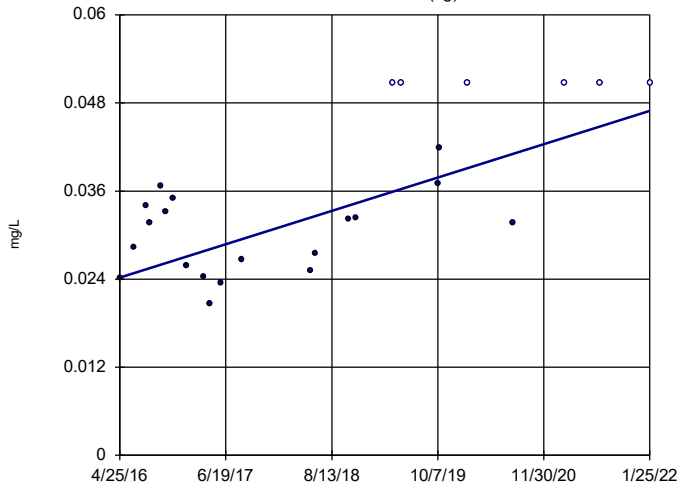
Constituent: Boron Analysis Run 5/11/2022 6:18 PM View: Appendix III - Trend Test  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Sen's Slope Estimator  
MW-1 (bg)



Constituent: Boron Analysis Run 5/11/2022 6:18 PM View: Appendix III - Trend Test  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

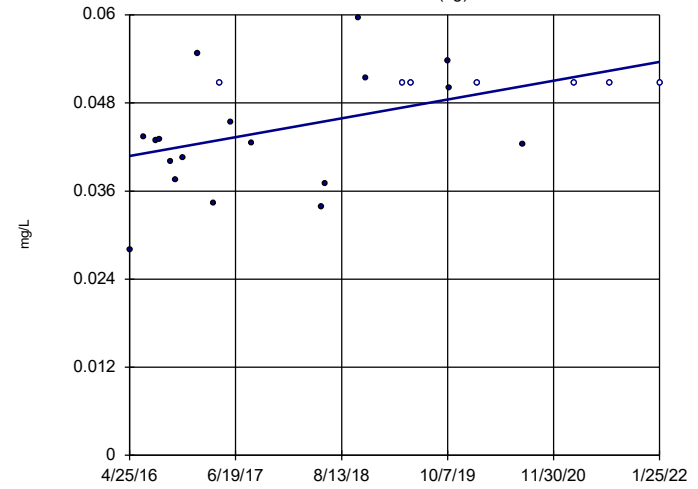
Sen's Slope Estimator  
MW-2 (bg)



n = 25  
Slope = 0.003945  
units per year.  
Mann-Kendall  
statistic = 129  
critical = 111  
Increasing trend  
significant at 99%  
confidence level  
( $\alpha = 0.005$  per  
tail).

Constituent: Boron Analysis Run 5/11/2022 6:18 PM View: Appendix III - Trend Test  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

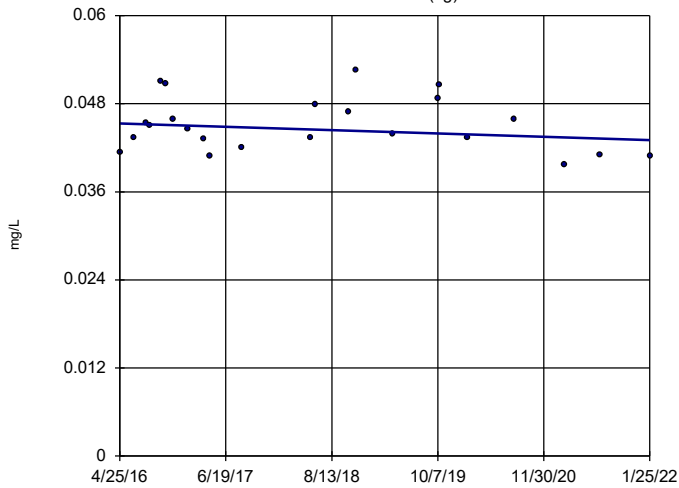
Sen's Slope Estimator  
MW-3 (bg)



n = 25  
Slope = 0.002231  
units per year.  
Mann-Kendall  
statistic = 87  
critical = 111  
Trend not sig-  
nificant at 99%  
confidence level  
( $\alpha = 0.005$  per  
tail).

Constituent: Boron Analysis Run 5/11/2022 6:18 PM View: Appendix III - Trend Test  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

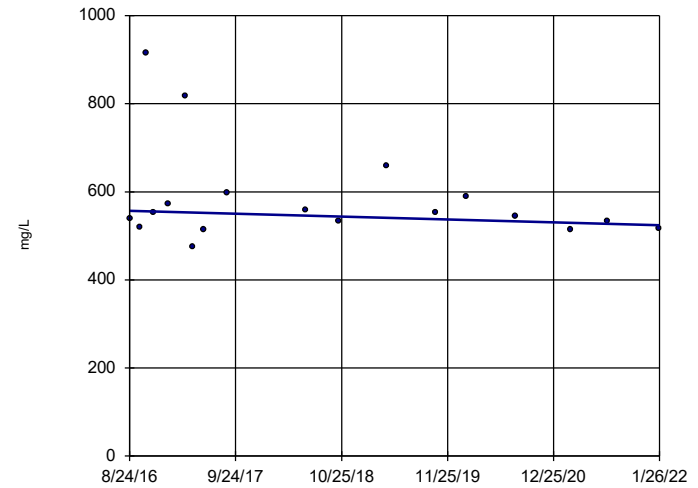
Sen's Slope Estimator  
MW-4 (bg)



n = 23  
Slope = -0.0003942  
units per year.  
Mann-Kendall  
statistic = -28  
critical = -98  
Trend not sig-  
nificant at 99%  
confidence level  
( $\alpha = 0.005$  per  
tail).

Constituent: Boron Analysis Run 5/11/2022 6:18 PM View: Appendix III - Trend Test  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Sen's Slope Estimator  
GS-GSA-MW-3

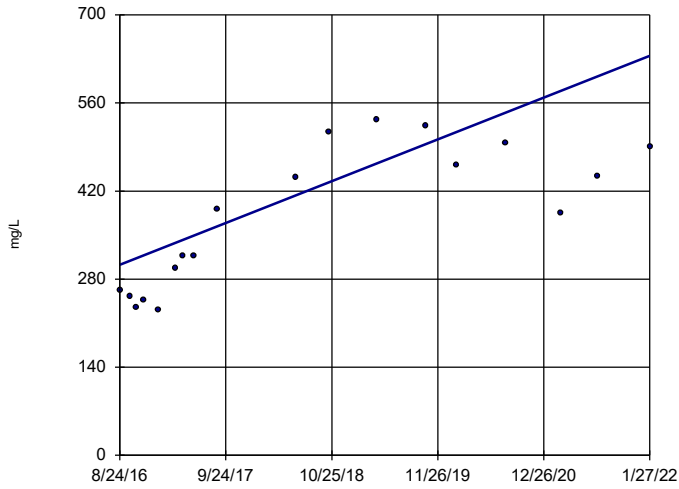


n = 18  
Slope = -6.045  
units per year.  
Mann-Kendall  
statistic = -27  
critical = -68  
Trend not sig-  
nificant at 99%  
confidence level  
( $\alpha = 0.005$  per  
tail).

Constituent: Calcium Analysis Run 5/11/2022 6:18 PM View: Appendix III - Trend Test  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

GS-GSA-MW-8

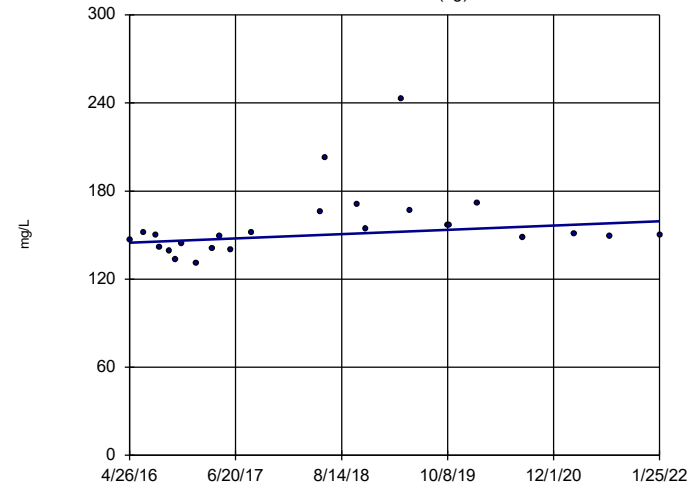


n = 18  
 Slope = 61.21  
 units per year.  
 Mann-Kendall  
 statistic = 87  
 critical = 68  
 Increasing trend  
 significant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Calcium Analysis Run 5/11/2022 6:18 PM View: Appendix III - Trend Test  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

MW-1 (bg)

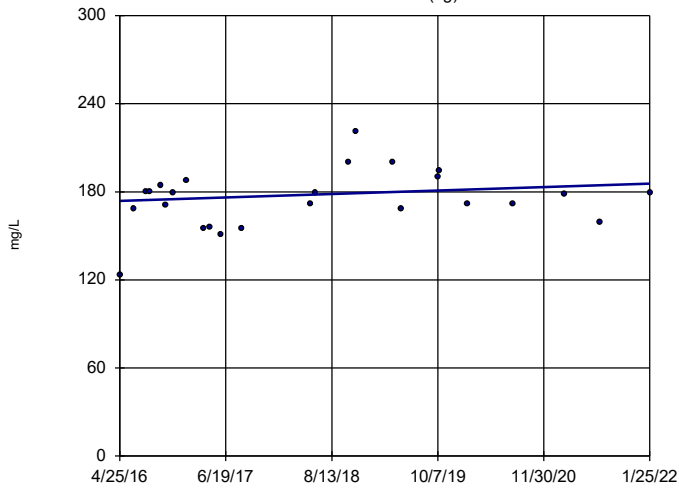


n = 25  
 Slope = 2.531  
 units per year.  
 Mann-Kendall  
 statistic = 86  
 critical = 111  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Calcium Analysis Run 5/11/2022 6:18 PM View: Appendix III - Trend Test  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

MW-2 (bg)

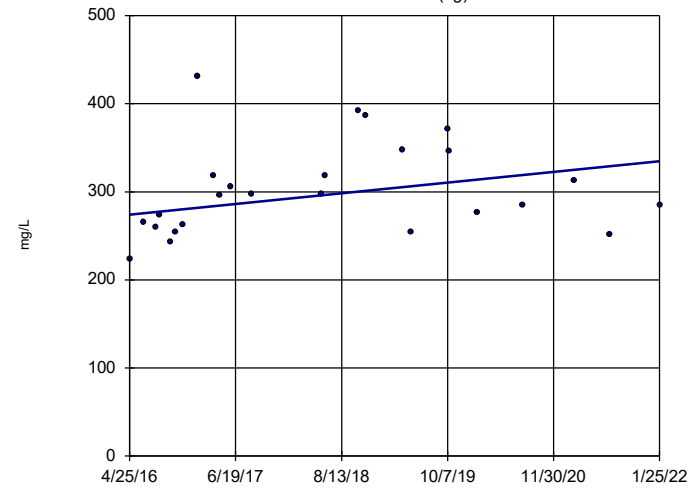


n = 25  
 Slope = 2.037  
 units per year.  
 Mann-Kendall  
 statistic = 42  
 critical = 111  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Calcium Analysis Run 5/11/2022 6:18 PM View: Appendix III - Trend Test  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

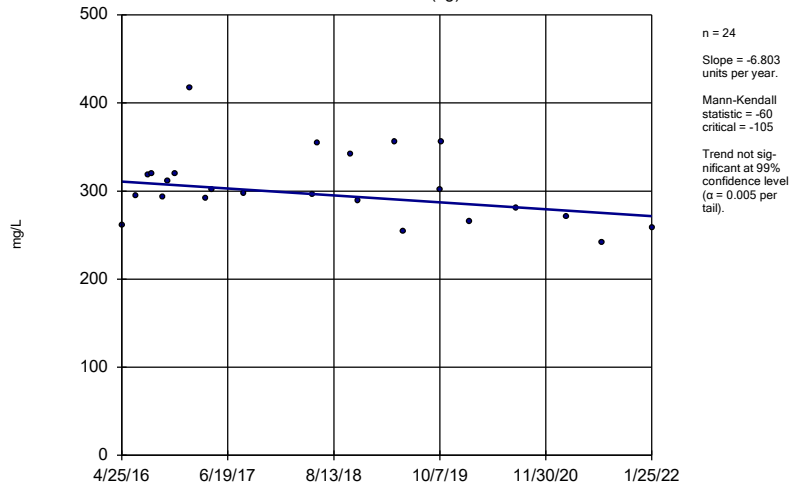
MW-3 (bg)



n = 25  
 Slope = 10.56  
 units per year.  
 Mann-Kendall  
 statistic = 65  
 critical = 111  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

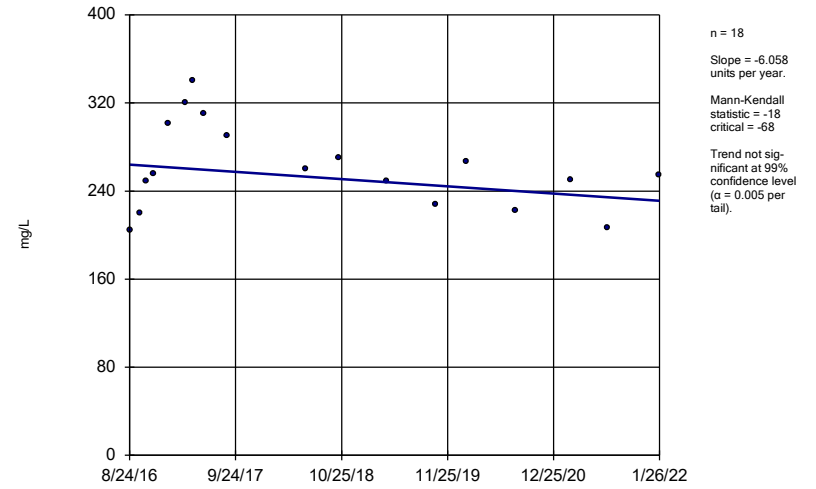
Constituent: Calcium Analysis Run 5/11/2022 6:18 PM View: Appendix III - Trend Test  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Sen's Slope Estimator  
MW-4 (bg)



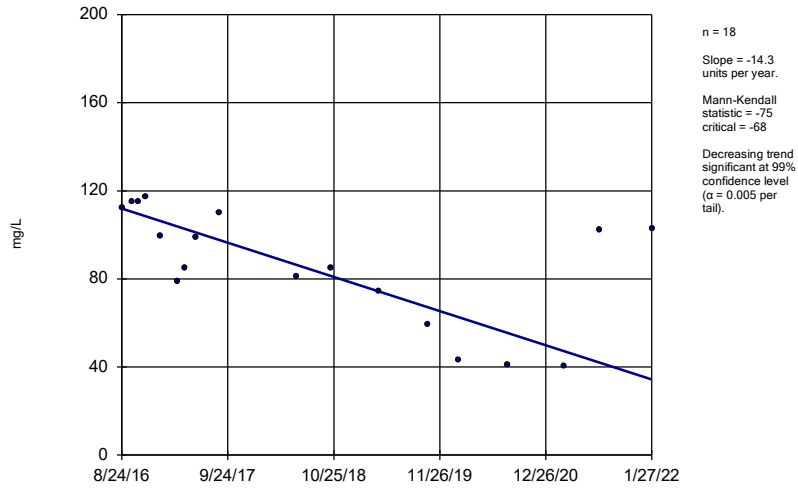
Constituent: Calcium Analysis Run 5/11/2022 6:18 PM View: Appendix III - Trend Test  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Sen's Slope Estimator  
GS-GSA-MW-3



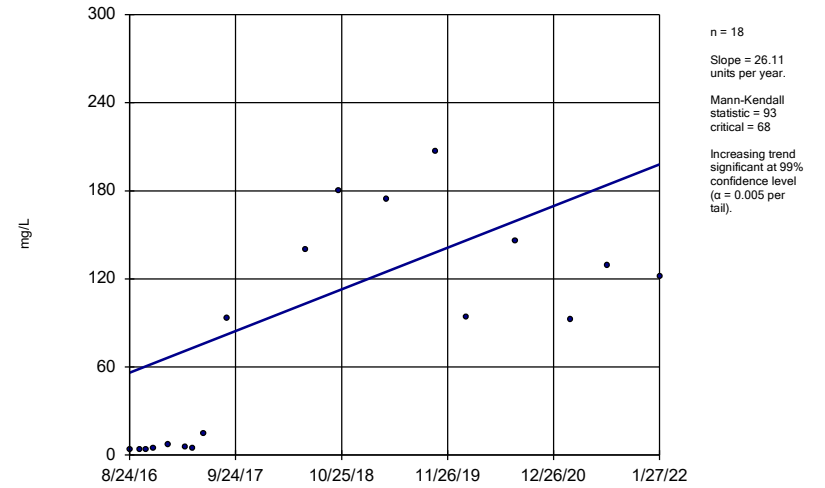
Constituent: Chloride Analysis Run 5/11/2022 6:18 PM View: Appendix III - Trend Test  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Sen's Slope Estimator  
GS-GSA-MW-4



Constituent: Chloride Analysis Run 5/11/2022 6:18 PM View: Appendix III - Trend Test  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

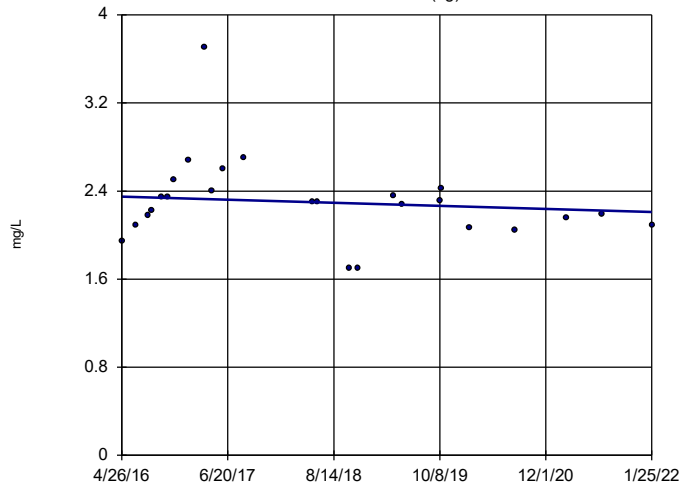
Sen's Slope Estimator  
GS-GSA-MW-8



Constituent: Chloride Analysis Run 5/11/2022 6:18 PM View: Appendix III - Trend Test  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

MW-1 (bg)

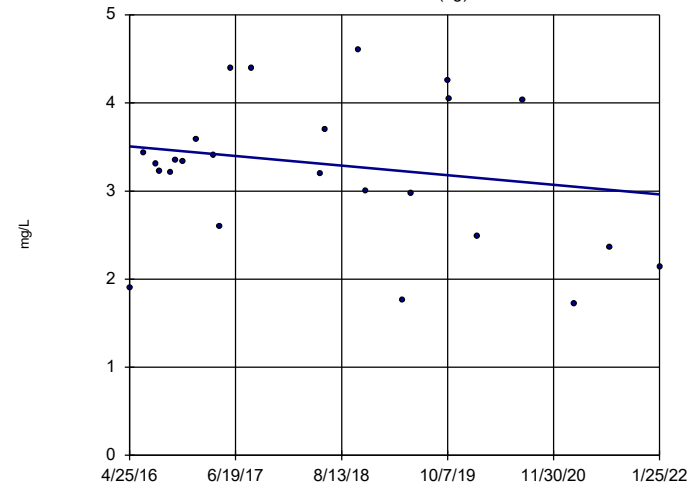


n = 25  
 Slope = -0.02423  
 units per year.  
 Mann-Kendall  
 statistic = -34  
 critical = -111  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 (α = 0.005 per  
 tail).

Constituent: Chloride Analysis Run 5/11/2022 6:18 PM View: Appendix III - Trend Test  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

MW-2 (bg)



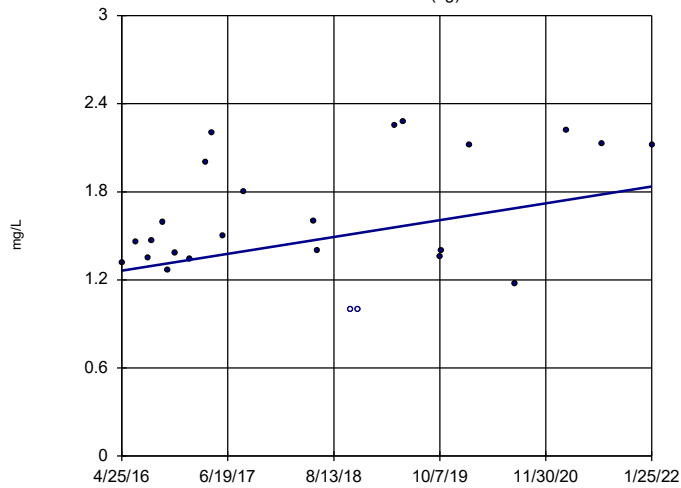
n = 25  
 Slope = -0.09448  
 units per year.  
 Mann-Kendall  
 statistic = -35  
 critical = -111  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 (α = 0.005 per  
 tail).

Constituent: Chloride Analysis Run 5/11/2022 6:19 PM View: Appendix III - Trend Test  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Hollow symbols indicate censored values.

### Sen's Slope Estimator

MW-3 (bg)



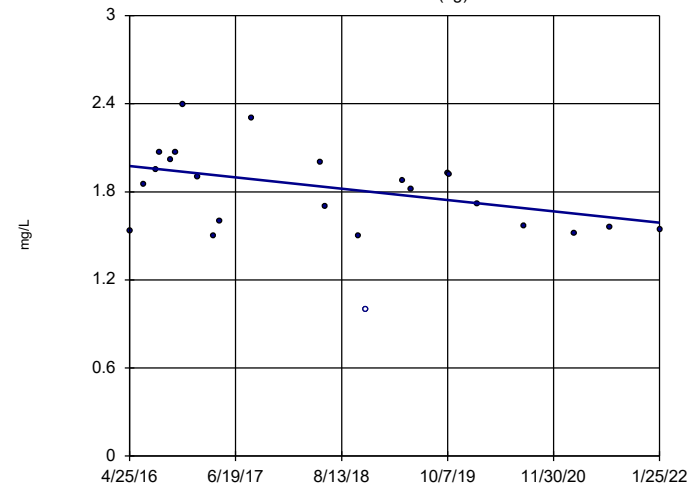
n = 25  
 Slope = 0.09968  
 units per year.  
 Mann-Kendall  
 statistic = 71  
 critical = 111  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 (α = 0.005 per  
 tail).

Constituent: Chloride Analysis Run 5/11/2022 6:19 PM View: Appendix III - Trend Test  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Hollow symbols indicate censored values.

### Sen's Slope Estimator

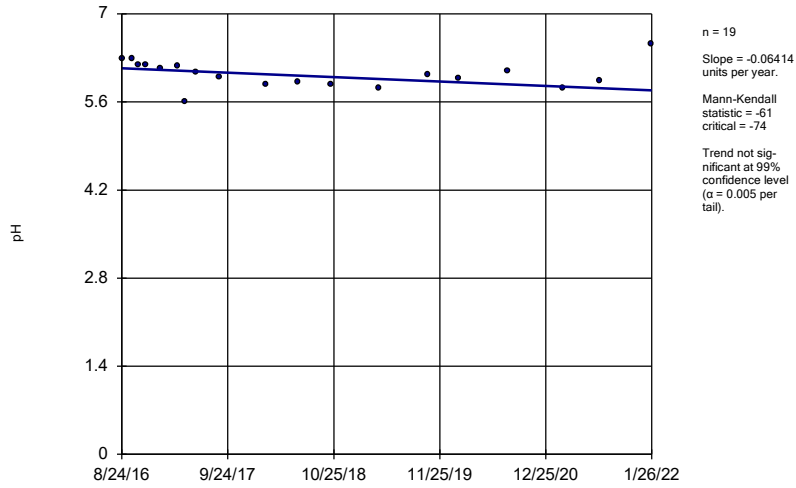
MW-4 (bg)



n = 24  
 Slope = -0.06727  
 units per year.  
 Mann-Kendall  
 statistic = -80  
 critical = -105  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 (α = 0.005 per  
 tail).

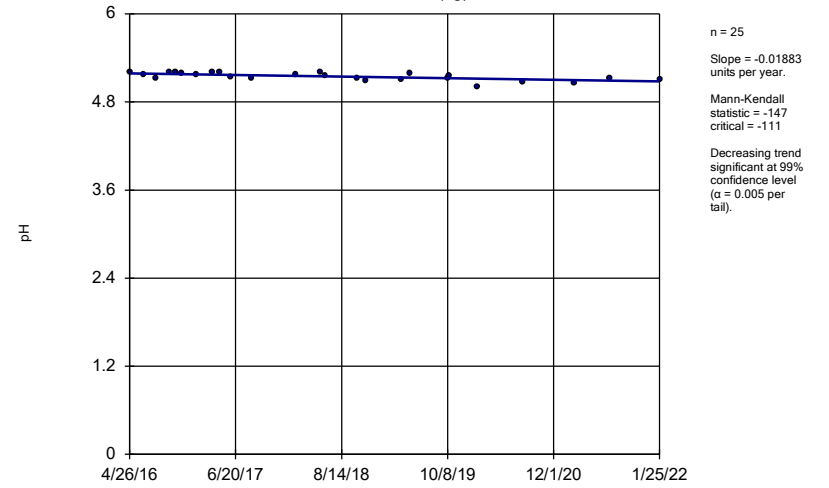
Constituent: Chloride Analysis Run 5/11/2022 6:19 PM View: Appendix III - Trend Test  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator GS-GSA-MW-3



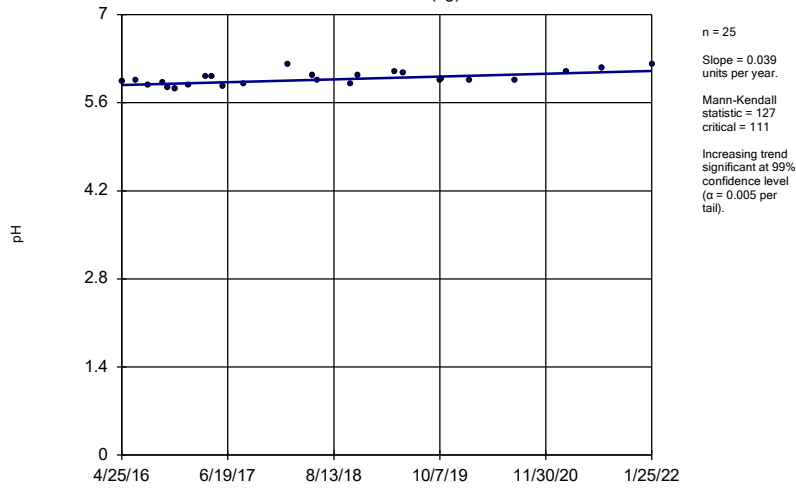
Constituent: pH Analysis Run 5/11/2022 6:19 PM View: Appendix III - Trend Test  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator MW-1 (bg)



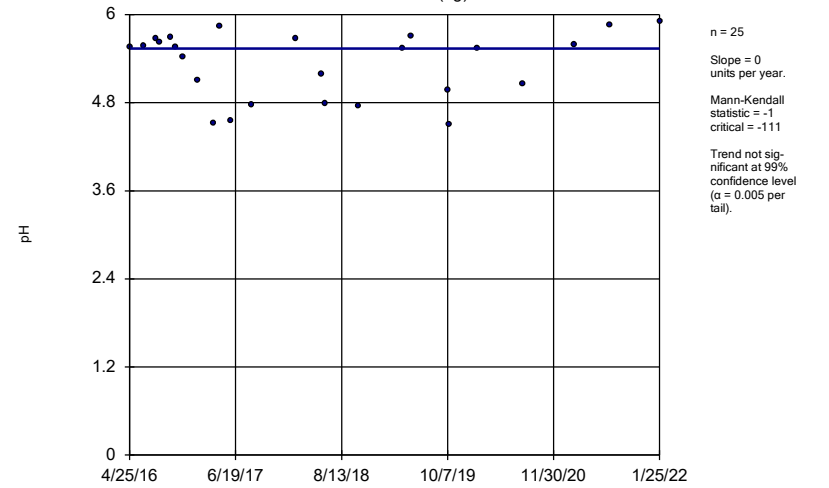
Constituent: pH Analysis Run 5/11/2022 6:19 PM View: Appendix III - Trend Test  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator MW-2 (bg)



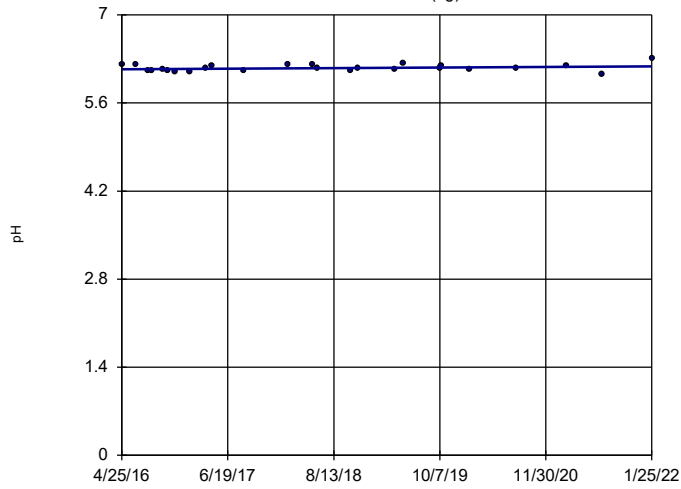
Constituent: pH Analysis Run 5/11/2022 6:19 PM View: Appendix III - Trend Test  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator MW-3 (bg)



Constituent: pH Analysis Run 5/11/2022 6:19 PM View: Appendix III - Trend Test  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

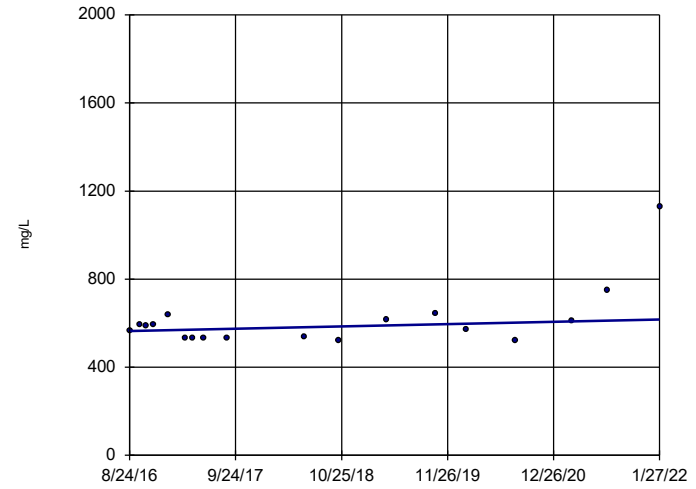
### Sen's Slope Estimator MW-4 (bg)



n = 25  
 Slope = 0.008156  
 units per year.  
 Mann-Kendall  
 statistic = 45  
 critical = 111  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 (α = 0.005 per  
 tail).

Constituent: pH Analysis Run 5/11/2022 6:19 PM View: Appendix III - Trend Test  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

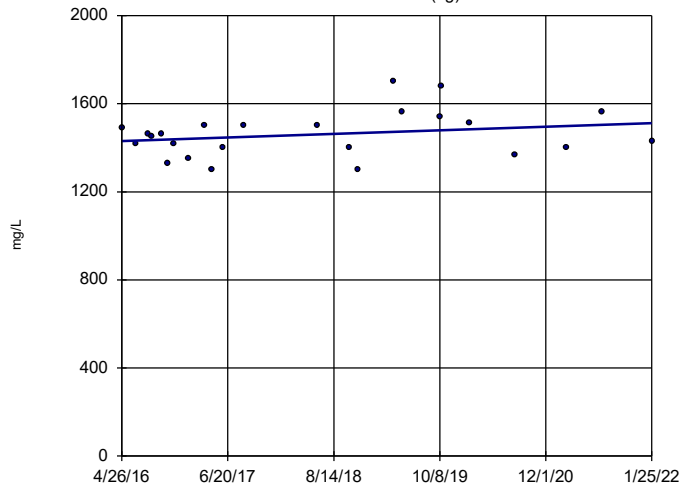
### Sen's Slope Estimator GS-GSA-MW-4



n = 18  
 Slope = 9.649  
 units per year.  
 Mann-Kendall  
 statistic = 25  
 critical = 68  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 (α = 0.005 per  
 tail).

Constituent: Sulfate Analysis Run 5/11/2022 6:19 PM View: Appendix III - Trend Test  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

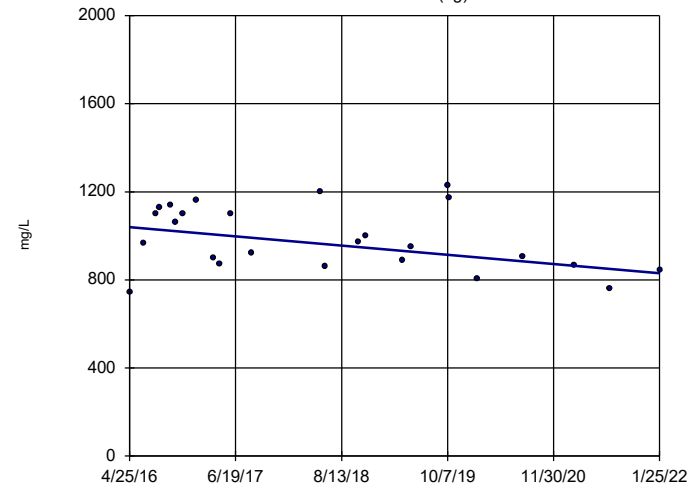
### Sen's Slope Estimator MW-1 (bg)



n = 24  
 Slope = 14.12  
 units per year.  
 Mann-Kendall  
 statistic = 44  
 critical = 105  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 (α = 0.005 per  
 tail).

Constituent: Sulfate Analysis Run 5/11/2022 6:19 PM View: Appendix III - Trend Test  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator MW-2 (bg)

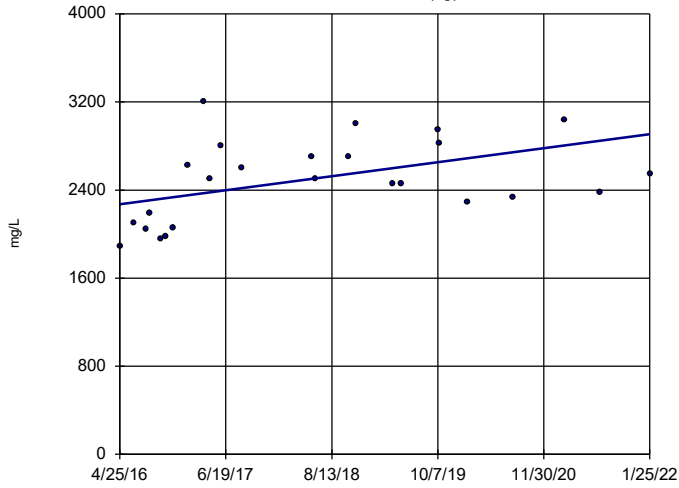


n = 25  
 Slope = -36.24  
 units per year.  
 Mann-Kendall  
 statistic = -65  
 critical = -111  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 (α = 0.005 per  
 tail).

Constituent: Sulfate Analysis Run 5/11/2022 6:19 PM View: Appendix III - Trend Test  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

MW-3 (bg)

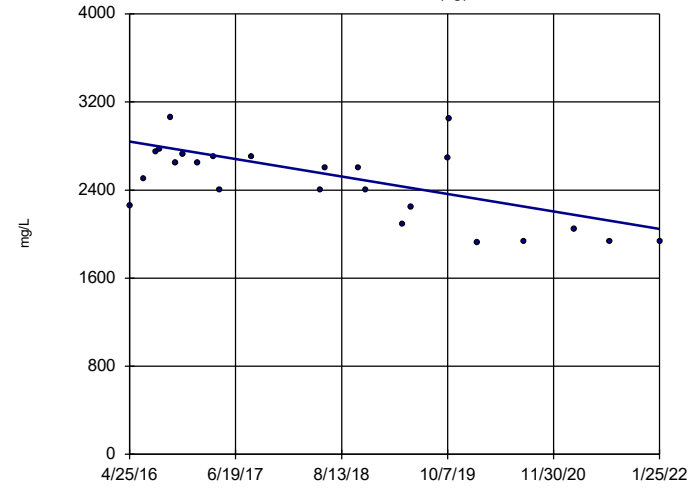


n = 25  
 Slope = 110.7  
 units per year.  
 Mann-Kendall  
 statistic = 99  
 critical = 111  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Sulfate Analysis Run 5/11/2022 6:19 PM View: Appendix III - Trend Test  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

MW-4 (bg)

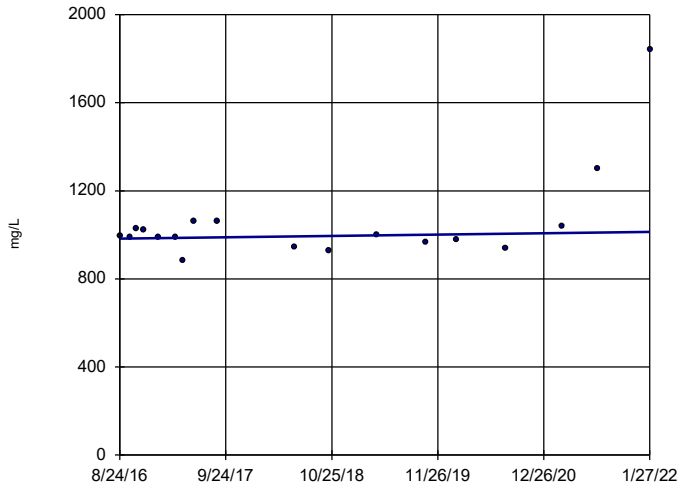


n = 24  
 Slope = -137.6  
 units per year.  
 Mann-Kendall  
 statistic = -125  
 critical = -105  
 Decreasing trend  
 significant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Sulfate Analysis Run 5/11/2022 6:19 PM View: Appendix III - Trend Test  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

GS-GSA-MW-4

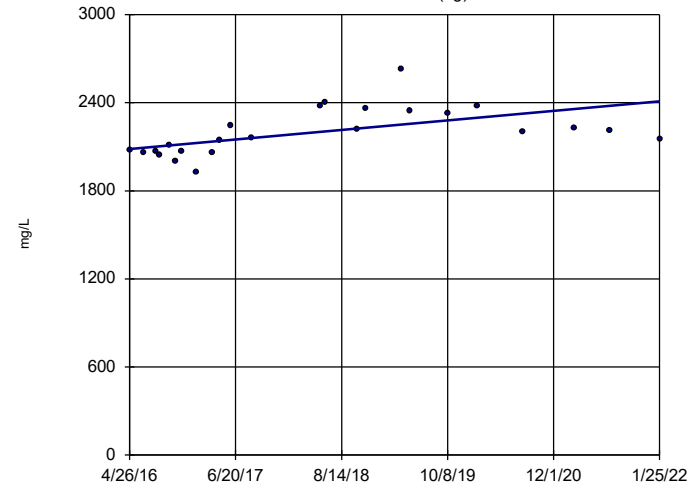


n = 18  
 Slope = 5.547  
 units per year.  
 Mann-Kendall  
 statistic = 17  
 critical = 68  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Total dissolved solids Analysis Run 5/11/2022 6:19 PM View: Appendix III - Trend Test  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

MW-1 (bg)



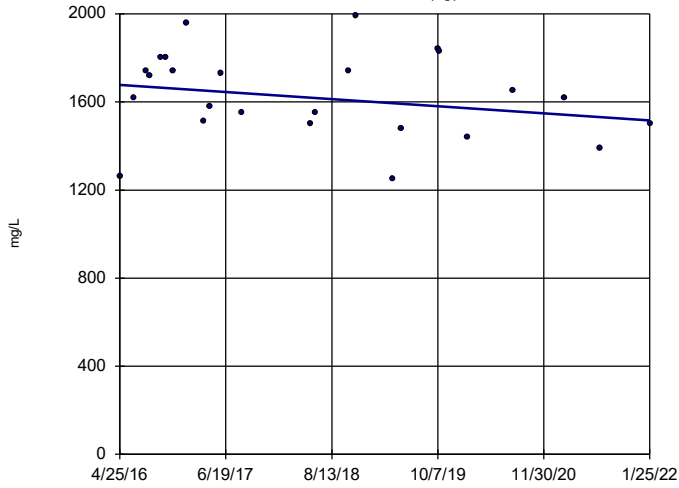
n = 24  
 Slope = 56.43  
 units per year.  
 Mann-Kendall  
 statistic = 113  
 critical = 105  
 Increasing trend  
 significant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Total dissolved solids Analysis Run 5/11/2022 6:19 PM View: Appendix III - Trend Test  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA



### Sen's Slope Estimator

MW-2 (bg)

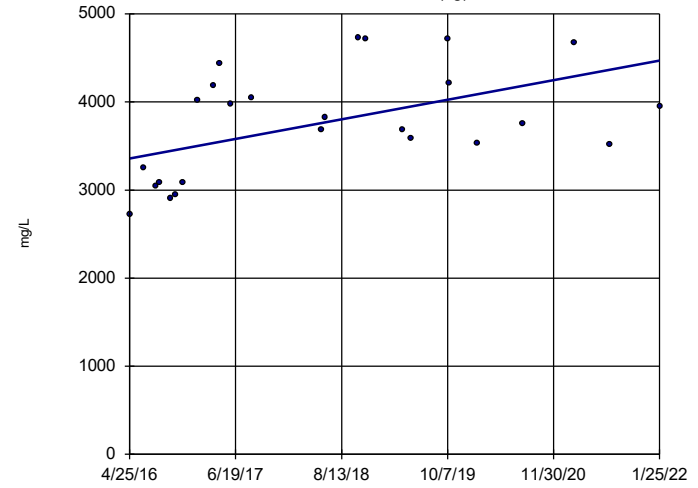


n = 25  
 Slope = -28.02 units per year.  
 Mann-Kendall statistic = -47  
 critical = -111  
 Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Total dissolved solids Analysis Run 5/11/2022 6:19 PM View: Appendix III - Trend Test  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

MW-3 (bg)

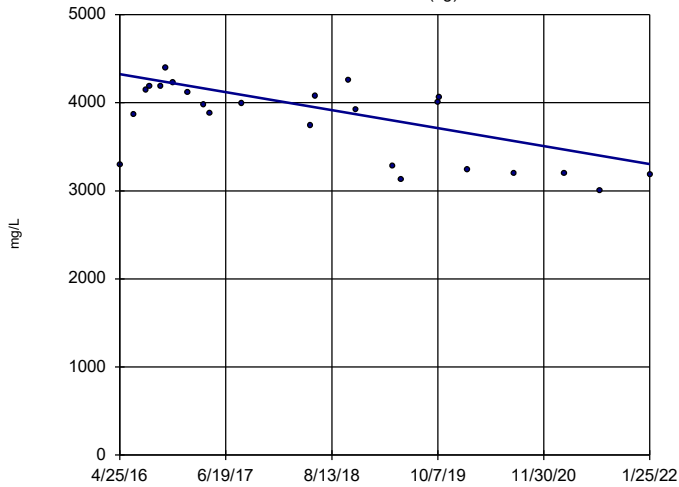


n = 25  
 Slope = 192.9 units per year.  
 Mann-Kendall statistic = 99  
 critical = 111  
 Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Total dissolved solids Analysis Run 5/11/2022 6:19 PM View: Appendix III - Trend Test  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

MW-4 (bg)



n = 24  
 Slope = -177.4 units per year.  
 Mann-Kendall statistic = -123  
 critical = -105  
 Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Total dissolved solids Analysis Run 5/11/2022 6:19 PM View: Appendix III - Trend Test  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

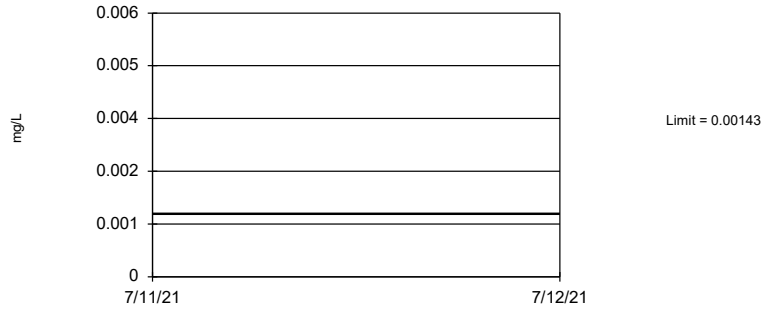
FIGURE G.

# Upper Tolerance Limits Summary Table

Plant Gorgas Client: Southern Company Data: Gorgas GSA Printed 11/16/2021, 4:56 PM

<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	95	n/a	n/a	93.68	n/a	n/a	0.007651	NP Inter
Arsenic (mg/L)	n/a	0.005	n/a	n/a	n/a	95	n/a	n/a	83.16	n/a	n/a	0.007651	NP Inter
Barium (mg/L)	n/a	0.0166	n/a	n/a	n/a	95	n/a	n/a	0	n/a	n/a	0.007651	NP Inter
Beryllium (mg/L)	n/a	0.0121	n/a	n/a	n/a	93	n/a	n/a	83.87	n/a	n/a	0.008478	NP Inter
Cadmium (mg/L)	n/a	0.00652	n/a	n/a	n/a	94	n/a	n/a	44.68	n/a	n/a	0.008054	NP Inter
Chromium (mg/L)	n/a	0.0105	n/a	n/a	n/a	95	n/a	n/a	89.47	n/a	n/a	0.007651	NP Inter
Cobalt (mg/L)	n/a	0.64	n/a	n/a	n/a	93	n/a	n/a	24.73	n/a	n/a	0.008478	NP Inter
Combined Radium 226 + 228 (pCi/L)	n/a	1.47	n/a	n/a	n/a	81	n/a	n/a	0	n/a	n/a	0.01569	NP Inter
Fluoride (mg/L)	n/a	0.63	n/a	n/a	n/a	99	n/a	n/a	1.01	n/a	n/a	0.006232	NP Inter
Lead (mg/L)	n/a	0.002	n/a	n/a	n/a	94	n/a	n/a	94.68	n/a	n/a	0.008054	NP Inter
Lithium (mg/L)	n/a	0.419	n/a	n/a	n/a	95	n/a	n/a	0	n/a	n/a	0.007651	NP Inter
Mercury (mg/L)	n/a	0.0005	n/a	n/a	n/a	95	n/a	n/a	100	n/a	n/a	0.007651	NP Inter
Molybdenum (mg/L)	n/a	0.0002	n/a	n/a	n/a	95	n/a	n/a	97.89	n/a	n/a	0.007651	NP Inter
Selenium (mg/L)	n/a	0.0209	n/a	n/a	n/a	95	n/a	n/a	58.95	n/a	n/a	0.007651	NP Inter
Thallium (mg/L)	n/a	0.000226	n/a	n/a	n/a	95	n/a	n/a	96.84	n/a	n/a	0.007651	NP Inter

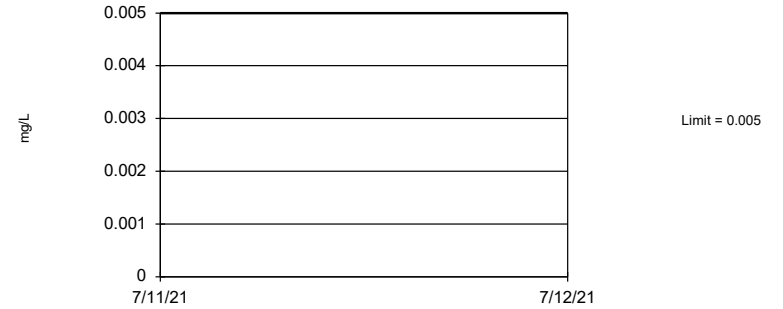
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 95 background values. 93.68% NDs. 95.12% coverage at alpha=0.01; 97.07% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.007651.

Constituent: Antimony Analysis Run 11/16/2021 4:55 PM View: UTLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

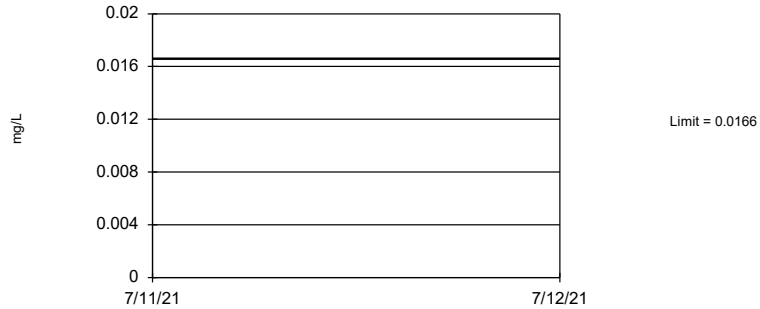
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 95 background values. 83.16% NDs. 95.12% coverage at alpha=0.01; 97.07% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.007651.

Constituent: Arsenic Analysis Run 11/16/2021 4:55 PM View: UTLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

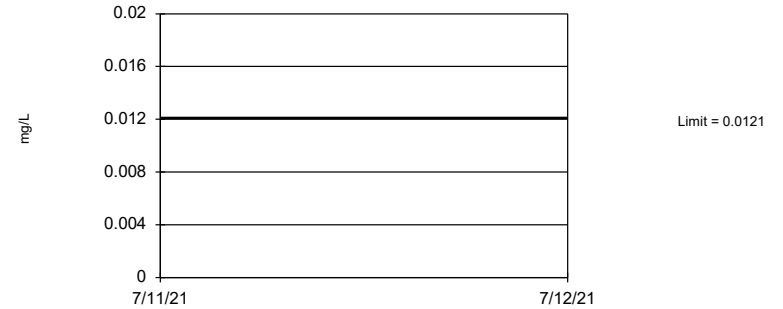
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 95 background values. 95.12% coverage at alpha=0.01; 97.07% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.007651.

Constituent: Barium Analysis Run 11/16/2021 4:55 PM View: UTLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

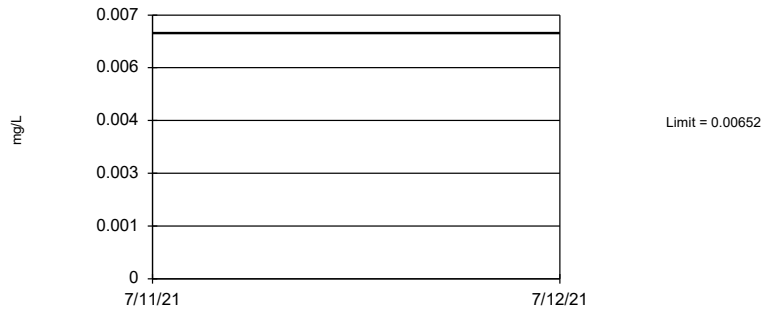
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 93 background values. 83.87% NDs. 95.12% coverage at alpha=0.01; 96.68% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.008478.

Constituent: Beryllium Analysis Run 11/16/2021 4:55 PM View: UTLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

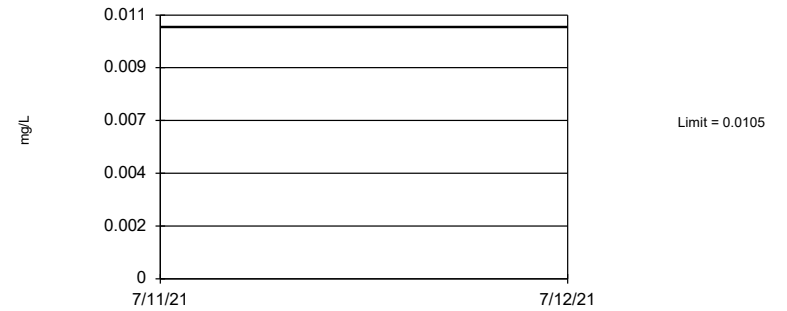
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 94 background values. 44.68% NDs. 95.12% coverage at alpha=0.01; 96.68% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.008054.

Constituent: Cadmium Analysis Run 11/16/2021 4:55 PM View: UTLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

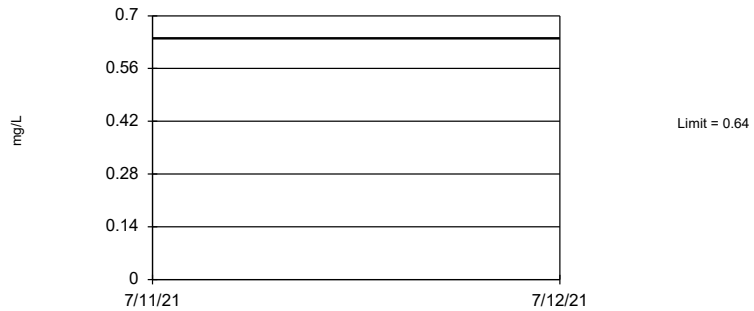
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 95 background values. 89.47% NDs. 95.12% coverage at alpha=0.01; 97.07% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.007651.

Constituent: Chromium Analysis Run 11/16/2021 4:55 PM View: UTLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

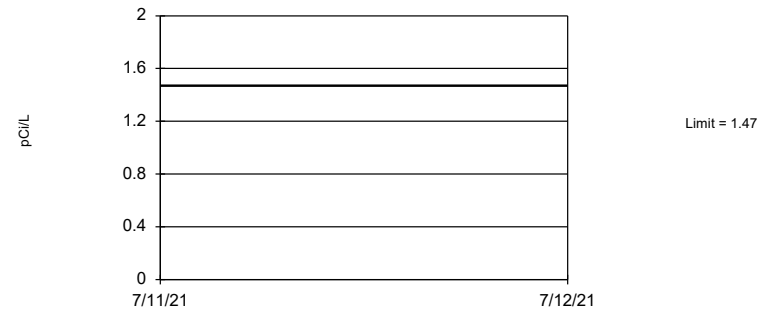
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 93 background values. 24.73% NDs. 95.12% coverage at alpha=0.01; 96.68% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.008478.

Constituent: Cobalt Analysis Run 11/16/2021 4:55 PM View: UTLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

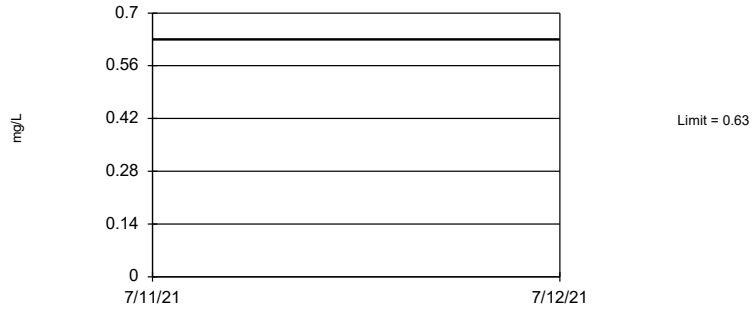
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 81 background values. 94.34% coverage at alpha=0.01; 96.29% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.01569.

Constituent: Combined Radium 226 + 228 Analysis Run 11/16/2021 4:55 PM View: UTLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

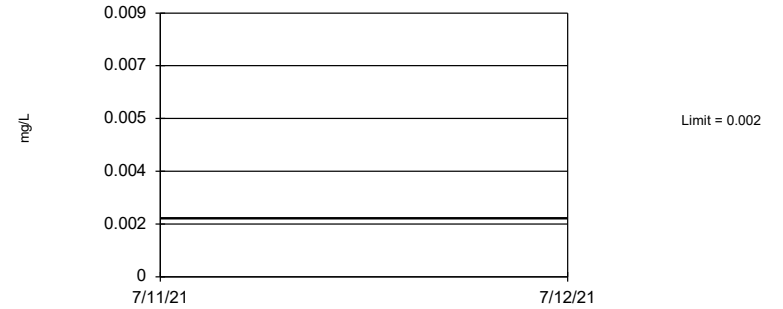
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 99 background values. 1.01% NDs. 95.51% coverage at alpha=0.01; 97.07% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.006232.

Constituent: Fluoride Analysis Run 11/16/2021 4:55 PM View: UTLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

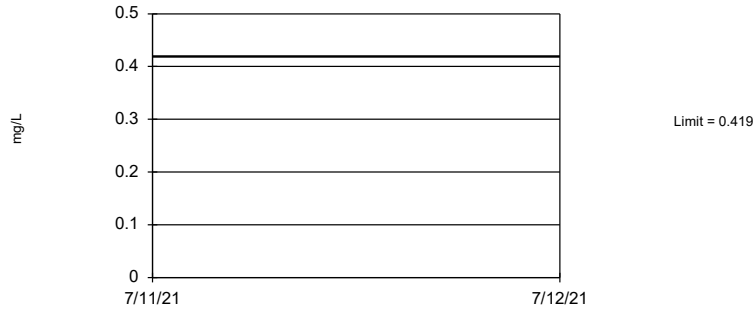
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 94 background values. 94.68% NDs. 95.12% coverage at alpha=0.01; 96.68% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.008054.

Constituent: Lead Analysis Run 11/16/2021 4:55 PM View: UTLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

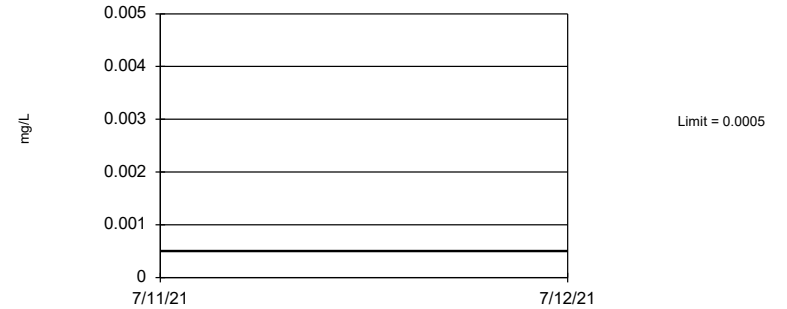
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 95 background values. 95.12% coverage at alpha=0.01; 97.07% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.007651.

Constituent: Lithium Analysis Run 11/16/2021 4:55 PM View: UTLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

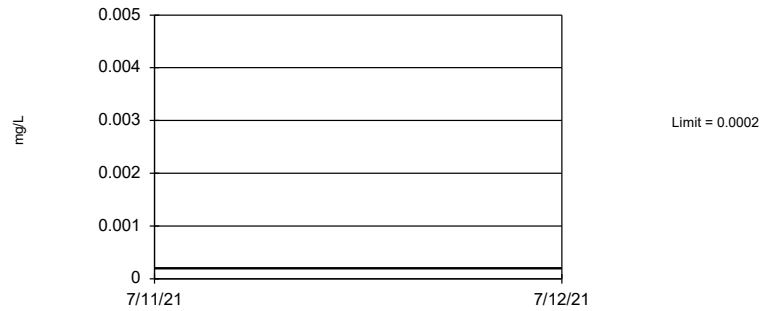
### Tolerance Limit Interwell Non-parametric



NP test selected by user. All background values were censored; limit is most recent reporting limit. 95.12% coverage at alpha=0.01; 97.07% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.007651.

Constituent: Mercury Analysis Run 11/16/2021 4:55 PM View: UTLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

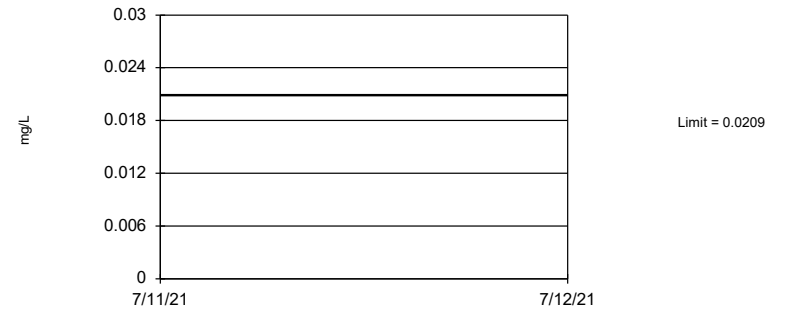
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 95 background values. 97.89% NDs. 95.12% coverage at alpha=0.01; 97.07% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.007651.

Constituent: Molybdenum Analysis Run 11/16/2021 4:55 PM View: UTLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

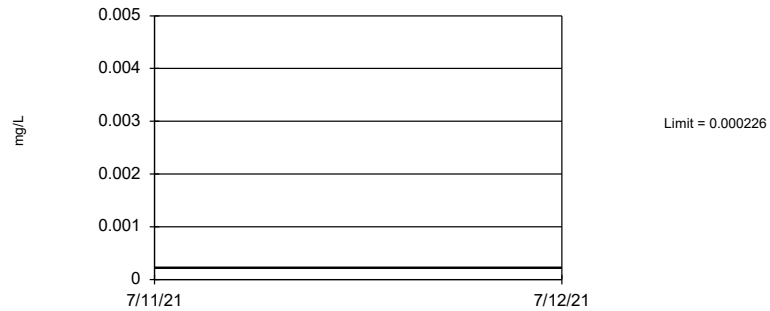
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 95 background values. 58.95% NDs. 95.12% coverage at alpha=0.01; 97.07% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.007651.

Constituent: Selenium Analysis Run 11/16/2021 4:55 PM View: UTLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 95 background values. 96.84% NDs. 95.12% coverage at alpha=0.01; 97.07% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.007651.

Constituent: Thallium Analysis Run 11/16/2021 4:55 PM View: UTLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

FIGURE H.



<b>GORGAS GYPSUM POND GWPS</b>			
<b>Analyte</b>	<b>Units</b>	<b>Background</b>	<b>GWPS</b>
Antimony	mg/L	0.00143	0.006
Arsenic	mg/L	0.005	0.01
Barium	mg/L	0.0166	2
Beryllium	mg/L	0.0121	0.004
Cadmium	mg/L	0.00652	0.005
Chromium	mg/L	0.0105	0.1
Cobalt	mg/L	0.64	0.64
Combined Radium-226/228	pCi/L	1.47	5
Fluoride	mg/L	0.63	4
Lead	mg/L	0.00692	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	0.0181	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.

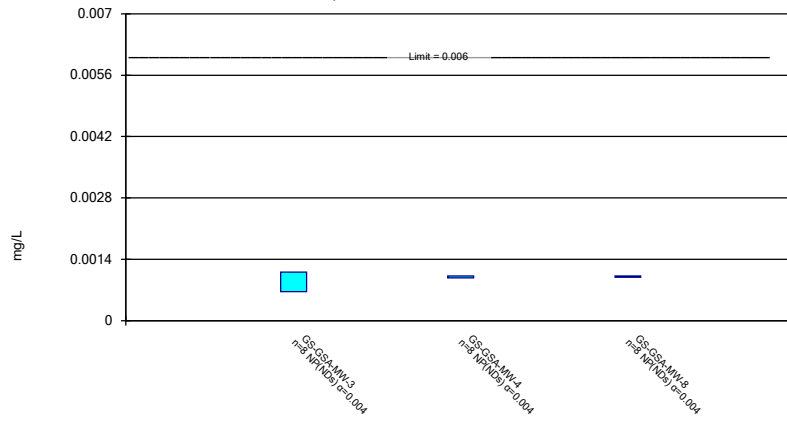
FIGURE I.

# Confidence Interval Summary Table - All Results (No Significant)

Plant Gorgas Client: Southern Company Data: Gorgas GSA Printed 5/11/2022, 6:38 PM

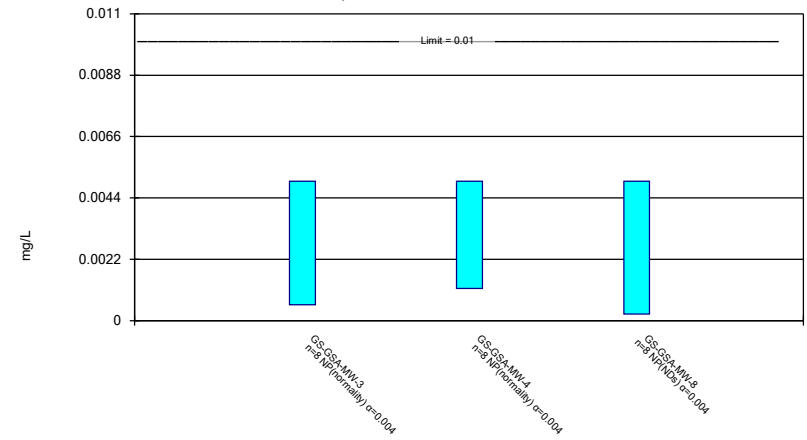
Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Std. Dev.	%NDs	Transform	Alpha	Method
Antimony (mg/L)	GS-GSA-MW-3	0.00111	0.00066	0.006	No	8	0.0001355	75	No	0.004	NP (NDs)
Antimony (mg/L)	GS-GSA-MW-4	0.00102	0.000976	0.006	No	8	0.00001556	87.5	No	0.004	NP (NDs)
Antimony (mg/L)	GS-GSA-MW-8	0.00102	0.00102	0.006	No	8	1.2e-11	87.5	No	0.004	NP (NDs)
Arsenic (mg/L)	GS-GSA-MW-3	0.005	0.00057	0.01	No	8	0.002081	50	No	0.004	NP (normality)
Arsenic (mg/L)	GS-GSA-MW-4	0.005	0.00115	0.01	No	8	0.001323	12.5	No	0.004	NP (normality)
Arsenic (mg/L)	GS-GSA-MW-8	0.005	0.00024	0.01	No	8	0.002393	62.5	No	0.004	NP (NDs)
Barium (mg/L)	GS-GSA-MW-3	0.01522	0.01286	2	No	8	0.001115	0	No	0.01	Param.
Barium (mg/L)	GS-GSA-MW-4	0.01418	0.01174	2	No	8	0.001149	0	No	0.01	Param.
Barium (mg/L)	GS-GSA-MW-8	0.0235	0.02	2	No	8	0.001653	0	No	0.01	Param.
Beryllium (mg/L)	GS-GSA-MW-3	0.00345	0.00141	0.004	No	8	0.0006843	0	No	0.004	NP (normality)
Beryllium (mg/L)	GS-GSA-MW-4	0.00768	0.00369	0.004	No	8	0.001358	0	No	0.004	NP (normality)
Cadmium (mg/L)	GS-GSA-MW-4	0.00336	0.00143	0.005	No	8	0.0006563	0	No	0.004	NP (normality)
Chromium (mg/L)	GS-GSA-MW-3	0.01	0.000386	0.1	No	8	0.004959	62.5	No	0.004	NP (NDs)
Chromium (mg/L)	GS-GSA-MW-4	0.01	0.000567	0.1	No	8	0.004774	62.5	No	0.004	NP (NDs)
Chromium (mg/L)	GS-GSA-MW-8	0.01	0.0003	0.1	No	8	0.004972	62.5	No	0.004	NP (NDs)
Cobalt (mg/L)	GS-GSA-MW-3	0.136	0.06788	0.64	No	8	0.03212	0	No	0.01	Param.
Cobalt (mg/L)	GS-GSA-MW-4	0.3289	0.1716	0.64	No	8	0.07419	0	No	0.01	Param.
Cobalt (mg/L)	GS-GSA-MW-8	0.00546	0.00026	0.64	No	8	0.002143	62.5	No	0.004	NP (NDs)
Combined Radium 226 + 228 (pCi/L)	GS-GSA-MW-3	0.6243	0.2672	5	No	8	0.1726	0	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	GS-GSA-MW-4	1.168	0.277	5	No	8	0.4204	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	GS-GSA-MW-8	1.021	-0.01234	5	No	8	0.4876	0	No	0.01	Param.
Fluoride (mg/L)	GS-GSA-MW-3	0.7083	0.393	4	No	8	0.1488	0	No	0.01	Param.
Fluoride (mg/L)	GS-GSA-MW-4	0.44	0.05	4	No	8	0.1379	87.5	No	0.004	NP (NDs)
Fluoride (mg/L)	GS-GSA-MW-8	0.1894	0.1083	4	No	8	0.03827	0	No	0.01	Param.
Lead (mg/L)	GS-GSA-MW-3	0.0002	0.00014	0.015	No	8	0.00002378	62.5	No	0.004	NP (NDs)
Lead (mg/L)	GS-GSA-MW-4	0.00103	0.0002	0.015	No	8	0.0003351	62.5	No	0.004	NP (NDs)
Lead (mg/L)	GS-GSA-MW-8	0.0002	0.000145	0.015	No	8	0.00002434	75	No	0.004	NP (NDs)
Lithium (mg/L)	GS-GSA-MW-3	0.4994	0.3666	0.419	No	8	0.06719	0	x^2	0.01	Param.
Lithium (mg/L)	GS-GSA-MW-4	0.671	0.262	0.419	No	8	0.1473	0	No	0.004	NP (normality)
Lithium (mg/L)	GS-GSA-MW-8	0.2131	0.1702	0.419	No	8	0.02023	0	No	0.01	Param.
Molybdenum (mg/L)	GS-GSA-MW-3	0.01	0.00022	0.1	No	8	0.005055	62.5	No	0.004	NP (NDs)
Molybdenum (mg/L)	GS-GSA-MW-8	0.01	0.00012	0.1	No	8	0.004722	62.5	No	0.004	NP (NDs)
Selenium (mg/L)	GS-GSA-MW-3	0.01	0.00117	0.05	No	8	0.004498	50	No	0.004	NP (normality)
Selenium (mg/L)	GS-GSA-MW-4	0.01	0.00294	0.05	No	8	0.003295	37.5	No	0.004	NP (normality)
Thallium (mg/L)	GS-GSA-MW-4	0.001	0.00009	0.002	No	8	0.0004436	50	No	0.004	NP (normality)

### Non-Parametric Confidence Interval Compliance Limit is not exceeded.



Constituent: Antimony Analysis Run 5/11/2022 6:37 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

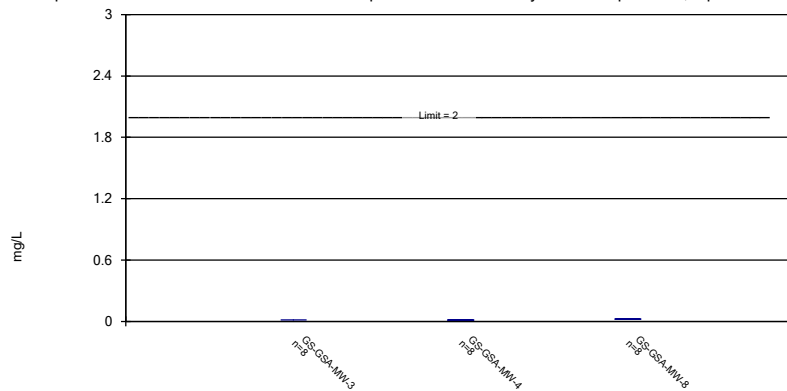
### Non-Parametric Confidence Interval Compliance Limit is not exceeded.



Constituent: Arsenic Analysis Run 5/11/2022 6:37 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Parametric Confidence Interval

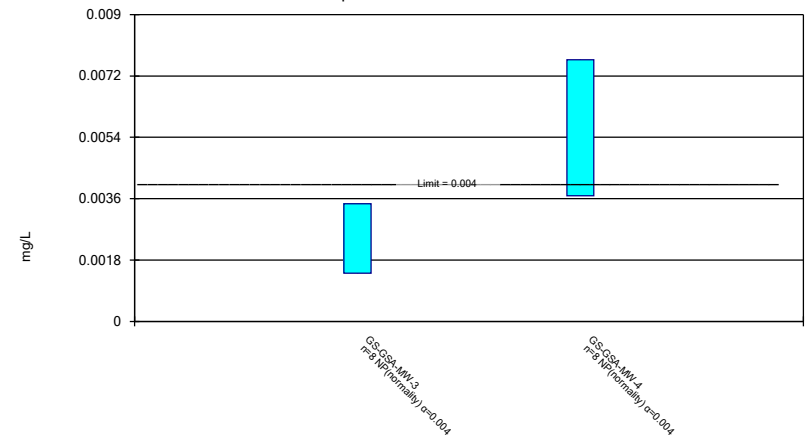
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Barium Analysis Run 5/11/2022 6:37 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Non-Parametric Confidence Interval

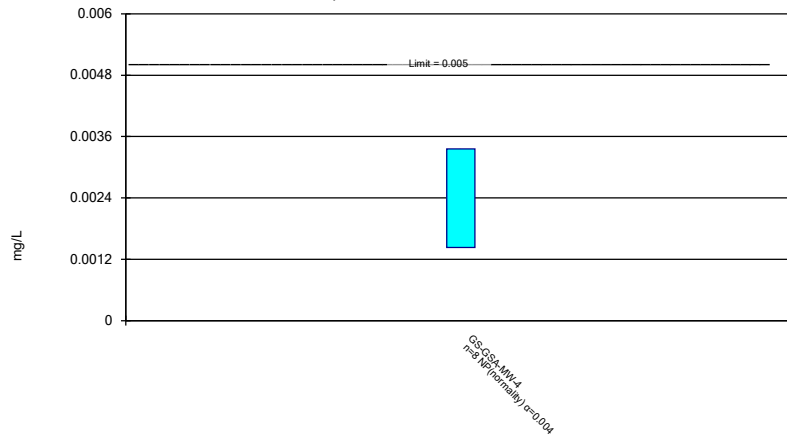
Compliance Limit is not exceeded.



Constituent: Beryllium Analysis Run 5/11/2022 6:37 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Non-Parametric Confidence Interval

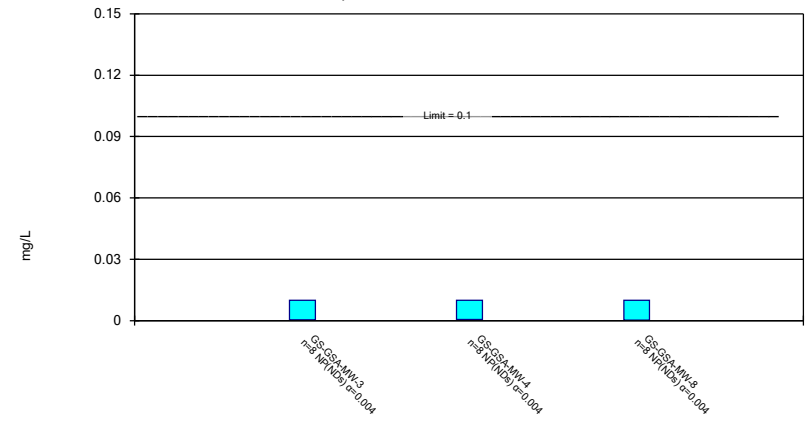
Compliance Limit is not exceeded.



Constituent: Cadmium Analysis Run 5/11/2022 6:37 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Non-Parametric Confidence Interval

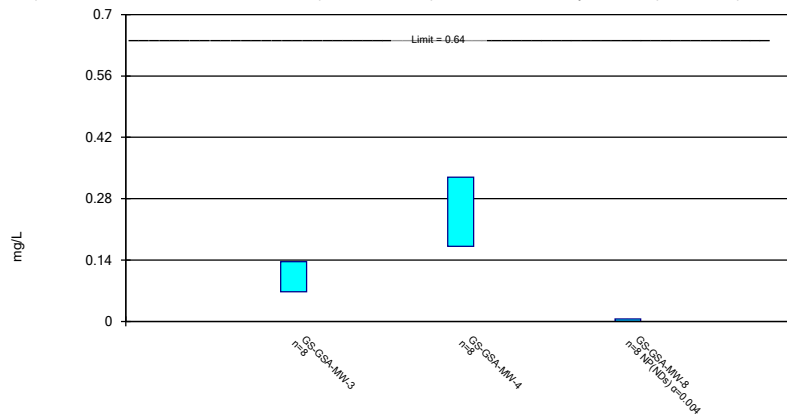
Compliance Limit is not exceeded.



Constituent: Chromium Analysis Run 5/11/2022 6:37 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Parametric and Non-Parametric (NP) Confidence Interval

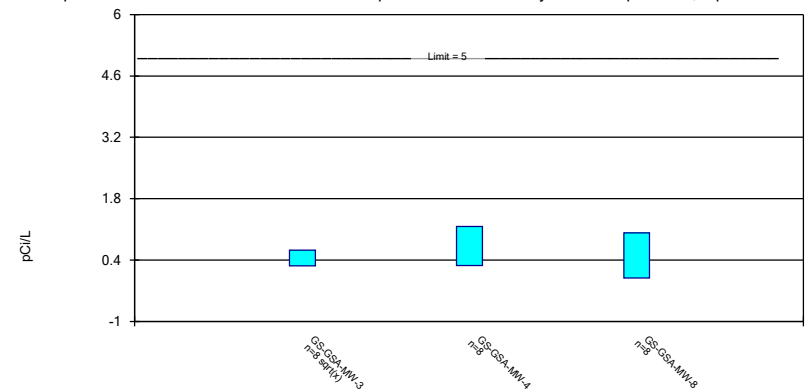
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cobalt Analysis Run 5/11/2022 6:37 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Parametric Confidence Interval

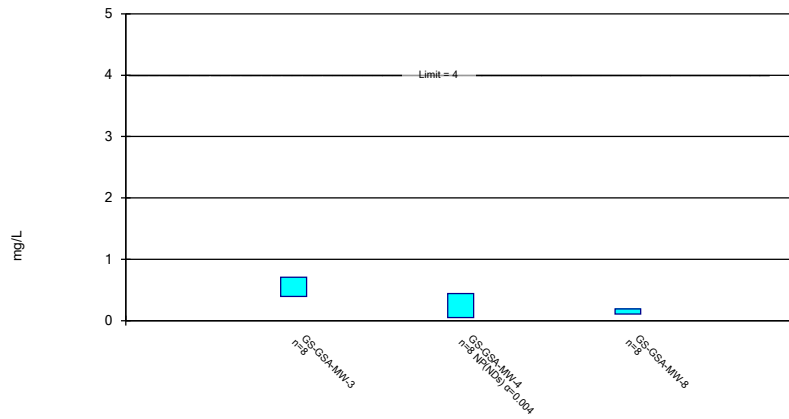
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Combined Radium 226 + 228 Analysis Run 5/11/2022 6:37 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Parametric and Non-Parametric (NP) Confidence Interval

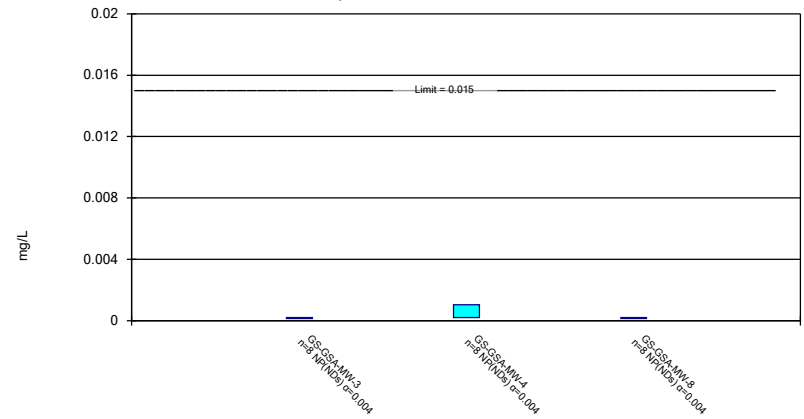
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Fluoride Analysis Run 5/11/2022 6:37 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Non-Parametric Confidence Interval

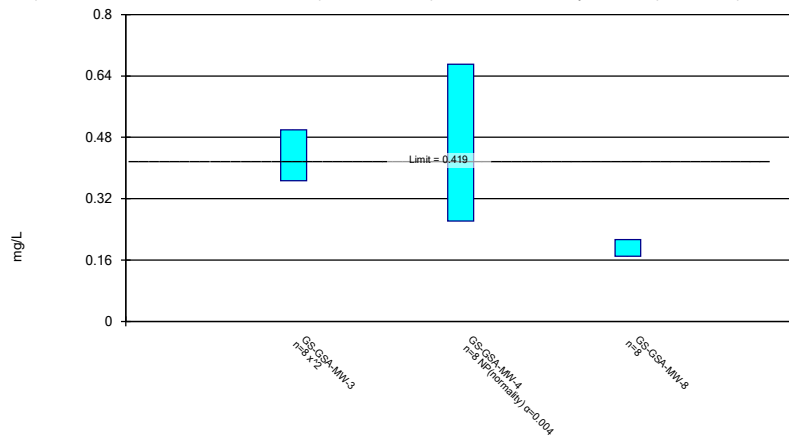
Compliance Limit is not exceeded.



Constituent: Lead Analysis Run 5/11/2022 6:37 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Parametric and Non-Parametric (NP) Confidence Interval

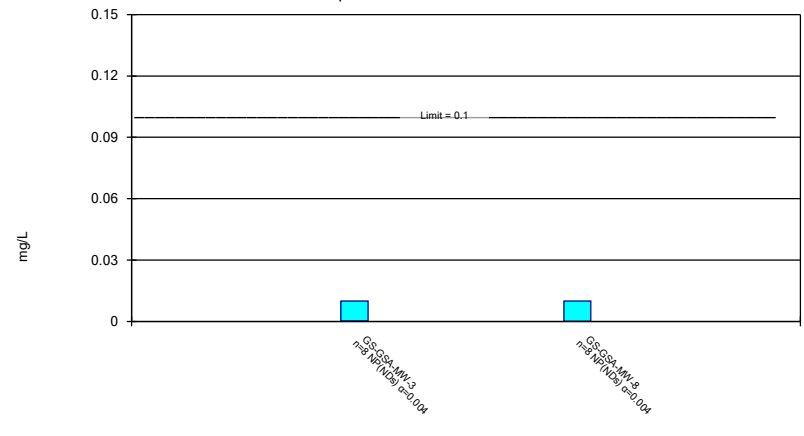
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lithium Analysis Run 5/11/2022 6:38 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Non-Parametric Confidence Interval

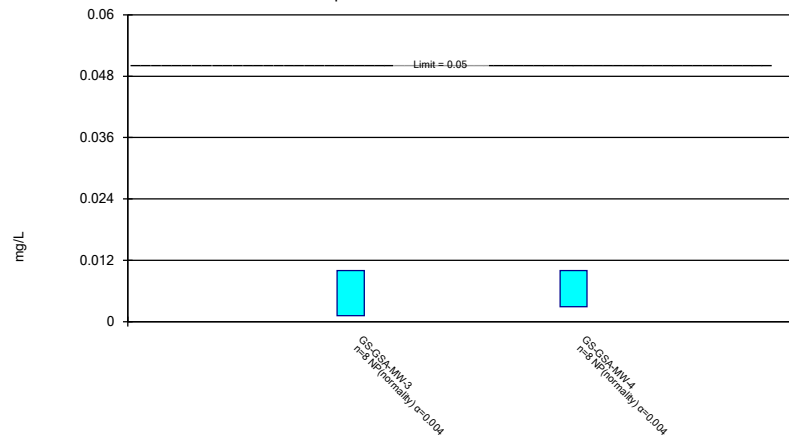
Compliance Limit is not exceeded.



Constituent: Molybdenum Analysis Run 5/11/2022 6:38 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Non-Parametric Confidence Interval

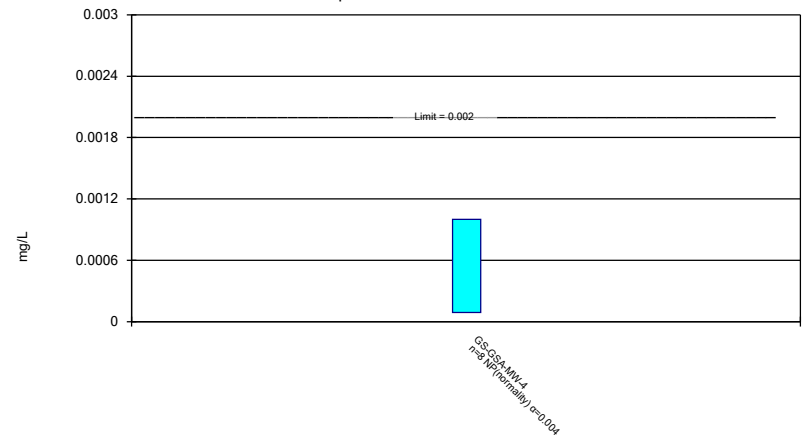
Compliance Limit is not exceeded.



Constituent: Selenium Analysis Run 5/11/2022 6:38 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



Constituent: Thallium Analysis Run 5/11/2022 6:38 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

# Confidence Interval

Constituent: Antimony (mg/L) Analysis Run 5/11/2022 6:38 PM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-3	GS-GSA-MW-4	GS-GSA-MW-8
10/17/2018	<0.00102	<0.00102	<0.00102
4/10/2019	0.00111 (J)	0.000976 (J)	0.00102 (J)
10/14/2019	<0.00102	<0.00102	<0.00102
2/3/2020	<0.00102		
2/4/2020		<0.00102	<0.00102
8/4/2020	<0.00102		
8/5/2020		<0.00102	<0.00102
3/1/2021	<0.00102		<0.00102
3/3/2021		<0.00102	
7/14/2021	<0.00102	<0.00102	<0.00102
1/26/2022	0.00066 (J)		
1/27/2022		<0.00102	<0.00102
Mean	0.0009862	0.001014	0.00102
Std. Dev.	0.0001355	1.556E-05	1.2E-11
Upper Lim.	0.00111	0.00102	0.00102
Lower Lim.	0.00066	0.000976	0.00102



# Confidence Interval

Constituent: Arsenic (mg/L) Analysis Run 5/11/2022 6:38 PM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-3	GS-GSA-MW-4	GS-GSA-MW-8
10/17/2018	<0.005	<0.005	<0.005
4/10/2019	0.00121 (J)	0.00176 (J)	<0.005
10/14/2019	<0.005	0.0012 (J)	<0.005
2/3/2020	<0.005		
2/4/2020		0.00128 (J)	<0.005
8/4/2020	<0.005		
8/5/2020		0.00115 (J)	<0.005
3/1/2021	0.0014		0.000633
3/3/2021		0.00116	
7/14/2021	0.00057	0.00174	0.00024
1/26/2022	0.00136		
1/27/2022		0.00274	0.00027
Mean	0.003067	0.002004	0.003268
Std. Dev.	0.002081	0.001323	0.002393
Upper Lim.	0.005	0.005	0.005
Lower Lim.	0.00057	0.00115	0.00024

# Confidence Interval

Constituent: Barium (mg/L) Analysis Run 5/11/2022 6:38 PM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-3	GS-GSA-MW-4	GS-GSA-MW-8
10/17/2018	0.013	0.0125	0.0236
4/10/2019	0.0153	0.0136	0.02
10/14/2019	0.0122	0.0147	0.0215
2/3/2020	0.0141		
2/4/2020		0.0124	0.0209
8/4/2020	0.0139		
8/5/2020		0.0142	0.0216
3/1/2021	0.0154		0.0194
3/3/2021		0.0117	
7/14/2021	0.0136	0.0115	0.0232
1/26/2022	0.0148		
1/27/2022		0.0131	0.0238
Mean	0.01404	0.01296	0.02175
Std. Dev.	0.001115	0.001149	0.001653
Upper Lim.	0.01522	0.01418	0.0235
Lower Lim.	0.01286	0.01174	0.02

# Confidence Interval

Constituent: Beryllium (mg/L) Analysis Run 5/11/2022 6:38 PM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-3	GS-GSA-MW-4
10/17/2018	0.00345	0.00369
4/10/2019	0.00257 (J)	0.00469
10/14/2019	0.00162 (J)	0.00403
2/3/2020	0.00141 (J)	
2/4/2020		0.00415
8/4/2020	0.00174 (J)	
8/5/2020		0.00385
3/1/2021	0.00157	
3/3/2021		0.00406
7/14/2021	0.00175	0.00577
1/26/2022	0.00179	
1/27/2022		0.00768
Mean	0.001988	0.00474
Std. Dev.	0.0006843	0.001358
Upper Lim.	0.00345	0.00768
Lower Lim.	0.00141	0.00369

# Confidence Interval

Constituent: Cadmium (mg/L) Analysis Run 5/11/2022 6:38 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-4
10/17/2018	0.00188
4/10/2019	0.00176
10/14/2019	0.0015
2/4/2020	0.00143
8/5/2020	0.00157
3/3/2021	0.00162
7/14/2021	0.00246
1/27/2022	0.00336
Mean	0.001948
Std. Dev.	0.0006563
Upper Lim.	0.00336
Lower Lim.	0.00143

# Confidence Interval

Constituent: Chromium (mg/L) Analysis Run 5/11/2022 6:38 PM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-3	GS-GSA-MW-4	GS-GSA-MW-8
10/17/2018	<0.01	<0.01	<0.01
4/10/2019	<0.01	<0.01	<0.01
10/14/2019	<0.01	<0.01	<0.01
2/3/2020	<0.01		
2/4/2020		<0.01	<0.01
8/4/2020	<0.01		
8/5/2020		<0.01	<0.01
3/1/2021	0.000386 (J)		0.000423 (J)
3/3/2021		0.000567 (J)	
7/14/2021	0.00039 (J)	0.0007 (J)	0.0003 (J)
1/26/2022	0.00048 (J)		
1/27/2022		0.00107	0.00046 (J)
Mean	0.006407	0.006542	0.006398
Std. Dev.	0.004959	0.004774	0.004972
Upper Lim.	0.01	0.01	0.01
Lower Lim.	0.000386	0.000567	0.0003

# Confidence Interval

Constituent: Cobalt (mg/L) Analysis Run 5/11/2022 6:38 PM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-3	GS-GSA-MW-4	GS-GSA-MW-8
4/17/2017	0.294 (o)		
10/17/2018	0.138	0.154	<0.005
4/10/2019	0.151	0.241	<0.005
10/14/2019	0.102	0.213	<0.005
2/3/2020	0.0843		
2/4/2020		0.217	<0.005
8/4/2020	0.0862		
8/5/2020		0.235	<0.005
3/1/2021	0.119		0.00546
3/3/2021		0.24	
7/14/2021	0.0555	0.296	0.00026
1/26/2022	0.0794		
1/27/2022		0.406	0.00067
Mean	0.1019	0.2503	0.003924
Std. Dev.	0.03212	0.07419	0.002143
Upper Lim.	0.136	0.3289	0.00546
Lower Lim.	0.06788	0.1716	0.00026

# Confidence Interval

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 5/11/2022 6:38 PM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-3	GS-GSA-MW-4	GS-GSA-MW-8
10/17/2018	0.668	0.922	1.05
4/10/2019	0.265 (U)	0.622	0.128 (U)
10/14/2019	0.297 (U)	0.317 (U)	0.225 (U)
2/3/2020	0.28 (U)		
2/4/2020		0.324 (U)	0.336 (U)
8/4/2020	0.45 (U)		
8/5/2020		0.389 (U)	-0.115 (U)
3/1/2021	0.57 (U)		0.902 (U)
3/3/2021		0.836 (U)	
7/14/2021	0.668 (U)	1.58	1.23 (U)
1/26/2022	0.335 (U)		
1/27/2022		0.791 (U)	0.28 (U)
Mean	0.4416	0.7226	0.5045
Std. Dev.	0.1726	0.4204	0.4876
Upper Lim.	0.6243	1.168	1.021
Lower Lim.	0.2672	0.277	-0.01234

# Confidence Interval

Constituent: Fluoride (mg/L) Analysis Run 5/11/2022 6:38 PM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-3	GS-GSA-MW-4	GS-GSA-MW-8
10/17/2018	0.78	0.44	0.16
4/10/2019	0.738	<0.1	0.156
10/14/2019	0.619	<0.1	0.118
2/3/2020	0.427		
2/4/2020		<0.1	0.132
8/4/2020	0.389		
8/5/2020		<0.1	0.119
3/1/2021	0.449		0.106
3/3/2021		<0.1	
7/14/2021	0.556	<0.1	0.221
1/26/2022	0.447		
1/27/2022		<0.1	0.179
Mean	0.5506	0.09875	0.1489
Std. Dev.	0.1488	0.1379	0.03827
Upper Lim.	0.7083	0.44	0.1894
Lower Lim.	0.393	0.05	0.1083



# Confidence Interval

Constituent: Lead (mg/L) Analysis Run 5/11/2022 6:38 PM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-3	GS-GSA-MW-4	GS-GSA-MW-8
10/17/2018	<0.0002	<0.0002	<0.0002
4/10/2019	<0.0002	<0.0002	<0.0002
10/14/2019	<0.0002	<0.0002	<0.0002
2/3/2020	<0.0002		
2/4/2020		<0.0002	<0.0002
8/4/2020	<0.0002		
8/5/2020		<0.0002	<0.0002
3/1/2021	0.000157 (J)		0.000145 (J)
3/3/2021		0.000609	
7/14/2021	0.00018 (J)	0.00079	<0.0002
1/26/2022	0.00014 (J)		
1/27/2022		0.00103	0.00015 (J)
Mean	0.0001846	0.0004286	0.0001869
Std. Dev.	2.378E-05	0.0003351	2.434E-05
Upper Lim.	0.0002	0.00103	0.0002
Lower Lim.	0.00014	0.0002	0.000145

# Confidence Interval

Constituent: Lithium (mg/L) Analysis Run 5/11/2022 6:38 PM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-3	GS-GSA-MW-4	GS-GSA-MW-8
10/17/2018	0.494	0.266	0.188
4/10/2019	0.425	0.282	0.195
10/14/2019	0.459	0.262	0.209
2/3/2020	0.474		
2/4/2020		0.29	0.188
8/4/2020	0.468		
8/5/2020		0.273	0.206
3/1/2021	0.353		0.149
3/3/2021		0.313	
7/14/2021	0.485	0.487	0.213
1/26/2022	0.31		
1/27/2022		0.671	0.185
Mean	0.4335	0.3555	0.1916
Std. Dev.	0.06719	0.1473	0.02023
Upper Lim.	0.4994	0.671	0.2131
Lower Lim.	0.3666	0.262	0.1702

# Confidence Interval

Constituent: Molybdenum (mg/L) Analysis Run 5/11/2022 6:38 PM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-3	GS-GSA-MW-8
10/17/2018	<0.01	<0.01
4/10/2019	<0.01	<0.01
10/14/2019	<0.01	<0.01
2/3/2020	<0.01	
2/4/2020		<0.01
8/4/2020	<0.01	
8/5/2020		<0.01
3/1/2021	0.00022	0.00277
7/14/2021	0.00026	0.00015 (J)
1/26/2022	0.00022	
1/27/2022		0.00012 (J)
Mean	0.006337	0.00663
Std. Dev.	0.005055	0.004722
Upper Lim.	0.01	0.01
Lower Lim.	0.00022	0.00012

# Confidence Interval

Constituent: Selenium (mg/L) Analysis Run 5/11/2022 6:38 PM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-3	GS-GSA-MW-4
10/17/2018	<0.01	<0.01
4/10/2019	0.00234 (J)	0.00322 (J)
10/14/2019	<0.01	<0.01
2/3/2020	<0.01	
2/4/2020		<0.01
8/4/2020	<0.01	
8/5/2020		0.00298 (J)
3/1/2021	0.00141	
3/3/2021		0.00294
7/14/2021	0.00151	0.00563
1/26/2022	0.00117	
1/27/2022		0.00817
Mean	0.005804	0.006617
Std. Dev.	0.004498	0.003295
Upper Lim.	0.01	0.01
Lower Lim.	0.00117	0.00294

# Confidence Interval

Constituent: Thallium (mg/L) Analysis Run 5/11/2022 6:38 PM View: Appendix IV

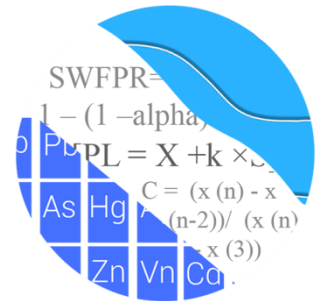
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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GS-GSA-MW-4

10/17/2018	<0.001
4/10/2019	<0.001
10/14/2019	<0.001
2/4/2020	<0.001
8/5/2020	0.000205 (J)
3/3/2021	0.000178 (J)
7/14/2021	9E-05 (J)
1/27/2022	0.00022
Mean	0.0005866
Std. Dev.	0.0004436
Upper Lim.	0.001
Lower Lim.	9E-05

## GROUNDWATER STATS CONSULTING



October 14, 2022

Southern Company Services  
Attn: Mr. Greg Dyer  
3535 Colonnade Parkway  
Birmingham, AL 35243

Re: Plant Gorgas Gypsum Pond  
2<sup>nd</sup> Semi-Annual Statistical Analysis – July 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 July 2022 2<sup>nd</sup> semi-annual sample event for Alabama Power Company's Plant Gorgas Gypsum Pond. 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:** GS-GSA-MW-3, GS-GSA-MW-4, and GS-GSA-MW-8
- **Delineation wells:** GS-GSA-MW-3V, GS-GSA-MW-4V, GS-GSA-MW-8V, GS-GSA-MW-9H, GS-GSA-MW-9V, GS-GSA-MW-11H, GS-GSA-MW-12H, GS-GSA-MW-12V, GS-GSA-MW-13H, GS-GSA-MW-14H, GS-GSA-MW-23VA
- **Piezometers:** GS-GSA-MW-01, GS-GSA-MW-02, GS-GSA-MW-10H, GS-GSA-MW-15H, GS-GSA-PZ-16, GS-GSA-PZ-17, GS-GSA-PZ-18, GS-GSA-PZ-19, GS-GSA-PZ-20, GS-GSA-PZ-21, GS-GSA-PZ-22, and GS-GSA-PZ-2A

Note that data from delineation wells did not require statistics; therefore, data were plotted only on time series and box plots. Delineation well GS-GSA-MW-23VA did not produce enough water to be sampled during this event. Piezometers only monitor water levels; therefore, they are not included in this analysis.

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 Andrew Collins, Project Manager of 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): 16
- # Background Samples (Interwell): 102
- # Constituents: 7
- # Downgradient wells: 3

### **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 pH, sulfate, and TDS
- Interwell prediction limits, combined with a 1-of-2 resample plan for boron, calcium, chloride, and fluoride

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 (US EPA, 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. While 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 pH, 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 with the exception of TDS for downgradient well GS-GSA-MW-8 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 boron, calcium, chloride, and fluoride. 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 performing prediction limits, proposed background data--through March 2021 for intrawell parameters and through July 2021 for interwell parameters--were reviewed through visual screening to identify any newly suspected outliers at all wells for pH, sulfate, and TDS, and at upgradient wells for boron, calcium, chloride, and fluoride. When values are identified as outliers, these measurements are flagged with "o" and excluded to reduce variation, better represent background conditions, and provide limits that are conservative from a regulatory perspective.

During the screening, a high non-detect value for boron in upgradient well MW-4 and high detected values for sulfate and TDS in upgradient well MW-1 were flagged as outliers. Additionally, a low value for pH in upgradient well MW-3 was flagged. As mentioned above, flagged data are displayed in a lighter font and as a disconnected symbol on the time series graphs, as well as in a lighter font on the accompanying data pages. A summary of flagged outliers follows this report (Figure C).

### Intrawell – Mann-Whitney

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 March 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:

#### Increase

- None

#### Decrease

- pH: MW-1 (upgradient)

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.

Although a statistically significant decrease was identified for pH in upgradient well MW-1, the decrease in median concentrations was upgradient of the facility and not a representation of impacts from the facility. Additionally, the magnitude of the difference was small relative to the existing concentrations in background, and the compliance samples were stable. Therefore, this record was updated and 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 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 except for increasing trends for boron and fluoride in upgradient well MW-2; however, the increasing trends for boron is the result of high non-detects in the latter part of the record and the trend in fluoride is small relative to average concentrations. Therefore, no adjustments were made at this time. A summary of the results was submitted with the screening.

## **Evaluation of Appendix III Parameters – July 2022**

### Prediction Limits

Intrawell prediction limits, combined with a 1-of-2 resample plan, were constructed for pH, sulfate, and TDS at each well using screened background data through March 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 July 2022 observation at each well 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 boron, calcium, chloride, and fluoride (Figure E). Interwell prediction limits pool upgradient well data through July 2022 to establish a background limit for an individual constituent. The July 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 (pages 13-16). Exceedances were identified for the following well/constituent pairs:

Intrawell:

- pH: MW-1, MW-2 (both upgradient), and GS-GSA-MW-4
- Sulfate: GS-GSA-MW-3 and GS-GSA-MW-4
- TDS: GS-GSA-MW-4

Interwell:

- Boron: GS-GSA-MW-3, GS-GSA-MW-4, and GS-GSA-MW-8
- Calcium: GS-GSA-MW-3 and GS-GSA-MW-8
- Chloride: GS-GSA-MW-3, GS-GSA-MW-4, and GS-GSA-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 (pages 17-18). Statistically significant trends were identified for the following well/constituent pairs:

#### Increasing

- Boron: MW-1, MW-2 (both upgradient), and GS-GSA-MW-8
- Calcium: GS-GSA-MW-8
- Chloride: GS-GSA-MW-8
- pH: MW-2 (upgradient)
- Sulfate: MW-3 (upgradient)

#### Decreasing

- pH: MW-1 (upgradient)
- Sulfate: MW-4 (upgradient)
- TDS: MW-4 (upgradient)

### **Evaluation of Appendix IV Parameters – July 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 screening, 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 all flagged outliers follows this report (Figure C).

In accordance with Alabama Department of Environmental Management, the Groundwater Protections Standards (GWPS) were updated during the 2021 2<sup>nd</sup> semi-annual statistical analysis. The GWPS will be updated again during the 2023 2<sup>nd</sup> semi-annual statistical analysis. The methodology used to create these GWPS is described below.

#### Interwell Upper Tolerance Limits

First, background limits were determined using tolerance limits constructed from pooled upgradient well data through July 2021 (Figure G). The tolerance limits contain a known fraction (coverage) of the background population with a known level of confidence. The confidence and coverage levels for nonparametric tolerance limits are dependent upon the number of background samples. As requested by ADEM to eliminate variation among upgradient well data, nonparametric tolerance limits, which use the highest value in background as the statistical limit, were constructed. A summary of the tolerance limits follows this report (page 19).

## Groundwater Protection Standards

These background limits were then compared to the Maximum Contaminant Levels (MCLs) for each parameter, and the higher of the two was used as the GWPS (Figure H, page 20) in the confidence interval comparisons described below. Exceptions are noted in Figure H for beryllium and cadmium. For these two parameters, the MCL's were used as the GWPS rather than the higher background UTLs to maintain the more conservative standard.

## Confidence Intervals

Confidence intervals were then constructed on downgradient wells using a maximum of the most recent 8 samples through July 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 (page 21). No exceedances were noted for any of the well/constituent pairs.

Thank you for the opportunity to assist you in the statistical analysis of groundwater quality for Gorgas Gypsum Pond. If you have any questions or comments, please feel free to contact us.

For Groundwater Stats Consulting,

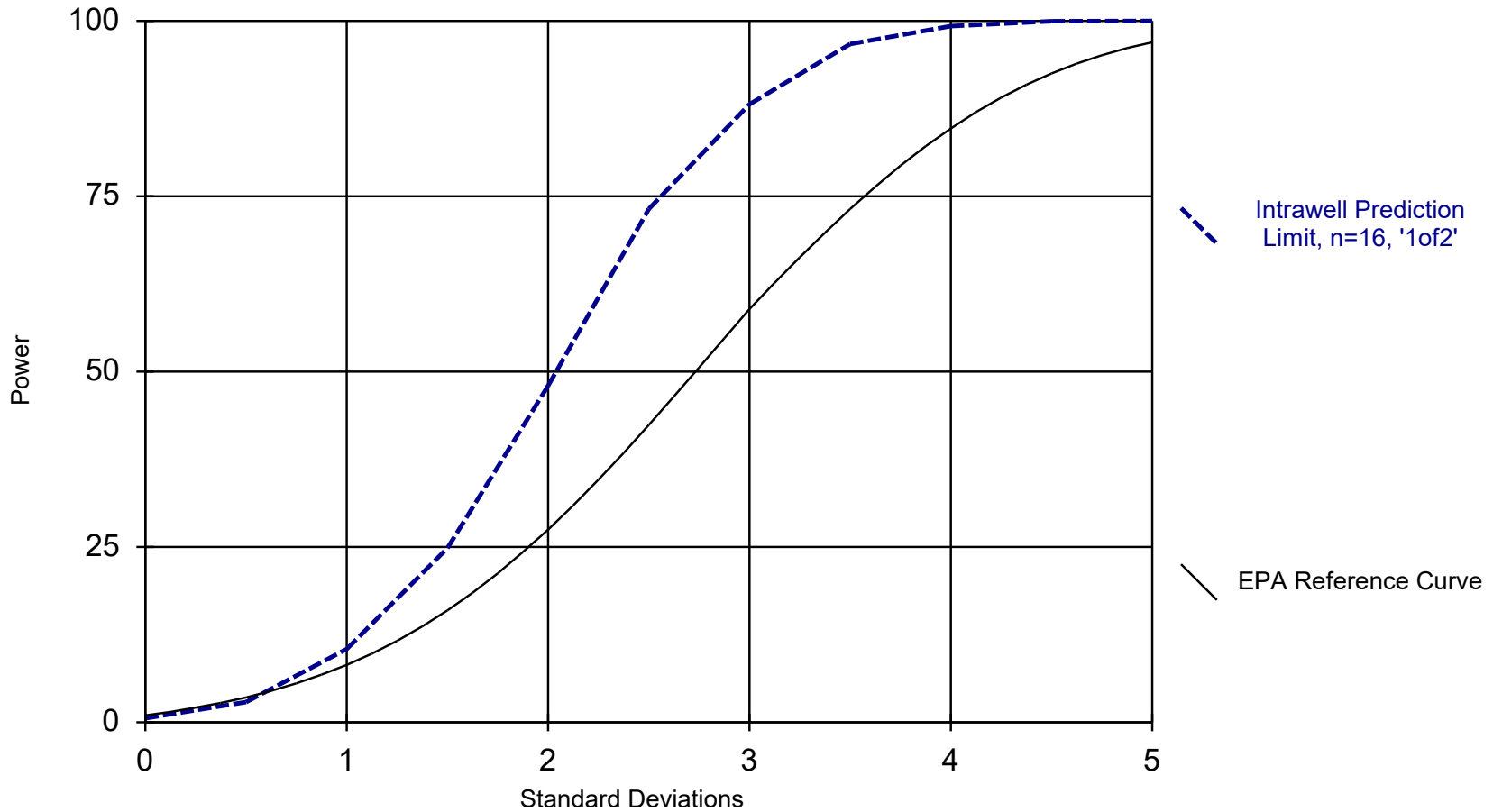


Easton Rayner  
Groundwater Analyst



Andrew Collins  
Project Manager

### Intrawell Power Curve

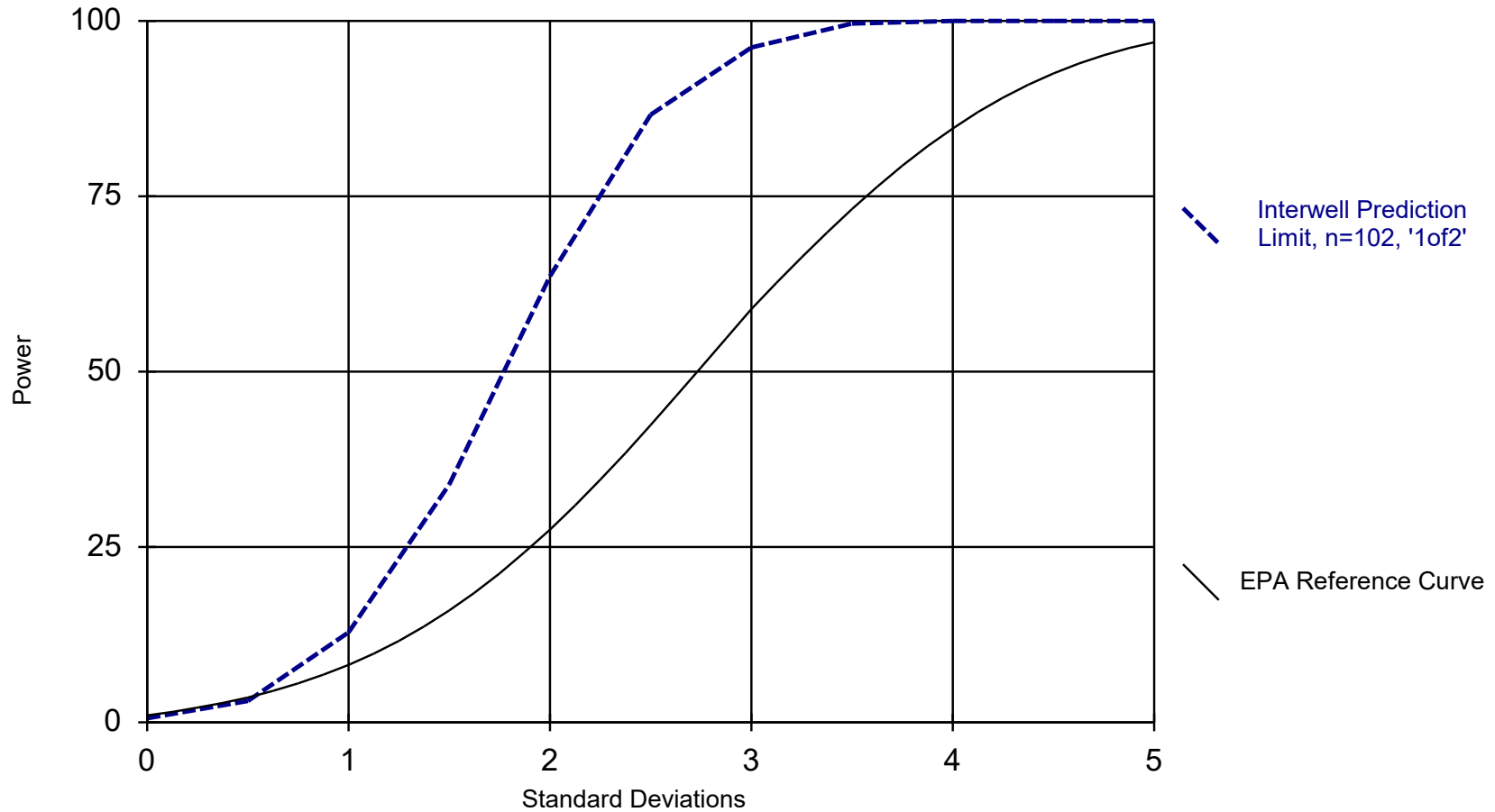


Kappa = 1.97, based on 3 compliance wells and 7 constituents, evaluated semi-annually (this report reflects annual total).

Analysis Run 10/14/2022 10:22 AM

Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Interwell Power Curve



Kappa = 1.672, based on 3 compliance wells and 7 constituents, evaluated semi-annually (this report reflects annual total).

Analysis Run 10/14/2022 10:19 AM View: Check  
Plant Gorgas Client: Southern Company Data: Gorgas GSA



# 100% Non-Detects: Appendix IV Downgradient

Analysis Run 10/7/2022 1:04 PM View: AIV

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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Beryllium (mg/L)

GS-GSA-MW-8

Cadmium (mg/L)

GS-GSA-MW-3, GS-GSA-MW-8

Fluoride (mg/L)

GS-GSA-MW-4

Mercury (mg/L)

GS-GSA-MW-3, GS-GSA-MW-4, GS-GSA-MW-8

Molybdenum (mg/L)

GS-GSA-MW-4

Selenium (mg/L)

GS-GSA-MW-8

Thallium (mg/L)

GS-GSA-MW-3, GS-GSA-MW-8

# Intrawell Prediction Limit - Significant Results

Plant Gorgas Client: Southern Company Data: Gorgas GSA Printed 10/6/2022, 4:36 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
pH (pH)	GS-GSA-MW-4	3.896	3.699	7/13/2022	3.43	Yes	17	3.798	0.05044	0	None	No	0.001253	Param Intra 1 of 2
pH (pH)	MW-1	5.249	5.046	7/5/2022	5.01	Yes	23	5.147	0.05471	0	None	No	0.001253	Param Intra 1 of 2
pH (pH)	MW-2	6.145	5.788	7/5/2022	6.15	Yes	23	5.967	0.09604	0	None	No	0.001253	Param Intra 1 of 2
Sulfate (mg/L)	GS-GSA-MW-3	3163	n/a	7/13/2022	3180	Yes	16	2.3e10	4.4e9	0	None	x^3	0.002505	Param Intra 1 of 2
Sulfate (mg/L)	GS-GSA-MW-4	653.2	n/a	7/13/2022	3040	Yes	16	569.6	42.43	0	None	No	0.002505	Param Intra 1 of 2
Total dissolved solids (mg/L)	GS-GSA-MW-4	1084	n/a	7/13/2022	4700	Yes	16	987.9	48.59	0	None	No	0.002505	Param Intra 1 of 2

# Intrawell Prediction Limit - All Results

Plant Gorgas Client: Southern Company Data: Gorgas GSA Printed 10/6/2022, 4:36 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
pH (pH)	GS-GSA-MW-3	6.38	5.66	7/13/2022	5.92	No	17	6.02	0.1846	0	None	No	0.001253	Param Intra 1 of 2
<b>pH (pH)</b>	<b>GS-GSA-MW-4</b>	<b>3.896</b>	<b>3.699</b>	<b>7/13/2022</b>	<b>3.43</b>	<b>Yes</b>	<b>17</b>	<b>3.798</b>	<b>0.05044</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.001253</b>	<b>Param Intra 1 of 2</b>
pH (pH)	GS-GSA-MW-8	7.149	6.399	7/12/2022	6.49	No	17	6.774	0.1922	0	None	No	0.001253	Param Intra 1 of 2
<b>pH (pH)</b>	<b>MW-1</b>	<b>5.249</b>	<b>5.046</b>	<b>7/5/2022</b>	<b>5.01</b>	<b>Yes</b>	<b>23</b>	<b>5.147</b>	<b>0.05471</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.001253</b>	<b>Param Intra 1 of 2</b>
<b>pH (pH)</b>	<b>MW-2</b>	<b>6.145</b>	<b>5.788</b>	<b>7/5/2022</b>	<b>6.15</b>	<b>Yes</b>	<b>23</b>	<b>5.967</b>	<b>0.09604</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.001253</b>	<b>Param Intra 1 of 2</b>
pH (pH)	MW-3	5.987	4.38	7/5/2022	5.34	No	23	149.3	35.15	0	None	x^3	0.001253	Param Intra 1 of 2
pH (pH)	MW-4	6.237	6.076	7/5/2022	6.12	No	23	6.157	0.04323	0	None	No	0.001253	Param Intra 1 of 2
<b>Sulfate (mg/L)</b>	<b>GS-GSA-MW-3</b>	<b>3163</b>	<b>n/a</b>	<b>7/13/2022</b>	<b>3180</b>	<b>Yes</b>	<b>16</b>	<b>2.3e10</b>	<b>4.4e9</b>	<b>0</b>	<b>None</b>	<b>x^3</b>	<b>0.002505</b>	<b>Param Intra 1 of 2</b>
<b>Sulfate (mg/L)</b>	<b>GS-GSA-MW-4</b>	<b>653.2</b>	<b>n/a</b>	<b>7/13/2022</b>	<b>3040</b>	<b>Yes</b>	<b>16</b>	<b>569.6</b>	<b>42.43</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.002505</b>	<b>Param Intra 1 of 2</b>
Sulfate (mg/L)	GS-GSA-MW-8	2169	n/a	7/12/2022	1740	No	16	1541	318.8	0	None	No	0.002505	Param Intra 1 of 2
Sulfate (mg/L)	MW-1	1653	n/a	7/5/2022	1600	No	22	1456	105.3	0	None	No	0.002505	Param Intra 1 of 2
Sulfate (mg/L)	MW-2	1257	n/a	7/5/2022	819	No	23	1001	137.9	0	None	No	0.002505	Param Intra 1 of 2
Sulfate (mg/L)	MW-3	3195	n/a	7/5/2022	3110	No	23	2487	381.4	0	None	No	0.002505	Param Intra 1 of 2
Sulfate (mg/L)	MW-4	3107	n/a	7/5/2022	2380	No	22	2505	321.9	0	None	No	0.002505	Param Intra 1 of 2
Total dissolved solids (mg/L)	GS-GSA-MW-3	5170	n/a	7/13/2022	4960	No	16	n/a	n/a	0	n/a	n/a	0.006456	NP Intra (normality) 1 of 2
<b>Total dissolved solids (mg/L)</b>	<b>GS-GSA-MW-4</b>	<b>1084</b>	<b>n/a</b>	<b>7/13/2022</b>	<b>4700</b>	<b>Yes</b>	<b>16</b>	<b>987.9</b>	<b>48.59</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.002505</b>	<b>Param Intra 1 of 2</b>
Total dissolved solids (mg/L)	GS-GSA-MW-8	4017	n/a	7/12/2022	3090	No	16	2978	527.4	0	None	No	0.002505	Param Intra 1 of 2
Total dissolved solids (mg/L)	MW-1	2516	n/a	7/5/2022	2100	No	22	2201	168.2	0	None	No	0.002505	Param Intra 1 of 2
Total dissolved solids (mg/L)	MW-2	2005	n/a	7/5/2022	1250	No	23	1648	192.4	0	None	No	0.002505	Param Intra 1 of 2
Total dissolved solids (mg/L)	MW-3	4954	n/a	7/5/2022	4220	No	23	3773	635.9	0	None	No	0.002505	Param Intra 1 of 2
Total dissolved solids (mg/L)	MW-4	4484	n/a	7/5/2022	3240	No	22	5.8e10	1.7e10	0	None	x^3	0.002505	Param Intra 1 of 2

# Interwell Prediction Limit - Significant Results

Plant Gorgas Client: Southern Company Data: Gorgas GSA Printed 10/6/2022, 4:39 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	GS-GSA-MW-3	0.0596	n/a	7/13/2022	1.29	Yes	102	n/a	n/a	22.55	n/a	n/a	0.0001878	NP Inter (normality) 1 of 2
Boron (mg/L)	GS-GSA-MW-4	0.0596	n/a	7/13/2022	7.29	Yes	102	n/a	n/a	22.55	n/a	n/a	0.0001878	NP Inter (normality) 1 of 2
Boron (mg/L)	GS-GSA-MW-8	0.0596	n/a	7/12/2022	2.3	Yes	102	n/a	n/a	22.55	n/a	n/a	0.0001878	NP Inter (normality) 1 of 2
Calcium (mg/L)	GS-GSA-MW-3	431	n/a	7/13/2022	549	Yes	103	n/a	n/a	0	n/a	n/a	0.0001849	NP Inter (normality) 1 of 2
Calcium (mg/L)	GS-GSA-MW-8	431	n/a	7/12/2022	451	Yes	103	n/a	n/a	0	n/a	n/a	0.0001849	NP Inter (normality) 1 of 2
Chloride (mg/L)	GS-GSA-MW-3	3.704	n/a	7/13/2022	228	Yes	103	0.7424	0.3392	2.913	None	ln(x)	0.002505	Param Inter 1 of 2
Chloride (mg/L)	GS-GSA-MW-4	3.704	n/a	7/13/2022	199	Yes	103	0.7424	0.3392	2.913	None	ln(x)	0.002505	Param Inter 1 of 2
Chloride (mg/L)	GS-GSA-MW-8	3.704	n/a	7/12/2022	120	Yes	103	0.7424	0.3392	2.913	None	ln(x)	0.002505	Param Inter 1 of 2

# Interwell Prediction Limit - All Results

Plant Gorgas    Client: Southern Company    Data: Gorgas GSA    Printed 10/6/2022, 4:39 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	GS-GSA-MW-3	0.0596	n/a	7/13/2022	1.29	Yes	102	n/a	n/a	22.55	n/a	n/a	0.0001878	NP Inter (normality) 1 of 2
Boron (mg/L)	GS-GSA-MW-4	0.0596	n/a	7/13/2022	7.29	Yes	102	n/a	n/a	22.55	n/a	n/a	0.0001878	NP Inter (normality) 1 of 2
Boron (mg/L)	GS-GSA-MW-8	0.0596	n/a	7/12/2022	2.3	Yes	102	n/a	n/a	22.55	n/a	n/a	0.0001878	NP Inter (normality) 1 of 2
Calcium (mg/L)	GS-GSA-MW-3	431	n/a	7/13/2022	549	Yes	103	n/a	n/a	0	n/a	n/a	0.0001849	NP Inter (normality) 1 of 2
Calcium (mg/L)	GS-GSA-MW-4	431	n/a	7/13/2022	385	No	103	n/a	n/a	0	n/a	n/a	0.0001849	NP Inter (normality) 1 of 2
Calcium (mg/L)	GS-GSA-MW-8	431	n/a	7/12/2022	451	Yes	103	n/a	n/a	0	n/a	n/a	0.0001849	NP Inter (normality) 1 of 2
Chloride (mg/L)	GS-GSA-MW-3	3.704	n/a	7/13/2022	228	Yes	103	0.7424	0.3392	2.913	None	ln(x)	0.002505	Param Inter 1 of 2
Chloride (mg/L)	GS-GSA-MW-4	3.704	n/a	7/13/2022	199	Yes	103	0.7424	0.3392	2.913	None	ln(x)	0.002505	Param Inter 1 of 2
Chloride (mg/L)	GS-GSA-MW-8	3.704	n/a	7/12/2022	120	Yes	103	0.7424	0.3392	2.913	None	ln(x)	0.002505	Param Inter 1 of 2
Fluoride (mg/L)	GS-GSA-MW-3	0.63	n/a	7/13/2022	0.324	No	107	n/a	n/a	0.9346	n/a	n/a	0.0001732	NP Inter (normality) 1 of 2
Fluoride (mg/L)	GS-GSA-MW-4	0.63	n/a	7/13/2022	0.0625ND	No	107	n/a	n/a	0.9346	n/a	n/a	0.0001732	NP Inter (normality) 1 of 2
Fluoride (mg/L)	GS-GSA-MW-8	0.63	n/a	7/12/2022	0.112J	No	107	n/a	n/a	0.9346	n/a	n/a	0.0001732	NP Inter (normality) 1 of 2

# Trend Test - Significant Results

Plant Gorgas    Client: Southern Company    Data: Gorgas GSA    Printed 10/6/2022, 4:43 PM

<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
Boron (mg/L)	GS-GSA-MW-8	0.4141	135	74	Yes	19	0	n/a	n/a	0.01	NP
Boron (mg/L)	MW-1 (bg)	0.003992	127	118	Yes	26	34.62	n/a	n/a	0.01	NP
Boron (mg/L)	MW-2 (bg)	0.00392	148	118	Yes	26	26.92	n/a	n/a	0.01	NP
Calcium (mg/L)	GS-GSA-MW-8	51.43	93	74	Yes	19	0	n/a	n/a	0.01	NP
Chloride (mg/L)	GS-GSA-MW-8	22.43	97	74	Yes	19	0	n/a	n/a	0.01	NP
pH (pH)	MW-1 (bg)	-0.02228	-170	-118	Yes	26	0	n/a	n/a	0.01	NP
pH (pH)	MW-2 (bg)	0.0395	146	118	Yes	26	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-3 (bg)	116.9	122	118	Yes	26	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-4 (bg)	-118.6	-133	-111	Yes	25	0	n/a	n/a	0.01	NP
Total dissolved solids (mg/L)	MW-4 (bg)	-165.9	-136	-111	Yes	25	0	n/a	n/a	0.01	NP

# Trend Test - All Results

Plant Gorgas    Client: Southern Company    Data: Gorgas GSA    Printed 10/6/2022, 4:43 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	GS-GSA-MW-3	-0.01629	-1	-74	No	19	0	n/a	n/a	0.01	NP
Boron (mg/L)	GS-GSA-MW-4	-0.265	-35	-74	No	19	0	n/a	n/a	0.01	NP
<b>Boron (mg/L)</b>	<b>GS-GSA-MW-8</b>	<b>0.4141</b>	<b>135</b>	<b>74</b>	<b>Yes</b>	<b>19</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
<b>Boron (mg/L)</b>	<b>MW-1 (bg)</b>	<b>0.003992</b>	<b>127</b>	<b>118</b>	<b>Yes</b>	<b>26</b>	<b>34.62</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
<b>Boron (mg/L)</b>	<b>MW-2 (bg)</b>	<b>0.00392</b>	<b>148</b>	<b>118</b>	<b>Yes</b>	<b>26</b>	<b>26.92</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Boron (mg/L)	MW-3 (bg)	0.001863	70	118	No	26	26.92	n/a	n/a	0.01	NP
Boron (mg/L)	MW-4 (bg)	-0.0003266	-35	-105	No	24	0	n/a	n/a	0.01	NP
Calcium (mg/L)	GS-GSA-MW-3	-4.191	-27	-74	No	19	0	n/a	n/a	0.01	NP
<b>Calcium (mg/L)</b>	<b>GS-GSA-MW-8</b>	<b>51.43</b>	<b>93</b>	<b>74</b>	<b>Yes</b>	<b>19</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Calcium (mg/L)	MW-1 (bg)	2.944	103	118	No	26	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-2 (bg)	1.272	38	118	No	26	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-3 (bg)	11.51	82	118	No	26	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-4 (bg)	-5.51	-64	-111	No	25	0	n/a	n/a	0.01	NP
Chloride (mg/L)	GS-GSA-MW-3	-7.078	-27	-74	No	19	0	n/a	n/a	0.01	NP
Chloride (mg/L)	GS-GSA-MW-4	-11.22	-57	-74	No	19	0	n/a	n/a	0.01	NP
<b>Chloride (mg/L)</b>	<b>GS-GSA-MW-8</b>	<b>22.43</b>	<b>97</b>	<b>74</b>	<b>Yes</b>	<b>19</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Chloride (mg/L)	MW-1 (bg)	-0.03141	-50	-118	No	26	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-2 (bg)	-0.1181	-48	-118	No	26	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-3 (bg)	0.06984	75	118	No	26	7.692	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-4 (bg)	-0.0632	-86	-111	No	25	4	n/a	n/a	0.01	NP
pH (pH)	GS-GSA-MW-4	-0.01158	-41	-81	No	20	0	n/a	n/a	0.01	NP
<b>pH (pH)</b>	<b>MW-1 (bg)</b>	<b>-0.02228</b>	<b>-170</b>	<b>-118</b>	<b>Yes</b>	<b>26</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
<b>pH (pH)</b>	<b>MW-2 (bg)</b>	<b>0.0395</b>	<b>146</b>	<b>118</b>	<b>Yes</b>	<b>26</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
pH (pH)	MW-3 (bg)	-0.005294	-6	-118	No	26	0	n/a	n/a	0.01	NP
pH (pH)	MW-4 (bg)	0.005207	33	118	No	26	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	GS-GSA-MW-3	-5.564	-11	-74	No	19	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	GS-GSA-MW-4	16.74	43	74	No	19	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-1 (bg)	18.29	64	111	No	25	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-2 (bg)	-39.06	-84	-118	No	26	0	n/a	n/a	0.01	NP
<b>Sulfate (mg/L)</b>	<b>MW-3 (bg)</b>	<b>116.9</b>	<b>122</b>	<b>118</b>	<b>Yes</b>	<b>26</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
<b>Sulfate (mg/L)</b>	<b>MW-4 (bg)</b>	<b>-118.6</b>	<b>-133</b>	<b>-111</b>	<b>Yes</b>	<b>25</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Total dissolved solids (mg/L)	GS-GSA-MW-4	21.07	35	74	No	19	0	n/a	n/a	0.01	NP
Total dissolved solids (mg/L)	MW-1 (bg)	44.17	105	111	No	25	0	n/a	n/a	0.01	NP
Total dissolved solids (mg/L)	MW-2 (bg)	-40.56	-71	-118	No	26	0	n/a	n/a	0.01	NP
Total dissolved solids (mg/L)	MW-3 (bg)	191.9	114	118	No	26	0	n/a	n/a	0.01	NP
<b>Total dissolved solids (mg/L)</b>	<b>MW-4 (bg)</b>	<b>-165.9</b>	<b>-136</b>	<b>-111</b>	<b>Yes</b>	<b>25</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>

# Upper Tolerance Limits Summary Table

Plant Gorgas Client: Southern Company Data: Gorgas GSA Printed 11/16/2021, 4:56 PM

<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	95	n/a	n/a	93.68	n/a	n/a	0.007651	NP Inter
Arsenic (mg/L)	n/a	0.005	n/a	n/a	n/a	95	n/a	n/a	83.16	n/a	n/a	0.007651	NP Inter
Barium (mg/L)	n/a	0.0166	n/a	n/a	n/a	95	n/a	n/a	0	n/a	n/a	0.007651	NP Inter
Beryllium (mg/L)	n/a	0.0121	n/a	n/a	n/a	93	n/a	n/a	83.87	n/a	n/a	0.008478	NP Inter
Cadmium (mg/L)	n/a	0.00652	n/a	n/a	n/a	94	n/a	n/a	44.68	n/a	n/a	0.008054	NP Inter
Chromium (mg/L)	n/a	0.0105	n/a	n/a	n/a	95	n/a	n/a	89.47	n/a	n/a	0.007651	NP Inter
Cobalt (mg/L)	n/a	0.64	n/a	n/a	n/a	93	n/a	n/a	24.73	n/a	n/a	0.008478	NP Inter
Combined Radium 226 + 228 (pCi/L)	n/a	1.47	n/a	n/a	n/a	81	n/a	n/a	0	n/a	n/a	0.01569	NP Inter
Fluoride (mg/L)	n/a	0.63	n/a	n/a	n/a	99	n/a	n/a	1.01	n/a	n/a	0.006232	NP Inter
Lead (mg/L)	n/a	0.002	n/a	n/a	n/a	94	n/a	n/a	94.68	n/a	n/a	0.008054	NP Inter
Lithium (mg/L)	n/a	0.419	n/a	n/a	n/a	95	n/a	n/a	0	n/a	n/a	0.007651	NP Inter
Mercury (mg/L)	n/a	0.0005	n/a	n/a	n/a	95	n/a	n/a	100	n/a	n/a	0.007651	NP Inter
Molybdenum (mg/L)	n/a	0.0002	n/a	n/a	n/a	95	n/a	n/a	97.89	n/a	n/a	0.007651	NP Inter
Selenium (mg/L)	n/a	0.0209	n/a	n/a	n/a	95	n/a	n/a	58.95	n/a	n/a	0.007651	NP Inter
Thallium (mg/L)	n/a	0.000226	n/a	n/a	n/a	95	n/a	n/a	96.84	n/a	n/a	0.007651	NP Inter



<b>GORGAS GYPSUM POND GWPS</b>			
<b>Analyte</b>	<b>Units</b>	<b>Background</b>	<b>GWPS</b>
Antimony	mg/L	0.00143	0.006
Arsenic	mg/L	0.005	0.01
Barium	mg/L	0.0166	2
Beryllium	mg/L	0.0121	0.004
Cadmium	mg/L	0.00652	0.005
Chromium	mg/L	0.0105	0.1
Cobalt	mg/L	0.64	0.64
Combined Radium-226/228	pCi/L	1.47	5
Fluoride	mg/L	0.63	4
Lead	mg/L	0.00692	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	0.0181	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.

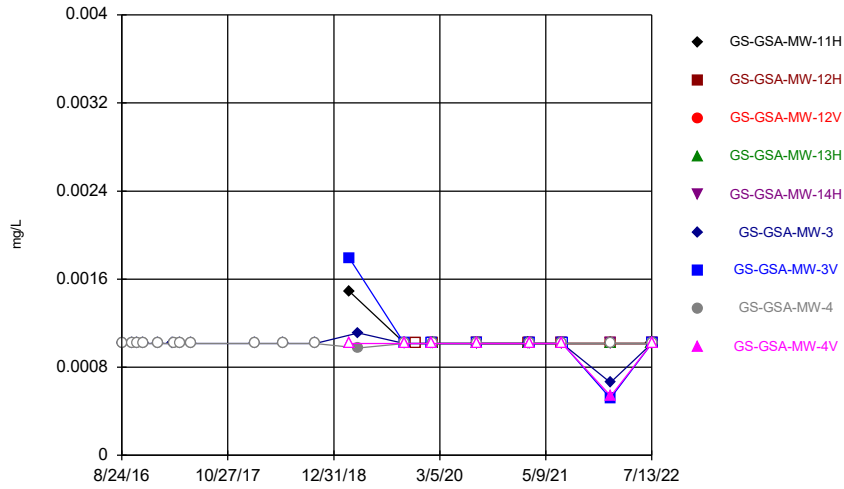
# Confidence Interval - All Results (No Significant)

Plant Gorgas    Client: Southern Company    Data: Gorgas GSA    Printed 10/7/2022, 1:10 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Antimony (mg/L)	GS-GSA-MW-3	0.00111	0.00066	0.006	No	8	75	No	0.004	NP (normality)
Antimony (mg/L)	GS-GSA-MW-4	0.001015	0.000976	0.006	No	8	87.5	No	0.004	NP (NDs)
Antimony (mg/L)	GS-GSA-MW-8	0.00102	0.001015	0.006	No	8	87.5	No	0.004	NP (NDs)
Arsenic (mg/L)	GS-GSA-MW-3	0.001481	0.0005665	0.01	No	8	37.5	ln(x)	0.01	Param.
Arsenic (mg/L)	GS-GSA-MW-4	0.00694	0.00115	0.01	No	8	0	No	0.004	NP (normality)
Arsenic (mg/L)	GS-GSA-MW-8	0.005	0.000156	0.01	No	8	50	No	0.004	NP (normality)
Barium (mg/L)	GS-GSA-MW-3	0.0153	0.01247	2	No	8	0	No	0.01	Param.
Barium (mg/L)	GS-GSA-MW-4	0.01438	0.01079	2	No	8	0	No	0.01	Param.
Barium (mg/L)	GS-GSA-MW-8	0.02312	0.01998	2	No	8	0	No	0.01	Param.
Beryllium (mg/L)	GS-GSA-MW-3	0.00219	0.001433	0.004	No	8	0	No	0.01	Param.
Beryllium (mg/L)	GS-GSA-MW-4	0.0228	0.00385	0.004	No	8	0	No	0.004	NP (normality)
Cadmium (mg/L)	GS-GSA-MW-4	0.00687	0.00143	0.005	No	8	0	No	0.004	NP (normality)
Chromium (mg/L)	GS-GSA-MW-3	0.01	0.000341	0.1	No	8	50	No	0.004	NP (normality)
Chromium (mg/L)	GS-GSA-MW-4	0.01	0.000567	0.1	No	8	50	No	0.004	NP (normality)
Chromium (mg/L)	GS-GSA-MW-8	0.01	0.000258	0.1	No	8	50	No	0.004	NP (normality)
Cobalt (mg/L)	GS-GSA-MW-3	0.1262	0.05461	0.64	No	8	0	No	0.01	Param.
Cobalt (mg/L)	GS-GSA-MW-4	0.878	0.213	0.64	No	8	0	No	0.004	NP (normality)
Cobalt (mg/L)	GS-GSA-MW-8	0.00546	0.000233	0.64	No	8	50	No	0.004	NP (normality)
Combined Radium 226 + 228 (pCi/L)	GS-GSA-MW-3	0.5558	0.2202	5	No	8	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	GS-GSA-MW-4	1.284	0.2732	5	No	8	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	GS-GSA-MW-8	0.9426	-0.009842	5	No	8	0	No	0.01	Param.
Fluoride (mg/L)	GS-GSA-MW-3	0.6368	0.3505	4	No	8	0	No	0.01	Param.
Fluoride (mg/L)	GS-GSA-MW-8	0.1853	0.1005	4	No	8	0	No	0.01	Param.
Lead (mg/L)	GS-GSA-MW-3	0.000203	0.000095	0.015	No	8	50	No	0.004	NP (normality)
Lead (mg/L)	GS-GSA-MW-4	0.00228	0.000203	0.015	No	8	50	No	0.004	NP (normality)
Lead (mg/L)	GS-GSA-MW-8	0.000203	0.000145	0.015	No	8	75	No	0.004	NP (normality)
Lithium (mg/L)	GS-GSA-MW-3	0.4907	0.358	0.419	No	8	0	No	0.01	Param.
Lithium (mg/L)	GS-GSA-MW-4	1.89	0.262	0.419	No	8	0	No	0.004	NP (normality)
Lithium (mg/L)	GS-GSA-MW-8	0.2132	0.1703	0.419	No	8	0	No	0.01	Param.
Molybdenum (mg/L)	GS-GSA-MW-3	0.01	0.00022	0.1	No	8	50	No	0.004	NP (normality)
Molybdenum (mg/L)	GS-GSA-MW-8	0.01	0.00012	0.1	No	8	50	No	0.004	NP (normality)
Selenium (mg/L)	GS-GSA-MW-3	0.01	0.00117	0.05	No	8	37.5	No	0.004	NP (normality)
Selenium (mg/L)	GS-GSA-MW-4	0.01198	0.001933	0.05	No	8	25	sqrt(x)	0.01	Param.
Thallium (mg/L)	GS-GSA-MW-4	0.0003445	0.0001165	0.002	No	8	37.5	ln(x)	0.01	Param.

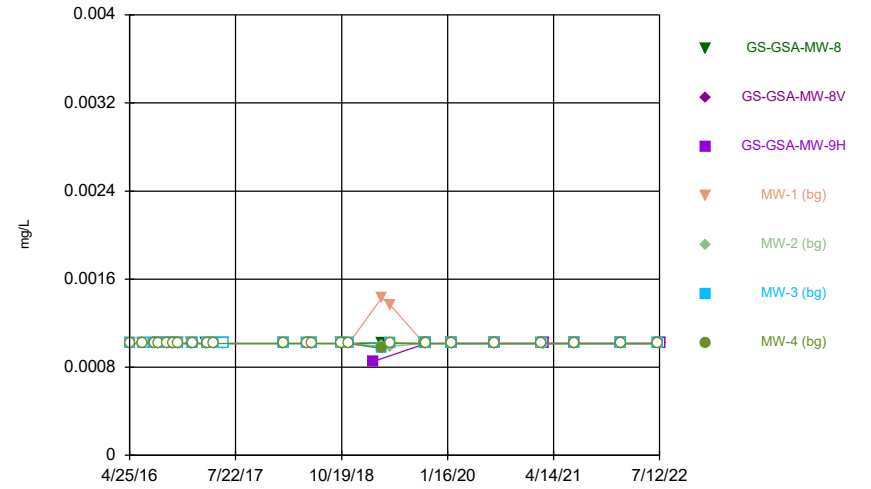
FIGURE A.

Time Series



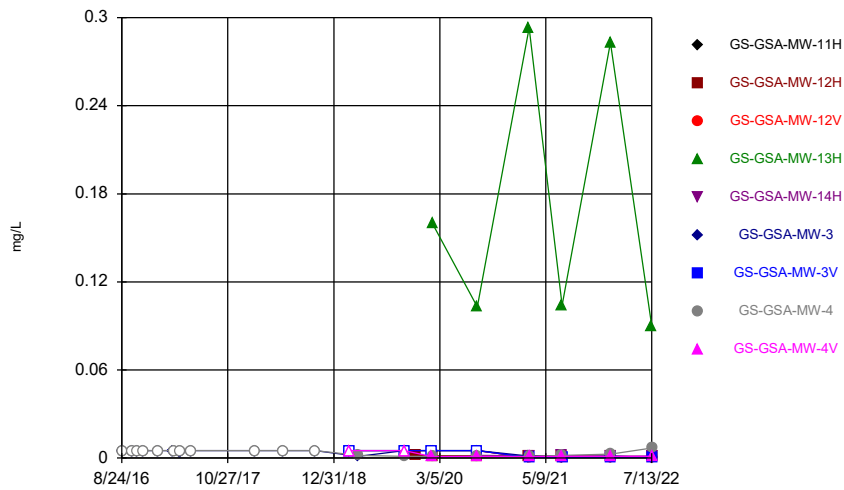
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Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



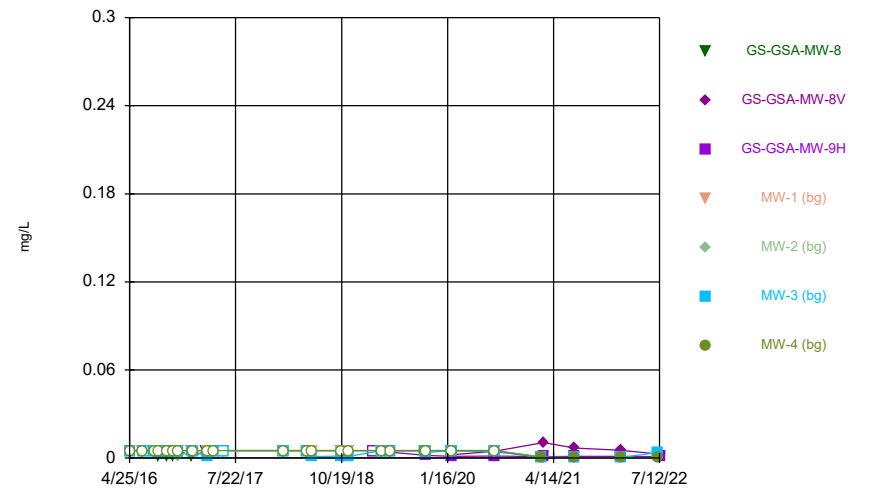
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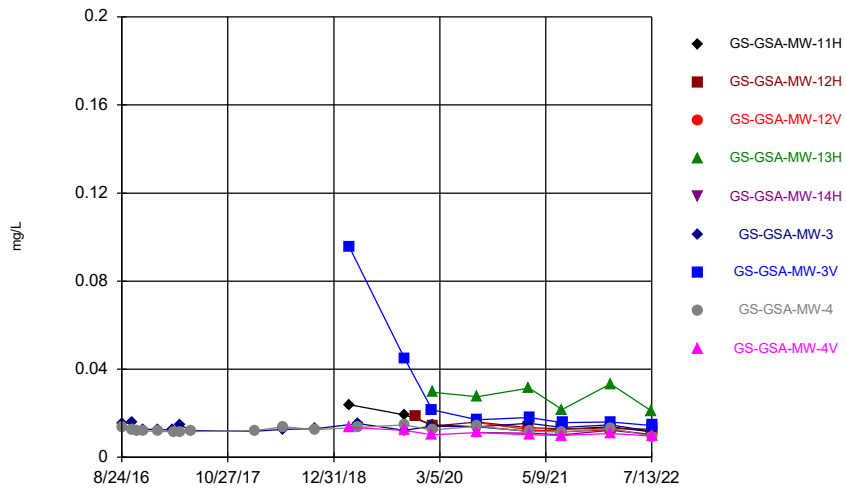
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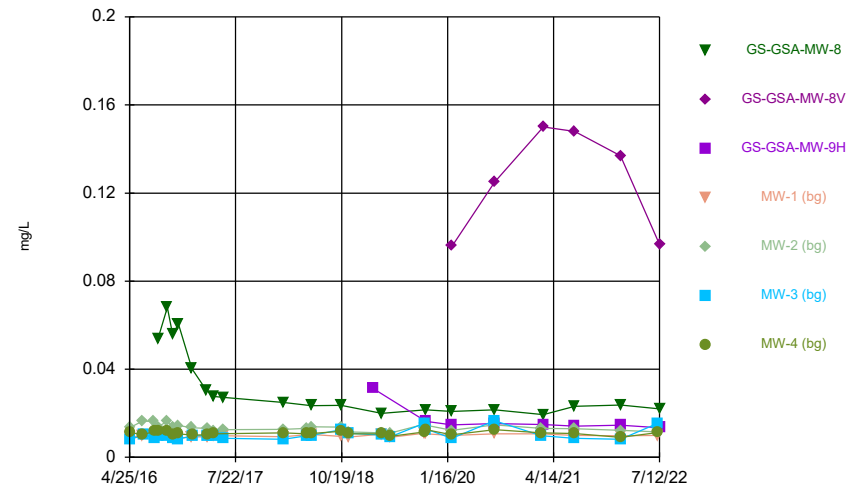
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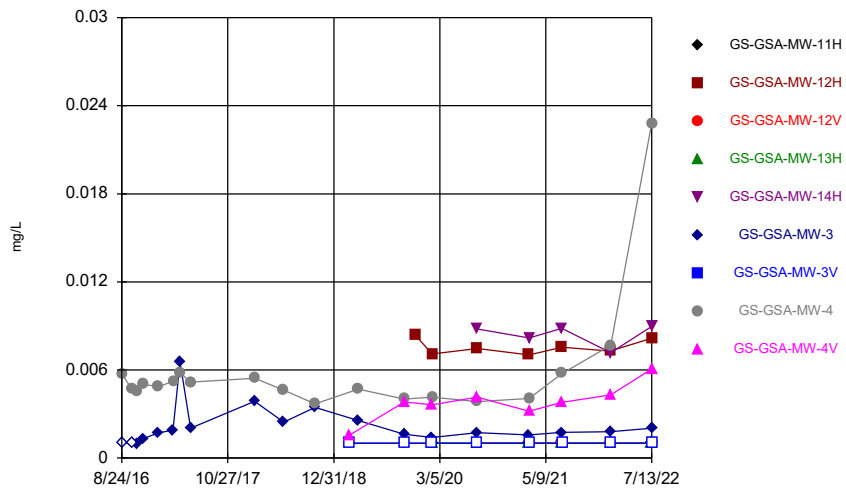
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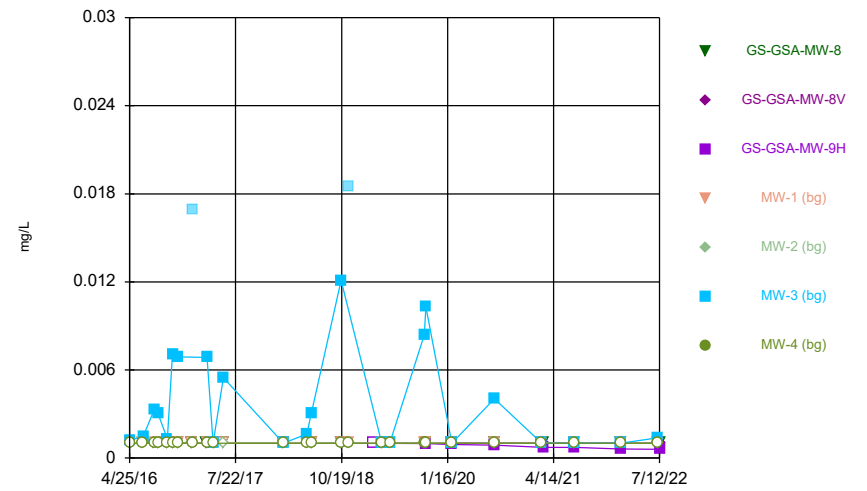
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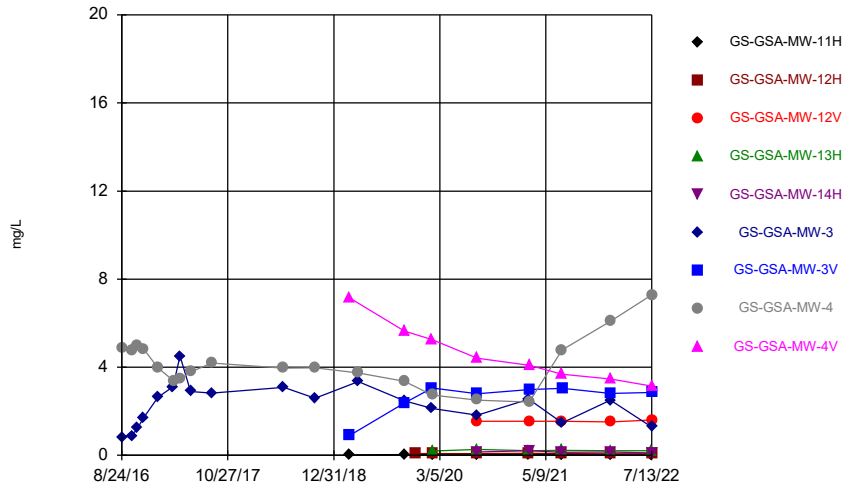
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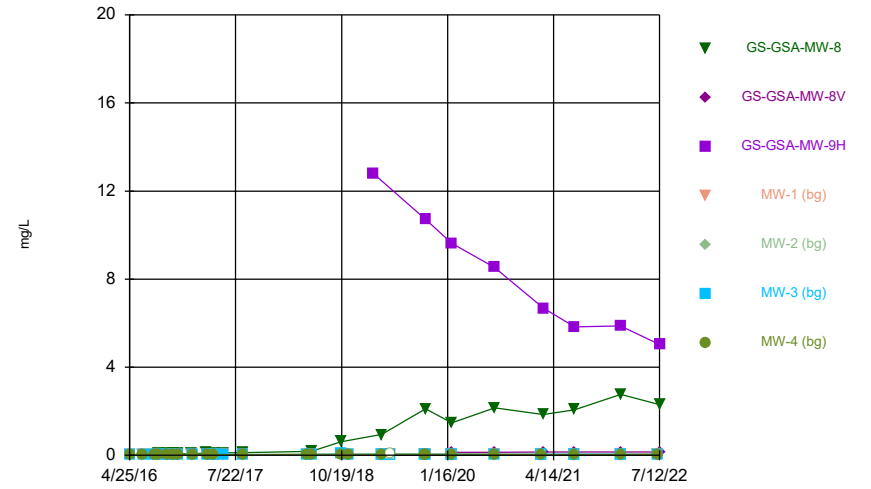
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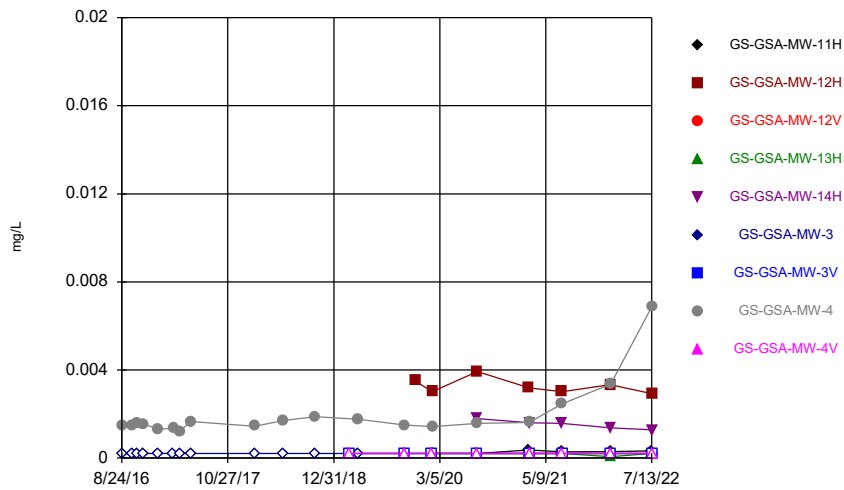
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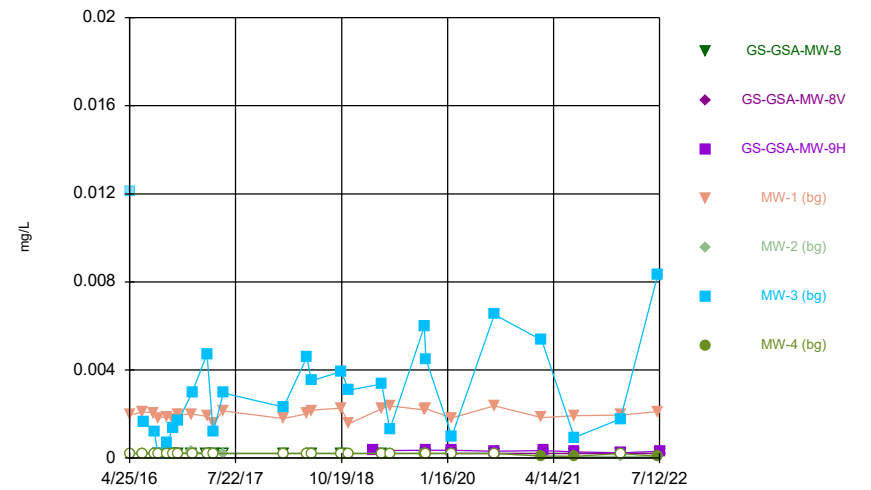
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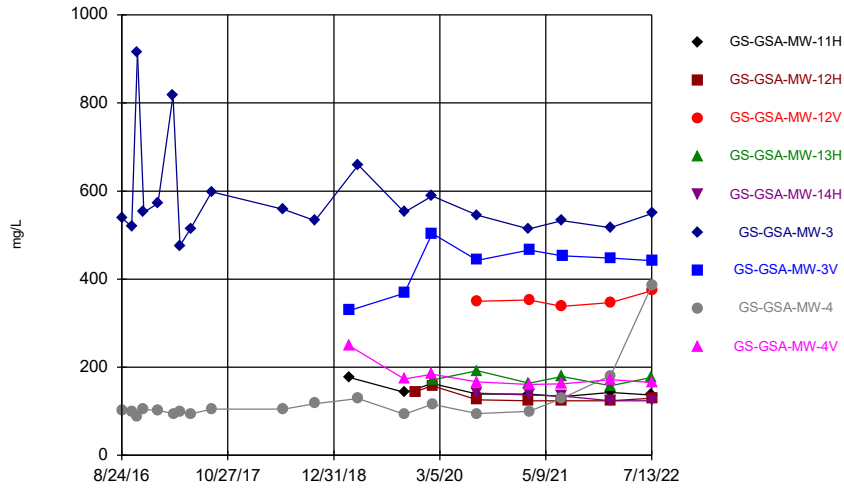
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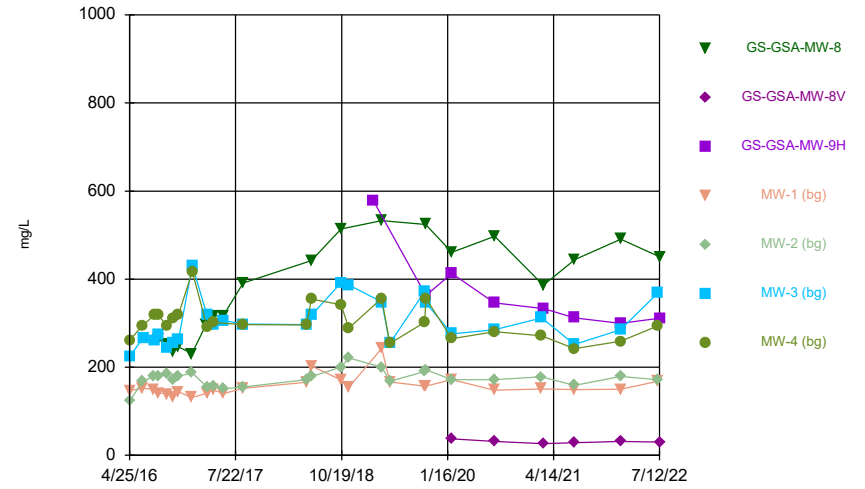
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Time Series



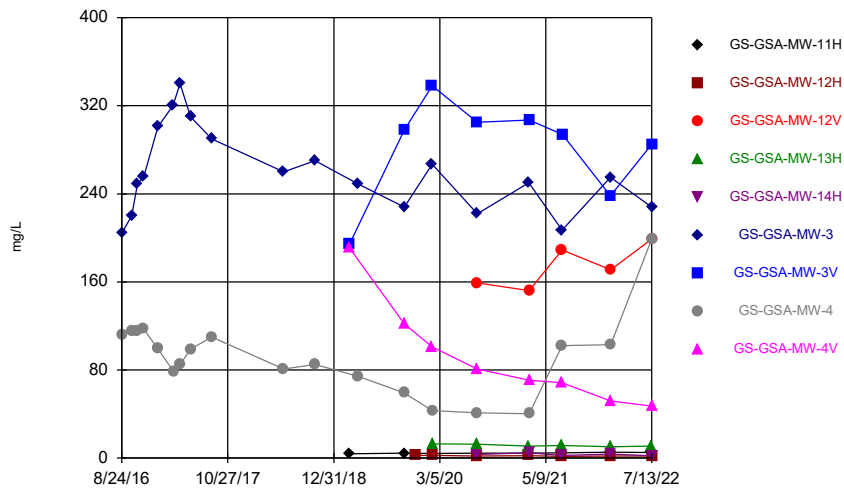
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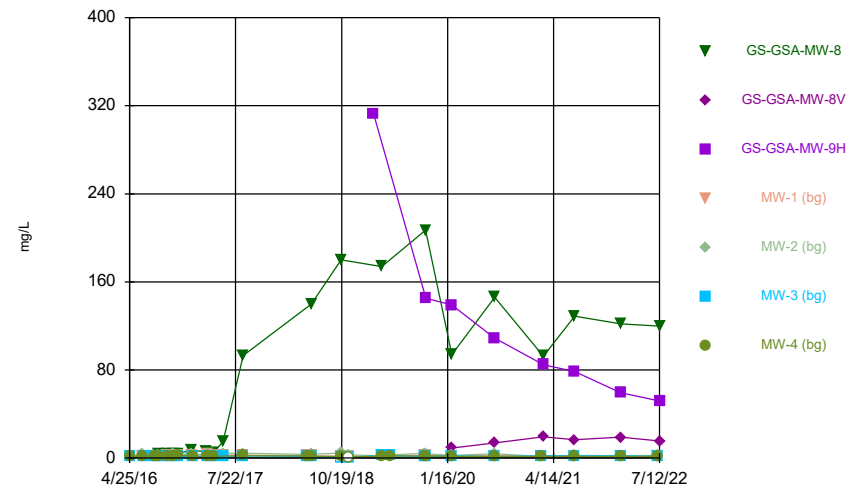
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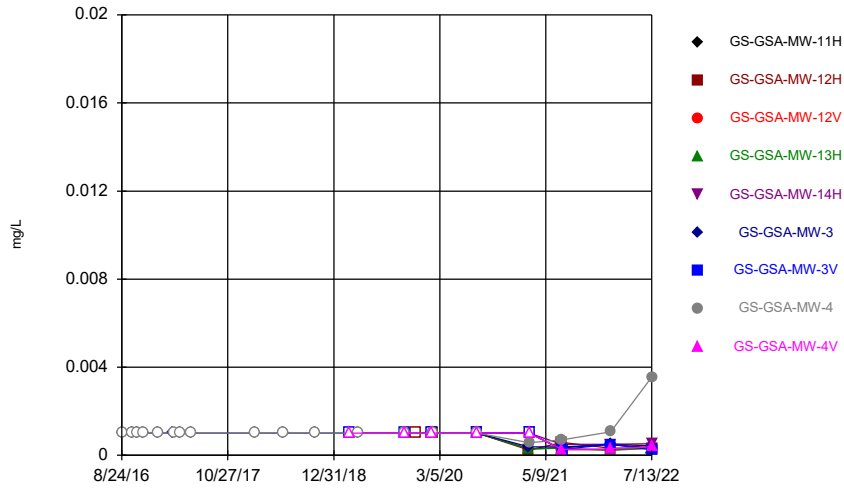
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Time Series



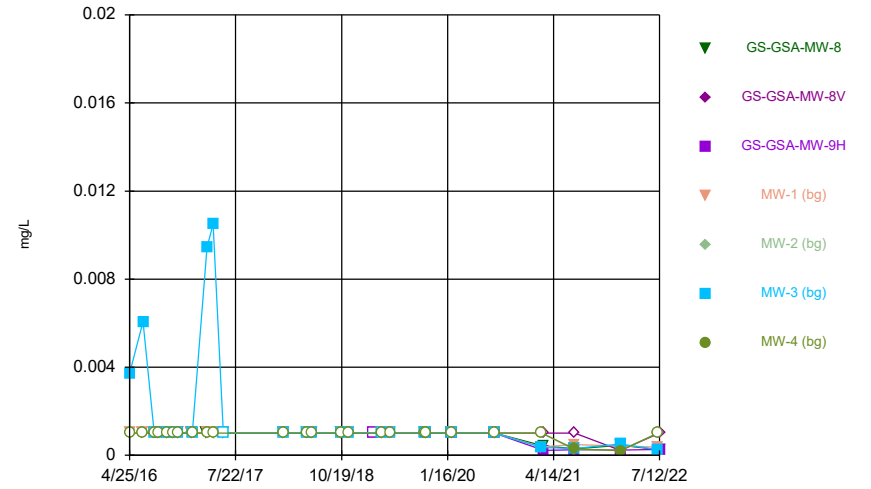
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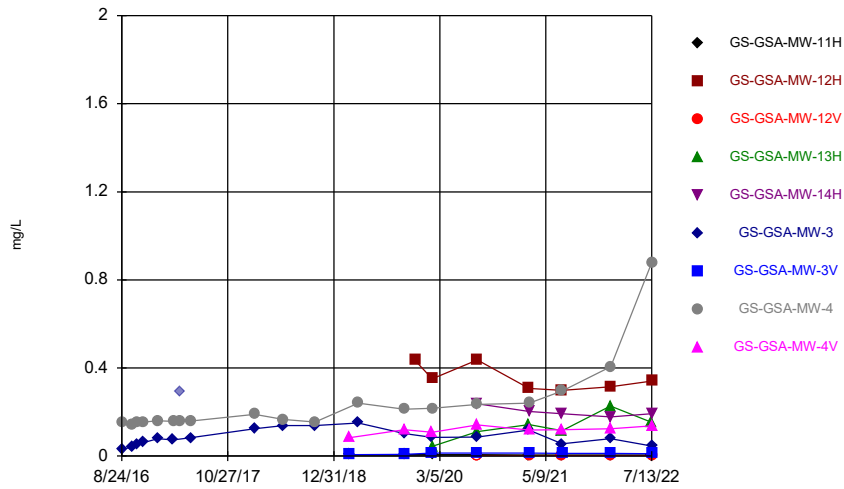
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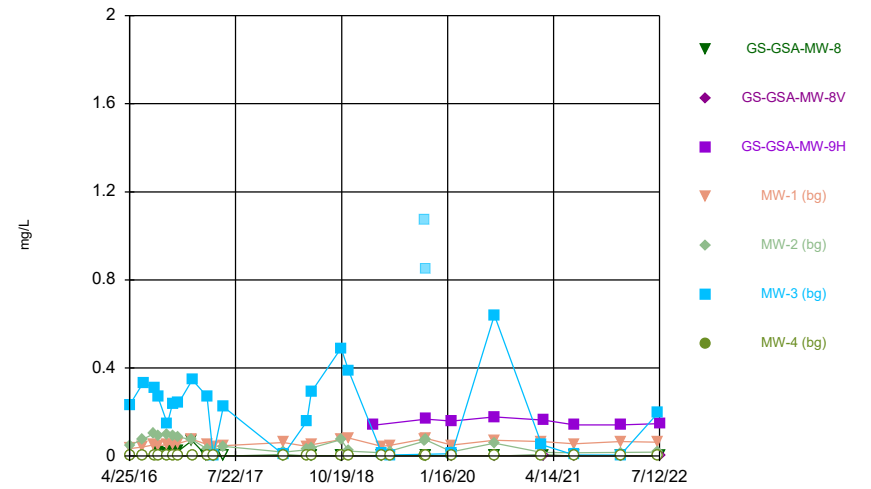
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### Time Series



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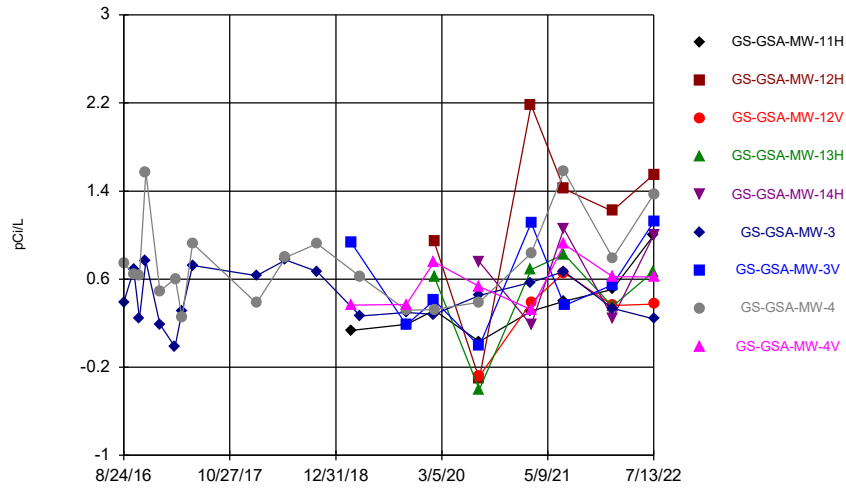
### Time Series



Constituent: Cobalt Analysis Run 10/13/2022 12:41 PM  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

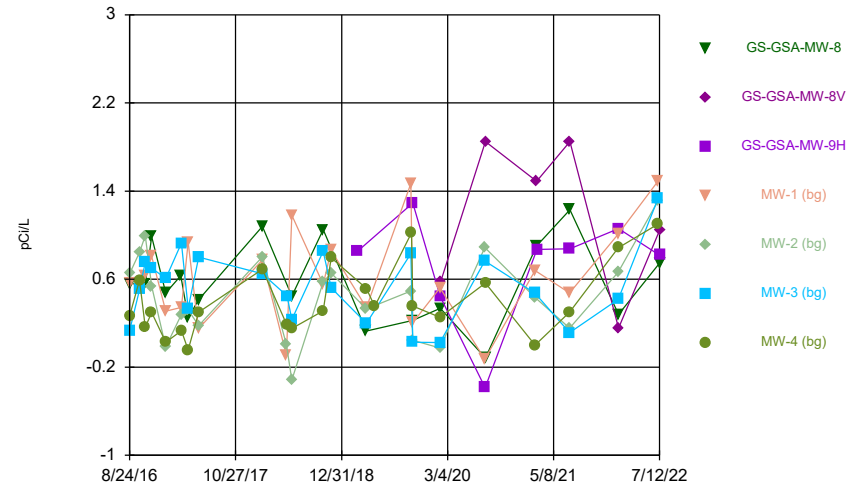


Time Series



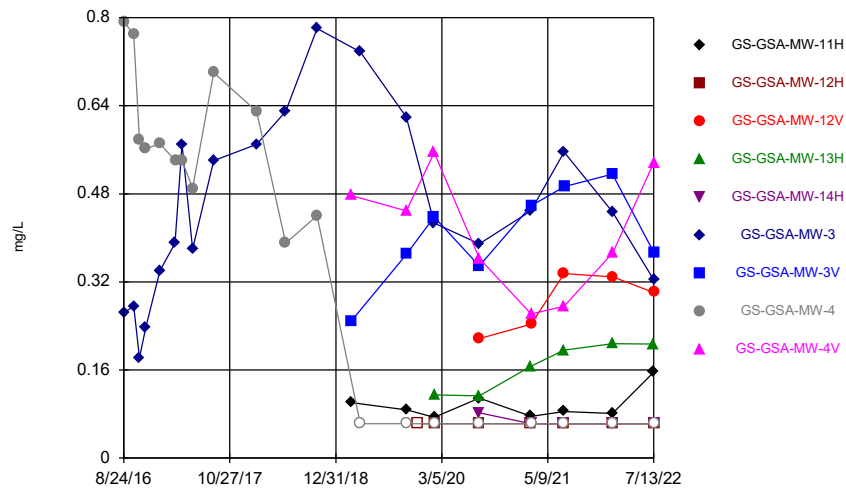
Constituent: Combined Radium 226 + 228 Analysis Run 10/13/2022 12:41 PM  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



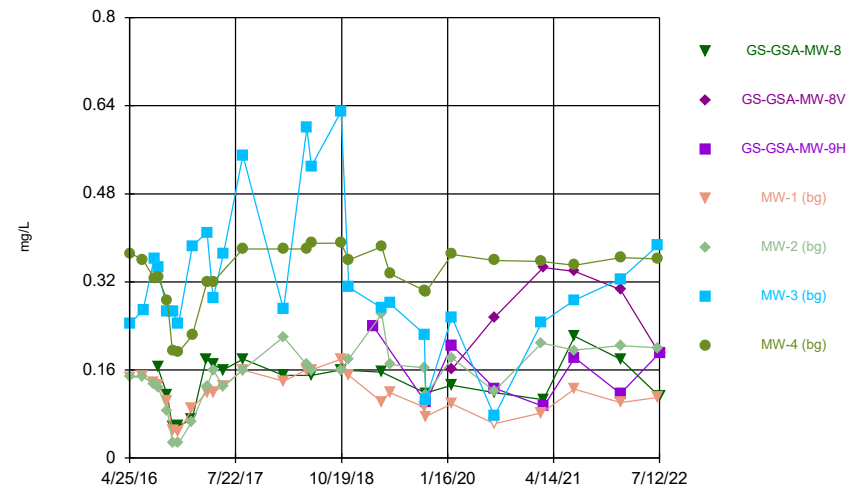
Constituent: Combined Radium 226 + 228 Analysis Run 10/13/2022 12:41 PM  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



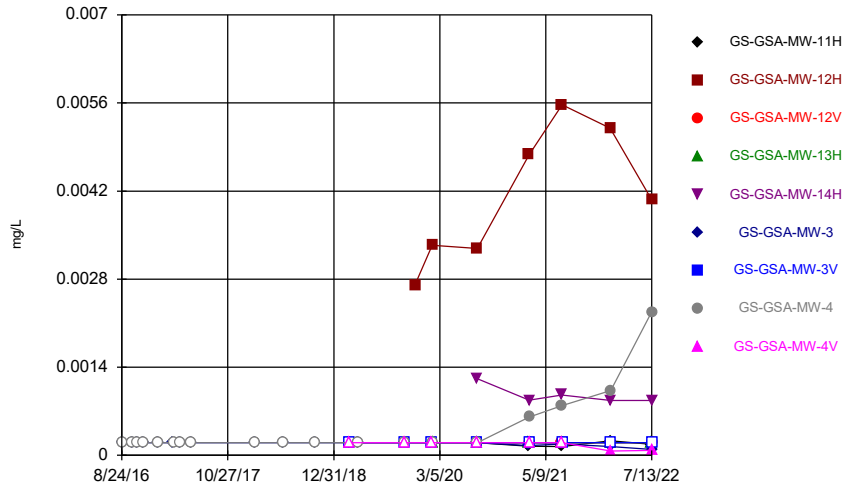
Constituent: Fluoride Analysis Run 10/13/2022 12:41 PM  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



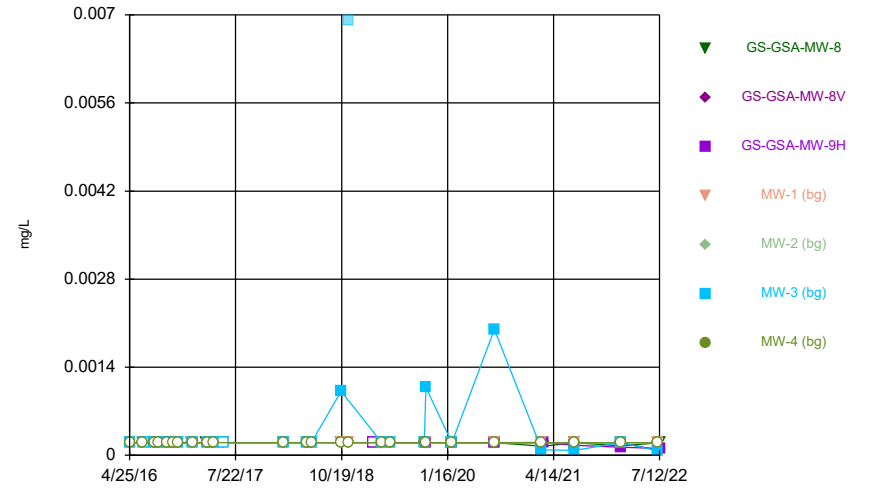
Constituent: Fluoride Analysis Run 10/13/2022 12:41 PM  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Time Series



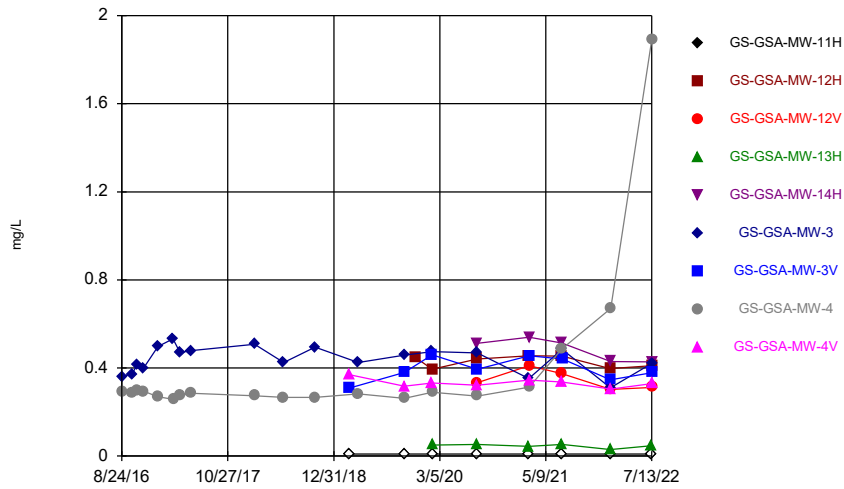
Constituent: Lead Analysis Run 10/13/2022 12:42 PM  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Time Series



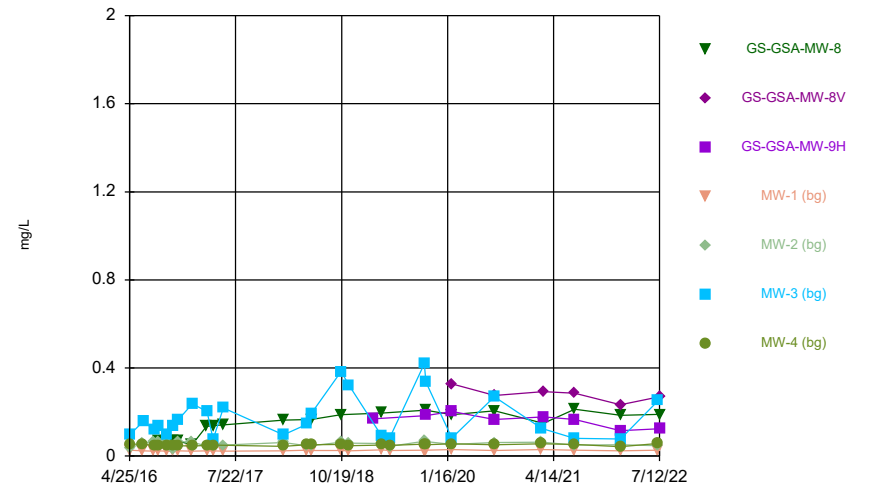
Constituent: Lead Analysis Run 10/13/2022 12:42 PM  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Time Series



Constituent: Lithium Analysis Run 10/13/2022 12:42 PM  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

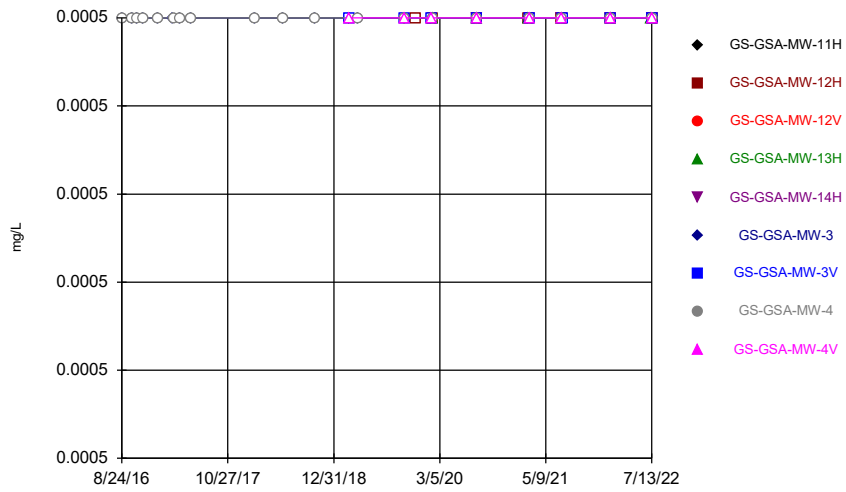
### Time Series



Constituent: Lithium Analysis Run 10/13/2022 12:42 PM  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Sanitas™ v.9.6.35 . UG  
Hollow symbols indicate censored values.

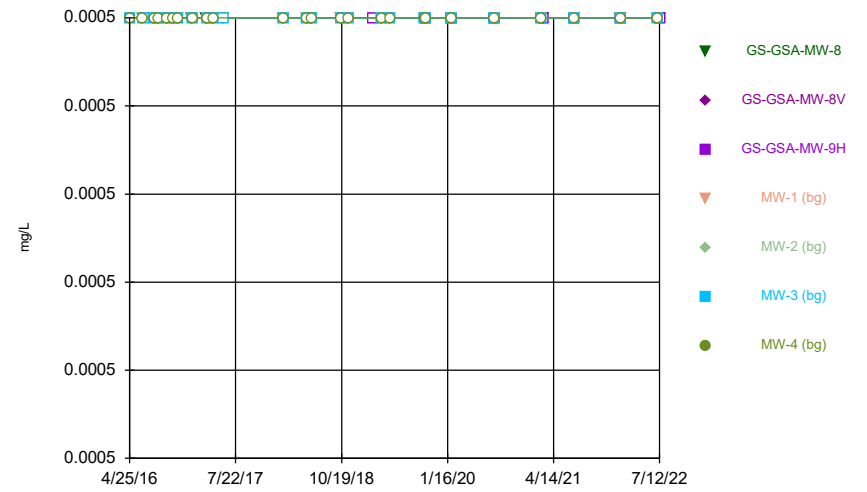
### Time Series



Constituent: Mercury Analysis Run 10/13/2022 12:42 PM  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Sanitas™ v.9.6.35 . UG  
Hollow symbols indicate censored values.

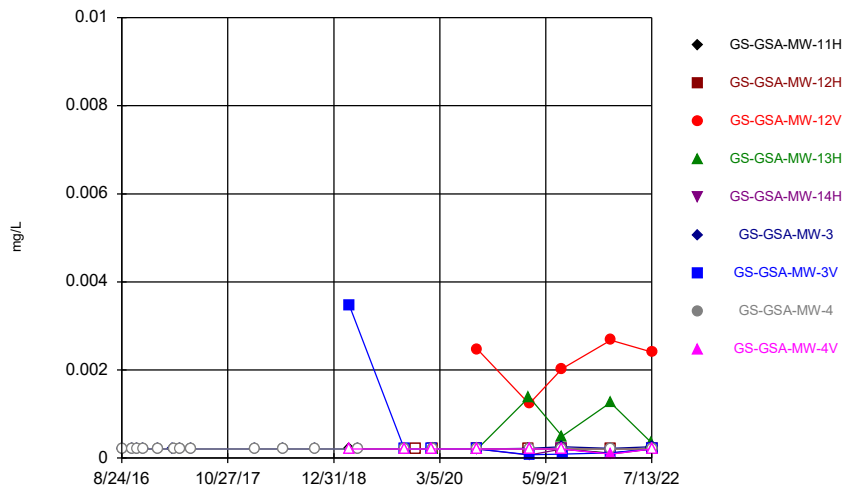
### Time Series



Constituent: Mercury Analysis Run 10/13/2022 12:42 PM  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Sanitas™ v.9.6.35 . UG  
Hollow symbols indicate censored values.

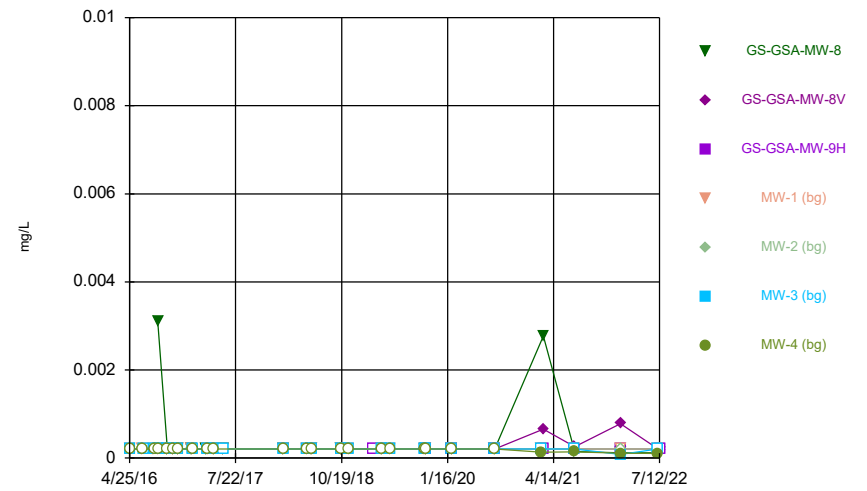
### Time Series



Constituent: Molybdenum Analysis Run 10/13/2022 12:42 PM  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

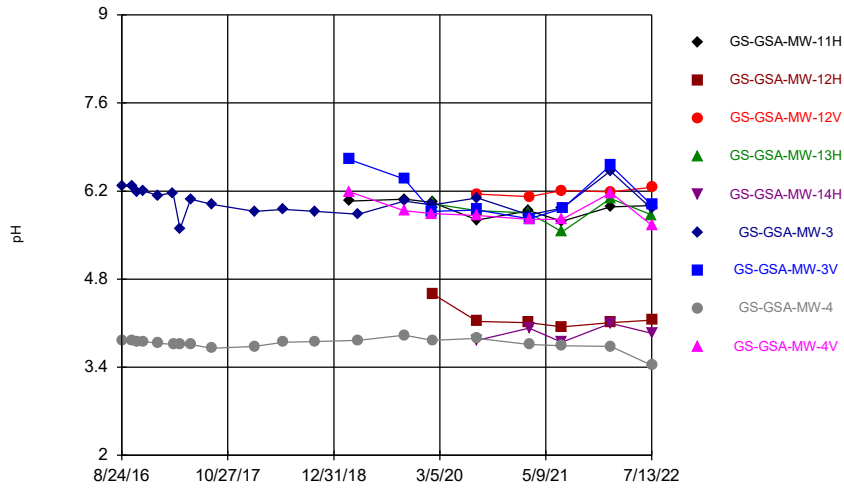
Sanitas™ v.9.6.35 . UG  
Hollow symbols indicate censored values.

### Time Series



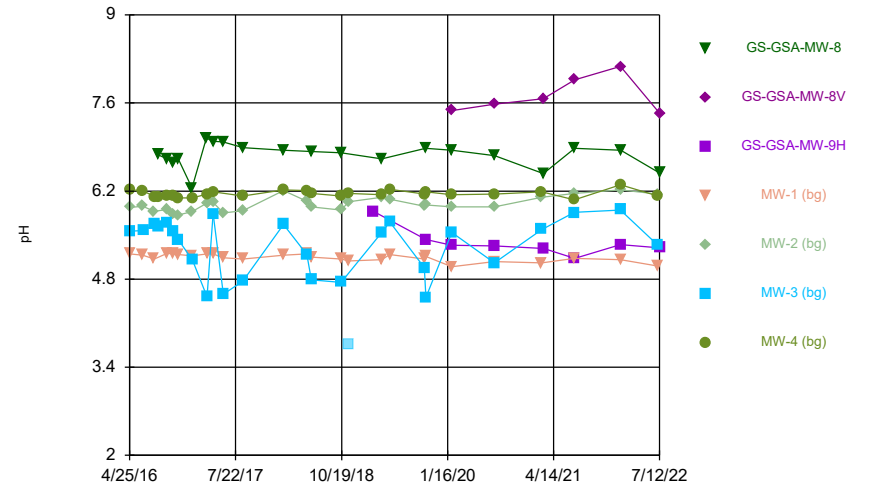
Constituent: Molybdenum Analysis Run 10/13/2022 12:42 PM  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



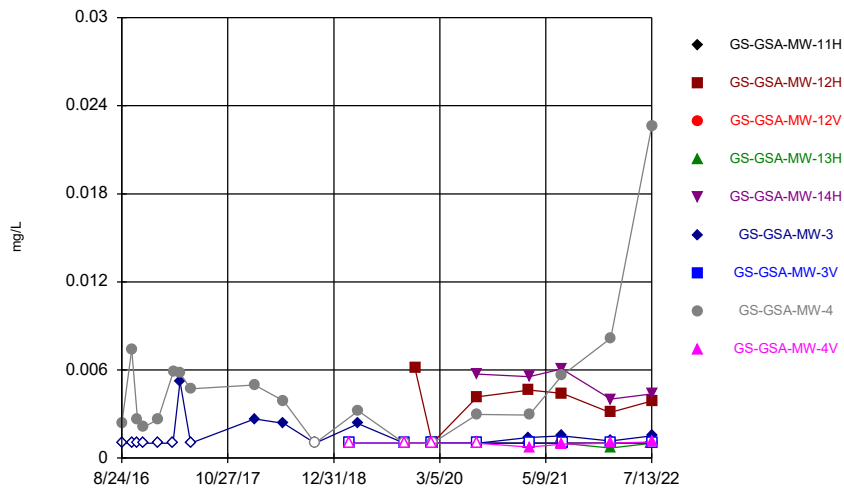
Constituent: pH Analysis Run 10/13/2022 12:42 PM  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



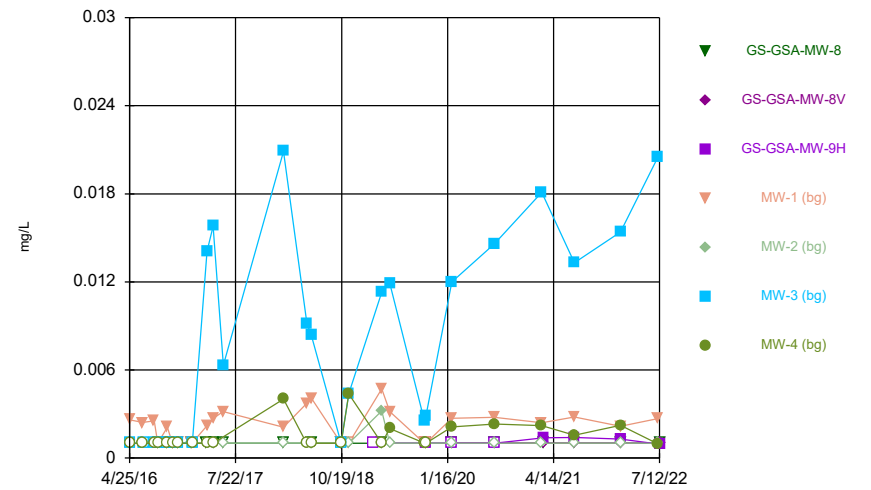
Constituent: pH Analysis Run 10/13/2022 12:42 PM  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



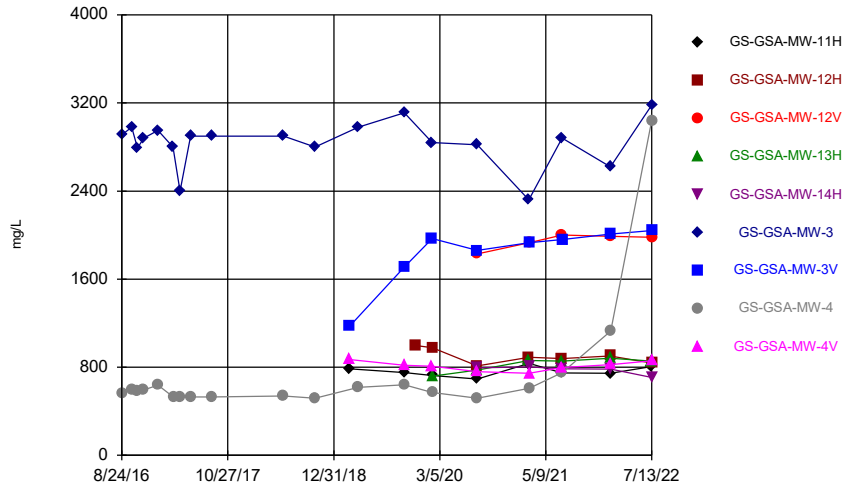
Constituent: Selenium Analysis Run 10/13/2022 12:42 PM  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



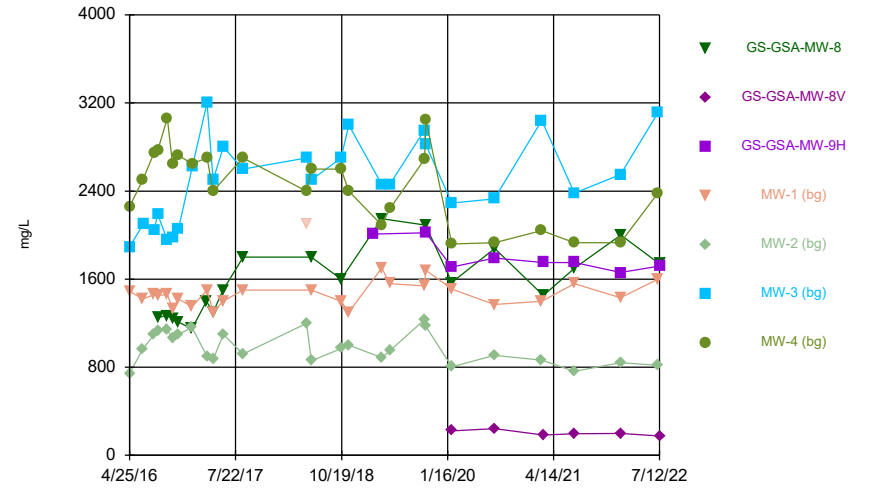
Constituent: Selenium Analysis Run 10/13/2022 12:42 PM  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



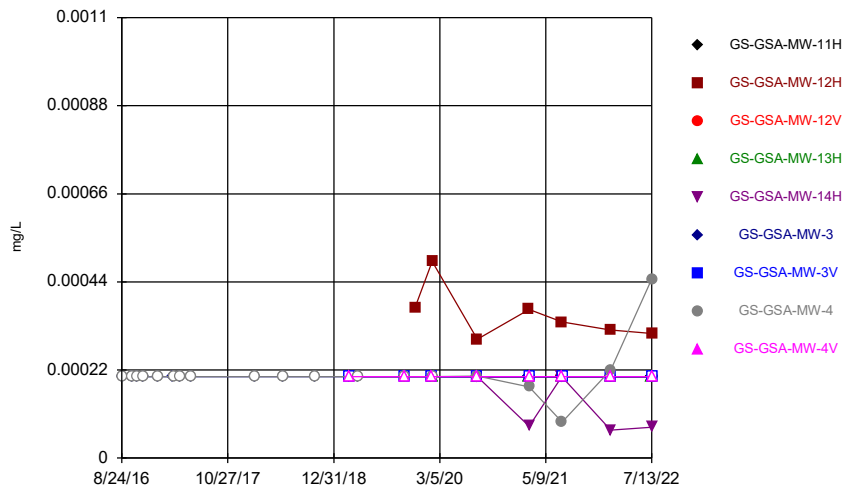
Constituent: Sulfate Analysis Run 10/13/2022 12:42 PM  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



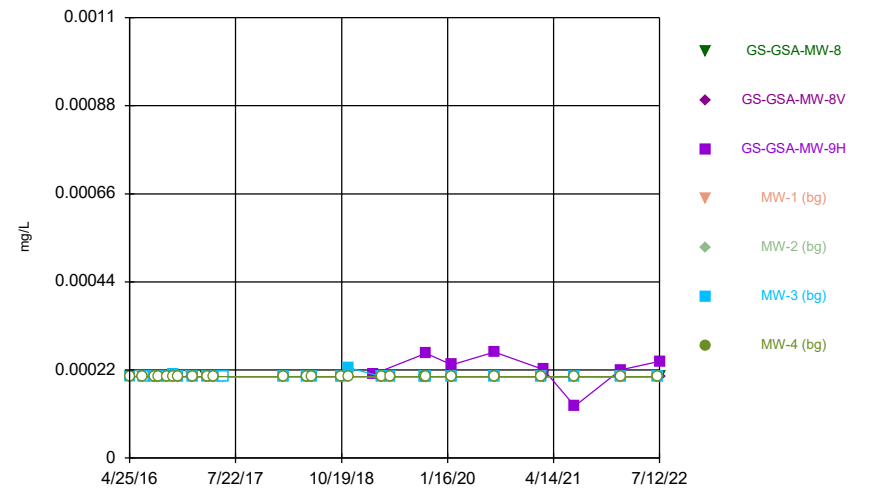
Constituent: Sulfate Analysis Run 10/13/2022 12:42 PM  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



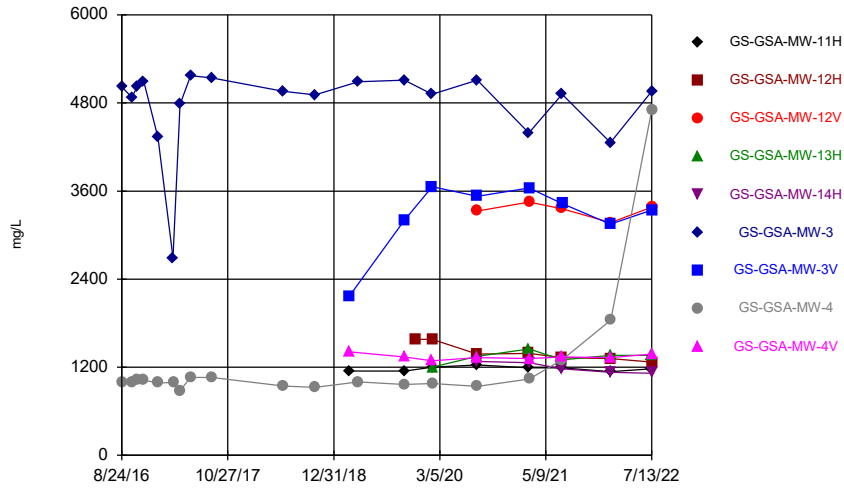
Constituent: Thallium Analysis Run 10/13/2022 12:42 PM  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



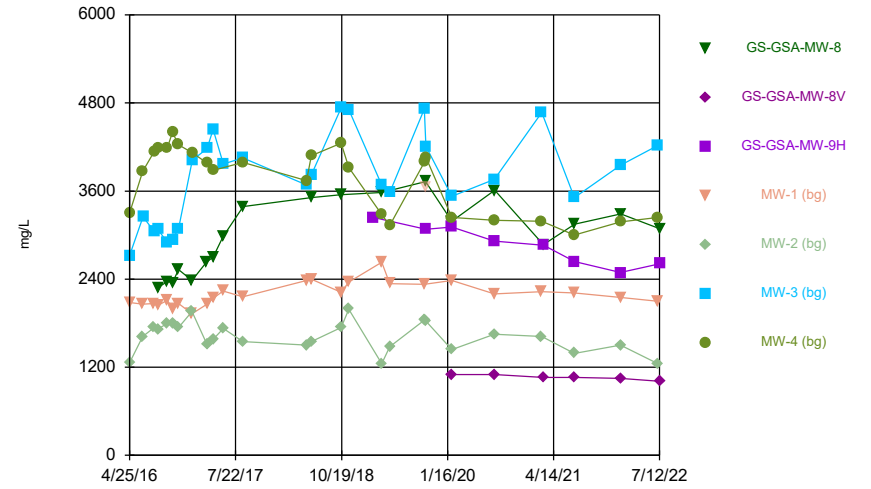
Constituent: Thallium Analysis Run 10/13/2022 12:42 PM  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Time Series



Constituent: Total dissolved solids Analysis Run 10/13/2022 12:42 PM  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Time Series



Constituent: Total dissolved solids Analysis Run 10/13/2022 12:42 PM  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

# Time Series

Constituent: Antimony (mg/L) Analysis Run 10/13/2022 12:43 PM

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						<0.001015		<0.001015	
10/3/2016						<0.001015		<0.001015	
10/26/2016						<0.001015		<0.001015	
11/21/2016						<0.001015		<0.001015	
1/17/2017						<0.001015		<0.001015	
3/20/2017						<0.001015			
3/21/2017								<0.001015	
4/17/2017						<0.001015		<0.001015	
5/30/2017						<0.001015		<0.001015	
2/13/2018						<0.001015		<0.001015	
6/11/2018						<0.001015		<0.001015	
10/17/2018						<0.001015		<0.001015	
3/4/2019	0.00149 (J)								
3/5/2019							0.00179 (J)		<0.001015
4/10/2019						0.00111 (J)		0.000976 (J)	
10/14/2019						<0.001015	<0.001015	<0.001015	<0.001015
10/16/2019	<0.001015								
11/26/2019		<0.001015							
2/3/2020						<0.001015	<0.001015		<0.001015
2/4/2020	<0.001015	<0.001015		<0.001015				<0.001015	
8/4/2020	<0.001015			<0.001015		<0.001015	<0.001015		
8/5/2020		<0.001015	<0.001015		<0.001015			<0.001015	<0.001015
3/1/2021						<0.001015			
3/2/2021	<0.001015	<0.001015		<0.001015					
3/3/2021			<0.001015		<0.001015		<0.001015	<0.001015	<0.001015
7/13/2021					<0.001015				
7/14/2021	<0.001015	<0.001015	<0.001015	<0.001015		<0.001015		<0.001015	<0.001015
7/15/2021							<0.001015		
1/25/2022		<0.001015							
1/26/2022	<0.001015			<0.001015		0.00066 (J)	0.00052 (J)		
1/27/2022			<0.001015		<0.001015			<0.001015	0.00054 (J)
7/12/2022	<0.001015			<0.001015					
7/13/2022		<0.001015	<0.001015		<0.001015	<0.001015	<0.001015	<0.001015	<0.001015

# Time Series

Constituent: Antimony (mg/L) Analysis Run 10/13/2022 12:43 PM

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016					<0.001015	<0.001015	<0.001015
4/26/2016				<0.001015			
6/20/2016				<0.001015	<0.001015		<0.001015
6/22/2016						<0.001015	
8/8/2016				<0.001015	<0.001015		
8/9/2016						<0.001015	<0.001015
8/24/2016	<0.001015			<0.001015	<0.001015	<0.001015	<0.001015
10/3/2016	<0.001015			<0.001015	<0.001015		<0.001015
10/4/2016						<0.001015	
10/26/2016	<0.001015			<0.001015	<0.001015	<0.001015	<0.001015
11/21/2016	<0.001015			<0.001015	<0.001015	<0.001015	<0.001015
1/17/2017	<0.001015			<0.001015	<0.001015		
1/18/2017						<0.001015	<0.001015
3/20/2017	<0.001015						
3/22/2017				<0.001015	<0.001015	<0.001015	<0.001015
4/18/2017	<0.001015			<0.001015	<0.001015	<0.001015	<0.001015
5/30/2017	<0.001015			<0.001015			
5/31/2017					<0.001015	<0.001015	
2/13/2018	<0.001015			<0.001015	<0.001015	<0.001015	<0.001015
5/22/2018				<0.001015	<0.001015		
5/23/2018							<0.001015
5/24/2018						<0.001015	
6/12/2018	<0.001015			<0.001015	<0.001015	<0.001015	<0.001015
10/17/2018	<0.001015			<0.001015	<0.001015	<0.001015	<0.001015
11/19/2018				<0.001015	<0.001015	<0.001015	<0.001015
3/5/2019			0.000852 (J)				
4/10/2019	0.00102 (J)			0.00143 (J)	0.000993 (J)	0.000978 (J)	0.00097 (J)
5/14/2019				0.00137 (J)	0.000989 (J)	<0.001015	<0.001015
10/8/2019				<0.001015	<0.001015	<0.001015	
10/10/2019							<0.001015
10/14/2019	<0.001015						
10/16/2019			<0.001015	<0.001015	<0.001015	<0.001015	<0.001015
2/3/2020				<0.001015	<0.001015	<0.001015	<0.001015
2/4/2020	<0.001015		<0.001015				
2/5/2020		<0.001015					
8/3/2020				<0.001015	<0.001015	<0.001015	
8/4/2020			<0.001015				
8/5/2020	<0.001015	<0.001015					<0.001015
2/22/2021				<0.001015	<0.001015	<0.001015	<0.001015
3/1/2021	<0.001015	<0.001015					
3/2/2021			<0.001015				
7/12/2021				<0.001015	<0.001015	<0.001015	<0.001015
7/13/2021			<0.001015				
7/14/2021	<0.001015	<0.001015					
1/25/2022				<0.001015	<0.001015	<0.001015	<0.001015
1/26/2022		<0.001015	<0.001015				
1/27/2022	<0.001015						
7/5/2022				<0.001015	<0.001015	<0.001015	<0.001015
7/12/2022	<0.001015	<0.001015	<0.001015				



# Time Series

Constituent: Arsenic (mg/L) Analysis Run 10/13/2022 12:43 PM

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						<0.005		<0.005	
10/3/2016						<0.005		<0.005	
10/26/2016						<0.005		<0.005	
11/21/2016						<0.005		<0.005	
1/17/2017						<0.005		<0.005	
3/20/2017						<0.005			
3/21/2017								<0.005	
4/17/2017						0.00405 (J)		<0.005	
5/30/2017						<0.005		<0.005	
2/13/2018						<0.005		<0.005	
6/11/2018						<0.005		<0.005	
10/17/2018						<0.005		<0.005	
3/4/2019	<0.005								
3/5/2019							<0.005		<0.005
4/10/2019						0.00121 (J)		0.00176 (J)	
10/14/2019						<0.005	<0.005	0.0012 (J)	<0.005
10/16/2019	<0.005								
11/26/2019		0.00194 (J)							
2/3/2020						<0.005	<0.005		0.00101 (J)
2/4/2020	<0.005	0.00157 (J)		0.16				0.00128 (J)	
8/4/2020	<0.005			0.103		<0.005	<0.005		
8/5/2020		0.00158 (J)	<0.005		0.00181 (J)			0.00115 (J)	0.00116 (J)
3/1/2021						0.0014			
3/2/2021	0.00039	0.00138		0.293					
3/3/2021			0.000339		0.00155		0.000296	0.00116	0.00107
7/13/2021					0.00172				
7/14/2021	0.00041	0.00161	0.00048	0.104		0.00057		0.00174	0.00118
7/15/2021							0.00028		
1/25/2022		0.00129							
1/26/2022	0.00043			0.283		0.00136	0.00036		
1/27/2022			0.00066		0.00128			0.00274	0.00124
7/12/2022	0.000292			0.0902					
7/13/2022		0.00106	0.000522		0.0013	0.000491	0.000178 (J)	0.00694	0.00117

# Time Series

Constituent: Arsenic (mg/L) Analysis Run 10/13/2022 12:43 PM

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	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	0.00119 (J)			<0.005	<0.005	<0.005	<0.005
10/3/2016	0.00114 (J)			<0.005	<0.005		<0.005
10/4/2016						<0.005	
10/26/2016	0.0011 (J)			<0.005	<0.005	<0.005	<0.005
11/21/2016	<0.005			<0.005	0.00111 (J)	<0.005	<0.005
1/17/2017	0.00103 (J)			<0.005	<0.005		
1/18/2017						<0.005	<0.005
3/20/2017	<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	<0.005
5/30/2017	<0.005			<0.005			
5/31/2017					<0.005	<0.005	
2/13/2018	<0.005			<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	<0.005	0.00103 (J)	<0.005
10/17/2018	<0.005			<0.005	<0.005	0.00133 (J)	<0.005
11/19/2018				<0.005	<0.005	0.0012 (J)	<0.005
3/5/2019		<0.005					
4/10/2019	<0.005			<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
10/14/2019	<0.005						
10/16/2019			0.0019 (J)	<0.005	<0.005	0.00389 (J)	<0.005
2/3/2020				<0.005	<0.005	<0.005	<0.005
2/4/2020	<0.005		0.00123 (J)				
2/5/2020		0.00232 (J)					
8/3/2020				<0.005	<0.005	0.00426 (J)	
8/4/2020			0.00137 (J)				
8/5/2020	<0.005	0.00476 (J)					<0.005
2/22/2021				0.000403	0.000295	0.000789	0.000125 (J)
3/1/2021	0.000633	0.0105					
3/2/2021			0.00105				
7/12/2021				0.00036	0.00036	0.00038	0.00012 (J)
7/13/2021			0.00113				
7/14/2021	0.00024	0.00692					
1/25/2022				0.00025	0.00033	0.00027	9E-05 (J)
1/26/2022		0.00542	0.00113				
1/27/2022	0.00027						
7/5/2022				0.000281	0.00035	0.00374	0.000118 (J)
7/12/2022	0.000156 (J)	0.00276	0.000982				

# Time Series

Constituent: Barium (mg/L) Analysis Run 10/13/2022 12:43 PM

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						0.0155		0.0135	
10/3/2016						0.0156		0.0127	
10/26/2016						0.0122		0.0118	
11/21/2016						0.0128		0.012	
1/17/2017						0.0125		0.0119	
3/20/2017						0.0124			
3/21/2017								0.0116	
4/17/2017						0.0149		0.0112	
5/30/2017						0.0121		0.0117	
2/13/2018						0.0118		0.0121	
6/11/2018						0.0127		0.0139	
10/17/2018						0.013		0.0125	
3/4/2019	0.0239								
3/5/2019							0.0956		0.0136
4/10/2019						0.0153		0.0136	
10/14/2019						0.0122	0.0451	0.0147	0.0123
10/16/2019	0.0192								
11/26/2019		0.0184							
2/3/2020						0.0141	0.0215		0.0103
2/4/2020	0.0148	0.0141		0.0296				0.0124	
8/4/2020	0.0138			0.0275		0.0139	0.017		
8/5/2020		0.016	0.0157		0.0113			0.0142	0.0112
3/1/2021						0.0154			
3/2/2021	0.0118	0.0134		0.0315					
3/3/2021			0.0126		0.0109		0.0181	0.0117	0.0103
7/13/2021					0.0102				
7/14/2021	0.0127	0.013	0.0116	0.0217		0.0136		0.0115	0.01
7/15/2021							0.0157		
1/25/2022		0.013							
1/26/2022	0.0139			0.0334		0.0148	0.0161		
1/27/2022			0.0125		0.0122			0.0131	0.0108
7/12/2022	0.0115			0.021					
7/13/2022		0.0129	0.0103		0.0104	0.0118	0.0145	0.00947	0.00969

# Time Series

Constituent: Barium (mg/L) Analysis Run 10/13/2022 12:43 PM

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	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	0.0536			0.00949 (J)	0.0139	0.00962 (J)	0.0118
10/3/2016	0.0681			0.0105	0.0164		0.0119
10/4/2016						0.00984 (J)	
10/26/2016	0.0562			0.00931 (J)	0.0138	0.00878 (J)	0.0104
11/21/2016	0.0604			0.00879 (J)	0.0144	0.00833 (J)	0.0106
1/17/2017	0.0402			0.00929 (J)	0.0135		
1/18/2017						0.00966 (J)	0.0101
3/20/2017	0.0305						
3/22/2017				0.00938 (J)	0.0132	0.00991 (J)	0.0103
4/18/2017	0.0276			0.00964 (J)	0.012	0.00976 (J)	0.0107
5/30/2017	0.0272			0.00982 (J)			
5/31/2017					0.0126	0.00866 (J)	
2/13/2018	0.0249			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	0.0234			0.0104	0.0138	0.00997 (J)	0.0108
10/17/2018	0.0236			0.00952 (J)	0.0137	0.0126	0.0119
11/19/2018				0.00915 (J)	0.0115	0.0109	0.0107
3/5/2019			0.0312				
4/10/2019	0.02			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
10/14/2019	0.0215						
10/16/2019			0.0163	0.0106	0.0146	0.0128	0.0125
2/3/2020				0.00995 (J)	0.0122	0.0086 (J)	0.0103
2/4/2020	0.0209		0.0148				
2/5/2020		0.096					
8/3/2020				0.0107	0.0147	0.0166	
8/4/2020			0.0153				
8/5/2020	0.0216	0.125					0.0125
2/22/2021				0.0107	0.0132	0.00981	0.0111
3/1/2021	0.0194	0.15					
3/2/2021			0.0149				
7/12/2021				0.00991	0.013	0.00857	0.0108
7/13/2021			0.0141				
7/14/2021	0.0232	0.148					
1/25/2022				0.0098	0.0122	0.00821	0.00908
1/26/2022		0.137	0.0146				
1/27/2022	0.0238						
7/5/2022				0.01	0.0116	0.0155	0.0113
7/12/2022	0.022	0.0967	0.0134				

# Time Series

Constituent: Beryllium (mg/L) Analysis Run 10/13/2022 12:43 PM

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						<0.001015		0.00576	
10/3/2016						<0.001015		0.00469	
10/26/2016						0.000922 (J)		0.00459	
11/21/2016						0.00133 (J)		0.00502	
1/17/2017						0.0017 (J)		0.00488	
3/20/2017						0.00191 (J)			
3/21/2017								0.00521	
4/17/2017						0.00655		0.0058	
5/30/2017						0.00204 (J)		0.00517	
2/13/2018						0.00387		0.00544	
6/11/2018						0.00244 (J)		0.00463	
10/17/2018						0.00345		0.00369	
3/4/2019	<0.001015								
3/5/2019							<0.001015		0.00155 (J)
4/10/2019						0.00257 (J)		0.00469	
10/14/2019						0.00162 (J)	<0.001015	0.00403	0.00382
10/16/2019	<0.001015								
11/26/2019		0.0084							
2/3/2020						0.00141 (J)	<0.001015		0.00362
2/4/2020	<0.001015	0.00709		<0.001015				0.00415	
8/4/2020	<0.001015			<0.001015		0.00174 (J)	<0.001015		
8/5/2020		0.00747	<0.001015		0.00879			0.00385	0.00416
3/1/2021						0.00157			
3/2/2021	<0.001015	0.00703		<0.001015					
3/3/2021			<0.001015		0.00818		<0.001015	0.00406	0.0032
7/13/2021					0.00883				
7/14/2021	<0.001015	0.00755	<0.001015	<0.001015		0.00175		0.00577	0.00381
7/15/2021							<0.001015		
1/25/2022		0.00729							
1/26/2022	<0.001015			<0.001015		0.00179	<0.001015		
1/27/2022			<0.001015		0.00718			0.00768	0.00431
7/12/2022	<0.001015			<0.001015					
7/13/2022		0.00817	<0.001015		0.00896	0.00204	<0.001015	0.0228	0.00607

# Time Series

Constituent: Beryllium (mg/L) Analysis Run 10/13/2022 12:43 PM

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016					<0.001015	0.00122 (J)	<0.001015
4/26/2016				<0.001015			
6/20/2016				<0.001015	<0.001015		<0.001015
6/22/2016						0.00144 (J)	
8/8/2016				<0.001015	<0.001015		
8/9/2016						0.00331	<0.001015
8/24/2016	<0.001015			<0.001015	<0.001015	0.00308	<0.001015
10/3/2016	<0.001015			<0.001015	<0.001015		<0.001015
10/4/2016						0.00129 (J)	
10/26/2016	<0.001015			<0.001015	<0.001015	0.0071	<0.001015
11/21/2016	<0.001015			<0.001015	<0.001015	0.00689	<0.001015
1/17/2017	<0.001015			<0.001015	<0.001015		
1/18/2017						0.0169 (o)	<0.001015
3/20/2017	<0.001015						
3/22/2017				<0.001015	<0.001015	0.00686	<0.001015
4/18/2017	<0.001015			<0.001015	<0.001015	<0.001015	<0.001015
5/30/2017	<0.001015			<0.001015			
5/31/2017					<0.001015	0.00547	
2/13/2018	<0.001015			<0.001015	<0.001015	<0.001015	<0.001015
5/22/2018				<0.001015	<0.001015		
5/23/2018							<0.001015
5/24/2018						0.00164 (J)	
6/12/2018	<0.001015			<0.001015	<0.001015	0.00306	<0.001015
10/17/2018	<0.001015			<0.001015	<0.001015	0.0121	<0.001015
11/19/2018				<0.001015	<0.001015	0.0185 (o)	<0.001015
3/5/2019			<0.001015				
4/10/2019	<0.001015			<0.001015	<0.001015	<0.001015	<0.001015
5/14/2019				<0.001015	<0.001015	<0.001015	<0.001015
10/8/2019				<0.001015	<0.001015	0.0084	
10/10/2019							<0.001015
10/14/2019	<0.001015						
10/16/2019			0.000985 (J)	<0.001015	<0.001015	0.0103	<0.001015
2/3/2020				<0.001015	<0.001015	<0.001015	<0.001015
2/4/2020	<0.001015		0.000929 (J)				
2/5/2020		<0.001015					
8/3/2020				<0.001015	<0.001015	0.00405	
8/4/2020			0.000882 (J)				
8/5/2020	<0.001015	<0.001015					<0.001015
2/22/2021				<0.001015	<0.001015	<0.001015	<0.001015
3/1/2021	<0.001015	<0.001015					
3/2/2021			0.000724 (J)				
7/12/2021				<0.001015	<0.001015	<0.001015	<0.001015
7/13/2021			0.00073 (J)				
7/14/2021	<0.001015	<0.001015					
1/25/2022				<0.001015	<0.001015	<0.001015	<0.001015
1/26/2022		<0.001015	0.00063 (J)				
1/27/2022	<0.001015						
7/5/2022				<0.001015	<0.001015	0.00139	<0.001015
7/12/2022	<0.001015	<0.001015	0.000599 (J)				

# Time Series

Constituent: Boron (mg/L) Analysis Run 10/13/2022 12:43 PM

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						0.799		4.88	
10/3/2016						0.889		4.75	
10/26/2016						1.23		4.96	
11/21/2016						1.72		4.82	
1/17/2017						2.63		3.97	
3/20/2017						3.11			
3/21/2017								3.39	
4/17/2017						4.51		3.46	
5/30/2017						2.9		3.79	
8/24/2017						2.83		4.19	
6/11/2018						3.09		3.96	
10/17/2018						2.59		3.98	
3/4/2019	0.0235 (J)								
3/5/2019							0.895		7.15
4/10/2019						3.35		3.74	
10/14/2019						2.48	2.38	3.37	5.64
10/16/2019	0.0352 (J)								
11/26/2019		0.0798 (J)							
2/3/2020						2.13	3.06		5.25
2/4/2020	<0.1015	0.0748 (J)		0.202				2.74	
8/4/2020	<0.1015			0.263		1.82	2.8		
8/5/2020		0.0748 (J)	1.55		0.158			2.51	4.41
3/1/2021						2.55			
3/2/2021	0.0305 (J)	0.0875 (J)							
3/3/2021			1.54		0.203		2.99	2.42	4.09
7/13/2021					0.139				
7/14/2021	<0.1015	0.0742 (J)	1.55	0.229		1.47		4.78	3.68
7/15/2021							3.04		
1/25/2022		0.0645 (J)							
1/26/2022	<0.1015			0.206		2.5	2.81		
1/27/2022			1.52		0.148			6.1	3.47
7/12/2022	<0.1015			0.209					
7/13/2022		0.0687 (J)	1.61		0.106	1.29	2.85	7.29	3.15

# Time Series

Constituent: Boron (mg/L) Analysis Run 10/13/2022 12:43 PM

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	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	0.0898 (J)			0.0247 (J)	0.0316 (J)	0.0431 (J)	0.0451 (J)
10/3/2016	0.0821 (J)			0.0307 (J)	0.0367 (J)		0.0511 (J)
10/4/2016						0.04 (J)	
10/26/2016	0.0889 (J)			0.0241 (J)	0.0331 (J)	0.0375 (J)	0.0507 (J)
11/21/2016	0.0788 (J)			0.0202 (J)	0.035 (J)	0.0406 (J)	0.0458 (J)
1/17/2017	0.0607 (J)			0.0201 (J)	0.0259 (J)		
1/18/2017						0.0548 (J)	0.0445 (J)
3/20/2017	0.114						
3/22/2017				0.0224 (J)	0.0243 (J)	0.0344 (J)	0.0432 (J)
4/18/2017	0.108			<0.1015	0.0206 (J)	<0.1015	0.0409 (J)
5/30/2017	0.105			<0.1015			
5/31/2017					0.0234 (J)	0.0454 (J)	
8/23/2017				0.0253 (J)	0.0267 (J)	0.0425 (J)	0.042 (J)
8/24/2017	0.12						
5/22/2018				0.0224 (J)	0.0251 (J)		
5/23/2018							0.0433 (J)
5/24/2018						0.0339 (J)	
6/12/2018	0.181			0.0214 (J)	0.0275 (J)	0.0371 (J)	0.0478 (J)
10/17/2018	0.616			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)
3/5/2019			12.8				
4/10/2019	0.944			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)
10/14/2019	2.11						
10/16/2019			10.7	0.0385 (J)	0.0419 (J)	0.05 (J)	0.0505 (J)
2/3/2020				<0.1015	<0.1015	<0.1015	0.0433 (J)
2/4/2020	1.47		9.63				
2/5/2020		0.136					
8/3/2020				<0.1015	0.0317 (J)	0.0424 (J)	
8/4/2020			8.53				
8/5/2020	2.16	0.131					0.0459 (J)
2/22/2021				0.0307 (J)	<0.1015	<0.1015	0.0397 (J)
3/1/2021	1.85	0.145					
3/2/2021			6.68				
7/12/2021				<0.1015	<0.1015	<0.1015	0.0411 (J)
7/13/2021			5.84				
7/14/2021	2.07	0.147					
1/25/2022				<0.1015	<0.1015	<0.1015	0.0408 (J)
1/26/2022		0.153	5.87				
1/27/2022	2.76						
7/5/2022				<0.1015	<0.1015	0.0374 (J)	0.0433 (J)
7/12/2022	2.3	0.148	5.04				



# Time Series

Constituent: Cadmium (mg/L) Analysis Run 10/13/2022 12:43 PM

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						<0.000203		0.00148	
10/3/2016						<0.000203		0.00147	
10/26/2016						<0.000203		0.00157	
11/21/2016						<0.000203		0.00154	
1/17/2017						<0.000203		0.00131	
3/20/2017						<0.000203			
3/21/2017								0.00134	
4/17/2017						<0.000203		0.00122	
5/30/2017						<0.000203		0.00167	
2/13/2018						<0.000203		0.00145	
6/11/2018						<0.000203		0.00171	
10/17/2018						<0.000203		0.00188	
3/4/2019	<0.000203								
3/5/2019							<0.000203		<0.000203
4/10/2019						<0.000203		0.00176	
10/14/2019						<0.000203	<0.000203	0.0015	<0.000203
10/16/2019	<0.000203								
11/26/2019		0.00351							
2/3/2020						<0.000203	<0.000203		<0.000203
2/4/2020	<0.000203	0.00301		<0.000203				0.00143	
8/4/2020	<0.000203			<0.000203		<0.000203	<0.000203		
8/5/2020		0.00393	<0.000203		0.0018			0.00157	<0.000203
3/1/2021						<0.000203			
3/2/2021	0.000366	0.00319		<0.000203					
3/3/2021			<0.000203		0.0016		<0.000203	0.00162	<0.000203
7/13/2021					0.00157				
7/14/2021	0.00028	0.00301	<0.000203	<0.000203		<0.000203		0.00246	<0.000203
7/15/2021							<0.000203		
1/25/2022		0.00333							
1/26/2022	0.00029			7E-05 (J)		<0.000203	<0.000203		
1/27/2022			<0.000203		0.00137			0.00336	<0.000203
7/12/2022	0.000327			<0.000203					
7/13/2022		0.00293	<0.000203		0.00128	<0.000203	<0.000203	0.00687	<0.000203

# Time Series

Constituent: Cadmium (mg/L) Analysis Run 10/13/2022 12:43 PM

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016					<0.000203	0.0121 (o)	<0.000203
4/26/2016				0.00196			
6/20/2016				0.0021	<0.000203		<0.000203
6/22/2016						0.00163	
8/8/2016				0.00206	<0.000203		
8/9/2016						0.00122	<0.000203
8/24/2016	<0.000203			0.00182	<0.000203	<0.000203	<0.000203
10/3/2016	<0.000203			0.00188	<0.000203		<0.000203
10/4/2016						0.000689 (J)	
10/26/2016	<0.000203			0.00175	<0.000203	0.00136	<0.000203
11/21/2016	<0.000203			0.00197	<0.000203	0.00171	<0.000203
1/17/2017	<0.000203			0.002	0.000311 (J)		
1/18/2017						0.003	<0.000203
3/20/2017	<0.000203						
3/22/2017				0.0019	<0.000203	0.00473	<0.000203
4/18/2017	<0.000203			0.00159	<0.000203	0.00117	<0.000203
5/30/2017	<0.000203			0.00214			
5/31/2017					0.000212 (J)	0.00296	
2/13/2018	<0.000203			0.0018	<0.000203	0.00232	<0.000203
5/22/2018				0.00201	<0.000203		
5/23/2018							<0.000203
5/24/2018						0.00459	
6/12/2018	<0.000203			0.00217	<0.000203	0.00351	<0.000203
10/17/2018	<0.000203			0.00228	<0.000203	0.00393	<0.000203
11/19/2018				0.00156	<0.000203	0.00309	<0.000203
3/5/2019			0.000336 (J)				
4/10/2019	<0.000203			0.00224	<0.000203	0.00337	<0.000203
5/14/2019				0.00238	<0.000203	0.0013	<0.000203
10/8/2019				0.00218	<0.000203	0.00598	
10/10/2019							<0.000203
10/14/2019	<0.000203						
10/16/2019			0.000362 (J)	0.00225	<0.000203	0.00448	<0.000203
2/3/2020				0.00182	<0.000203	0.000988 (J)	<0.000203
2/4/2020	<0.000203		0.000349 (J)				
2/5/2020		<0.000203					
8/3/2020				0.00237	<0.000203	0.00652	
8/4/2020			0.000308 (J)				
8/5/2020	<0.000203	<0.000203					<0.000203
2/22/2021				0.00184	8.96E-05 (J)	0.00536	8.96E-05 (J)
3/1/2021	<0.000203	<0.000203					
3/2/2021			0.000338				
7/12/2021				0.00193	8E-05 (J)	0.00094	8E-05 (J)
7/13/2021			0.00028				
7/14/2021	<0.000203	<0.000203					
1/25/2022				0.00196	8E-05 (J)	0.00178	<0.000203
1/26/2022		<0.000203	0.00024				
1/27/2022	<0.000203						
7/5/2022				0.00211	8.4E-05 (J)	0.00835	7.5E-05 (J)
7/12/2022	<0.000203	<0.000203	0.000309				

# Time Series

Constituent: Calcium (mg/L) Analysis Run 10/13/2022 12:43 PM

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						539		102	
10/3/2016						519.7		98.4	
10/26/2016						916		88.7	
11/21/2016						552		104	
1/17/2017						572		102	
3/20/2017						817			
3/21/2017								94.7	
4/17/2017						476		97.9	
5/30/2017						515		93.9	
8/24/2017						598		105	
6/11/2018						558		105	
10/17/2018						533		117	
3/4/2019	177								
3/5/2019							329		249
4/10/2019						659		129	
10/14/2019						552	368	93.5	173
10/16/2019	143								
11/26/2019		144							
2/3/2020						589	504		184
2/4/2020	163	158		171				116	
8/4/2020	139			192		545	443		
8/5/2020		126	350		141			94.7	167
3/1/2021						514			
3/2/2021	139	124		164					
3/3/2021			353		137		466	100	161
7/13/2021					135				
7/14/2021	133	124	338	179		533		130	162
7/15/2021							453		
1/25/2022		124							
1/26/2022	143			158		517	448		
1/27/2022			347		124			181	172
7/12/2022	137			177					
7/13/2022		130	374		124	549	442	385	165

# Time Series

Constituent: Calcium (mg/L) Analysis Run 10/13/2022 12:43 PM

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	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	263			142	180	274	319
10/3/2016	253			139	184		293
10/4/2016						243	
10/26/2016	235			133	171	254	311
11/21/2016	246			144	179	263	320
1/17/2017	231			131	188		
1/18/2017						431	417
3/20/2017	298						
3/22/2017				141	155	318	292
4/18/2017	317			149	156	296	302
5/30/2017	316			140			
5/31/2017					151	306	
8/23/2017				152	155	298	297
8/24/2017	391						
5/22/2018				166	172		
5/23/2018							296
5/24/2018						297	
6/12/2018	442			203	179	318	355
10/17/2018	514			171	200	392	342
11/19/2018				154	221	387	289
3/5/2019			578				
4/10/2019	533			243	200	348	356
5/14/2019				167	168	254	254
10/8/2019				157	190	371	
10/10/2019							302
10/14/2019	524						
10/16/2019			363	157	194	346	356
2/3/2020				172	172	276	265
2/4/2020	461		413				
2/5/2020		37.3					
8/3/2020				148	172	285	
8/4/2020			346				
8/5/2020	497	31.9					281
2/22/2021				151	178	312	271
3/1/2021	386	26.2					
3/2/2021			333				
7/12/2021				149	159	252	242
7/13/2021			312				
7/14/2021	444	29					
1/25/2022				150	179	285	259
1/26/2022		31.5	300				
1/27/2022	491						
7/5/2022				168	172	369	294
7/12/2022	451	30.4	311				

# Time Series

Constituent: Chloride (mg/L) Analysis Run 10/13/2022 12:43 PM

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						204		112	
10/3/2016						220		115	
10/26/2016						249		115	
11/21/2016						256		117	
1/17/2017						301		99.3	
3/20/2017						320			
3/21/2017								79	
4/17/2017						340		85	
5/30/2017						310		99	
8/24/2017						290		110	
6/11/2018						260		81	
10/17/2018						270		85	
3/4/2019	3.81								
3/5/2019							194		191
4/10/2019						249		74.3	
10/14/2019						228	298	59.1	122
10/16/2019	4.45								
11/26/2019		2.43							
2/3/2020						267	338		101
2/4/2020	4.27	2.34		12.9				43.2	
8/4/2020	4.51			12.7		222	305		
8/5/2020		2	159		3.28			41	80.9
3/1/2021						250			
3/2/2021	4.63	2.28		10.9					
3/3/2021			152		4.8		307	40.3	70.8
7/13/2021					2.41				
7/14/2021	4.7	1.69	189	11.5		207		102	68.4
7/15/2021							294		
1/25/2022		1.83							
1/26/2022	5.4			10.2		255	238		
1/27/2022			171		3.75			103	51.9
7/12/2022	5.18			10.8					
7/13/2022		1.77	199		2.15	228	285	199	47.200001

# Time Series

Constituent: Chloride (mg/L) Analysis Run 10/13/2022 12:43 PM

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	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	4.03			2.22	3.23	1.47	2.07
10/3/2016	3.87			2.34	3.21		2.02
10/4/2016						1.59	
10/26/2016	4.08			2.34	3.35	1.27	2.07
11/21/2016	4.39			2.5	3.34	1.38	2.39
1/17/2017	7.22			2.68	3.58		
1/18/2017						1.34	1.9
3/20/2017	5.7						
3/22/2017				3.7	3.4	2	1.5 (J)
4/18/2017	4.7			2.4	2.6	2.2	1.6 (J)
5/30/2017	15			2.6			
5/31/2017					4.4	1.5 (J)	
8/23/2017				2.7	4.4	1.8 (J)	2.3
8/24/2017	93						
5/22/2018				2.3	3.2		
5/23/2018							2
5/24/2018						1.6 (J)	
6/12/2018	140			2.3	3.7	1.4 (J)	1.7 (J)
10/17/2018	180			1.7 (J)	4.6	<2	1.5 (J)
11/19/2018				1.7 (J)	3	<2	<2
3/5/2019			313				
4/10/2019	174			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
10/14/2019	207						
10/16/2019			145	2.42	4.04	1.4	1.92
2/3/2020				2.07	2.48	2.12	1.72
2/4/2020	94.1		139				
2/5/2020		9.05					
8/3/2020				2.05	4.03	1.17	
8/4/2020			109				
8/5/2020	146	13.9					1.57
2/22/2021				2.16	1.72	2.22	1.52
3/1/2021	92.5	19.4					
3/2/2021			84.7				
7/12/2021				2.19	2.36	2.13	1.56
7/13/2021			78.6				
7/14/2021	129	16.7					
1/25/2022				2.09	2.14	2.12	1.54
1/26/2022		18.9	59.3				
1/27/2022	122						
7/5/2022				2.07	2.53	1.59	1.63
7/12/2022	120	15.5	51.900002				

# Time Series

Constituent: Chromium (mg/L) Analysis Run 10/13/2022 12:43 PM

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						<0.001015		<0.001015	
10/3/2016						<0.001015		<0.001015	
10/26/2016						<0.001015		<0.001015	
11/21/2016						<0.001015		<0.001015	
1/17/2017						<0.001015		<0.001015	
3/20/2017						<0.001015			
3/21/2017								<0.001015	
4/17/2017						<0.001015		<0.001015	
5/30/2017						<0.001015		<0.001015	
2/13/2018						<0.001015		<0.001015	
6/11/2018						<0.001015		<0.001015	
10/17/2018						<0.001015		<0.001015	
3/4/2019	<0.001015								
3/5/2019							<0.001015		<0.001015
4/10/2019						<0.001015		<0.001015	
10/14/2019						<0.001015	<0.001015	<0.001015	<0.001015
10/16/2019	<0.001015								
11/26/2019		<0.001015							
2/3/2020						<0.001015	<0.001015		<0.001015
2/4/2020	<0.001015	<0.001015		<0.001015				<0.001015	
8/4/2020	<0.001015			<0.001015		<0.001015	<0.001015		
8/5/2020		<0.001015	<0.001015		<0.001015			<0.001015	<0.001015
3/1/2021						0.000386 (J)			
3/2/2021	0.000295 (J)	0.000242 (J)		0.000285 (J)					
3/3/2021			<0.001015		<0.001015		<0.001015	0.000567 (J)	<0.001015
7/13/2021					0.0005 (J)				
7/14/2021	0.00034 (J)	0.00059 (J)	0.00025 (J)	0.00032 (J)		0.00039 (J)		0.0007 (J)	0.00027 (J)
7/15/2021							0.00027 (J)		
1/25/2022		0.00033 (J)							
1/26/2022	0.00052 (J)			0.00023 (J)		0.00048 (J)	0.0005 (J)		
1/27/2022			0.00025 (J)		0.0005 (J)			0.00107	0.00029 (J)
7/12/2022	0.000425 (J)			0.000331 (J)					
7/13/2022		0.000329 (J)	0.000325 (J)		0.000526 (J)	0.000341 (J)	0.000255 (J)	0.00355	0.00039 (J)

# Time Series

Constituent: Chromium (mg/L) Analysis Run 10/13/2022 12:43 PM

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016					<0.001015	0.00373 (J)	<0.001015
4/26/2016				<0.001015			
6/20/2016				<0.001015	<0.001015		<0.001015
6/22/2016						0.00606 (J)	
8/8/2016				<0.001015	<0.001015		
8/9/2016						<0.001015	<0.001015
8/24/2016	<0.001015			<0.001015	<0.001015	<0.001015	<0.001015
10/3/2016	<0.001015			<0.001015	<0.001015		<0.001015
10/4/2016						<0.001015	
10/26/2016	<0.001015			<0.001015	<0.001015	<0.001015	<0.001015
11/21/2016	<0.001015			<0.001015	<0.001015	<0.001015	<0.001015
1/17/2017	<0.001015			<0.001015	<0.001015		
1/18/2017						<0.001015	<0.001015
3/20/2017	<0.001015						
3/22/2017				<0.001015	<0.001015	0.00945 (J)	<0.001015
4/18/2017	<0.001015			<0.001015	<0.001015	0.0105	<0.001015
5/30/2017	<0.001015			<0.001015			
5/31/2017					<0.001015	<0.001015	
2/13/2018	<0.001015			<0.001015	<0.001015	<0.001015	<0.001015
5/22/2018				<0.001015	<0.001015		
5/23/2018							<0.001015
5/24/2018						<0.001015	
6/12/2018	<0.001015			<0.001015	<0.001015	<0.001015	<0.001015
10/17/2018	<0.001015			<0.001015	<0.001015	<0.001015	<0.001015
11/19/2018				<0.001015	<0.001015	<0.001015	<0.001015
3/5/2019			<0.001015				
4/10/2019	<0.001015			<0.001015	<0.001015	<0.001015	<0.001015
5/14/2019				<0.001015	<0.001015	<0.001015	<0.001015
10/8/2019				<0.001015	<0.001015	<0.001015	
10/10/2019							<0.001015
10/14/2019	<0.001015						
10/16/2019			<0.001015	<0.001015	<0.001015	<0.001015	<0.001015
2/3/2020				<0.001015	<0.001015	<0.001015	<0.001015
2/4/2020	<0.001015		<0.001015				
2/5/2020		<0.001015					
8/3/2020				<0.001015	<0.001015	<0.001015	
8/4/2020			<0.001015				
8/5/2020	<0.001015	<0.001015					<0.001015
2/22/2021				0.000382 (J)	<0.001015	0.00035 (J)	<0.001015
3/1/2021	0.000423 (J)	<0.001015					
3/2/2021			0.000218 (J)				
7/12/2021				0.00049 (J)	0.00025 (J)	0.00031 (J)	0.0003 (J)
7/13/2021			0.00026 (J)				
7/14/2021	0.0003 (J)	<0.001015					
1/25/2022				0.00043 (J)	0.00022 (J)	0.00051 (J)	0.00021 (J)
1/26/2022		0.00023 (J)	0.00024 (J)				
1/27/2022	0.00046 (J)						
7/5/2022				0.000364 (J)	<0.001015	0.00025 (J)	<0.001015
7/12/2022	0.000258 (J)	<0.001015	0.000265 (J)				



# Time Series

Constituent: Cobalt (mg/L) Analysis Run 10/13/2022 12:43 PM

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						0.0303		0.151	
10/3/2016						0.041		0.143	
10/26/2016						0.0505		0.154	
11/21/2016						0.0617		0.155	
1/17/2017						0.0793		0.16	
3/20/2017						0.0726			
3/21/2017								0.158	
4/17/2017						0.294 (o)		0.159	
5/30/2017						0.0832		0.159	
2/13/2018						0.124		0.19	
6/11/2018						0.138		0.166	
10/17/2018						0.138		0.154	
3/4/2019	0.0066								
3/5/2019							0.0059		0.0836
4/10/2019						0.151		0.241	
10/14/2019						0.102	0.00845	0.213	0.12
10/16/2019	0.00598								
11/26/2019		0.435							
2/3/2020						0.0843	0.0135		0.108
2/4/2020	0.00582	0.351		0.0442				0.217	
8/4/2020	0.0061			0.111		0.0862	0.0133		
8/5/2020		0.436	<0.000203		0.237			0.235	0.141
3/1/2021						0.119			
3/2/2021	0.00512	0.307		0.143					
3/3/2021			0.00028		0.202		0.0134	0.24	0.118
7/13/2021					0.193				
7/14/2021	0.00475	0.299	0.00018 (J)	0.116		0.0555		0.296	0.12
7/15/2021							0.0121		
1/25/2022		0.315							
1/26/2022	0.00479			0.228		0.0794	0.012		
1/27/2022			0.00022		0.178			0.406	0.124
7/12/2022	0.00494			0.153					
7/13/2022		0.34	0.000166 (J)		0.192	0.046	0.0115	0.878	0.137

# Time Series

Constituent: Cobalt (mg/L) Analysis Run 10/13/2022 12:43 PM

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016					0.0487	0.232	<0.000203
4/26/2016				0.0343			
6/20/2016				0.0413	0.0767		<0.000203
6/22/2016						0.332	
8/8/2016				0.0513	0.103		
8/9/2016						0.311	<0.000203
8/24/2016	0.0201			0.0471	0.093	0.271	<0.000203
10/3/2016	0.0167			0.0525	0.0964		<0.000203
10/4/2016						0.148	
10/26/2016	0.0253			0.0527	0.0904	0.236	<0.000203
11/21/2016	0.0233			0.0569	0.0857	0.241	<0.000203
1/17/2017	0.0708			0.0768	0.0745		
1/18/2017						0.347	<0.000203
3/20/2017	0.00277 (J)						
3/22/2017				0.0535	0.0328	0.271	<0.000203
4/18/2017	<0.000203			0.0442	0.0242	0.00324 (J)	<0.000203
5/30/2017	<0.000203			0.0465			
5/31/2017					0.0441	0.225	
2/13/2018	0.00492 (J)			0.062	0.0179	0.00661 (J)	<0.000203
5/22/2018				0.0443	0.028		
5/23/2018							<0.000203
5/24/2018						0.158	
6/12/2018	<0.000203			0.0512	0.0366	0.291	<0.000203
10/17/2018	<0.000203			0.0751	0.0745	0.49	<0.000203
11/19/2018				0.0825	0.0225	0.386	<0.000203
3/5/2019			0.14				
4/10/2019	<0.000203			0.0445	0.0152	0.0144	<0.000203
5/14/2019				0.0485	0.0222	0.00536	<0.000203
10/8/2019				0.0778	0.0674	1.07 (o)	
10/10/2019							<0.000203
10/14/2019	<0.000203						
10/16/2019			0.168	0.08	0.073	0.848 (o)	<0.000203
2/3/2020				0.0495	0.0193	0.0114	<0.000203
2/4/2020	<0.000203						
2/5/2020		<0.000203					
8/3/2020				0.0722	0.0589	0.64	
8/4/2020			0.178				
8/5/2020	<0.000203	<0.000203					<0.000203
2/22/2021				0.0657	0.0161	0.0515	<0.000203
3/1/2021	0.00546	<0.000203					
3/2/2021			0.163				
7/12/2021				0.0556	0.0155	0.00567	<0.000203
7/13/2021			0.141				
7/14/2021	0.00026	<0.000203					
1/25/2022				0.0654	0.0166	0.0051	<0.000203
1/26/2022		<0.000203	0.141				
1/27/2022	0.00067						
7/5/2022				0.0627	0.0184	0.195	<0.000203
7/12/2022	0.000233	<0.000203	0.148				

# Time Series

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 10/13/2022 12:43 PM

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						0.389 (U)		0.741	
10/3/2016						0.683		0.648	
10/26/2016						0.242 (U)		0.632	
11/21/2016						0.764		1.57	
1/17/2017						0.191 (U)		0.493	
3/20/2017						-0.0158 (U)			
3/21/2017								0.604 (U)	
4/17/2017						0.307 (U)		0.252 (U)	
5/30/2017						0.724		0.925	
2/13/2018						0.633		0.382	
6/11/2018						0.773		0.796	
10/17/2018						0.668		0.922	
3/4/2019	0.135 (U)								
3/5/2019							0.932		0.364 (U)
4/10/2019						0.265 (U)		0.622	
10/14/2019						0.297 (U)	0.184 (U)	0.317 (U)	0.369 (U)
10/16/2019	0.189 (U)								
2/3/2020						0.28 (U)	0.408 (U)		0.758
2/4/2020	0.319 (U)	0.939		0.624				0.324 (U)	
8/4/2020	0.0315 (U)			-0.402 (U)		0.45 (U)	-0.00668 (U)		
8/5/2020		-0.306 (U)	-0.284 (U)		0.758 (U)			0.389 (U)	0.533 (U)
3/1/2021						0.57 (U)			
3/2/2021	0.308 (U)	2.18		0.686 (U)					
3/3/2021			0.388 (U)		0.185 (U)		1.11 (U)	0.836 (U)	0.325 (U)
7/13/2021					1.06 (U)				
7/14/2021	0.398 (U)	1.42	0.657 (U)	0.826 (U)		0.668 (U)		1.58	0.917 (U)
7/15/2021							0.362 (U)		
1/25/2022		1.22 (U)							
1/26/2022	0.506 (U)			0.354 (U)		0.335 (U)	0.546 (U)		
1/27/2022			0.361 (U)		0.247 (U)			0.791 (U)	0.624 (U)
7/12/2022	0.997 (U)			0.669 (U)					
7/13/2022		1.55	0.373 (U)		1 (U)	0.239 (U)	1.12	1.37	0.62 (U)

# Time Series

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 10/13/2022 12:43 PM

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
8/24/2016	0.558 (U)			0.566 (U)	0.65	0.131 (U)	0.266 (U)
10/3/2016	0.565			0.537 (U)	0.845		0.59 (U)
10/4/2016						0.514 (U)	
10/26/2016	0.555 (U)			0.636	0.994	0.755	0.164 (U)
11/21/2016	0.987			0.807	0.537 (U)	0.7	0.296 (U)
1/17/2017	0.476 (U)			0.308 (U)	-0.0159 (U)		
1/18/2017						0.606	0.0267 (U)
3/20/2017	0.633 (U)						
3/22/2017				0.344 (U)	0.279 (U)	0.927	0.132 (U)
4/18/2017	0.248 (U)			0.934	0.32 (U)	0.334 (U)	-0.0439 (U)
5/30/2017	0.412 (U)			0.149 (U)			
5/31/2017					0.178 (U)	0.8	0.3 (U)
2/13/2018	1.08			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	0.446 (U)			1.18	-0.315 (U)	0.234 (U)	0.153 (U)
10/17/2018	1.05			0.553 (U)	0.574 (U)	0.852	0.313 (U)
11/19/2018				0.862	0.654	0.521	0.794
3/5/2019			0.852				
4/10/2019	0.128 (U)			0.342 (U)	0.329 (U)	0.198 (U)	0.515
5/14/2019							0.352 (U)
10/8/2019				1.47	0.493 (U)	0.833 (U)	
10/10/2019							1.02 (U)
10/14/2019	0.225 (U)						
10/16/2019			1.29	0.204 (U)	0.046 (U)	0.0279 (U)	0.356 (U)
2/3/2020				0.521 (U)	-0.0245 (U)	0.0246 (U)	0.254 (U)
2/4/2020	0.336 (U)		0.441 (U)				
2/5/2020		0.576					
8/3/2020				-0.127 (U)	0.888 (U)	0.765 (U)	
8/4/2020			-0.385 (U)				
8/5/2020	-0.115 (U)	1.85					0.565 (U)
2/22/2021				0.677 (U)	0.434 (U)	0.472 (U)	0 (U)
3/1/2021	0.902 (U)	1.49					
3/2/2021			0.87 (U)				
7/12/2021				0.476 (U)	0.155 (U)	0.114 (U)	0.301 (U)
7/13/2021			0.877 (U)				
7/14/2021	1.23 (U)	1.85					
1/25/2022				1.01 (U)	0.663 (U)	0.418 (U)	0.884 (U)
1/26/2022		0.155 (U)	1.06				
1/27/2022	0.28 (U)						
7/5/2022				1.49	1.31	1.33	1.1
7/12/2022	0.745 (U)	1.04 (U)	0.818 (U)				

# Time Series

Constituent: Fluoride (mg/L) Analysis Run 10/13/2022 12:43 PM

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						0.264 (J)		0.793	
10/3/2016						0.276 (J)		0.769	
10/26/2016						0.182 (J)		0.578	
11/21/2016						0.238 (J)		0.562	
1/17/2017						0.34		0.571	
3/20/2017						0.39			
3/21/2017								0.54	
4/17/2017						0.57		0.54	
5/30/2017						0.38		0.49	
8/24/2017						0.54		0.7	
2/13/2018						0.57		0.63	
6/11/2018						0.63		0.39	
10/17/2018						0.78		0.44	
3/4/2019	0.101								
3/5/2019							0.249		0.477
4/10/2019						0.738		<0.125	
10/14/2019						0.619	0.37	<0.125	0.449
10/16/2019	0.0875 (J)								
11/26/2019		<0.125							
2/3/2020						0.427	0.438		0.555
2/4/2020	0.0743 (J)	<0.125		0.115				<0.125	
8/4/2020	0.109			0.113		0.389	0.349		
8/5/2020		<0.125	0.217		0.082 (J)			<0.125	0.363
3/1/2021						0.449			
3/2/2021	0.0758 (J)	<0.125		0.167					
3/3/2021			0.243		<0.125		0.458	<0.125	0.262
7/13/2021					<0.125				
7/14/2021	0.0848 (J)	<0.125	0.335	0.196		0.556		<0.125	0.276
7/15/2021							0.493		
1/25/2022		<0.125							
1/26/2022	0.0809 (J)			0.208		0.447	0.516		
1/27/2022			0.329		<0.125			<0.125	0.373
7/12/2022	0.156			0.207					
7/13/2022		<0.125	0.301		<0.125	0.324	0.374	<0.125	0.536

# Time Series

Constituent: Fluoride (mg/L) Analysis Run 10/13/2022 12:43 PM

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	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	0.165 (J)			0.133 (J)	0.129 (J)	0.346	0.329
10/3/2016	0.114 (J)			0.103 (J)	0.086 (J)		0.287 (J)
10/4/2016						0.266 (J)	
10/26/2016	0.056 (J)			0.05 (J)	0.027 (J)	0.266 (J)	0.194 (J)
11/21/2016	0.059 (J)			0.047 (J)	0.027 (J)	0.244 (J)	0.192 (J)
1/17/2017	0.07 (J)			0.09 (J)	0.066 (J)		
1/18/2017						0.385	0.223 (J)
3/20/2017	0.18						
3/22/2017				0.12	0.13	0.41	0.32
4/18/2017	0.17			0.12	0.16	0.29	0.32
5/30/2017	0.16			0.13			
5/31/2017					0.13	0.37	
8/23/2017				0.16	0.16	0.55	0.38
8/24/2017	0.18						
2/13/2018	0.15			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	0.15			0.16	0.16	0.53	0.39
10/17/2018	0.16			0.18	0.16	0.63	0.39
11/19/2018				0.15	0.18	0.31	0.36
3/5/2019			0.239				
4/10/2019	0.156			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
10/14/2019	0.118						
10/16/2019			0.101	0.0756 (J)	0.114	0.106	0.302
2/3/2020				0.0982 (J)	0.182	0.256	0.37
2/4/2020	0.132		0.205				
2/5/2020		0.162					
8/3/2020				<0.125	0.122	0.0766 (J)	
8/4/2020			0.127				
8/5/2020	0.119	0.256					0.359
2/22/2021				0.082 (J)	0.209	0.246	0.357
3/1/2021	0.106	0.346					
3/2/2021			0.094 (J)				
7/12/2021				0.125	0.196	0.287	0.35
7/13/2021			0.182				
7/14/2021	0.221	0.339					
1/25/2022				0.101	0.204	0.325	0.364
1/26/2022		0.306	0.117				
1/27/2022	0.179						
7/5/2022				0.11 (J)	0.2	0.386	0.362
7/12/2022	0.112 (J)	0.19	0.191				

# Time Series

Constituent: Lead (mg/L) Analysis Run 10/13/2022 12:43 PM

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						<0.000203		<0.000203	
10/3/2016						<0.000203		<0.000203	
10/26/2016						<0.000203		<0.000203	
11/21/2016						<0.000203		<0.000203	
1/17/2017						<0.000203		<0.000203	
3/20/2017						<0.000203			
3/21/2017								<0.000203	
4/17/2017						<0.000203		<0.000203	
5/30/2017						<0.000203		<0.000203	
2/13/2018						<0.000203		<0.000203	
6/11/2018						<0.000203		<0.000203	
10/17/2018						<0.000203		<0.000203	
3/4/2019	<0.000203								
3/5/2019							<0.000203		<0.000203
4/10/2019						<0.000203		<0.000203	
10/14/2019						<0.000203	<0.000203	<0.000203	<0.000203
10/16/2019	<0.000203								
11/26/2019		0.00271 (J)							
2/3/2020						<0.000203	<0.000203		<0.000203
2/4/2020	<0.000203	0.00334 (J)		<0.000203				<0.000203	
8/4/2020	<0.000203			<0.000203		<0.000203	<0.000203		
8/5/2020		0.00329 (J)	<0.000203		0.00122 (J)			<0.000203	<0.000203
3/1/2021						0.000157 (J)			
3/2/2021	0.000145 (J)	0.00478		<0.000203					
3/3/2021			<0.000203		0.000876		<0.000203	0.000609	<0.000203
7/13/2021					0.00096				
7/14/2021	0.00014 (J)	0.00557	<0.000203	<0.000203		0.00018 (J)		0.00079	<0.000203
7/15/2021							<0.000203		
1/25/2022		0.0052							
1/26/2022	0.00023			<0.000203		0.00014 (J)	<0.000203		
1/27/2022			<0.000203		0.00087			0.00103	7E-05 (J)
7/12/2022	0.000175 (J)			<0.000203					
7/13/2022		0.00406	<0.000203		0.000874	9.5E-05 (J)	<0.000203	0.00228	8E-05 (J)

# Time Series

Constituent: Lead (mg/L) Analysis Run 10/13/2022 12:43 PM

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016					<0.000203	<0.000203	<0.000203
4/26/2016				<0.000203			
6/20/2016				<0.000203	<0.000203		<0.000203
6/22/2016						<0.000203	
8/8/2016				<0.000203	<0.000203		
8/9/2016						<0.000203	<0.000203
8/24/2016	<0.000203			<0.000203	<0.000203	<0.000203	<0.000203
10/3/2016	<0.000203			<0.000203	<0.000203		<0.000203
10/4/2016						<0.000203	
10/26/2016	<0.000203			<0.000203	<0.000203	<0.000203	<0.000203
11/21/2016	<0.000203			<0.000203	<0.000203	<0.000203	<0.000203
1/17/2017	<0.000203			<0.000203	<0.000203		
1/18/2017						<0.000203	<0.000203
3/20/2017	<0.000203						
3/22/2017				<0.000203	<0.000203	<0.000203	<0.000203
4/18/2017	<0.000203			<0.000203	<0.000203	<0.000203	<0.000203
5/30/2017	<0.000203			<0.000203			
5/31/2017					<0.000203	<0.000203	
2/13/2018	<0.000203			<0.000203	<0.000203	<0.000203	<0.000203
5/22/2018				<0.000203	<0.000203		
5/23/2018							<0.000203
5/24/2018						<0.000203	
6/12/2018	<0.000203			<0.000203	<0.000203	<0.000203	<0.000203
10/17/2018	<0.000203			<0.000203	<0.000203	0.00102 (J)	<0.000203
11/19/2018				<0.000203	<0.000203	0.00692 (o)	<0.000203
3/5/2019		<0.000203					
4/10/2019	<0.000203			<0.000203	<0.000203	<0.000203	<0.000203
5/14/2019				<0.000203	<0.000203	<0.000203	<0.000203
10/8/2019				<0.000203	<0.000203	<0.000203	
10/10/2019							<0.000203
10/14/2019	<0.000203						
10/16/2019			<0.000203	<0.000203	<0.000203	0.00108 (J)	<0.000203
2/3/2020				<0.000203	<0.000203	<0.000203	<0.000203
2/4/2020	<0.000203		<0.000203				
2/5/2020		<0.000203					
8/3/2020				<0.000203	<0.000203	0.002 (J)	
8/4/2020			<0.000203				
8/5/2020	<0.000203	<0.000203					<0.000203
2/22/2021				<0.000203	<0.000203	8.8E-05 (J)	<0.000203
3/1/2021	0.000145 (J)	<0.000203					
3/2/2021			0.000206				
7/12/2021				<0.000203	<0.000203	8E-05 (J)	<0.000203
7/13/2021			0.00016 (J)				
7/14/2021	<0.000203	<0.000203					
1/25/2022				<0.000203	<0.000203	<0.000203	<0.000203
1/26/2022		<0.000203	0.00013 (J)				
1/27/2022	0.00015 (J)						
7/5/2022				<0.000203	<0.000203	7.3E-05 (J)	<0.000203
7/12/2022	<0.000203	8.1E-05 (J)	0.00011 (J)				



# Time Series

Constituent: Lithium (mg/L) Analysis Run 10/13/2022 12:43 PM

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						0.362		0.291	
10/3/2016						0.371		0.287	
10/26/2016						0.416		0.298	
11/21/2016						0.401		0.294	
1/17/2017						0.497		0.27	
3/20/2017						0.533			
3/21/2017								0.258	
4/17/2017						0.47		0.274	
5/30/2017						0.479		0.285	
2/13/2018						0.508		0.274	
6/11/2018						0.425		0.266	
10/17/2018						0.494		0.266	
3/4/2019	<0.02								
3/5/2019							0.309		0.369
4/10/2019						0.425		0.282	
10/14/2019						0.459	0.38	0.262	0.317
10/16/2019	<0.02								
11/26/2019		0.449							
2/3/2020						0.474	0.46		0.332
2/4/2020	<0.02	0.394		0.0506				0.29	
8/4/2020	<0.02			0.0534		0.468	0.395		
8/5/2020		0.441	0.334		0.512			0.273	0.322
3/1/2021						0.353			
3/2/2021	<0.02	0.456		0.0439					
3/3/2021			0.411		0.54		0.455	0.313	0.345
7/13/2021					0.514				
7/14/2021	<0.02	0.454	0.374	0.0524		0.485		0.487	0.337
7/15/2021							0.441		
1/25/2022		0.397							
1/26/2022	<0.02			0.0301		0.31	0.347		
1/27/2022			0.303		0.43			0.671	0.305
7/12/2022	<0.02			0.047					
7/13/2022		0.411	0.312		0.428	0.421	0.379	1.89	0.329

# Time Series

Constituent: Lithium (mg/L) Analysis Run 10/13/2022 12:43 PM

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	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	0.0683			0.0236 (J)	0.0651	0.138	0.0488 (J)
10/3/2016	0.0661			0.0229 (J)	0.0622		0.0476 (J)
10/4/2016						0.0966	
10/26/2016	0.0681			0.0227 (J)	0.0293 (J)	0.134	0.049 (J)
11/21/2016	0.0682			0.0236 (J)	0.0667	0.167	0.0477 (J)
1/17/2017	0.0516			0.0228 (J)	0.0636		
1/18/2017						0.237	0.045 (J)
3/20/2017	0.135						
3/22/2017				0.0238 (J)	0.0464 (J)	0.203	0.0493 (J)
4/18/2017	0.139			0.0242 (J)	0.0446 (J)	0.0764	0.0494 (J)
5/30/2017	0.141			0.0229 (J)			
5/31/2017					0.0496 (J)	0.218	
2/13/2018	0.163			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	0.166			0.0251 (J)	0.0472 (J)	0.194	0.0511
10/17/2018	0.188			0.025 (J)	0.0633	0.384	0.0532
11/19/2018				0.0241	0.0584	0.323	0.0467
3/5/2019			0.169				
4/10/2019	0.195			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
10/14/2019	0.209						
10/16/2019			0.184	0.0263	0.0661	0.337	0.052
2/3/2020				0.0292	0.0534	0.0825	0.0556
2/4/2020	0.188		0.203				
2/5/2020		0.327					
8/3/2020				0.0259	0.0611	0.27	
8/4/2020			0.166				
8/5/2020	0.206	0.275					0.0519
2/22/2021				0.0301	0.0625	0.126	0.0558
3/1/2021	0.149	0.292					
3/2/2021			0.178				
7/12/2021				0.0266	0.0495	0.0808	0.0533
7/13/2021			0.166				
7/14/2021	0.213	0.286					
1/25/2022				0.0239	0.051	0.077	0.0433
1/26/2022		0.233	0.115				
1/27/2022	0.185						
7/5/2022				0.0274	0.0469	0.251	0.0566
7/12/2022	0.189	0.269	0.124				

# Time Series

Constituent: Mercury (mg/L) Analysis Run 10/13/2022 12:43 PM

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						<0.0005		<0.0005	
10/3/2016						<0.0005		<0.0005	
10/26/2016						<0.0005		<0.0005	
11/21/2016						<0.0005		<0.0005	
1/17/2017						<0.0005		<0.0005	
3/20/2017						<0.0005			
3/21/2017								<0.0005	
4/17/2017						<0.0005		<0.0005	
5/30/2017						<0.0005		<0.0005	
2/13/2018						<0.0005		<0.0005	
6/11/2018						<0.0005		<0.0005	
10/17/2018						<0.0005		<0.0005	
3/4/2019	<0.0005								
3/5/2019							<0.0005		<0.0005
4/10/2019						<0.0005		<0.0005	
10/14/2019						<0.0005	<0.0005	<0.0005	<0.0005
10/16/2019	<0.0005								
11/26/2019		<0.0005							
2/3/2020						<0.0005	<0.0005		<0.0005
2/4/2020	<0.0005	<0.0005		<0.0005				<0.0005	
8/4/2020	<0.0005			<0.0005		<0.0005	<0.0005		
8/5/2020		<0.0005	<0.0005		<0.0005			<0.0005	<0.0005
3/1/2021						<0.0005			
3/2/2021	<0.0005	<0.0005		<0.0005					
3/3/2021			<0.0005		<0.0005		<0.0005	<0.0005	<0.0005
7/13/2021					<0.0005				
7/14/2021	<0.0005	<0.0005	<0.0005	<0.0005		<0.0005		<0.0005	<0.0005
7/15/2021							<0.0005		
1/25/2022		<0.0005							
1/26/2022	<0.0005			<0.0005		<0.0005	<0.0005		
1/27/2022			<0.0005		<0.0005			<0.0005	<0.0005
7/12/2022	<0.0005			<0.0005					
7/13/2022		<0.0005	<0.0005		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005

# Time Series

Constituent: Mercury (mg/L) Analysis Run 10/13/2022 12:43 PM

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	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	<0.0005
10/3/2016	<0.0005			<0.0005	<0.0005		<0.0005
10/4/2016						<0.0005	
10/26/2016	<0.0005			<0.0005	<0.0005	<0.0005	<0.0005
11/21/2016	<0.0005			<0.0005	<0.0005	<0.0005	<0.0005
1/17/2017	<0.0005			<0.0005	<0.0005		
1/18/2017						<0.0005	<0.0005
3/20/2017	<0.0005						
3/22/2017				<0.0005	<0.0005	<0.0005	<0.0005
4/18/2017	<0.0005			<0.0005	<0.0005	<0.0005	<0.0005
5/30/2017	<0.0005			<0.0005			
5/31/2017					<0.0005	<0.0005	
2/13/2018	<0.0005			<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	<0.0005
10/17/2018	<0.0005			<0.0005	<0.0005	<0.0005	<0.0005
11/19/2018				<0.0005	<0.0005	<0.0005	<0.0005
3/5/2019			<0.0005				
4/10/2019	<0.0005			<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
10/14/2019	<0.0005						
10/16/2019			<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
2/3/2020				<0.0005	<0.0005	<0.0005	<0.0005
2/4/2020	<0.0005		<0.0005				
2/5/2020		<0.0005					
8/3/2020				<0.0005	<0.0005	<0.0005	
8/4/2020			<0.0005				
8/5/2020	<0.0005	<0.0005					<0.0005
2/22/2021				<0.0005	<0.0005	<0.0005	<0.0005
3/1/2021	<0.0005	<0.0005					
3/2/2021			<0.0005				
7/12/2021				<0.0005	<0.0005	<0.0005	<0.0005
7/13/2021			<0.0005				
7/14/2021	<0.0005	<0.0005					
1/25/2022				<0.0005	<0.0005	<0.0005	<0.0005
1/26/2022		<0.0005	<0.0005				
1/27/2022	<0.0005						
7/5/2022				<0.0005	<0.0005	<0.0005	<0.0005
7/12/2022	<0.0005	<0.0005	<0.0005				

# Time Series

Constituent: Molybdenum (mg/L) Analysis Run 10/13/2022 12:43 PM

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						<0.000203		<0.000203	
10/3/2016						<0.000203		<0.000203	
10/26/2016						<0.000203		<0.000203	
11/21/2016						<0.000203		<0.000203	
1/17/2017						<0.000203		<0.000203	
3/20/2017						<0.000203			
3/21/2017								<0.000203	
4/17/2017						<0.000203		<0.000203	
5/30/2017						<0.000203		<0.000203	
2/13/2018						<0.000203		<0.000203	
6/11/2018						<0.000203		<0.000203	
10/17/2018						<0.000203		<0.000203	
3/4/2019	<0.000203								
3/5/2019							0.00347 (J)		<0.000203
4/10/2019						<0.000203		<0.000203	
10/14/2019						<0.000203	<0.000203	<0.000203	<0.000203
10/16/2019	<0.000203								
11/26/2019		<0.000203							
2/3/2020						<0.000203	<0.000203		<0.000203
2/4/2020	<0.000203	<0.000203		<0.000203				<0.000203	
8/4/2020	<0.000203			<0.000203		<0.000203	<0.000203		
8/5/2020		<0.000203	0.00247 (J)		<0.000203			<0.000203	<0.000203
3/1/2021						0.00022			
3/2/2021	<0.000203	<0.000203		0.00138					
3/3/2021			0.00123		7.06E-05 (J)		7.93E-05 (J)	<0.000203	<0.000203
7/13/2021					<0.000203				
7/14/2021	<0.000203	<0.000203	0.00203	0.0005		0.00026		<0.000203	<0.000203
7/15/2021							9E-05 (J)		
1/25/2022		<0.000203							
1/26/2022	0.00011 (J)			0.00126		0.00022	0.00012 (J)		
1/27/2022			0.00268		9E-05 (J)			<0.000203	9E-05 (J)
7/12/2022	<0.000203			0.000344					
7/13/2022		<0.000203	0.00241		<0.000203	0.000257	<0.000203	<0.000203	<0.000203

# Time Series

Constituent: Molybdenum (mg/L) Analysis Run 10/13/2022 12:43 PM

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016					<0.000203	<0.000203	<0.000203
4/26/2016				<0.000203			
6/20/2016				<0.000203	<0.000203		<0.000203
6/22/2016						<0.000203	
8/8/2016				<0.000203	<0.000203		
8/9/2016						<0.000203	<0.000203
8/24/2016	0.0031 (J)			<0.000203	<0.000203	<0.000203	<0.000203
10/3/2016	<0.000203			<0.000203	<0.000203		<0.000203
10/4/2016						<0.000203	
10/26/2016	<0.000203			<0.000203	<0.000203	<0.000203	<0.000203
11/21/2016	<0.000203			<0.000203	<0.000203	<0.000203	<0.000203
1/17/2017	<0.000203			<0.000203	<0.000203		
1/18/2017						<0.000203	<0.000203
3/20/2017	<0.000203						
3/22/2017				<0.000203	<0.000203	<0.000203	<0.000203
4/18/2017	<0.000203			<0.000203	<0.000203	<0.000203	<0.000203
5/30/2017	<0.000203			<0.000203			
5/31/2017					<0.000203	<0.000203	
2/13/2018	<0.000203			<0.000203	<0.000203	<0.000203	<0.000203
5/22/2018				<0.000203	<0.000203		
5/23/2018							<0.000203
5/24/2018						<0.000203	
6/12/2018	<0.000203			<0.000203	<0.000203	<0.000203	<0.000203
10/17/2018	<0.000203			<0.000203	<0.000203	<0.000203	<0.000203
11/19/2018				<0.000203	<0.000203	<0.000203	<0.000203
3/5/2019			<0.000203				
4/10/2019	<0.000203			<0.000203	<0.000203	<0.000203	<0.000203
5/14/2019				<0.000203	<0.000203	<0.000203	<0.000203
10/8/2019				<0.000203	<0.000203	<0.000203	
10/10/2019							<0.000203
10/14/2019	<0.000203						
10/16/2019			<0.000203	<0.000203	<0.000203	<0.000203	<0.000203
2/3/2020				<0.000203	<0.000203	<0.000203	<0.000203
2/4/2020	<0.000203		<0.000203				
2/5/2020		<0.000203					
8/3/2020				<0.000203	<0.000203	<0.000203	
8/4/2020			<0.000203				
8/5/2020	<0.000203	<0.000203					<0.000203
2/22/2021				<0.000203	<0.000203	<0.000203	0.000131 (J)
3/1/2021	0.00277	0.000654					
3/2/2021			<0.000203				
7/12/2021				<0.000203	<0.000203	<0.000203	0.00014 (J)
7/13/2021			<0.000203				
7/14/2021	0.00015 (J)	0.00026					
1/25/2022				<0.000203	<0.000203	8E-05 (J)	0.00011 (J)
1/26/2022		0.00078	<0.000203				
1/27/2022	0.00012 (J)						
7/5/2022				<0.000203	<0.000203	<0.000203	0.000108 (J)
7/12/2022	0.000122 (J)	0.000186 (J)	<0.000203				

# Time Series

Constituent: pH (pH) Analysis Run 10/13/2022 12:43 PM  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						6.28		3.83 (E)	
10/3/2016						6.28		3.82 (E)	
10/26/2016						6.19		3.81 (E)	
11/21/2016						6.2		3.81	
1/17/2017						6.13		3.78	
3/20/2017						6.17			
3/21/2017								3.76	
4/17/2017						5.6		3.76	
5/30/2017						6.07		3.76	
8/24/2017						5.99		3.7	
2/13/2018						5.88		3.73	
6/11/2018						5.91		3.8	
10/17/2018						5.88		3.81	
3/4/2019	6.04								
3/5/2019							6.7		6.19
4/10/2019						5.83		3.83	
10/14/2019						6.04	6.39	3.91	5.89
10/16/2019	6.07								
2/3/2020						5.98	5.88		5.84
2/4/2020	6.02	4.57		6				3.83	
8/4/2020	5.74			5.89		6.09	5.9		
8/5/2020		4.13	6.15		3.83			3.86	5.81
3/1/2021						5.82			
3/2/2021	5.89	4.11		5.85					
3/3/2021			6.11		4.02		5.76	3.76	5.75
7/13/2021					3.8				
7/14/2021	5.72	4.04	6.21	5.55		5.93		3.74	5.75
7/15/2021							5.92		
1/25/2022		4.11							
1/26/2022	5.95			6.08		6.52	6.61		
1/27/2022			6.19		4.1			3.73	6.17
7/12/2022	5.97			5.82					
7/13/2022		4.15	6.26		3.94	5.92	5.98	3.43	5.66

# Time Series

Constituent: pH (pH) Analysis Run 10/13/2022 12:43 PM  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	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	6.78					5.63	6.11
10/3/2016	6.71			5.21	5.91		6.13
10/4/2016						5.69	
10/26/2016	6.65			5.2	5.84	5.56	6.12
11/21/2016	6.7			5.19	5.82	5.42	6.09
1/17/2017	6.25			5.17	5.87		
1/18/2017						5.11	6.09
3/20/2017	7.04						
3/22/2017				5.2	6.01	4.52	6.15
4/18/2017	6.99			5.2	6.02	5.84	6.19
5/30/2017	6.98			5.14			
5/31/2017					5.85	4.56	
8/23/2017				5.12	5.89	4.77	6.12
8/24/2017	6.89						
2/13/2018	6.85			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	6.83			5.15	5.95	4.79	6.16
10/17/2018	6.81			5.12	5.9	4.75	6.12
11/19/2018				5.09	6.03	3.77 (o)	6.16
3/5/2019			5.88				
4/10/2019	6.71			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
10/14/2019	6.88						
10/16/2019			5.43	5.16	5.98	4.51	6.19
2/3/2020				5	5.95	5.54	6.14
2/4/2020	6.85		5.34				
2/5/2020		7.48					
8/3/2020				5.08	5.95	5.06	
8/4/2020			5.33				
8/5/2020	6.76	7.58					6.15
2/22/2021				5.06	6.1	5.59	6.19
3/1/2021	6.48	7.67					
3/2/2021			5.29				
7/12/2021				5.13	6.16	5.86	6.06
7/13/2021			5.13				
7/14/2021	6.88	7.97					
1/25/2022				5.11	6.22	5.9	6.3
1/26/2022		8.18	5.35				
1/27/2022	6.85						
7/5/2022				5.01	6.15	5.34	6.12
7/12/2022	6.49	7.44	5.3				



# Time Series

Constituent: Selenium (mg/L) Analysis Run 10/13/2022 12:43 PM

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						<0.001015		0.00234 (J)	
10/3/2016						<0.001015		0.00739 (J)	
10/26/2016						<0.001015		0.00266 (J)	
11/21/2016						<0.001015		0.00212 (J)	
1/17/2017						<0.001015		0.00263 (J)	
3/20/2017						<0.001015			
3/21/2017								0.00588 (J)	
4/17/2017						0.00521 (J)		0.00579 (J)	
5/30/2017						<0.001015		0.00471 (J)	
2/13/2018						0.00267 (J)		0.00498 (J)	
6/11/2018						0.00236 (J)		0.00388 (J)	
10/17/2018						<0.001015		<0.001015	
3/4/2019	<0.001015								
3/5/2019							<0.001015		<0.001015
4/10/2019						0.00234 (J)		0.00322 (J)	
10/14/2019						<0.001015	<0.001015	<0.001015	<0.001015
10/16/2019	<0.001015								
11/26/2019		0.00614 (J)							
2/3/2020						<0.001015	<0.001015		<0.001015
2/4/2020	<0.001015	<0.001015		<0.001015				<0.001015	
8/4/2020	<0.001015			<0.001015		<0.001015	<0.001015		
8/5/2020		0.00417 (J)	<0.001015		0.00571 (J)			0.00298 (J)	<0.001015
3/1/2021						0.00141			
3/2/2021	<0.001015	0.00463		<0.001015					
3/3/2021			<0.001015		0.00554		<0.001015	0.00294	0.000749 (J)
7/13/2021					0.00607				
7/14/2021	<0.001015	0.00441	<0.001015	<0.001015		0.00151		0.00563	0.00095 (J)
7/15/2021							<0.001015		
1/25/2022		0.00311							
1/26/2022	<0.001015			0.00069 (J)		0.00117	<0.001015		
1/27/2022			<0.001015		0.00401			0.00817	0.00101 (J)
7/12/2022	<0.001015			<0.001015					
7/13/2022		0.0039	<0.001015		0.00436	0.00151	<0.001015	0.0226	0.00111

# Time Series

Constituent: Selenium (mg/L) Analysis Run 10/13/2022 12:43 PM

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016					<0.001015	<0.001015	<0.001015
4/26/2016				0.00261 (J)			
6/20/2016				0.00242 (J)	<0.001015		<0.001015
6/22/2016						<0.001015	
8/8/2016				0.00253 (J)	<0.001015		
8/9/2016						<0.001015	<0.001015
8/24/2016	<0.001015			<0.001015	<0.001015	<0.001015	<0.001015
10/3/2016	<0.001015			0.00211 (J)	<0.001015		<0.001015
10/4/2016						<0.001015	
10/26/2016	<0.001015			<0.001015	<0.001015	<0.001015	<0.001015
11/21/2016	<0.001015			<0.001015	<0.001015	<0.001015	<0.001015
1/17/2017	<0.001015			<0.001015	<0.001015		
1/18/2017						<0.001015	<0.001015
3/20/2017	<0.001015						
3/22/2017				0.0022 (J)	<0.001015	0.0141	<0.001015
4/18/2017	<0.001015			0.0027 (J)	<0.001015	0.0158	<0.001015
5/30/2017	<0.001015			0.00316 (J)			
5/31/2017					<0.001015	0.00632 (J)	
2/13/2018	<0.001015			0.00211 (J)	<0.001015	0.0209	0.00403 (J)
5/22/2018				0.00372 (J)	<0.001015		
5/23/2018							<0.001015
5/24/2018						0.00918 (J)	
6/12/2018	<0.001015			0.00409 (J)	<0.001015	0.00836 (J)	<0.001015
10/17/2018	<0.001015			<0.001015	<0.001015	<0.001015	<0.001015
11/19/2018				<0.001015	<0.001015	0.00439 (J)	0.00436 (J)
3/5/2019		<0.001015					
4/10/2019	<0.001015			0.00471 (J)	0.00322 (J)	0.0113	<0.001015
5/14/2019				0.00316 (J)	<0.001015	0.0119	0.00201 (J)
10/8/2019				<0.001015	<0.001015	0.00256 (J)	
10/10/2019							<0.001015
10/14/2019	<0.001015						
10/16/2019		<0.001015		<0.001015	<0.001015	0.00286 (J)	<0.001015
2/3/2020				0.00272 (J)	<0.001015	0.012	0.00212 (J)
2/4/2020	<0.001015		<0.001015				
2/5/2020		<0.001015					
8/3/2020				0.00278 (J)	<0.001015	0.0146	
8/4/2020			<0.001015				
8/5/2020	<0.001015	<0.001015					0.00232 (J)
2/22/2021				0.00241	<0.001015	0.0181	0.00222
3/1/2021	<0.001015	<0.001015					
3/2/2021			0.00138				
7/12/2021				0.0028	<0.001015	0.0133	0.00155
7/13/2021			0.00141				
7/14/2021	<0.001015	<0.001015					
1/25/2022				0.00216	<0.001015	0.0154	0.00224
1/26/2022		<0.001015	0.00129				
1/27/2022	<0.001015						
7/5/2022				0.00269	<0.001015	0.0205	0.000961 (J)
7/12/2022	<0.001015	<0.001015	0.000944 (J)				

# Time Series

Constituent: Sulfate (mg/L) Analysis Run 10/13/2022 12:43 PM

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						2910		567	
10/3/2016						2980		596	
10/26/2016						2790		585	
11/21/2016						2880		593	
1/17/2017						2950		637	
3/20/2017						2800			
3/21/2017								530	
4/17/2017						2400		530	
5/30/2017						2900		530	
8/24/2017						2900		530	
6/11/2018						2900		540	
10/17/2018						2800		520	
3/4/2019	785								
3/5/2019							1170		871
4/10/2019						2980		616	
10/14/2019						3110	1710	641	818
10/16/2019	750								
11/26/2019		997							
2/3/2020						2840	1970		808
2/4/2020	725	978		720				571	
8/4/2020	694			773		2820	1860		
8/5/2020		811	1830		796			519	761
3/1/2021						2320			
3/2/2021	835	890		861					
3/3/2021			1930		803		1930	609	746
7/13/2021					787				
7/14/2021	747	878	2000	857		2880		752	797
7/15/2021							1960		
1/25/2022		903							
1/26/2022	745			883		2620	2010		
1/27/2022			1990		784			1130	825
7/12/2022	807			857					
7/13/2022		839	1980		707	3180	2040	3040	858

# Time Series

Constituent: Sulfate (mg/L) Analysis Run 10/13/2022 12:43 PM

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	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	1250			1450	1130	2190	2770
10/3/2016	1270			1460	1140		3060
10/4/2016						1950	
10/26/2016	1240			1330	1060	1980	2650
11/21/2016	1210			1420	1100	2060	2720
1/17/2017	1150			1350	1160		
1/18/2017						2620	2650
3/20/2017	1400						
3/22/2017				1500	900	3200	2700
4/18/2017	1300			1300	870	2500	2400
5/30/2017	1500			1400			
5/31/2017					1100	2800	
8/23/2017				1500	920	2600	2700
8/24/2017	1800						
5/22/2018				2100 (o)	1200		
5/23/2018							2400
5/24/2018						2700	
6/12/2018	1800			1500	860	2500	2600
10/17/2018	1600			1400	970	2700	2600
11/19/2018				1300	1000	3000	2400
3/5/2019			2010				
4/10/2019	2150			1700	889	2460	2090
5/14/2019				1560	948	2460	2240
10/8/2019				1540	1230	2950	
10/10/2019							2690
10/14/2019	2090						
10/16/2019			2020	1680	1170	2820	3050
2/3/2020				1510	803	2290	1920
2/4/2020	1570		1710				
2/5/2020		223					
8/3/2020				1370	907	2330	
8/4/2020			1790				
8/5/2020	1880	243					1930
2/22/2021				1400	864	3040	2040
3/1/2021	1450	183					
3/2/2021			1750				
7/12/2021				1560	763	2380	1930
7/13/2021			1750				
7/14/2021	1700	196					
1/25/2022				1430	842	2550	1930
1/26/2022		199	1660				
1/27/2022	2000						
7/5/2022				1600	819	3110	2380
7/12/2022	1740	177	1720				

# Time Series

Constituent: Thallium (mg/L) Analysis Run 10/13/2022 12:43 PM

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						<0.000203		<0.000203	
10/3/2016						<0.000203		<0.000203	
10/26/2016						<0.000203		<0.000203	
11/21/2016						<0.000203		<0.000203	
1/17/2017						<0.000203		<0.000203	
3/20/2017						<0.000203			
3/21/2017								<0.000203	
4/17/2017						<0.000203		<0.000203	
5/30/2017						<0.000203		<0.000203	
2/13/2018						<0.000203		<0.000203	
6/11/2018						<0.000203		<0.000203	
10/17/2018						<0.000203		<0.000203	
3/4/2019	<0.000203								
3/5/2019							<0.000203		<0.000203
4/10/2019						<0.000203		<0.000203	
10/14/2019						<0.000203	<0.000203	<0.000203	<0.000203
10/16/2019	<0.000203								
11/26/2019		0.000375 (J)							
2/3/2020						<0.000203	<0.000203		<0.000203
2/4/2020	<0.000203	0.000491 (J)		<0.000203				<0.000203	
8/4/2020	<0.000203			<0.000203		<0.000203	<0.000203		
8/5/2020		0.000297 (J)	<0.000203		<0.000203			0.000205 (J)	<0.000203
3/1/2021						<0.000203			
3/2/2021	<0.000203	0.000371		<0.000203					
3/3/2021			<0.000203		7.98E-05 (J)		<0.000203	0.000178 (J)	<0.000203
7/13/2021					<0.000203				
7/14/2021	<0.000203	0.00034	<0.000203	<0.000203		<0.000203		9E-05 (J)	<0.000203
7/15/2021							<0.000203		
1/25/2022		0.00032							
1/26/2022	<0.000203			<0.000203		<0.000203	<0.000203		
1/27/2022			<0.000203		7E-05 (J)			0.00022	<0.000203
7/12/2022	<0.000203			<0.000203					
7/13/2022		0.000311	<0.000203		7.7E-05 (J)	<0.000203	<0.000203	0.000447	<0.000203

# Time Series

Constituent: Thallium (mg/L) Analysis Run 10/13/2022 12:43 PM

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
4/25/2016					<0.000203	0.000205 (J)	<0.000203
4/26/2016				<0.000203			
6/20/2016				<0.000203	<0.000203		<0.000203
6/22/2016						<0.000203	
8/8/2016				<0.000203	<0.000203		
8/9/2016						<0.000203	<0.000203
8/24/2016	<0.000203			<0.000203	<0.000203	<0.000203	<0.000203
10/3/2016	<0.000203			<0.000203	<0.000203		<0.000203
10/4/2016						<0.000203	
10/26/2016	<0.000203			<0.000203	<0.000203	0.000209 (J)	<0.000203
11/21/2016	<0.000203			<0.000203	<0.000203	<0.000203	<0.000203
1/17/2017	<0.000203			<0.000203	<0.000203		
1/18/2017						<0.000203	<0.000203
3/20/2017	<0.000203						
3/22/2017				<0.000203	<0.000203	<0.000203	<0.000203
4/18/2017	<0.000203			<0.000203	<0.000203	<0.000203	<0.000203
5/30/2017	<0.000203			<0.000203			
5/31/2017					<0.000203	<0.000203	
2/13/2018	<0.000203			<0.000203	<0.000203	<0.000203	<0.000203
5/22/2018				<0.000203	<0.000203		
5/23/2018							<0.000203
5/24/2018						<0.000203	
6/12/2018	<0.000203			<0.000203	<0.000203	<0.000203	<0.000203
10/17/2018	<0.000203			<0.000203	<0.000203	<0.000203	<0.000203
11/19/2018				<0.000203	<0.000203	0.000226 (J)	<0.000203
3/5/2019			0.00021 (J)				
4/10/2019	<0.000203			<0.000203	<0.000203	<0.000203	<0.000203
5/14/2019				<0.000203	<0.000203	<0.000203	<0.000203
10/8/2019				<0.000203	<0.000203	<0.000203	
10/10/2019							<0.000203
10/14/2019	<0.000203						
10/16/2019			0.000262 (J)	<0.000203	<0.000203	<0.000203	<0.000203
2/3/2020				<0.000203	<0.000203	<0.000203	<0.000203
2/4/2020	<0.000203		0.000233 (J)				
2/5/2020		<0.000203					
8/3/2020				<0.000203	<0.000203	<0.000203	
8/4/2020			0.000265 (J)				
8/5/2020	<0.000203	<0.000203					<0.000203
2/22/2021				<0.000203	<0.000203	<0.000203	<0.000203
3/1/2021	<0.000203	<0.000203					
3/2/2021			0.000221				
7/12/2021				<0.000203	<0.000203	<0.000203	<0.000203
7/13/2021			0.00013 (J)				
7/14/2021	<0.000203	<0.000203					
1/25/2022				<0.000203	<0.000203	<0.000203	<0.000203
1/26/2022		<0.000203	0.00022				
1/27/2022	<0.000203						
7/5/2022				<0.000203	<0.000203	<0.000203	<0.000203
7/12/2022	<0.000203	<0.000203	0.000242				

# Time Series

Constituent: Total dissolved solids (mg/L) Analysis Run 10/13/2022 12:43 PM

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						5020		992	
10/3/2016						4880		988	
10/26/2016						5020		1030	
11/21/2016						5090		1020	
1/17/2017						4330		988	
3/20/2017						2690			
3/21/2017								990	
4/17/2017						4780		884	
5/30/2017						5170		1060	
8/24/2017						5140		1060	
6/11/2018						4960		944	
10/17/2018						4910		928	
3/4/2019	1150								
3/5/2019							2170		1410
4/10/2019						5090		1000	
10/14/2019						5110	3200	967	1340
10/16/2019	1150								
11/26/2019		1580							
2/3/2020						4920	3660		1290
2/4/2020	1200	1580		1200				978	
8/4/2020	1230			1350		5110	3530		
8/5/2020		1380	3330		1280			938	1330
3/1/2021						4390			
3/2/2021	1190	1390		1450					
3/3/2021			3450				3640	1040	1320
7/13/2021					1180				
7/14/2021	1190	1330	3360	1300		4920		1300	1340
7/15/2021							3430		
1/25/2022		1320							
1/26/2022	1140			1360		4260	3150		
1/27/2022			3170		1130			1840	1330
7/12/2022	1180			1360					
7/13/2022		1270	3380		1120	4960	3340	4700	1380

# Time Series

Constituent: Total dissolved solids (mg/L) Analysis Run 10/13/2022 12:43 PM

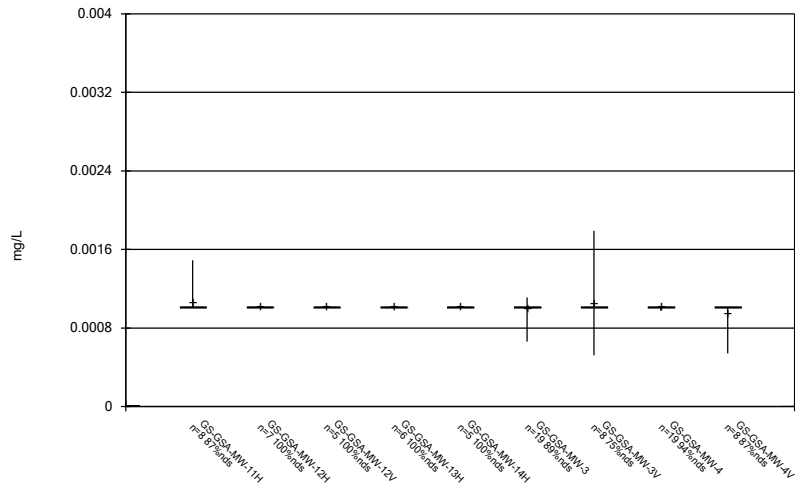
Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	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	2280			2040	1720	3080	4190
10/3/2016	2370			2110	1800		4190
10/4/2016						2900	
10/26/2016	2350			2000	1800	2940	4400
11/21/2016	2530			2070	1740	3090	4230
1/17/2017	2380			1930	1960		
1/18/2017						4020	4120
3/20/2017	2630						
3/22/2017				2060	1510	4180	3980
4/18/2017	2700			2140	1580	4440	3880
5/30/2017	2980			2240			
5/31/2017					1730	3970	
8/23/2017				2160	1550	4050	3990
8/24/2017	3390						
5/22/2018				2380	1500		
5/23/2018							3740
5/24/2018						3680	
6/12/2018	3510			2400	1550	3820	4080
10/17/2018	3550			2220	1740	4730	4250
11/19/2018				2360	1990	4710	3920
3/5/2019			3240				
4/10/2019	3580			2630	1250	3680	3280
5/14/2019				2340	1480	3580	3130 (D)
10/8/2019				2330	1840	4720	
10/10/2019							4000
10/14/2019	3730						
10/16/2019			3080	3650 (o)	1830	4210	4060
2/3/2020				2380	1440	3530	3240
2/4/2020	3190		3110				
2/5/2020		1100					
8/3/2020				2200	1650	3760	
8/4/2020			2920				
8/5/2020	3610	1100					3200
2/22/2021				2230	1620	4670	3190
3/1/2021	2870	1060					
3/2/2021			2860				
7/12/2021				2210	1390	3510	3000
7/13/2021			2640				
7/14/2021	3150	1060					
1/25/2022				2150	1500	3950	3180
1/26/2022		1050	2490				
1/27/2022	3290						
7/5/2022				2100	1250	4220	3240
7/12/2022	3090	1010	2610				



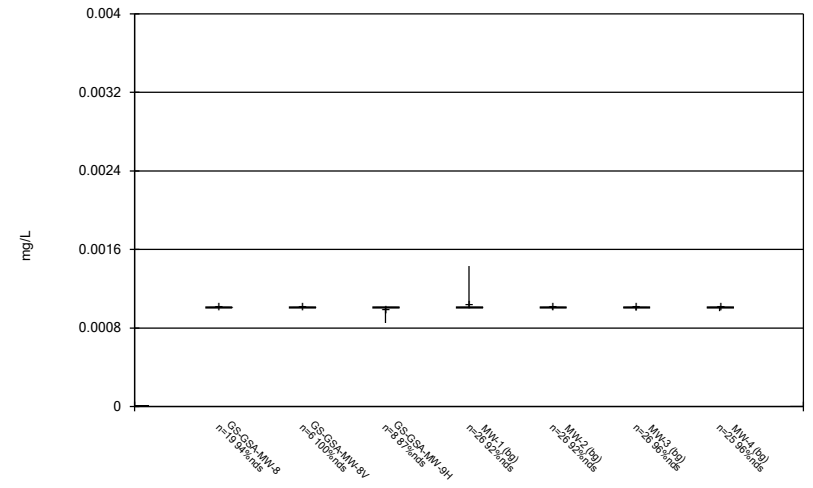
FIGURE B.

### Box & Whiskers Plot



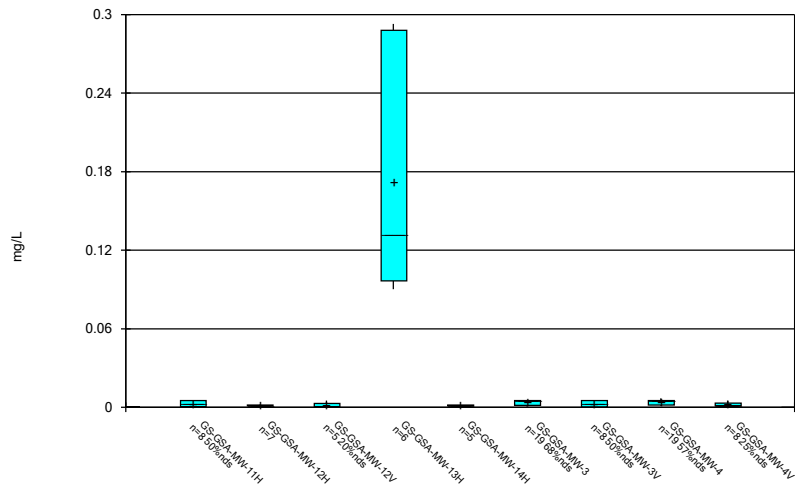
Constituent: Antimony Analysis Run 10/13/2022 12:44 PM  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Box & Whiskers Plot



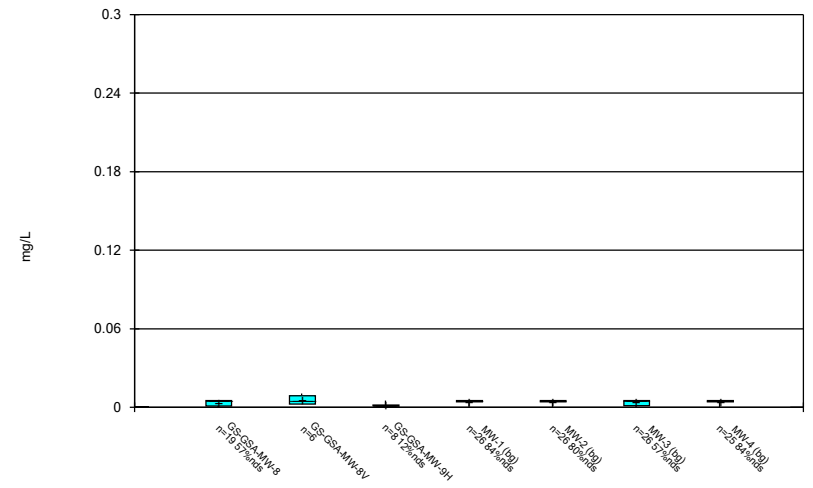
Constituent: Antimony Analysis Run 10/13/2022 12:44 PM  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Box & Whiskers Plot



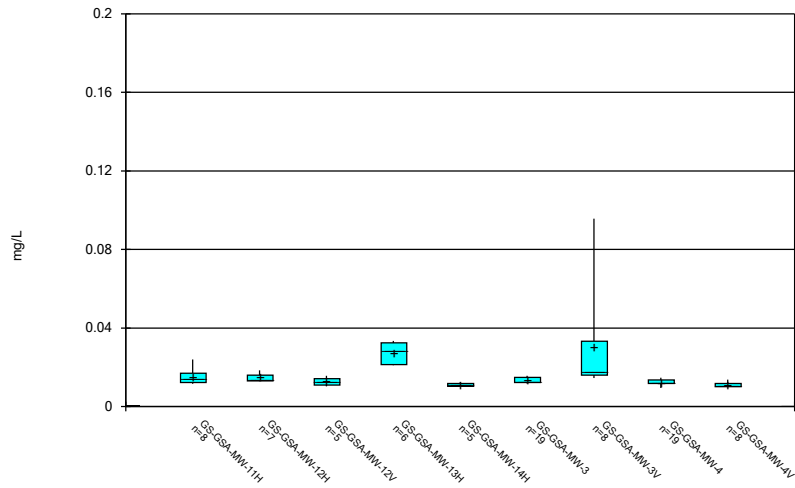
Constituent: Arsenic Analysis Run 10/13/2022 12:44 PM  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Box & Whiskers Plot



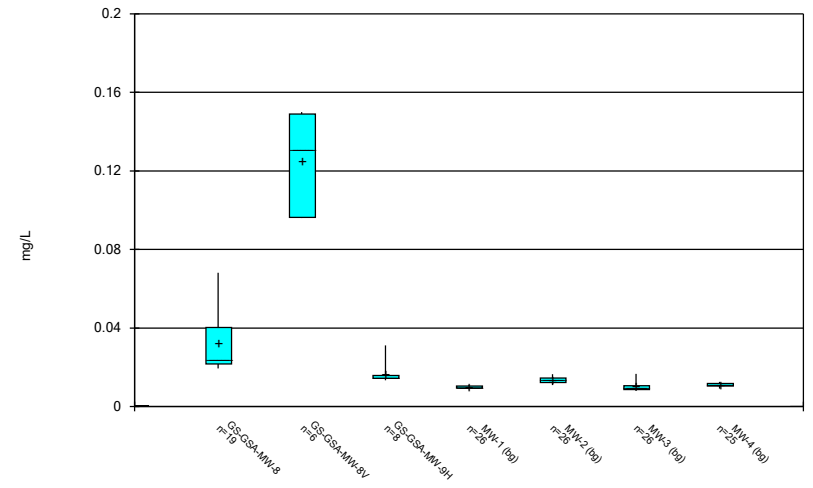
Constituent: Arsenic Analysis Run 10/13/2022 12:44 PM  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



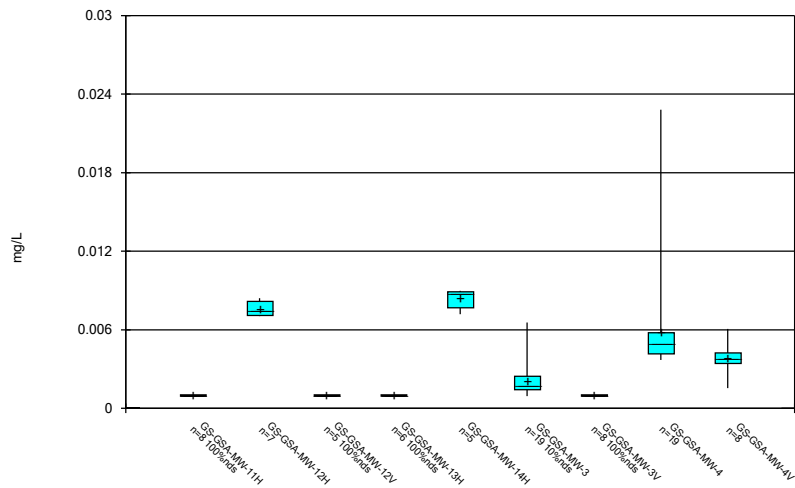
Constituent: Barium Analysis Run 10/13/2022 12:44 PM  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



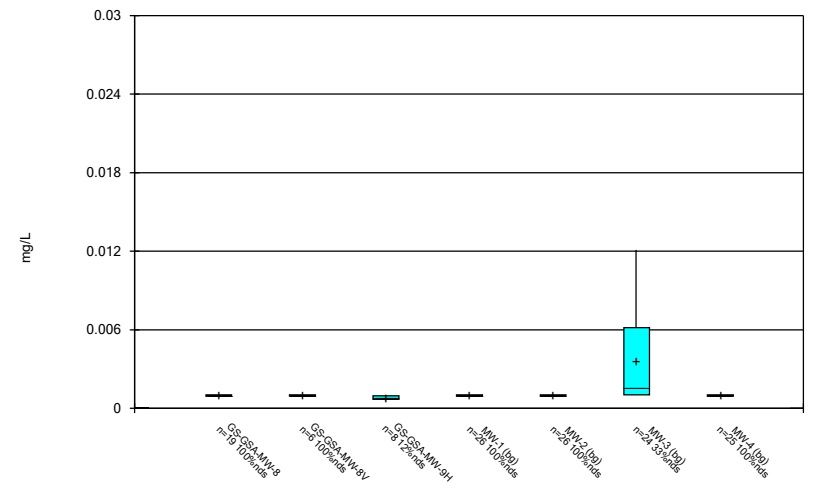
Constituent: Barium Analysis Run 10/13/2022 12:45 PM  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



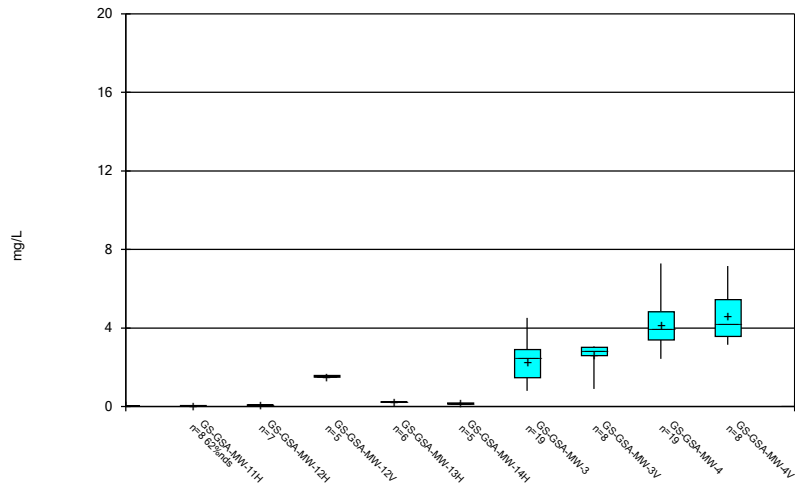
Constituent: Beryllium Analysis Run 10/13/2022 12:45 PM  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



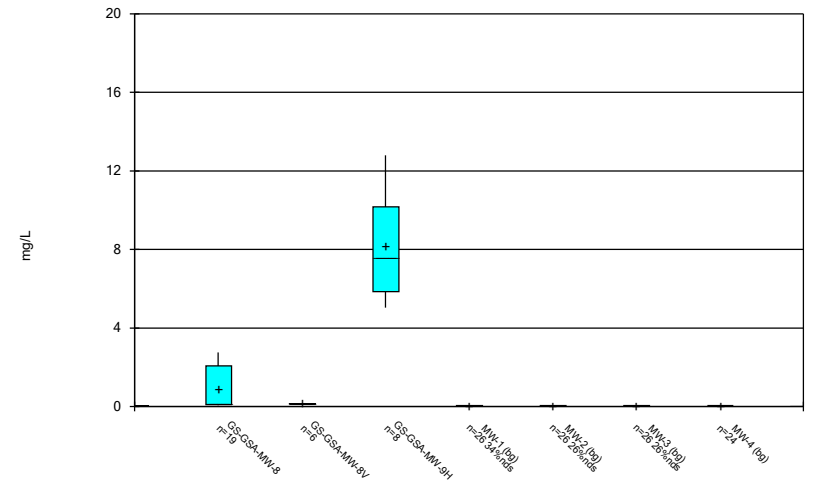
Constituent: Beryllium Analysis Run 10/13/2022 12:45 PM  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Box & Whiskers Plot



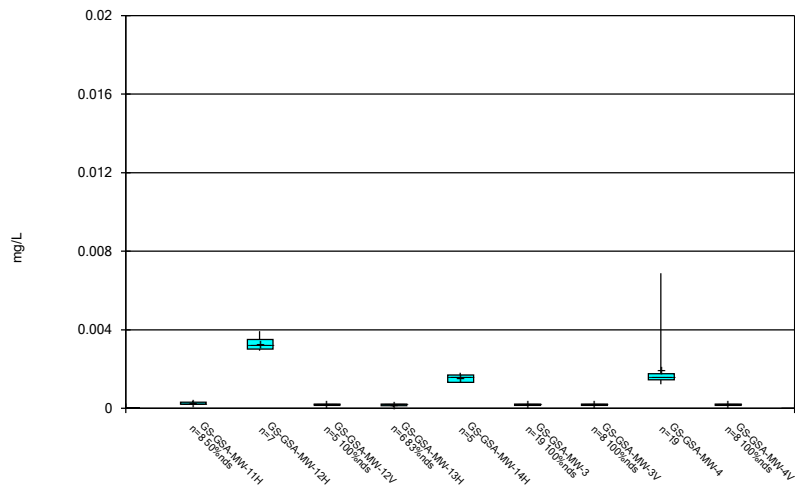
Constituent: Boron Analysis Run 10/13/2022 12:45 PM  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Box & Whiskers Plot



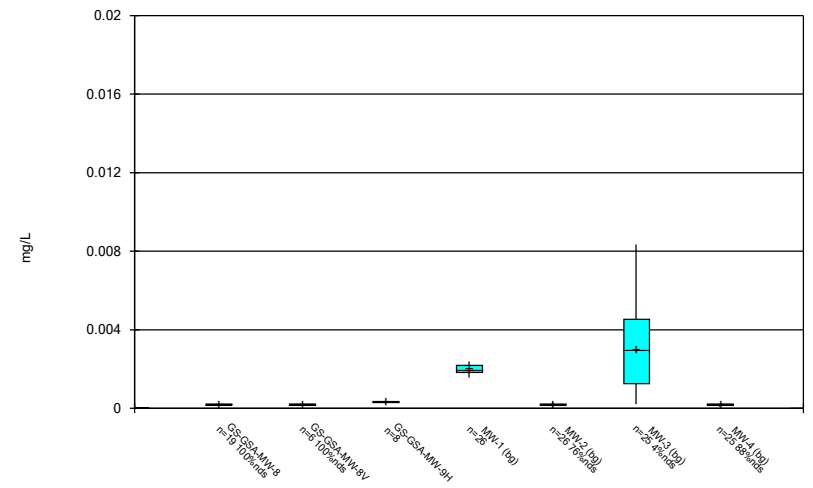
Constituent: Boron Analysis Run 10/13/2022 12:45 PM  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Box & Whiskers Plot



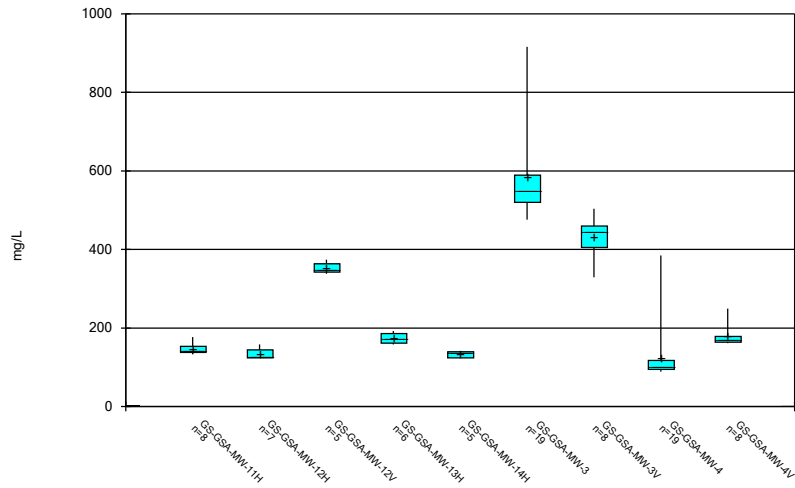
Constituent: Cadmium Analysis Run 10/13/2022 12:45 PM  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Box & Whiskers Plot



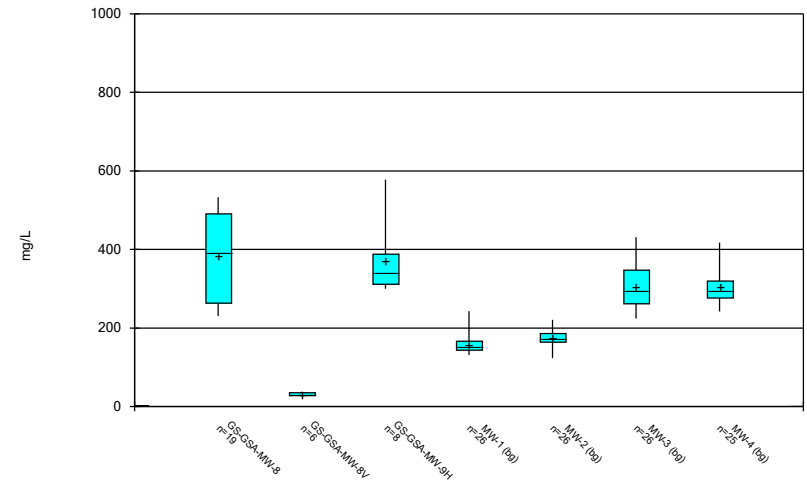
Constituent: Cadmium Analysis Run 10/13/2022 12:45 PM  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Box & Whiskers Plot



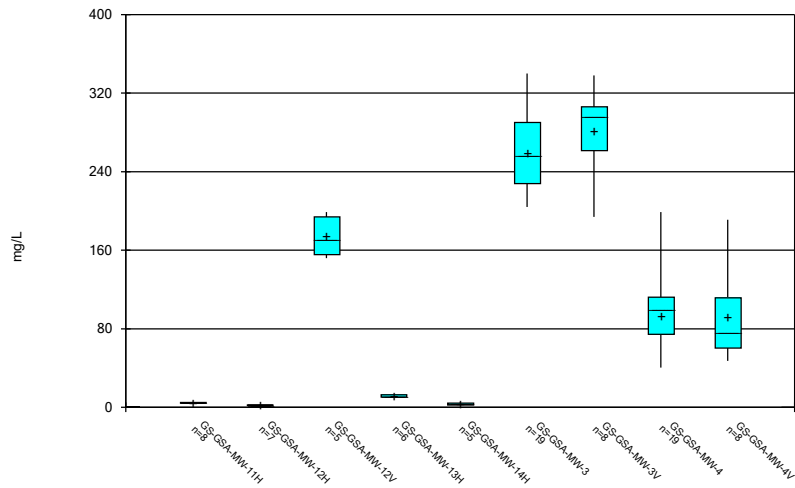
Constituent: Calcium Analysis Run 10/13/2022 12:45 PM  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Box & Whiskers Plot



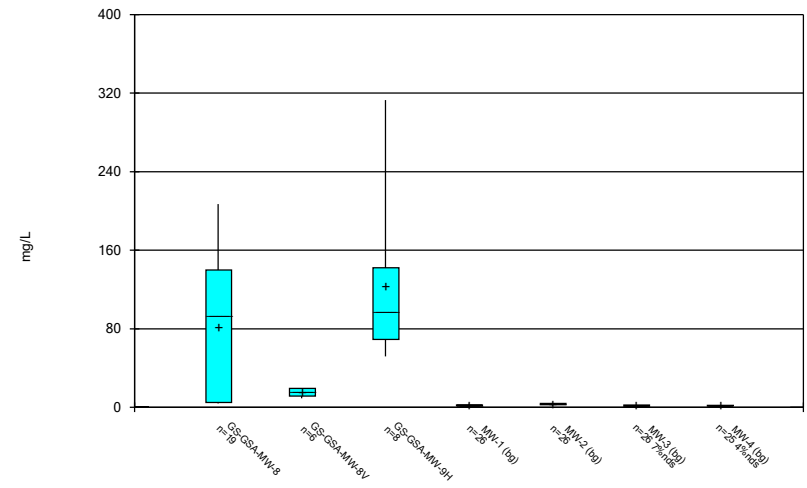
Constituent: Calcium Analysis Run 10/13/2022 12:45 PM  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Box & Whiskers Plot



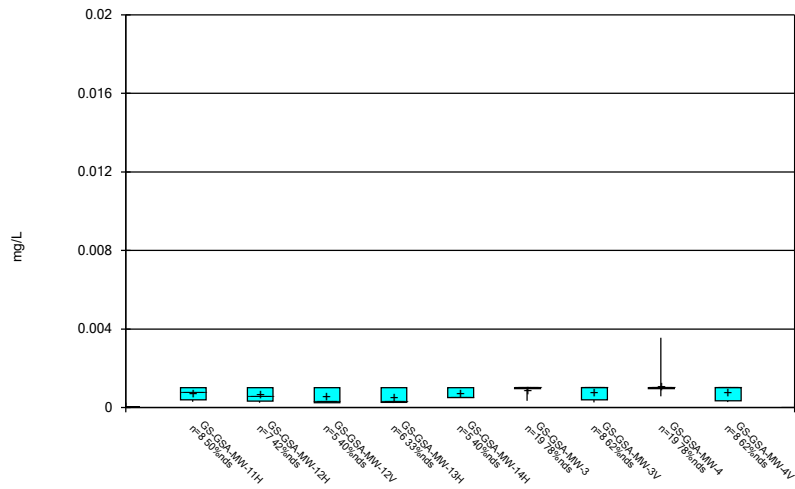
Constituent: Chloride Analysis Run 10/13/2022 12:45 PM  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Box & Whiskers Plot



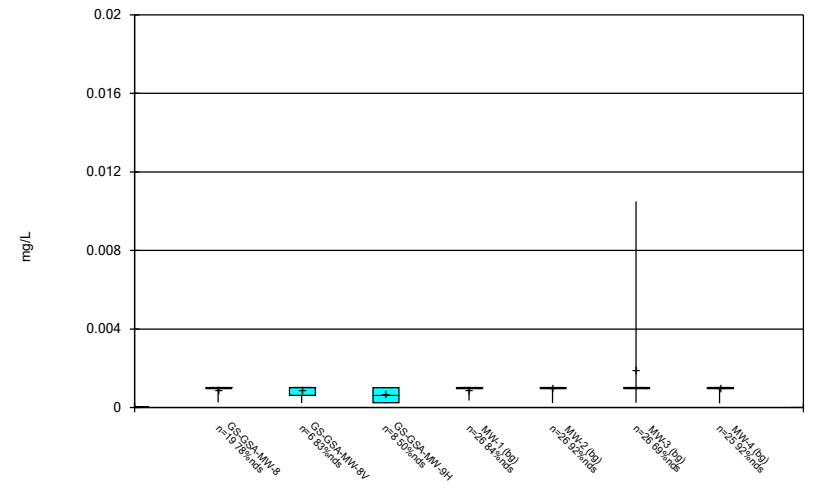
Constituent: Chloride Analysis Run 10/13/2022 12:45 PM  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Box & Whiskers Plot



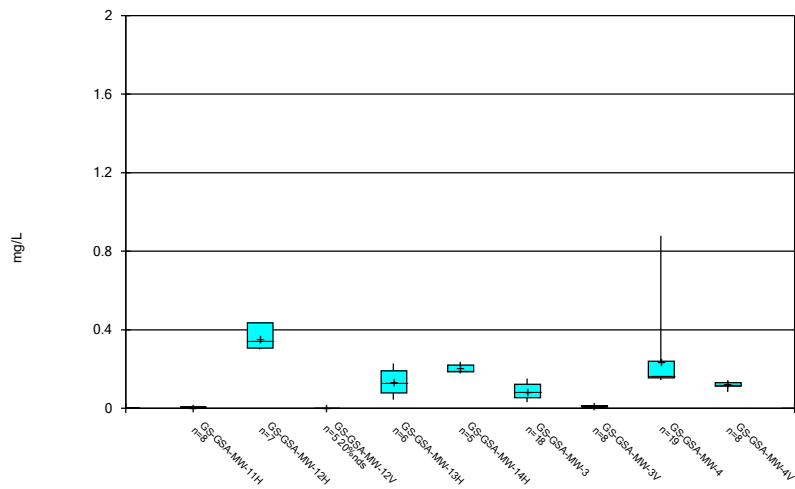
Constituent: Chromium Analysis Run 10/13/2022 12:45 PM  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Box & Whiskers Plot



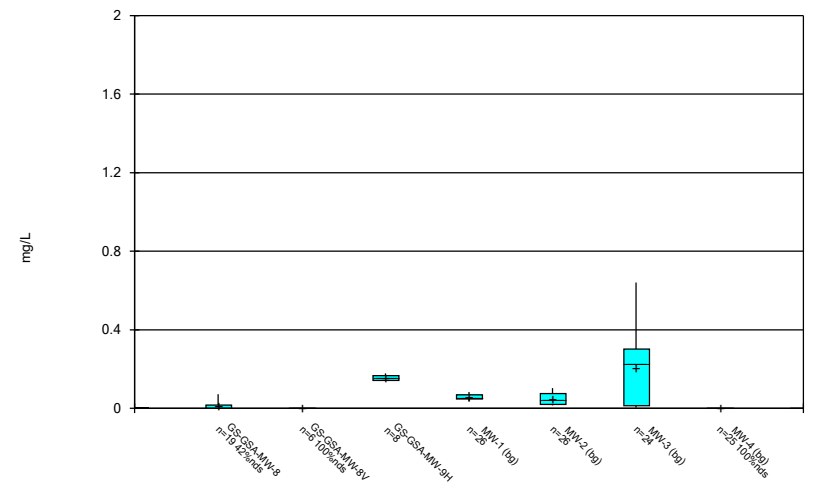
Constituent: Chromium Analysis Run 10/13/2022 12:45 PM  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Box & Whiskers Plot



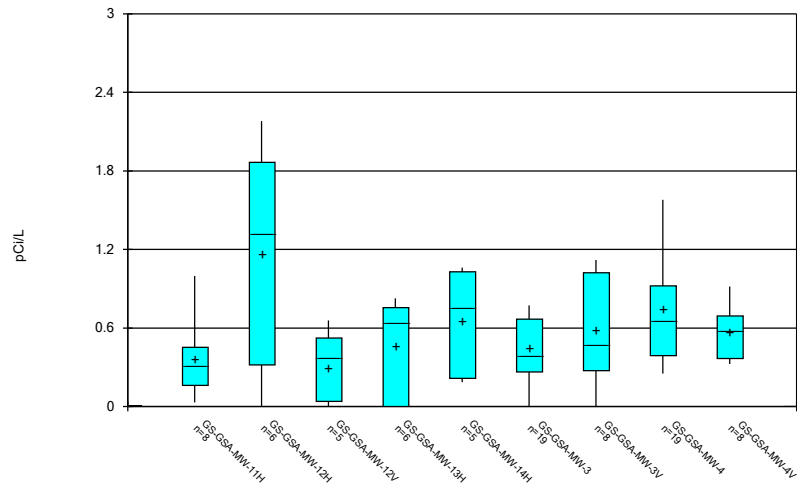
Constituent: Cobalt Analysis Run 10/13/2022 12:45 PM  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Box & Whiskers Plot



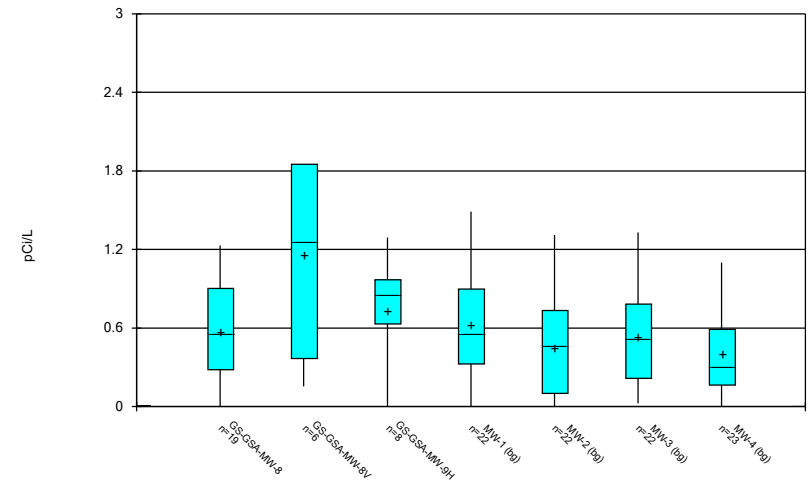
Constituent: Cobalt Analysis Run 10/13/2022 12:45 PM  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Box & Whiskers Plot



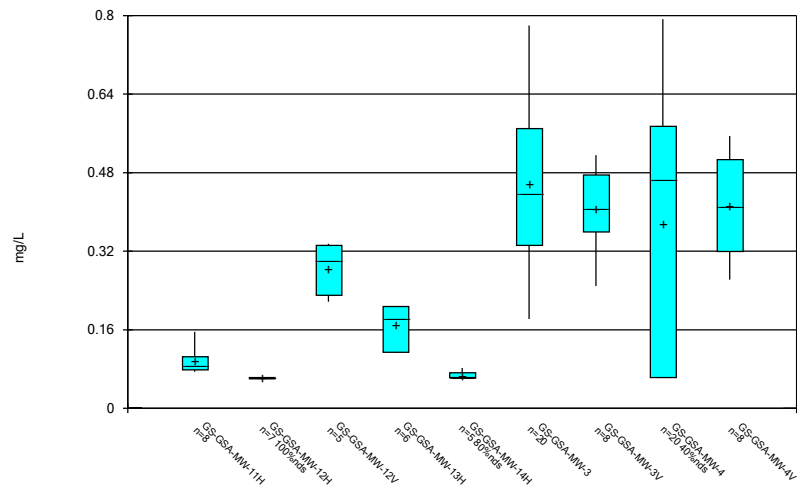
Constituent: Combined Radium 226 + 228 Analysis Run 10/13/2022 12:45 PM  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Box & Whiskers Plot



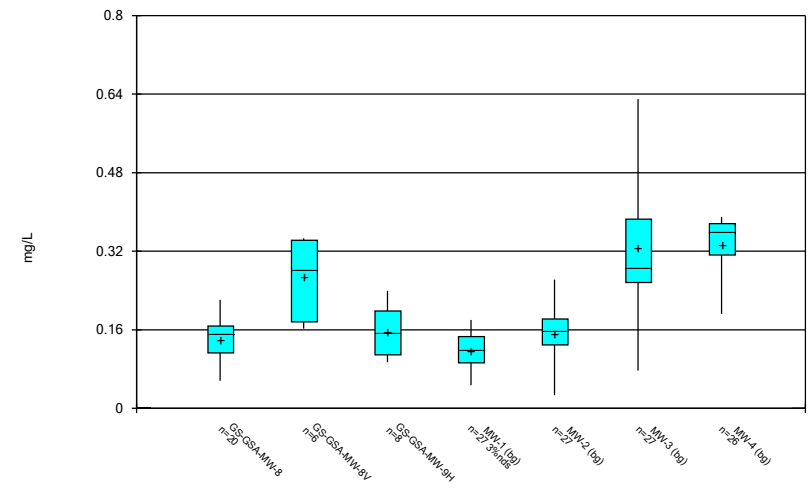
Constituent: Combined Radium 226 + 228 Analysis Run 10/13/2022 12:45 PM  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Box & Whiskers Plot



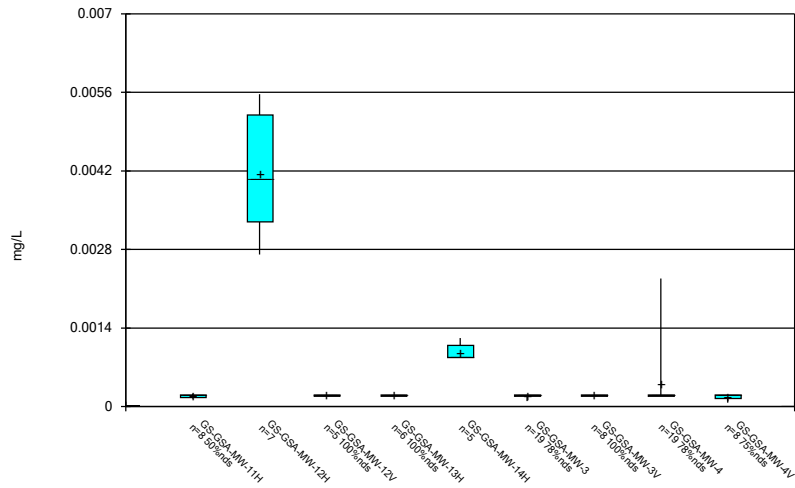
Constituent: Fluoride Analysis Run 10/13/2022 12:45 PM  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Box & Whiskers Plot



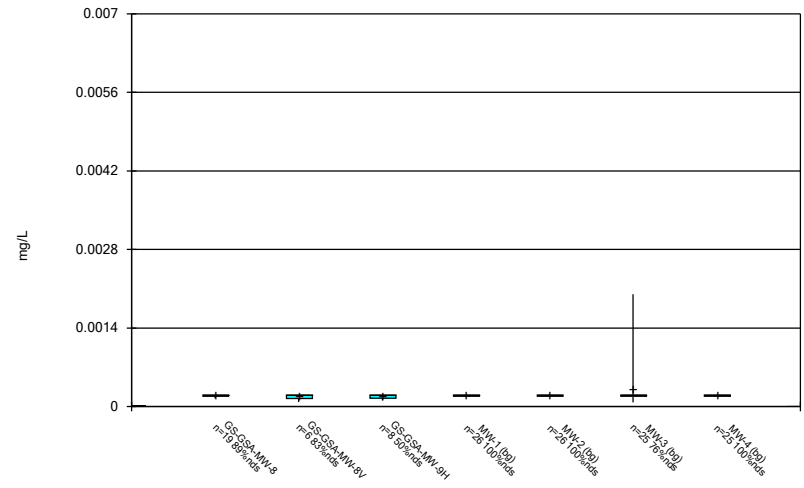
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 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Box & Whiskers Plot



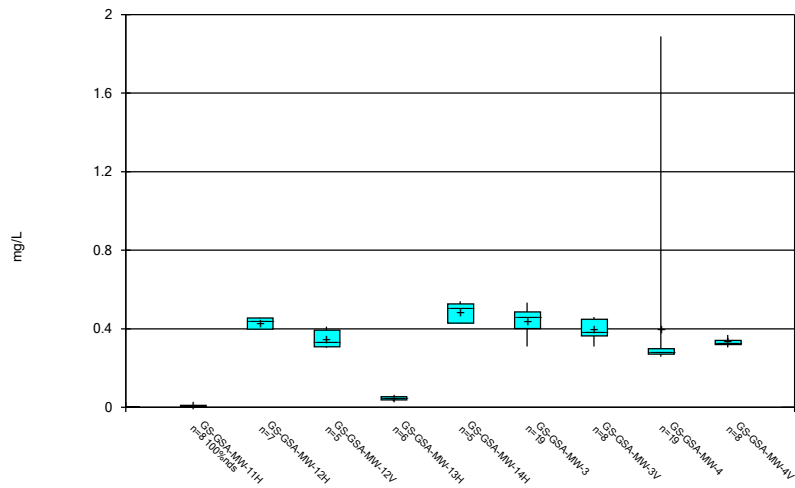
Constituent: Lead Analysis Run 10/13/2022 12:45 PM  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Box & Whiskers Plot



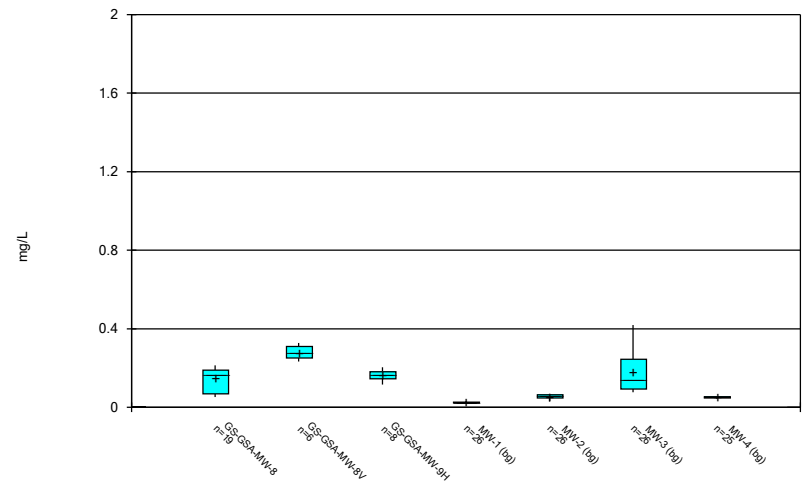
Constituent: Lead Analysis Run 10/13/2022 12:45 PM  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Box & Whiskers Plot



Constituent: Lithium Analysis Run 10/13/2022 12:45 PM  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

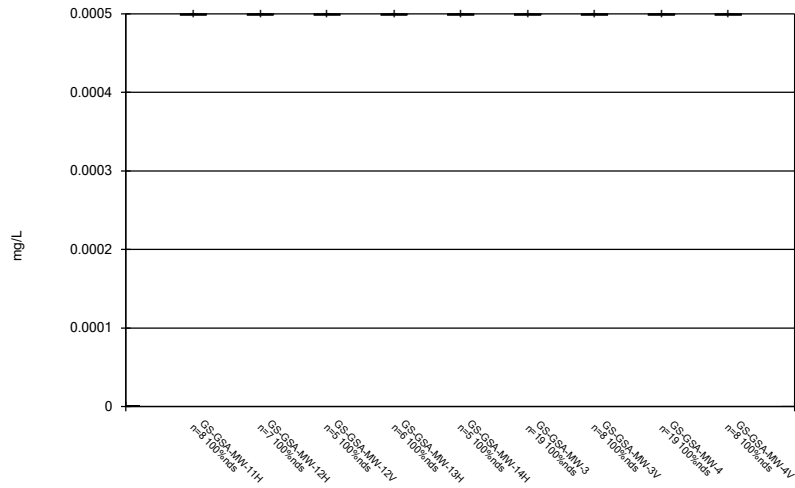
### Box & Whiskers Plot



Constituent: Lithium Analysis Run 10/13/2022 12:45 PM  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

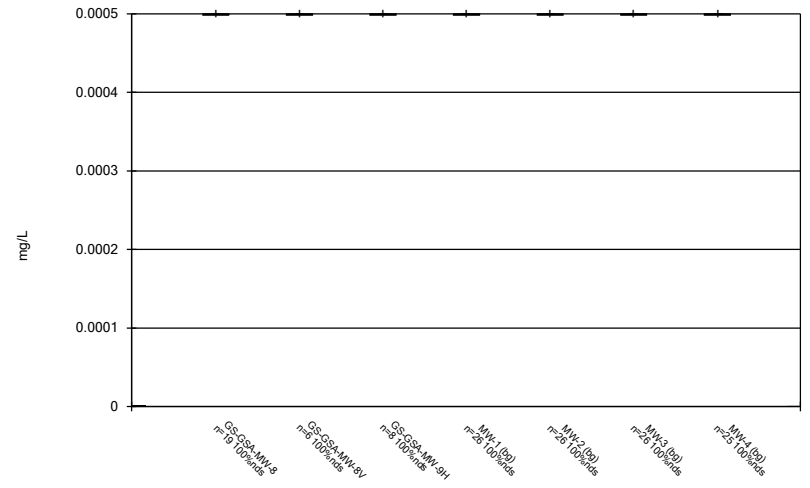


Box & Whiskers Plot



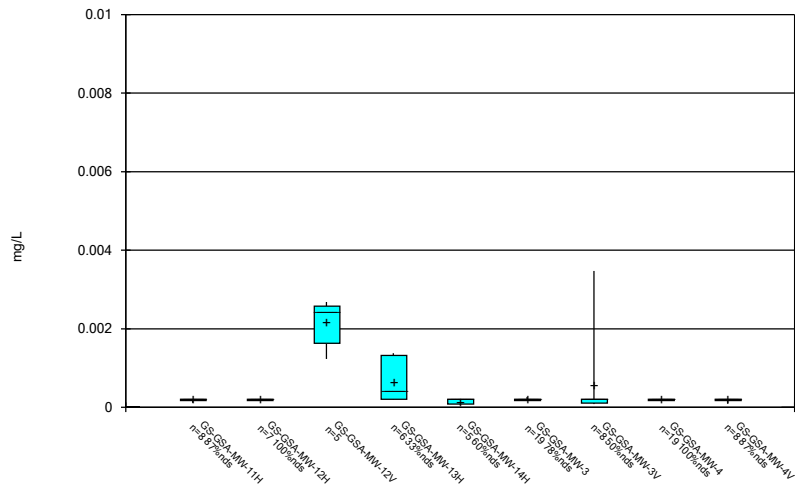
Constituent: Mercury Analysis Run 10/13/2022 12:45 PM  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



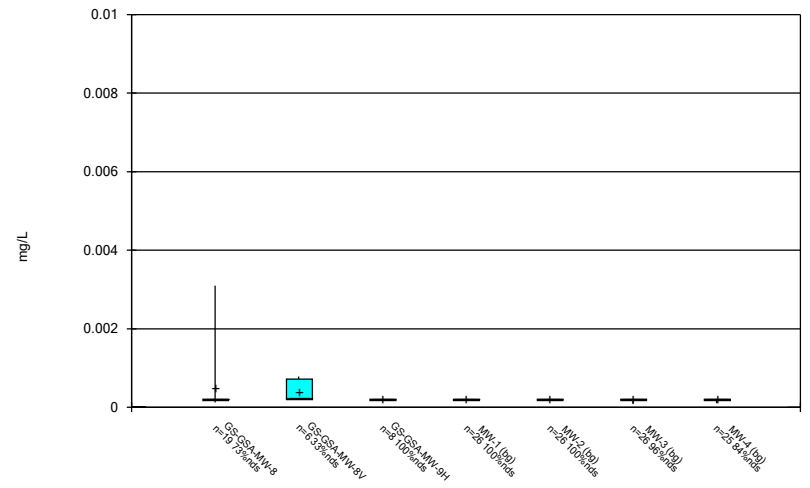
Constituent: Mercury Analysis Run 10/13/2022 12:45 PM  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



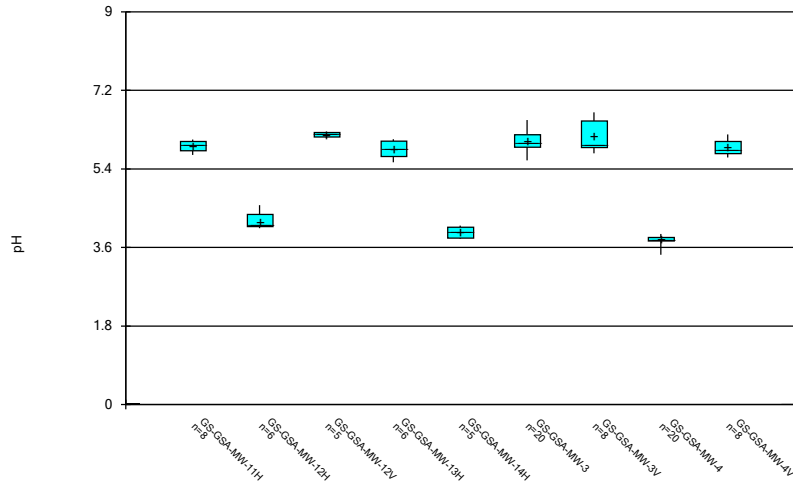
Constituent: Molybdenum Analysis Run 10/13/2022 12:45 PM  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



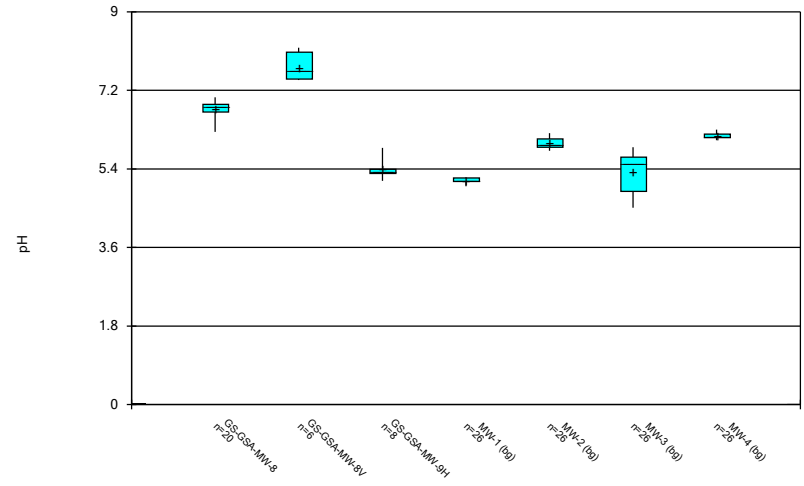
Constituent: Molybdenum Analysis Run 10/13/2022 12:45 PM  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



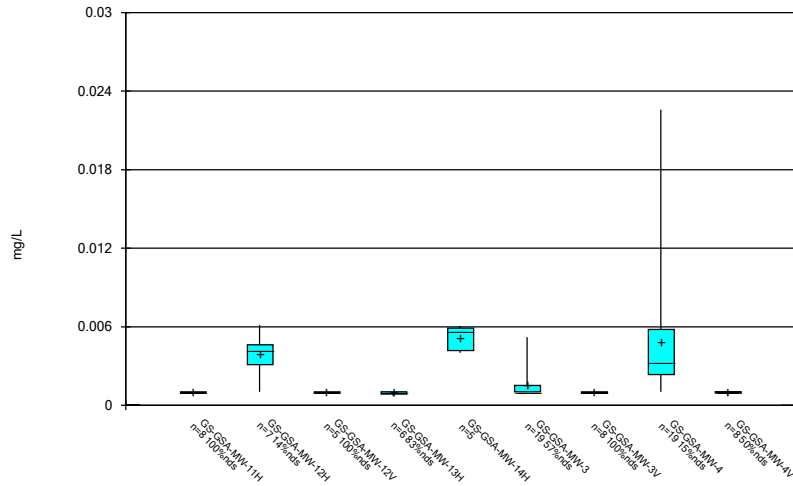
Constituent: pH Analysis Run 10/13/2022 12:45 PM  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



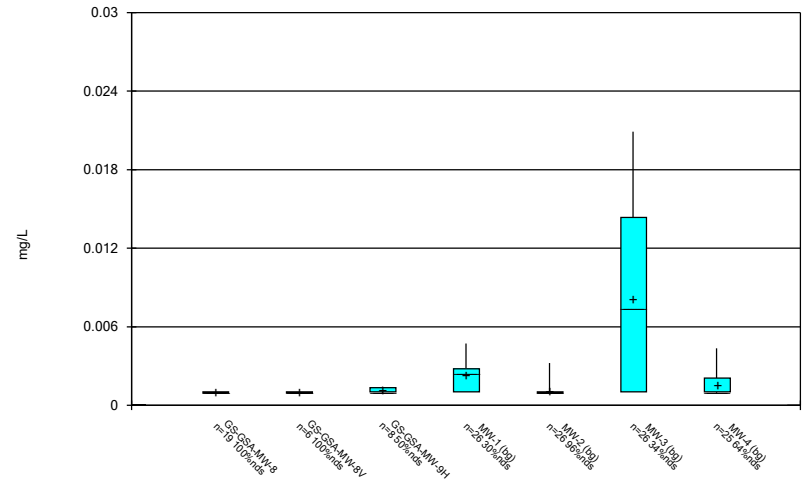
Constituent: pH Analysis Run 10/13/2022 12:45 PM  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



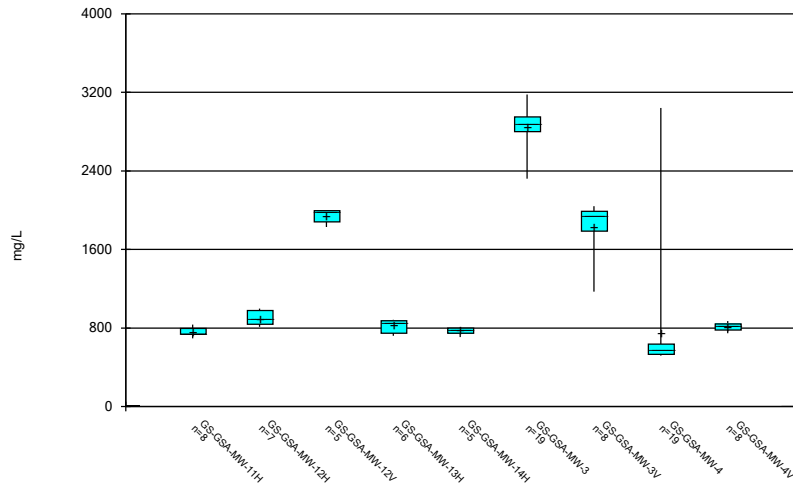
Constituent: Selenium Analysis Run 10/13/2022 12:45 PM  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



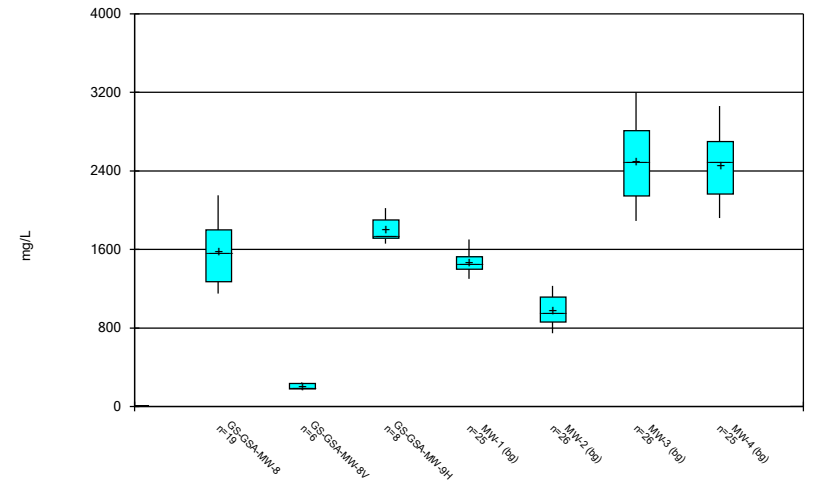
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Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Box & Whiskers Plot



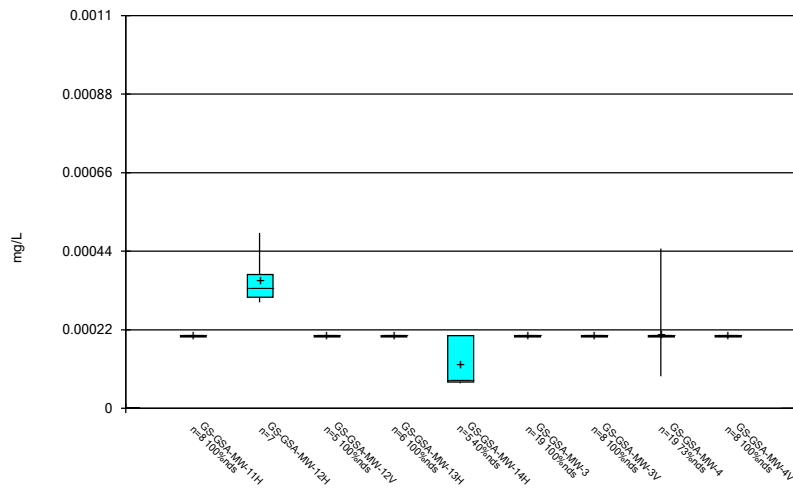
Constituent: Sulfate Analysis Run 10/13/2022 12:45 PM  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Box & Whiskers Plot



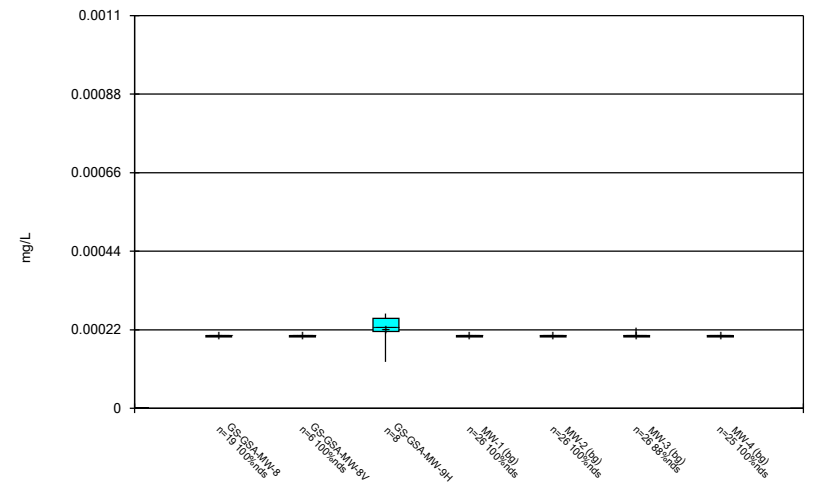
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 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Box & Whiskers Plot



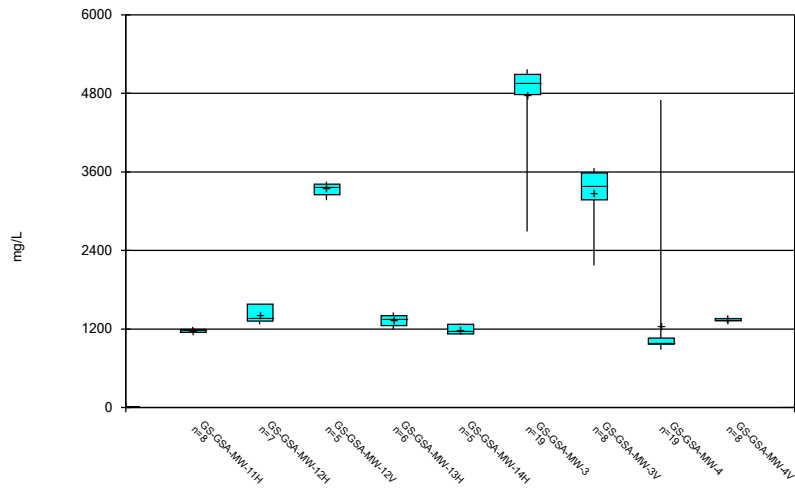
Constituent: Thallium Analysis Run 10/13/2022 12:45 PM  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Box & Whiskers Plot



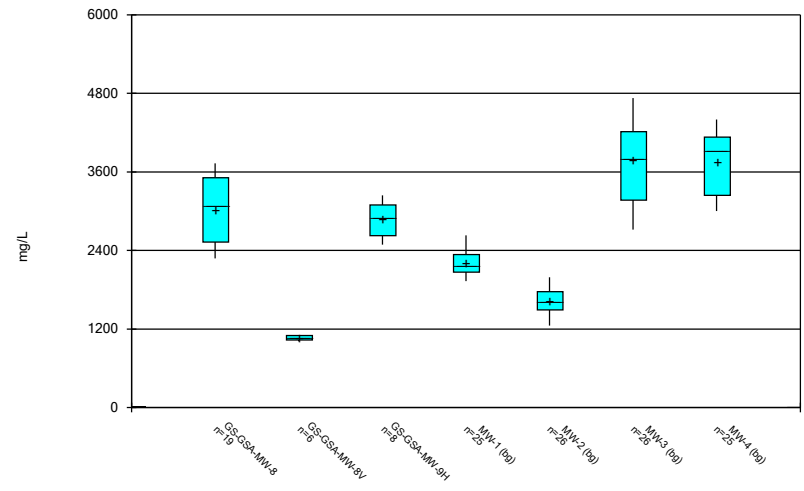
Constituent: Thallium Analysis Run 10/13/2022 12:45 PM  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



Constituent: Total dissolved solids Analysis Run 10/13/2022 12:45 PM  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



Constituent: Total dissolved solids Analysis Run 10/13/2022 12:45 PM  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

FIGURE C.

# Outlier Summary

Plant Gorgas Client: Southern Company Data: Gorgas GSA Printed 10/7/2022, 1:39 PM

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	MW-3 Beryllium (mg/L)	MW-4 Boron (mg/L)	MW-3 Cadmium (mg/L)	GS-GSA-MW-3 Cobalt (mg/L)	MW-3 Cobalt (mg/L)	MW-3 Lead (mg/L)	MW-3 pH (pH)	MW-1 Sulfate (mg/L)	MW-1 Total dissolved solids (mg/L)
4/25/2016			0.0121 (o)						
1/18/2017	0.0169 (o)								
4/17/2017			0.294 (o)						
5/22/2018								2100 (o)	
11/19/2018	0.0185 (o)				0.00692 (o)	3.77 (o)			
5/14/2019		<0.203 (o)							
10/8/2019					1.07 (o)				
10/16/2019					0.848 (o)				3650 (o)

FIGURE D.

# Intrawell Prediction Limit - Significant Results

Plant Gorgas Client: Southern Company Data: Gorgas GSA Printed 10/6/2022, 4:36 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
pH (pH)	GS-GSA-MW-4	3.896	3.699	7/13/2022	3.43	Yes	17	3.798	0.05044	0	None	No	0.001253	Param Intra 1 of 2
pH (pH)	MW-1	5.249	5.046	7/5/2022	5.01	Yes	23	5.147	0.05471	0	None	No	0.001253	Param Intra 1 of 2
pH (pH)	MW-2	6.145	5.788	7/5/2022	6.15	Yes	23	5.967	0.09604	0	None	No	0.001253	Param Intra 1 of 2
Sulfate (mg/L)	GS-GSA-MW-3	3163	n/a	7/13/2022	3180	Yes	16	2.3e10	4.4e9	0	None	x^3	0.002505	Param Intra 1 of 2
Sulfate (mg/L)	GS-GSA-MW-4	653.2	n/a	7/13/2022	3040	Yes	16	569.6	42.43	0	None	No	0.002505	Param Intra 1 of 2
Total dissolved solids (mg/L)	GS-GSA-MW-4	1084	n/a	7/13/2022	4700	Yes	16	987.9	48.59	0	None	No	0.002505	Param Intra 1 of 2



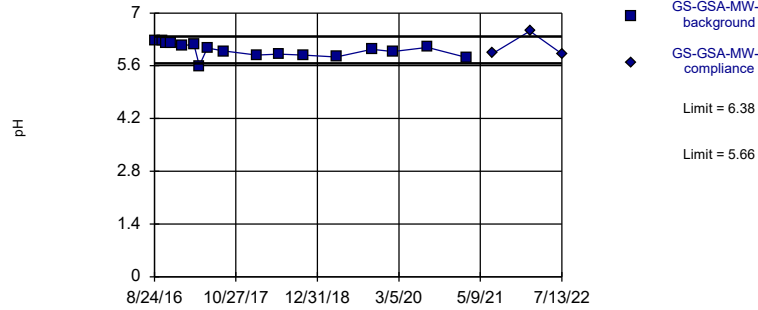
# Intrawell Prediction Limit - All Results

Plant Gorgas    Client: Southern Company    Data: Gorgas GSA    Printed 10/6/2022, 4:36 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
pH (pH)	GS-GSA-MW-3	6.38	5.66	7/13/2022	5.92	No	17	6.02	0.1846	0	None	No	0.001253	Param Intra 1 of 2
<b>pH (pH)</b>	<b>GS-GSA-MW-4</b>	<b>3.896</b>	<b>3.699</b>	<b>7/13/2022</b>	<b>3.43</b>	<b>Yes</b>	<b>17</b>	<b>3.798</b>	<b>0.05044</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.001253</b>	<b>Param Intra 1 of 2</b>
pH (pH)	GS-GSA-MW-8	7.149	6.399	7/12/2022	6.49	No	17	6.774	0.1922	0	None	No	0.001253	Param Intra 1 of 2
<b>pH (pH)</b>	<b>MW-1</b>	<b>5.249</b>	<b>5.046</b>	<b>7/5/2022</b>	<b>5.01</b>	<b>Yes</b>	<b>23</b>	<b>5.147</b>	<b>0.05471</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.001253</b>	<b>Param Intra 1 of 2</b>
<b>pH (pH)</b>	<b>MW-2</b>	<b>6.145</b>	<b>5.788</b>	<b>7/5/2022</b>	<b>6.15</b>	<b>Yes</b>	<b>23</b>	<b>5.967</b>	<b>0.09604</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.001253</b>	<b>Param Intra 1 of 2</b>
pH (pH)	MW-3	5.987	4.38	7/5/2022	5.34	No	23	149.3	35.15	0	None	x^3	0.001253	Param Intra 1 of 2
pH (pH)	MW-4	6.237	6.076	7/5/2022	6.12	No	23	6.157	0.04323	0	None	No	0.001253	Param Intra 1 of 2
<b>Sulfate (mg/L)</b>	<b>GS-GSA-MW-3</b>	<b>3163</b>	<b>n/a</b>	<b>7/13/2022</b>	<b>3180</b>	<b>Yes</b>	<b>16</b>	<b>2.3e10</b>	<b>4.4e9</b>	<b>0</b>	<b>None</b>	<b>x^3</b>	<b>0.002505</b>	<b>Param Intra 1 of 2</b>
<b>Sulfate (mg/L)</b>	<b>GS-GSA-MW-4</b>	<b>653.2</b>	<b>n/a</b>	<b>7/13/2022</b>	<b>3040</b>	<b>Yes</b>	<b>16</b>	<b>569.6</b>	<b>42.43</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.002505</b>	<b>Param Intra 1 of 2</b>
Sulfate (mg/L)	GS-GSA-MW-8	2169	n/a	7/12/2022	1740	No	16	1541	318.8	0	None	No	0.002505	Param Intra 1 of 2
Sulfate (mg/L)	MW-1	1653	n/a	7/5/2022	1600	No	22	1456	105.3	0	None	No	0.002505	Param Intra 1 of 2
Sulfate (mg/L)	MW-2	1257	n/a	7/5/2022	819	No	23	1001	137.9	0	None	No	0.002505	Param Intra 1 of 2
Sulfate (mg/L)	MW-3	3195	n/a	7/5/2022	3110	No	23	2487	381.4	0	None	No	0.002505	Param Intra 1 of 2
Sulfate (mg/L)	MW-4	3107	n/a	7/5/2022	2380	No	22	2505	321.9	0	None	No	0.002505	Param Intra 1 of 2
Total dissolved solids (mg/L)	GS-GSA-MW-3	5170	n/a	7/13/2022	4960	No	16	n/a	n/a	0	n/a	n/a	0.006456	NP Intra (normality) 1 of 2
<b>Total dissolved solids (mg/L)</b>	<b>GS-GSA-MW-4</b>	<b>1084</b>	<b>n/a</b>	<b>7/13/2022</b>	<b>4700</b>	<b>Yes</b>	<b>16</b>	<b>987.9</b>	<b>48.59</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.002505</b>	<b>Param Intra 1 of 2</b>
Total dissolved solids (mg/L)	GS-GSA-MW-8	4017	n/a	7/12/2022	3090	No	16	2978	527.4	0	None	No	0.002505	Param Intra 1 of 2
Total dissolved solids (mg/L)	MW-1	2516	n/a	7/5/2022	2100	No	22	2201	168.2	0	None	No	0.002505	Param Intra 1 of 2
Total dissolved solids (mg/L)	MW-2	2005	n/a	7/5/2022	1250	No	23	1648	192.4	0	None	No	0.002505	Param Intra 1 of 2
Total dissolved solids (mg/L)	MW-3	4954	n/a	7/5/2022	4220	No	23	3773	635.9	0	None	No	0.002505	Param Intra 1 of 2
Total dissolved solids (mg/L)	MW-4	4484	n/a	7/5/2022	3240	No	22	5.8e10	1.7e10	0	None	x^3	0.002505	Param Intra 1 of 2

Within Limits

Prediction Limit  
Intrawell Parametric

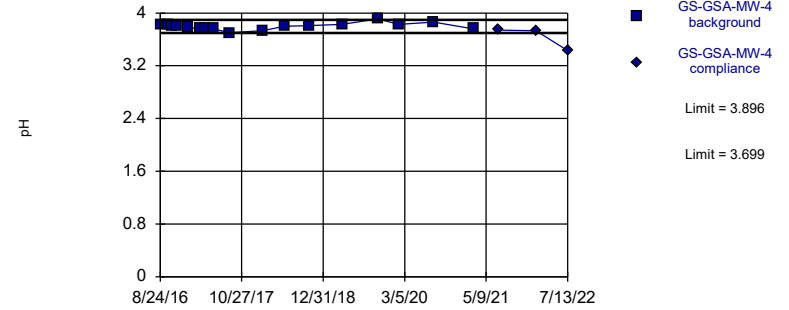


Background Data Summary: Mean=6.02, Std. Dev.=0.1846, n=17. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9599, critical = 0.851. Kappa = 1.951 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: pH Analysis Run 10/6/2022 4:35 PM View: All  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Exceeds Limits

Prediction Limit  
Intrawell Parametric

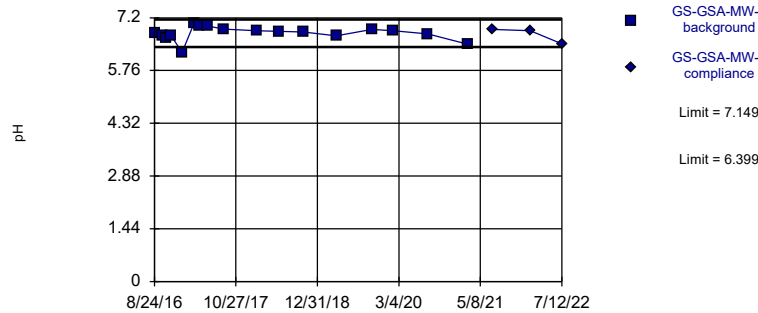


Background Data Summary: Mean=3.798, Std. Dev.=0.05044, n=17. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9673, critical = 0.851. Kappa = 1.951 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: pH Analysis Run 10/6/2022 4:35 PM View: All  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Within Limits

Prediction Limit  
Intrawell Parametric

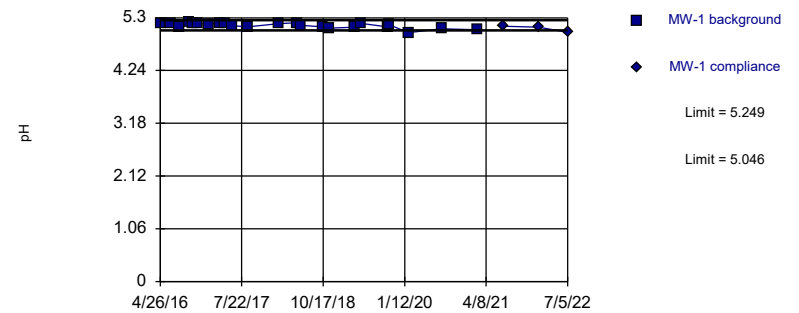


Background Data Summary: Mean=6.774, Std. Dev.=0.1922, n=17. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9038, critical = 0.851. Kappa = 1.951 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: pH Analysis Run 10/6/2022 4:35 PM View: All  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Exceeds Limits

Prediction Limit  
Intrawell Parametric

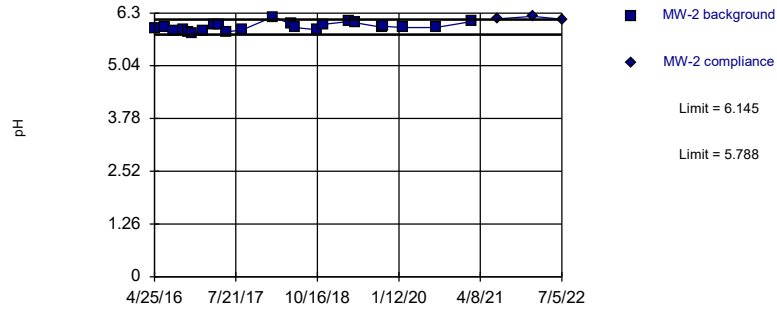


Background Data Summary: Mean=5.147, Std. Dev.=0.05471, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8955, critical = 0.881. Kappa = 1.857 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: pH Analysis Run 10/6/2022 4:35 PM View: All  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Exceeds Limits

Prediction Limit  
Intrawell Parametric

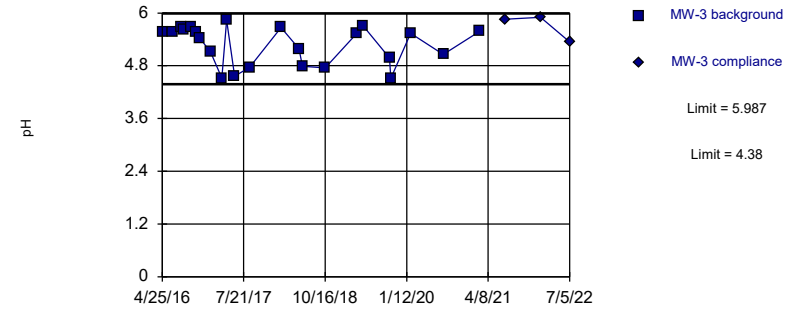


Background Data Summary: Mean=5.967, Std. Dev.=0.09604, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9622, critical = 0.881. Kappa = 1.857 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: pH Analysis Run 10/6/2022 4:35 PM View: All  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Within Limits

Prediction Limit  
Intrawell Parametric

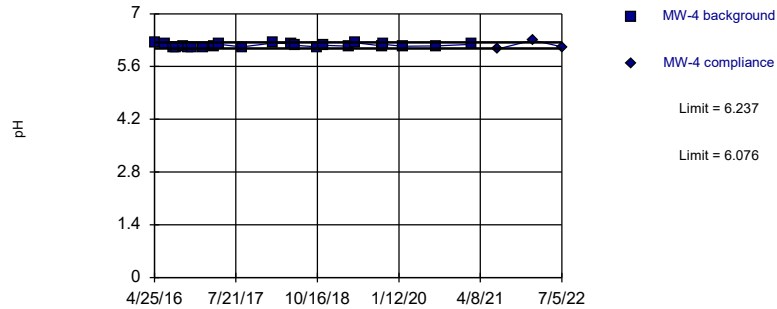


Background Data Summary (based on cube transformation): Mean=149.3, Std. Dev.=35.15, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8845, critical = 0.881. Kappa = 1.857 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: pH Analysis Run 10/6/2022 4:35 PM View: All  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Within Limits

Prediction Limit  
Intrawell Parametric

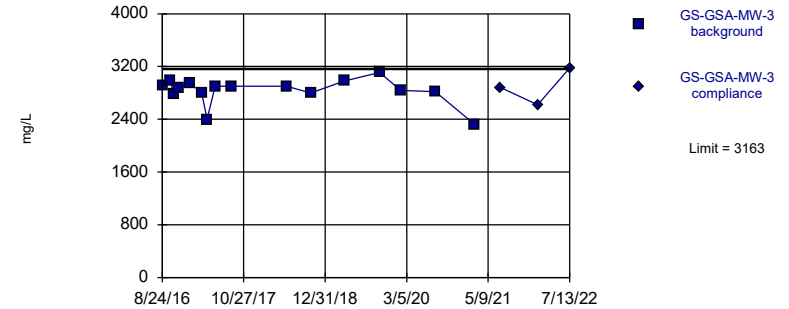


Background Data Summary: Mean=6.157, Std. Dev.=0.04323, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9401, critical = 0.881. Kappa = 1.857 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: pH Analysis Run 10/6/2022 4:35 PM View: All  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Exceeds Limit

Prediction Limit  
Intrawell Parametric

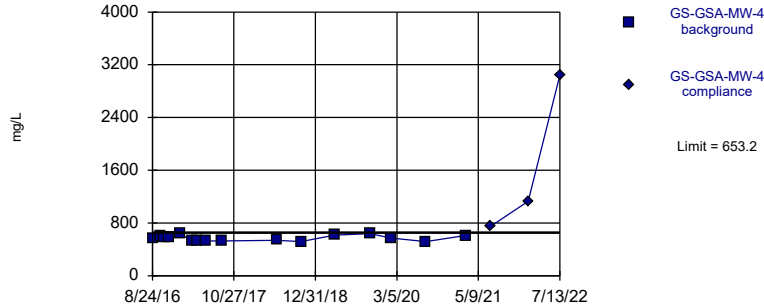


Background Data Summary (based on cube transformation): Mean=2.3e10, Std. Dev.=4.4e9, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8468, critical = 0.844. Kappa = 1.97 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: Sulfate Analysis Run 10/6/2022 4:35 PM View: All  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Exceeds Limit

Prediction Limit  
Intrawell Parametric

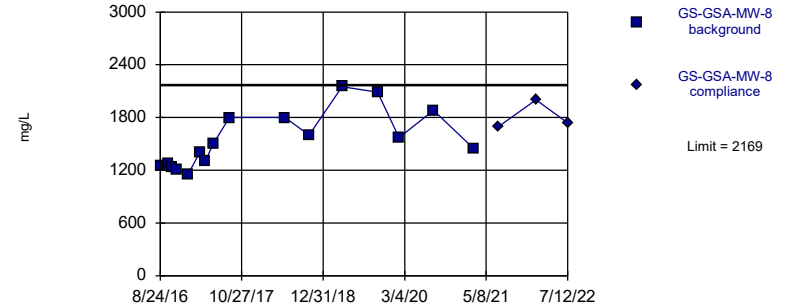


Background Data Summary: Mean=569.6, Std. Dev.=42.43, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8989, critical = 0.844. Kappa = 1.97 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: Sulfate Analysis Run 10/6/2022 4:35 PM View: All  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Within Limit

Prediction Limit  
Intrawell Parametric

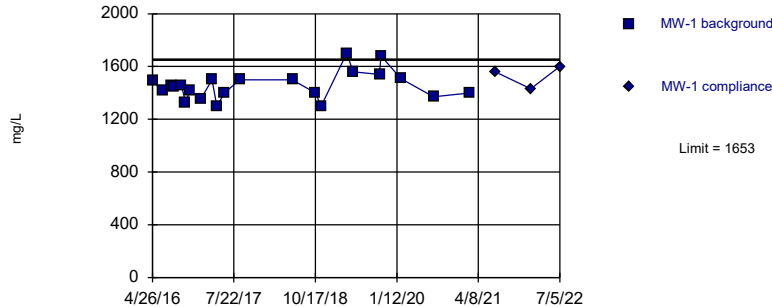


Background Data Summary: Mean=1541, Std. Dev.=318.8, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9147, critical = 0.844. Kappa = 1.97 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: Sulfate Analysis Run 10/6/2022 4:35 PM View: All  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Within Limit

Prediction Limit  
Intrawell Parametric

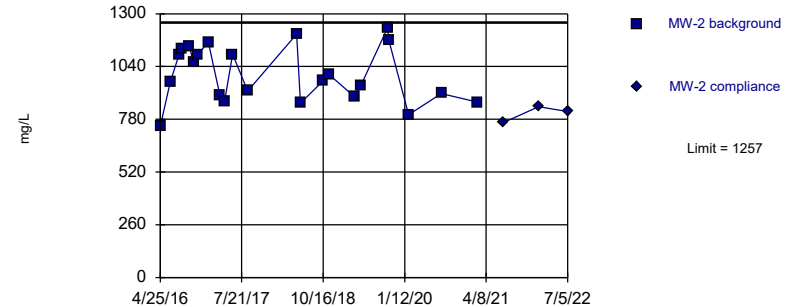


Background Data Summary: Mean=1456, Std. Dev.=105.3, n=22. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9431, critical = 0.878. Kappa = 1.869 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: Sulfate Analysis Run 10/6/2022 4:35 PM View: All  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Within Limit

Prediction Limit  
Intrawell Parametric

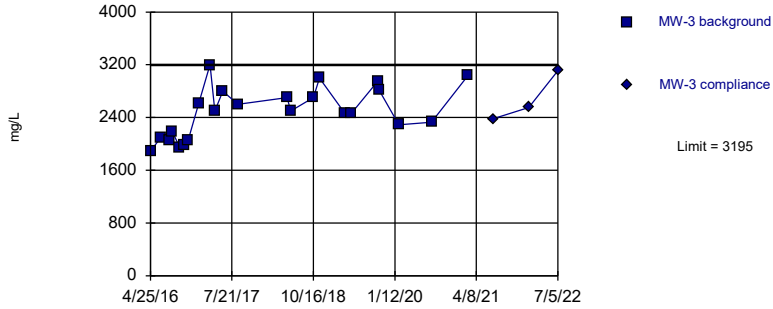


Background Data Summary: Mean=1001, Std. Dev.=137.9, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9535, critical = 0.881. Kappa = 1.857 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: Sulfate Analysis Run 10/6/2022 4:35 PM View: All  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Within Limit

Prediction Limit  
Intrawell Parametric

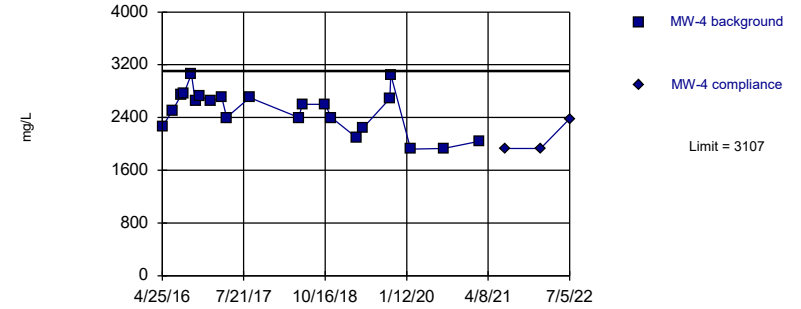


Background Data Summary: Mean=2487, Std. Dev.=381.4, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.964, critical = 0.881. Kappa = 1.857 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: Sulfate Analysis Run 10/6/2022 4:35 PM View: All  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Within Limit

Prediction Limit  
Intrawell Parametric

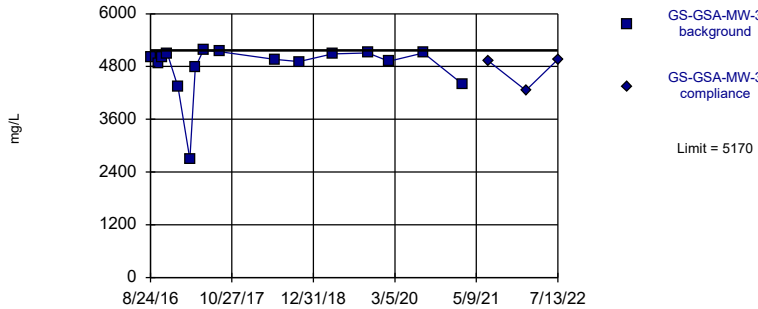


Background Data Summary: Mean=2505, Std. Dev.=321.9, n=22. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.945, critical = 0.878. Kappa = 1.869 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: Sulfate Analysis Run 10/6/2022 4:35 PM View: All  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Within Limit

Prediction Limit  
Intrawell Non-parametric

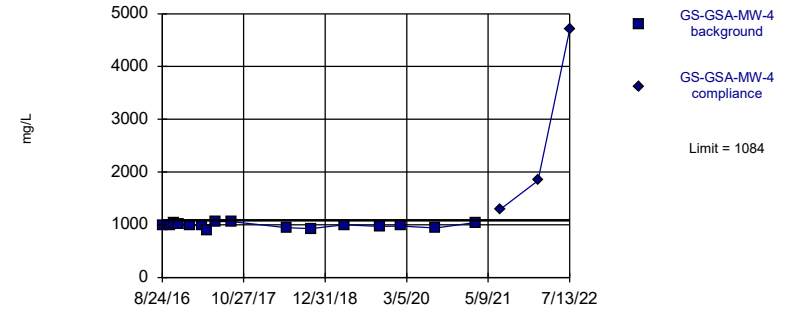


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 16 background values. Well-constituent pair annual alpha = 0.01287. Individual comparison alpha = 0.006456 (1 of 2).

Constituent: Total dissolved solids Analysis Run 10/6/2022 4:35 PM View: All  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Exceeds Limit

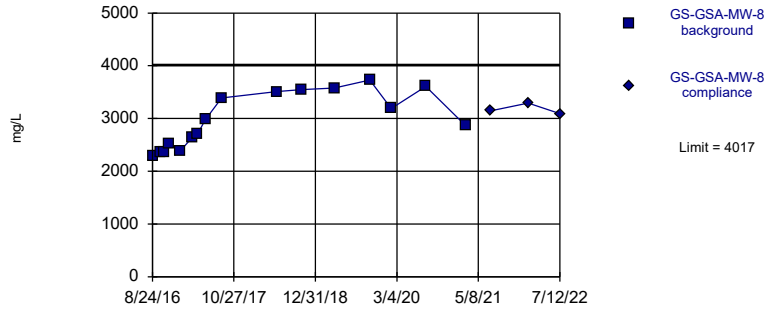
Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=987.9, Std. Dev.=48.59, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9659, critical = 0.844. Kappa = 1.97 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: Total dissolved solids Analysis Run 10/6/2022 4:35 PM View: All  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

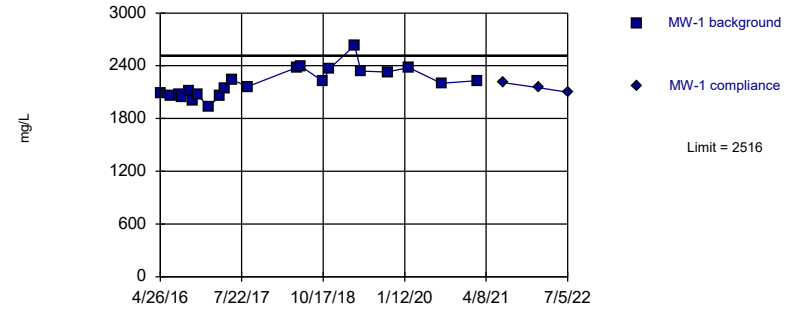
Within Limit Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=2978, Std. Dev.=527.4, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8919, critical = 0.844. Kappa = 1.97 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: Total dissolved solids Analysis Run 10/6/2022 4:35 PM View: All  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

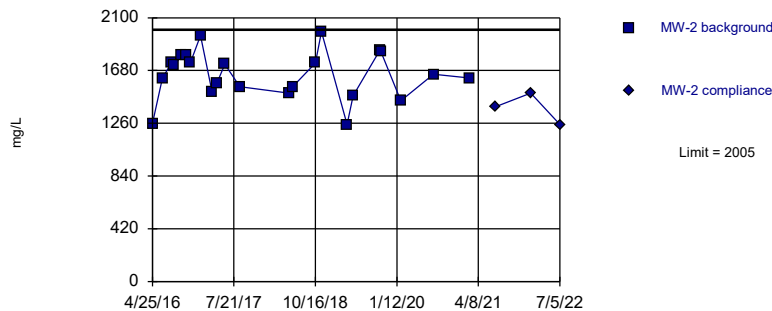
Within Limit Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=2201, Std. Dev.=168.2, n=22. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9467, critical = 0.878. Kappa = 1.869 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

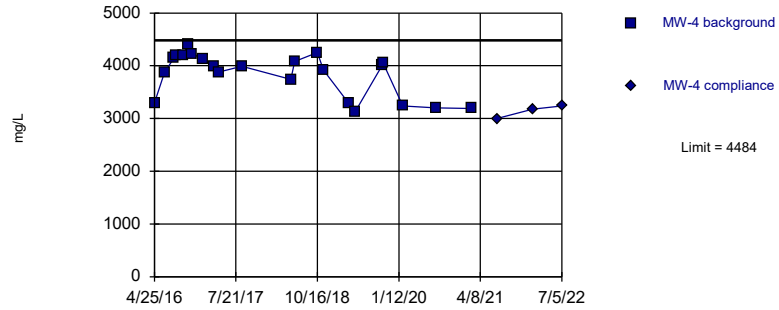
Constituent: Total dissolved solids Analysis Run 10/6/2022 4:35 PM View: All  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Within Limit Prediction Limit  
Intrawell Parametric



Within Limit

Prediction Limit  
Intrawell Parametric



Background Data Summary (based on cube transformation): Mean=5.8e10, Std. Dev.=1.7e10, n=22. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8912, critical = 0.878. Kappa = 1.869 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: Total dissolved solids Analysis Run 10/6/2022 4:35 PM View: All  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

# Prediction Limit

Constituent: pH (pH) Analysis Run 10/6/2022 4:36 PM View: All

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-3	GS-GSA-MW-3
8/24/2016	6.28	
10/3/2016	6.28	
10/26/2016	6.19	
11/21/2016	6.2	
1/17/2017	6.13	
3/20/2017	6.17	
4/17/2017	5.6	
5/30/2017	6.07	
8/24/2017	5.99	
2/13/2018	5.88	
6/11/2018	5.91	
10/17/2018	5.88	
4/10/2019	5.83	
10/14/2019	6.04	
2/3/2020	5.98	
8/4/2020	6.09	
3/1/2021	5.82	
7/14/2021		5.93
1/26/2022		6.52
7/13/2022		5.92



# Prediction Limit

Constituent: pH (pH) Analysis Run 10/6/2022 4:36 PM View: All

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-4	GS-GSA-MW-4
8/24/2016	3.83 (E)	
10/3/2016	3.82 (E)	
10/26/2016	3.81 (E)	
11/21/2016	3.81	
1/17/2017	3.78	
3/21/2017	3.76	
4/17/2017	3.76	
5/30/2017	3.76	
8/24/2017	3.7	
2/13/2018	3.73	
6/11/2018	3.8	
10/17/2018	3.81	
4/10/2019	3.83	
10/14/2019	3.91	
2/4/2020	3.83	
8/5/2020	3.86	
3/3/2021	3.76	
7/14/2021		3.74
1/27/2022		3.73
7/13/2022		3.43

# Prediction Limit

Constituent: pH (pH) Analysis Run 10/6/2022 4:36 PM View: All

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-8	GS-GSA-MW-8
8/24/2016	6.78	
10/3/2016	6.71	
10/26/2016	6.65	
11/21/2016	6.7	
1/17/2017	6.25	
3/20/2017	7.04	
4/18/2017	6.99	
5/30/2017	6.98	
8/24/2017	6.89	
2/13/2018	6.85	
6/12/2018	6.83	
10/17/2018	6.81	
4/10/2019	6.71	
10/14/2019	6.88	
2/4/2020	6.85	
8/5/2020	6.76	
3/1/2021	6.48	
7/14/2021		6.88
1/27/2022		6.85
7/12/2022		6.49

# Prediction Limit

Constituent: pH (pH) Analysis Run 10/6/2022 4:36 PM View: All  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	MW-1	MW-1
4/26/2016	5.2	
6/20/2016	5.18	
8/8/2016	5.12	
10/3/2016	5.21	
10/26/2016	5.2	
11/21/2016	5.19	
1/17/2017	5.17	
3/22/2017	5.2	
4/18/2017	5.2	
5/30/2017	5.14	
8/23/2017	5.12	
2/13/2018	5.18	
5/22/2018	5.2	
6/12/2018	5.15	
10/17/2018	5.12	
11/19/2018	5.09	
4/10/2019	5.11	
5/14/2019	5.19	
10/8/2019	5.12	
10/16/2019	5.16	
2/3/2020	5	
8/3/2020	5.08	
2/22/2021	5.06	
7/12/2021		5.13
1/25/2022		5.11
7/5/2022		5.01

# Prediction Limit

Constituent: pH (pH) Analysis Run 10/6/2022 4:36 PM View: All  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	MW-2	MW-2
4/25/2016	5.94	
6/20/2016	5.96	
8/8/2016	5.88	
10/3/2016	5.91	
10/26/2016	5.84	
11/21/2016	5.82	
1/17/2017	5.87	
3/22/2017	6.01	
4/18/2017	6.02	
5/31/2017	5.85	
8/23/2017	5.89	
2/13/2018	6.21	
5/22/2018	6.04	
6/12/2018	5.95	
10/17/2018	5.9	
11/19/2018	6.03	
4/10/2019	6.1	
5/14/2019	6.07	
10/8/2019	5.96	
10/16/2019	5.98	
2/3/2020	5.95	
8/3/2020	5.95	
2/22/2021	6.1	
7/12/2021		6.16
1/25/2022		6.22
7/5/2022		6.15

# Prediction Limit

Constituent: pH (pH) Analysis Run 10/6/2022 4:36 PM View: All  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	MW-3	MW-3
4/25/2016	5.56	
6/22/2016	5.57	
8/9/2016	5.67	
8/24/2016	5.63	
10/4/2016	5.69	
10/26/2016	5.56	
11/21/2016	5.42	
1/18/2017	5.11	
3/22/2017	4.52	
4/18/2017	5.84	
5/31/2017	4.56	
8/23/2017	4.77	
2/13/2018	5.67	
5/24/2018	5.19	
6/12/2018	4.79	
10/17/2018	4.75	
11/19/2018	3.77 (o)	
4/10/2019	5.54	
5/14/2019	5.71	
10/8/2019	4.98	
10/16/2019	4.51	
2/3/2020	5.54	
8/3/2020	5.06	
2/22/2021	5.59	
7/12/2021		5.86
1/25/2022		5.9
7/5/2022		5.34

# Prediction Limit

Constituent: pH (pH) Analysis Run 10/6/2022 4:36 PM View: All  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	MW-4	MW-4
4/25/2016	6.22	
6/20/2016	6.21	
8/9/2016	6.11	
8/24/2016	6.11	
10/3/2016	6.13	
10/26/2016	6.12	
11/21/2016	6.09	
1/18/2017	6.09	
3/22/2017	6.15	
4/18/2017	6.19	
8/23/2017	6.12	
2/13/2018	6.22	
5/23/2018	6.21	
6/12/2018	6.16	
10/17/2018	6.12	
11/19/2018	6.16	
4/10/2019	6.14	
5/14/2019	6.23	
10/10/2019	6.15	
10/16/2019	6.19	
2/3/2020	6.14	
8/5/2020	6.15	
2/22/2021	6.19	
7/12/2021		6.06
1/25/2022		6.3
7/5/2022		6.12

# Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 10/6/2022 4:36 PM View: All  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-3	GS-GSA-MW-3
8/24/2016	2910	
10/3/2016	2980	
10/26/2016	2790	
11/21/2016	2880	
1/17/2017	2950	
3/20/2017	2800	
4/17/2017	2400	
5/30/2017	2900	
8/24/2017	2900	
6/11/2018	2900	
10/17/2018	2800	
4/10/2019	2980	
10/14/2019	3110	
2/3/2020	2840	
8/4/2020	2820	
3/1/2021	2320	
7/14/2021		2880
1/26/2022		2620
7/13/2022		3180

# Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 10/6/2022 4:36 PM View: All

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-4	GS-GSA-MW-4
8/24/2016	567	
10/3/2016	596	
10/26/2016	585	
11/21/2016	593	
1/17/2017	637	
3/21/2017	530	
4/17/2017	530	
5/30/2017	530	
8/24/2017	530	
6/11/2018	540	
10/17/2018	520	
4/10/2019	616	
10/14/2019	641	
2/4/2020	571	
8/5/2020	519	
3/3/2021	609	
7/14/2021		752
1/27/2022		1130
7/13/2022		3040



# Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 10/6/2022 4:36 PM View: All  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-8	GS-GSA-MW-8
8/24/2016	1250	
10/3/2016	1270	
10/26/2016	1240	
11/21/2016	1210	
1/17/2017	1150	
3/20/2017	1400	
4/18/2017	1300	
5/30/2017	1500	
8/24/2017	1800	
6/12/2018	1800	
10/17/2018	1600	
4/10/2019	2150	
10/14/2019	2090	
2/4/2020	1570	
8/5/2020	1880	
3/1/2021	1450	
7/14/2021		1700
1/27/2022		2000
7/12/2022		1740

# Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 10/6/2022 4:36 PM View: All  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	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	
2/3/2020	1510	
8/3/2020	1370	
2/22/2021	1400	
7/12/2021		1560
1/25/2022		1430
7/5/2022		1600

# Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 10/6/2022 4:36 PM View: All  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	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	
2/3/2020	803	
8/3/2020	907	
2/22/2021	864	
7/12/2021		763
1/25/2022		842
7/5/2022		819

# Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 10/6/2022 4:36 PM View: All  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	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	
2/3/2020	2290	
8/3/2020	2330	
2/22/2021	3040	
7/12/2021		2380
1/25/2022		2550
7/5/2022		3110

# Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 10/6/2022 4:36 PM View: All  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	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	
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	
2/3/2020	1920	
8/5/2020	1930	
2/22/2021	2040	
7/12/2021		1930
1/25/2022		1930
7/5/2022		2380

# Prediction Limit

Constituent: Total dissolved solids (mg/L) Analysis Run 10/6/2022 4:36 PM View: All  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-3	GS-GSA-MW-3
8/24/2016	5020	
10/3/2016	4880	
10/26/2016	5020	
11/21/2016	5090	
1/17/2017	4330	
3/20/2017	2690	
4/17/2017	4780	
5/30/2017	5170	
8/24/2017	5140	
6/11/2018	4960	
10/17/2018	4910	
4/10/2019	5090	
10/14/2019	5110	
2/3/2020	4920	
8/4/2020	5110	
3/1/2021	4390	
7/14/2021		4920
1/26/2022		4260
7/13/2022		4960

# Prediction Limit

Constituent: Total dissolved solids (mg/L) Analysis Run 10/6/2022 4:36 PM View: All  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-4	GS-GSA-MW-4
8/24/2016	992	
10/3/2016	988	
10/26/2016	1030	
11/21/2016	1020	
1/17/2017	988	
3/21/2017	990	
4/17/2017	884	
5/30/2017	1060	
8/24/2017	1060	
6/11/2018	944	
10/17/2018	928	
4/10/2019	1000	
10/14/2019	967	
2/4/2020	978	
8/5/2020	938	
3/3/2021	1040	
7/14/2021		1300
1/27/2022		1840
7/13/2022		4700

# Prediction Limit

Constituent: Total dissolved solids (mg/L) Analysis Run 10/6/2022 4:36 PM View: All

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-8	GS-GSA-MW-8
8/24/2016	2280	
10/3/2016	2370	
10/26/2016	2350	
11/21/2016	2530	
1/17/2017	2380	
3/20/2017	2630	
4/18/2017	2700	
5/30/2017	2980	
8/24/2017	3390	
6/12/2018	3510	
10/17/2018	3550	
4/10/2019	3580	
10/14/2019	3730	
2/4/2020	3190	
8/5/2020	3610	
3/1/2021	2870	
7/14/2021		3150
1/27/2022		3290
7/12/2022		3090



# Prediction Limit

Constituent: Total dissolved solids (mg/L) Analysis Run 10/6/2022 4:36 PM View: All  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	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)	
2/3/2020	2380	
8/3/2020	2200	
2/22/2021	2230	
7/12/2021		2210
1/25/2022		2150
7/5/2022		2100

# Prediction Limit

Constituent: Total dissolved solids (mg/L) Analysis Run 10/6/2022 4:36 PM View: All  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	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	
2/3/2020	1440	
8/3/2020	1650	
2/22/2021	1620	
7/12/2021		1390
1/25/2022		1500
7/5/2022		1250

# Prediction Limit

Constituent: Total dissolved solids (mg/L) Analysis Run 10/6/2022 4:36 PM View: All  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	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	
2/3/2020	3530	
8/3/2020	3760	
2/22/2021	4670	
7/12/2021		3510
1/25/2022		3950
7/5/2022		4220

# Prediction Limit

Constituent: Total dissolved solids (mg/L) Analysis Run 10/6/2022 4:36 PM View: All  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	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	
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	
2/3/2020	3240	
8/5/2020	3200	
2/22/2021	3190	
7/12/2021		3000
1/25/2022		3180
7/5/2022		3240

FIGURE E.

# Interwell Prediction Limit - Significant Results

Plant Gorgas    Client: Southern Company    Data: Gorgas GSA    Printed 10/6/2022, 4:39 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	GS-GSA-MW-3	0.0596	n/a	7/13/2022	1.29	Yes	102	n/a	n/a	22.55	n/a	n/a	0.0001878	NP Inter (normality) 1 of 2
Boron (mg/L)	GS-GSA-MW-4	0.0596	n/a	7/13/2022	7.29	Yes	102	n/a	n/a	22.55	n/a	n/a	0.0001878	NP Inter (normality) 1 of 2
Boron (mg/L)	GS-GSA-MW-8	0.0596	n/a	7/12/2022	2.3	Yes	102	n/a	n/a	22.55	n/a	n/a	0.0001878	NP Inter (normality) 1 of 2
Calcium (mg/L)	GS-GSA-MW-3	431	n/a	7/13/2022	549	Yes	103	n/a	n/a	0	n/a	n/a	0.0001849	NP Inter (normality) 1 of 2
Calcium (mg/L)	GS-GSA-MW-8	431	n/a	7/12/2022	451	Yes	103	n/a	n/a	0	n/a	n/a	0.0001849	NP Inter (normality) 1 of 2
Chloride (mg/L)	GS-GSA-MW-3	3.704	n/a	7/13/2022	228	Yes	103	0.7424	0.3392	2.913	None	ln(x)	0.002505	Param Inter 1 of 2
Chloride (mg/L)	GS-GSA-MW-4	3.704	n/a	7/13/2022	199	Yes	103	0.7424	0.3392	2.913	None	ln(x)	0.002505	Param Inter 1 of 2
Chloride (mg/L)	GS-GSA-MW-8	3.704	n/a	7/12/2022	120	Yes	103	0.7424	0.3392	2.913	None	ln(x)	0.002505	Param Inter 1 of 2

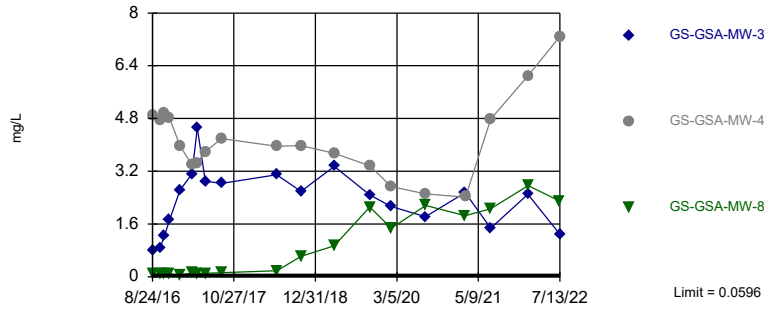
# Interwell Prediction Limit - All Results

Plant Gorgas    Client: Southern Company    Data: Gorgas GSA    Printed 10/6/2022, 4:39 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	GS-GSA-MW-3	0.0596	n/a	7/13/2022	1.29	Yes	102	n/a	n/a	22.55	n/a	n/a	0.0001878	NP Inter (normality) 1 of 2
Boron (mg/L)	GS-GSA-MW-4	0.0596	n/a	7/13/2022	7.29	Yes	102	n/a	n/a	22.55	n/a	n/a	0.0001878	NP Inter (normality) 1 of 2
Boron (mg/L)	GS-GSA-MW-8	0.0596	n/a	7/12/2022	2.3	Yes	102	n/a	n/a	22.55	n/a	n/a	0.0001878	NP Inter (normality) 1 of 2
Calcium (mg/L)	GS-GSA-MW-3	431	n/a	7/13/2022	549	Yes	103	n/a	n/a	0	n/a	n/a	0.0001849	NP Inter (normality) 1 of 2
Calcium (mg/L)	GS-GSA-MW-4	431	n/a	7/13/2022	385	No	103	n/a	n/a	0	n/a	n/a	0.0001849	NP Inter (normality) 1 of 2
Calcium (mg/L)	GS-GSA-MW-8	431	n/a	7/12/2022	451	Yes	103	n/a	n/a	0	n/a	n/a	0.0001849	NP Inter (normality) 1 of 2
Chloride (mg/L)	GS-GSA-MW-3	3.704	n/a	7/13/2022	228	Yes	103	0.7424	0.3392	2.913	None	ln(x)	0.002505	Param Inter 1 of 2
Chloride (mg/L)	GS-GSA-MW-4	3.704	n/a	7/13/2022	199	Yes	103	0.7424	0.3392	2.913	None	ln(x)	0.002505	Param Inter 1 of 2
Chloride (mg/L)	GS-GSA-MW-8	3.704	n/a	7/12/2022	120	Yes	103	0.7424	0.3392	2.913	None	ln(x)	0.002505	Param Inter 1 of 2
Fluoride (mg/L)	GS-GSA-MW-3	0.63	n/a	7/13/2022	0.324	No	107	n/a	n/a	0.9346	n/a	n/a	0.0001732	NP Inter (normality) 1 of 2
Fluoride (mg/L)	GS-GSA-MW-4	0.63	n/a	7/13/2022	0.0625ND	No	107	n/a	n/a	0.9346	n/a	n/a	0.0001732	NP Inter (normality) 1 of 2
Fluoride (mg/L)	GS-GSA-MW-8	0.63	n/a	7/12/2022	0.112J	No	107	n/a	n/a	0.9346	n/a	n/a	0.0001732	NP Inter (normality) 1 of 2

Exceeds Limit: GS-GSA-MW-3, GS-GSA-MW-4, GS-GSA-MW-8

Prediction Limit  
Interwell Non-parametric

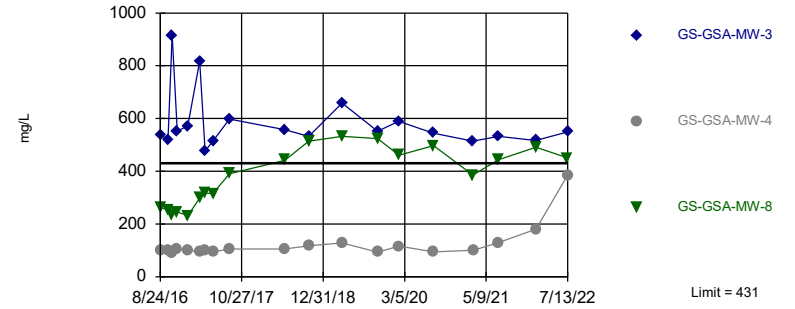


Non-parametric test used in lieu of parametric prediction limit because the Chi Squared normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 102 background values. 22.55% NDs. Annual per-constituent alpha = 0.001126. Individual comparison alpha = 0.0001878 (1 of 2). Comparing 3 points to limit.

Constituent: Boron Analysis Run 10/6/2022 4:38 PM View: All  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Exceeds Limit: GS-GSA-MW-3, GS-GSA-MW-8

Prediction Limit  
Interwell Non-parametric

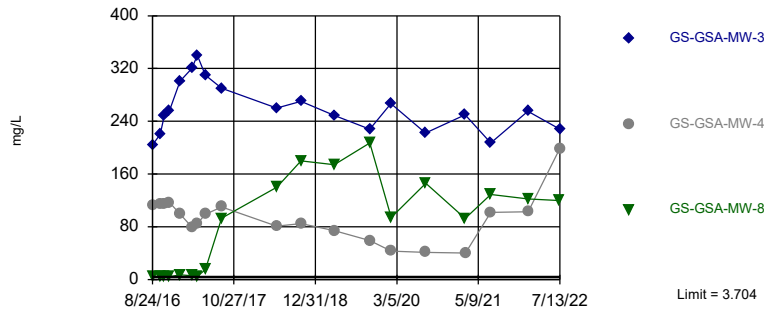


Non-parametric test used in lieu of parametric prediction limit because the Chi Squared normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 103 background values. Annual per-constituent alpha = 0.001109. Individual comparison alpha = 0.0001849 (1 of 2). Comparing 3 points to limit.

Constituent: Calcium Analysis Run 10/6/2022 4:38 PM View: All  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Exceeds Limit: GS-GSA-MW-3, GS-GSA-MW-4, GS-GSA-MW-8

Prediction Limit  
Interwell Parametric

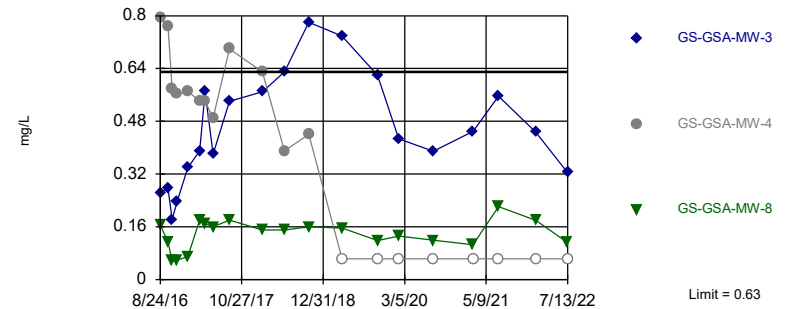


Background Data Summary (based on natural log transformation): Mean=0.7424, Std. Dev.=0.3392, n=103, 2.913% NDs. Normality test: Chi Squared @alpha = 0.01, calculated = 9.913, critical = 14.07. Kappa = 1.672 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.002505. Comparing 3 points to limit.

Constituent: Chloride Analysis Run 10/6/2022 4:38 PM View: All  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Within Limit

Prediction Limit  
Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Chi Squared normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 107 background values. 0.9346% NDs. Annual per-constituent alpha = 0.001039. Individual comparison alpha = 0.0001732 (1 of 2). Comparing 3 points to limit.

Constituent: Fluoride Analysis Run 10/6/2022 4:38 PM View: All  
Plant Gorgas Client: Southern Company Data: Gorgas GSA



# Prediction Limit

Constituent: Boron (mg/L) Analysis Run 10/6/2022 4:39 PM View: All

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	MW-4 (bg)	MW-3 (bg)	MW-2 (bg)	MW-1 (bg)	GS-GSA-MW-8	GS-GSA-MW-4	GS-GSA-MW-3
4/25/2016	0.0414 (J)	0.028 (J)	0.0241 (J)				
4/26/2016				0.0231 (J)			
6/20/2016	0.0434 (J)		0.0284 (J)	0.0227 (J)			
6/22/2016		0.0433 (J)					
8/8/2016			0.034 (J)	0.0278 (J)			
8/9/2016	0.0453 (J)	0.0429 (J)					
8/24/2016	0.0451 (J)	0.0431 (J)	0.0316 (J)	0.0247 (J)	0.0898 (J)	4.88	0.799
10/3/2016	0.0511 (J)		0.0367 (J)	0.0307 (J)	0.0821 (J)	4.75	0.889
10/4/2016		0.04 (J)					
10/26/2016	0.0507 (J)	0.0375 (J)	0.0331 (J)	0.0241 (J)	0.0889 (J)	4.96	1.23
11/21/2016	0.0458 (J)	0.0406 (J)	0.035 (J)	0.0202 (J)	0.0788 (J)	4.82	1.72
1/17/2017			0.0259 (J)	0.0201 (J)	0.0607 (J)	3.97	2.63
1/18/2017	0.0445 (J)	0.0548 (J)					
3/20/2017					0.114		3.11
3/21/2017						3.39	
3/22/2017	0.0432 (J)	0.0344 (J)	0.0243 (J)	0.0224 (J)			
4/17/2017						3.46	4.51
4/18/2017	0.0409 (J)	<0.1015	0.0206 (J)	<0.1015	0.108		
5/30/2017				<0.1015	0.105	3.79	2.9
5/31/2017		0.0454 (J)	0.0234 (J)				
8/23/2017	0.042 (J)	0.0425 (J)	0.0267 (J)	0.0253 (J)			
8/24/2017					0.12	4.19	2.83
5/22/2018			0.0251 (J)	0.0224 (J)			
5/23/2018	0.0433 (J)						
5/24/2018		0.0339 (J)					
6/11/2018						3.96	3.09
6/12/2018	0.0478 (J)	0.0371 (J)	0.0275 (J)	0.0214 (J)	0.181		
10/17/2018	0.0468 (J)	0.0596 (J)	0.0321 (J)	0.0216 (J)	0.616	3.98	2.59
11/19/2018	0.0526 (J)	0.0514 (J)	0.0324 (J)	0.0237 (J)			
4/10/2019	0.0438 (J)	<0.1015	<0.1015	0.0304 (J)	0.944	3.74	3.35
5/14/2019	<0.203 (o)	<0.1015	<0.1015	<0.1015			
10/8/2019		0.0537 (J)	0.0371 (J)	<0.1015			
10/10/2019	0.0487 (J)						
10/14/2019					2.11	3.37	2.48
10/16/2019	0.0505 (J)	0.05 (J)	0.0419 (J)	0.0385 (J)			
2/3/2020	0.0433 (J)	<0.1015	<0.1015	<0.1015			2.13
2/4/2020					1.47	2.74	
8/3/2020		0.0424 (J)	0.0317 (J)	<0.1015			
8/4/2020							1.82
8/5/2020	0.0459 (J)				2.16	2.51	
2/22/2021	0.0397 (J)	<0.1015	<0.1015	0.0307 (J)			
3/1/2021					1.85		2.55
3/3/2021						2.42	
7/12/2021	0.0411 (J)	<0.1015	<0.1015	<0.1015			
7/14/2021					2.07	4.78	1.47
1/25/2022	0.0408 (J)	<0.1015	<0.1015	<0.1015			
1/26/2022							2.5
1/27/2022					2.76	6.1	
7/5/2022	0.0433 (J)	0.0374 (J)	<0.1015	<0.1015			
7/12/2022					2.3		
7/13/2022						7.29	1.29





# Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 10/6/2022 4:39 PM View: All

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	MW-4 (bg)	MW-3 (bg)	MW-2 (bg)	MW-1 (bg)	GS-GSA-MW-8	GS-GSA-MW-4	GS-GSA-MW-3
4/25/2016	0.372	0.243 (J)	0.149 (J)				
4/26/2016				0.146 (J)			
6/20/2016	0.361		0.148 (J)	0.148 (J)			
6/22/2016		0.269 (J)					
8/8/2016			0.134 (J)	0.137 (J)			
8/9/2016	0.326	0.363					
8/24/2016	0.329	0.346	0.129 (J)	0.133 (J)	0.165 (J)	0.793	0.264 (J)
10/3/2016	0.287 (J)		0.086 (J)	0.103 (J)	0.114 (J)	0.769	0.276 (J)
10/4/2016		0.266 (J)					
10/26/2016	0.194 (J)	0.266 (J)	0.027 (J)	0.05 (J)	0.056 (J)	0.578	0.182 (J)
11/21/2016	0.192 (J)	0.244 (J)	0.027 (J)	0.047 (J)	0.059 (J)	0.562	0.238 (J)
1/17/2017			0.066 (J)	0.09 (J)	0.07 (J)	0.571	0.34
1/18/2017	0.223 (J)	0.385					
3/20/2017					0.18		0.39
3/21/2017						0.54	
3/22/2017	0.32	0.41	0.13	0.12			
4/17/2017						0.54	0.57
4/18/2017	0.32	0.29	0.16	0.12	0.17		
5/30/2017				0.13	0.16	0.49	0.38
5/31/2017		0.37	0.13				
8/23/2017	0.38	0.55	0.16	0.16			
8/24/2017					0.18	0.7	0.54
2/13/2018	0.38	0.27	0.22	0.14	0.15	0.63	0.57
5/22/2018			0.17	0.16			
5/23/2018	0.38						
5/24/2018		0.6					
6/11/2018						0.39	0.63
6/12/2018	0.39	0.53	0.16	0.16	0.15		
10/17/2018	0.39	0.63	0.16	0.18	0.16	0.44	0.78
11/19/2018	0.36	0.31	0.18	0.15			
4/10/2019	0.384	0.273	0.262	0.102	0.156	<0.125	0.738
5/14/2019	0.335	0.281	0.17	0.119			
10/8/2019		0.225	0.164	0.0924 (J)			
10/10/2019	0.304						
10/14/2019					0.118	<0.125	0.619
10/16/2019	0.302	0.106	0.114	0.0756 (J)			
2/3/2020	0.37	0.256	0.182	0.0982 (J)			0.427
2/4/2020					0.132	<0.125	
8/3/2020		0.0766 (J)	0.122	<0.125			
8/4/2020							0.389
8/5/2020	0.359				0.119	<0.125	
2/22/2021	0.357	0.246	0.209	0.082 (J)			
3/1/2021					0.106		0.449
3/3/2021						<0.125	
7/12/2021	0.35	0.287	0.196	0.125			
7/14/2021					0.221	<0.125	0.556
1/25/2022	0.364	0.325	0.204	0.101			
1/26/2022							0.447
1/27/2022					0.179	<0.125	
7/5/2022	0.362	0.386	0.2	0.11 (J)			
7/12/2022					0.112 (J)		
7/13/2022						<0.125	0.324

FIGURE F.

# Trend Test - Significant Results

Plant Gorgas    Client: Southern Company    Data: Gorgas GSA    Printed 10/6/2022, 4:43 PM

<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
Boron (mg/L)	GS-GSA-MW-8	0.4141	135	74	Yes	19	0	n/a	n/a	0.01	NP
Boron (mg/L)	MW-1 (bg)	0.003992	127	118	Yes	26	34.62	n/a	n/a	0.01	NP
Boron (mg/L)	MW-2 (bg)	0.00392	148	118	Yes	26	26.92	n/a	n/a	0.01	NP
Calcium (mg/L)	GS-GSA-MW-8	51.43	93	74	Yes	19	0	n/a	n/a	0.01	NP
Chloride (mg/L)	GS-GSA-MW-8	22.43	97	74	Yes	19	0	n/a	n/a	0.01	NP
pH (pH)	MW-1 (bg)	-0.02228	-170	-118	Yes	26	0	n/a	n/a	0.01	NP
pH (pH)	MW-2 (bg)	0.0395	146	118	Yes	26	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-3 (bg)	116.9	122	118	Yes	26	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-4 (bg)	-118.6	-133	-111	Yes	25	0	n/a	n/a	0.01	NP
Total dissolved solids (mg/L)	MW-4 (bg)	-165.9	-136	-111	Yes	25	0	n/a	n/a	0.01	NP

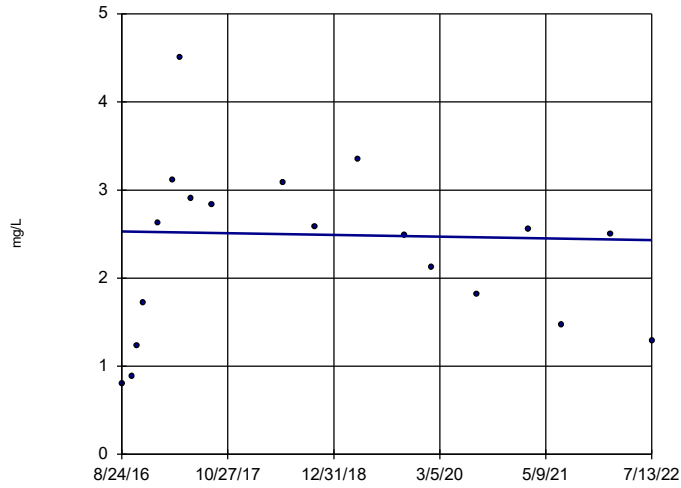
# Trend Test - All Results

Plant Gorgas    Client: Southern Company    Data: Gorgas GSA    Printed 10/6/2022, 4:43 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	GS-GSA-MW-3	-0.01629	-1	-74	No	19	0	n/a	n/a	0.01	NP
Boron (mg/L)	GS-GSA-MW-4	-0.265	-35	-74	No	19	0	n/a	n/a	0.01	NP
<b>Boron (mg/L)</b>	<b>GS-GSA-MW-8</b>	<b>0.4141</b>	<b>135</b>	<b>74</b>	<b>Yes</b>	<b>19</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
<b>Boron (mg/L)</b>	<b>MW-1 (bg)</b>	<b>0.003992</b>	<b>127</b>	<b>118</b>	<b>Yes</b>	<b>26</b>	<b>34.62</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
<b>Boron (mg/L)</b>	<b>MW-2 (bg)</b>	<b>0.00392</b>	<b>148</b>	<b>118</b>	<b>Yes</b>	<b>26</b>	<b>26.92</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Boron (mg/L)	MW-3 (bg)	0.001863	70	118	No	26	26.92	n/a	n/a	0.01	NP
Boron (mg/L)	MW-4 (bg)	-0.0003266	-35	-105	No	24	0	n/a	n/a	0.01	NP
Calcium (mg/L)	GS-GSA-MW-3	-4.191	-27	-74	No	19	0	n/a	n/a	0.01	NP
<b>Calcium (mg/L)</b>	<b>GS-GSA-MW-8</b>	<b>51.43</b>	<b>93</b>	<b>74</b>	<b>Yes</b>	<b>19</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Calcium (mg/L)	MW-1 (bg)	2.944	103	118	No	26	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-2 (bg)	1.272	38	118	No	26	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-3 (bg)	11.51	82	118	No	26	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-4 (bg)	-5.51	-64	-111	No	25	0	n/a	n/a	0.01	NP
Chloride (mg/L)	GS-GSA-MW-3	-7.078	-27	-74	No	19	0	n/a	n/a	0.01	NP
Chloride (mg/L)	GS-GSA-MW-4	-11.22	-57	-74	No	19	0	n/a	n/a	0.01	NP
<b>Chloride (mg/L)</b>	<b>GS-GSA-MW-8</b>	<b>22.43</b>	<b>97</b>	<b>74</b>	<b>Yes</b>	<b>19</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Chloride (mg/L)	MW-1 (bg)	-0.03141	-50	-118	No	26	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-2 (bg)	-0.1181	-48	-118	No	26	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-3 (bg)	0.06984	75	118	No	26	7.692	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-4 (bg)	-0.0632	-86	-111	No	25	4	n/a	n/a	0.01	NP
pH (pH)	GS-GSA-MW-4	-0.01158	-41	-81	No	20	0	n/a	n/a	0.01	NP
<b>pH (pH)</b>	<b>MW-1 (bg)</b>	<b>-0.02228</b>	<b>-170</b>	<b>-118</b>	<b>Yes</b>	<b>26</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
<b>pH (pH)</b>	<b>MW-2 (bg)</b>	<b>0.0395</b>	<b>146</b>	<b>118</b>	<b>Yes</b>	<b>26</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
pH (pH)	MW-3 (bg)	-0.005294	-6	-118	No	26	0	n/a	n/a	0.01	NP
pH (pH)	MW-4 (bg)	0.005207	33	118	No	26	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	GS-GSA-MW-3	-5.564	-11	-74	No	19	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	GS-GSA-MW-4	16.74	43	74	No	19	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-1 (bg)	18.29	64	111	No	25	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-2 (bg)	-39.06	-84	-118	No	26	0	n/a	n/a	0.01	NP
<b>Sulfate (mg/L)</b>	<b>MW-3 (bg)</b>	<b>116.9</b>	<b>122</b>	<b>118</b>	<b>Yes</b>	<b>26</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
<b>Sulfate (mg/L)</b>	<b>MW-4 (bg)</b>	<b>-118.6</b>	<b>-133</b>	<b>-111</b>	<b>Yes</b>	<b>25</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Total dissolved solids (mg/L)	GS-GSA-MW-4	21.07	35	74	No	19	0	n/a	n/a	0.01	NP
Total dissolved solids (mg/L)	MW-1 (bg)	44.17	105	111	No	25	0	n/a	n/a	0.01	NP
Total dissolved solids (mg/L)	MW-2 (bg)	-40.56	-71	-118	No	26	0	n/a	n/a	0.01	NP
Total dissolved solids (mg/L)	MW-3 (bg)	191.9	114	118	No	26	0	n/a	n/a	0.01	NP
<b>Total dissolved solids (mg/L)</b>	<b>MW-4 (bg)</b>	<b>-165.9</b>	<b>-136</b>	<b>-111</b>	<b>Yes</b>	<b>25</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>

### Sen's Slope Estimator

GS-GSA-MW-3

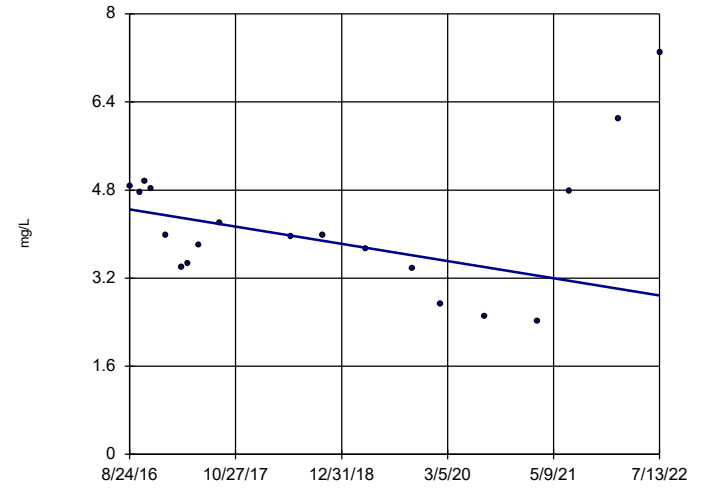


n = 19  
 Slope = -0.01629 units per year.  
 Mann-Kendall statistic = -1 critical = -74  
 Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 10/6/2022 4:40 PM View: Trend  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

GS-GSA-MW-4

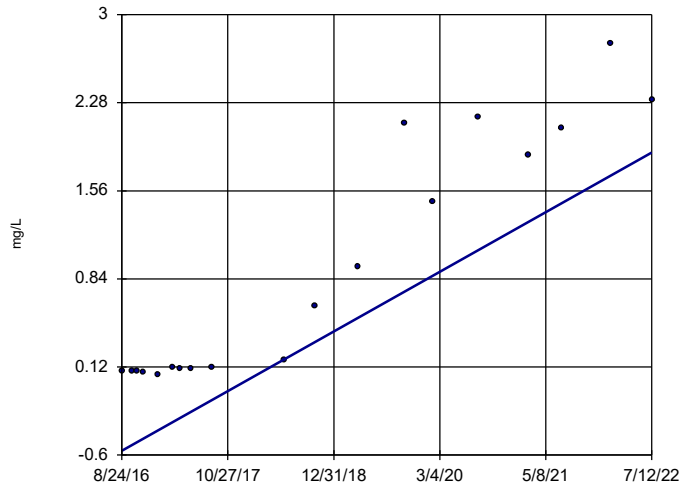


n = 19  
 Slope = -0.265 units per year.  
 Mann-Kendall statistic = -35 critical = -74  
 Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 10/6/2022 4:40 PM View: Trend  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

GS-GSA-MW-8

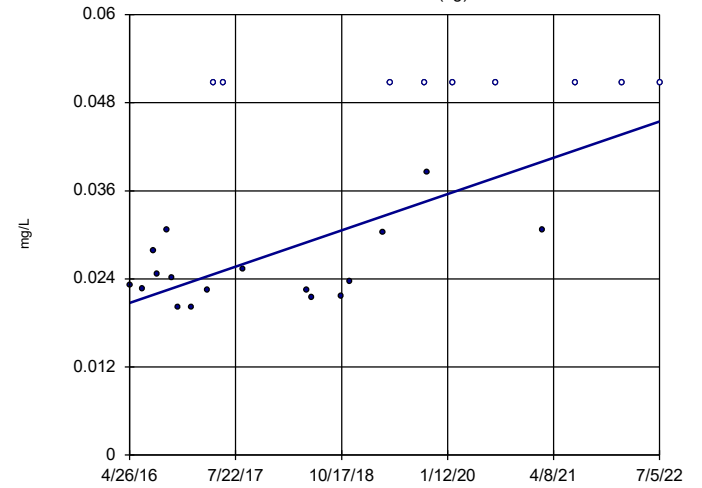


n = 19  
 Slope = 0.4141 units per year.  
 Mann-Kendall statistic = 135 critical = 74  
 Increasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 10/6/2022 4:40 PM View: Trend  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

MW-1 (bg)



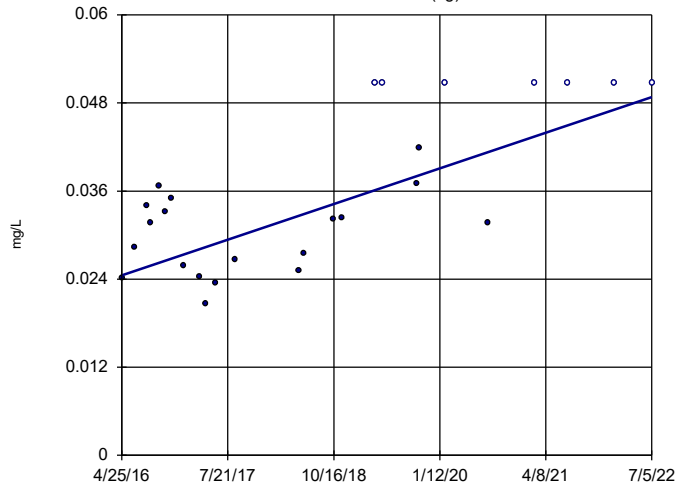
n = 26  
 Slope = 0.003992 units per year.  
 Mann-Kendall statistic = 127 critical = 118  
 Increasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 10/6/2022 4:40 PM View: Trend  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA



### Sen's Slope Estimator

MW-2 (bg)

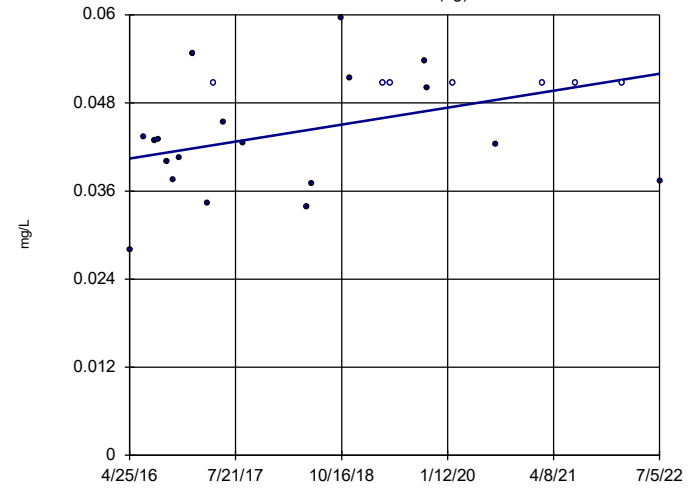


n = 26  
Slope = 0.00392  
units per year.  
Mann-Kendall  
statistic = 148  
critical = 118  
Increasing trend  
significant at 99%  
confidence level  
( $\alpha = 0.005$  per  
tail).

Constituent: Boron Analysis Run 10/6/2022 4:40 PM View: Trend  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

MW-3 (bg)

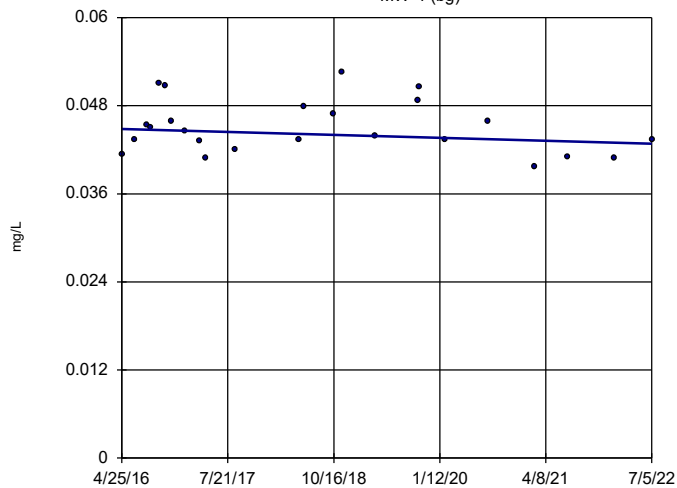


n = 26  
Slope = 0.001863  
units per year.  
Mann-Kendall  
statistic = 70  
critical = 118  
Trend not sig-  
nificant at 99%  
confidence level  
( $\alpha = 0.005$  per  
tail).

Constituent: Boron Analysis Run 10/6/2022 4:40 PM View: Trend  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

MW-4 (bg)

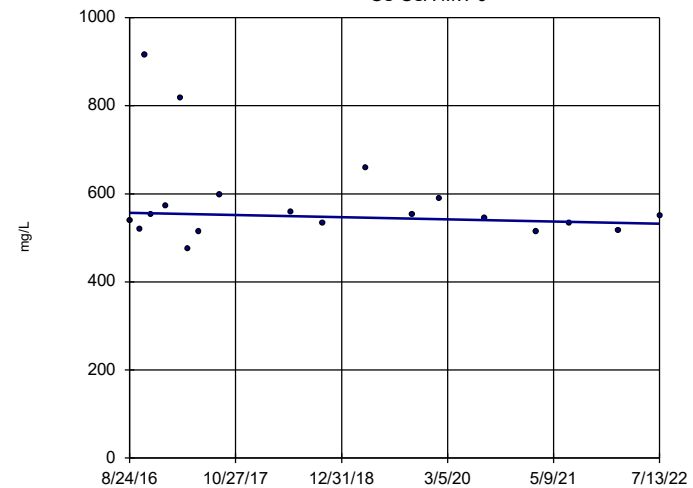


n = 24  
Slope = -0.0003266  
units per year.  
Mann-Kendall  
statistic = -35  
critical = -105  
Trend not sig-  
nificant at 99%  
confidence level  
( $\alpha = 0.005$  per  
tail).

Constituent: Boron Analysis Run 10/6/2022 4:40 PM View: Trend  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

GS-GSA-MW-3

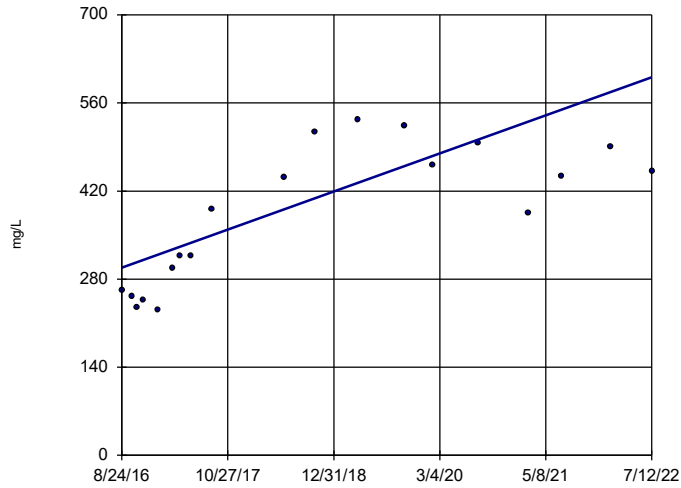


n = 19  
Slope = -4.191  
units per year.  
Mann-Kendall  
statistic = -27  
critical = -74  
Trend not sig-  
nificant at 99%  
confidence level  
( $\alpha = 0.005$  per  
tail).

Constituent: Calcium Analysis Run 10/6/2022 4:40 PM View: Trend  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

GS-GSA-MW-8

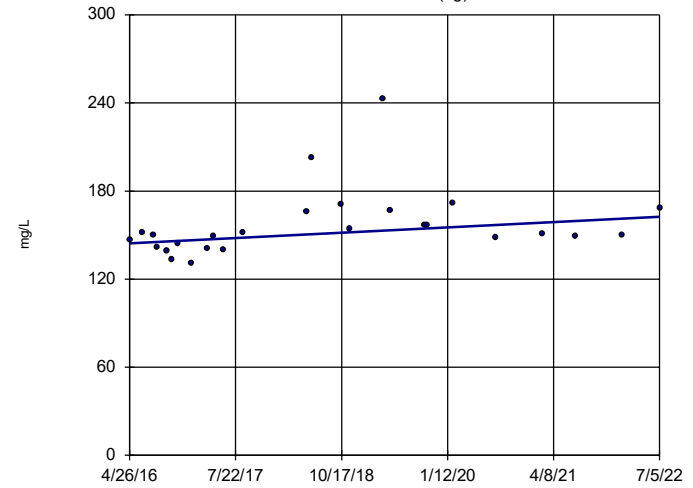


n = 19  
Slope = 51.43  
units per year.  
Mann-Kendall  
statistic = 93  
critical = 74  
Increasing trend  
significant at 99%  
confidence level  
( $\alpha = 0.005$  per  
tail).

Constituent: Calcium Analysis Run 10/6/2022 4:40 PM View: Trend  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

MW-1 (bg)

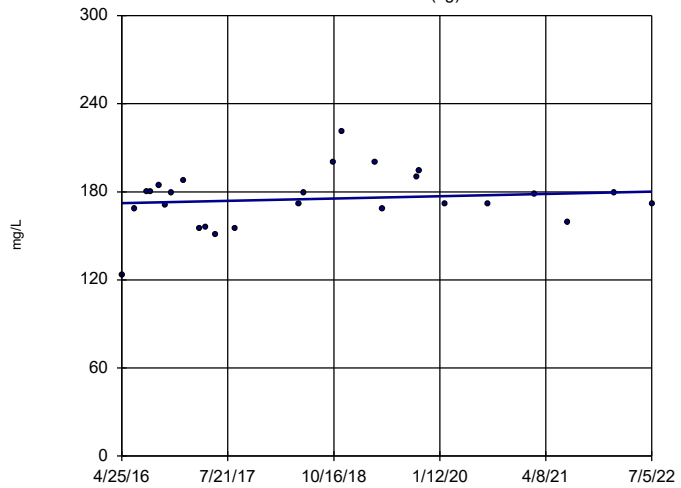


n = 26  
Slope = 2.944  
units per year.  
Mann-Kendall  
statistic = 103  
critical = 118  
Trend not sig-  
nificant at 99%  
confidence level  
( $\alpha = 0.005$  per  
tail).

Constituent: Calcium Analysis Run 10/6/2022 4:40 PM View: Trend  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

MW-2 (bg)

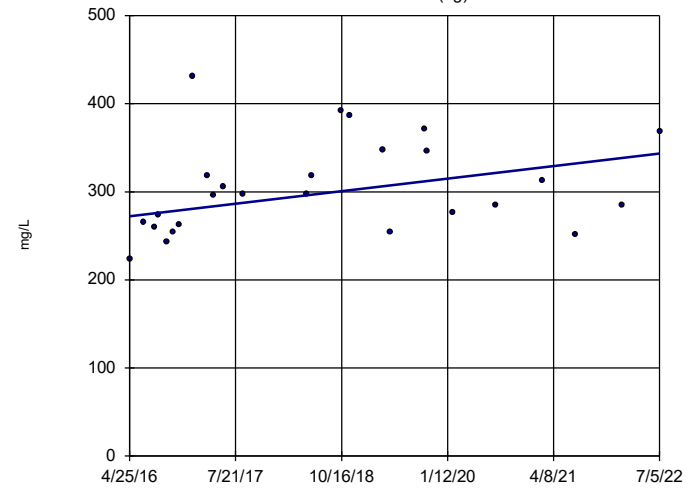


n = 26  
Slope = 1.272  
units per year.  
Mann-Kendall  
statistic = 38  
critical = 118  
Trend not sig-  
nificant at 99%  
confidence level  
( $\alpha = 0.005$  per  
tail).

Constituent: Calcium Analysis Run 10/6/2022 4:40 PM View: Trend  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

MW-3 (bg)

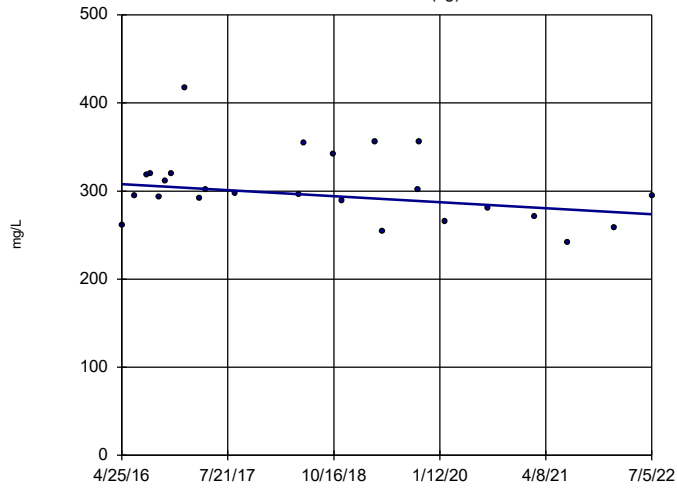


n = 26  
Slope = 11.51  
units per year.  
Mann-Kendall  
statistic = 82  
critical = 118  
Trend not sig-  
nificant at 99%  
confidence level  
( $\alpha = 0.005$  per  
tail).

Constituent: Calcium Analysis Run 10/6/2022 4:40 PM View: Trend  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

MW-4 (bg)

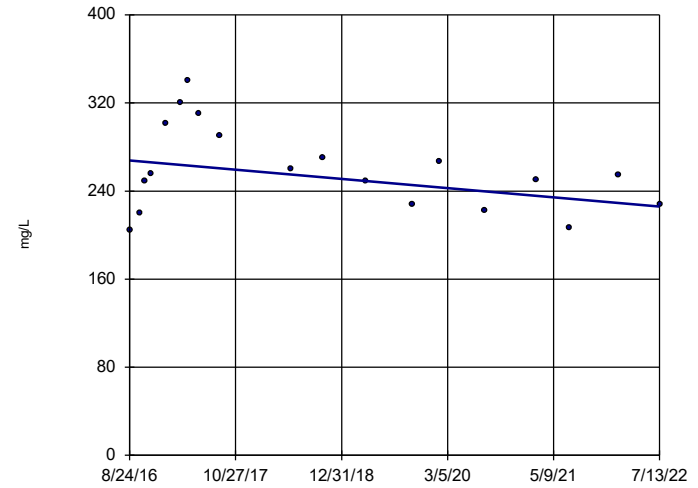


n = 25  
 Slope = -5.51  
 units per year.  
 Mann-Kendall  
 statistic = -64  
 critical = -111  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 (α = 0.005 per  
 tail).

Constituent: Calcium Analysis Run 10/6/2022 4:40 PM View: Trend  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

GS-GSA-MW-3

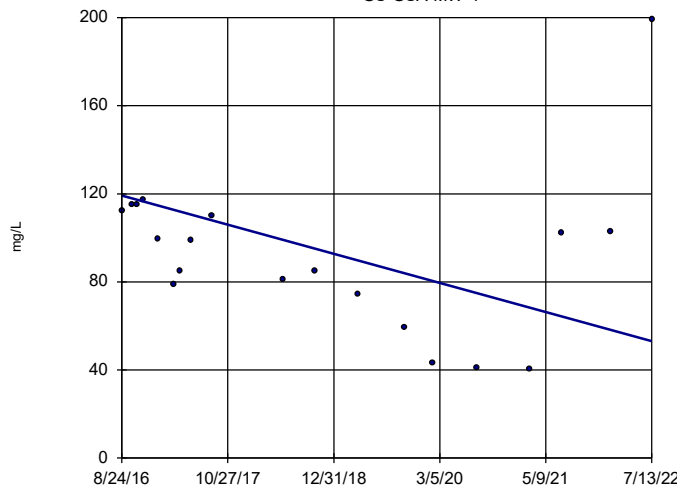


n = 19  
 Slope = -7.078  
 units per year.  
 Mann-Kendall  
 statistic = -27  
 critical = -74  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 (α = 0.005 per  
 tail).

Constituent: Chloride Analysis Run 10/6/2022 4:40 PM View: Trend  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

GS-GSA-MW-4

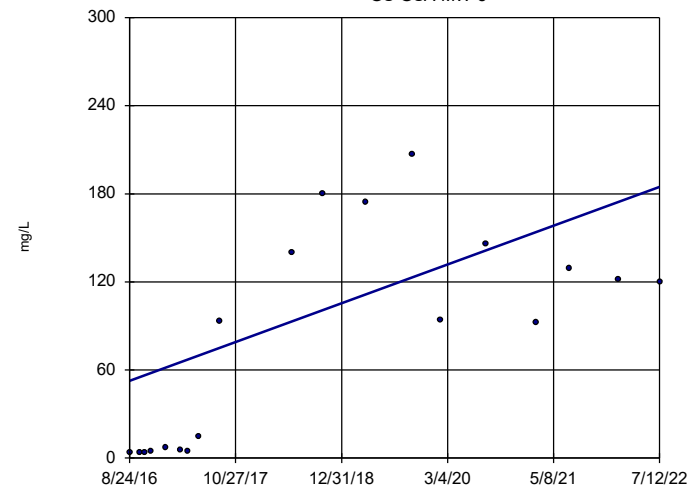


n = 19  
 Slope = -11.22  
 units per year.  
 Mann-Kendall  
 statistic = -57  
 critical = -74  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 (α = 0.005 per  
 tail).

Constituent: Chloride Analysis Run 10/6/2022 4:40 PM View: Trend  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

GS-GSA-MW-8

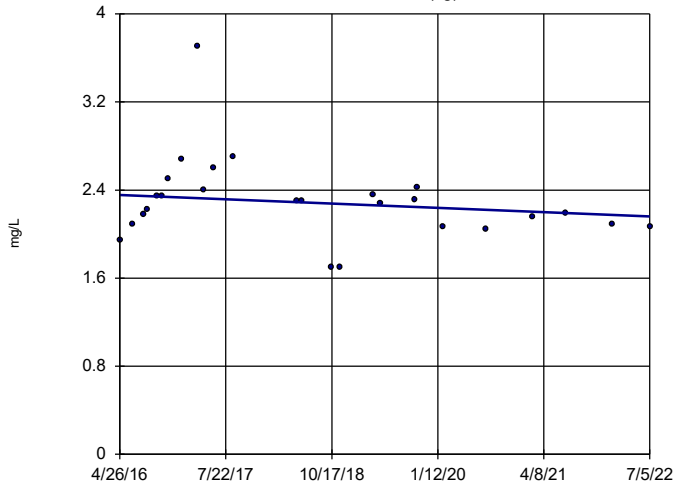


n = 19  
 Slope = 22.43  
 units per year.  
 Mann-Kendall  
 statistic = 97  
 critical = 74  
 Increasing trend  
 significant at 99%  
 confidence level  
 (α = 0.005 per  
 tail).

Constituent: Chloride Analysis Run 10/6/2022 4:40 PM View: Trend  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

MW-1 (bg)

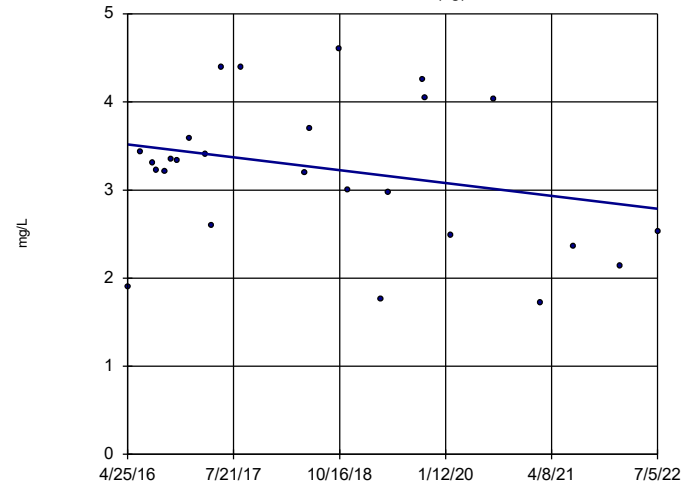


n = 26  
 Slope = -0.03141 units per year.  
 Mann-Kendall statistic = -50  
 critical = -118  
 Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Chloride Analysis Run 10/6/2022 4:41 PM View: Trend  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

MW-2 (bg)

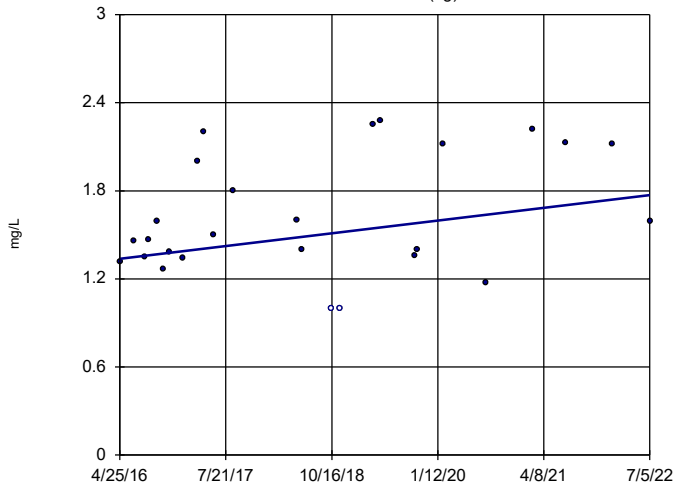


n = 26  
 Slope = -0.1181 units per year.  
 Mann-Kendall statistic = -48  
 critical = -118  
 Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Chloride Analysis Run 10/6/2022 4:41 PM View: Trend  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

MW-3 (bg)

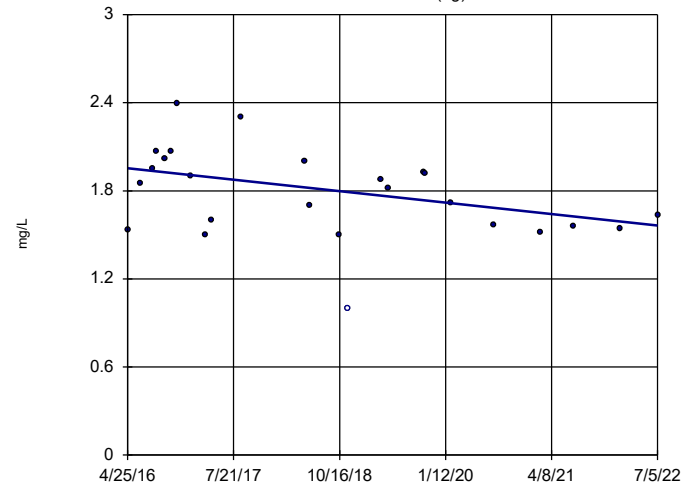


n = 26  
 Slope = 0.06984 units per year.  
 Mann-Kendall statistic = 75  
 critical = 118  
 Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Chloride Analysis Run 10/6/2022 4:41 PM View: Trend  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

MW-4 (bg)

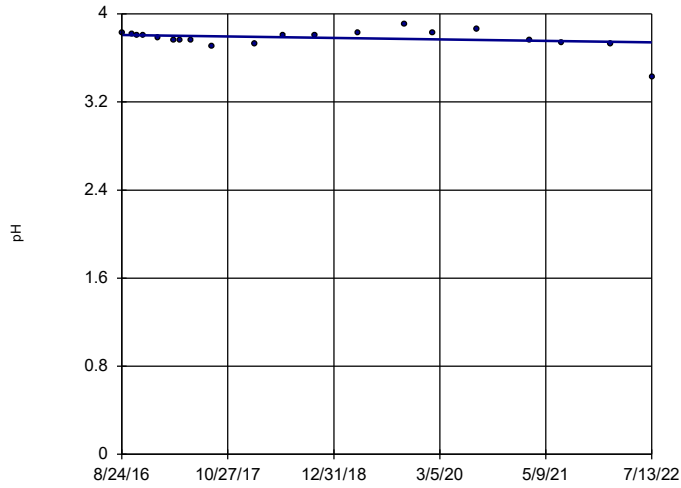


n = 25  
 Slope = -0.0632 units per year.  
 Mann-Kendall statistic = -86  
 critical = -111  
 Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Chloride Analysis Run 10/6/2022 4:41 PM View: Trend  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

GS-GSA-MW-4

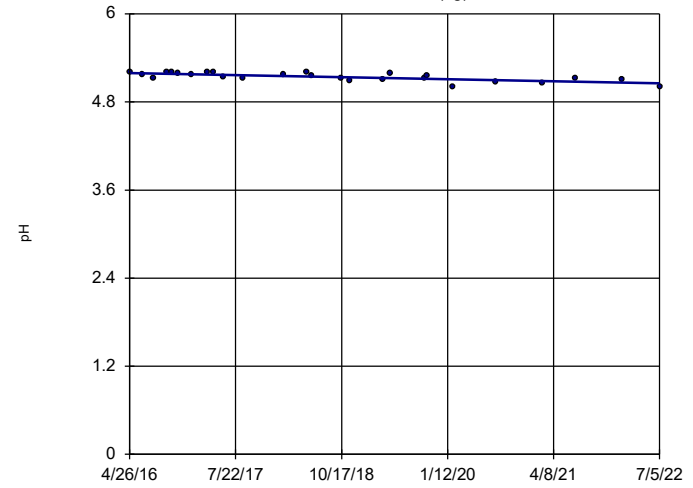


n = 20  
 Slope = -0.01158  
 units per year.  
 Mann-Kendall  
 statistic = -41  
 critical = -81  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: pH Analysis Run 10/6/2022 4:41 PM View: Trend  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

MW-1 (bg)

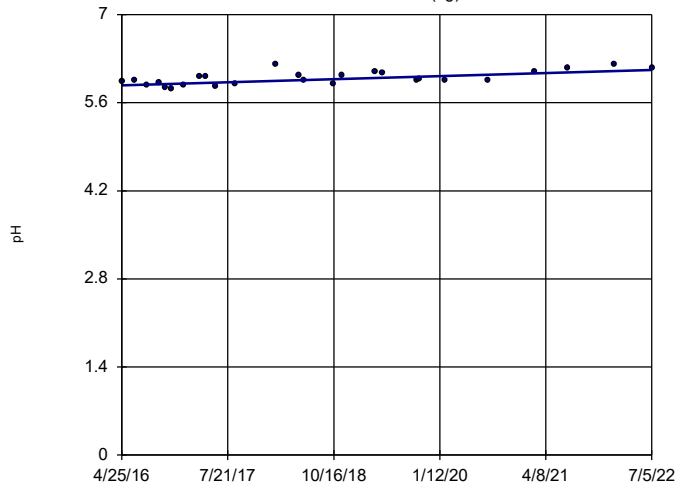


n = 26  
 Slope = -0.02228  
 units per year.  
 Mann-Kendall  
 statistic = -170  
 critical = -118  
 Decreasing trend  
 significant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: pH Analysis Run 10/6/2022 4:41 PM View: Trend  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

MW-2 (bg)

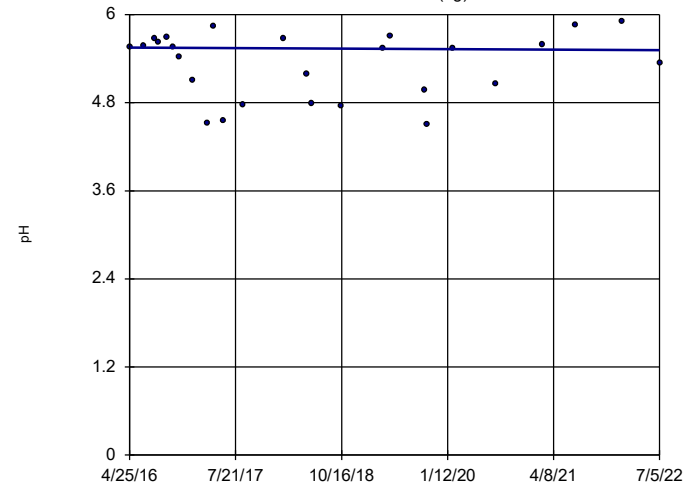


n = 26  
 Slope = 0.0395  
 units per year.  
 Mann-Kendall  
 statistic = 146  
 critical = 118  
 Increasing trend  
 significant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: pH Analysis Run 10/6/2022 4:41 PM View: Trend  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

MW-3 (bg)

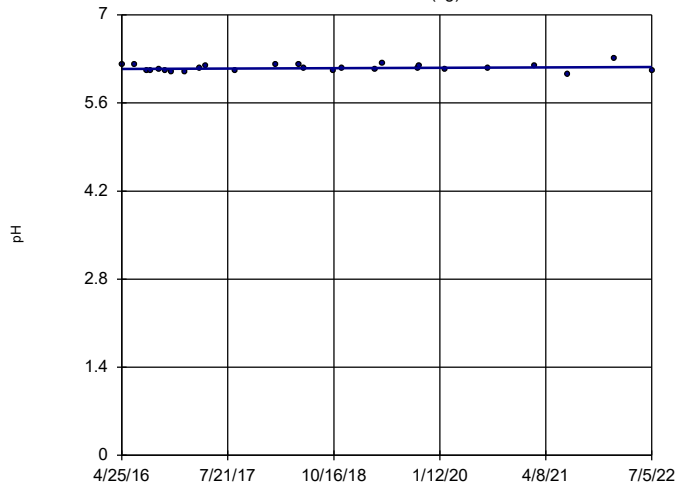


n = 26  
 Slope = -0.005294  
 units per year.  
 Mann-Kendall  
 statistic = -6  
 critical = -118  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: pH Analysis Run 10/6/2022 4:41 PM View: Trend  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

MW-4 (bg)

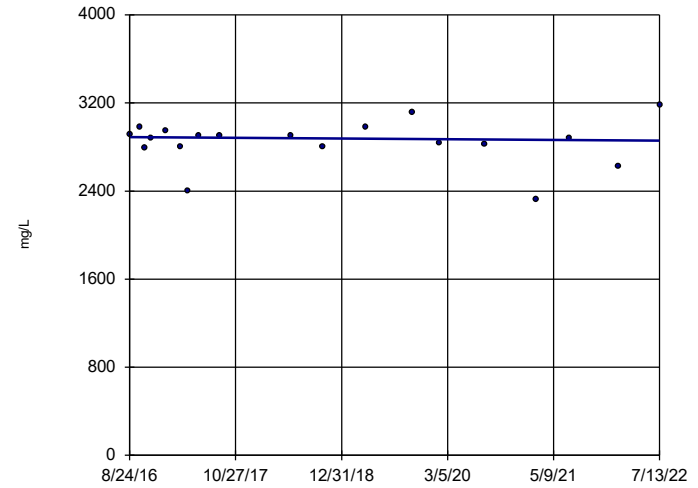


n = 26  
 Slope = 0.005207  
 units per year.  
 Mann-Kendall  
 statistic = 33  
 critical = 118  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: pH Analysis Run 10/6/2022 4:41 PM View: Trend  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

GS-GSA-MW-3

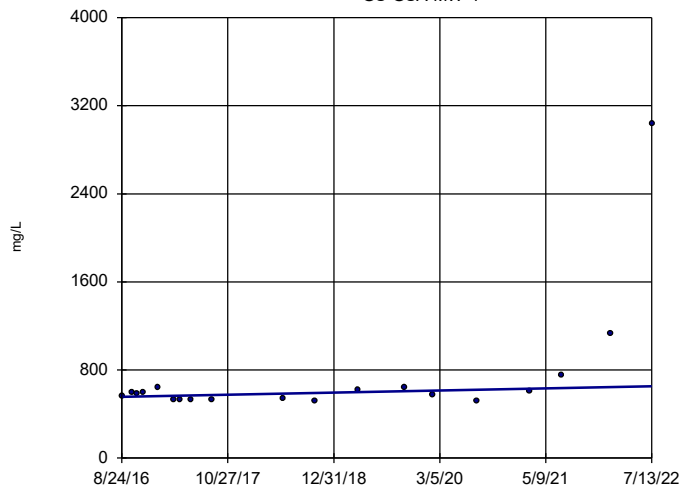


n = 19  
 Slope = -5.564  
 units per year.  
 Mann-Kendall  
 statistic = -.11  
 critical = -.74  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Sulfate Analysis Run 10/6/2022 4:41 PM View: Trend  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

GS-GSA-MW-4

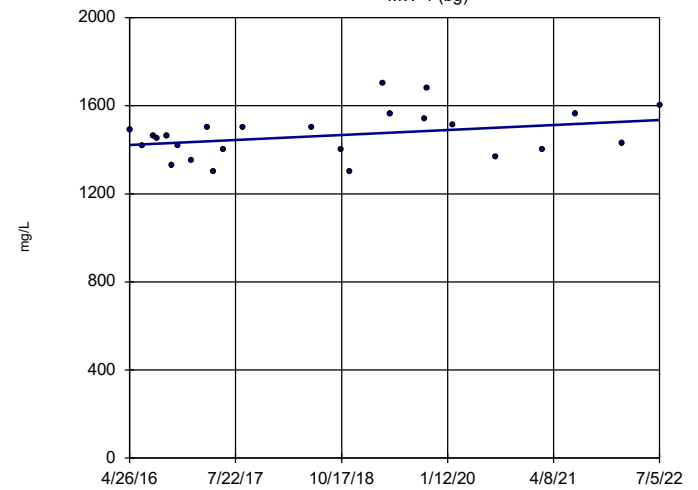


n = 19  
 Slope = 16.74  
 units per year.  
 Mann-Kendall  
 statistic = 43  
 critical = 74  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Sulfate Analysis Run 10/6/2022 4:41 PM View: Trend  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

MW-1 (bg)

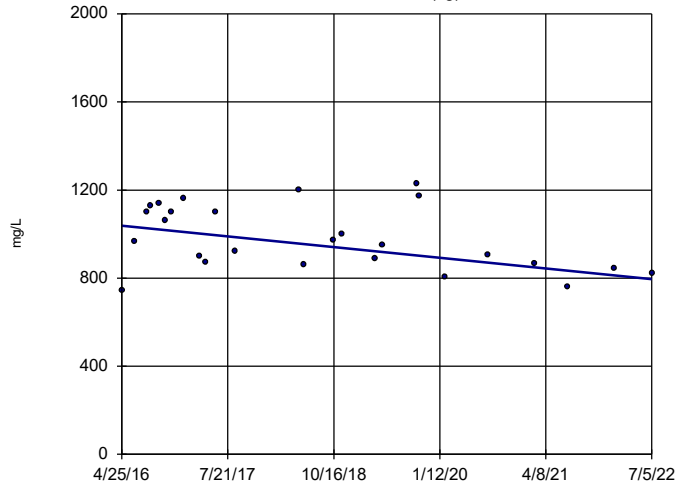


n = 25  
 Slope = 18.29  
 units per year.  
 Mann-Kendall  
 statistic = 64  
 critical = 111  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Sulfate Analysis Run 10/6/2022 4:41 PM View: Trend  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

MW-2 (bg)

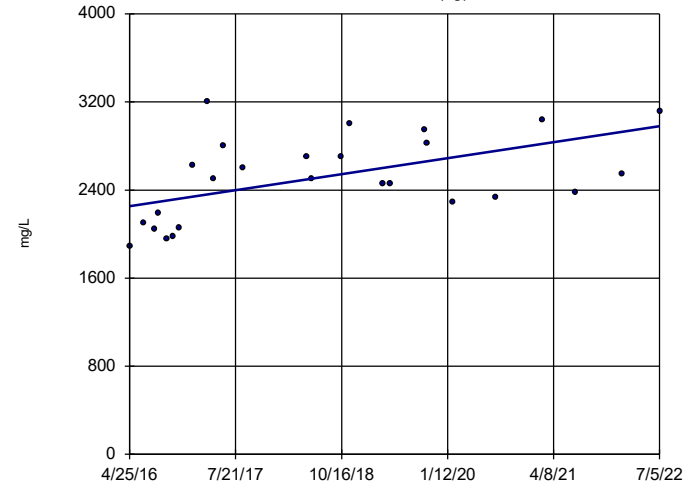


n = 26  
 Slope = -39.06  
 units per year.  
 Mann-Kendall  
 statistic = -84  
 critical = -118  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Sulfate Analysis Run 10/6/2022 4:41 PM View: Trend  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

MW-3 (bg)

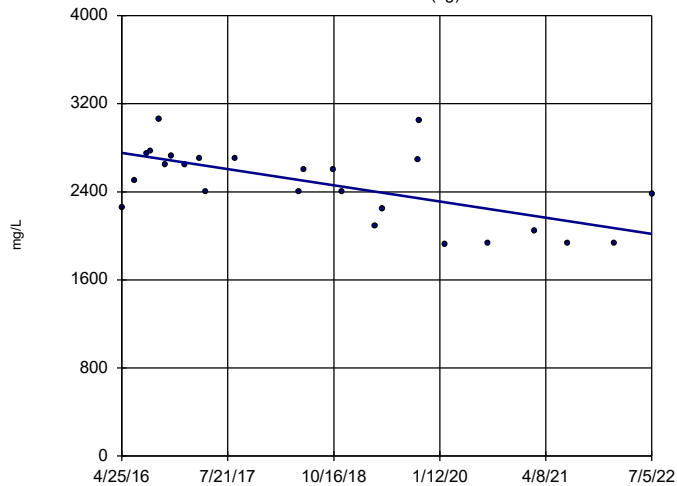


n = 26  
 Slope = 116.9  
 units per year.  
 Mann-Kendall  
 statistic = 122  
 critical = 118  
 Increasing trend  
 significant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Sulfate Analysis Run 10/6/2022 4:41 PM View: Trend  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

MW-4 (bg)

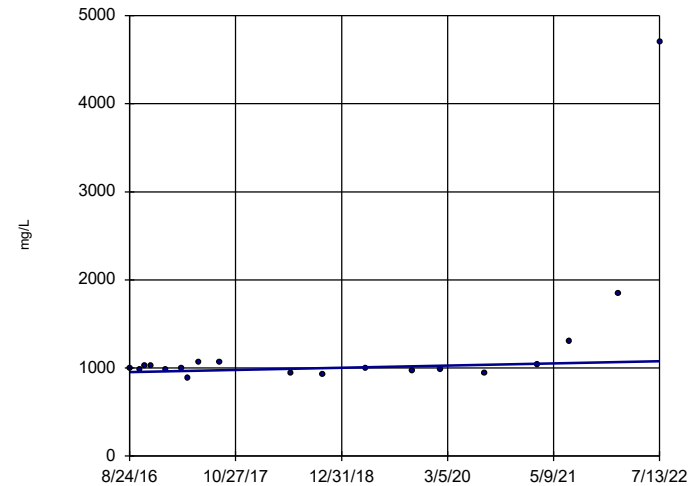


n = 25  
 Slope = -118.6  
 units per year.  
 Mann-Kendall  
 statistic = -133  
 critical = -111  
 Decreasing trend  
 significant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Sulfate Analysis Run 10/6/2022 4:41 PM View: Trend  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

GS-GSA-MW-4

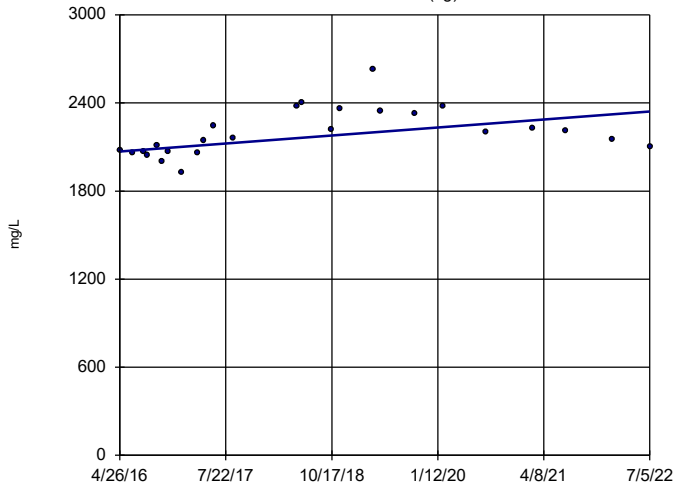


n = 19  
 Slope = 21.07  
 units per year.  
 Mann-Kendall  
 statistic = 35  
 critical = 74  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Total dissolved solids Analysis Run 10/6/2022 4:41 PM View: Trend  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

MW-1 (bg)

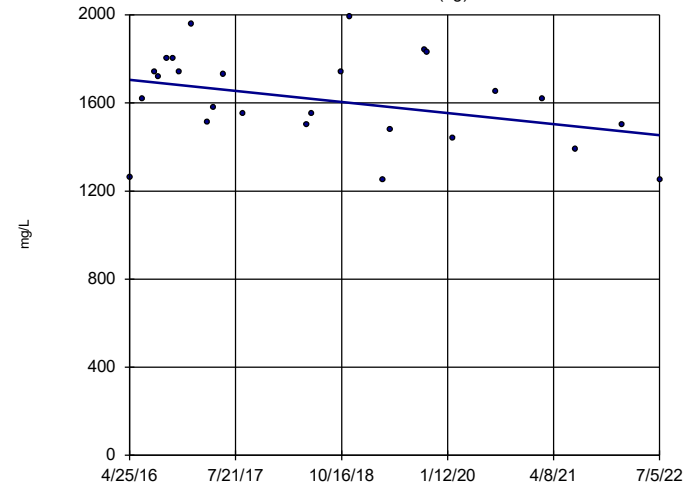


n = 25  
 Slope = 44.17  
 units per year.  
 Mann-Kendall  
 statistic = 105  
 critical = 111  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Total dissolved solids Analysis Run 10/6/2022 4:41 PM View: Trend  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

MW-2 (bg)

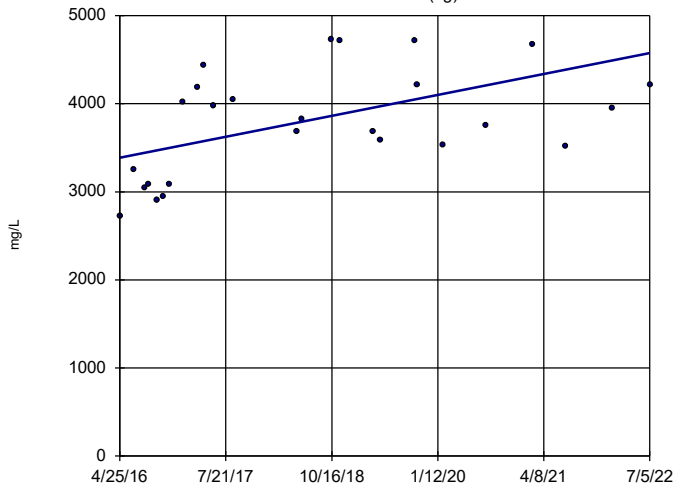


n = 26  
 Slope = -40.56  
 units per year.  
 Mann-Kendall  
 statistic = -71  
 critical = -118  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Total dissolved solids Analysis Run 10/6/2022 4:41 PM View: Trend  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

MW-3 (bg)

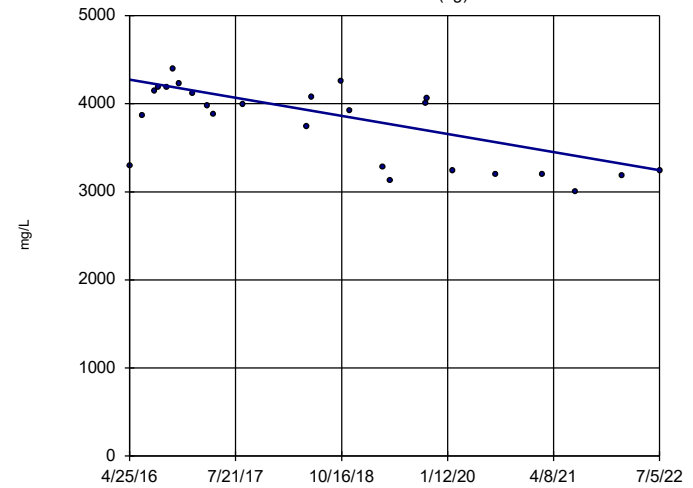


n = 26  
 Slope = 191.9  
 units per year.  
 Mann-Kendall  
 statistic = 114  
 critical = 118  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Total dissolved solids Analysis Run 10/6/2022 4:41 PM View: Trend  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

MW-4 (bg)



n = 25  
 Slope = -165.9  
 units per year.  
 Mann-Kendall  
 statistic = -136  
 critical = -111  
 Decreasing trend  
 significant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Total dissolved solids Analysis Run 10/6/2022 4:41 PM View: Trend  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA



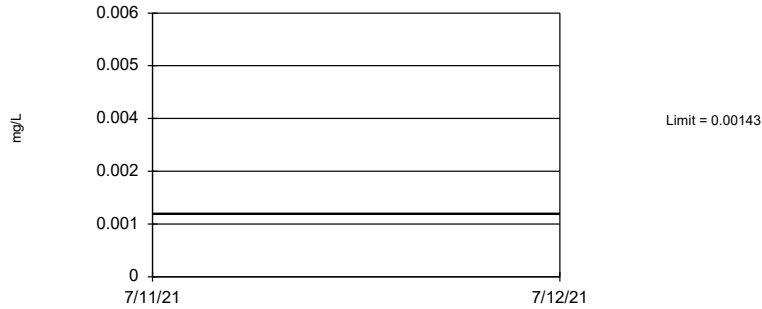
FIGURE G.

# Upper Tolerance Limits Summary Table

Plant Gorgas Client: Southern Company Data: Gorgas GSA Printed 11/16/2021, 4:56 PM

<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	95	n/a	n/a	93.68	n/a	n/a	0.007651	NP Inter
Arsenic (mg/L)	n/a	0.005	n/a	n/a	n/a	95	n/a	n/a	83.16	n/a	n/a	0.007651	NP Inter
Barium (mg/L)	n/a	0.0166	n/a	n/a	n/a	95	n/a	n/a	0	n/a	n/a	0.007651	NP Inter
Beryllium (mg/L)	n/a	0.0121	n/a	n/a	n/a	93	n/a	n/a	83.87	n/a	n/a	0.008478	NP Inter
Cadmium (mg/L)	n/a	0.00652	n/a	n/a	n/a	94	n/a	n/a	44.68	n/a	n/a	0.008054	NP Inter
Chromium (mg/L)	n/a	0.0105	n/a	n/a	n/a	95	n/a	n/a	89.47	n/a	n/a	0.007651	NP Inter
Cobalt (mg/L)	n/a	0.64	n/a	n/a	n/a	93	n/a	n/a	24.73	n/a	n/a	0.008478	NP Inter
Combined Radium 226 + 228 (pCi/L)	n/a	1.47	n/a	n/a	n/a	81	n/a	n/a	0	n/a	n/a	0.01569	NP Inter
Fluoride (mg/L)	n/a	0.63	n/a	n/a	n/a	99	n/a	n/a	1.01	n/a	n/a	0.006232	NP Inter
Lead (mg/L)	n/a	0.002	n/a	n/a	n/a	94	n/a	n/a	94.68	n/a	n/a	0.008054	NP Inter
Lithium (mg/L)	n/a	0.419	n/a	n/a	n/a	95	n/a	n/a	0	n/a	n/a	0.007651	NP Inter
Mercury (mg/L)	n/a	0.0005	n/a	n/a	n/a	95	n/a	n/a	100	n/a	n/a	0.007651	NP Inter
Molybdenum (mg/L)	n/a	0.0002	n/a	n/a	n/a	95	n/a	n/a	97.89	n/a	n/a	0.007651	NP Inter
Selenium (mg/L)	n/a	0.0209	n/a	n/a	n/a	95	n/a	n/a	58.95	n/a	n/a	0.007651	NP Inter
Thallium (mg/L)	n/a	0.000226	n/a	n/a	n/a	95	n/a	n/a	96.84	n/a	n/a	0.007651	NP Inter

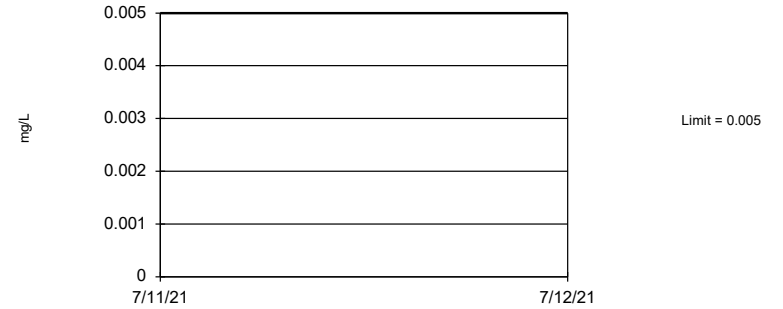
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 95 background values. 93.68% NDs. 95.12% coverage at alpha=0.01; 97.07% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.007651.

Constituent: Antimony Analysis Run 11/16/2021 4:55 PM View: UTLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

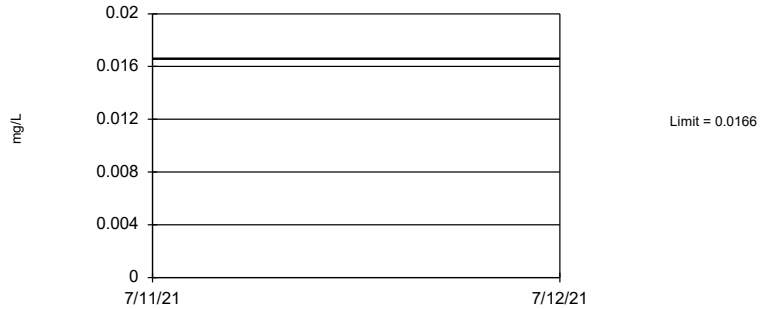
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 95 background values. 83.16% NDs. 95.12% coverage at alpha=0.01; 97.07% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.007651.

Constituent: Arsenic Analysis Run 11/16/2021 4:55 PM View: UTLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

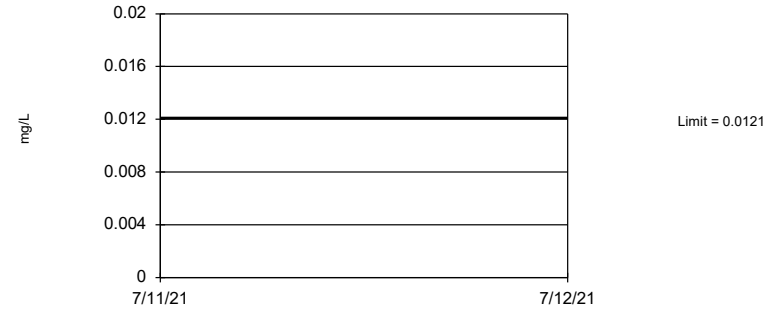
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 95 background values. 95.12% coverage at alpha=0.01; 97.07% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.007651.

Constituent: Barium Analysis Run 11/16/2021 4:55 PM View: UTLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

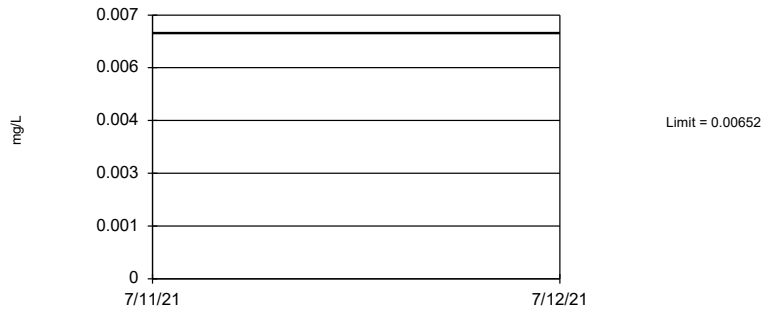
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 93 background values. 83.87% NDs. 95.12% coverage at alpha=0.01; 96.68% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.008478.

Constituent: Beryllium Analysis Run 11/16/2021 4:55 PM View: UTLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

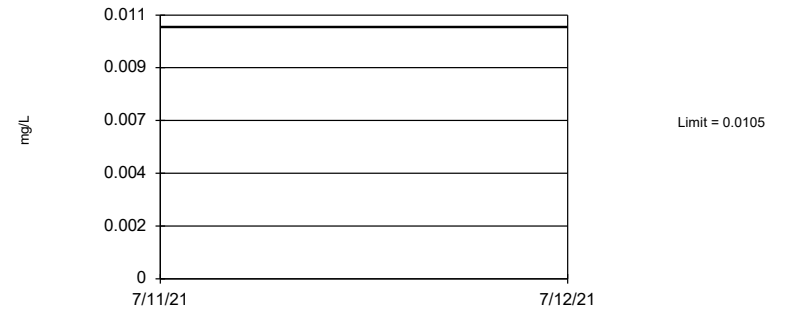
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 94 background values. 44.68% NDs. 95.12% coverage at alpha=0.01; 96.68% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.008054.

Constituent: Cadmium Analysis Run 11/16/2021 4:55 PM View: UTLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

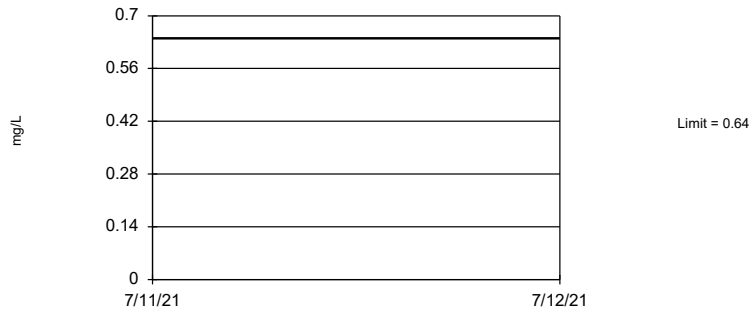
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 95 background values. 89.47% NDs. 95.12% coverage at alpha=0.01; 97.07% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.007651.

Constituent: Chromium Analysis Run 11/16/2021 4:55 PM View: UTLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

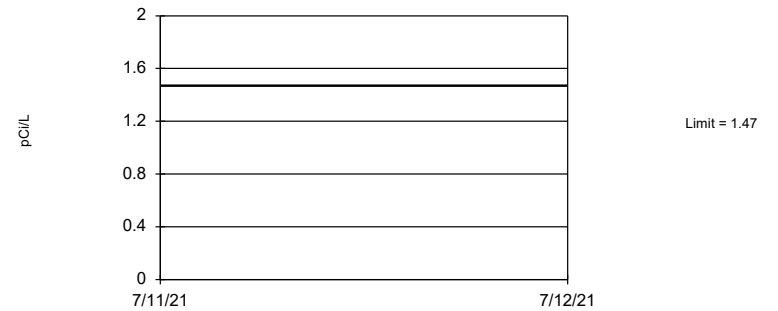
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 93 background values. 24.73% NDs. 95.12% coverage at alpha=0.01; 96.68% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.008478.

Constituent: Cobalt Analysis Run 11/16/2021 4:55 PM View: UTLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

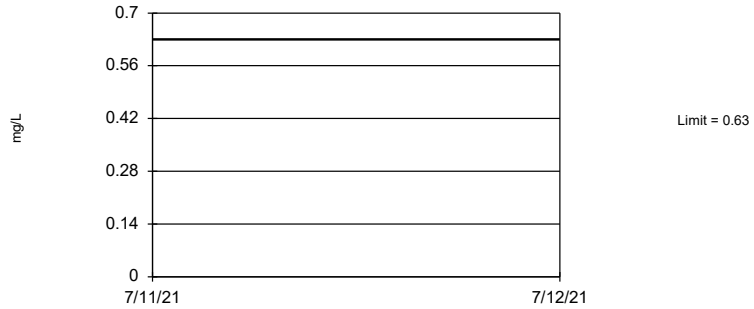
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 81 background values. 94.34% coverage at alpha=0.01; 96.29% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.01569.

Constituent: Combined Radium 226 + 228 Analysis Run 11/16/2021 4:55 PM View: UTLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

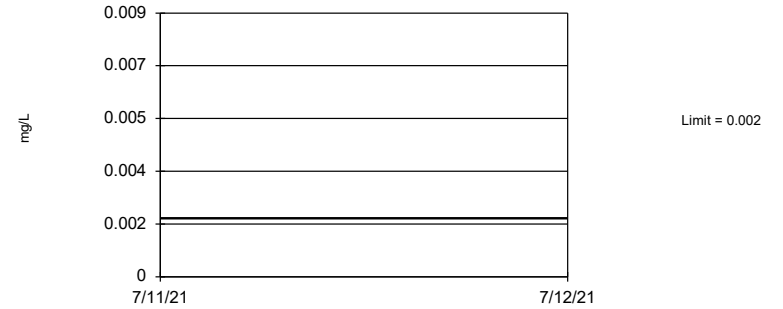
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 99 background values. 1.01% NDs. 95.51% coverage at alpha=0.01; 97.07% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.006232.

Constituent: Fluoride Analysis Run 11/16/2021 4:55 PM View: UTLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

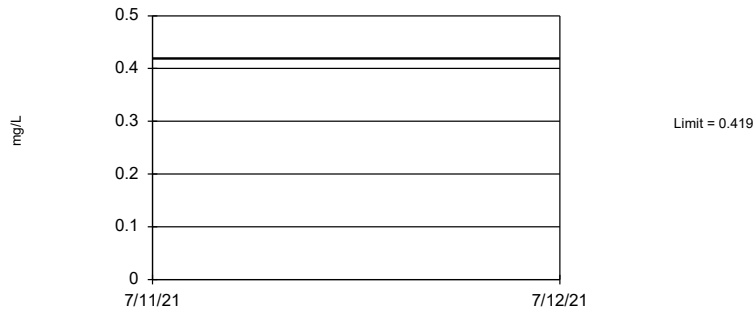
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 94 background values. 94.68% NDs. 95.12% coverage at alpha=0.01; 96.68% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.008054.

Constituent: Lead Analysis Run 11/16/2021 4:55 PM View: UTLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

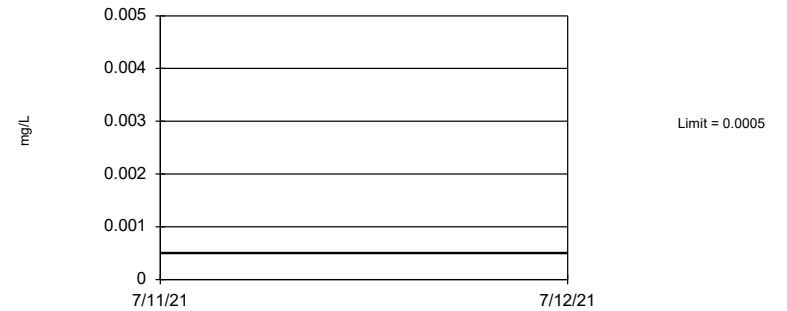
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 95 background values. 95.12% coverage at alpha=0.01; 97.07% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.007651.

Constituent: Lithium Analysis Run 11/16/2021 4:55 PM View: UTLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

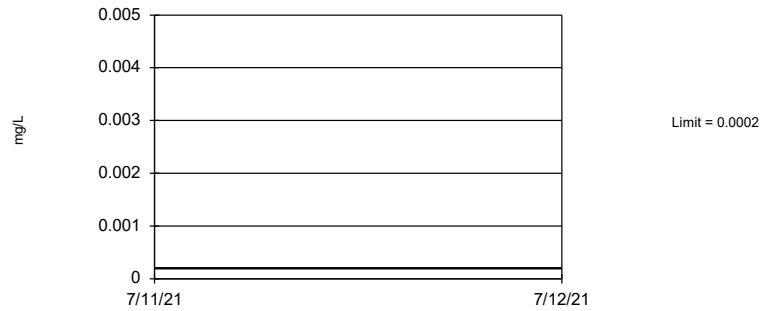
### Tolerance Limit Interwell Non-parametric



NP test selected by user. All background values were censored; limit is most recent reporting limit. 95.12% coverage at alpha=0.01; 97.07% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.007651.

Constituent: Mercury Analysis Run 11/16/2021 4:55 PM View: UTLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

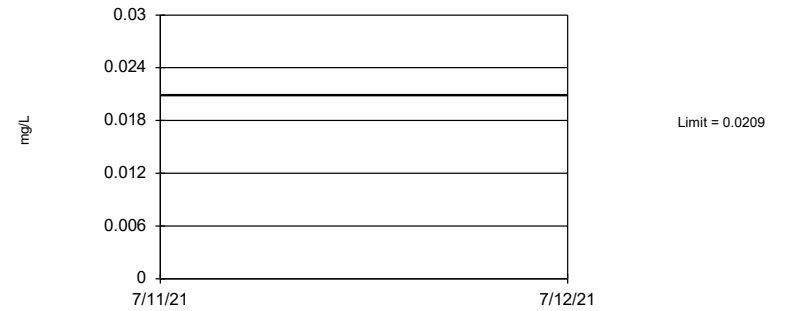
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 95 background values. 97.89% NDs. 95.12% coverage at alpha=0.01; 97.07% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.007651.

Constituent: Molybdenum Analysis Run 11/16/2021 4:55 PM View: UTLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

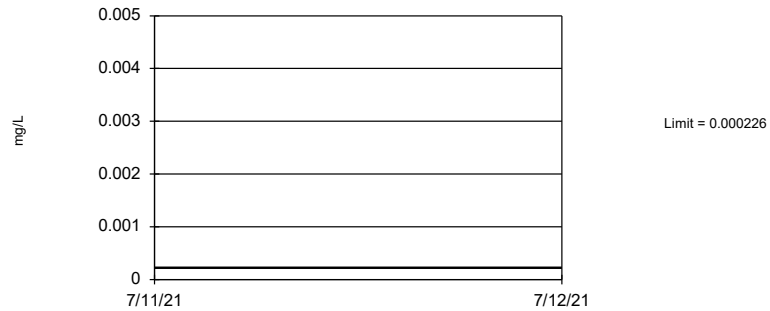
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 95 background values. 58.95% NDs. 95.12% coverage at alpha=0.01; 97.07% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.007651.

Constituent: Selenium Analysis Run 11/16/2021 4:55 PM View: UTLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 95 background values. 96.84% NDs. 95.12% coverage at alpha=0.01; 97.07% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.007651.

Constituent: Thallium Analysis Run 11/16/2021 4:55 PM View: UTLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

FIGURE H.

<b>GORGAS GYPSUM POND GWPS</b>			
<b>Analyte</b>	<b>Units</b>	<b>Background</b>	<b>GWPS</b>
Antimony	mg/L	0.00143	0.006
Arsenic	mg/L	0.005	0.01
Barium	mg/L	0.0166	2
Beryllium	mg/L	0.0121	0.004
Cadmium	mg/L	0.00652	0.005
Chromium	mg/L	0.0105	0.1
Cobalt	mg/L	0.64	0.64
Combined Radium-226/228	pCi/L	1.47	5
Fluoride	mg/L	0.63	4
Lead	mg/L	0.00692	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	0.0181	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.

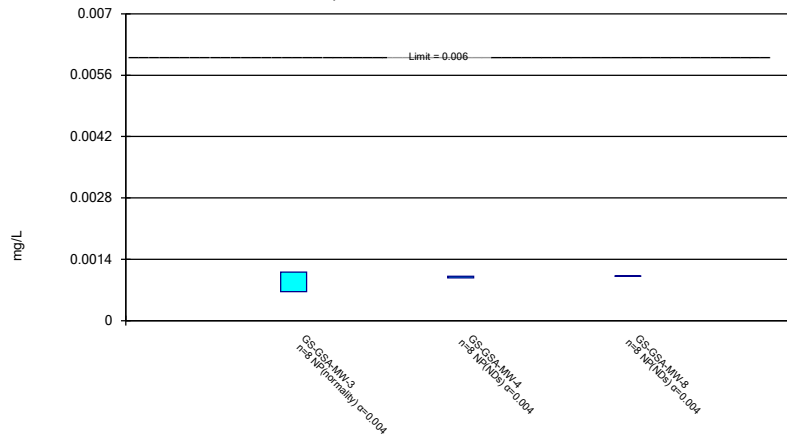
# Confidence Interval - All Results (No Significant)

Plant Gorgas    Client: Southern Company    Data: Gorgas GSA    Printed 10/7/2022, 1:10 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Antimony (mg/L)	GS-GSA-MW-3	0.00111	0.00066	0.006	No	8	75	No	0.004	NP (normality)
Antimony (mg/L)	GS-GSA-MW-4	0.001015	0.000976	0.006	No	8	87.5	No	0.004	NP (NDs)
Antimony (mg/L)	GS-GSA-MW-8	0.00102	0.001015	0.006	No	8	87.5	No	0.004	NP (NDs)
Arsenic (mg/L)	GS-GSA-MW-3	0.001481	0.0005665	0.01	No	8	37.5	ln(x)	0.01	Param.
Arsenic (mg/L)	GS-GSA-MW-4	0.00694	0.00115	0.01	No	8	0	No	0.004	NP (normality)
Arsenic (mg/L)	GS-GSA-MW-8	0.005	0.000156	0.01	No	8	50	No	0.004	NP (normality)
Barium (mg/L)	GS-GSA-MW-3	0.0153	0.01247	2	No	8	0	No	0.01	Param.
Barium (mg/L)	GS-GSA-MW-4	0.01438	0.01079	2	No	8	0	No	0.01	Param.
Barium (mg/L)	GS-GSA-MW-8	0.02312	0.01998	2	No	8	0	No	0.01	Param.
Beryllium (mg/L)	GS-GSA-MW-3	0.00219	0.001433	0.004	No	8	0	No	0.01	Param.
Beryllium (mg/L)	GS-GSA-MW-4	0.0228	0.00385	0.004	No	8	0	No	0.004	NP (normality)
Cadmium (mg/L)	GS-GSA-MW-4	0.00687	0.00143	0.005	No	8	0	No	0.004	NP (normality)
Chromium (mg/L)	GS-GSA-MW-3	0.01	0.000341	0.1	No	8	50	No	0.004	NP (normality)
Chromium (mg/L)	GS-GSA-MW-4	0.01	0.000567	0.1	No	8	50	No	0.004	NP (normality)
Chromium (mg/L)	GS-GSA-MW-8	0.01	0.000258	0.1	No	8	50	No	0.004	NP (normality)
Cobalt (mg/L)	GS-GSA-MW-3	0.1262	0.05461	0.64	No	8	0	No	0.01	Param.
Cobalt (mg/L)	GS-GSA-MW-4	0.878	0.213	0.64	No	8	0	No	0.004	NP (normality)
Cobalt (mg/L)	GS-GSA-MW-8	0.00546	0.000233	0.64	No	8	50	No	0.004	NP (normality)
Combined Radium 226 + 228 (pCi/L)	GS-GSA-MW-3	0.5558	0.2202	5	No	8	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	GS-GSA-MW-4	1.284	0.2732	5	No	8	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	GS-GSA-MW-8	0.9426	-0.009842	5	No	8	0	No	0.01	Param.
Fluoride (mg/L)	GS-GSA-MW-3	0.6368	0.3505	4	No	8	0	No	0.01	Param.
Fluoride (mg/L)	GS-GSA-MW-8	0.1853	0.1005	4	No	8	0	No	0.01	Param.
Lead (mg/L)	GS-GSA-MW-3	0.000203	0.000095	0.015	No	8	50	No	0.004	NP (normality)
Lead (mg/L)	GS-GSA-MW-4	0.00228	0.000203	0.015	No	8	50	No	0.004	NP (normality)
Lead (mg/L)	GS-GSA-MW-8	0.000203	0.000145	0.015	No	8	75	No	0.004	NP (normality)
Lithium (mg/L)	GS-GSA-MW-3	0.4907	0.358	0.419	No	8	0	No	0.01	Param.
Lithium (mg/L)	GS-GSA-MW-4	1.89	0.262	0.419	No	8	0	No	0.004	NP (normality)
Lithium (mg/L)	GS-GSA-MW-8	0.2132	0.1703	0.419	No	8	0	No	0.01	Param.
Molybdenum (mg/L)	GS-GSA-MW-3	0.01	0.00022	0.1	No	8	50	No	0.004	NP (normality)
Molybdenum (mg/L)	GS-GSA-MW-8	0.01	0.00012	0.1	No	8	50	No	0.004	NP (normality)
Selenium (mg/L)	GS-GSA-MW-3	0.01	0.00117	0.05	No	8	37.5	No	0.004	NP (normality)
Selenium (mg/L)	GS-GSA-MW-4	0.01198	0.001933	0.05	No	8	25	sqrt(x)	0.01	Param.
Thallium (mg/L)	GS-GSA-MW-4	0.0003445	0.0001165	0.002	No	8	37.5	ln(x)	0.01	Param.

### Non-Parametric Confidence Interval

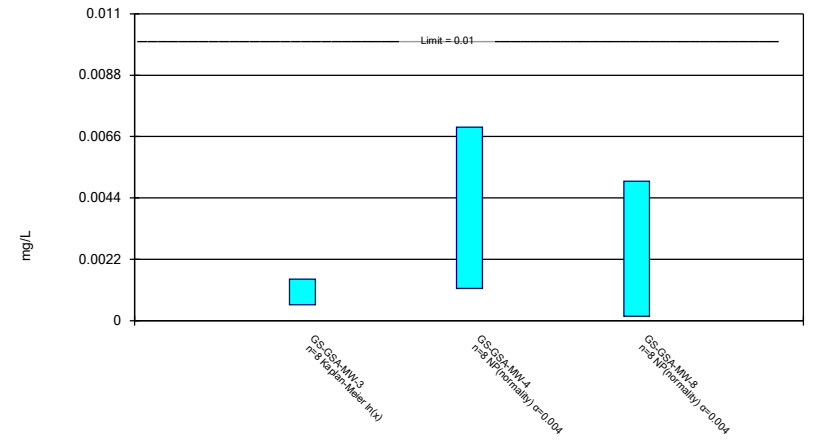
Compliance Limit is not exceeded.



Constituent: Antimony Analysis Run 10/7/2022 1:05 PM View: AIV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Parametric and Non-Parametric (NP) Confidence Interval

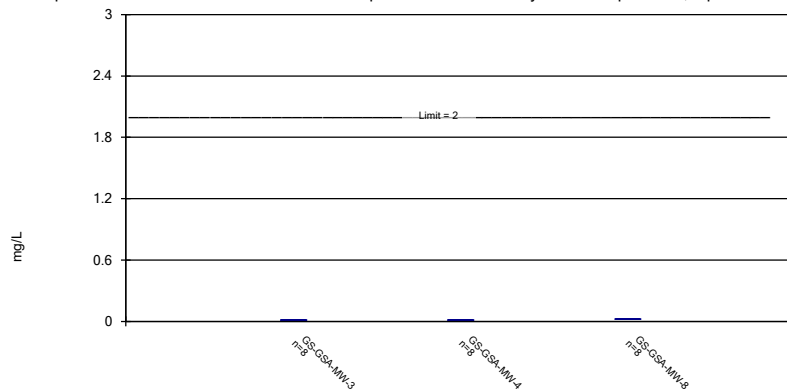
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Arsenic Analysis Run 10/7/2022 1:05 PM View: AIV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Parametric Confidence Interval

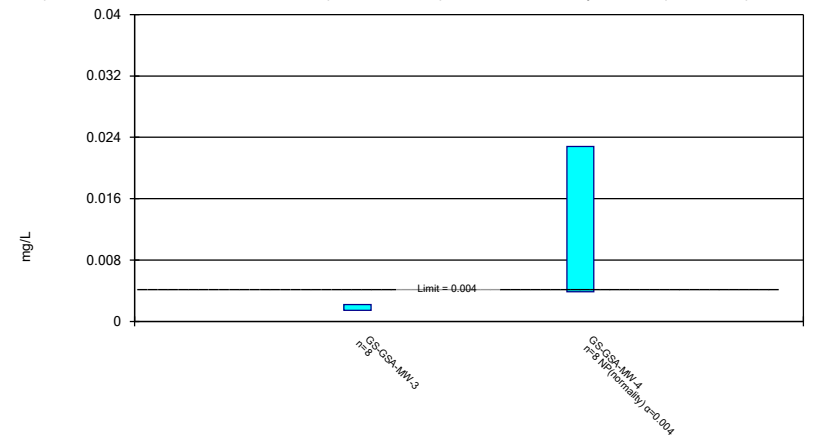
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Barium Analysis Run 10/7/2022 1:05 PM View: AIV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Parametric and Non-Parametric (NP) Confidence Interval

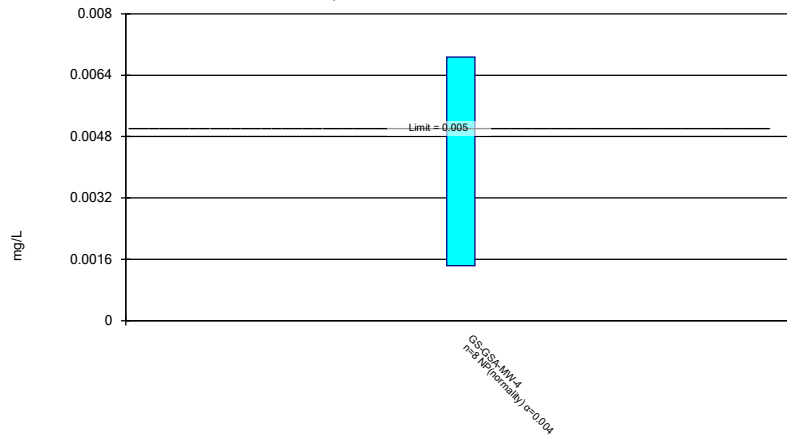
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Beryllium Analysis Run 10/7/2022 1:05 PM View: AIV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Non-Parametric Confidence Interval

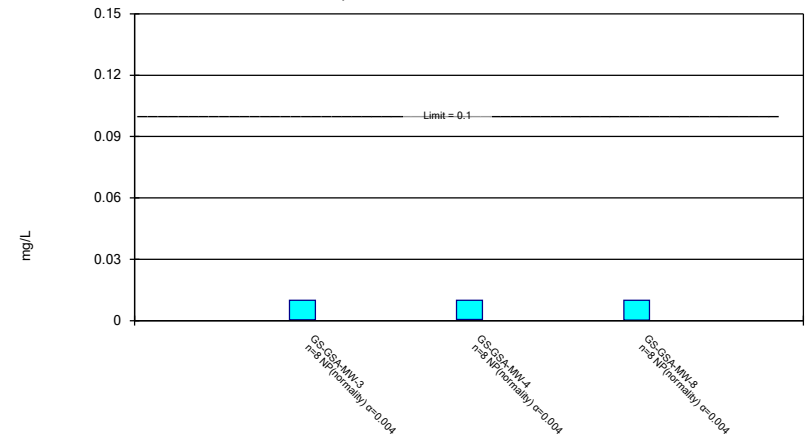
Compliance Limit is not exceeded.



Constituent: Cadmium Analysis Run 10/7/2022 1:05 PM View: AIV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Non-Parametric Confidence Interval

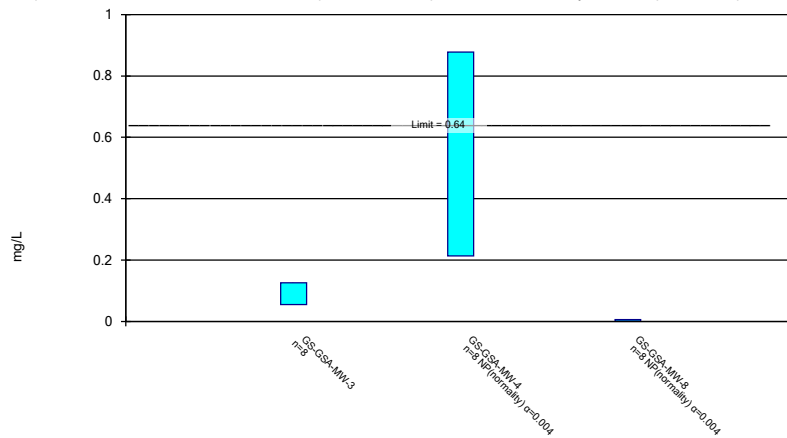
Compliance Limit is not exceeded.



Constituent: Chromium Analysis Run 10/7/2022 1:05 PM View: AIV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Parametric and Non-Parametric (NP) Confidence Interval

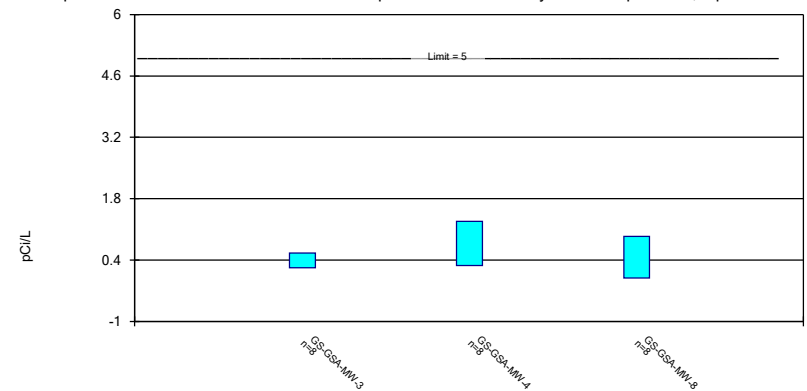
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cobalt Analysis Run 10/7/2022 1:05 PM View: AIV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Parametric Confidence Interval

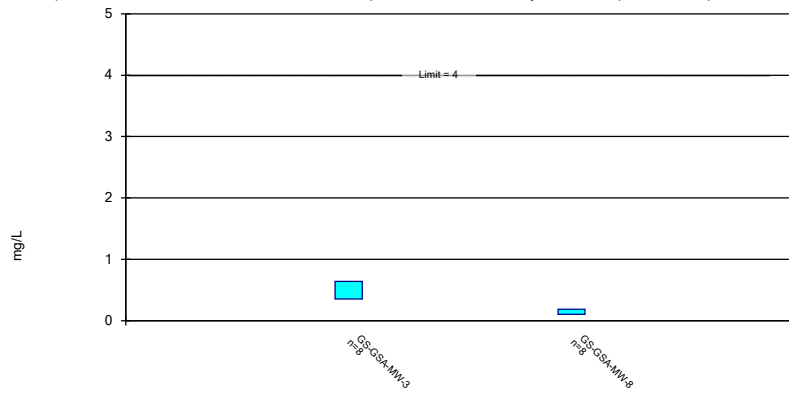
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Combined Radium 226 + 228 Analysis Run 10/7/2022 1:05 PM View: AIV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Parametric Confidence Interval

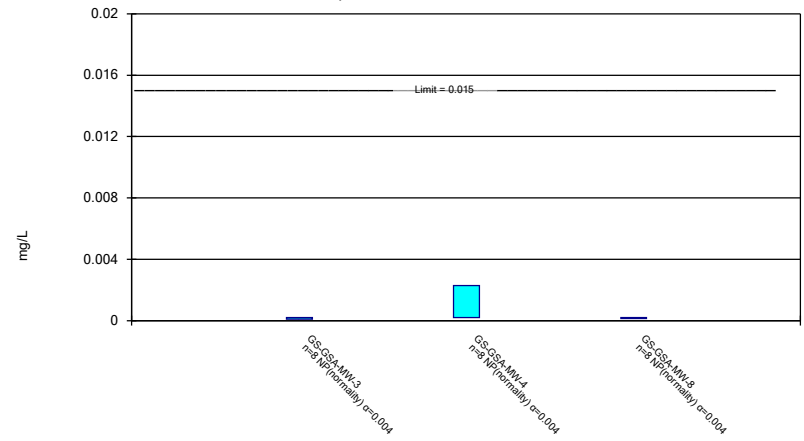
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Fluoride Analysis Run 10/7/2022 1:05 PM View: AIV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Non-Parametric Confidence Interval

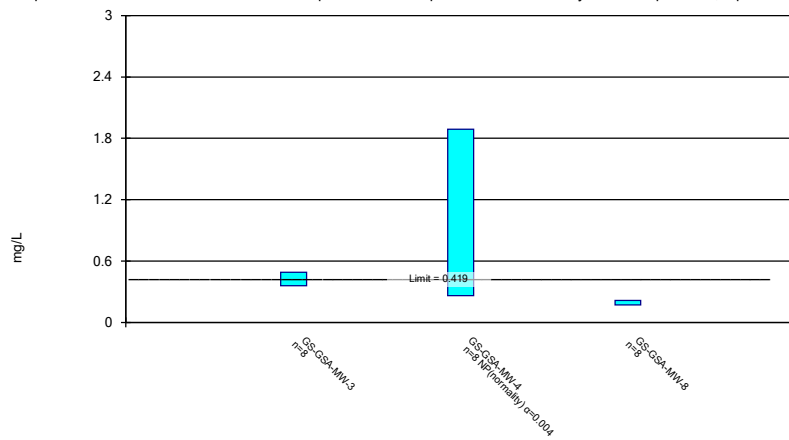
Compliance Limit is not exceeded.



Constituent: Lead Analysis Run 10/7/2022 1:05 PM View: AIV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Parametric and Non-Parametric (NP) Confidence Interval

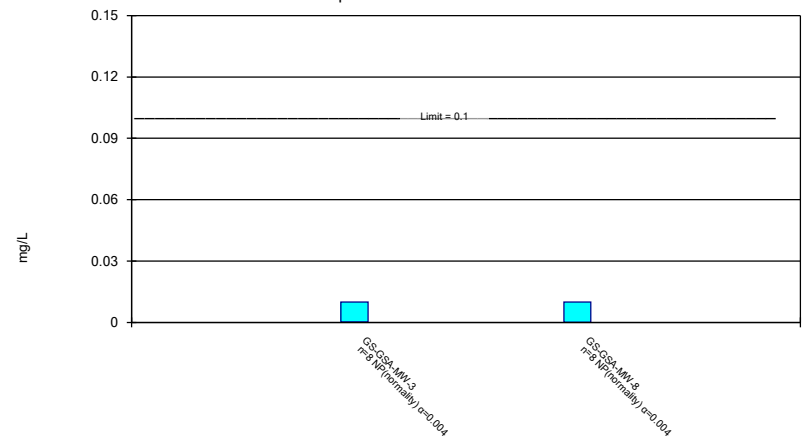
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lithium Analysis Run 10/7/2022 1:05 PM View: AIV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Non-Parametric Confidence Interval

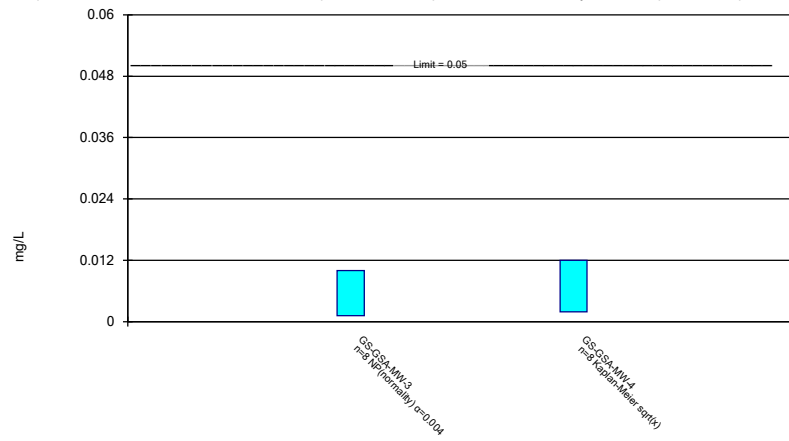
Compliance Limit is not exceeded.



Constituent: Molybdenum Analysis Run 10/7/2022 1:05 PM View: AIV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Parametric and Non-Parametric (NP) Confidence Interval

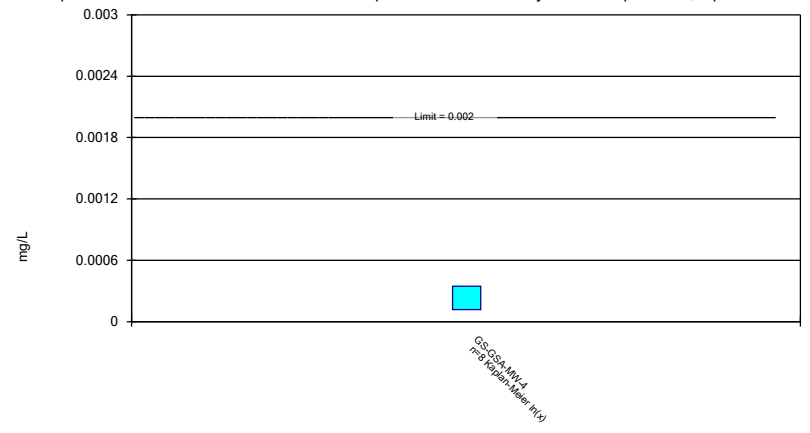
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Selenium Analysis Run 10/7/2022 1:05 PM View: AIV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Thallium Analysis Run 10/7/2022 1:05 PM View: AIV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

# Confidence Interval

Constituent: Antimony (mg/L) Analysis Run 10/7/2022 1:10 PM View: AIV

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-3	GS-GSA-MW-4	GS-GSA-MW-8
4/10/2019	0.00111 (J)	0.000976 (J)	0.00102 (J)
10/14/2019	<0.001015	<0.001015	<0.001015
2/3/2020	<0.001015		
2/4/2020		<0.001015	<0.001015
8/4/2020	<0.001015		
8/5/2020		<0.001015	<0.001015
3/1/2021	<0.001015		<0.001015
3/3/2021		<0.001015	
7/14/2021	<0.001015	<0.001015	<0.001015
1/26/2022	0.00066 (J)		
1/27/2022		<0.001015	<0.001015
7/12/2022			<0.001015
7/13/2022	<0.001015	<0.001015	
Mean	0.0009825	0.00101	0.001016
Std. Dev.	0.0001345	1.379E-05	1.768E-06
Upper Lim.	0.00111	0.001015	0.00102
Lower Lim.	0.00066	0.000976	0.001015

# Confidence Interval

Constituent: Arsenic (mg/L) Analysis Run 10/7/2022 1:10 PM View: AIV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-3	GS-GSA-MW-4	GS-GSA-MW-8
4/10/2019	0.00121 (J)	0.00176 (J)	<0.005
10/14/2019	<0.005	0.0012 (J)	<0.005
2/3/2020	<0.005		
2/4/2020		0.00128 (J)	<0.005
8/4/2020	<0.005		
8/5/2020		0.00115 (J)	<0.005
3/1/2021	0.0014		0.000633
3/3/2021		0.00116	
7/14/2021	0.00057	0.00174	0.00024
1/26/2022	0.00136		
1/27/2022		0.00274	0.00027
7/12/2022			0.000156 (J)
7/13/2022	0.000491	0.00694	
Mean	0.002504	0.002246	0.002662
Std. Dev.	0.002094	0.00197	0.002503
Upper Lim.	0.001481	0.00694	0.005
Lower Lim.	0.0005665	0.00115	0.000156



# Confidence Interval

Constituent: Barium (mg/L) Analysis Run 10/7/2022 1:10 PM View: AIV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-3	GS-GSA-MW-4	GS-GSA-MW-8
4/10/2019	0.0153	0.0136	0.02
10/14/2019	0.0122	0.0147	0.0215
2/3/2020	0.0141		
2/4/2020		0.0124	0.0209
8/4/2020	0.0139		
8/5/2020		0.0142	0.0216
3/1/2021	0.0154		0.0194
3/3/2021		0.0117	
7/14/2021	0.0136	0.0115	0.0232
1/26/2022	0.0148		
1/27/2022		0.0131	0.0238
7/12/2022			0.022
7/13/2022	0.0118	0.00947	
Mean	0.01389	0.01258	0.02155
Std. Dev.	0.001334	0.001693	0.001485
Upper Lim.	0.0153	0.01438	0.02312
Lower Lim.	0.01247	0.01079	0.01998

# Confidence Interval

Constituent: Beryllium (mg/L) Analysis Run 10/7/2022 1:10 PM View: AIV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-3	GS-GSA-MW-4
4/10/2019	0.00257 (J)	0.00469
10/14/2019	0.00162 (J)	0.00403
2/3/2020	0.00141 (J)	
2/4/2020		0.00415
8/4/2020	0.00174 (J)	
8/5/2020		0.00385
3/1/2021	0.00157	
3/3/2021		0.00406
7/14/2021	0.00175	0.00577
1/26/2022	0.00179	
1/27/2022		0.00768
7/13/2022	0.00204	0.0228
Mean	0.001811	0.007129
Std. Dev.	0.0003572	0.006462
Upper Lim.	0.00219	0.0228
Lower Lim.	0.001433	0.00385

# Confidence Interval

Constituent: Cadmium (mg/L) Analysis Run 10/7/2022 1:10 PM View: AIV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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GS-GSA-MW-4

4/10/2019	0.00176
10/14/2019	0.0015
2/4/2020	0.00143
8/5/2020	0.00157
3/3/2021	0.00162
7/14/2021	0.00246
1/27/2022	0.00336
7/13/2022	0.00687
Mean	0.002571
Std. Dev.	0.001857
Upper Lim.	0.00687
Lower Lim.	0.00143

# Confidence Interval

Constituent: Chromium (mg/L) Analysis Run 10/7/2022 1:10 PM View: AIV

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-3	GS-GSA-MW-4	GS-GSA-MW-8
4/10/2019	<0.01	<0.01	<0.01
10/14/2019	<0.01	<0.01	<0.01
2/3/2020	<0.01		
2/4/2020		<0.01	<0.01
8/4/2020	<0.01		
8/5/2020		<0.01	<0.01
3/1/2021	0.000386 (J)		0.000423 (J)
3/3/2021		0.000567 (J)	
7/14/2021	0.00039 (J)	0.0007 (J)	0.0003 (J)
1/26/2022	0.00048 (J)		
1/27/2022		0.00107	0.00046 (J)
7/12/2022			0.000258 (J)
7/13/2022	0.000341 (J)	0.00355	
Mean	0.0052	0.005736	0.00518
Std. Dev.	0.005132	0.00465	0.005153
Upper Lim.	0.01	0.01	0.01
Lower Lim.	0.000341	0.000567	0.000258

# Confidence Interval

Constituent: Cobalt (mg/L) Analysis Run 10/7/2022 1:10 PM View: AIV

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-3	GS-GSA-MW-4	GS-GSA-MW-8
4/10/2019	0.151	0.241	<0.005
10/14/2019	0.102	0.213	<0.005
2/3/2020	0.0843		
2/4/2020		0.217	<0.005
8/4/2020	0.0862		
8/5/2020		0.235	<0.005
3/1/2021	0.119		0.00546
3/3/2021		0.24	
7/14/2021	0.0555	0.296	0.00026
1/26/2022	0.0794		
1/27/2022		0.406	0.00067
7/12/2022			0.000233
7/13/2022	0.046	0.878	
Mean	0.09043	0.3408	0.003328
Std. Dev.	0.03379	0.2261	0.002443
Upper Lim.	0.1262	0.878	0.00546
Lower Lim.	0.05461	0.213	0.000233

# Confidence Interval

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 10/7/2022 1:10 PM View: AIV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-3	GS-GSA-MW-4	GS-GSA-MW-8
4/10/2019	0.265 (U)	0.622	0.128 (U)
10/14/2019	0.297 (U)	0.317 (U)	0.225 (U)
2/3/2020	0.28 (U)		
2/4/2020		0.324 (U)	0.336 (U)
8/4/2020	0.45 (U)		
8/5/2020		0.389 (U)	-0.115 (U)
3/1/2021	0.57 (U)		0.902 (U)
3/3/2021		0.836 (U)	
7/14/2021	0.668 (U)	1.58	1.23 (U)
1/26/2022	0.335 (U)		
1/27/2022		0.791 (U)	0.28 (U)
7/12/2022			0.745 (U)
7/13/2022	0.239 (U)	1.37	
Mean	0.388	0.7786	0.4664
Std. Dev.	0.1583	0.4768	0.4493
Upper Lim.	0.5558	1.284	0.9426
Lower Lim.	0.2202	0.2732	-0.009842

# Confidence Interval

Constituent: Fluoride (mg/L) Analysis Run 10/7/2022 1:10 PM View: AIV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-3	GS-GSA-MW-8
4/10/2019	0.738	0.156
10/14/2019	0.619	0.118
2/3/2020	0.427	
2/4/2020		0.132
8/4/2020	0.389	
8/5/2020		0.119
3/1/2021	0.449	0.106
7/14/2021	0.556	0.221
1/26/2022	0.447	
1/27/2022		0.179
7/12/2022		0.112 (J)
7/13/2022	0.324	
Mean	0.4936	0.1429
Std. Dev.	0.135	0.04
Upper Lim.	0.6368	0.1853
Lower Lim.	0.3505	0.1005

# Confidence Interval

Constituent: Lead (mg/L) Analysis Run 10/7/2022 1:10 PM View: AIV

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-3	GS-GSA-MW-4	GS-GSA-MW-8
4/10/2019	<0.000203	<0.000203	<0.000203
10/14/2019	<0.000203	<0.000203	<0.000203
2/3/2020	<0.000203		
2/4/2020		<0.000203	<0.000203
8/4/2020	<0.000203		
8/5/2020		<0.000203	<0.000203
3/1/2021	0.000157 (J)		0.000145 (J)
3/3/2021		0.000609	
7/14/2021	0.00018 (J)	0.00079	<0.000203
1/26/2022	0.00014 (J)		
1/27/2022		0.00103	0.00015 (J)
7/12/2022			<0.000203
7/13/2022	9.5E-05 (J)	0.00228	
Mean	0.000173	0.0006901	0.0001891
Std. Dev.	3.978E-05	0.000718	2.573E-05
Upper Lim.	0.000203	0.00228	0.000203
Lower Lim.	9.5E-05	0.000203	0.000145



# Confidence Interval

Constituent: Lithium (mg/L) Analysis Run 10/7/2022 1:10 PM View: AIV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-3	GS-GSA-MW-4	GS-GSA-MW-8
4/10/2019	0.425	0.282	0.195
10/14/2019	0.459	0.262	0.209
2/3/2020	0.474		
2/4/2020		0.29	0.188
8/4/2020	0.468		
8/5/2020		0.273	0.206
3/1/2021	0.353		0.149
3/3/2021		0.313	
7/14/2021	0.485	0.487	0.213
1/26/2022	0.31		
1/27/2022		0.671	0.185
7/12/2022			0.189
7/13/2022	0.421	1.89	
Mean	0.4244	0.5585	0.1918
Std. Dev.	0.0626	0.5566	0.0202
Upper Lim.	0.4907	1.89	0.2132
Lower Lim.	0.358	0.262	0.1703

# Confidence Interval

Constituent: Molybdenum (mg/L) Analysis Run 10/7/2022 1:10 PM View: AIV

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-3	GS-GSA-MW-8
4/10/2019	<0.01	<0.01
10/14/2019	<0.01	<0.01
2/3/2020	<0.01	
2/4/2020		<0.01
8/4/2020	<0.01	
8/5/2020		<0.01
3/1/2021	0.00022	0.00277
7/14/2021	0.00026	0.00015 (J)
1/26/2022	0.00022	
1/27/2022		0.00012 (J)
7/12/2022		0.000122 (J)
7/13/2022	0.000257	
Mean	0.00512	0.005395
Std. Dev.	0.005217	0.004998
Upper Lim.	0.01	0.01
Lower Lim.	0.00022	0.00012

# Confidence Interval

Constituent: Selenium (mg/L) Analysis Run 10/7/2022 1:10 PM View: AIV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-3	GS-GSA-MW-4
4/10/2019	0.00234 (J)	0.00322 (J)
10/14/2019	<0.01	<0.01
2/3/2020	<0.01	
2/4/2020		<0.01
8/4/2020	<0.01	
8/5/2020		0.00298 (J)
3/1/2021	0.00141	
3/3/2021		0.00294
7/14/2021	0.00151	0.00563
1/26/2022	0.00117	
1/27/2022		0.00817
7/13/2022	0.00151	0.0226
Mean	0.004742	0.008192
Std. Dev.	0.004366	0.006548
Upper Lim.	0.01	0.01198
Lower Lim.	0.00117	0.001933

# Confidence Interval

Constituent: Thallium (mg/L) Analysis Run 10/7/2022 1:10 PM View: AIV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-4
4/10/2019	<0.001
10/14/2019	<0.001
2/4/2020	<0.001
8/5/2020	0.000205 (J)
3/3/2021	0.000178 (J)
7/14/2021	9E-05 (J)
1/27/2022	0.00022
7/13/2022	0.000447
Mean	0.0005175
Std. Dev.	0.0004119
Upper Lim.	0.0003445
Lower Lim.	0.0001165

# Appendix E

# **ALTERNATE SOURCE DEMONSTRATION**

## **ALABAMA POWER COMPANY PLANT GORGAS GYPSUM POND**

**July 31, 2022**

Prepared for

Alabama Power Company  
Birmingham, Alabama

By

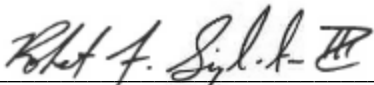
Southern Company Services  
Earth Science and Environmental Engineering



## CERTIFICATION STATEMENT

This *Alternate Source Demonstration, Alabama Power Company Plant Gorgas Gypsum Pond*, has been prepared in accordance with the applicable United States Environmental Protection Agency (USEPA) coal combustion residual (CCR) rule (40 Code of Federal Regulations [CFR] 257 Subpart D; published in 80 FR 21302-21501, April 17, 2015) and ADEM Admin Code r. 335-13-15-.06(6)(g)4.(ii) under the direction of a licensed professional engineer with Southern Company Services.

I hereby certify that the information used to prepare this *Alternate Source Demonstration* is accurate to the best of my knowledge.



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## ABBREVIATIONS

APC	Alabama Power Company
ASD	Alternate Source Demonstration
Al <sub>2</sub> O <sub>3</sub>	Aluminum Oxide
ACM	Assessment of Corrective Measures
BSE	Back-scattered Electron
BGS	below ground surface
CCR	Coal Combustion Residual Rule
R <sup>2</sup>	Coefficient of Determination
EMPA	Electron Microprobe Analysis
EDX	Energy Dispersive X-ray
Fe <sub>2</sub> O <sub>3</sub>	Ferric Iron
FEG	Field Emission Gun
GWPS	Groundwater Protection Standards
HDPE	high-density polyethylene
LA ICP-MS	Laser Ablation Inductively Coupled Plasma Mass Spectroscopy
LOI	Loss on Ignition
MSL	mean sea level
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
MNA	Monitored Natural Attenuation
NRCDS	National Coal Data System
NTU	Nephelometric Turbidity Units
K <sub>2</sub> O	Potassium Oxide
RIR	Reference Intensity Radio
SEP	Sequential Extraction
SGS	SGS Canada, Inc.
SiO <sub>2</sub>	Silica
SDD	Silicon Drift Detections
Na <sub>2</sub> O	Sodium Oxide
SSLs	Statistically Significant Levels
SPLP	Synthetic Precipitation Leaching Procedure
SU	Standard Units
TIMA-X	TESCAN Integrated Mineral Analyzer

TIMS	Thermal Ionization Mass Spectrometry
TiO <sub>2</sub>	Titanium Dioxide
EPA	United States Environmental Protection Agency
USGS	United States Geological Survey
WRA	Whole Rock Analysis
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 §257.95(g)(3)(ii),) and ADEM Admin Code r. 335-13-15-.06(6)(g)4.(ii), this report presents an *Alternate Source Demonstration* (ASD) for lithium in groundwater at Alabama Power Company's (APC) Plant Gorgas Gypsum Pond. Lithium exceeds the groundwater protection standard (GWPS) at statistically significant levels (SSLs) in two compliance wells. Four delineation wells have also exhibited lithium concentrations over the GWPS.

Pursuant to §257.94(g)(3)(ii) and ADEM Admin Code r. 335-13-15-.06(6)(g)4.(ii), the CCR rule allows the owner or operator to demonstrate that a source other than the CCR unit caused an SSL or that the SSL resulted from errors in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. The data analyzed in this comprehensive study demonstrates that the SSLs for lithium in site monitoring wells are the result of natural variation in groundwater quality driven by naturally occurring lithium in clay minerals in aquifer solids. Mobilization of lithium to groundwater primarily occurs with the weathering of mudstone and clay-rich mine spoils that constitute significant portions of the subsurface overburden profile at the Site.

This ASD report has been prepared to address historical SSLs for lithium in the following downgradient compliance monitoring wells:

- GS-GSA-MW-3
- GS-GSA-MW-4

This ASD report has also been prepared to address the GWPS exceedances for lithium in the following vertical and horizontal delineation wells:

- GS-GSA-MW-3V
- GS-GSA-MW-9V
- GS-GSA-MW-12H
- GS-GSA-MW-14H

During the most recent groundwater monitoring event (January 2022), no SSLs for lithium were observed in downgradient monitoring wells, and one lithium GWPS exceedance was observed in horizontal

delineation well GS-GSA-MW-14H (0.430 milligrams per liter (mg/L)). Thus, lithium concentrations reflect temporal variability in groundwater flow conditions in the overburden mine spoils.

Based on evaluation of site data, lithium occurs in the overburden and bedrock aquifers at concentrations significantly greater than the range of average reported concentration in the earth's crust and groundwater conditions support the mobility of lithium from the aquifer solids into groundwater at the Site. As such, this ASD demonstrates that the SSLs for lithium in the aforementioned wells are not the result of a release from the Plant Gorgas Gypsum Pond. Therefore, routine groundwater monitoring will continue at the Site and no further action, such as implementing corrective action or further delineation in these areas, is necessary.

In addition to serving as an ASD for historical SSLs in compliance wells and exceedances in delineation wells, this report also provides a comprehensive study documenting geogenic sources of lithium at the Site, and Pottsville Formation, as well as mechanisms for mobilization to groundwater. As such this study report may be referenced in explanation or guidance for potential future SSLs or GWPS exceedances.

## 2.0 SITE LOCATION AND DESCRIPTION

The 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. Plant Gorgas lies in portions of the USGS topographic quadrangle maps (USGS, 1975; USGS, 1983).

The Gypsum Pond is located west-northwest of the main plant and to the north of the Black Warrior River. **Figure 1, Site Location Map**, depicts the location of the Plant and Gypsum Pond with respect to the surrounding area.

The Plant Gorgas Gypsum Pond is currently undergoing closure-by-removal where source control will be completed by removal of CCR material at the unit regarding the area as needed to facilitate stormwater management. The Gypsum Pond is currently lined with a 60-millimeter high-density polyethylene (HDPE) geomembrane liner which was installed after existing soils/mine spoils were graded, the subgrade proof rolled, and a granular fill placed beneath the liner. During closure, the Gypsum Pond is being progressively dewatered to facilitate removal, and water from the pond is directed to a lower sedimentation pond by a series of underdrains. The sedimentation pond, clear pool, and emergency storage pond are shown on **Figure 2, Monitoring Well Location Map**.

### 2.1 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. Generally, the land surface slopes from north to south and towards the Mulberry Fork of the Black Warrior River as shown on **Figure 3, Site Topographic Map**.

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. Mulberry Fork flows from east to west as it bends around the southern border of the plant property.



## **2.2 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 lithospheric flexure and sediment loading associated with Appalachian and Ouachita orogenies. The bedrock geology is dominated by clastic sedimentary rocks of the Upper 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) of the Upper Pottsville Formation. In general, the Pratt 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.

Strip mining was conducted over a large portion of the area down to the American seam. As a result, the overburden around the Gypsum Pond 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 20 feet (un-mined areas) to as much as 155 feet below ground surface (BGS). Beneath the Gypsum Pond, 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.

Two water-bearing zones are present beneath the Site: (1) the mine overburden/top-of-rock interface, and (2) the underlying Pottsville aquifer system. 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.

### **2.2.1 Pottsville Formation – Rock Chemistry**

Published data indicate that lithium and other trace elements occurs at elevated concentrations in the Southern Appalachian Pottsville and Pottsville coal strata where Site monitoring wells are screened (Kolker et al., 1999, Diehl et al., 2004, Goldhaber et al., 2002). The United States Geological Survey (USGS) maintains an inventory of coal quality that includes trace metal concentration data, and the USGS National Coal Data System (NRCDS) has inventoried 75 Pratt Coal Group samples from the Pratt, Nickel Plate, and American coal seams that show elevated concentrations for lithium and other trace elements such as boron commonly present in CCR.

**Table 1, Occurrence of Lithium & Boron in Pottsville Coal Seams**, summarizes minimum, average, and maximum concentrations of lithium concentrations in the Pratt, Nickel Plate, and American coal seams derived from the NRCDS and compares them to published concentrations for crustal abundance. When compared to the average crustal abundance of lithium and boron, Pottsville coal seams display boron concentrations that are typically 3.5 times higher, and lithium concentrations, around 4.5 times higher (Smith and Huyck, 1999). Relative enrichment is attributed to the upwelling of metal-bearing hydrothermal fluids and precipitation along rock fractures as well as coal cleats, veins, and cellular structures (Diehl et al., 2004). A series of trace metal concentration maps for Warrior Basin coal seams by Goldhaber et. al. (2000) shows a northwest-southeast trending enrichment zone intersecting portions of Plant Gorgas. Mineralogical analysis conducted as part this ASD study indicate that lithium readily occurs in clay minerals associated with shales and mudstones at the site. Weathering of shales and mudstones in water-bearing zones increase the availability of lithium in groundwater and can contribute to the elevated concentrations observed in site groundwater.

Furthermore, the process of strip mining and backfilling these materials can increase the availability of trace metals to groundwater through enhanced weathering of rock and creation of variable groundwater flow resulting in highly variable concentrations of lithium and other trace elements within the overburden and bedrock aquifers.

### **2.2.2 Groundwater Flow**

Since the start of groundwater monitoring in 2016, new piezometers and delineation wells were added to the assessment monitoring network. With the addition of the new data, several groundwater flow systems have been identified at the Site, and groundwater flow is now grouped into five flow systems: (1) Upper Water-Table Flow System, (2) Intermediate Flow System 1, (3) Intermediate Flow System 2, (4) Intermediate Flow System 3, and (5) Deep Flow System. These flow systems represent different groundwater pathways within the uppermost aquifer and are due to significant variability of subsurface material represented by mine spoils, coal seams, fractures and other features that affect the groundwater flow regimes in the subsurface at the Site. Nonetheless, each system is interpreted to flow south to south-east across the Site.

For the Upper Water-Table Flow System, groundwater flow at the Site is a subdued replica of the natural topography where gravity is the dominant force driving flow. The general direction of groundwater flow in this system is towards the south. However, locally, flow may also occur towards the southeast and southwest mimicking the natural topography of the Site. West of the gypsum pond, flow is (A) towards northern and

central portions of the gypsum pond or (B) lateral to southern portions of the gypsum pond. Flow converges towards “Blue Pond” south of the gypsum pond and to the Black Warrior River further south.

Intermediate flow systems and the deep flow system beneath the Site display similar flow patterns. Hydraulically, these systems appear semi-confined to confined as groundwater elevations display vertical separation and downward vertical gradients. Flow through these systems likely converge to similar hydraulic potential near “Blue Pond” south of the Plant Gorgas Gypsum Pond.

**Figure 2** depicts the certified groundwater monitoring well network, and **Figures 4a** through **4e**, **Potentiometric Surface Contour Maps (January 2022)** depict the most recent water levels at the site.

### 3.0 GROUNDWATER MONITORING HISTORY

Since 2018, assessment groundwater monitoring at the Site has been performed in accordance with § 257.95(a) and ADEM Admin. Code r. 335-13-15-.06(6)(a). Based on statistical evaluation of the 2018 assessment monitoring data, SSLs for lithium were identified at downgradient compliance wells GS-GSA-MW-3 and GS-GSA-MW-4. The site performed an Assessment of Corrective Measures (ACM) and submitted an ACM report, revised in February 2020 (Anchor QEA, 2020). Pursuant to § 257.95(g)(1), ADEM Admin. Code r. 335-13-15-.06(6)(g)2., and AO No. 18-096-GW, delineation wells were installed to characterize the horizontal and vertical extent of GWPS exceedances identified during assessment monitoring in three phases of groundwater investigations between January 2019 and July 2020. These delineation (assessment) wells, along with the compliance monitoring well network, are sampled semi-annually.

SSLs have been noted at GS-GSA-MW-3 and GS-GSA-MW-4 during previous sampling events. Additionally, GWPS exceedances have been noted in vertical delineation wells GS-GSA-MW-3V and GS-GSA-MW-9V and horizontal delineation wells GS-GSA-MW-12H and GS-GSA-MW-14H. The current GWPS for lithium (0.419 mg/L) was established during the most recent background update in the fall of 2021. During the most recent groundwater monitoring event (January 2022), no SSLs for lithium were observed in downgradient monitoring wells, and one lithium GWPS exceedance was observed in horizontal delineation well GS-GSA-MW-14H (0.430 mg/L).

Based on investigations and evaluation, corrective measures were proposed in the Groundwater Remedy Selection Report submitted December 15, 2021. As required by 40 CFR § 257.98(a) and ADEM Admin. Code r. 335-13-15-.06(9)(a), the selected groundwater remedy (monitored natural attenuation (MNA)) was implemented within 90 days of selecting a remedy, and a Corrective Action Groundwater Monitoring Plan was submitted in March 2022. The selected remedy (MNA) is being implemented at the site and includes routine sampling of Appendix III and IV constituents along with a variety of MNA parameters as described in the Corrective Action Groundwater Monitoring Plan.

#### **4.0 SUMMARY OF GROUNDWATER ANALYTICAL AND STATISTICAL RESULTS**

In accordance with the corrective action groundwater monitoring plan, semi-annual Appendix IV data are compared to the GWPS using confidence intervals. When a constituent's entire confidence interval exceeds the GWPS, it is considered an SSL. Using this method, SSLs have been noted at downgradient monitoring wells GS-GSA-MW-3 and GS-GSA-MW-4. Additionally, GWPS exceedances have been noted in vertical delineation wells GS-GSA-MW-3V and GS-GSA-MW-9V and horizontal delineation wells GS-GSA-MW-12H and GS-GSA-MW-14H. GWPS for Appendix IV constituents are updated on a biennial schedule. This schedule was initiated in 2019 with updates occurring after the second semi-annual sampling event. The current GWPS for lithium (0.419 mg/L) was established during the most recent background update in the Fall of 2021.

**Table 2, Monitoring Well Network Details** summarizes the monitoring wells construction details of monitoring wells included in this ASD. Statistical plots presenting current GWPS and confidence intervals for the site are presented in **Appendix A, Statistical Analysis**.

## 5.0 METHODS AND ANALYSES FOR INVESTIGATION

The following sections describes the analytical methods used for this ASD including groundwater and leachate analysis, rock sample analysis, and mineralogical methods. Laboratory analytical reports and field data are included in **Appendix B, Laboratory and Field Data**.

### 5.1 Leachate Sampling and Analytical Methods

As part of this investigation, leachate samples were collected from treatment ponds located downgradient of the Gypsum Pond and analyzed for Appendix III and IV parameters (except for radium 226 and radium 228) in addition to the standard list of general chemistry parameters.

Because the Gypsum Pond is being progressively dewatered, as described in **Section 2.0**, and there is little to no saturated CCR material, leachate samples collected from the lower sedimentation pond, clear pool, and emergency storage pond were analyzed to characterize the gypsum pond. However, the sample collected from the sedimentation pond (GS-GSA-SP-3) provides an indication of the concentrations of target CCR constituents that are leached under ambient conditions at the Gypsum Pond. The samples collected from the clear pool (GS-GSA-SP-2) and emergency storage pond (GS-GSA-SP-1) show concentrations as the leachate undergoes subsequent settlement and treatment prior to discharge. The leachate samples were analyzed for Appendix III and IV parameters (except for combined radium) which are included in **Table 3, Parameters and Methods**. The field and analytical data are provided in **Appendix B**.

### 5.2 Groundwater Sampling and Analytical Methods

Groundwater samples are collected semi-annually 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. During sampling, field water quality parameters (pH, turbidity, conductivity, and dissolved oxygen) are measured to determine stabilization and collection of representative groundwater samples. Laboratory analysis for routine groundwater sampling includes Appendix III and IV parameters. Additional general chemistry constituents (major ions and anions) are now being collected voluntarily to help with evaluation of Site groundwater quality. **Table 3** lists Appendix III and IV monitoring constituents as well as additional constituents analyzed from Site groundwater.

### 5.3 Boron Isotope Analysis

Boron is typically present in Pottsville coal seams ranging from 6.3 to 83.6 milligrams per kilogram (mg/kg) (USGS NRCDS) as shown on **Table 1**, and during its combustion, boron tends to be adsorbed to fly ash particles. When boron from CCR is released into groundwater, it remains conservative in groundwater flow in that boron is nonreactive and mobile in hydrogeologic environments encountered at CCR facilities (EPRI, 2012). For these reasons, boron is an indicator constituent to determine CCR leachate to groundwater. Although boron characterizes CCR, elemental boron cannot exclusively delineate CCR because of other potential sources of boron in the environment (Ruhl et al., 2014). Because there is no species-specific leaching of boron isotopes to water, there is no isotopic fractionation of  $^{11}\text{B}$  and  $^{10}\text{B}$  during leaching of boron from CCR, (Ruhl et al., 2014). Therefore, the  $^{11}\text{B}$  to  $^{10}\text{B}$  ratio in CCR is retained in groundwater, which provides a better indicator of CCR source, compared to boron concentration data. Boron isotopic signatures have been successfully demonstrated to fingerprint CCR sources in groundwater (e.g., Nigro et al., 2016, Ruhl et al., 2014, Williams and Hervig, 2014). Ruhl et al., (2014) have shown that Appalachian coals typically have  $\delta^{11}\text{B}$  between -14‰ and -18‰, and wells screened in the vicinity of coal seams or mine spoils at the site may exhibit similar depleted  $^{11}\text{B}$  signature that is unrelated to the CCR unit.

Boron isotope analysis was performed on groundwater samples for select wells during the July 2021 routine semi-annual monitoring event. Wells were selected for boron isotope analysis based on historical SSLs or exceedances for lithium at those locations, groundwater flow direction, and previous review of geochemical data. Eleven groundwater samples were analyzed for  $^{10}\text{B}$  and  $^{11}\text{B}$  using Thermal Ionization Mass Spectrometry (TIMS) instrument and reported as  $\delta^{11}\text{B}$  [ $\{(^{11}\text{B}/^{10}\text{B})_{\text{sample}} / (^{11}\text{B}/^{10}\text{B})_{\text{standard}}\} - 1 \times 10^3$ ]. The  $\delta^{11}\text{B}$  was calculated using a reference standard NIST SRM951a. The analysis reported a +/- 2 permil typical standard deviation based on 120 ratios taken for each sample and the average is reported in **Table 4, Boron Isotope Results**. The boron isotopic laboratory report is provided in **Appendix B**.

### 5.4 Rock Core Sampling and Analytical Methods

As part of the assessment of lithium occurrence in native materials at the site, a total of twelve samples were collected in December 2021 from core recovered from monitoring well installation activities at the site. **Table 4, Core Sample Description Summary**, summarizes the samples collected including the boring interval, elevation, and material description. Samples were selected based on the availability of the core and targeted areas within in the well screen interval, below the water table, or in intervals of geologic interest (i.e., mine spoils). Samples were analyzed for mineralogical and chemical composition using

different extraction techniques by SGS Canada, Inc. (SGS) as described below. **Table 6, Core Sample Analysis Summary**, summarizes the analysis performed on the selected core samples. The core sample analyses are intended to provide data on the extraction of major and trace elements through partial (aqua regia) and total (multi-acid) digestion of solid samples, lithium concentrations associated with different fractions in the solid samples through extracting lithium in sequential steps with increasingly strong acids, semi-quantitative analysis of minerals using x-ray diffraction (XRD) and quantitative determination of minerals, as described below.

#### **5.4.1 Total Metals**

Total metals of each of the twelve samples were analyzed using aqua regia and multi acid digestion to determine associations between solid phases of site geologic media and select elements. The aqua regia is a partial digestion using nitric and hydrochloric acid at a 1:3 ratio that dissolves carbonates, sulfides, hydroxides, organically-bound metals, and some silicate minerals. During multi-acid digestion, a combination of at least four different acids is used to extract metals from the sample and is a near-total analysis of the composition of the sample, including the silicate fraction. Each digestion step is followed by trace level inductively coupled plasma, optical emission spectroscopy/mass spectroscopy elemental analysis to determine the elemental composition of the sample.

#### **5.4.2 Synthetic Precipitation Leaching Procedure (SPLP)**

SPLP by EPA Method 1312 is an extraction test that was completed to determine the mobility of contaminants from the samples under acidic conditions. The leachant is adjusted to a pH of 4.20 through the addition of a mix of sulphuric acid, nitric acid, and deionized water. The leachant is added to the sample and the sample container is rotated end-over-end for 18 hours. The resultant slurry is then filtered, the extract pH determined, and the extract analyzed for total metals.

#### **5.4.3 Whole Rock Analysis (WRA) and XRD**

WRA was performed on each of the twelve samples using x-ray fluorescence (XRF) spectroscopy. This analysis determines the composition of the rock and includes common compounds such as silica ( $\text{SiO}_2$ ), aluminum oxide ( $\text{Al}_2\text{O}_3$ ), sodium oxide ( $\text{Na}_2\text{O}$ ), potassium oxide ( $\text{K}_2\text{O}$ ), ferric iron ( $\text{Fe}_2\text{O}_3$ ), titanium dioxide ( $\text{TiO}_2$ ) among others in addition to Loss on Ignition (LOI). While compounds containing lithium were not included in WRA, the analysis does calculate the percentage of rock that was not determined via XRF as well as identify the chemical makeup of the rock which could point to other sources of lithium



(e.g., lithium is commonly associated with clay minerals, and the presence of elevated aluminum or potassium may indicate a clay-rich sample).

Similar to WRA, XRD was performed to determine the bulk crystalline mineral abundances which can be reconciled with WRA plus any other major elements contained in the sample. XRD is processed using reference intensity ratio (RIR) for semi-quantitative analysis and minerals identified are reported in weight percent.

#### **5.4.4 Sequential Extraction (SEP)**

SEP was performed on six samples from the site to determine which solid phases of site geologic media lithium and other metals are associate with. Samples are exposed to different reagents which extracts metals bound to a specific phase. The phases identified in SEP are:

1. Water soluble metals (F1).
2. Exchangeable weakly-sorbed metals (F2).
3. Carbonate-bound metals (F3).
4. Metals bound to iron and/or manganese oxides (F4.)
5. Metals bound to organics (F5).

Metals in the water-soluble, exchangeable, and/or acid-soluble fractions are expected to be readily available or become available when salinity or acidity of the environment increases. The exchangeable fraction includes weakly adsorbed elements retained on the solid surface by relatively weak electrostatic interactions, elements that can be released by ion-exchange processes and elements that can be co-precipitated with carbonates (Filgueiras et al., 2002). Changes in the ionic composition, affecting adsorption–desorption reactions, or lowering of pH could cause remobilization of metals from this fraction (Sutherland, 2000). The acid-soluble fraction of the sequential extraction schemes is primarily intended to contain mainly trace elements associated with carbonates, and not those associated with iron/manganese oxides and organic matter.

Metals occurring in the reducible fraction are assumed to be mainly associated with Fe and Mn oxides and released upon establishment of reducing conditions. As mentioned above, ‘new’ oxides (amorphous forms) are easily reducible but ‘aged’ oxides with a more crystalline character (crystalline oxides) are more resistant to changes in the oxidation–reduction conditions. Practically, the reducible fraction can split into

three subfractions: an easily reducible fraction (manganese oxides), a moderately reducible fraction (amorphous iron oxides), and a poorly reducible fraction (crystalline iron oxides).

Metals occurring in the oxidizable fraction are assumed to be bound mainly to organic matter and easily released under oxidizing conditions. As an oxidation process is usually applied to leach them, metals precipitated as sulfides or bound to sulfides are also part of this fraction.

The residual fraction mainly contains silicate/crystalline-bound trace elements and is most commonly dissolved with concentrated acids to leach all remaining trace elements, which can be assumed to be not available under normal environmental conditions.

The final phase of the test includes multi-acid digestion of the sample which provides a near total composition of the sample. This final step can also help determine metal concentrations that were not associated with the phases identified in the five-step process.

#### **5.4.5 Mineralogy**

Alternative automated mineralogical analysis was performed on six samples using TESCAN Integrated Mineral Analyzer (TIMA-X). TIMA-X is an automated mineralogical instrument that acquires high resolution data and real-time collection of semi-quantitative mineral compositions. It is based on four energy dispersive x-ray (EDX) silicon drift detectors (SDD) attached to a field emission gun (FEG) platform. The TIMA-X system utilizes both the EDX and back-scattered electron (BSE) signals to identify minerals at each measurement point. TIMA-X uses four x-ray analysis scanning modes to identify mineral compounds: high resolution mapping, point spectroscopy, line mapping, and dot mapping. The raw data is extracted from the instrument and processed using the proprietary TIMA software which includes textural and chemical refining of the data and classification into categories in order to extract the mineralogical data for the program. In this case, lithium was the constituent of interest, and the software identified the abundance of lithium in each sample and classified it into categories such as clays, quartz, micas, etc. Additionally, the analysis provided the mineral abundance weight percent that lithium was associated with.

In addition to TIMA-X, select minerals of interest were analyzed to quantify the chemical composition for the major and minor elements using electron microprobe analysis (EMPA). The results from EMPA, in conjunction with TIMA-X, was used to calculate the elemental composition per sample and per mineral. Laser ablation inductively coupled plasma mass spectrometry (LA ICP-MS) was used in conjunction with the EMPA to determine the lithium and other trace contents in the possible lithium-bearing phases. That

data was used along with EMPA and TIMA-X to calculate the lithium and trace element distributions among the minerals in each sample.

## 6.0 ALTERNATE SOURCE DEMONSTRATION

### 6.1 Gypsum Pond Leachate

Geochemically, there are key differences between Gypsum Pond leachate and site groundwater that provide strong evidence for an alternate source of lithium in site groundwater. **Table 7, Gypsum Pond Leachate & Groundwater Results Comparison**, provides a summary of analytical data for treatment pond samples versus samples collected from groundwater monitoring wells at the site. Importantly, leachate collected from the Gypsum sedimentation pond (GS-GSA-SP-3) showed a total concentration of lithium at 0.0330 mg/L, well below the groundwater concentrations observed at the site and the background derived GWPS of 0.419 mg/L. Leachate data from multiple samples are consistently an order of magnitude lower than the groundwater lithium concentrations. For reference, the range of average lithium concentrations in downgradient compliance wells is 0.144 to 0.438 mg/L. Considering Gypsum Pond leachate as the source of lithium to groundwater at the Site, the lithium concentrations in wells GS-GSA-MW-3, GS-GSA-MW-4, and GS-GSA-MW-8 are expected to be equal to or lower than the Gypsum Pond leachate concentrations due to attenuation along groundwater flow paths. Instead, the opposite is observed with lithium concentrations in downgradient monitoring wells exhibiting much high lithium concentrations. Thus, higher lithium concentrations noted in groundwater strongly indicate an alternate source in the aquifer.

### 6.2 Lithium Trends in Groundwater

Lithium concentration trends in downgradient monitoring wells GS-GSA-MW-3 and GS-GSA-MW-4 were evaluated for temporal variations and to assess the potential of the Gypsum Pond as the source for lithium and trends in these wells. **Figure 5, Lithium Time Series Plots**, depict lithium concentrations over time in monitoring wells discussed in this report. The time series plots show variability of lithium concentrations over time that reflect natural variability of groundwater flow under anisotropic conditions in the overburden. The natural variability is seen in the multiple patterns showing higher concentrations in late summer to early winter. As show on **Figure 5**, lithium trends in shallower wells, such as GS-GSA-MW-3 and GS-GSA-MW-4, tend to respond more to fluctuating groundwater levels which correspond to precipitation and recharge. As groundwater levels increase, concentrations generally increase and vice versa. Trends are similar to upgradient well, MW-3, where lithium concentrations oscillate in response to precipitation and recharge through silt and clay dominated mine spoil materials, and range from 0.0689 to 0.419 mg/L.

Lithium concentrations in well in GS-GSA-MW-4 is an exception compared to other wells. A slight increase in concentrations has been noted in GS-GSA-MW-4 beginning in early 2021. This increase in concentration appears to have initiated with an increase in well turbidity which occurred between October 2019 and March 2021. The highest turbidity value of 8.94 nephelometric turbidity units (NTUs) occurred in October 2020 which is notable due to the fact that it was the first sampling event after the February 2020 well solids and precipitate sampling event, a sampling event which retrieved and disturbed well solids and precipitates in the wells (MNA Evaluation). Minerals identified by XRF in the GS-GSA-MW-4 were dominated by muscovite and illite (61% by weight percentage) and lesser percentages of quartz (36.8 %), zeolite (2.0%), and vermiculite (0.2%). In fine-grained sediments, lithium and boron are known to be hosted by smectite, illite, or chlorite clay minerals, and this was experimentally demonstrated showing lithium and boron are adsorbed in the interlayers of smectite and incorporated into illite during diagenetic alteration of smectite (Williams and Hervig, 2005). Other studies have shown that illitic clays and claystone/mudstones are enriched in lithium (Castor and Henry, 2020). Additionally, elevated aluminum, a common constituent associated with clay minerals and micas, was observed in groundwater samples collected from GS-GSA-MW-4 during January and May, 2022 (29.70 and 27.00 mg/L, respectively). Therefore, it is reasonable to attribute increases in lithium and boron to disruption of physical and geochemical equilibria caused by stirring and suctioning of muscovite-illite dominated well sediments.

### **6.2.1 Lithium Correlations with CCR Indicators**

As described in **Section 6.1**, lithium concentrations in Gypsum Pond leachate are an order of magnitude lower than lithium concentrations observed in site groundwater wells and the background-derived GWPS. **Figure 6, Boron vs. Lithium**, shows the correlation of lithium with boron concentrations in groundwater at the site and compares the results to the leachate sample collected from the sedimentation pond and SPLP results analyzed from rock core collected at the site. Groundwater samples collected from GS-GSA-MW-9V, GS-GSA-MW-12H, and GS-GSA-MW14H consistently exhibit very low boron concentrations (less than 0.25 mg/L), have lithium concentrations ranging from less than 0.1 mg/L to 0.54 mg/L and plot similarly to SPLP data analyzed from rock core at the site. This data shows that boron-lithium ratios match closely with aquifer materials and differ significantly from the analyzed CCR source. The lack of correlations of lithium with boron concentrations in groundwater suggest a lack of correlation with the CCR source at the Site and support an aquifer material source.

Slightly elevated boron concentrations are exhibited in wells GS-GSA-MW-3, GS-GSA-MW-4, and GS-GSA-MW-3V. These wells are screened either at the mine spoil to bedrock interface (GS-GSA-MW-3 and

GS-GSA-MW-4) or, in the case of GS-GSA-MW-3V and GS-GSA-MW-9V, across the Gillepsy coal seam as shown on **Figure 7, Geologic Cross-Section E-E', Lithium Concentrations in Rock and Groundwater**. As discussed in **Section 2.2.1**, elevated boron and lithium are present in Appalachian coal, and that lithium is readily leached from that material as it is weathered. Rock chemistry and mineralogy data, presented later in **Section 6.4**, also shows elevated lithium in site geologic materials. The fact that elevated lithium and boron concentrations are present in coal and mine spoils at the Site and lithium concentrations in Gypsum Pond leachate are significantly lower than the background derived GWPS supports the conclusion that elevated boron and lithium in these three wells is likely the result of weathering coal and mine spoils.

### 6.3 Boron Isotope Results

Boron isotopic composition demonstrates a fingerprint of meteoric waters rather than migration of CCR leachate to groundwater. **Figure 8, Boron vs. Isotopic Boron Comparison** depicts the distribution of wells'  $\delta^{11}\text{B}$  signature versus total boron concentrations at the site. Samples collected from monitoring wells GS-GSA-MW-3, GS-GSA-MW-3V, GS-GSA-MW-8, GS-GSA-MW-12H, and GS-GSA-MW-14H show  $\delta^{11}\text{B}$  signatures ranging from 8.8 to 33.6‰ (GS-GSA-MW-12H and GS-GSA-MW-8, respectively). The positive boron isotopic ratios in these wells are indicative of meteoric infiltration rather than a CCR source because the CCR signatures are generally depleted in the heavier isotope (e.g. Ruhl et al., 2014).

Other samples collected at the site, including GS-GSA-MW-4, GS-GSA-MW-4V, and GS-GSA-MW-9H, show  $\delta^{11}\text{B}$  signatures near 0‰ (2.8, -2.6, and 0‰, respectively). While these  $\delta^{11}\text{B}$  signatures are more depleted than what is typically observed from a meteoric source, the lower  $\delta^{11}\text{B}$  signatures in these wells can be explained as follows:

- GS-GSA-MW-4 is screened just below the interface of backfilled mine spoils. Mine spoils at the site have been documented to have an abundance of coal which typically have a  $\delta^{11}\text{B}$  signature of -70 to -1‰ (EPRI, 2012) which could contribute to a depleted signature in groundwater.
- GS-GSA-MW-4V has a lower  $\delta^{11}\text{B}$  signature (-2.6‰) than GS-GSA-MW-4 (2.8‰). The well screen for GS-GSA-MW-4V is more than 30 feet deeper than shallow well GS-GSA-MW-4. The depleted  $\delta^{11}\text{B}$  signature in the deeper well would more likely reflect boron signature from the deeper groundwater flow rather than from the shallower groundwater flow from the Gypsum Pond.
- Shale and clay-rich bedrock have exhibited  $\delta^{11}\text{B}$  signatures of around -4.6‰ (Noireaux et al., 2020). GS-GSA-MW-4, GS-GSA-MW-4V, and GSA-GSA-MW-9H are screened in shale and

mudstone lithologies (and in the case of GS-GSA-MW-4, directly below mine spoils containing coal fragments), and the lower signatures observed in these wells could reflect the dissolution of clay minerals and the mobilization of natural lithium.

In summary, the  $\delta^{11}\text{B}$  signatures reflect meteoric-origin groundwater recharge through coal seams and mine spoil overburden. **Table 4** summarizes the boron isotope data collected from the site and includes likely sources of the depleted signatures based on site knowledge and other data. The full boron isotopic laboratory results are provided in **Appendix B**.

#### 6.4 Rock Chemistry and Mineralogy

As described in **Section 5.4**, rock samples were analyzed for major and trace element concentrations through partial (aqua regia) and total (multi-acid) digestion, lithium concentrations associated with different fractions in the solid samples (SEP) through extracting lithium in sequential steps with increasingly strong acids, semi-quantitative analysis of minerals using XRD and quantitative analysis of minerals using TESCAN. The analytical reports for all these different analyses are included in **Appendix B**.

##### 6.4.1 Total Lithium Concentrations

Total lithium concentrations were determined using strong multi-acid digestion of rock samples and the results are provided in **Table 8, Total Lithium Concentrations & Clay Mineral Abundance Summary**. Total lithium concentrations in the rocks collected from the Site range from 30 to 367 mg/kg (MW-9H-50-60 and MW-8V-81-84, respectively) with an average concentration of 128 mg/kg. Only part of the total lithium is extracted using aqua regia digestion and therefore, the data are not discussed in this report's text, but the analytical report is provided in **Appendix B**. Total lithium concentrations noted at the Site are significantly higher than average crustal abundance reported by Smith and Huyck (1999) and suggest a natural abundance of lithium in the aquifer solids.

A composite analyses of bulk rock chemistry and detailed mineralogical data reflects natural enrichment of lithium in Site subsurface materials such as in coal seams, mine spoils, and weathered mudstone and shale. **Figure 9, Lithium vs. Aluminum, Magnesium, Iron, & Manganese**, depicts lithium concentrations versus common clay and oxide constituent concentrations. This figure highlights two generic groupings of samples where samples MW-3V (180-190), MW-8V (81-84), and MW-8V (94-97) are clearly distinct from all other samples. As described in **Table 5**, each of these samples contains coal fragments, and in the case

of MW-8V samples, also contains mine spoils and wood fragments. All other samples are dominated by weathered mudstone and lesser shale.

Total lithium is correlated with other total constituents common in shale, mudstone, and mine spoils such as aluminum and magnesium. In general, the distribution of lithium versus constituents like magnesium and aluminum display similar trends to the distribution of lithium versus clay content – with lithium concentrations increasing as magnesium and aluminum concentrations increase. Mine spoil samples from GS-GSA-MW-8V and the highly weathered shale sample collected from GS-GSA-MW-3V show a similar pattern but have considerably less magnesium and aluminum than weathered mudstone samples. This implies higher degrees of enrichment in the clay or oxide fractions.

In addition to aluminum and magnesium, total lithium concentrations were compared to total iron and total manganese concentrations to analyze whether lithium also occurs in iron and manganese oxides. In general, the distribution of lithium versus iron and manganese displays similar trends to the distribution of lithium versus clay content, magnesium, and aluminum with lithium concentrations increasing as iron and manganese concentrations increase. This analysis supports that lithium is also associated with iron and manganese oxides at the site and is available in multiple fractions. A complete summary of mineral abundance by weight percent and total lithium, aluminum, magnesium, iron, and manganese concentrations are included in **Table 8**.

#### **6.4.2 Whole Rock Analysis**

The XRF data indicate variable SiO<sub>2</sub> content ranging from approximately 26% to 78%, and aluminum oxide Al<sub>2</sub>O<sub>3</sub> content ranging from about 8.7% to 19.2%. There are notable amounts of Fe<sub>2</sub>O<sub>3</sub> ranging from 5.3% to 8.45% and LOI ranging from 3.5 to 8.8%, except for two samples in MW-8V collected from mine spoils that contained very high LOI (42 and 54%). High LOI reflects high carbon content in these samples and attributed to the coal seams and overburden mine spoils which would include coal seams mixed with overburden. Overall, the XRF reflects high aluminum and carbon contents in the aquifer solids which supports the conclusion that lithium is likely associated with clay minerals and coal/mine spoils at the site.

#### **6.4.3 Mineralogy Results**

The mineralogical composition of aquifer solids (overburden and rock) were analyzed using standard semi-quantitative analysis using XRD to a specialized quantitative analysis using TIMA-X as described in **Section 5.4.3** and **5.4.5**. The TIMA-X results show that lithium primarily occurs in clay minerals (i.e.,



kaolinite, smectites, illite, etc.) and micas (i.e., muscovite, biotite, etc.) associated with weathered shale, mudstone, and mine spoils at the site.

The mineral abundance of clays and micas in samples collected from the site and analyzed using the TIMA-X analysis ranged from 10.1% (MW-9H-50-60) to 88.9% (MW-8V-81-84) and averaged 42.6%. In general, as the percentage of clay increased, the total concentration of lithium in the rock increased as shown on **Figure 10, Lithium & Clay Content**. Mine spoils samples collected from GS-GSA-MW-8V exhibited much higher lithium concentrations (234 to 367 mg/kg) than samples collected from weathered shale and mudstone, with the exception of one sample collected from GS-GSA-MW-3V, which exhibited a comparable lithium concentration of 299 mg/kg. Sample MW-3V-180-190 was collected from the screened interval of its corresponding monitoring well (GS-GSA-MW-3V) and the lithology was described as a highly weathered shale/mudstone with healed/mineralized fractures. These elevated lithium concentrations associated with (A) the highly weathered mudstone, and the (B) Gillepsy coal, with mineralized zones strongly supports the association of lithium with clay minerals in sample MW-3V-180-190, and in other samples from the Site.

The semi-quantitative XRD results, shown on **Table 9, XRD Results**, indicate that quartz is the predominant mineral in each of the samples ranging from 24.5 to 57.8 weight percent. Muscovite (mica), kaolinite and chamosite (clays) constitute the second group of minerals, which together represent the hydrated-sheet-silicate minerals and ranged from 17.5 to 39.2 weight percent. However, in several samples (e.g., MW-3V-170-180) the clays and micas predominate the mineralogical composition. Plagioclase feldspar minerals are present in lower abundance, ranging from 3.1 to 15.1 weight percent. Significant amounts of pyrite (1.0 to 6.5 weight percent) are also present in the rock samples.

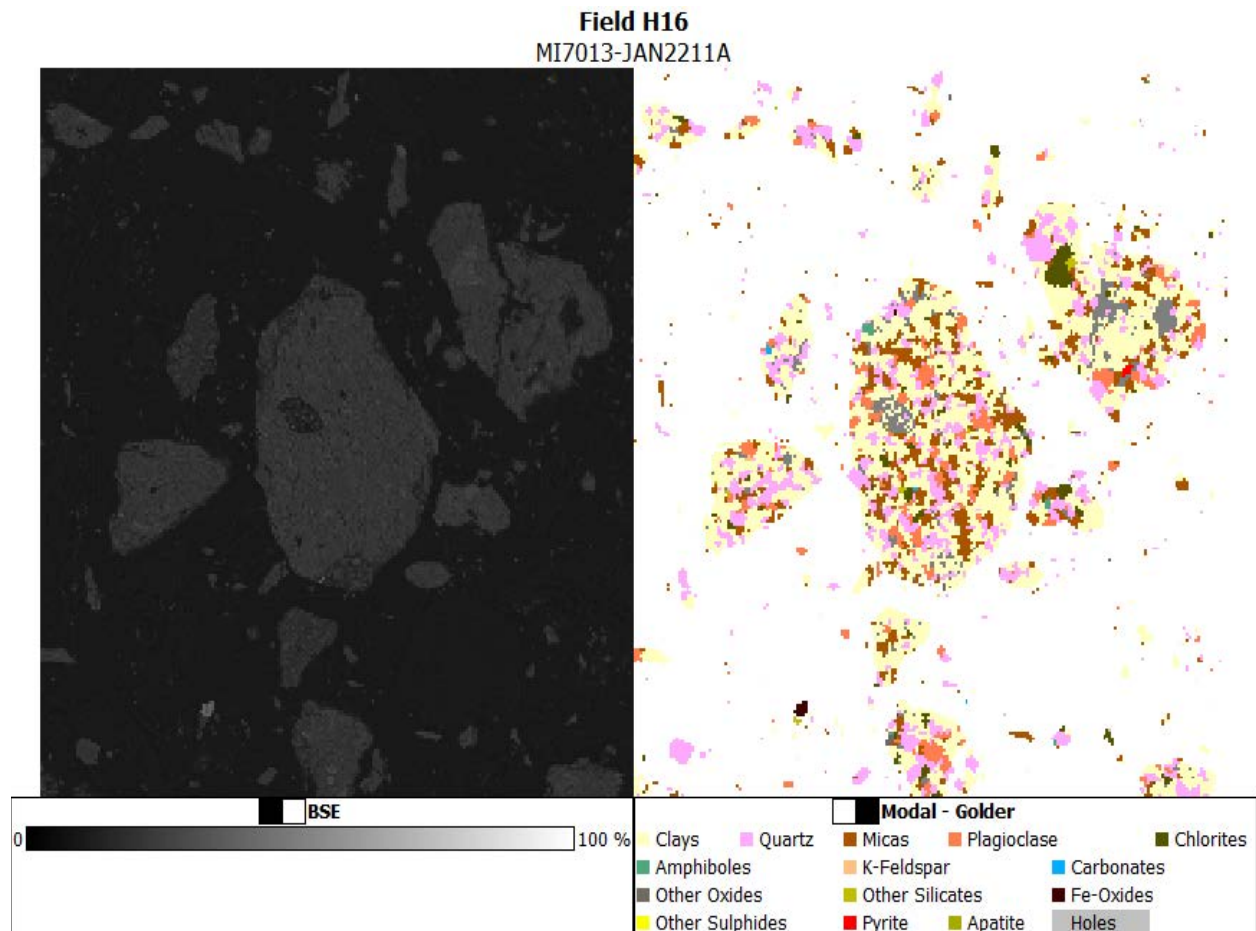
The occurrence of jarosite in two samples collected from mine spoils in GS-GSA-MW-8V and ranging from 7.0 to 14 weight percent, is notably significant, because jarosite is an iron-sulfate salt indicating the presence of acidic conditions as it only forms in a low-pH (<4) environment (Nordstrom and Alpers, 1999). This indicates that acidic conditions in the aquifer existed long before any groundwater impacts (or flow) from the Gypsum Pond. The abundance of chamosite, pyrite and siderite contents support the availability iron minerals for the formation of jarosite.

The mineralogical data supports the occurrence and abundance of clay and mica minerals in the aquifer, and the occurrence of acidic conditions, prior to the construction of the Gypsum Pond. The occurrence of acidic conditions, documented historically (jarosite mineral formation) to current (pH values observed

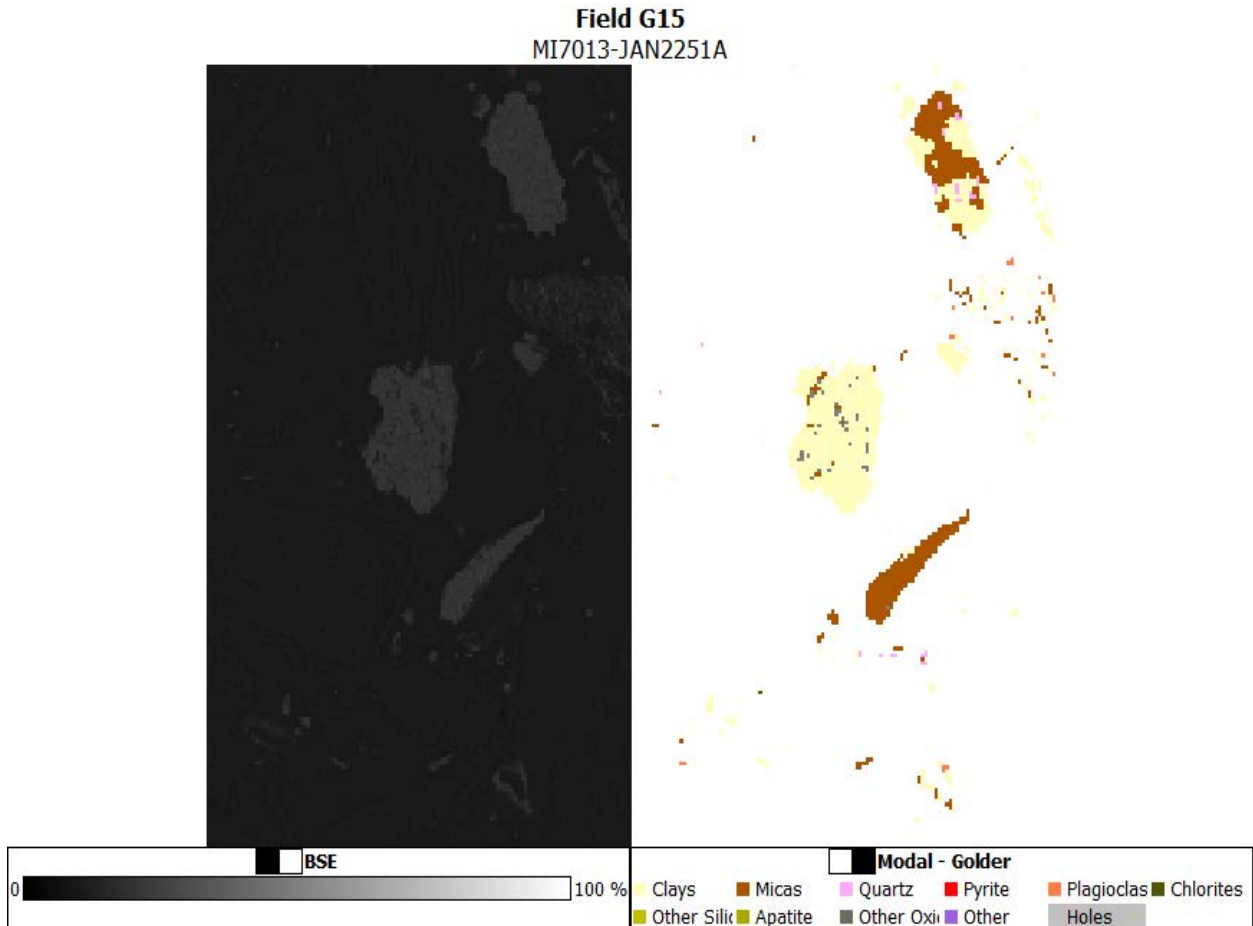
below 4.0 standard units (SU)), provide a mechanism for the weathering of silicate minerals, and subsequently, the mobilization of major and trace elements, including lithium, to groundwater from exchangeable and oxide fractions of iron and manganese under reducing conditions.

#### 6.4.4 Electron Microprobe Results

To further evaluate the mineralogy of the samples in greater detail, select samples were further analyzed by EMPA as described in **Section 5.4.5**. This analysis offers greater detail and allows for images to be generated that highlight the different minerals where lithium is present in thin sections of a given sample. Modal percentages of minerals quantified by EMPA are provided in **Table 10, EMPA & TIMA-X Modals Summary**. The EMPA data demonstrates that clays and micas constitute the predominant minerals in five samples, while in other samples, these minerals are present in significant amounts closely after quartz. An example EMPA image is provided below; the analytical report is presented in **Appendix B**.



**Image 1:** MW-3V-170-180 EMPA results show the variety of different minerals identified with the EMPA analysis. The light yellow and brown pixels indicate clay and mica, and on average the lithium concentration in each of these points is 475.31 parts per million (ppm).



**Image 2:** MW-8V-81-84 was collected from mine spoils in the upper intervals of GS-GSA-MW-8V. The sample is predominantly composed of micas and clay (88.90%) and the average lithium concentration in each point is 435.86 ppm.

Based on the EMPA data, approximately fifty-point counts were performed in each sample and the oxide contents are reported in **Appendix B**. As shown on **Figure 11, LA ICP-MS Results, Silica vs. Aluminum Oxide**, plots of these point count data indicate that  $\text{SiO}_2$  and  $\text{Al}_2\text{O}_3$  are inversely related suggesting that  $\text{Al}_2\text{O}_3$  content can be a proxy for increased weathering or clay mineral content.

The TIMA-X mineral data were combined with the EMPA data to identify the association of lithium to specific minerals. **Table 8** shows high lithium concentrations are associated with clays and micas, as

identified by the high resolution EMPA. Assuming increased  $\text{Al}_2\text{O}_3$  content as a proxy for increased weathering, **Figure 12, LA ICP-MS Results, Lithium vs. Aluminum Oxide** shows that lithium is generally higher when  $\text{Al}_2\text{O}_3$  contents are higher. Supporting this finding, bulk correlation coefficients on EMPA data show highest positive correlations between lithium and  $\text{Al}_2\text{O}_3$  (0.52),  $\text{TiO}_2$  (0.22). However, with increasing lithium content (lithium greater than 500 mg/kg),  $\text{TiO}_2$  (0.38),  $\text{FeO}_2$  (0.37), and F (0.22) show nearly the same or slightly higher than  $\text{Al}_2\text{O}_3$  (0.31).

These plots and data analyses demonstrates the co-occurrence of enriched lithium within clay and mica material at the Site, and highest lithium enrichment, also equally associated with titanium and iron oxide minerals. Based on the TIMA-X and EMPA analyses, it is apparent that (1) clays and micas host lithium in the aquifer solids and, (2) weathering over an extended period, provides a secondary source of lithium in the iron/manganese oxides and easily available metals fractions in the aquifer solids.

#### 6.4.5 SEP Results

The association of lithium to specific fractions (or phases) of aquifer solids was evaluated using SEP as described in **Section 5.4.4**. Results from the SEP analysis are presented in **Table 11, Lithium SEP Results Summary**. The vast majority (98.4 to 99.3%) of lithium in the aquifer overburden is bound in the residual fraction (step 6) with 0.7 to 1.6% of lithium is associated with the fractions that are less strongly bound compared to the residual fraction (**Table 11**). Compared to an average of 131 mg/kg in the step 6 residual fraction, an average of 0.4382 mg/kg was extracted from the samples in stages one through five.

Lithium is largely available in the exchangeable and iron/manganese oxide fractions. On average, 0.1667 mg/L of lithium was extracted from the exchangeable metals fraction and ranged from 0.030 mg/L (MW-8V-155-160 and MW-4V-130-140) to 0.500 (MW-8V-81-84). On average, 0.1933 mg/L of lithium was extracted from the iron and manganese oxide fractions and concentrations ranged from 0.060 mg/L (MW-12H-60-64) to 0.300 mg/L (MW-3V-180-190, MW-9H-40-50, MW-8V-81-84). The total amount of lithium extracted during the SEP analysis ranged from 0.161 mg/L (MW-12H-60-64) to 0.917 mg/L (MW-8V-81-84) with the average amount being 0.465 mg/L.

While much of the lithium resides in the residual stage and was not mobilized from the preceding five fractions (water soluble, exchangeable, bound to carbonates, bound to iron/manganese oxides, bound to organics), concentrations of lithium similar to observed groundwater concentrations were mobilized, especially from the exchangeable metals and iron/manganese oxide fractions.

Occurrences of lithium in the exchangeable and iron/manganese oxide fractions are likely derived from the residual silicate fraction that provides the original source and the subsequent incorporation or adsorption of lithium onto the exchangeable and oxide phases. Natural weathering of shale/mudstone, coal seams, and mine spoils provides the available lithium for release, primarily in the exchangeable and iron/manganese fractions. Since lithium is not affected by pH or redox changes, natural weathering is the primary source of lithium to groundwater at the Site. As shown on **Figure 13, Fraction Lithium Concentrations vs. GWPS** and summarized in **Table 11**, the amount of lithium extracted in these two fractions range from 0.100 mg/L to 0.800 mg/L and averages 0.360 mg/L, which provides a significant match with concentrations observed in Site groundwater monitored by detection and delineation wells, where concentrations range from 0.052 to 0.671 mg/L, and averages 0.318 mg/L (102 samples). Upgradient well MW-3 and piezometers show similar ranges but slightly lower averages. Elevated concentrations of extracted lithium are observed in samples collected from mine spoils (MW-8V-81-84) and samples where the mudstone/shale was highly weathered and there were abundant fractures (MW-3V-180-190).

#### **6.4.6 SPLP Results**

As discussed in **Section 5.4.2**, SPLP analysis was conducted on the twelve samples collected from the Site. While the laboratory test is not truly representative of natural conditions at the site and is unable to fully characterize the availability of lithium, it is a relatively straightforward test to determine if lithium is present in site materials and whether it can be readily mobilized under acidic conditions. **Table 12, SPLP Results**, summarizes the lithium concentrations observed from the SPLP analysis.

Results from the SPLP analysis do generally indicate that lithium is available in geologic materials at the site. After 18 hours, lithium concentrations in the leachate ranged from 0.00108 mg/L (MW-9H-50-60) to 0.199 mg/L (MW-8V-81-84) with an average concentration of 0.0461 mg/L. Relatively higher lithium concentrations were observed in MW-3V-180-190 (0.134 mg/L), MW-8V-81-84 (0.199 mg/L), and MW-9H-40-50 (0.136 mg/L). The highest concentration observed (MW-8V-81-84 at 0.199 mg/L) was collected from mine spoil material in GS-GSA-MW-8V which correlates laterally to the screen elevation and lithology of GS-GSA-MW-3 as shown on **Figure 7**. Other elevated concentrations were typically observed in samples collected from weathered shale and mudstone intervals with healed and mineralized fractures.

The removal of lithium in these samples indicate the removal of adsorbed phases of lithium onto the aquifer solids. The SEP data, described earlier, highlights the availability of lithium from exchangeable and iron/manganese oxides phases to groundwater at the Site. Overall, SEP and SPLP data are in relatively good agreement with regards to the sorbed fraction.

#### 6.4.7 Geologic and Hydrogeologic Cross-Correlations and Interpretation

Average lithium concentration in the earth's crust is reported as 30 mg/kg and range from 18 to 65 mg/kg (Smith and Huyck, 1999). Lithium concentrations noted at the Site are significantly higher than average crustal abundance and suggest a natural abundance of lithium in the aquifer solids. This is in good agreement with Goldhaber et al., (2000) and Diehl et al., (2004) who reported elevated concentrations of trace metals in coal-bearing strata of the Warrior Basin. These studies, focused largely on coal seams, attributed enrichment in trace metals to pyrite and clay mineral (illite/smectite) in-filling of veins and fractures. The series of maps presented in Goldhaber et al., (2000) shows Plant Gorgas in or within close proximity of a northwest-southeast trending zone of enrichment – likely along a regional fault.

Composite analysis of the data presented in the previous sections demonstrates dominate relationships between enriched lithium concentrations and increased contents of clay minerals/micas (**Table 8** and **Figure 10**) and iron oxides (**Figure 9**). This is also supported by whole rock chemistry data which shows a strong tendency for elevated lithium to occur with higher concentrations of aluminum and magnesium (**Table 8** and **Figure 9**) as these major elements are predominant in clays and micas. Excluding the MW-3V-180-190 sample, shown on **Figure 9**, the coefficient of determination ( $R^2$ ) is approximately 0.86 or 86% based upon a logarithmic regression between lithium and clay mineral contents. This suggests that lithium concentrations are strongly correlated to the clay content, and thus, reflect its occurrence and association in the aquifer matrix. The GSA-MW-3V (MW-3V 180-190) sample displays elevated pyrite and iron oxides with respect to the other samples and suggests, a secondary mineral source or fraction of lithium, as indicated by the EMPA, TEMA-X, and XRF data.

These plots and data analyses demonstrates the co-occurrence of enriched lithium within clay and mica material at the Site, and highest lithium enrichment, also equally associated with secondary (e.g. iron) oxide minerals. Based on the TIMA-X and EMPA analyses, it is apparent that (1) clays and micas host lithium in the aquifer solids and, (2) weathering over an extended period, provides a secondary source of lithium in the iron/manganese oxides and easily available metals fractions in the aquifer solids. The association of lithium to clay minerals is well established in other studies (Starkey, 1987; Williams and Hervig, 2005; Hoyer, 2015; EPRI, 2018) and this is clearly demonstrated in (**Table 8** and **Figure 10**) the previous sections of this report. As described in **Section 6.2**, lithium and boron are known to be hosted by clay minerals in fine-grained sediments and shale/mudstones have been documented to be enriched in lithium (Castor and Henry, 2020).

Lithium concentrations in rocks and overburden show a distinct association with the sample lithology; higher lithium concentrations are noted in samples collected from the coal seams, mine spoils, and shale/mudstone units compared to the sandstone or sandstone interlayered with shale units. **Figure 7** shows the lithium concentration data for aquifer solids and groundwater presented on the lithologic cross-section through wells with historical lithium SSLs.

Because the uppermost aquifer (saturated zone) occurs in the overburden consisting of mine spoils or in coal seams in the upper bedrock (since the coal seams provide preferential pathways for groundwater flow), the detection wells are often screened in these lithologies that are a source for lithium. Higher lithium concentrations in aquifer solids are noted in GS-GSA-MW-3V and GS-GSA-MW-3, and GS-GSA-MW-4, whereas the lowest lithium concentrations are noted deeper in the sandstone bedrock. While there is a reduction in lithium concentration in the underlying sandstone bedrock, lithium is still slightly enriched, likely because of the geologic setting of the Site and longer residence time of deeper, older groundwater.

Elevated lithium in groundwater appears to correspond with elevated lithium concentrations in Site geologic materials. Groundwater samples collected during the January 2022 sampling event from wells with screen intervals that correspond to the mine spoils to bedrock interface exhibited elevated lithium concentrations (0.671 mg/L in GS-GSA-MW-4 and 0.31 mg/L in GS-GSA-MW-3), and mine spoil rock samples from GS-GSA-MW-8V exhibited total lithium concentrations of 243 to 367 mg/kg. The groundwater sample collected from GS-GSA-MW-3V exhibited a lithium concentration of 0.347 mg/L and the corresponding rock sample collected from the same interval exhibited a concentration of 299 mg/kg, likely due to the presence of the Gillepsy coal seam. Higher lithium concentrations in groundwater are observed in wells with screen intervals that intercept or are proximal to mine spoils, coal seams, or highly weathered shale, while lower concentrations are observed in screen intervals that intercept sandstone and other lithologies at the site. The same pattern is observed in rock samples where higher concentrations of lithium are observed in samples collected from or proximal to mine spoils (MW-8V-81-14, MW-8V-94-97), coal seams (MW-3V-180-190) and lower concentrations are associated with other lithologies.

Additionally, the three wells and piezometers with highest observed lithium concentrations (GS-GSA-PZ-17, GS-GSA-MW-4, GS-GSA-MW-14H) exhibit three of the five lowest pH wells at the site and three of the five highest oxidation reduction potential (ORP) averages at the site, matching SEP results where lithium was naturally available in the exchangeable fraction (i.e., mobilized under low pH) and the oxidizable (iron-manganese) fraction (i.e., mobilized by oxidation). **Figure 14, Lithium vs. pH & ORP,**

shows many wells with elevated average lithium concentrations at the site also exhibit elevated average pH and ORP.

## 6.5 Alternate Source Demonstration Summary

Using the data discussed in **Sections 6.1** through **6.4**, we conclude the source of lithium in groundwater at Gorgas Gypsum Pond as natural in aquifer solids, including mine spoils, coal seams, and weather mudstone and shale. Our conclusions are summarized in in **Table 13, ASD Summary**.

The following lines of evidence demonstrate the absence of a CCR source signature in Site groundwater:

1. If the Gypsum Pond was the source of lithium in groundwater, logic dictates that lithium concentrations in leachate to be equal to or greater than the concentrations observed in groundwater. However, lithium occurs at low concentration (0.033 mg/L) in the Gypsum Pond leachate, significantly lower than lithium concentrations in site monitoring wells exhibiting SSLs or exceedances (0.262 to 0.671 mg/L) at the Site.
2. The boron isotopic composition of Site groundwater is comparable to the compositions reported in groundwater recharged by meteoric water, as indicated by positive (enriched)  $\delta^{11}\text{B}$  signatures in Site groundwater. A CCR signature, in contrast, would show a depleted (negative)  $\delta^{11}\text{B}$  signature. The presence of dissolved oxygen in groundwater, further support the infiltration of recharge water to significant depths.
3. Boron-lithium ratios in groundwater do not correspond to the leachate source sample ratio and in most cases more closely resemble SPLP data from the rock core samples collected at the site. In instances where boron-lithium ratios do not match SPLP data from the rock core samples (GS-GSA-MW-3, GS-GSA-MW-4, and GS-GSA-MW-4V), the boron-lithium ratios do not match the CCR ratios either and thus likely reflect variable conditions as expected in groundwater flow through overburden mine spoils.

In contrast, natural occurrences of enriched lithium have been observed and confirmed by multiple methods of analyses. Each of these independent analyses agree with the results published by Goldhaber et al., (2000), Diehl et al., (2004), and Diehl et al., (2005) which document a natural enrichment of trace metals in Pottsville Strata of the Warrior Basin. Furthermore, the modes of lithium occurrence and mineralogical associations presented in this study match those presented by Williams and Hervig (2005) as well as Castor and Henry (2020). The list below summarizes the findings of naturally occurring lithium at the Site.



1. Elemental analyses of core samples demonstrate that weathered shale, mudstone, coal seams, and mine spoils at the site are the alternate sources for lithium in groundwater. These aquifer materials contain lithium at high concentrations (30 to 367 mg/kg), significantly higher than the crustal average of 30 mg/kg.
2. High resolution quantitative mineralogical analysis using TIMA-X shows clay and mica contents that occur in abundance similar to or greater than the quartz contents in the aquifer solids. EMPA confirms the abundances of clays and micas in the aquifer solids through high-resolution images and quantitative data. At the Site and geologically, clay minerals are pervasive in mudstone/claystone, shale, and as vein/cell filling minerals in coal discontinuities.
3. A comparison of lithium concentration data using LA ICP-MS on solid samples, selected and guided by EMPA data, demonstrates high lithium concentrations in clays and micas and the low (or below detection) amounts of lithium in quartz, plagioclase, and other secondary minerals.

Beyond documenting the modes, distribution, and concentration of naturally occurring lithium, this study also demonstrated that lithium is sufficiently available to mobilize into groundwater and provides an explanation for lithium concentrations observed in groundwater. The following summarizes mobilization of lithium to groundwater.

1. SPLP results indicate that lithium is (A) naturally widespread in the aquifer matrix, (B) available for dissolution and redistribution on the aquifer matrix phases due to chemical weathering of mine spoils and coal seams under moderately acidic condition, and (C) readily mobilized from iron and manganese oxides under moderately reducing condition.
2. SEP data confirms the primary source of lithium in residuals (silicate) fraction of aquifer solids. The amount of lithium in easily available and iron/manganese oxide fractions (steps 2 and 4 of SEP) are comparable to range of lithium concentrations in the dissolved groundwater.

Observations from Site data, also agree with the mobilization of lithium from naturally occurring sources. Key observations relating to these points made in the document are:

1. Lithium concentrations in groundwater appear higher in lithologic strata dominated by clay and mica mineralogy.
2. Ranges and averages for lithium in Site groundwater (range from 0.052 to 0.671 mg/L, and averages 0.318 mg/L in detection and delineation wells installed within or underneath mine

spoils) are remarkably well matched with lithium concentrations mobilized in exchangeable (F2) and oxide fractions (F4) (range from 0.100 mg/L to 0.800 mg/L and averages 0.360 mg/L).

3. The three wells and piezometers with highest observed lithium concentrations (GS-GSA-PZ-17, GS-GSA-MW-4, GS-GSA-MW-14H) exhibit the three of the five lowest pH wells at the site and three of the five highest oxidation reduction potential (ORP) averages at the site, matching SEP results where lithium was naturally available in the exchangeable fraction (i.e., mobilized under low pH) and the oxidizable (iron-manganese) fraction (i.e., mobilized by oxidation).
4. In multiple wells, boron-to-lithium ratios in Site groundwater present very similar to the boron-to-lithium ratios in leachate derived from SPLP testing on Site rock and mine spoil samples.

This report demonstrates that Gypsum is not the source of lithium to groundwater at the Site and identifies an alternate source in the aquifer solids. Detailed mineralogical data along with whole rock analysis and groundwater data indicate that weathering of clays and micas in the overburden and bedrock aquifer provide the source of lithium to secondary minerals. Dissolution from the secondary minerals facilitates the occurrence of lithium in groundwater at the Site. Occurrence of mineral jarosite in the aquifer indicates that acidic conditions were present prior to the operation of Gypsum Pond and the boron isotopic composition reflects infiltration of meteoric recharge rather than a pond source.

## 7.0 CONCLUSION

The evaluation presented in this report demonstrates the statistically significant levels of lithium, historically identified in groundwater, are not due to releases from the Plant Gorgas Gypsum Pond. Rather, lithium occurs naturally in aquifer solids including mine spoils, coal seams, and weathered shale/mudstone layers.

This report demonstrates that the SSLs for lithium in site monitoring wells are the result of natural variation in groundwater quality related to the presence of naturally occurring lithium in clay minerals in the aquifer solids and in the mine spoils at the site, and mobilization of lithium during subsequent weathering from the mine spoils that constitute a significant part of the subsurface overburden profile in many of these monitoring wells. Based on evaluation of Site data, lithium occurs in the overburden and bedrock aquifers at concentrations significantly above crustal abundance and groundwater conditions support the mobility of lithium from the aquifer solids into groundwater at the Site.

This ASD has been prepared in response to the identification of SSLs and GWPS for lithium during assessment monitoring. In accordance with 40 CFR § 257.95 (g)(3)(ii) and r. 335-13-15-.06(6)(g)4.(ii), this ASD demonstrates that the exceedances are not the result of a release from the Gorgas Gypsum Pond. Therefore, routine groundwater monitoring should continue at the Site and no further action, such as implementing corrective action or further delineation in these areas, is necessary.

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# Tables

**Table 1, Occurrence of Lithium & Boron in Pottsville Coal Seams**

<b>Data Source</b>	<b>Lithium (ppm)</b>			<b>Boron (ppm)</b>		
	<b>Minimum</b>	<b>Maximum</b>	<b>Consensus</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Average</b>
Pottsville Coal Seams	1	128	28	6.3	83.6	35
Crustal Abundance	18	65	8	3.0	50.0	10

Notes:

1. Pottsville coal seams data from the United States Geological Survey (USGS) National Coal Data System (NRCDS). Includes 75 samples from the Pratt, Nickel Plate, and American coal seams.
2. Crustal abundance values from Smith, K.S. and Huyck, H.L.O, 1999, An Overview of the Abundance, Relative Mobility, Bioavailability, and Human Toxicity of Metals, Table 2.8, pg. 40.



**Table 2, Monitoring Well Network Details**

<b>Well ID</b>	<b>Hydraulic Location</b>	<b>Geologic Unit</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Ground Surface Elevation (ft NAVD)</b>	<b>Top Of Casing Elevation (ft NAVD)</b>	<b>Well Depth (ft BTOC)</b>	<b>Top Of Screen Elevation (ft NAVD)</b>	<b>Bottom Of Screen Elevation (ft NAVD)</b>	<b>Screen Length (ft)</b>
GS-GSA-MW-3	Downgradient	Pottsville	33.65344	-87.21650	439.75	442.63	129.68	323.35	313.35	10.00
GS-GSA-MW-4	Downgradient	Pottsville	33.65376	-87.21617	439.44	442.10	107.86	344.64	334.64	10.00
GS-GSA-MW-12H	Vertical Delineation	Pottsville	33.65216	-87.21777	396.73	399.73	67.50	342.23	332.23	10.00
GS-GSA-MW-3V	Vertical Delineation	Pottsville	33.65339	-87.21655	439.60	442.68	192.65	260.43	250.43	10.00
GS-GSA-MW-9V	Vertical Delineation	Pottsville	33.65075	-87.21589	333.32	336.22	95.07	251.55	241.55	10.00
GS-GSA-MW-14H	Horizontal Delineation	Overburden-Pottsville	33.65154	-87.21816	400.86	403.66	28.50	385.56	375.56	10.00

Notes:

1. ft - feet
2. NAVD - elevation in feet, referenced to North American Vertical Datum
3. BTOC - feet below top of casing
4. Coordinates have been transformed into WGS 84 from NAD 27/83

**Table 3, Parameters and Methods**

<b>Appendix III Parameters</b>		
<b>Parameters</b>	<b>Analytical Methods</b>	<b>Units of Measure</b>
Boron	EPA 200.7	mg/L
Calcium	EPA 200.7	mg/L
Chloride	SM4500Cl E	mg/L
Fluoride	SM4500F G 2017	mg/L
pH_Field	Field Sampling	SU
Sulfate	SM4500SO4 E 2011	mg/L
TDS	NA	mg/L
<b>Appendix IV Parameters</b>		
<b>Parameters</b>	<b>Analytical Methods</b>	<b>Units of Measure</b>
Antimony	EPA 200.8	mg/L
Arsenic	EPA 200.8	mg/L
Barium	EPA 200.8	mg/L
Beryllium	EPA 200.8	mg/L
Cadmium	EPA 200.8	mg/L
Chromium	EPA 200.8	mg/L
Cobalt	EPA 200.8	mg/L
Lead	EPA 200.8	mg/L
Lithium	EPA 200.7	mg/L
Mercury	EPA 245.1	mg/L
Molybdenum	EPA 200.8	mg/L
Selenium	EPA 200.8	mg/L
Thallium	EPA 200.8	mg/L
Combined Radium 226 + 228	Total Radium Calculation	pCi/L
<b>MNA-Specific Parameters</b>		
<b>Parameters</b>	<b>Analytical Methods</b>	<b>Units of Measure</b>
Alkalinity (total as CaCO <sub>3</sub> )	SM 2320 B	mg/L
Aluminum (total and dissolved)	EPA 200.8	mg/L
Bicarbonate Alkalinity (calculated)	SM 4500CO2 D	mg/L
Carbonate Alkalinity (calculated)	SM 4500CO2 D	mg/L
Iron (total and dissolved)	EPA 200.7	mg/L
Magnesium (dissolved)	EPA 200.7	mg/L
Manganese (total and dissolved)	EPA 200.8	mg/L
Nitrogen Nitrate/Nitrite	EPA 353.2	mg/L
Potassium (dissolved)	EPA 200.8	mg/L
Silica (dissolved)	EPA 200.7	mg/L
Sodium (dissolved)	EPA 200.7	mg/L
Sulfide	SM 4500-S2	mg/L
Total Organic Carbon	SM 5310 B	mg/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, 5310 – 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
10. Leachate sample was not analyzed for combined radium.

**Table 4, Boron Isotope Results**

Well ID	Date Collected	Hydraulic Location	Boron (Total)	$\delta^{11}\text{B}$	Indicated Source
			mg/L	‰	
GS-GSA-MW-3	7/14/2021	Downgradient	1.47	14.4	Meteoric
GS-GSA-MW-4	7/14/2021	Downgradient	4.78	2.8	Water-Rock Interaction, Clay-Mineral Dissolution
GS-GSA-MW-8	7/14/2021	Downgradient	2.07	33.6	Meteoric
GS-GSA-MW-3V	7/15/2021	Vertical Delineation	3.04	25.3	Meteoric
GS-GSA-MW-4V	7/14/2021	Vertical Delineation	3.68	-2.6	Clay-Mineral Dissolution, Coal/Mine Spoils
GS-GSA-MW-9H	7/13/2021	Horizontal Delineation	5.84	0	Water-Rock Interaction, Clay-Mineral Dissolution
GS-GSA-MW-12H	7/14/2021	Horizontal Delineation	0.0742	8.8	Meteoric
GS-GSA-MW-14H	7/13/2021	Horizontal Delineation	0.139	11.6	Meteoric

Notes:

1. Site data collected from the Gorgas Gypsum Pond during the second semi-annual sampling event of 2021

2.  $\delta^{11}\text{B}$  - isotopic boron

3. Indicated Source based on Bassett and Davidson, 1997, Nigro et al., 2016, Ruhl et al. 2014, Williams and Hervig 2014, Noireaux et al., 2020, and mineralogical analysis conducted by SGS. The source indicated reflects a range of  $\delta^{11}\text{B}$ , with enriched positive values reflecting meteoric signature and relatively lower  $\delta^{11}\text{B}$  reflecting increased groundwater interaction and mineral dissolution. Depleted  $\delta^{11}\text{B}$  (i.e., <-5) indicate increasing influence of CCR source due to increased partitioning of the lighter isotope.

**Table 5, Core Sample Description Summary**

Sample ID	Sample Interval (ft bgs)	Ground Surface Elevation (NAVD)	Sample Interval (NAVD)	Well Screen Interval (NAVD)	Sample Description
MW-3V-170-180	170 - 180	439.60	269.6 - 259.60	260.43 - 250.43	Weathered shale and mudstone, just above MW-3V well screen
MW-3V-180-190	180 - 190	439.60	259.6 - 249.60	260.43 - 250.43	Highly weathered shale, mudstone, and sandstone, healed fractures, within MW-3V well screen
MW-4V-130-140	130 - 140	439.29	309.29 - 299.29	207.08 - 287.08	Weathered shale and mudstone, within MW-4V well screen
MW-4V-140-150	140 - 150	439.29	299.29 - 289.29	207.08 - 287.08	Weathered shale and mudstone, within MW-4V well screen
MW-8V-81-84*	81 - 84	401.24	320.24 - 317.24	256.33 - 246.33	Mine spoils containing coal, shale, wood fragments, approx. 30 feet above MW-8 well screen
MW-8V-94-97	94 - 97	401.24	307.24 - 304.24	256.33 - 246.33	Mine spoils containing coal, shale, wood fragments, approx. 20 feet above MW-8 well screen
MW-8V-155-160	155 - 160	401.24	246.24 - 241.24	256.33 - 246.33	Weathered shale and mudstone, at bottom of MW-8V well screen
MW-8V-160-165	160 - 165	104.24	241.24 - 236.24	256.33 - 246.33	Weathered shale and mudstone, just below MW-8V well screen
MW-9H-40-50	40 - 50	333.04	293.04 - 283.04	285.94 - 275.94	Weathered shale and mudstone, within MW-9H well screen
MW-9H-50-60	50 - 60	333.04	283.04 - 273.04	285.94 - 275.94	Weathered shale, mudstone, and sandstone, healed fractures, within MW-9H well screen
MW-12H-60-64	60 - 64	396.73	336.73 - 332.73	342.23 - 332.23	Weathered shale and mudstone, within MW-12H well screen
MW-12V-120-130	120 - 130	376.76	256.73 - 246.73	257.16 - 247.16	Weathered shale, mudstone, and sandstone, healed fractures, within MW-12V well screen

Notes:

1. ft - feet
2. NAVD - elevation in feet, referenced to North American Vertical Datum
3. bgs - below ground surface
4. Samples selected from available core and sampled on 12/9/2021
5. \* - sample interval and geologic material also corresponds to GS-GSA-MW-3 well screen (approximately 313 - 323 ft NAVD)

**Table 6, Core Sample Analysis Summary**

<b>Sample ID</b>	<b>Metals by Aqua Regia</b>	<b>Metals by Multi-Acid Digestion</b>	<b>SPLP</b>	<b>WRA &amp; XRF</b>	<b>XRD</b>	<b>SEP</b>	<b>Mineralogy</b>
MW-3V-170-180	X	X	X	X	X		
MW-3V-180-190	X	X	X	X	X	X	X
MW-4V-130-140	X	X	X	X	X	X	X
MW-4V-140-150	X	X	X	X	X		
MW-8V-81-84	X	X	X	X	X	X	X
MW-8V-94-97	X	X	X	X	X		
MW-8V-155-160	X	X	X	X	X	X	X
MW-8V-160-165	X	X	X	X	X		
MW-9H-40-50	X	X	X	X	X	X	X
MW-9H-50-60	X	X	X	X	X		
MW-12H-60-64	X	X	X	X	X	X	X
MW-12V-120-130	X	X	X	X	X		

Notes:

1. Metals by aqua regia - solid fraction of the sample submitted to aqua regia digestion which releases elements absorbed to clay particle or iron/manganese oxides.
  
2. Metals by multi-acid digestion - near-total metals analysis whereby the amount of particular elements in a sample can be determined.
3. SPLP - Synthetic Precipitation Leaching Procedure by EPA Method 1312 is an extraction test that can determine the mobility of constituents under acidic conditions.
4. WRA & XRF - Whole Rock Analysis is completed by X-Ray Fluorescence spectroscopy to look at the elemental composition of the sample
5. XRD - X-Ray Diffraction provides the composition of the rock by identified crystalline minerals in weight percent.
6. SEP - Sequential extraction procedures are used to determine the metals associated with various solid phases (i.e., iron/manganese oxides).
7. Mineralogy - determined using TESCAN Integrated Mineral Analyzer Scan (TIMA) with four x-ray analysis modes and electron microprobe analysis

**Table 7, Gypsum Pond Leachate & Groundwater Results Comparison**

Sample ID	Sample Description	Lithium Concentration (mg/L)			
		Minimum	Average	Maximum	Recent
GS-GSA-SP-1	Leachate (Emergency Storage Pond)	--	--	--	<0.007105
GS-GSA-SP-2	Leachate (Clear Pool)	--	--	--	0.0299
GS-GSA-SP-3	Leachate (Sedimentation Pond)	--	--	--	0.0330
GS-GSA-MW-3	Downgradient Well	0.285	0.439	0.533	0.285
GS-GSA-MW-4	Downgradient Well	0.0556	0.299	0.647	0.647
GS-GSA-MW-3V	Vertical Delineation Well	0.309	0.399	0.460	0.352
GS-GSA-MW-9V	Vertical Delineation Well	0.327	0.381	0.424	0.327
GS-GSA-MW12H	Horizontal Delineation Well	0.394	0.432	0.456	0.395
GS-GSA-MW14H	Horizontal Delineation Well	0.426	0.498	0.540	0.426

Notes:

1. All units in milligrams per liter (mg/L)
2. Minimum, average, maximum concentrations derived from data collected 2016 to present
3. Recent monitoring well data collected January 2022
4. Leachate data collected October 2021
5. Sample GS-GSA-SP-3 is most representative of source

**Table 8, Total Lithium Concentrations & Clay Mineral Abundance Summary**

Sample ID	Clay Mineral Abundance (weight %)			Total Aluminum Concentration (%)	Total Magnesium Concentration (%)	Total Iron Concentration (%)	Total Manganese Concentration (mg/kg)	Total Lithium Concentration (mg/kg)
	Clays Abundance (weight %)	Micas	Total Clay					
MW-3V-170-180	47.46	14.22	61.7	11.7	1.6	7.1	1,196.0	97
MW-3V-180-190	18.17	9.55	27.7	8.0	0.3	4.6	161.0	299
MW-4V-130-140	26.79	15.12	41.9	10.1	1.3	5.6	667.0	69
MW-4V-140-150	26.42	15.33	41.8	9.8	1.3	6.1	936.0	67
MW-8V-81-84	51.11	37.79	88.9	11.3	0.7	3.0	93.0	367
MW-8V-94-97	43.38	24.68	68.1	7.8	0.4	3.2	171.0	243
MW-8V-155-160	34.33	18.99	53.3	11.9	1.6	6.2	694.0	72
MW-8V-160-165	12.58	13.75	26.3	8.7	1.2	5.0	542.0	50
MW-9H-40-50	17.10	12.94	30.0	9.1	1.0	4.5	264.0	128
MW-9H-50-60	4.54	5.57	10.1	5.4	0.7	3.0	504.0	30
MW-12H-60-64	17.21	14.11	31.3	9.5	1.2	6.6	1,029.0	56
MW-12V-120-130	16.50	13.01	29.5	8.2	1.1	5.3	706.0	52

Notes:

1. Clay mineral abundance consisting of clay minerals (i.e., kaolinite, illite, etc.) and micas (i.e., muscovite, biotite, etc.) determined by TIMA-X
2. Total aluminum, magnesium, iron, manganese, and lithium concentrations from multi-acid digestion of total rock sample and analysis by ICP-MS
3. mg/kg - milligram per kilogram

**Table 9, XRD Results**

Mineral	MW-3V-170-180	MW-3V-180-190	MW-4V-130-140	MW-4V-140-150	MW-8V-81-84	MW-8V-94-97	MW-8V-155-160	MW-8V-160-165	MW-9H-40-50	MW-9H-50-60	MW-12H-60-64	MW-12V-120-130
	(wt %)	(wt %)	(wt %)	(wt %)	(wt %)	(wt %)	(wt %)	(wt %)	(wt %)	(wt %)	(wt %)	(wt %)
Quartz	36.3	56	42.2	39.1	24.5	43	33.8	42.8	54.2	57.8	43.6	40.2
Muscovite	22.9	8.9	11.9	12.8	15.2	8.4	22	16.6	8.9	5.3	15.7	15.8
Kaolinite	6.5	8.9	5.8	6.2	23	11.3	5.8	4.4	5.6	4.7	10.6	8
Chamosite	9.3	-	10.9	11.7	-	-	11.4	8.6	9	7.5	7.5	9
Clinochlore	-	0.5	-	-	5	6.2	-	-	-	-	-	-
Biotite	4.2	-	1.7	1.9	-	-	1.7	1.3	-	-	-	-
Microcline	3.7	4.7	10.3	11	6.9	10.2	10.4	7.7	7.8	5.8	6.5	7.9
Albite	9.9	9.6	9.5	10.9	3.1	6.3	10	14	9.7	15.1	10.2	12.3
Jarosite	-	-	-	-	14.2	7	-	-	2.6	-	-	-
Pyrite	-	6.5	2.6	1.2	3.6	2.6	1.3	1	1.3	-	-	-
Gypsum	-	1.2	1.2	1.3	2.8	4.2	-	-	-	-	0.6	-
Siderite	3.6	1.8	1	1.1	-	-	1	0.7	-	-	1.6	1.9
Rutile	0.9	1.1	1	1.1	1.6	0.8	1	0.7	0.9	0.8	0.8	0.9
Fluorapatite	2.6	-	-	1.7	-	-	-	-	-	-	1.9	2.3
Actinolite	-	-	-	-	-	-	1.5	1.2	-	-	-	-
Calcite	-	-	1.1	-	-	-	-	0.8	-	3	-	1.7
Lizardite	-	0.9	-	-	-	-	-	-	-	-	1.1	-
Calcite magnesian	-	-	0.8	-	-	-	-	-	-	-	-	-
<b>TOTAL</b>	<b>99.9</b>	<b>100.1</b>	<b>100</b>	<b>100</b>	<b>99.9</b>	<b>100</b>	<b>99.9</b>	<b>99.8</b>	<b>100</b>	<b>100</b>	<b>100.1</b>	<b>100</b>

Notes:

1. wt % - weight percent
2. XRD - X-ray diffraction



**Table 10, EMPA & TIMA-X Modals Summary**

Mineral	MW-3V-170-180	MW-3V-180-190	MW-4V-130-140	MW-4V-140-150	MW-8V-81-84	MW-8V-94-97	MW-8V-155-160	MW-8V-160-165	MW-9H-40-50	MW-9H-50-60	MW-12H-60-64	MW-12V-120-130
	%	%	%	%	%	%	%	%	%	%	%	%
Pyrite	0.102	3.251	2.137	0.622	2.625	3.711	0.434	0.391	0.783	0.136	0.366	0.16
Other Sulphides	0.016	0.003	0.011	0.013	0.021	0.011	0.035	0.026	0.005	0.009	0.014	0.008
Quartz	24.659	54.65	37.841	39.555	5.2	19.612	28.544	48.667	53.513	72.152	47.139	48.318
Other Silicates	0.215	0.382	0.205	0.229	0.722	0.466	0.135	0.158	0.594	0.213	0.331	0.316
Plagioclase	8.177	7.24	9.602	9.721	1.024	3.339	10.622	14.757	7.95	10.404	9.78	10.569
K-Feldspar	0.198	2.609	1.056	0.743	0.023	0.151	0.669	1.476	0.372	0.095	1.329	1.457
Micas	14.216	9.552	15.124	15.333	37.789	24.68	18.991	13.748	12.942	5.57	14.111	13.009
Chlorites	3.87	0.244	3.627	5.687	0.7	2.558	4.697	5.535	5.794	3.075	6.351	5.922
Clays	47.456	18.171	26.785	26.417	51.107	43.378	34.329	12.583	17.101	4.541	17.212	16.495
Amphiboles	0.057	0.002	0.024	0.029	0.013	0.005	0.046	0.03	0.012	0.016	0.018	0.041
Pyroxenes	0	0.007	0.002	0.003	0.005	0.004	0.001	0.005	0.004	0.002	0.008	0.003
Fe-Oxides	0.212	3.223	0.27	0.484	0.02	0.535	0.376	0.347	0.014	1.054	2.473	0.65
Other Oxides	0.361	0.622	0.492	0.518	0.1	0.379	0.459	0.654	0.696	0.681	0.582	0.609
Carbonates	0.331	0.015	2.454	0.469	0.035	0.063	0.403	1.278	0.018	1.852	0.045	2.221
Sulphates	0.002	0.004	0.037	0.001	0.47	0.787	0.01	0	0.008	0	0.022	0.007
Organic Carbon	0	0	0	0	0	0	0	0	0	0.001	0.001	0.001
Apatite	0.108	0.002	0.279	0.152	0.043	0.137	0.22	0.307	0.125	0.177	0.178	0.183
Other	0.021	0.023	0.053	0.024	0.103	0.184	0.028	0.039	0.07	0.022	0.04	0.03
Total	100.001	100	99.999	100	100	100	99.999	100.001	100.001	100	100	99.999

Notes:

1. EMPA - electron microprobe analysis
2. TIMA-X - TESCAN Integrated Mineral Analyzer
3. Abundances reported in percent (%)

**Table 11, Lithium SEP Results Summary**

SEP Stage	Units	MW-3V-180-190	MW-9H-40-50	MW-8V-81-84	MW-8V-155-160	MW-4V-130-140	MW-12H-60-64	Average
Stage 1 - Water Soluble	mg/kg	< 0.0945	< 0.0945	< 0.0945	< 0.0945	< 0.0945	< 0.0945	<0.0945
	mg/L	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.1
Stage 2 - Exchangeable Metals	mg/kg	0.1876	0.1839	0.4631	0.0274	0.0279	0.0369	0.1545
	mg/L	0.200	0.200	0.500	0.030	0.030	0.040	0.1667
Stage 3 - Metals Bound to Carbonates	mg/kg	0.0658	0.0162	0.0160	0.0258	0.0281	0.0199	0.0286
	mg/L	0.070	0.017	0.017	0.027	0.030	0.021	0.0303
Stage 4 - Metals Bound to Fe & Mn Oxides	mg/kg	0.2823	0.2815	0.2816	0.0953	0.0960	0.0572	0.1823
	mg/L	0.300	0.300	0.300	0.100	0.100	0.060	0.1933
Stage 5 - Metals Bound to Organics	mg/kg	0.0878	0.0776	0.0981	0.0671	0.0677	0.0385	0.0728
	mg/L	0.090	0.080	0.100	0.070	0.070	0.040	0.075
Total Stage 1 through 5	mg/kg	0.6235	0.5592	0.8588	0.2156	0.2197	0.1525	0.4382
	mg/L	0.660	0.597	0.917	0.227	0.230	0.161	0.465
Total Exchangeable & Fe/Mn Oxide Fractions	mg/kg	0.4699	0.4654	0.7447	0.1227	0.1238	0.0941	0.3368
	mg/L	0.500	0.500	0.800	0.130	0.130	0.100	0.360
Residual Metals	mg/kg	250	97	286	55	53	47	131

Notes:

1. Lithium concentrations provided in both milligram per liter (mg/L) and milligram per kilogram (mg/kg) for each stage
2. Fe - iron, Mn - manganese
3. Tessier extraction technique used for sequential extraction

**Table 12, SPLP Results**

<b>Sample ID</b>	<b>Sample Interval (ft bgs)</b>	<b>Ground Surface Elevation (NAVD)</b>	<b>Sample Interval (NAVD)</b>	<b>Lithium Concentrations (mg/L)</b>
MW-3V-170-180	170 - 180	439.60	269.6 - 259.60	0.0055
MW-3V-180-190	180 - 190	439.60	259.6 - 249.60	0.134
MW-4V-130-140	130 - 140	439.29	309.29 - 299.29	0.0079
MW-4V-140-150	140 - 150	439.29	299.29 - 289.29	0.0048
MW-8V-81-84	81 - 84	401.24	320.24 - 317.24	0.199
MW-8V-94-97	94 - 97	401.24	307.24 - 304.24	0.0536
MW-8V-155-160	155 - 160	401.24	246.24 - 241.24	0.0019
MW-8V-160-165	160 - 165	104.24	241.24 - 236.24	0.0019
MW-9H-40-50	40 - 50	333.04	293.04 - 283.04	0.136
MW-9H-50-60	50 - 60	333.04	283.04 - 273.04	0.00108
MW-12H-60-64	60 - 64	396.73	336.73 - 332.73	0.00514
MW-12V-120-130	120 - 130	376.76	256.73 - 246.73	0.00225

Notes:

1. ft - feet
2. NAVD - elevation in feet, referenced to North American Vertical Datum
3. bgs - below ground surface
4. Samples selected from available core and sampled on 12/9/2021
5. Extraction fluid pH = 4.20, test time = 18 hours, leachate analyzed for total metals by ICP-MS

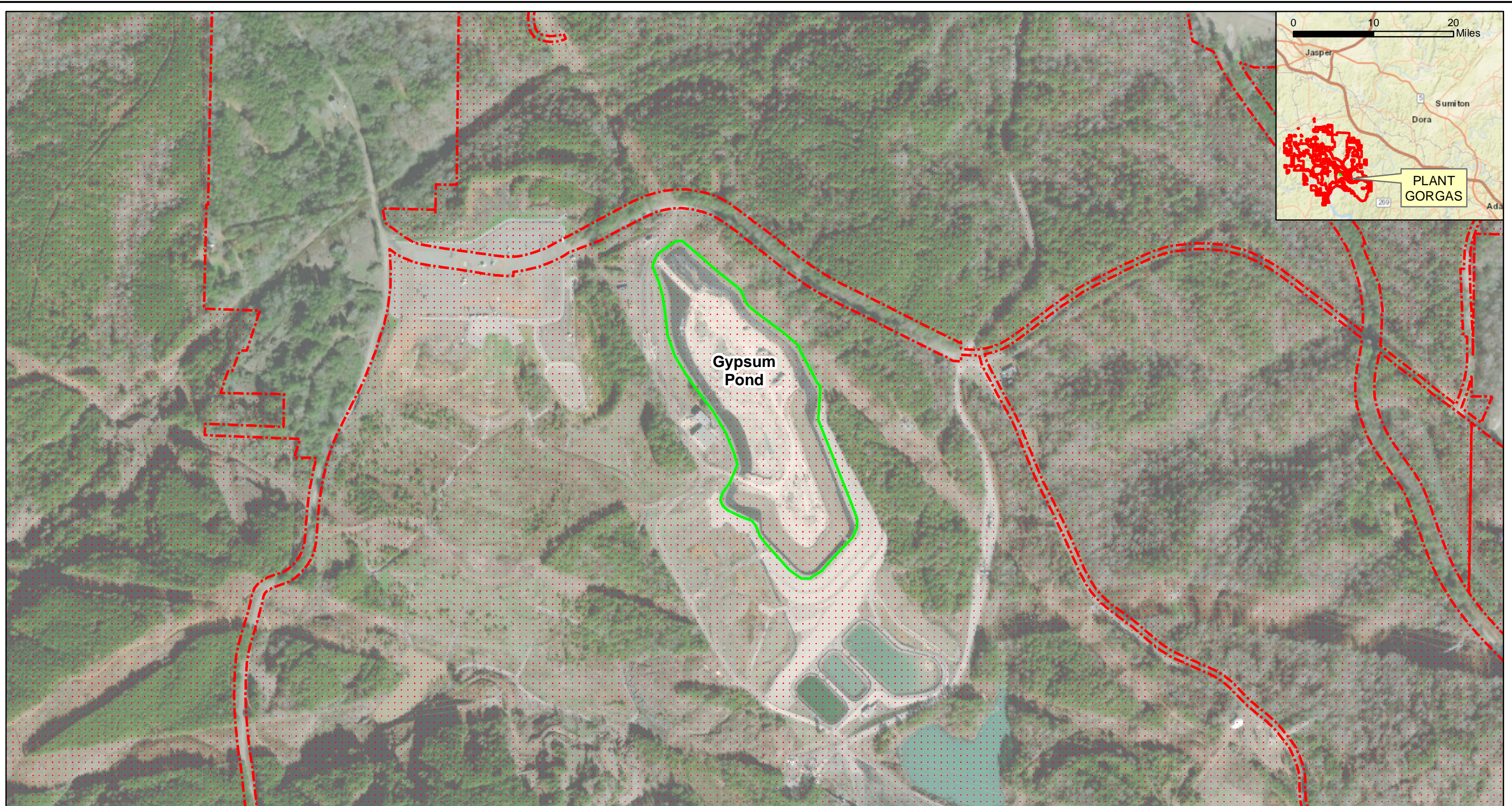
**Table 13, ASD Summary**

Line of Evidence	Gypsum Pond Source Potential	Boron Isotopic Signature	Lithium Trends and Correlations	Alternate Sources of Lithium	Availability of Lithium
<b>Well Location</b>	Lithium concentrations in Gypsum Pond leachate (0.033 mg/L) are much lower than the background derived GWPS (0.419 mg/L) and lithium concentrations observed in site groundwater. Therefore, the Gypsum Pond is an unlikely source for elevated lithium in groundwater.	Positive/enriched $\delta^{11}\text{B}$ signatures indicate meteoric source; lower values likely indicate water-rock interaction and clay-mineral dissolution. Depleted values ( $\delta^{11}\text{B} < -5\text{‰}$ ) are not observed at the site.	Lithium concentrations exhibit natural variability in response temporal changes in groundwater flow and chemistry. Additionally, lithium concentrations do not show specific correlations with CCR indicator parameters.	Analysis of core samples show weathered shale/mudstone, coal seams, and mine spoils contain elevated lithium concentrations (30 to 367 mg/kg), much higher than the crustal average of 30 mg/kg, and that lithium primarily occurs in clay/mica minerals which are abundant at the site.	SPLP, SEP, and groundwater results indicate lithium is widespread at the site primarily in the exchangeable and oxide fractions, available for dissolution through weathering of mine spoils and clay minerals under moderately low pH conditions, and readily mobilized from iron and manganese oxides under moderately reducing conditions.
GS-GSA-MW-3	✓	✓	✓	✓	✓
GS-GSA-MW-4	✓	✓	✓	✓	✓
GS-GSA-MW-3V	✓	✓	✓	✓	✓
GS-GSA-MW-9V	✓	No Sample Available	✓	✓	✓
GS-GSA-MW-12H	✓	✓	✓	✓	✓
GS-GSA-MW14H	✓	✓	✓	✓	✓

Notes:

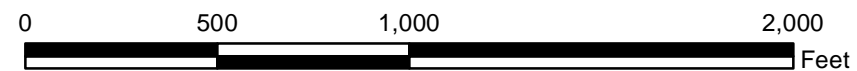
1. Li - lithium, B - boron
2. mg/L - milligram per liter, mg/kg - milligrams per kilogram
3. GWPS - groundwater protection standard
4. SPLP - synthetic precipitation leaching procedure
5. SEP - sequential extraction procedure

# Figures



**Legend**

- Gypsum Pond Boundary
- Property Boundary (Approximate)

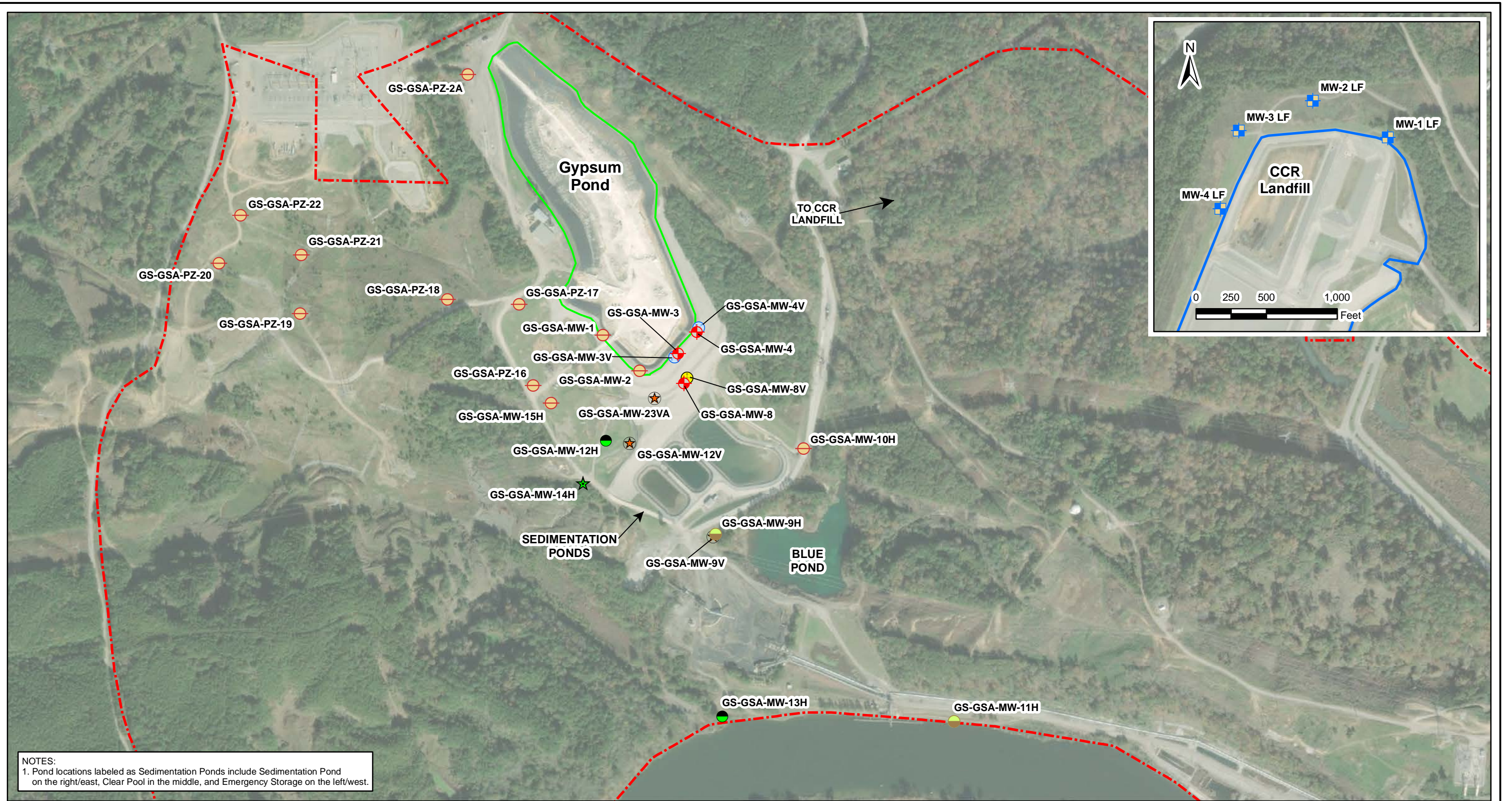


SCALE	1:6,000
DATE	11/10/2020
DRAWN BY	KWR
CHECKED BY	GBD

DRAWING TITLE  
**SITE LOCATION MAP  
 PLANT GORGAS GYPSUM POND**














FIGURE NO  
**FIGURE 1**

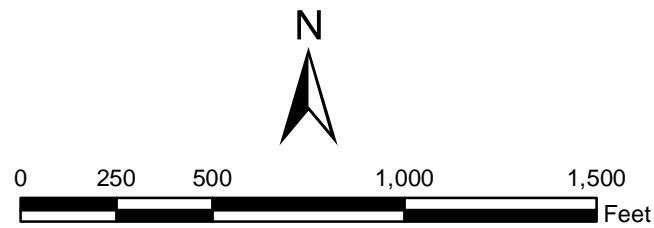




NOTES:  
 1. Pond locations labeled as Sedimentation Ponds include Sedimentation Pond on the right/east, Clear Pool in the middle, and Emergency Storage on the left/west.

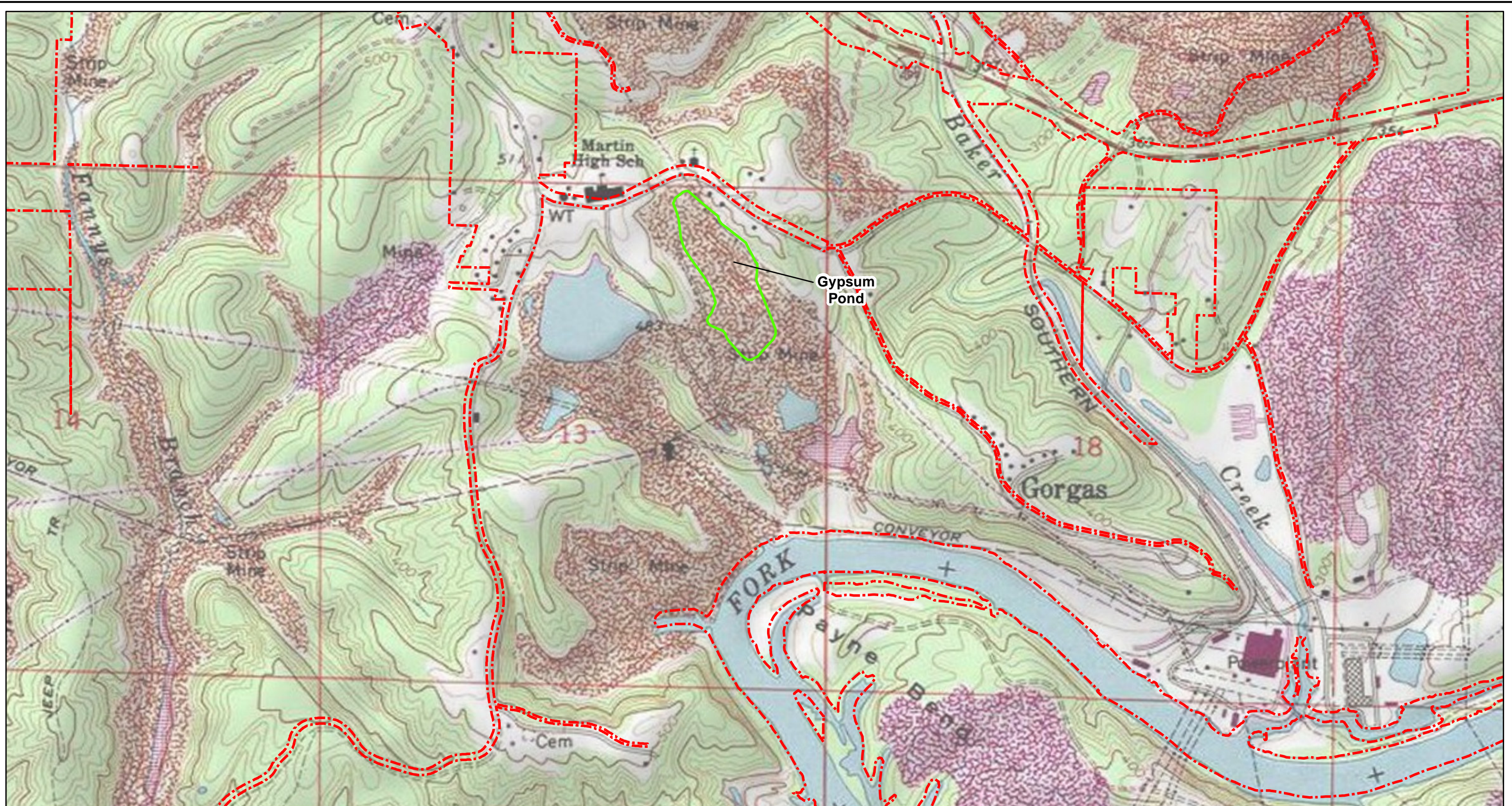
**Legend**

-  Downgradient Monitoring Well
-  Upgradient Monitoring Well
-  Piezometer; Piezometer
-  Phase I Horizontal Delineation Well
-  Phase II Horizontal Delineation Well
-  Phase III Horizontal Delineation Well
-  Phase I Vertical Delineation Well
-  Phase II Vertical Delineation Well
-  Phase III Vertical Delineation Well
-  Upgradient Monitoring Well
-  Property Boundary (Approximate)
-  Gypsum Pond Boundary
-  Gypsum CCR Landfill Boundary



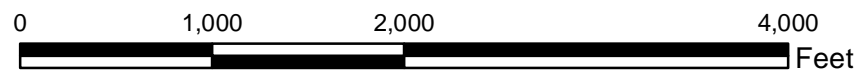
SCALE	1:6,000
DATE	6/8/2022
DRAWN BY	KAR
CHECKED BY	RFS

DRAWING TITLE	
<b>MONITORING WELL LOCATION MAP PLANT GORGAS GYPSUM POND</b>	
FIGURE NO	<b>FIGURE 2</b>
	



**Legend**

- Gypsum Pond Boundary
- Property Boundary (Approximate)



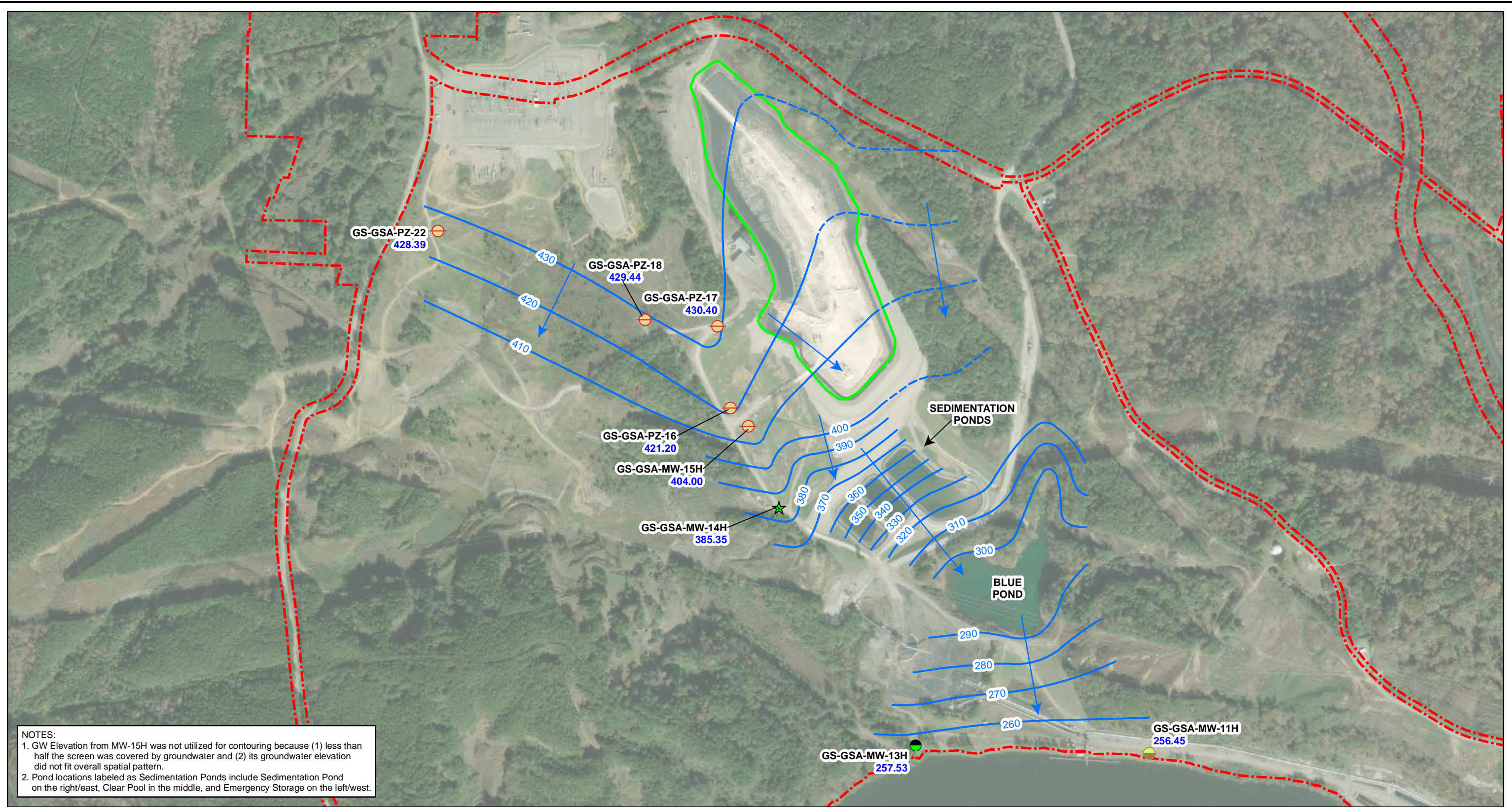
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DATE	11/10/2020
DRAWN BY	KWR
CHECKED BY	GBD

DRAWING TITLE  
**SITE TOPOGRAPHIC MAP  
 PLANT GORGAS GYPSUM POND**

FIGURE NO  
**FIGURE 3**







NOTES:  
 1. GW Elevation from MW-15H was not utilized for contouring because (1) less than half the screen was covered by groundwater and (2) its groundwater elevation did not fit overall spatial pattern.  
 2. Pond locations labeled as Sedimentation Ponds include Sedimentation Pond on the right/east, Clear Pool in the middle, and Emergency Storage on the left/west.

**Legend**

- Phase I Horizontal Delineation Well
- Phase II Horizontal Delineation Well
- ★ Phase III Horizontal Delineation Well
- Piezometer
- Potentiometric Surface Contour (ft NAVD88)
- - - Inferred Potentiometric Surface Contour (ft NAVD 88)
- Approximate Groundwater Flow Direction
- · - · - Property Boundary (Approximate)
- Gypsum Pond Boundary

GS-GSA-PZ-17 Well ID  
 430.40 Groundwater Elevation



SCALE	1:6,000
DATE	6/8/2022
DRAWN BY	KAR
CHECKED BY	RFS

DRAWING TITLE	
POTENTIOMETRIC SURFACE CONTOUR MAP JANUARY 24, 2022 WATER TABLE PLANT GORGAS GYPSUM POND	
FIGURE NO	<b>FIGURE 4A</b>
Southern Company	



NOTES:  
 1. GS-GSA-MW-1 is shown as a piezometer, since it is not included in the monitoring well network for this site.  
 2. Piezometer MW-1 had less than 3' of gw in screen and is therefore only used as a guide for drawing 350' elevation contour.  
 3. Pond locations labeled as Sedimentation Ponds include Sedimentation Pond on the right/east, Clear Pool in the middle, and Emergency Storage on the left/west.

<b>Legend</b>		 N	
Downgradient Monitoring Well	Potentiometric Surface Contour (ft NAVD88)		
Piezometer	Approximate Groundwater Flow Direction		
Phase II Horizontal Delineation Well	Property Boundary (Approximate)		
Gypsum Pond Boundary			

GS-GSA-MW-4 Well ID  
353.72 Groundwater Elevation







SCALE	1:6,000
DATE	6/8/2022
DRAWN BY	KAR
CHECKED BY	RFS

DRAWING TITLE	
POTENTIOMETRIC SURFACE CONTOUR MAP JANUARY 24, 2022 INTERMEDIATE FLOW SYSTEM 1 PLANT GORGAS GYPSUM POND	
FIGURE NO	<b>FIGURE 4B</b>
Southern Company	




NOTES:  
 1. Pond locations labeled as Sedimentation Ponds include Sedimentation Pond on the right/east, Clear Pool in the middle, and Emergency Storage on the left/west.

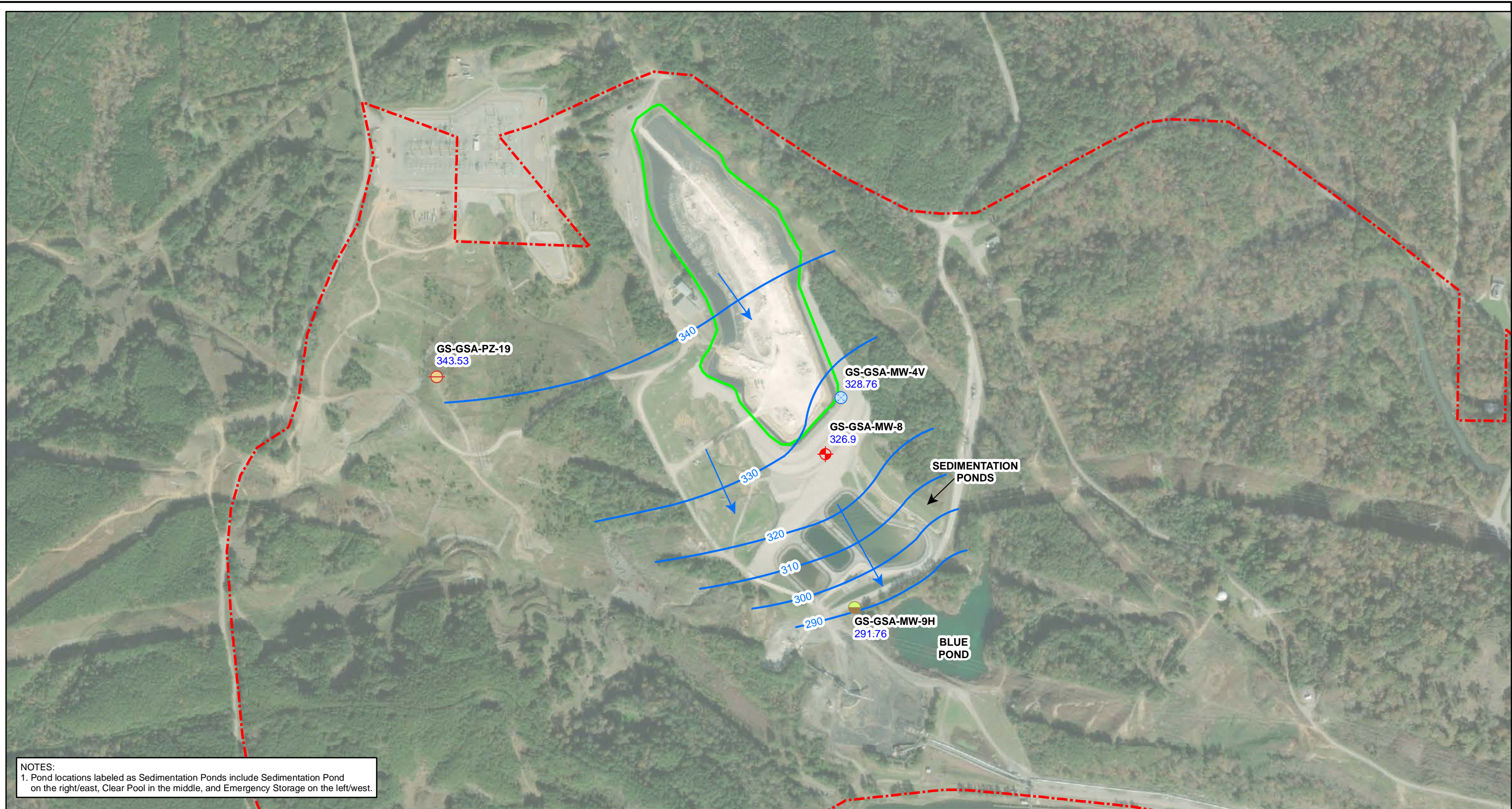
**Legend**

-  Downgradient Monitoring Well
  -  Piezometer
  -  Potentiometric Surface Contour (ft NAVD88)
  -  Approximate Groundwater Flow Direction
  -  Property Boundary (Approximate)
  -  Gypsum Pond Boundary
- GS-GSA-MW-2 Well ID  
 334.91 Groundwater Elevation



SCALE	1:6,000
DATE	6/8/2022
DRAWN BY	KAR
CHECKED BY	RFS

DRAWING TITLE	
POTENTIOMETRIC SURFACE CONTOUR MAP JANUARY 24, 2022 INTERMEDIATE FLOW SYSTEM 2 PLANT GORGAS GYPSUM POND	
FIGURE NO	<b>FIGURE 4C</b>
	



NOTES:  
 1. Pond locations labeled as Sedimentation Ponds include Sedimentation Pond on the right/east, Clear Pool in the middle, and Emergency Storage on the left/west.

**Legend**

- Downgradient Monitoring Well
  - Piezometer
  - Phase I Horizontal Delineation Well
  - Phase I Vertical Delineation Well
  - Potentiometric Surface Contour (ft NAVD88)
  - Approximate Groundwater Flow Direction
  - Property Boundary (Approximate)
  - Gypsum Pond Boundary
- GS-GSA-MW-9H Well ID  
 291.76 Groundwater Elevation



SCALE	1:6,000
DATE	6/8/2022
DRAWN BY	KAR
CHECKED BY	RFS

DRAWING TITLE  
**POTENTIOMETRIC SURFACE CONTOUR MAP**  
 JANUARY 24, 2022  
 INTERMEDIATE FLOW SYSTEM 3  
 PLANT GORGAS GYPSUM POND

FIGURE NO  
**FIGURE 4D**





NOTES:  
 1. Pond locations labeled as Sedimentation Ponds include Sedimentation Pond on the right/east, Clear Pool in the middle, and Emergency Storage on the left/west.

**Legend**

- Phase I Vertical Delineation Well
- Phase II Vertical Delineation Well
- Phase III Vertical Delineation Well
- Potentiometric Surface Contour (ft NAVD88)
- Approximate Groundwater Flow Direction
- Property Boundary (Approximate)
- Gypsum Pond Boundary

GS-GSA-MW-3V Well ID  
 318.90 Groundwater Elevation



SCALE 1:6,000

DATE 6/8/2022

DRAWN BY KAR

CHECKED BY RFS

DRAWING TITLE  
 POTENTIOMETRIC SURFACE CONTOUR MAP  
 JANUARY 24, 2022  
 DEEP INTERVAL  
 PLANT GORGAS GYPSUM POND

FIGURE NO  
**FIGURE 4E**



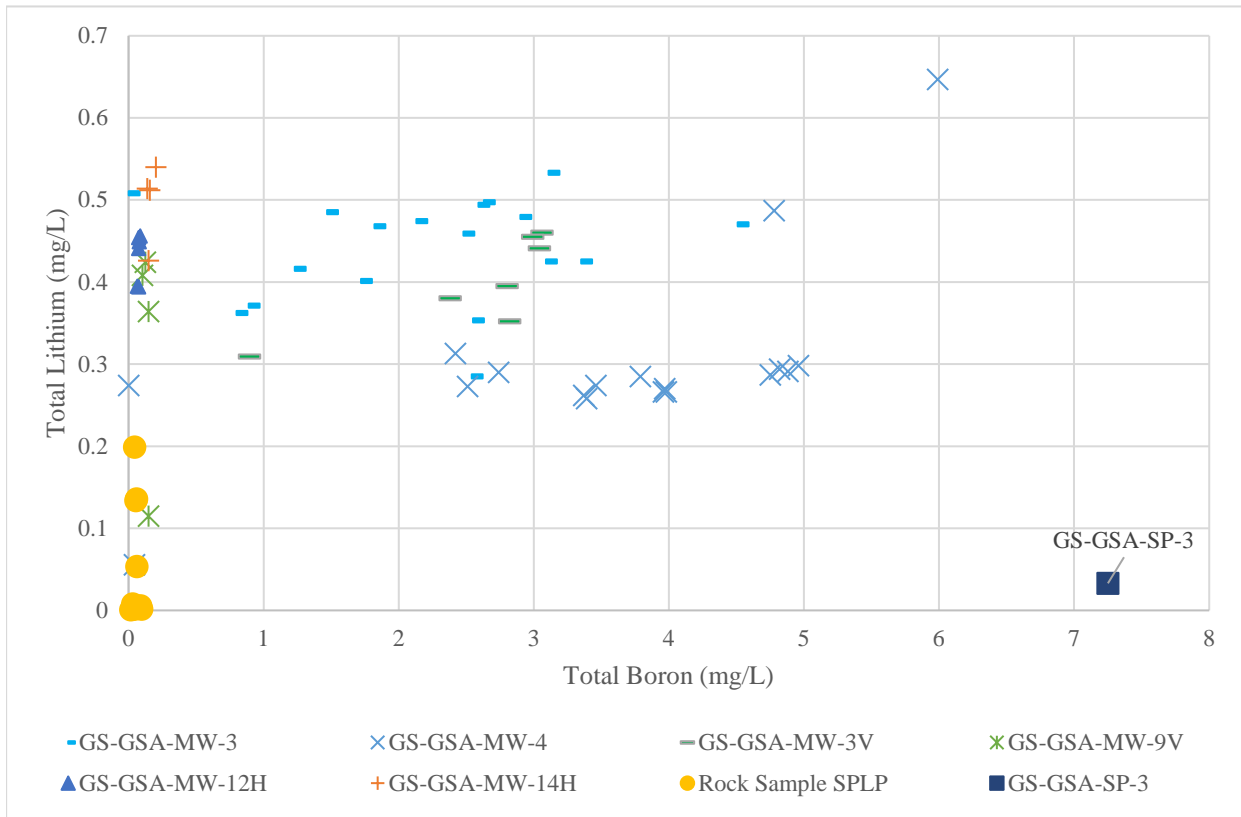
**Figure 5, Lithium Time Series Plots**



**Notes:**

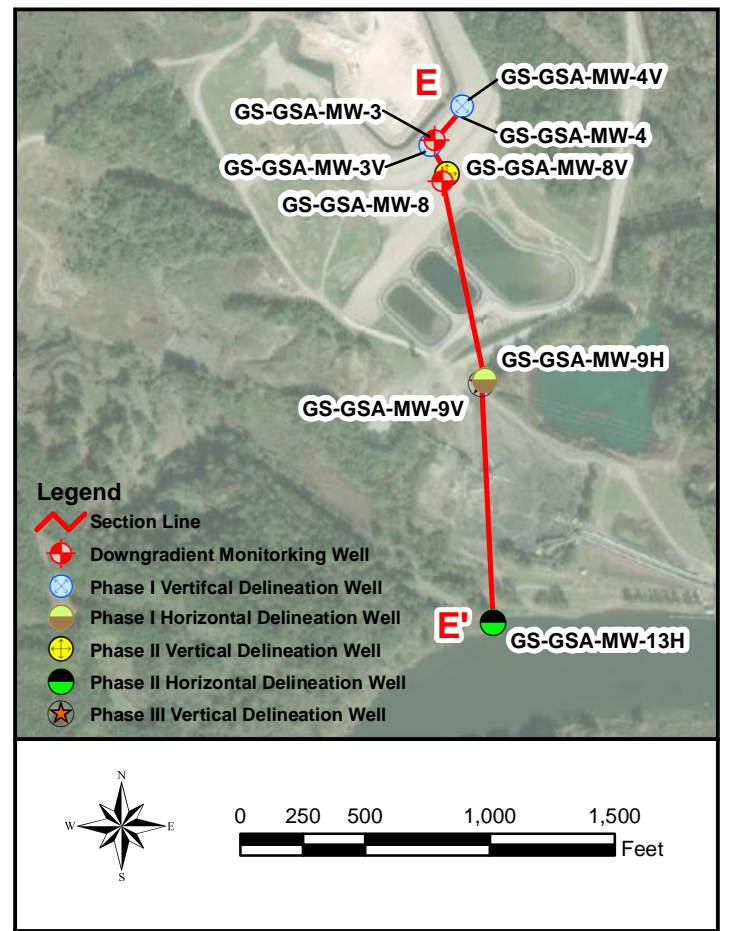
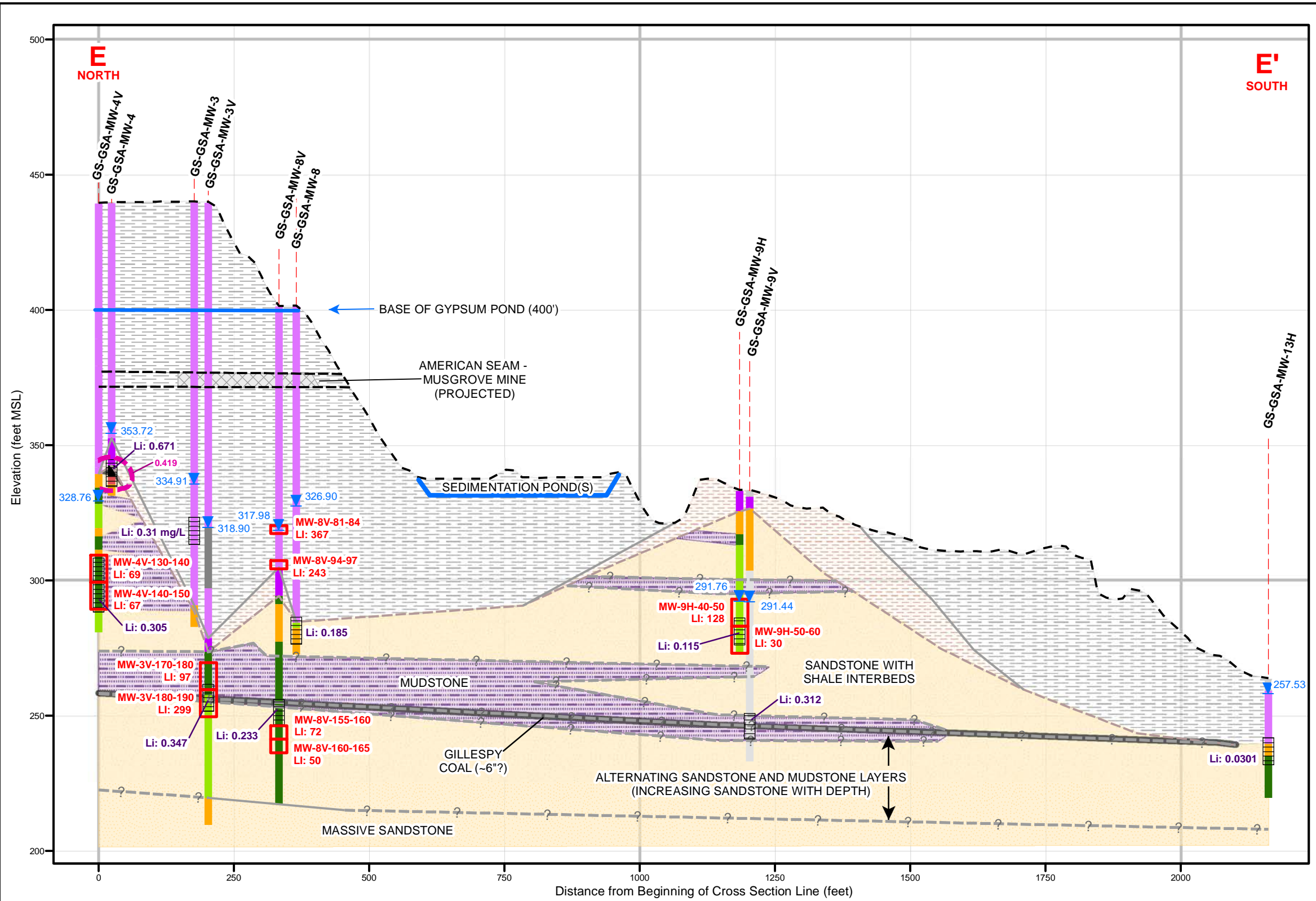
1. mg/L - milligrams per liter
2. ft MSL - feet above mean sea level

**Figure 6, Boron vs. Lithium**



Notes:

1. Site groundwater data collected from 2016 to present
2. Leachate sample GS-GSA-SP-3 collected in October 2021 from sedimentation pond



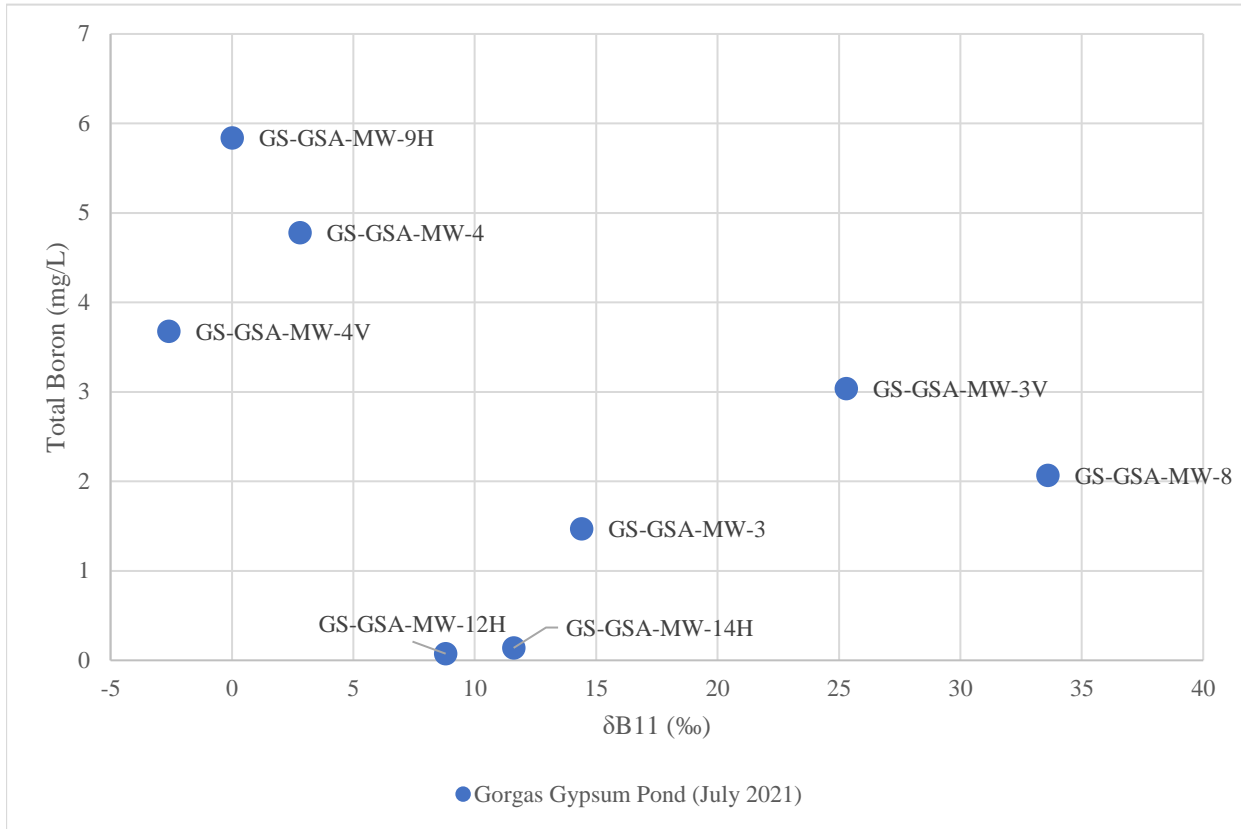
NOTES:

1. Groundwater levels measured on January 24, 2022.
2. Groundwater samples collected from January 25 to 27, 2022.
3. Water levels exist from three separate flow systems, so correlations of potentiometric surfaces are not presented on this figure.
4. Vertical exaggeration = 5.
5. Rock sample MW-8V-81-84 corresponds directly in lithology and elevation to well screen for GS-GSA-MW-3.

<b>Legend</b> 	<b>Borehole Description</b> Top of Rock Strata Boundary Inferred Strata Mine Borehole Location CCR Fill Fill Materials Overburden COAL Hydroexcavated No Recovery Partially Weathered Rock Sandstone Sandstone and Siltstone Shale		<b>Geologic Units</b> Backfilled Mine Overburden Natural Overburden Mudstone/Shale Sandstone Mine Coal 0.305 Lithium Concentration in groundwater (mg/L) 97 Lithium Concentration in rock (mg/kg)		SCALE AS SHOWN DATE 7/26/2022 DRAWN BY KAR CHECKED BY RFS	DRAWING TITLE <b>GEOLOGIC CROSS SECTION E - E'</b> <b>LITHIUM CONCENTRATIONS IN</b> <b>ROCK AND GROUNDWATER</b> <b>PLANT GORGAS GYPSUM POND</b>	
	<b>FIGURE 7</b>						



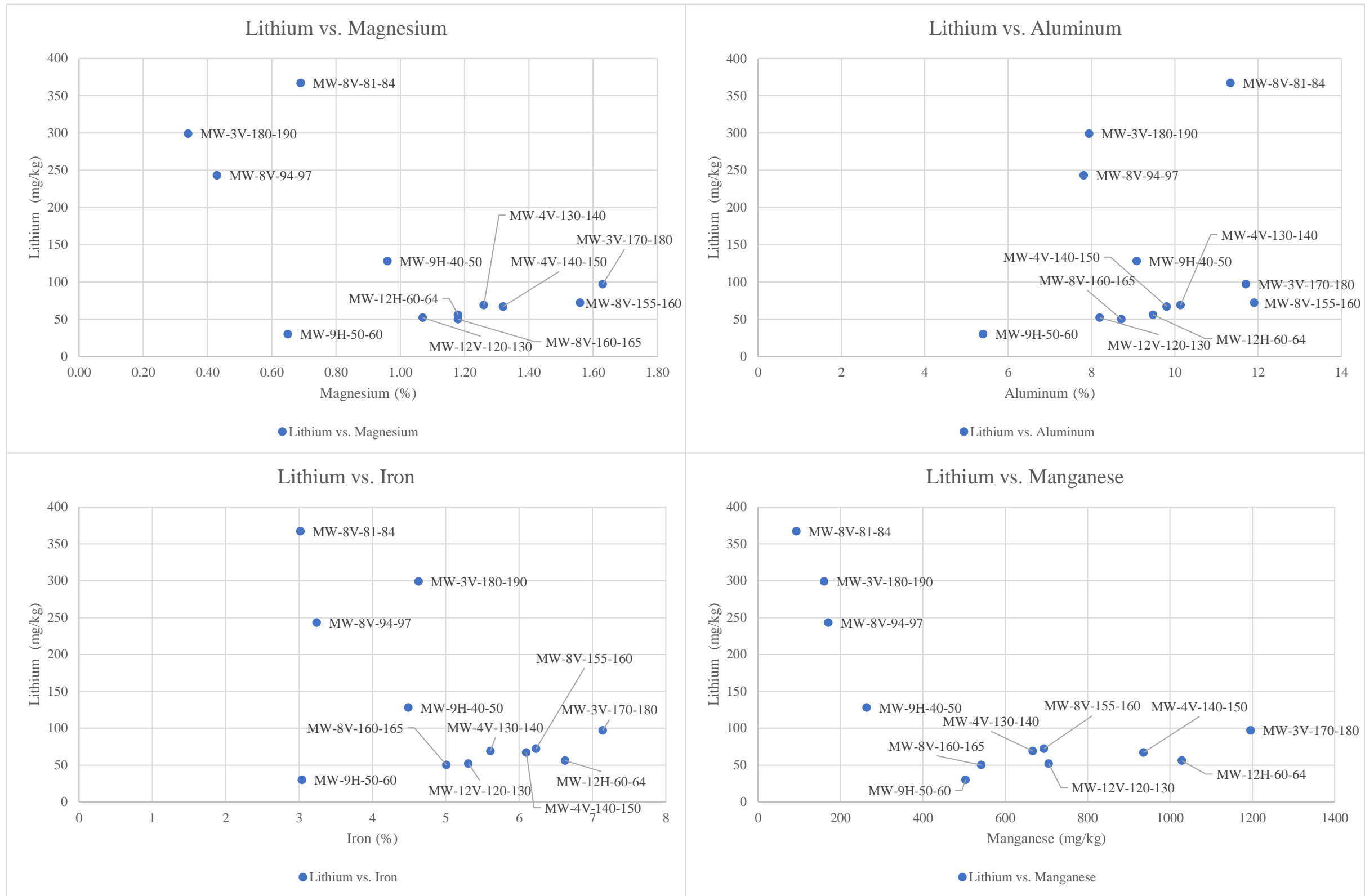
**Figure 8, Boron vs. Isotopic Boron Comparison**



**Notes:**

1. Site data collected from the Gorgas Gypsum Pond during the second semi-annual sampling event of 2021
2.  $\delta^{11}\text{B}$  - isotopic boron

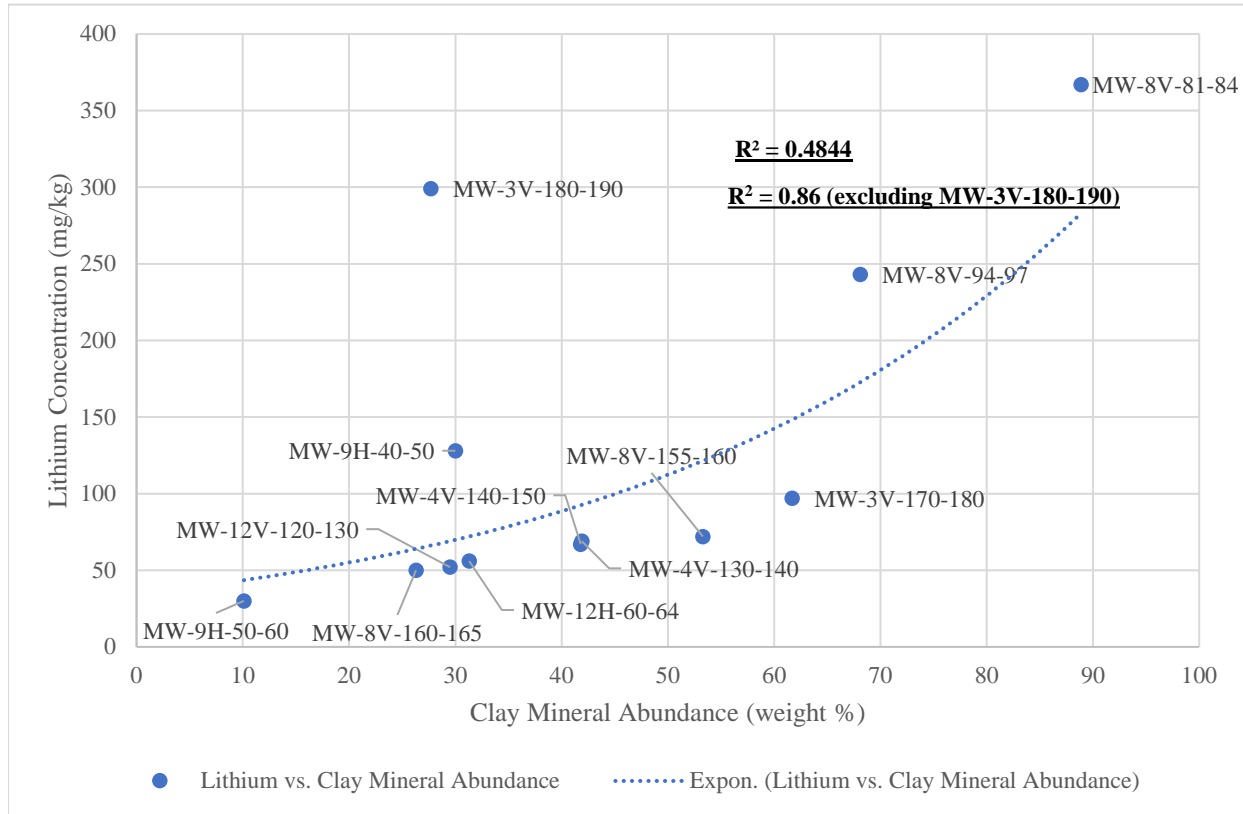
**Figure 9, Lithium vs. Aluminum, Magnesium, Iron, & Manganese**



**Notes:**

1. Total concentrations of constituents in rock samples determined by multi-acid digestion with ICP-MS
2. mg/kg - milligram per kilogram

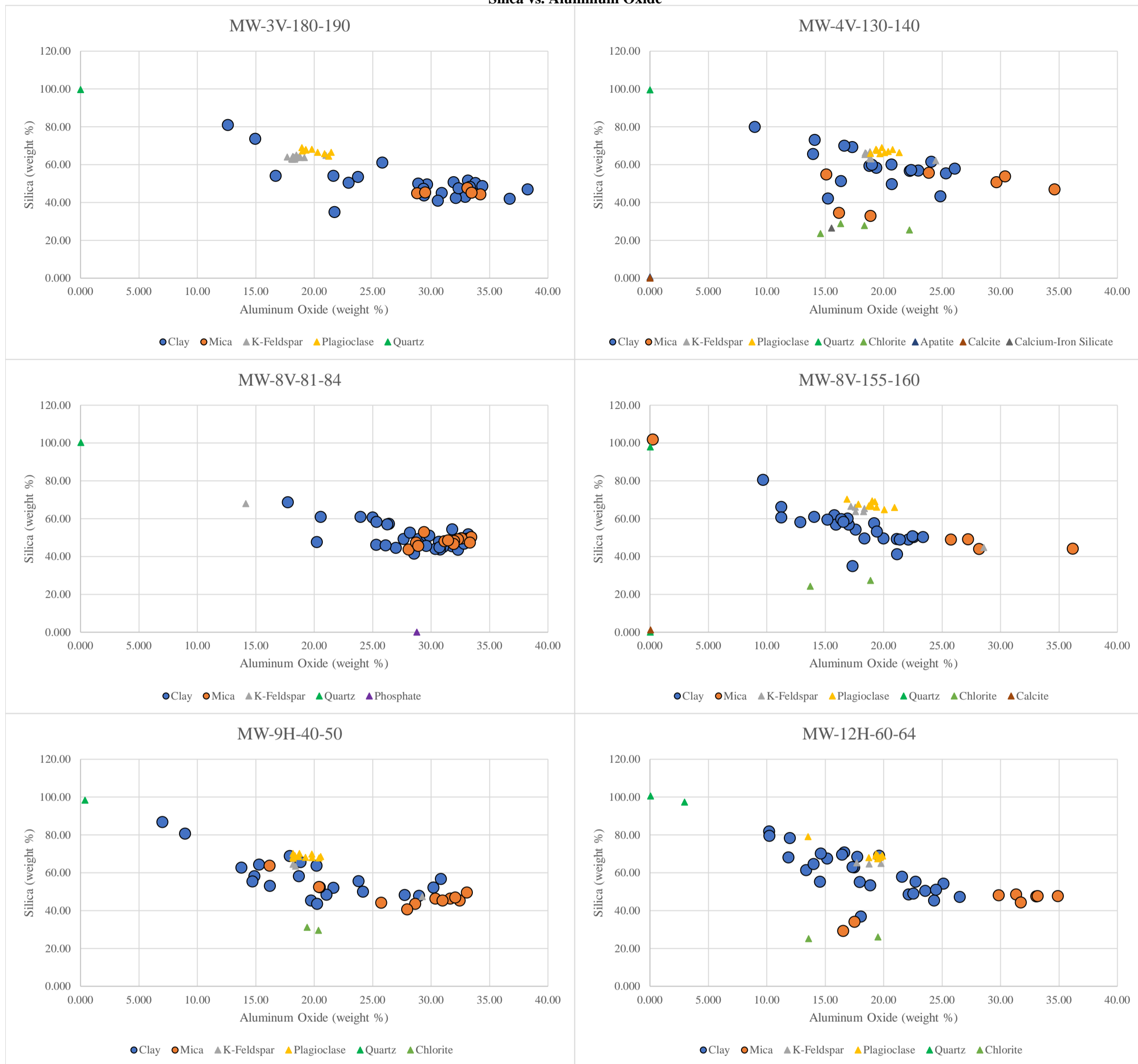
**Figure 10, Lithium & Clay Content**



**Notes:**

1. Clay mineral abundance consisting of clay minerals (i.e., kaolinite, illite, etc.) and micas (i.e., muscovite, biotite, etc.) determined by TIMA-X
2. Lithium concentrations from multi-acid digestion of total rock sample and analysis by ICP-MS

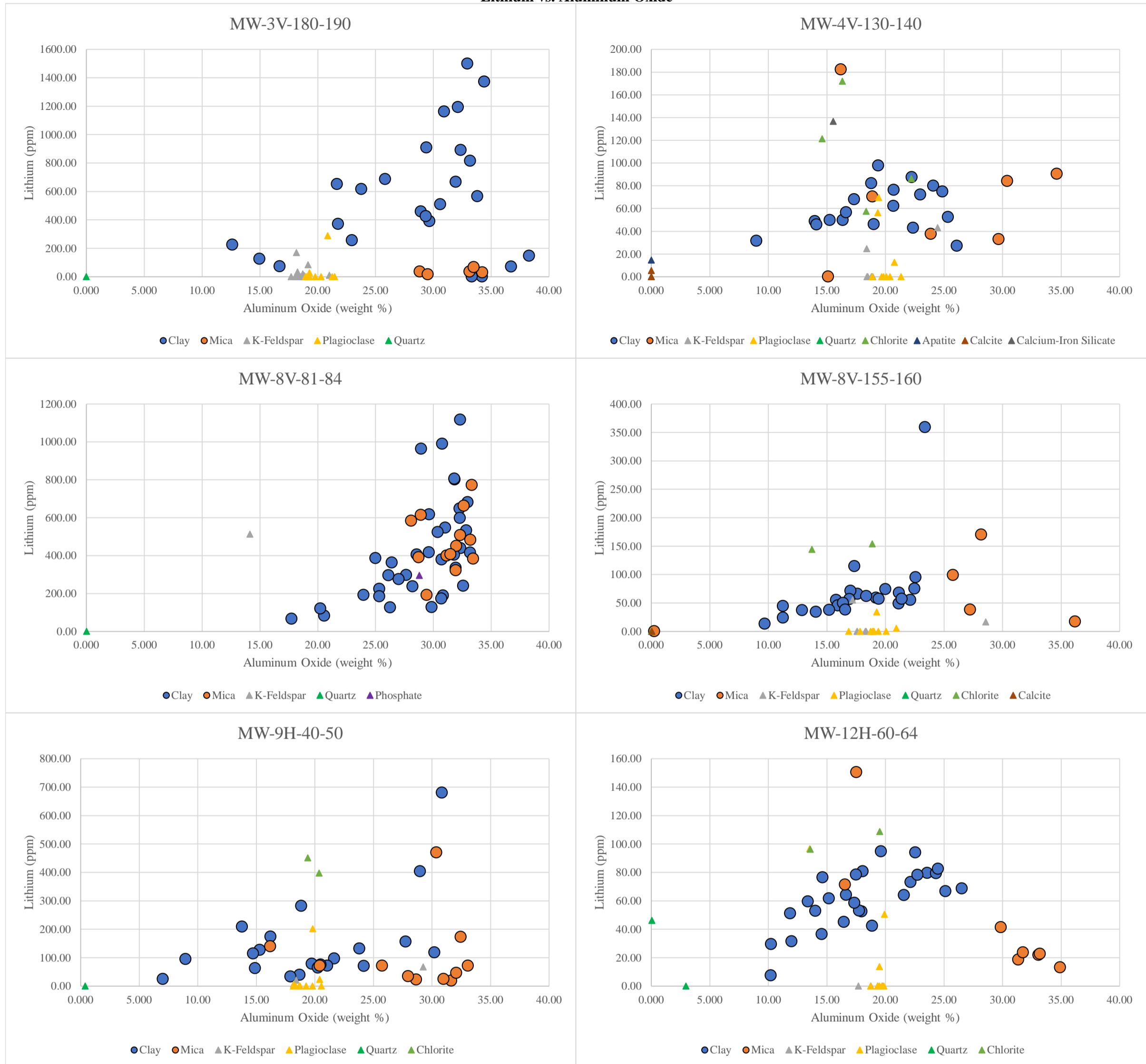
**Figure 11 - LA ICP-MS Results  
Silica vs. Aluminum Oxide**



**Notes:**

1. Analysis completed by laser ablation and inductively coupled plasma mass spectrometry (LA ICP-MS)

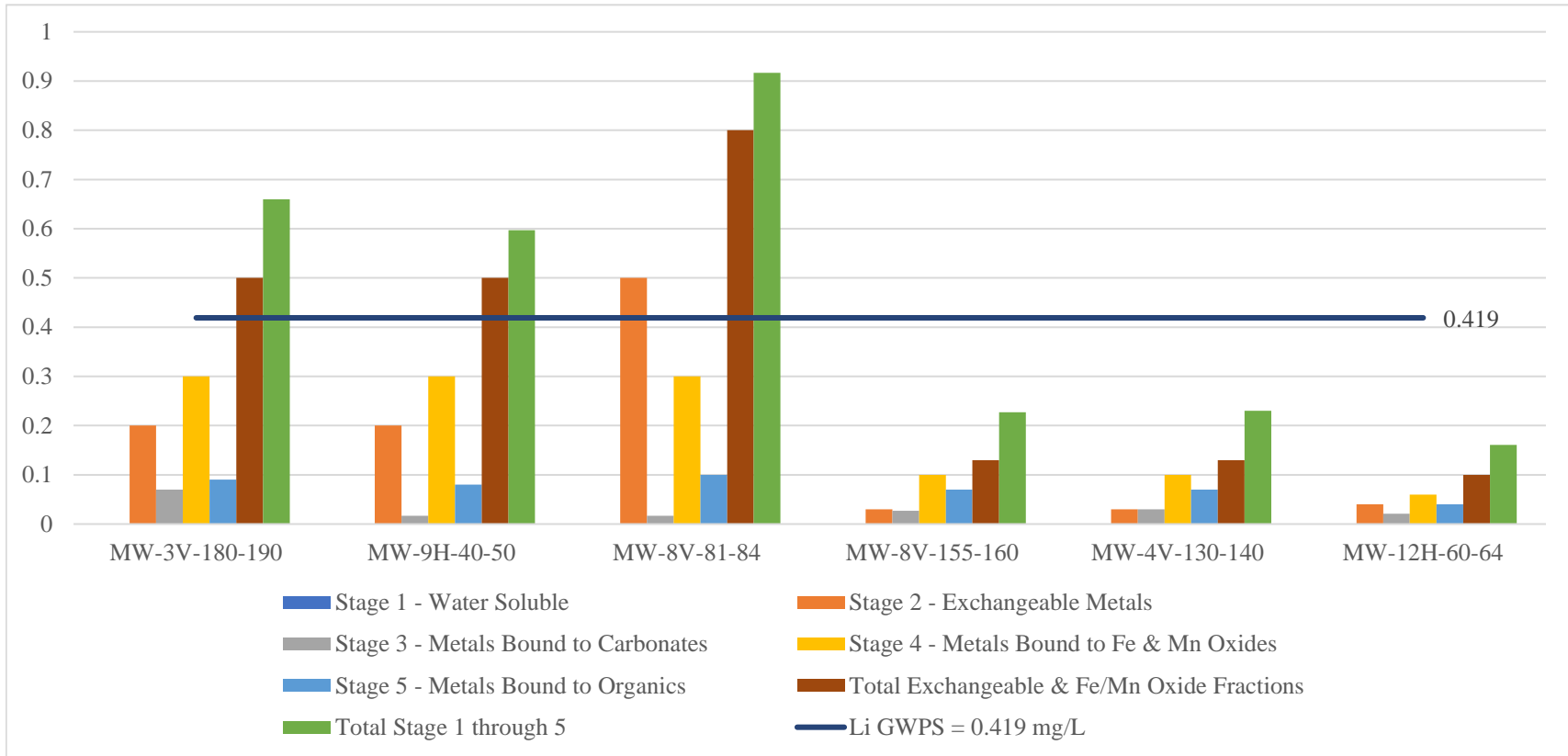
**Figure 12 - LA ICP-MS Results  
Lithium vs. Aluminum Oxide**



**Notes:**

1. ppm - parts per million
2. Analysis completed by laser ablation and inductively coupled plasma mass spectrometry (ICP-MS)

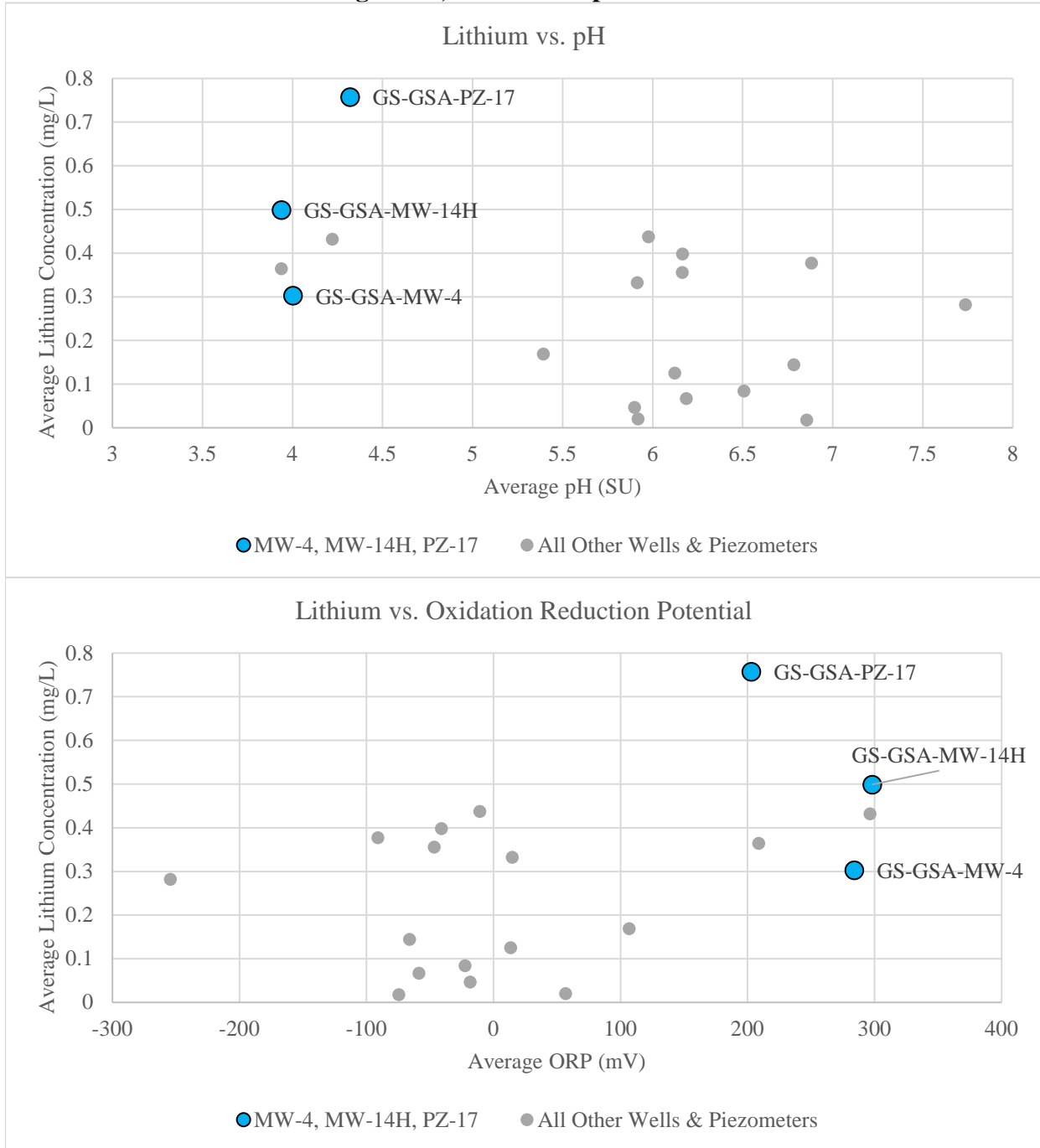
**Figure 13, Fraction Lithium Concentrations vs. GWPS**



**Notes:**

1. Lithium concentrations provided in milligrams per liter (mg/L)
2. Fe - iron, Mn - manganese
3. Tessier extraction technique used for sequential extraction
4. GWPS - Groundwater Protection Standard (0.419 mg/L)

**Figure 14, Lithium vs. pH & ORP**



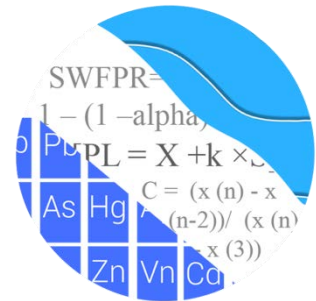
Notes:

1. mg/L - milligrams per liter
2. SU - standard units
3. ORP - oxidation reduction potential

# Appendix A



## GROUNDWATER STATS CONSULTING



May 12, 2022

Southern Company Services  
Attn: Mr. Greg Dyer  
3535 Colonnade Parkway  
Birmingham, AL 35243

Re: Plant Gorgas Gypsum Pond  
1<sup>st</sup> Semi-Annual Statistical Analysis – January 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 2022 1<sup>st</sup> semi-annual sample event for Alabama Power Company's Plant Gorgas Gypsum Pond. 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:** GS-GSA-MW-3, GS-GSA-MW-4, and GS-GSA-MW-8
- **Delineation wells:** GS-GSA-MW-3V, GS-GSA-MW-4V, GS-GSA-MW-8V, GS-GSA-MW-9H, GS-GSA-MW-9V, GS-GSA-MW-11H, GS-GSA-MW-12H, GS-GSA-MW-12V, GS-GSA-MW-13H, and GS-GSA-MW-14H
- **Piezometers:** GS-GSA-MW-01, GS-GSA-MW-02, GS-GSA-MW-10H, GS-GSA-MW-15H, GS-GSA-PZ-16, GS-GSA-PZ-17, GS-GSA-PZ-18, GS-GSA-PZ-19, GS-GSA-PZ-20, GS-GSA-PZ-21, GS-GSA-PZ-22, GS-GSA-MW-23VA, and GS-GSA-PZ-2A

Note that data from delineation wells did not require statistics; therefore, data were plotted only on time series and box plots. Piezometers only monitor water levels; therefore, they are not included in this analysis.

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 Andrew Collins, Project Manager of 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): 16
- # Background Samples (Interwell): 98
- # Constituents: 7
- # Downgradient wells: 3

### **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 pH, sulfate, and TDS
- Interwell prediction limits, combined with a 1-of-2 resample plan for boron, calcium, chloride, and fluoride

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 (US EPA, 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. While 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 pH, 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 with the exception of TDS for downgradient well GS-GSA-MW-8 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 boron, calcium, chloride, and fluoride. 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 performing prediction limits, proposed background data--through March 2021 for intrawell parameters and through July 2021 for interwell parameters--were reviewed through visual screening to identify any newly suspected outliers at all wells for pH, sulfate, and TDS, and at upgradient wells for boron, calcium, chloride, and fluoride. When values are identified as outliers, these measurements are flagged with "o" and excluded to reduce variation, better represent background conditions, and provide limits that are conservative from a regulatory perspective.

During the screening, a high non-detect value for boron in upgradient well MW-4 and high detected values for sulfate and TDS in upgradient well MW-1 were flagged as outliers. Additionally, a low value for pH in upgradient well MW-3 was flagged. As mentioned above, flagged data are displayed in a lighter font and as a disconnected symbol on the time series graphs, as well as in a lighter font on the accompanying data pages. A summary of flagged outliers follows this report (Figure C).

### Intrawell – Mann-Whitney

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 March 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:

#### Increase

- None

#### Decrease

- pH: MW-1 (upgradient)

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.

Although a statistically significant decrease was identified for pH in upgradient well MW-1, the decrease in median concentrations was upgradient of the facility and not a representation of impacts from the facility. Additionally, the magnitude of the difference was small relative to the existing concentrations in background, and the compliance samples were stable. Therefore, this record was updated and 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 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 except for increasing trends for boron and fluoride in upgradient well MW-2; however, the increasing trends for boron is the result of high non-detects in the latter part of the record and the trend in fluoride is small relative to average concentrations. Therefore, no adjustments were made at this time. A summary of the results were submitted with the screening.

## **Evaluation of Appendix III Parameters – January 2022**

### Prediction Limits

Intrawell prediction limits, combined with a 1-of-2 resample plan, were constructed for pH, sulfate, and TDS at each well using screened background data through March 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 2022 observation at each well 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 boron, calcium, chloride, and fluoride (Figure E). Interwell prediction limits pool upgradient well data through January 2022 to establish a background limit for an individual constituent. The January 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:

- pH: MW-2, MW-4 (both upgradient), and GS-GSA-MW-3
- Sulfate: GS-GSA-MW-4
- TDS: GS-GSA-MW-4

Interwell:

- Boron: GS-GSA-MW-3, GS-GSA-MW-4, and GS-GSA-MW-8
- Calcium: GS-GSA-MW-3 and GS-GSA-MW-8
- Chloride: GS-GSA-MW-3, GS-GSA-MW-4, and GS-GSA-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. Statistically significant trends were identified for the following well/constituent pairs:

#### Increasing

- Boron: MW-2 (upgradient) and GS-GSA-MW-8
- Calcium: GS-GSA-MW-8
- Chloride: GS-GSA-MW-8
- pH: MW-2 (upgradient)
- TDS: MW-1 (upgradient)

#### Decreasing

- Chloride: GS-GSA-MW-4
- pH: MW-1 (upgradient)
- Sulfate: MW-4 (upgradient)
- TDS: MW-4 (upgradient)

### **Evaluation of Appendix IV Parameters – January 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 all flagged outliers follows this report (Figure C).

In accordance with Alabama Department of Environmental Management, the Groundwater Protections Standards (GWPS) were updated during the 2021 2<sup>nd</sup> semi-annual statistical analysis. The GWPS will be updated again during the 2023 2<sup>nd</sup> semi-annual statistical analysis. The methodology used to create these GWPS is described below.

#### Interwell Upper Tolerance Limits

First, background limits were determined using tolerance limits constructed from pooled upgradient well data through July 2021 (Figure G). The tolerance limits contain a known fraction (coverage) of the background population with a known level of confidence. The confidence and coverage levels for nonparametric tolerance limits are dependent upon the number of background samples. As requested by ADEM to eliminate variation among upgradient well data, nonparametric tolerance limits, which use the highest value in background as the statistical limit, were constructed.



## 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 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 Gypsum Pond. If you have any questions or comments, please feel free to contact us.

For Groundwater Stats Consulting,

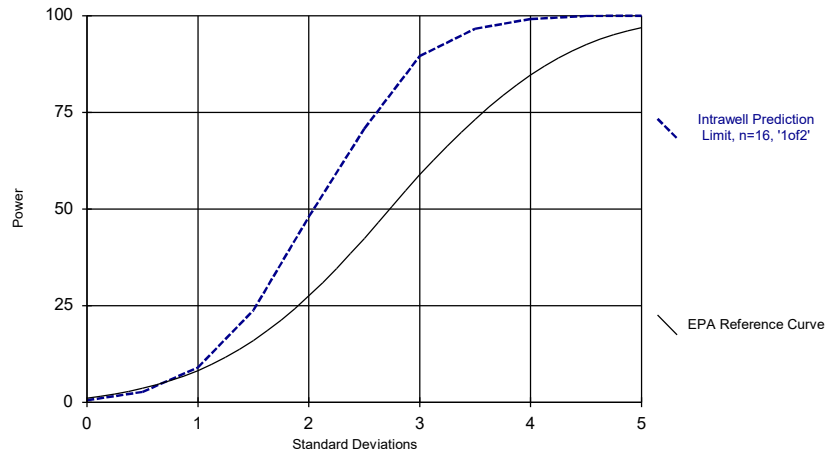


Abdul Diane  
Groundwater Analyst



Andrew T. Collins  
Project Manager

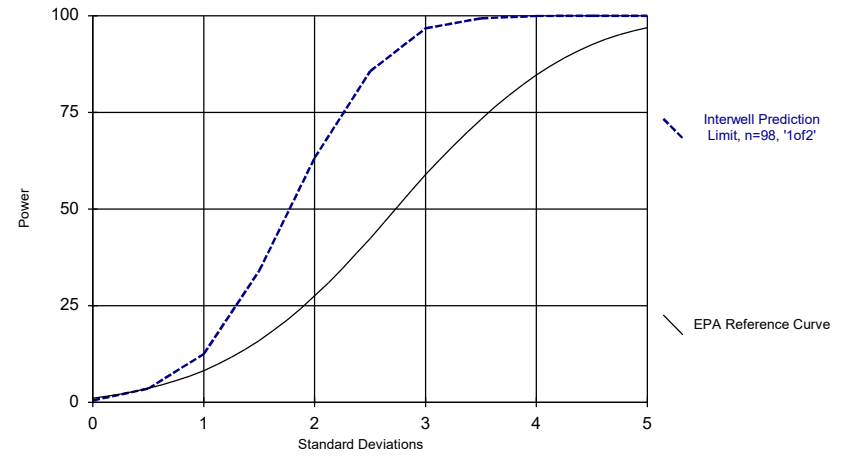
### Intrawell Power Curve



Kappa = 1.97, based on 3 compliance wells and 7 constituents, evaluated semi-annually (this report reflects annual total).

Analysis Run 5/12/2022 1:50 PM View: Appendix III - Interwell PL  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Interwell Power Curve



Kappa = 1.674, based on 3 compliance wells and 7 constituents, evaluated semi-annually (this report reflects annual total).

Analysis Run 5/12/2022 1:50 PM View: Appendix III - Interwell PL  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

# 100% Non-Detects: Appendix IV Downgradient

Analysis Run 5/11/2022 6:37 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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Beryllium (mg/L)  
GS-GSA-MW-8

Cadmium (mg/L)  
GS-GSA-MW-3, GS-GSA-MW-8

Mercury (mg/L)  
GS-GSA-MW-3, GS-GSA-MW-4, GS-GSA-MW-8

Molybdenum (mg/L)  
GS-GSA-MW-4

Selenium (mg/L)  
GS-GSA-MW-8

Thallium (mg/L)  
GS-GSA-MW-3, GS-GSA-MW-8

# Appendix III Intrawell Prediction Limits - Significant Results

Plant Gorgas Client: Southern Company Data: Gorgas GSA Printed 5/11/2022, 6:15 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
pH (pH)	GS-GSA-MW-3	6.38	5.66	1/26/2022	6.52	Yes	17	6.02	0.1846	0	None	No	0.001253	Param Intra 1 of 2
pH (pH)	MW-2	6.145	5.788	1/25/2022	6.22	Yes	23	5.967	0.09604	0	None	No	0.001253	Param Intra 1 of 2
pH (pH)	MW-4	6.237	6.076	1/25/2022	6.3	Yes	23	6.157	0.04323	0	None	No	0.001253	Param Intra 1 of 2
Sulfate (mg/L)	GS-GSA-MW-4	653.2	n/a	1/27/2022	1130	Yes	16	569.6	42.43	0	None	No	0.002505	Param Intra 1 of 2
Total dissolved solids (mg/L)	GS-GSA-MW-4	1084	n/a	1/27/2022	1840	Yes	16	987.9	48.59	0	None	No	0.002505	Param Intra 1 of 2

# Appendix III Intrawell Prediction Limits - All Results

Plant Gorgas Client: Southern Company Data: Gorgas GSA Printed 5/11/2022, 6:15 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
<b>pH (pH)</b>	<b>GS-GSA-MW-3</b>	<b>6.38</b>	<b>5.66</b>	<b>1/26/2022</b>	<b>6.52</b>	<b>Yes</b>	<b>17</b>	<b>6.02</b>	<b>0.1846</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.001253</b>	<b>Param Intra 1 of 2</b>
pH (pH)	GS-GSA-MW-4	3.896	3.699	1/27/2022	3.73	No	17	3.798	0.05044	0	None	No	0.001253	Param Intra 1 of 2
pH (pH)	GS-GSA-MW-8	7.149	6.399	1/27/2022	6.85	No	17	6.774	0.1922	0	None	No	0.001253	Param Intra 1 of 2
pH (pH)	MW-1	5.249	5.046	1/25/2022	5.11	No	23	5.147	0.05471	0	None	No	0.001253	Param Intra 1 of 2
<b>pH (pH)</b>	<b>MW-2</b>	<b>6.145</b>	<b>5.788</b>	<b>1/25/2022</b>	<b>6.22</b>	<b>Yes</b>	<b>23</b>	<b>5.967</b>	<b>0.09604</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.001253</b>	<b>Param Intra 1 of 2</b>
pH (pH)	MW-3	5.987	4.38	1/25/2022	5.9	No	23	149.3	35.15	0	None	x^3	0.001253	Param Intra 1 of 2
<b>pH (pH)</b>	<b>MW-4</b>	<b>6.237</b>	<b>6.076</b>	<b>1/25/2022</b>	<b>6.3</b>	<b>Yes</b>	<b>23</b>	<b>6.157</b>	<b>0.04323</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.001253</b>	<b>Param Intra 1 of 2</b>
Sulfate (mg/L)	GS-GSA-MW-3	3163	n/a	1/26/2022	2620	No	16	2.3e10	4.4e9	0	None	x^3	0.002505	Param Intra 1 of 2
<b>Sulfate (mg/L)</b>	<b>GS-GSA-MW-4</b>	<b>653.2</b>	<b>n/a</b>	<b>1/27/2022</b>	<b>1130</b>	<b>Yes</b>	<b>16</b>	<b>569.6</b>	<b>42.43</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.002505</b>	<b>Param Intra 1 of 2</b>
Sulfate (mg/L)	GS-GSA-MW-8	2169	n/a	1/27/2022	2000	No	16	1541	318.8	0	None	No	0.002505	Param Intra 1 of 2
Sulfate (mg/L)	MW-1	1653	n/a	1/25/2022	1430	No	22	1456	105.3	0	None	No	0.002505	Param Intra 1 of 2
Sulfate (mg/L)	MW-2	1257	n/a	1/25/2022	842	No	23	1001	137.9	0	None	No	0.002505	Param Intra 1 of 2
Sulfate (mg/L)	MW-3	3195	n/a	1/25/2022	2550	No	23	2487	381.4	0	None	No	0.002505	Param Intra 1 of 2
Sulfate (mg/L)	MW-4	3107	n/a	1/25/2022	1930	No	22	2505	321.9	0	None	No	0.002505	Param Intra 1 of 2
Total dissolved solids (mg/L)	GS-GSA-MW-3	5170	n/a	1/26/2022	4260	No	16	n/a	n/a	0	n/a	n/a	0.006456	NP Intra (normality) 1 of 2
<b>Total dissolved solids (mg/L)</b>	<b>GS-GSA-MW-4</b>	<b>1084</b>	<b>n/a</b>	<b>1/27/2022</b>	<b>1840</b>	<b>Yes</b>	<b>16</b>	<b>987.9</b>	<b>48.59</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.002505</b>	<b>Param Intra 1 of 2</b>
Total dissolved solids (mg/L)	GS-GSA-MW-8	4017	n/a	1/27/2022	3290	No	16	2978	527.4	0	None	No	0.002505	Param Intra 1 of 2
Total dissolved solids (mg/L)	MW-1	2516	n/a	1/25/2022	2150	No	22	2201	168.2	0	None	No	0.002505	Param Intra 1 of 2
Total dissolved solids (mg/L)	MW-2	2005	n/a	1/25/2022	1500	No	23	1648	192.4	0	None	No	0.002505	Param Intra 1 of 2
Total dissolved solids (mg/L)	MW-3	4954	n/a	1/25/2022	3950	No	23	3773	635.9	0	None	No	0.002505	Param Intra 1 of 2
Total dissolved solids (mg/L)	MW-4	4484	n/a	1/25/2022	3180	No	22	5.8e10	1.7e10	0	None	x^3	0.002505	Param Intra 1 of 2

# Appendix III Interwell Prediction Limits - Significant Results

Plant Gorgas Client: Southern Company Data: Gorgas GSA Printed 5/11/2022, 6:12 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Obsrv.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	GS-GSA-MW-3	0.0596	n/a	1/26/2022	2.5	Yes	98	n/a	n/a	21.43	n/a	n/a	0.0002025	NP Inter (normality) 1 of 2
Boron (mg/L)	GS-GSA-MW-4	0.0596	n/a	1/27/2022	6.1	Yes	98	n/a	n/a	21.43	n/a	n/a	0.0002025	NP Inter (normality) 1 of 2
Boron (mg/L)	GS-GSA-MW-8	0.0596	n/a	1/27/2022	2.76	Yes	98	n/a	n/a	21.43	n/a	n/a	0.0002025	NP Inter (normality) 1 of 2
Calcium (mg/L)	GS-GSA-MW-3	431	n/a	1/26/2022	517	Yes	99	n/a	n/a	0	n/a	n/a	0.0001981	NP Inter (normality) 1 of 2
Calcium (mg/L)	GS-GSA-MW-8	431	n/a	1/27/2022	491	Yes	99	n/a	n/a	0	n/a	n/a	0.0001981	NP Inter (normality) 1 of 2
Chloride (mg/L)	GS-GSA-MW-3	3.664	n/a	1/26/2022	255	Yes	99	1.291	0.15	3.03	None	x^(1/3)	0.002505	Param Inter 1 of 2
Chloride (mg/L)	GS-GSA-MW-4	3.664	n/a	1/27/2022	103	Yes	99	1.291	0.15	3.03	None	x^(1/3)	0.002505	Param Inter 1 of 2
Chloride (mg/L)	GS-GSA-MW-8	3.664	n/a	1/27/2022	122	Yes	99	1.291	0.15	3.03	None	x^(1/3)	0.002505	Param Inter 1 of 2

# Appendix III Interwell Prediction Limits - All Results

Plant Gorgas Client: Southern Company Data: Gorgas GSA Printed 5/11/2022, 6:12 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Obsrv.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	GS-GSA-MW-3	0.0596	n/a	1/26/2022	2.5	Yes	98	n/a	n/a	21.43	n/a	n/a	0.0002025	NP Inter (normality) 1 of 2
Boron (mg/L)	GS-GSA-MW-4	0.0596	n/a	1/27/2022	6.1	Yes	98	n/a	n/a	21.43	n/a	n/a	0.0002025	NP Inter (normality) 1 of 2
Boron (mg/L)	GS-GSA-MW-8	0.0596	n/a	1/27/2022	2.76	Yes	98	n/a	n/a	21.43	n/a	n/a	0.0002025	NP Inter (normality) 1 of 2
Calcium (mg/L)	GS-GSA-MW-3	431	n/a	1/26/2022	517	Yes	99	n/a	n/a	0	n/a	n/a	0.0001981	NP Inter (normality) 1 of 2
Calcium (mg/L)	GS-GSA-MW-4	431	n/a	1/27/2022	181	No	99	n/a	n/a	0	n/a	n/a	0.0001981	NP Inter (normality) 1 of 2
Calcium (mg/L)	GS-GSA-MW-8	431	n/a	1/27/2022	491	Yes	99	n/a	n/a	0	n/a	n/a	0.0001981	NP Inter (normality) 1 of 2
Chloride (mg/L)	GS-GSA-MW-3	3.664	n/a	1/26/2022	255	Yes	99	1.291	0.15	3.03	None	x^(1/3)	0.002505	Param Inter 1 of 2
Chloride (mg/L)	GS-GSA-MW-4	3.664	n/a	1/27/2022	103	Yes	99	1.291	0.15	3.03	None	x^(1/3)	0.002505	Param Inter 1 of 2
Chloride (mg/L)	GS-GSA-MW-8	3.664	n/a	1/27/2022	122	Yes	99	1.291	0.15	3.03	None	x^(1/3)	0.002505	Param Inter 1 of 2
Fluoride (mg/L)	GS-GSA-MW-3	0.63	n/a	1/26/2022	0.447	No	103	n/a	n/a	0.9709	n/a	n/a	0.0001849	NP Inter (normality) 1 of 2
Fluoride (mg/L)	GS-GSA-MW-4	0.63	n/a	1/27/2022	0.05ND	No	103	n/a	n/a	0.9709	n/a	n/a	0.0001849	NP Inter (normality) 1 of 2
Fluoride (mg/L)	GS-GSA-MW-8	0.63	n/a	1/27/2022	0.179	No	103	n/a	n/a	0.9709	n/a	n/a	0.0001849	NP Inter (normality) 1 of 2

# Appendix III Trend Test Summary - Significant Results

Plant Gorgas Client: Southern Company Data: Gorgas GSA Printed 5/11/2022, 6:32 PM

<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
Boron (mg/L)	GS-GSA-MW-8	0.4163	119	68	Yes	18	0	n/a	n/a	0.01	NP
Boron (mg/L)	MW-2 (bg)	0.003945	129	111	Yes	25	24	n/a	n/a	0.01	NP
Calcium (mg/L)	GS-GSA-MW-8	61.21	87	68	Yes	18	0	n/a	n/a	0.01	NP
Chloride (mg/L)	GS-GSA-MW-4	-14.3	-75	-68	Yes	18	0	n/a	n/a	0.01	NP
Chloride (mg/L)	GS-GSA-MW-8	26.11	93	68	Yes	18	0	n/a	n/a	0.01	NP
pH (pH)	MW-1 (bg)	-0.01883	-147	-111	Yes	25	0	n/a	n/a	0.01	NP
pH (pH)	MW-2 (bg)	0.039	127	111	Yes	25	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-4 (bg)	-137.6	-125	-105	Yes	24	0	n/a	n/a	0.01	NP
Total dissolved solids (mg/L)	MW-1 (bg)	56.43	113	105	Yes	24	0	n/a	n/a	0.01	NP
Total dissolved solids (mg/L)	MW-4 (bg)	-177.4	-123	-105	Yes	24	0	n/a	n/a	0.01	NP



# Appendix III Trend Test Summary - All Results

Plant Gorgas    Client: Southern Company    Data: Gorgas GSA    Printed 5/11/2022, 6:32 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	GS-GSA-MW-3	0.1215	11	68	No	18	0	n/a	n/a	0.01	NP
Boron (mg/L)	GS-GSA-MW-4	-0.3832	-53	-68	No	18	0	n/a	n/a	0.01	NP
<b>Boron (mg/L)</b>	<b>GS-GSA-MW-8</b>	<b>0.4163</b>	<b>119</b>	<b>68</b>	<b>Yes</b>	<b>18</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Boron (mg/L)	MW-1 (bg)	0.003819	110	111	No	25	32	n/a	n/a	0.01	NP
<b>Boron (mg/L)</b>	<b>MW-2 (bg)</b>	<b>0.003945</b>	<b>129</b>	<b>111</b>	<b>Yes</b>	<b>25</b>	<b>24</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Boron (mg/L)	MW-3 (bg)	0.002231	87	111	No	25	28	n/a	n/a	0.01	NP
Boron (mg/L)	MW-4 (bg)	-0.0003942	-28	-98	No	23	0	n/a	n/a	0.01	NP
Calcium (mg/L)	GS-GSA-MW-3	-6.045	-27	-68	No	18	0	n/a	n/a	0.01	NP
<b>Calcium (mg/L)</b>	<b>GS-GSA-MW-8</b>	<b>61.21</b>	<b>87</b>	<b>68</b>	<b>Yes</b>	<b>18</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Calcium (mg/L)	MW-1 (bg)	2.531	86	111	No	25	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-2 (bg)	2.037	42	111	No	25	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-3 (bg)	10.56	65	111	No	25	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-4 (bg)	-6.803	-60	-105	No	24	0	n/a	n/a	0.01	NP
Chloride (mg/L)	GS-GSA-MW-3	-6.058	-18	-68	No	18	0	n/a	n/a	0.01	NP
<b>Chloride (mg/L)</b>	<b>GS-GSA-MW-4</b>	<b>-14.3</b>	<b>-75</b>	<b>-68</b>	<b>Yes</b>	<b>18</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
<b>Chloride (mg/L)</b>	<b>GS-GSA-MW-8</b>	<b>26.11</b>	<b>93</b>	<b>68</b>	<b>Yes</b>	<b>18</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Chloride (mg/L)	MW-1 (bg)	-0.02423	-34	-111	No	25	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-2 (bg)	-0.09448	-35	-111	No	25	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-3 (bg)	0.09968	71	111	No	25	8	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-4 (bg)	-0.06727	-80	-105	No	24	4.167	n/a	n/a	0.01	NP
pH (pH)	GS-GSA-MW-3	-0.06414	-61	-74	No	19	0	n/a	n/a	0.01	NP
<b>pH (pH)</b>	<b>MW-1 (bg)</b>	<b>-0.01883</b>	<b>-147</b>	<b>-111</b>	<b>Yes</b>	<b>25</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
<b>pH (pH)</b>	<b>MW-2 (bg)</b>	<b>0.039</b>	<b>127</b>	<b>111</b>	<b>Yes</b>	<b>25</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
pH (pH)	MW-3 (bg)	0	-1	-111	No	25	0	n/a	n/a	0.01	NP
pH (pH)	MW-4 (bg)	0.008156	45	111	No	25	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	GS-GSA-MW-4	9.649	25	68	No	18	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-1 (bg)	14.12	44	105	No	24	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-2 (bg)	-36.24	-65	-111	No	25	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-3 (bg)	110.7	99	111	No	25	0	n/a	n/a	0.01	NP
<b>Sulfate (mg/L)</b>	<b>MW-4 (bg)</b>	<b>-137.6</b>	<b>-125</b>	<b>-105</b>	<b>Yes</b>	<b>24</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Total dissolved solids (mg/L)	GS-GSA-MW-4	5.547	17	68	No	18	0	n/a	n/a	0.01	NP
<b>Total dissolved solids (mg/L)</b>	<b>MW-1 (bg)</b>	<b>56.43</b>	<b>113</b>	<b>105</b>	<b>Yes</b>	<b>24</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Total dissolved solids (mg/L)	MW-2 (bg)	-28.02	-47	-111	No	25	0	n/a	n/a	0.01	NP
Total dissolved solids (mg/L)	MW-3 (bg)	192.9	99	111	No	25	0	n/a	n/a	0.01	NP
<b>Total dissolved solids (mg/L)</b>	<b>MW-4 (bg)</b>	<b>-177.4</b>	<b>-123</b>	<b>-105</b>	<b>Yes</b>	<b>24</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>

# Upper Tolerance Limits Summary Table

Plant Gorgas Client: Southern Company Data: Gorgas GSA Printed 11/16/2021, 4:56 PM

<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	95	n/a	n/a	93.68	n/a	n/a	0.007651	NP Inter
Arsenic (mg/L)	n/a	0.005	n/a	n/a	n/a	95	n/a	n/a	83.16	n/a	n/a	0.007651	NP Inter
Barium (mg/L)	n/a	0.0166	n/a	n/a	n/a	95	n/a	n/a	0	n/a	n/a	0.007651	NP Inter
Beryllium (mg/L)	n/a	0.0121	n/a	n/a	n/a	93	n/a	n/a	83.87	n/a	n/a	0.008478	NP Inter
Cadmium (mg/L)	n/a	0.00652	n/a	n/a	n/a	94	n/a	n/a	44.68	n/a	n/a	0.008054	NP Inter
Chromium (mg/L)	n/a	0.0105	n/a	n/a	n/a	95	n/a	n/a	89.47	n/a	n/a	0.007651	NP Inter
Cobalt (mg/L)	n/a	0.64	n/a	n/a	n/a	93	n/a	n/a	24.73	n/a	n/a	0.008478	NP Inter
Combined Radium 226 + 228 (pCi/L)	n/a	1.47	n/a	n/a	n/a	81	n/a	n/a	0	n/a	n/a	0.01569	NP Inter
Fluoride (mg/L)	n/a	0.63	n/a	n/a	n/a	99	n/a	n/a	1.01	n/a	n/a	0.006232	NP Inter
Lead (mg/L)	n/a	0.002	n/a	n/a	n/a	94	n/a	n/a	94.68	n/a	n/a	0.008054	NP Inter
Lithium (mg/L)	n/a	0.419	n/a	n/a	n/a	95	n/a	n/a	0	n/a	n/a	0.007651	NP Inter
Mercury (mg/L)	n/a	0.0005	n/a	n/a	n/a	95	n/a	n/a	100	n/a	n/a	0.007651	NP Inter
Molybdenum (mg/L)	n/a	0.0002	n/a	n/a	n/a	95	n/a	n/a	97.89	n/a	n/a	0.007651	NP Inter
Selenium (mg/L)	n/a	0.0209	n/a	n/a	n/a	95	n/a	n/a	58.95	n/a	n/a	0.007651	NP Inter
Thallium (mg/L)	n/a	0.000226	n/a	n/a	n/a	95	n/a	n/a	96.84	n/a	n/a	0.007651	NP Inter

<b>GORGAS GYPSUM POND GWPS</b>			
<b>Analyte</b>	<b>Units</b>	<b>Background</b>	<b>GWPS</b>
Antimony	mg/L	0.00143	0.006
Arsenic	mg/L	0.005	0.01
Barium	mg/L	0.0166	2
Beryllium	mg/L	0.0121	0.004
Cadmium	mg/L	0.00652	0.005
Chromium	mg/L	0.0105	0.1
Cobalt	mg/L	0.64	0.64
Combined Radium-226/228	pCi/L	1.47	5
Fluoride	mg/L	0.63	4
Lead	mg/L	0.00692	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	0.0181	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.

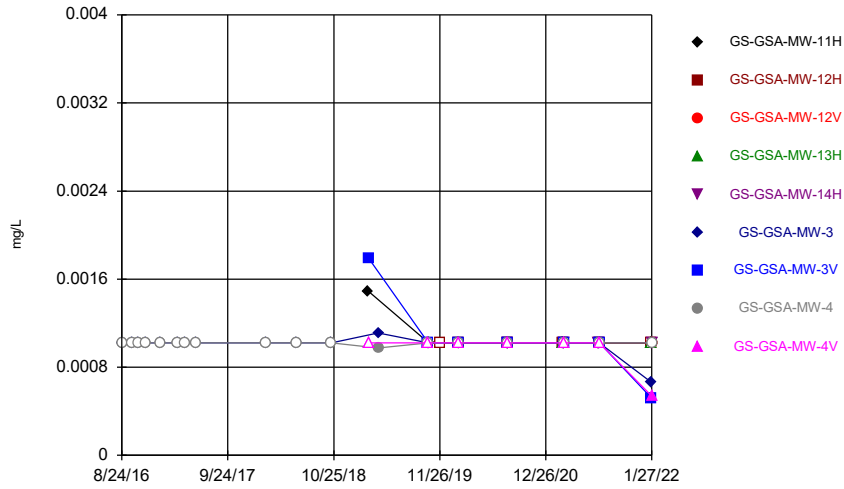
# Confidence Interval Summary Table - All Results (No Significant)

Plant Gorgas    Client: Southern Company    Data: Gorgas GSA    Printed 5/11/2022, 6:38 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Std. Dev.	%NDs	Transform	Alpha	Method
Antimony (mg/L)	GS-GSA-MW-3	0.00111	0.00066	0.006	No	8	0.0001355	75	No	0.004	NP (NDs)
Antimony (mg/L)	GS-GSA-MW-4	0.00102	0.000976	0.006	No	8	0.00001556	87.5	No	0.004	NP (NDs)
Antimony (mg/L)	GS-GSA-MW-8	0.00102	0.00102	0.006	No	8	1.2e-11	87.5	No	0.004	NP (NDs)
Arsenic (mg/L)	GS-GSA-MW-3	0.005	0.00057	0.01	No	8	0.002081	50	No	0.004	NP (normality)
Arsenic (mg/L)	GS-GSA-MW-4	0.005	0.00115	0.01	No	8	0.001323	12.5	No	0.004	NP (normality)
Arsenic (mg/L)	GS-GSA-MW-8	0.005	0.00024	0.01	No	8	0.002393	62.5	No	0.004	NP (NDs)
Barium (mg/L)	GS-GSA-MW-3	0.01522	0.01286	2	No	8	0.001115	0	No	0.01	Param.
Barium (mg/L)	GS-GSA-MW-4	0.01418	0.01174	2	No	8	0.001149	0	No	0.01	Param.
Barium (mg/L)	GS-GSA-MW-8	0.0235	0.02	2	No	8	0.001653	0	No	0.01	Param.
Beryllium (mg/L)	GS-GSA-MW-3	0.00345	0.00141	0.004	No	8	0.0006843	0	No	0.004	NP (normality)
Beryllium (mg/L)	GS-GSA-MW-4	0.00768	0.00369	0.004	No	8	0.001358	0	No	0.004	NP (normality)
Cadmium (mg/L)	GS-GSA-MW-4	0.00336	0.00143	0.005	No	8	0.0006563	0	No	0.004	NP (normality)
Chromium (mg/L)	GS-GSA-MW-3	0.01	0.000386	0.1	No	8	0.004959	62.5	No	0.004	NP (NDs)
Chromium (mg/L)	GS-GSA-MW-4	0.01	0.000567	0.1	No	8	0.004774	62.5	No	0.004	NP (NDs)
Chromium (mg/L)	GS-GSA-MW-8	0.01	0.0003	0.1	No	8	0.004972	62.5	No	0.004	NP (NDs)
Cobalt (mg/L)	GS-GSA-MW-3	0.136	0.06788	0.64	No	8	0.03212	0	No	0.01	Param.
Cobalt (mg/L)	GS-GSA-MW-4	0.3289	0.1716	0.64	No	8	0.07419	0	No	0.01	Param.
Cobalt (mg/L)	GS-GSA-MW-8	0.00546	0.00026	0.64	No	8	0.002143	62.5	No	0.004	NP (NDs)
Combined Radium 226 + 228 (pCi/L)	GS-GSA-MW-3	0.6243	0.2672	5	No	8	0.1726	0	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	GS-GSA-MW-4	1.168	0.277	5	No	8	0.4204	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	GS-GSA-MW-8	1.021	-0.01234	5	No	8	0.4876	0	No	0.01	Param.
Fluoride (mg/L)	GS-GSA-MW-3	0.7083	0.393	4	No	8	0.1488	0	No	0.01	Param.
Fluoride (mg/L)	GS-GSA-MW-4	0.44	0.05	4	No	8	0.1379	87.5	No	0.004	NP (NDs)
Fluoride (mg/L)	GS-GSA-MW-8	0.1894	0.1083	4	No	8	0.03827	0	No	0.01	Param.
Lead (mg/L)	GS-GSA-MW-3	0.0002	0.00014	0.015	No	8	0.00002378	62.5	No	0.004	NP (NDs)
Lead (mg/L)	GS-GSA-MW-4	0.00103	0.0002	0.015	No	8	0.0003351	62.5	No	0.004	NP (NDs)
Lead (mg/L)	GS-GSA-MW-8	0.0002	0.000145	0.015	No	8	0.00002434	75	No	0.004	NP (NDs)
Lithium (mg/L)	GS-GSA-MW-3	0.4994	0.3666	0.419	No	8	0.06719	0	x^2	0.01	Param.
Lithium (mg/L)	GS-GSA-MW-4	0.671	0.262	0.419	No	8	0.1473	0	No	0.004	NP (normality)
Lithium (mg/L)	GS-GSA-MW-8	0.2131	0.1702	0.419	No	8	0.02023	0	No	0.01	Param.
Molybdenum (mg/L)	GS-GSA-MW-3	0.01	0.00022	0.1	No	8	0.005055	62.5	No	0.004	NP (NDs)
Molybdenum (mg/L)	GS-GSA-MW-8	0.01	0.00012	0.1	No	8	0.004722	62.5	No	0.004	NP (NDs)
Selenium (mg/L)	GS-GSA-MW-3	0.01	0.00117	0.05	No	8	0.004498	50	No	0.004	NP (normality)
Selenium (mg/L)	GS-GSA-MW-4	0.01	0.00294	0.05	No	8	0.003295	37.5	No	0.004	NP (normality)
Thallium (mg/L)	GS-GSA-MW-4	0.001	0.00009	0.002	No	8	0.0004436	50	No	0.004	NP (normality)

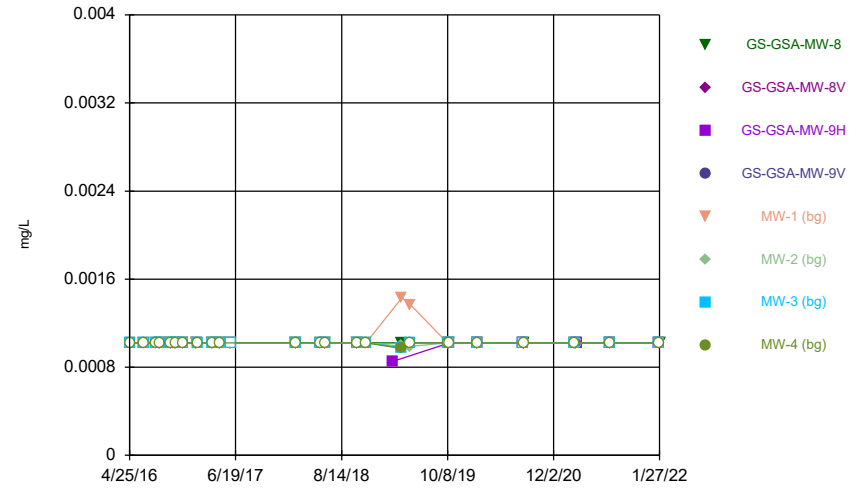
FIGURE A.

Time Series



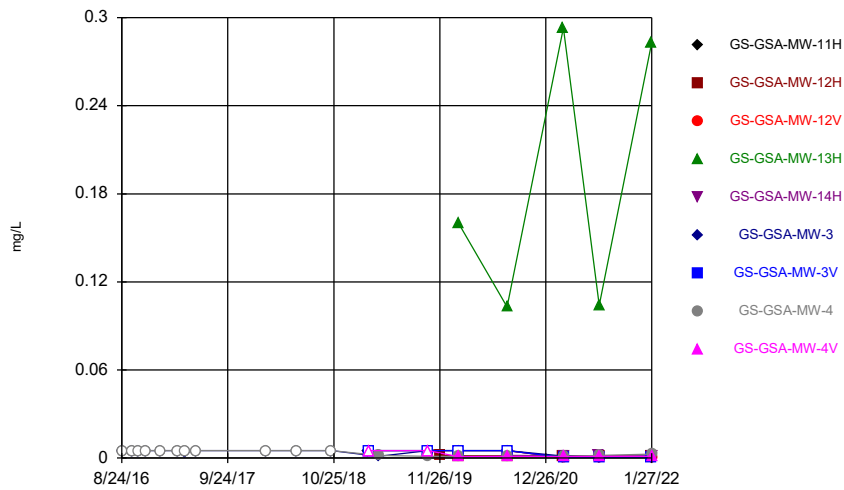
Constituent: Antimony Analysis Run 5/11/2022 6:04 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



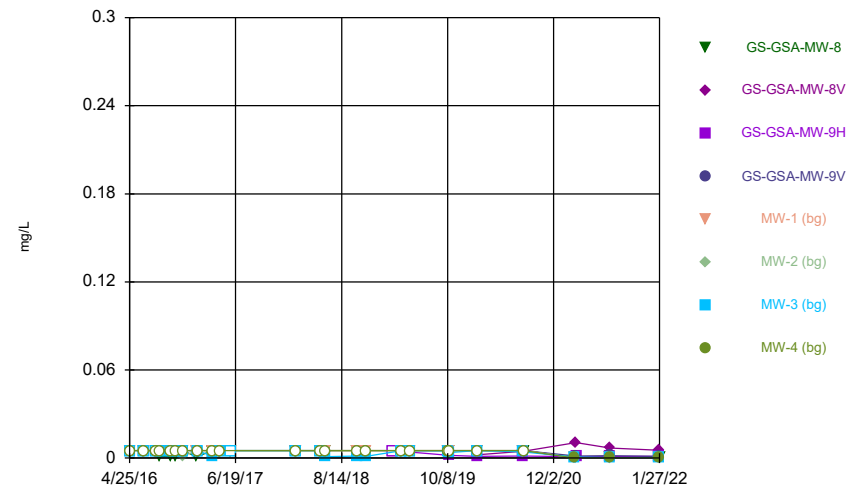
Constituent: Antimony Analysis Run 5/11/2022 6:04 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



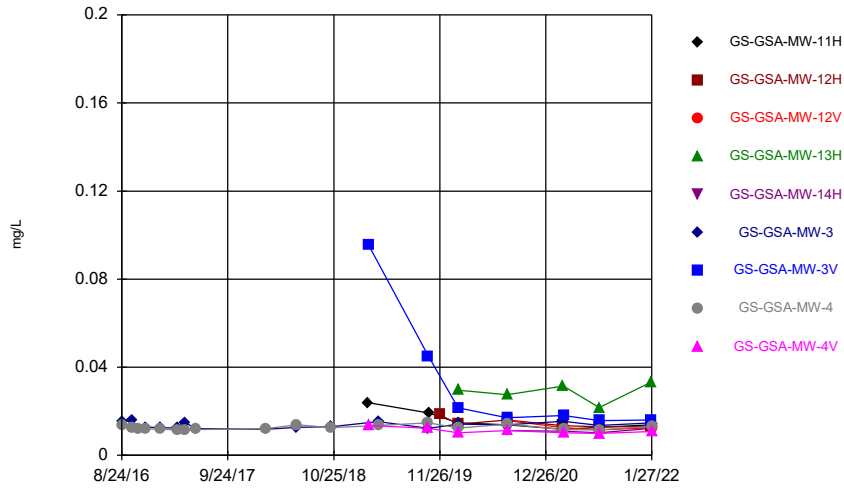
Constituent: Arsenic Analysis Run 5/11/2022 6:04 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



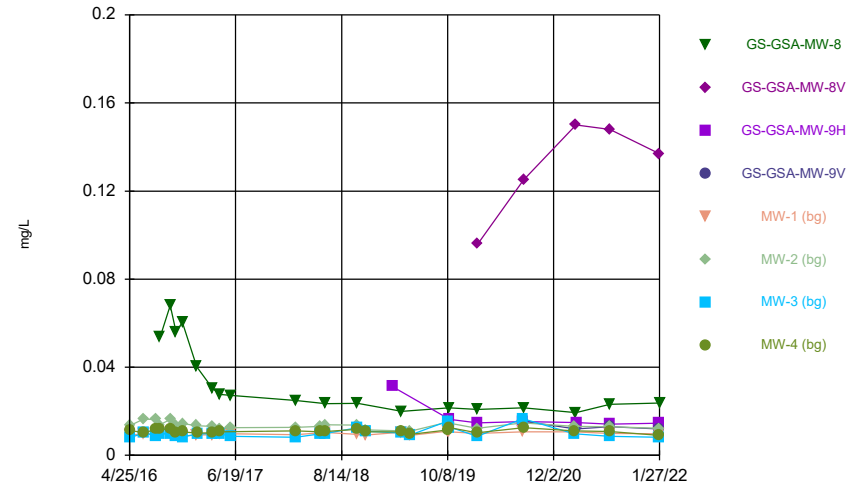
Constituent: Arsenic Analysis Run 5/11/2022 6:04 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



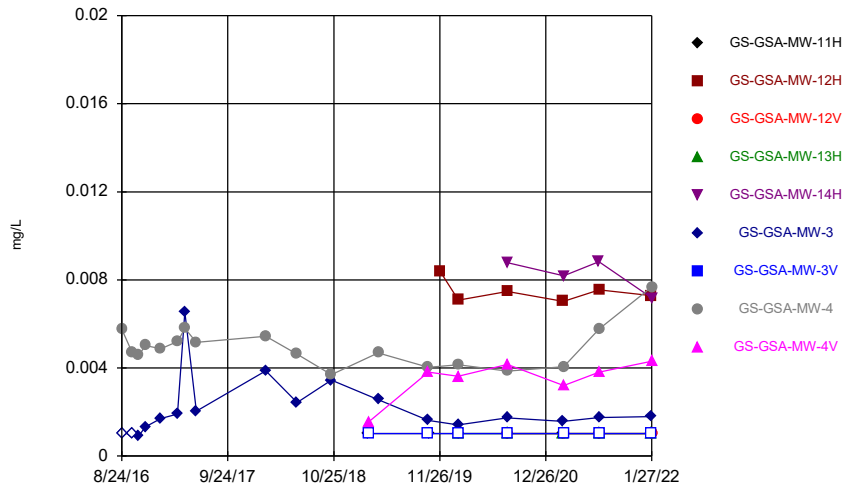
Constituent: Barium Analysis Run 5/11/2022 6:04 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



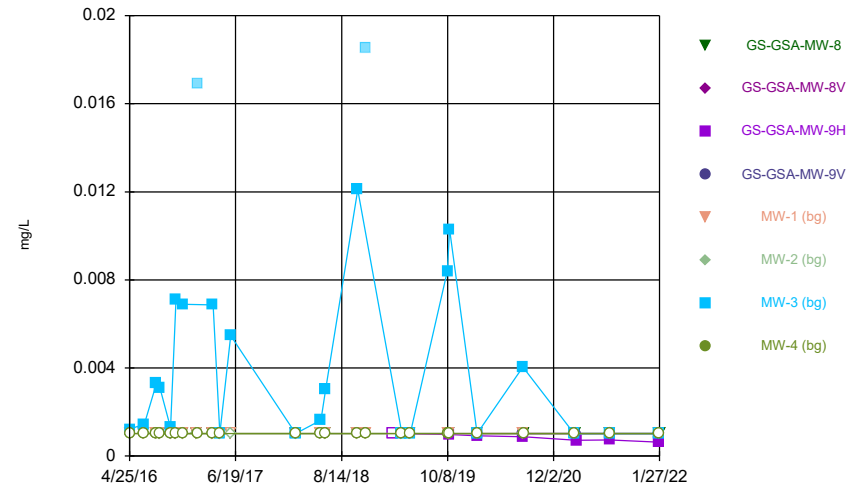
Constituent: Barium Analysis Run 5/11/2022 6:04 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



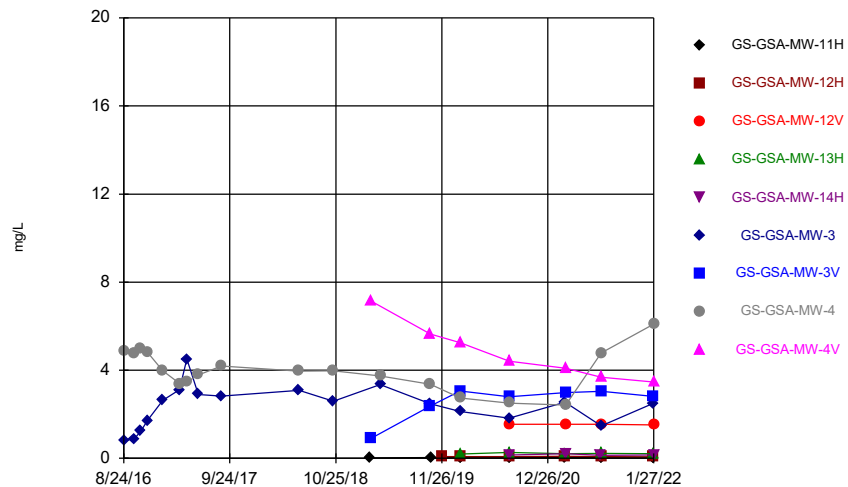
Constituent: Beryllium Analysis Run 5/11/2022 6:04 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series

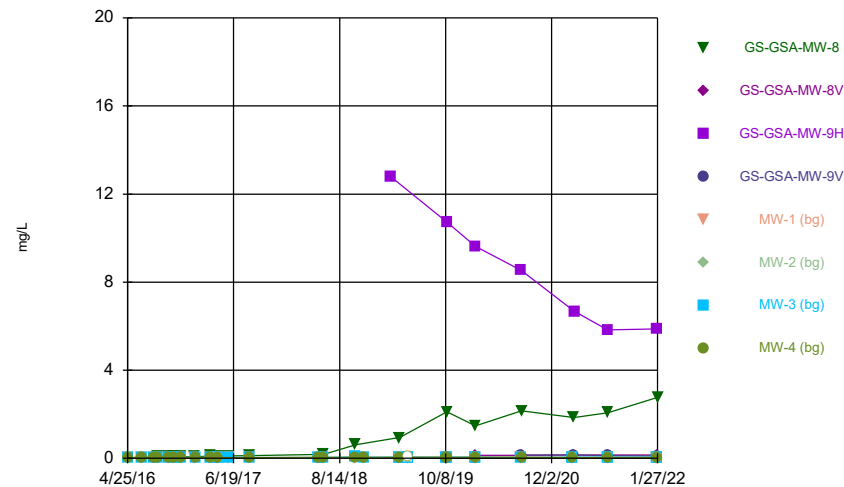


Constituent: Beryllium Analysis Run 5/11/2022 6:04 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

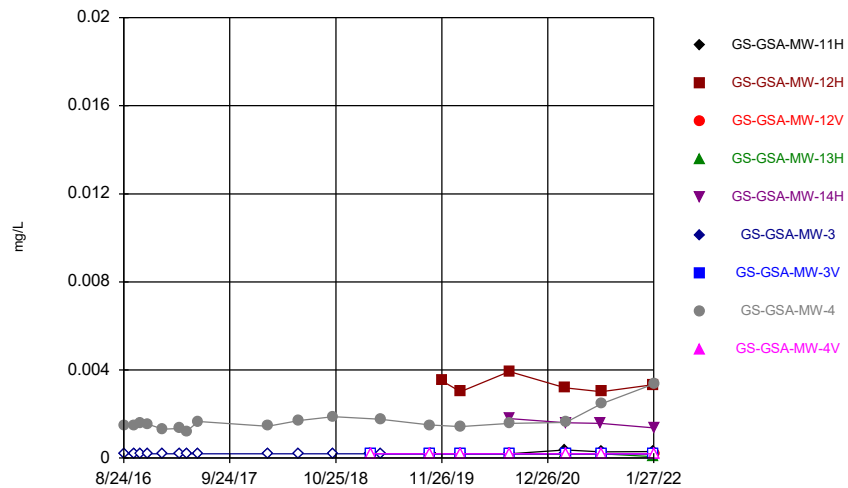
### Time Series



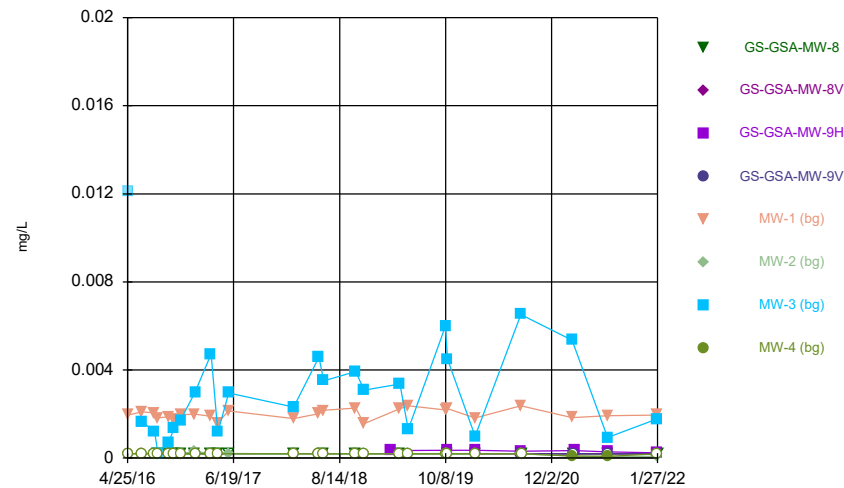
### Time Series



### Time Series

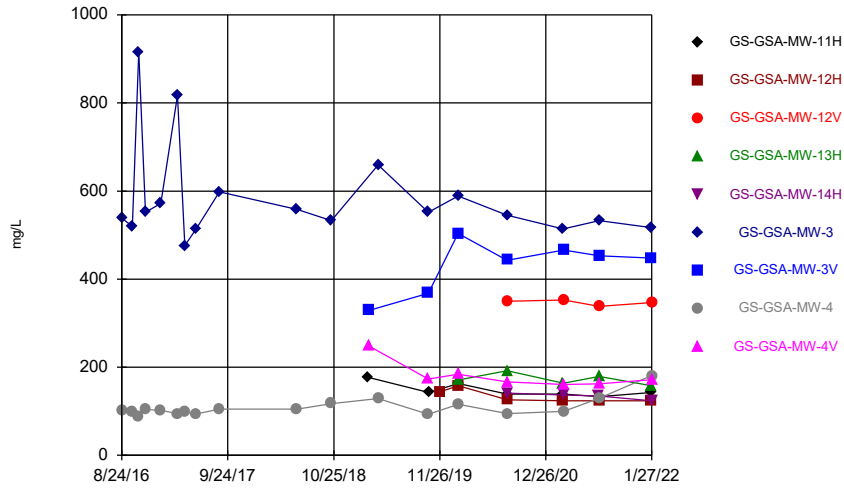


### Time Series



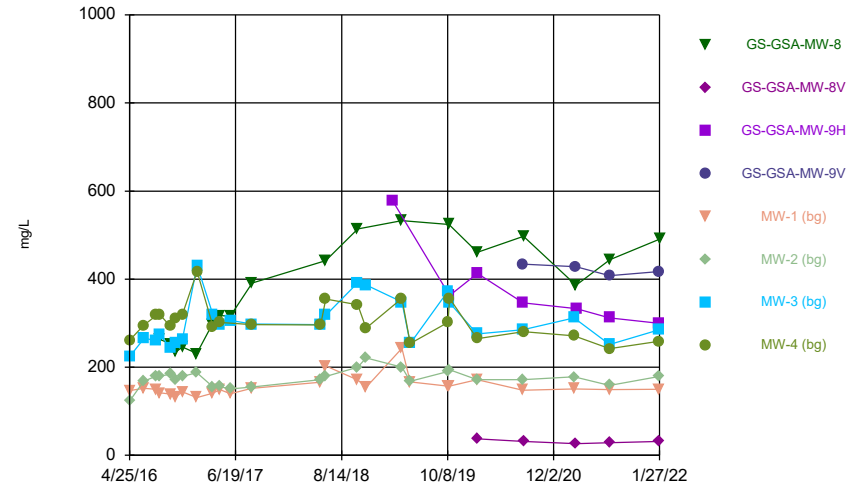


Time Series



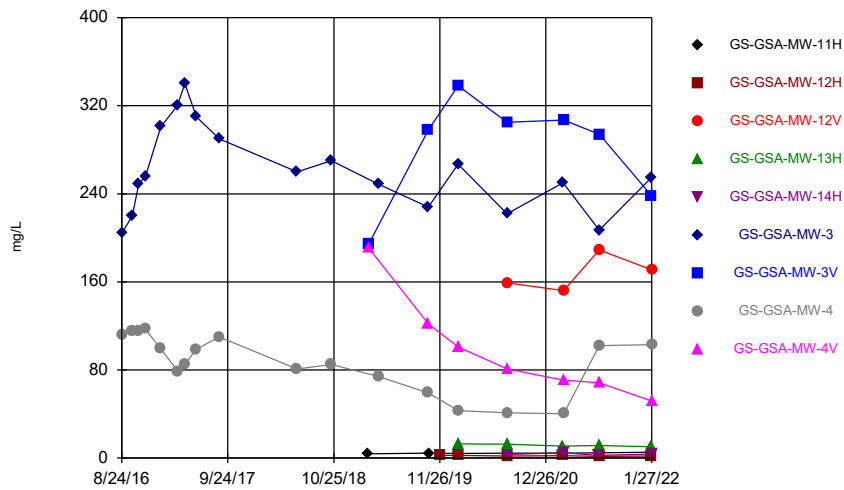
Constituent: Calcium Analysis Run 5/11/2022 6:04 PM View: Constituents View  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



Constituent: Calcium Analysis Run 5/11/2022 6:04 PM View: Constituents View  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

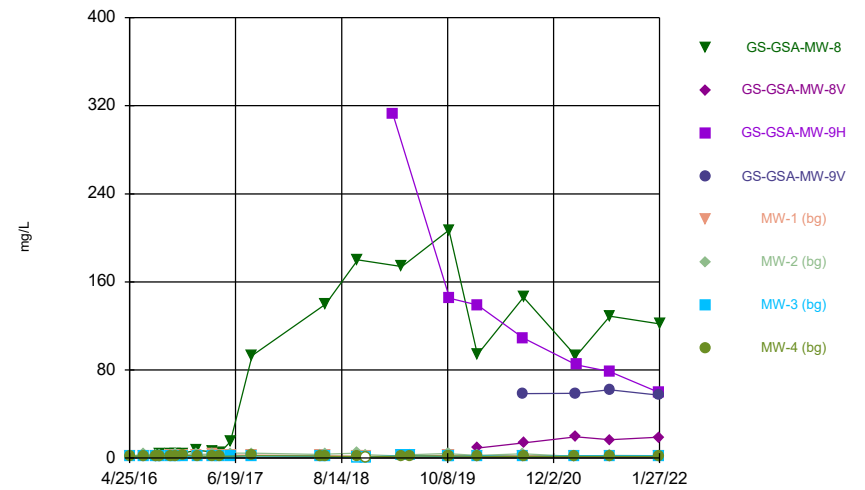
Time Series



Constituent: Chloride Analysis Run 5/11/2022 6:04 PM View: Constituents View  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

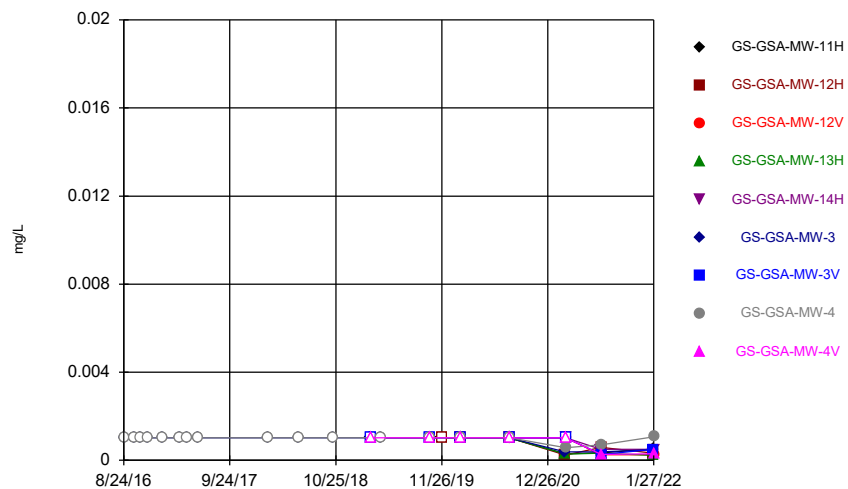
Hollow symbols indicate censored values.

Time Series

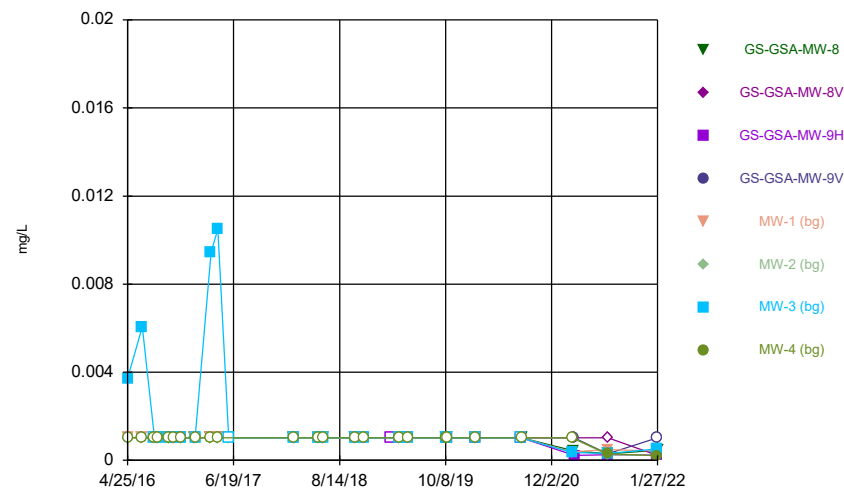


Constituent: Chloride Analysis Run 5/11/2022 6:04 PM View: Constituents View  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

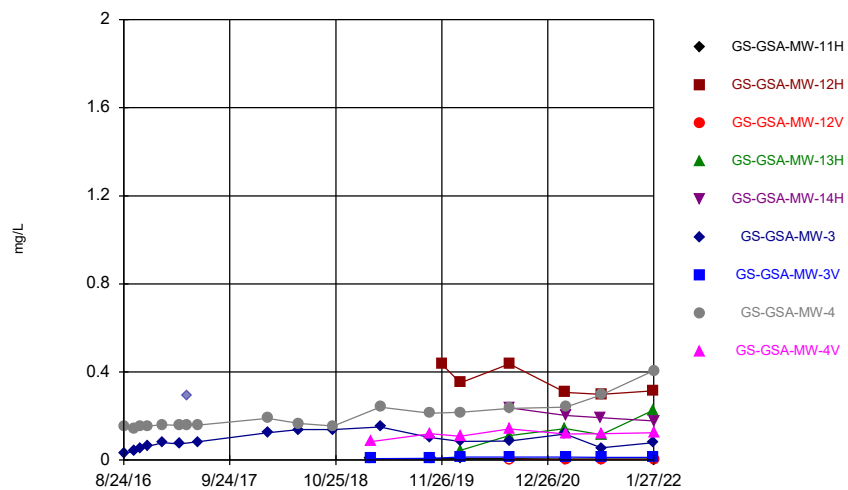
### Time Series



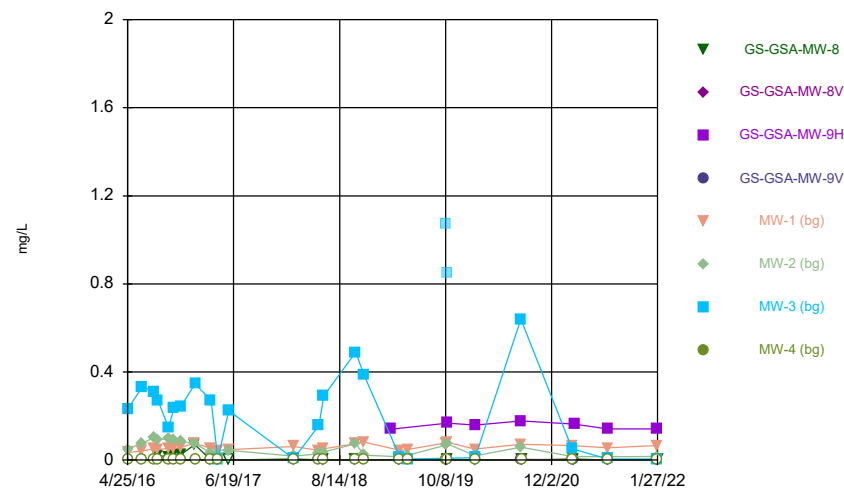
### Time Series



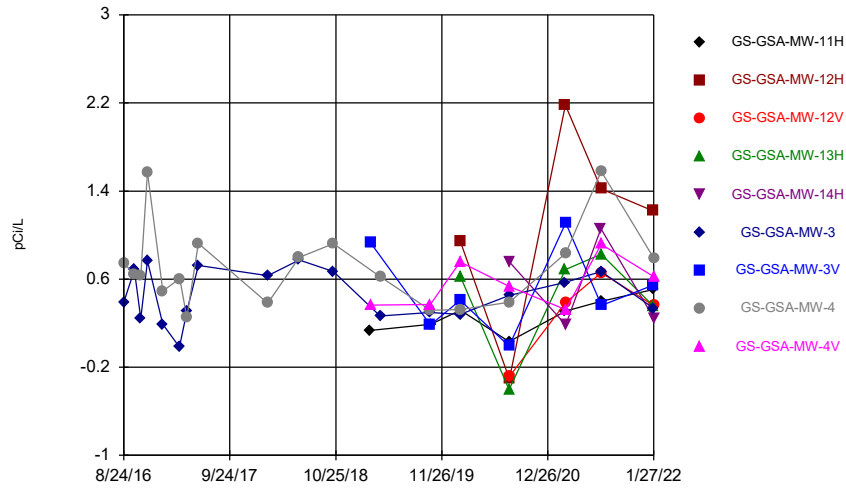
### Time Series



### Time Series

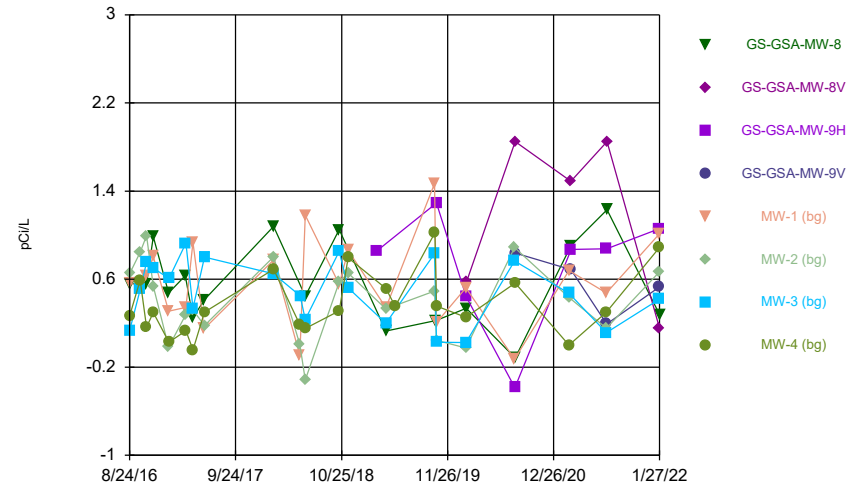


Time Series



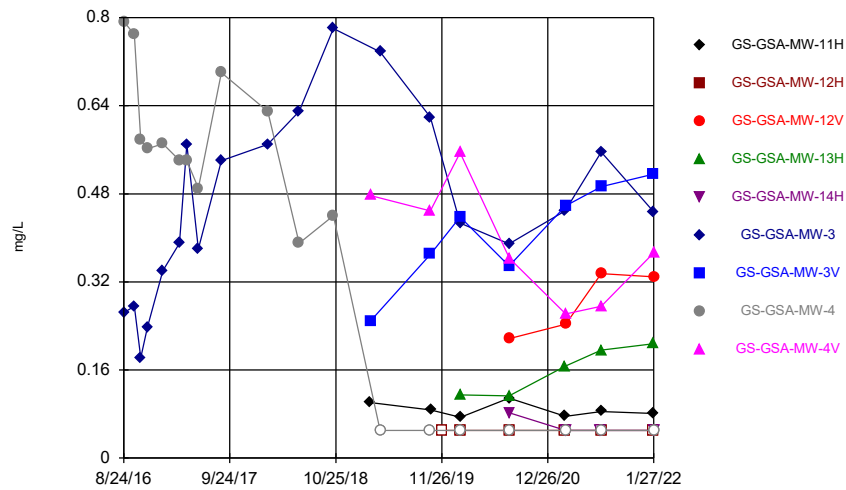
Constituent: Combined Radium 226 + 228 Analysis Run 5/11/2022 6:04 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



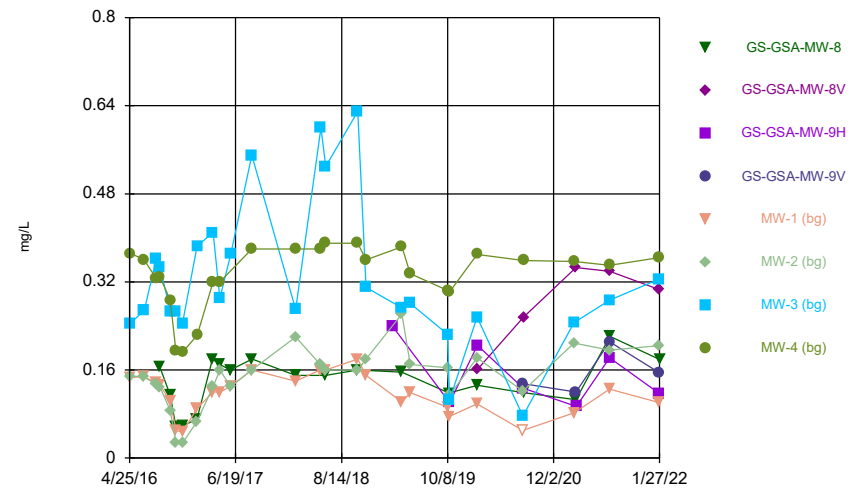
Constituent: Combined Radium 226 + 228 Analysis Run 5/11/2022 6:04 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



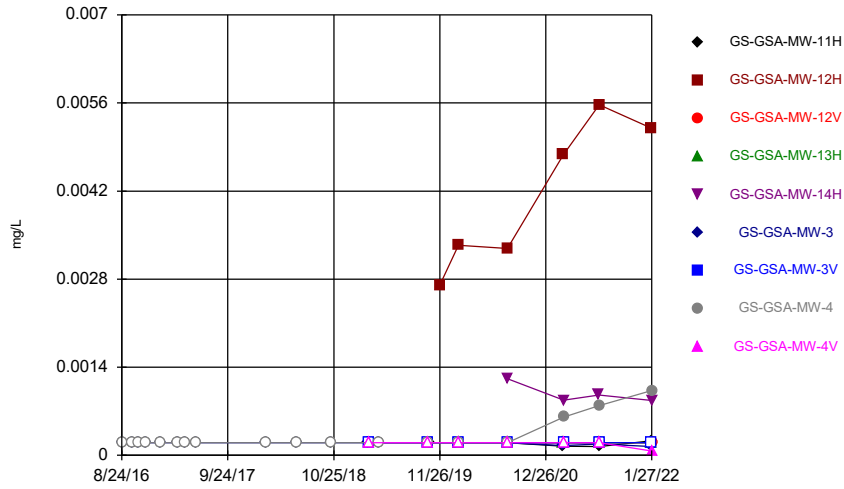
Constituent: Fluoride Analysis Run 5/11/2022 6:04 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



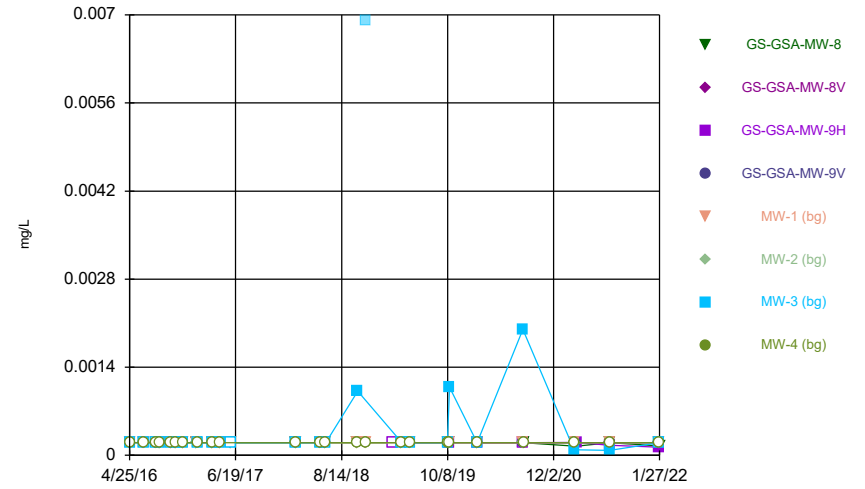
Constituent: Fluoride Analysis Run 5/11/2022 6:04 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Time Series



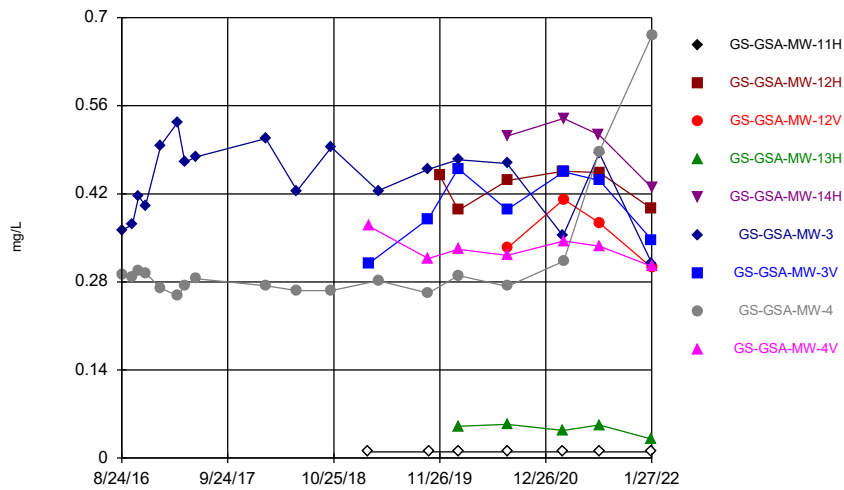
Constituent: Lead Analysis Run 5/11/2022 6:04 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Time Series



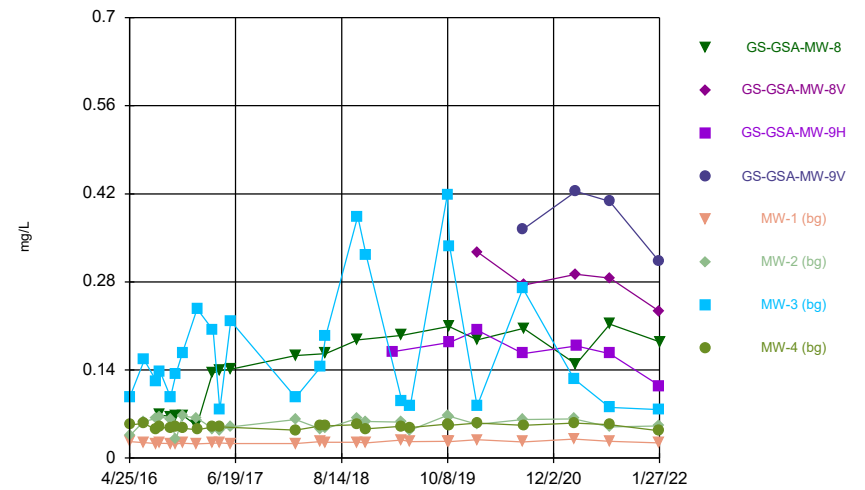
Constituent: Lead Analysis Run 5/11/2022 6:04 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Time Series



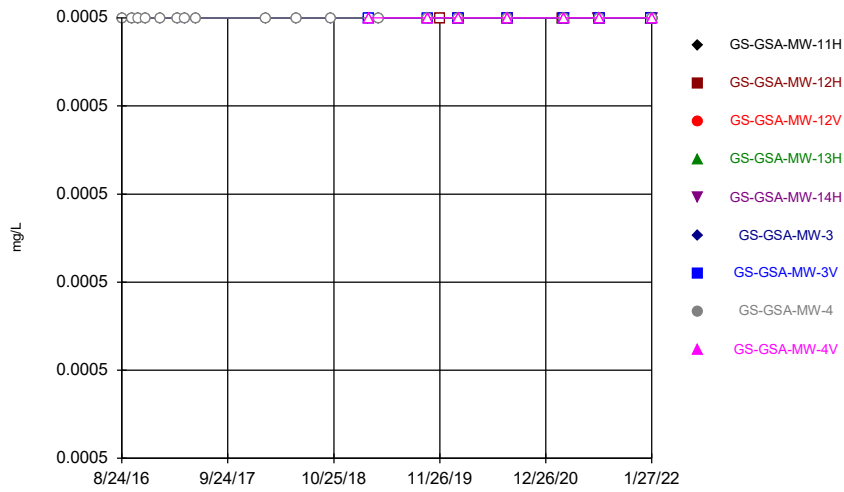
Constituent: Lithium Analysis Run 5/11/2022 6:04 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Time Series



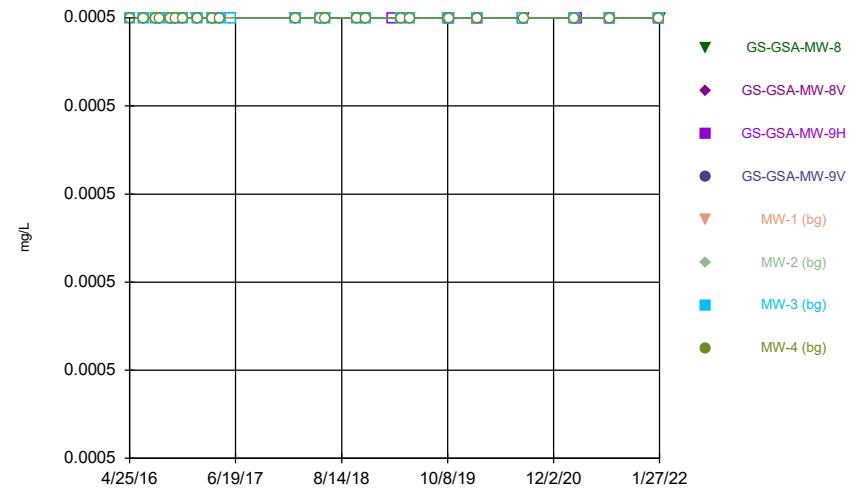
Constituent: Lithium Analysis Run 5/11/2022 6:04 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



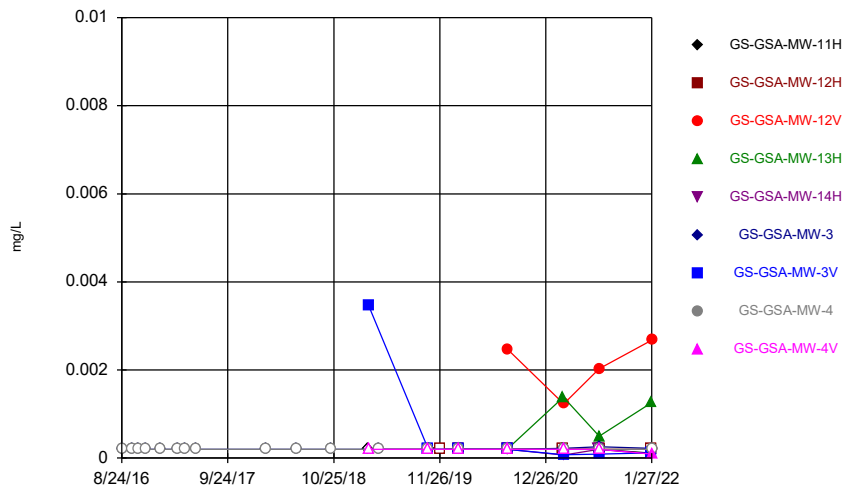
Constituent: Mercury Analysis Run 5/11/2022 6:04 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



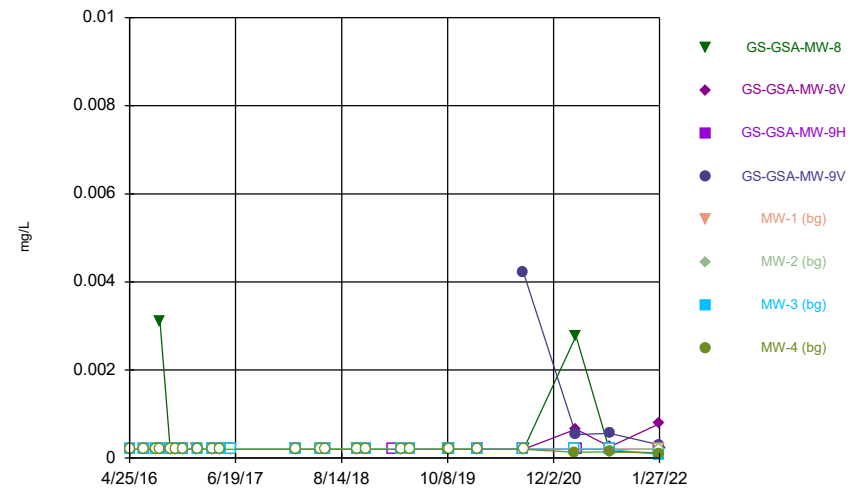
Constituent: Mercury Analysis Run 5/11/2022 6:04 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



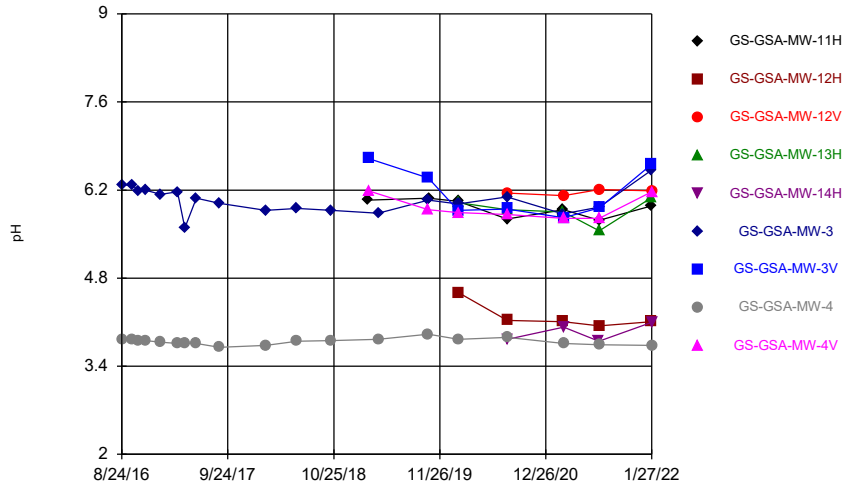
Constituent: Molybdenum Analysis Run 5/11/2022 6:04 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



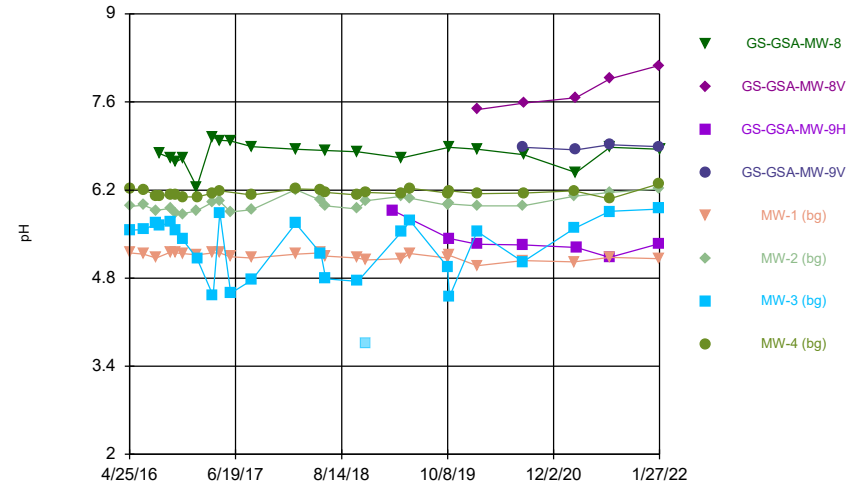
Constituent: Molybdenum Analysis Run 5/11/2022 6:04 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



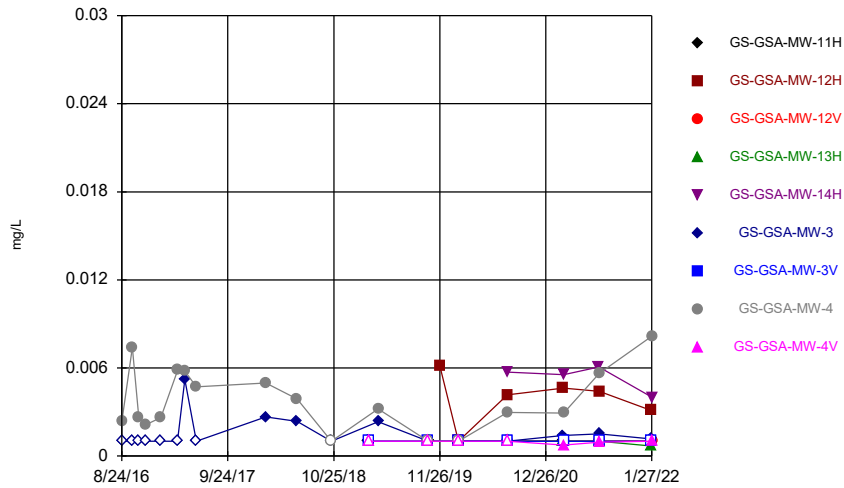
Constituent: pH Analysis Run 5/11/2022 6:04 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



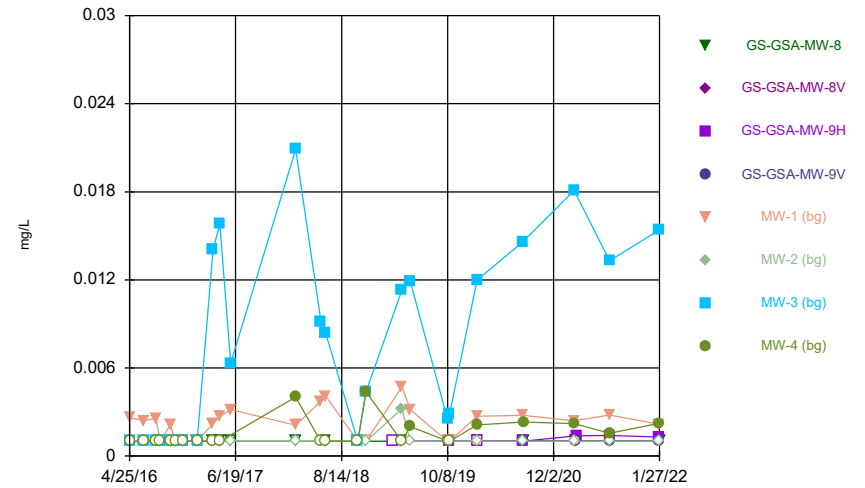
Constituent: pH Analysis Run 5/11/2022 6:04 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



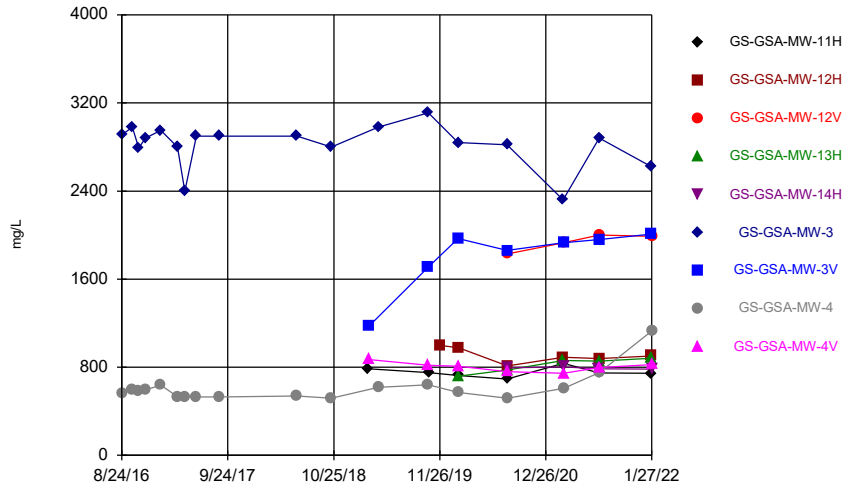
Constituent: Selenium Analysis Run 5/11/2022 6:04 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



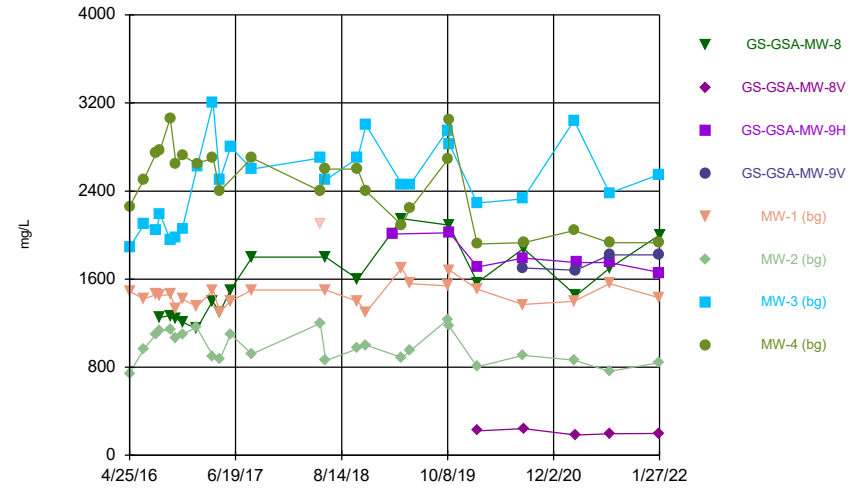
Constituent: Selenium Analysis Run 5/11/2022 6:04 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



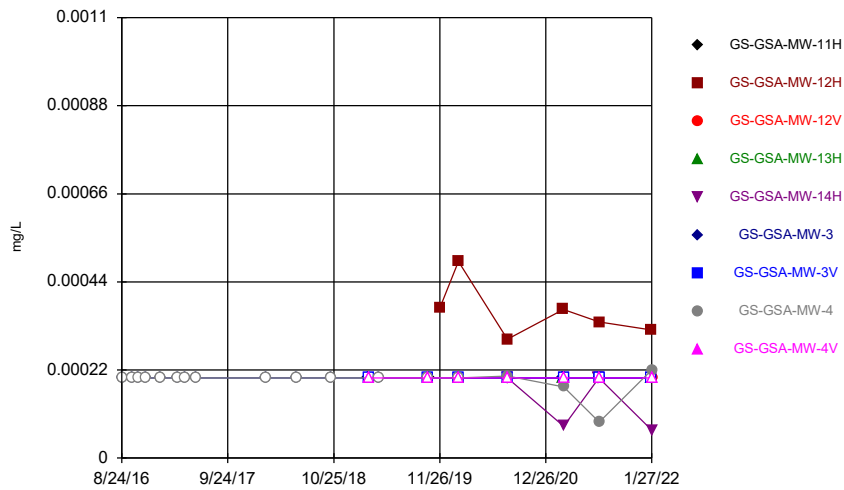
Constituent: Sulfate Analysis Run 5/11/2022 6:05 PM View: Constituents View  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



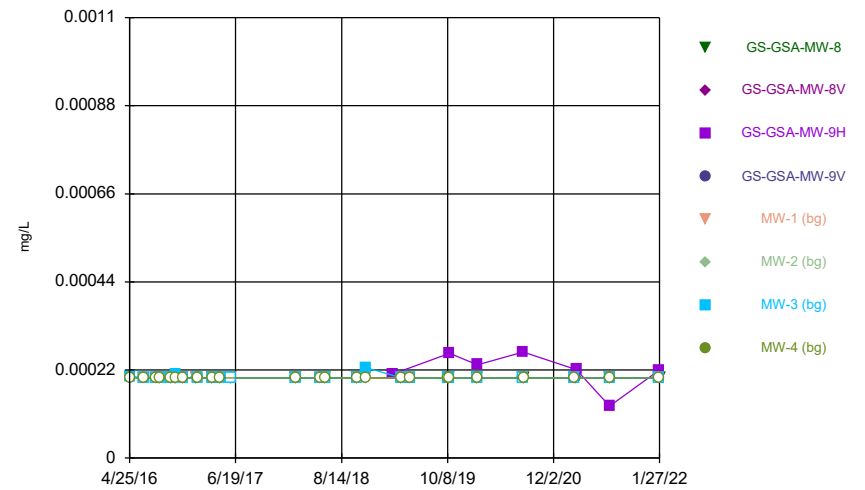
Constituent: Sulfate Analysis Run 5/11/2022 6:05 PM View: Constituents View  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



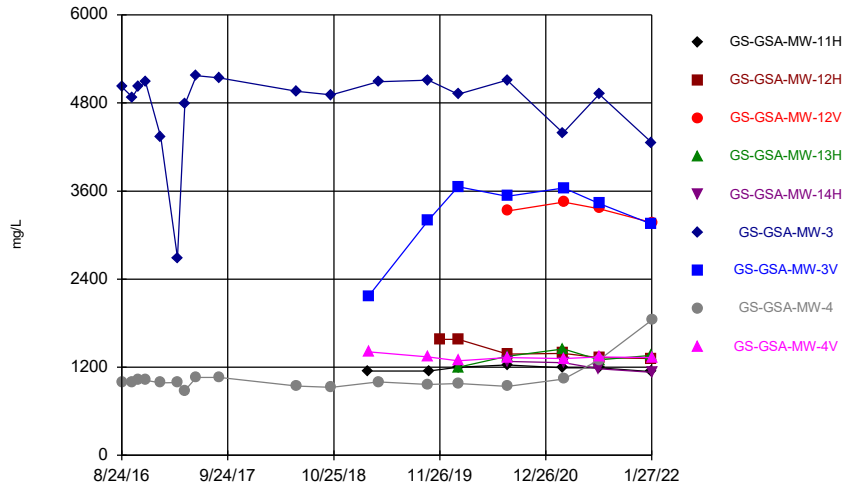
Constituent: Thallium Analysis Run 5/11/2022 6:05 PM View: Constituents View  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



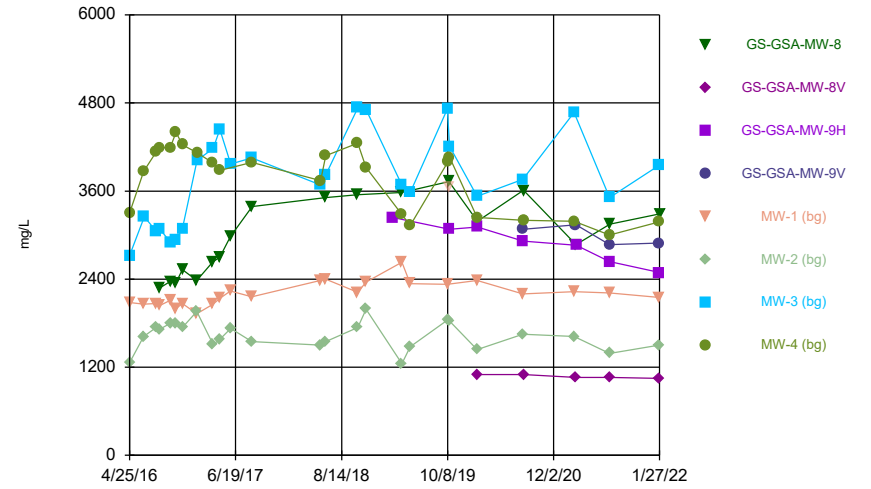
Constituent: Thallium Analysis Run 5/11/2022 6:05 PM View: Constituents View  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Time Series



Constituent: Total dissolved solids Analysis Run 5/11/2022 6:05 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Time Series



Constituent: Total dissolved solids Analysis Run 5/11/2022 6:05 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA



# Time Series

Constituent: Antimony (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						<0.00102		<0.00102	
10/3/2016						<0.00102		<0.00102	
10/26/2016						<0.00102		<0.00102	
11/21/2016						<0.00102		<0.00102	
1/17/2017						<0.00102		<0.00102	
3/20/2017						<0.00102			
3/21/2017								<0.00102	
4/17/2017						<0.00102		<0.00102	
5/30/2017						<0.00102		<0.00102	
2/13/2018						<0.00102		<0.00102	
6/11/2018						<0.00102		<0.00102	
10/17/2018						<0.00102		<0.00102	
3/4/2019	0.00149 (J)								
3/5/2019							0.00179 (J)		<0.00102
4/10/2019						0.00111 (J)		0.000976 (J)	
10/14/2019						<0.00102	<0.00102	<0.00102	<0.00102
10/16/2019	<0.00102								
11/26/2019		<0.00102							
2/3/2020						<0.00102	<0.00102		<0.00102
2/4/2020	<0.00102	<0.00102		<0.00102				<0.00102	
8/4/2020	<0.00102			<0.00102		<0.00102	<0.00102		
8/5/2020		<0.00102	<0.00102		<0.00102			<0.00102	<0.00102
3/1/2021						<0.00102			
3/2/2021	<0.00102	<0.00102		<0.00102					
3/3/2021			<0.00102		<0.00102		<0.00102	<0.00102	<0.00102
7/13/2021					<0.00102				
7/14/2021	<0.00102	<0.00102	<0.00102	<0.00102		<0.00102		<0.00102	<0.00102
7/15/2021							<0.00102		
1/25/2022		<0.00102							
1/26/2022	<0.00102			<0.00102		0.00066 (J)	0.00052 (J)		
1/27/2022			<0.00102		<0.00102			<0.00102	0.00054 (J)

# Time Series

Constituent: Antimony (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	GS-GSA-MW-9V	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	<0.00102
10/3/2016	<0.00102				<0.00102	<0.00102		<0.00102
10/4/2016							<0.00102	
10/26/2016	<0.00102				<0.00102	<0.00102	<0.00102	<0.00102
11/21/2016	<0.00102				<0.00102	<0.00102	<0.00102	<0.00102
1/17/2017	<0.00102				<0.00102	<0.00102		
1/18/2017							<0.00102	<0.00102
3/20/2017	<0.00102							
3/22/2017					<0.00102	<0.00102	<0.00102	<0.00102
4/18/2017	<0.00102				<0.00102	<0.00102	<0.00102	<0.00102
5/30/2017	<0.00102				<0.00102			
5/31/2017						<0.00102	<0.00102	
2/13/2018	<0.00102				<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	<0.00102
10/17/2018	<0.00102				<0.00102	<0.00102	<0.00102	<0.00102
11/19/2018					<0.00102	<0.00102	<0.00102	<0.00102
3/5/2019			0.000852 (J)					
4/10/2019	0.00102 (J)				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
10/14/2019	<0.00102							
10/16/2019			<0.00102		<0.00102	<0.00102	<0.00102	<0.00102
2/3/2020					<0.00102	<0.00102	<0.00102	<0.00102
2/4/2020	<0.00102		<0.00102					
2/5/2020		<0.00102						
8/3/2020					<0.00102	<0.00102	<0.00102	
8/4/2020			<0.00102	<0.00102				
8/5/2020	<0.00102	<0.00102						<0.00102
2/22/2021					<0.00102	<0.00102	<0.00102	<0.00102
3/1/2021	<0.00102	<0.00102		<0.00102				
3/2/2021			<0.00102					
7/12/2021					<0.00102	<0.00102	<0.00102	<0.00102
7/13/2021			<0.00102	<0.00102				
7/14/2021	<0.00102	<0.00102						
1/25/2022					<0.00102	<0.00102	<0.00102	<0.00102
1/26/2022		<0.00102	<0.00102	<0.00102				
1/27/2022	<0.00102							

# Time Series

Constituent: Arsenic (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						<0.005		<0.005	
10/3/2016						<0.005		<0.005	
10/26/2016						<0.005		<0.005	
11/21/2016						<0.005		<0.005	
1/17/2017						<0.005		<0.005	
3/20/2017						<0.005			
3/21/2017								<0.005	
4/17/2017						0.00405 (J)		<0.005	
5/30/2017						<0.005		<0.005	
2/13/2018						<0.005		<0.005	
6/11/2018						<0.005		<0.005	
10/17/2018						<0.005		<0.005	
3/4/2019	<0.005								
3/5/2019							<0.005		<0.005
4/10/2019						0.00121 (J)		0.00176 (J)	
10/14/2019						<0.005	<0.005	0.0012 (J)	<0.005
10/16/2019	<0.005								
11/26/2019		0.00194 (J)							
2/3/2020						<0.005	<0.005		0.00101 (J)
2/4/2020	<0.005	0.00157 (J)		0.16				0.00128 (J)	
8/4/2020	<0.005			0.103		<0.005	<0.005		
8/5/2020		0.00158 (J)	<0.005		0.00181 (J)			0.00115 (J)	0.00116 (J)
3/1/2021						0.0014			
3/2/2021	0.00039	0.00138		0.293					
3/3/2021			0.000339		0.00155		0.000296	0.00116	0.00107
7/13/2021					0.00172				
7/14/2021	0.00041	0.00161	0.00048	0.104		0.00057		0.00174	0.00118
7/15/2021							0.00028		
1/25/2022		0.00129							
1/26/2022	0.00043			0.283		0.00136	0.00036		
1/27/2022			0.00066		0.00128			0.00274	0.00124

# Time Series

Constituent: Arsenic (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	GS-GSA-MW-9V	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	0.00119 (J)				<0.005	<0.005	<0.005	<0.005
10/3/2016	0.00114 (J)				<0.005	<0.005		<0.005
10/4/2016							<0.005	
10/26/2016	0.0011 (J)				<0.005	<0.005	<0.005	<0.005
11/21/2016	<0.005				<0.005	0.00111 (J)	<0.005	<0.005
1/17/2017	0.00103 (J)				<0.005	<0.005		
1/18/2017							<0.005	<0.005
3/20/2017	<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	<0.005
5/30/2017	<0.005				<0.005			
5/31/2017						<0.005	<0.005	
2/13/2018	<0.005				<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	<0.005	0.00103 (J)	<0.005
10/17/2018	<0.005				<0.005	<0.005	0.00133 (J)	<0.005
11/19/2018					<0.005	<0.005	0.0012 (J)	<0.005
3/5/2019			<0.005					
4/10/2019	<0.005				<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
10/14/2019	<0.005							
10/16/2019			0.0019 (J)		<0.005	<0.005	0.00389 (J)	<0.005
2/3/2020					<0.005	<0.005	<0.005	<0.005
2/4/2020	<0.005		0.00123 (J)					
2/5/2020		0.00232 (J)						
8/3/2020					<0.005	<0.005	0.00426 (J)	
8/4/2020			0.00137 (J)	<0.005				
8/5/2020	<0.005	0.00476 (J)						<0.005
2/22/2021					0.000403	0.000295	0.000789	0.000125 (J)
3/1/2021	0.000633	0.0105		0.00136				
3/2/2021			0.00105					
7/12/2021					0.00036	0.00036	0.00038	0.00012 (J)
7/13/2021			0.00113	0.00168				
7/14/2021	0.00024	0.00692						
1/25/2022					0.00025	0.00033	0.00027	9E-05 (J)
1/26/2022		0.00542	0.00113	0.00128				
1/27/2022	0.00027							

# Time Series

Constituent: Barium (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						0.0155		0.0135	
10/3/2016						0.0156		0.0127	
10/26/2016						0.0122		0.0118	
11/21/2016						0.0128		0.012	
1/17/2017						0.0125		0.0119	
3/20/2017						0.0124			
3/21/2017								0.0116	
4/17/2017						0.0149		0.0112	
5/30/2017						0.0121		0.0117	
2/13/2018						0.0118		0.0121	
6/11/2018						0.0127		0.0139	
10/17/2018						0.013		0.0125	
3/4/2019	0.0239								
3/5/2019							0.0956		0.0136
4/10/2019						0.0153		0.0136	
10/14/2019						0.0122	0.0451	0.0147	0.0123
10/16/2019	0.0192								
11/26/2019		0.0184							
2/3/2020						0.0141	0.0215		0.0103
2/4/2020	0.0148	0.0141		0.0296				0.0124	
8/4/2020	0.0138			0.0275		0.0139	0.017		
8/5/2020		0.016	0.0157		0.0113			0.0142	0.0112
3/1/2021						0.0154			
3/2/2021	0.0118	0.0134		0.0315					
3/3/2021			0.0126		0.0109		0.0181	0.0117	0.0103
7/13/2021					0.0102				
7/14/2021	0.0127	0.013	0.0116	0.0217		0.0136		0.0115	0.01
7/15/2021							0.0157		
1/25/2022		0.013							
1/26/2022	0.0139			0.0334		0.0148	0.0161		
1/27/2022			0.0125		0.0122			0.0131	0.0108

# Time Series

Constituent: Barium (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	GS-GSA-MW-9V	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	0.0536				0.00949 (J)	0.0139	0.00962 (J)	0.0118
10/3/2016	0.0681				0.0105	0.0164		0.0119
10/4/2016							0.00984 (J)	
10/26/2016	0.0562				0.00931 (J)	0.0138	0.00878 (J)	0.0104
11/21/2016	0.0604				0.00879 (J)	0.0144	0.00833 (J)	0.0106
1/17/2017	0.0402				0.00929 (J)	0.0135		
1/18/2017							0.00966 (J)	0.0101
3/20/2017	0.0305							
3/22/2017					0.00938 (J)	0.0132	0.00991 (J)	0.0103
4/18/2017	0.0276				0.00964 (J)	0.012	0.00976 (J)	0.0107
5/30/2017	0.0272				0.00982 (J)			
5/31/2017						0.0126	0.00866 (J)	
2/13/2018	0.0249				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	0.0234				0.0104	0.0138	0.00997 (J)	0.0108
10/17/2018	0.0236				0.00952 (J)	0.0137	0.0126	0.0119
11/19/2018					0.00915 (J)	0.0115	0.0109	0.0107
3/5/2019			0.0312					
4/10/2019	0.02				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
10/14/2019	0.0215							
10/16/2019			0.0163		0.0106	0.0146	0.0128	0.0125
2/3/2020					0.00995 (J)	0.0122	0.0086 (J)	0.0103
2/4/2020	0.0209		0.0148					
2/5/2020		0.096						
8/3/2020					0.0107	0.0147	0.0166	
8/4/2020			0.0153	0.0155				
8/5/2020	0.0216	0.125						0.0125
2/22/2021					0.0107	0.0132	0.00981	0.0111
3/1/2021	0.0194	0.15		0.012				
3/2/2021			0.0149					
7/12/2021					0.00991	0.013	0.00857	0.0108
7/13/2021			0.0141	0.013				
7/14/2021	0.0232	0.148						
1/25/2022					0.0098	0.0122	0.00821	0.00908
1/26/2022		0.137	0.0146	0.012				
1/27/2022	0.0238							

# Time Series

Constituent: Beryllium (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						<0.00102		0.00576	
10/3/2016						<0.00102		0.00469	
10/26/2016						0.000922 (J)		0.00459	
11/21/2016						0.00133 (J)		0.00502	
1/17/2017						0.0017 (J)		0.00488	
3/20/2017						0.00191 (J)			
3/21/2017								0.00521	
4/17/2017						0.00655		0.0058	
5/30/2017						0.00204 (J)		0.00517	
2/13/2018						0.00387		0.00544	
6/11/2018						0.00244 (J)		0.00463	
10/17/2018						0.00345		0.00369	
3/4/2019	<0.00102								
3/5/2019							<0.00102		0.00155 (J)
4/10/2019						0.00257 (J)		0.00469	
10/14/2019						0.00162 (J)	<0.00102	0.00403	0.00382
10/16/2019	<0.00102								
11/26/2019		0.0084							
2/3/2020						0.00141 (J)	<0.00102		0.00362
2/4/2020	<0.00102	0.00709		<0.00102				0.00415	
8/4/2020	<0.00102			<0.00102		0.00174 (J)	<0.00102		
8/5/2020		0.00747	<0.00102		0.00879			0.00385	0.00416
3/1/2021						0.00157			
3/2/2021	<0.00102	0.00703		<0.00102					
3/3/2021			<0.00102		0.00818		<0.00102	0.00406	0.0032
7/13/2021					0.00883				
7/14/2021	<0.00102	0.00755	<0.00102	<0.00102		0.00175		0.00577	0.00381
7/15/2021							<0.00102		
1/25/2022		0.00729							
1/26/2022	<0.00102			<0.00102		0.00179	<0.00102		
1/27/2022			<0.00102		0.00718			0.00768	0.00431

# Time Series

Constituent: Beryllium (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	GS-GSA-MW-9V	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	<0.00102	0.00308	<0.00102
10/3/2016	<0.00102				<0.00102	<0.00102		<0.00102
10/4/2016							0.00129 (J)	
10/26/2016	<0.00102				<0.00102	<0.00102	0.0071	<0.00102
11/21/2016	<0.00102				<0.00102	<0.00102	0.00689	<0.00102
1/17/2017	<0.00102				<0.00102	<0.00102		
1/18/2017							0.0169 (o)	<0.00102
3/20/2017	<0.00102							
3/22/2017					<0.00102	<0.00102	0.00686	<0.00102
4/18/2017	<0.00102				<0.00102	<0.00102	<0.00102	<0.00102
5/30/2017	<0.00102				<0.00102			
5/31/2017						<0.00102	0.00547	
2/13/2018	<0.00102				<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	<0.00102	0.00306	<0.00102
10/17/2018	<0.00102				<0.00102	<0.00102	0.0121	<0.00102
11/19/2018					<0.00102	<0.00102	0.0185 (o)	<0.00102
3/5/2019			<0.00102					
4/10/2019	<0.00102				<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
10/14/2019	<0.00102							
10/16/2019			0.000985 (J)		<0.00102	<0.00102	0.0103	<0.00102
2/3/2020					<0.00102	<0.00102	<0.00102	<0.00102
2/4/2020	<0.00102		0.000929 (J)					
2/5/2020		<0.00102						
8/3/2020					<0.00102	<0.00102	0.00405	
8/4/2020			0.000882 (J)	<0.00102				
8/5/2020	<0.00102	<0.00102						<0.00102
2/22/2021					<0.00102	<0.00102	<0.00102	<0.00102
3/1/2021	<0.00102	<0.00102		<0.00102				
3/2/2021			0.000724 (J)					
7/12/2021					<0.00102	<0.00102	<0.00102	<0.00102
7/13/2021			0.00073 (J)	<0.00102				
7/14/2021	<0.00102	<0.00102						
1/25/2022					<0.00102	<0.00102	<0.00102	<0.00102
1/26/2022		<0.00102	0.00063 (J)	<0.00102				
1/27/2022	<0.00102							



# Time Series

Constituent: Boron (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						0.799		4.88	
10/3/2016						0.889		4.75	
10/26/2016						1.23		4.96	
11/21/2016						1.72		4.82	
1/17/2017						2.63		3.97	
3/20/2017						3.11			
3/21/2017								3.39	
4/17/2017						4.51		3.46	
5/30/2017						2.9		3.79	
8/24/2017						2.83		4.19	
6/11/2018						3.09		3.96	
10/17/2018						2.59		3.98	
3/4/2019	0.0235 (J)								
3/5/2019							0.895		7.15
4/10/2019						3.35		3.74	
10/14/2019						2.48	2.38	3.37	5.64
10/16/2019	0.0352 (J)								
11/26/2019		0.0798 (J)							
2/3/2020						2.13	3.06		5.25
2/4/2020	<0.1015	0.0748 (J)		0.202				2.74	
8/4/2020	<0.1015			0.263		1.82	2.8		
8/5/2020		0.0748 (J)	1.55		0.158			2.51	4.41
3/1/2021						2.55			
3/2/2021	0.0305 (J)	0.0875 (J)							
3/3/2021			1.54		0.203		2.99	2.42	4.09
7/13/2021					0.139				
7/14/2021	<0.1015	0.0742 (J)	1.55	0.229		1.47		4.78	3.68
7/15/2021							3.04		
1/25/2022		0.0645 (J)							
1/26/2022	<0.1015			0.206		2.5	2.81		
1/27/2022			1.52		0.148			6.1	3.47

# Time Series

Constituent: Boron (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

Date	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	GS-GSA-MW-9V	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	0.0898 (J)				0.0247 (J)	0.0316 (J)	0.0431 (J)	0.0451 (J)
10/3/2016	0.0821 (J)				0.0307 (J)	0.0367 (J)		0.0511 (J)
10/4/2016							0.04 (J)	
10/26/2016	0.0889 (J)				0.0241 (J)	0.0331 (J)	0.0375 (J)	0.0507 (J)
11/21/2016	0.0788 (J)				0.0202 (J)	0.035 (J)	0.0406 (J)	0.0458 (J)
1/17/2017	0.0607 (J)				0.0201 (J)	0.0259 (J)		
1/18/2017							0.0548 (J)	0.0445 (J)
3/20/2017	0.114							
3/22/2017					0.0224 (J)	0.0243 (J)	0.0344 (J)	0.0432 (J)
4/18/2017	0.108				<0.1015	0.0206 (J)	<0.1015	0.0409 (J)
5/30/2017	0.105				<0.1015			
5/31/2017						0.0234 (J)	0.0454 (J)	
8/23/2017					0.0253 (J)	0.0267 (J)	0.0425 (J)	0.042 (J)
8/24/2017	0.12							
5/22/2018					0.0224 (J)	0.0251 (J)		
5/23/2018								0.0433 (J)
5/24/2018							0.0339 (J)	
6/12/2018	0.181				0.0214 (J)	0.0275 (J)	0.0371 (J)	0.0478 (J)
10/17/2018	0.616				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)
3/5/2019		12.8						
4/10/2019	0.944				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)
10/14/2019	2.11							
10/16/2019			10.7		0.0385 (J)	0.0419 (J)	0.05 (J)	0.0505 (J)
2/3/2020					<0.1015	<0.1015	<0.1015	0.0433 (J)
2/4/2020	1.47		9.63					
2/5/2020		0.136						
8/3/2020					<0.1015	0.0317 (J)	0.0424 (J)	
8/4/2020			8.53	0.149				
8/5/2020	2.16	0.131						0.0459 (J)
2/22/2021					0.0307 (J)	<0.1015	<0.1015	0.0397 (J)
3/1/2021	1.85	0.145		0.147				
3/2/2021			6.68					
7/12/2021					<0.1015	<0.1015	<0.1015	0.0411 (J)
7/13/2021			5.84	0.125				
7/14/2021	2.07	0.147						
1/25/2022					<0.1015	<0.1015	<0.1015	0.0408 (J)
1/26/2022		0.153	5.87	0.11				
1/27/2022	2.76							

# Time Series

Constituent: Cadmium (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						<0.0002		0.00148	
10/3/2016						<0.0002		0.00147	
10/26/2016						<0.0002		0.00157	
11/21/2016						<0.0002		0.00154	
1/17/2017						<0.0002		0.00131	
3/20/2017						<0.0002			
3/21/2017								0.00134	
4/17/2017						<0.0002		0.00122	
5/30/2017						<0.0002		0.00167	
2/13/2018						<0.0002		0.00145	
6/11/2018						<0.0002		0.00171	
10/17/2018						<0.0002		0.00188	
3/4/2019	<0.0002								
3/5/2019							<0.0002		<0.0002
4/10/2019						<0.0002		0.00176	
10/14/2019						<0.0002	<0.0002	0.0015	<0.0002
10/16/2019	<0.0002								
11/26/2019		0.00351							
2/3/2020						<0.0002	<0.0002		<0.0002
2/4/2020	<0.0002	0.00301		<0.0002				0.00143	
8/4/2020	<0.0002			<0.0002		<0.0002	<0.0002		
8/5/2020		0.00393	<0.0002		0.0018			0.00157	<0.0002
3/1/2021						<0.0002			
3/2/2021	0.000366	0.00319		<0.0002					
3/3/2021			<0.0002		0.0016		<0.0002	0.00162	<0.0002
7/13/2021					0.00157				
7/14/2021	0.00028	0.00301	<0.0002	<0.0002		<0.0002		0.00246	<0.0002
7/15/2021							<0.0002		
1/25/2022		0.00333							
1/26/2022	0.00029			7E-05 (J)		<0.0002	<0.0002		
1/27/2022			<0.0002		0.00137			0.00336	<0.0002

# Time Series

Constituent: Cadmium (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	GS-GSA-MW-9V	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	<0.0002				0.00182	<0.0002	<0.0002	<0.0002
10/3/2016	<0.0002				0.00188	<0.0002		<0.0002
10/4/2016							0.000689 (J)	
10/26/2016	<0.0002				0.00175	<0.0002	0.00136	<0.0002
11/21/2016	<0.0002				0.00197	<0.0002	0.00171	<0.0002
1/17/2017	<0.0002				0.002	0.000311 (J)		
1/18/2017							0.003	<0.0002
3/20/2017	<0.0002							
3/22/2017					0.0019	<0.0002	0.00473	<0.0002
4/18/2017	<0.0002				0.00159	<0.0002	0.00117	<0.0002
5/30/2017	<0.0002				0.00214			
5/31/2017						0.000212 (J)	0.00296	
2/13/2018	<0.0002				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	<0.0002				0.00217	<0.0002	0.00351	<0.0002
10/17/2018	<0.0002				0.00228	<0.0002	0.00393	<0.0002
11/19/2018					0.00156	<0.0002	0.00309	<0.0002
3/5/2019			0.000336 (J)					
4/10/2019	<0.0002				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
10/14/2019	<0.0002							
10/16/2019			0.000362 (J)		0.00225	<0.0002	0.00448	<0.0002
2/3/2020					0.00182	<0.0002	0.000988 (J)	<0.0002
2/4/2020	<0.0002		0.000349 (J)					
2/5/2020		<0.0002						
8/3/2020					0.00237	<0.0002	0.00652	
8/4/2020			0.000308 (J)	<0.0002				
8/5/2020	<0.0002	<0.0002						<0.0002
2/22/2021					0.00184	8.96E-05 (J)	0.00536	8.96E-05 (J)
3/1/2021	<0.0002	<0.0002		<0.0002				
3/2/2021			0.000338					
7/12/2021					0.00193	8E-05 (J)	0.00094	8E-05 (J)
7/13/2021			0.00028	<0.0002				
7/14/2021	<0.0002	<0.0002						
1/25/2022					0.00196	8E-05 (J)	0.00178	<0.0002
1/26/2022		<0.0002	0.00024	<0.0002				
1/27/2022	<0.0002							

# Time Series

Constituent: Calcium (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						539		102	
10/3/2016						519.7		98.4	
10/26/2016						916		88.7	
11/21/2016						552		104	
1/17/2017						572		102	
3/20/2017						817			
3/21/2017								94.7	
4/17/2017						476		97.9	
5/30/2017						515		93.9	
8/24/2017						598		105	
6/11/2018						558		105	
10/17/2018						533		117	
3/4/2019	177								
3/5/2019							329		249
4/10/2019						659		129	
10/14/2019						552	368	93.5	173
10/16/2019	143								
11/26/2019		144							
2/3/2020						589	504		184
2/4/2020	163	158		171				116	
8/4/2020	139			192		545	443		
8/5/2020		126	350		141			94.7	167
3/1/2021						514			
3/2/2021	139	124		164					
3/3/2021			353		137		466	100	161
7/13/2021					135				
7/14/2021	133	124	338	179		533		130	162
7/15/2021							453		
1/25/2022		124							
1/26/2022	143			158		517	448		
1/27/2022			347		124			181	172

# Time Series

Constituent: Calcium (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	GS-GSA-MW-9V	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	263				142	180	274	319
10/3/2016	253				139	184		293
10/4/2016							243	
10/26/2016	235				133	171	254	311
11/21/2016	246				144	179	263	320
1/17/2017	231				131	188		
1/18/2017							431	417
3/20/2017	298							
3/22/2017					141	155	318	292
4/18/2017	317				149	156	296	302
5/30/2017	316				140			
5/31/2017						151	306	
8/23/2017					152	155	298	297
8/24/2017	391							
5/22/2018					166	172		
5/23/2018								296
5/24/2018							297	
6/12/2018	442				203	179	318	355
10/17/2018	514				171	200	392	342
11/19/2018					154	221	387	289
3/5/2019			578					
4/10/2019	533				243	200	348	356
5/14/2019					167	168	254	254
10/8/2019					157	190	371	
10/10/2019								302
10/14/2019	524							
10/16/2019			363		157	194	346	356
2/3/2020					172	172	276	265
2/4/2020	461		413					
2/5/2020		37.3						
8/3/2020					148	172	285	
8/4/2020			346	434				
8/5/2020	497	31.9						281
2/22/2021					151	178	312	271
3/1/2021	386	26.2		428				
3/2/2021			333					
7/12/2021					149	159	252	242
7/13/2021			312	408				
7/14/2021	444	29						
1/25/2022					150	179	285	259
1/26/2022		31.5	300	417				
1/27/2022	491							

# Time Series

Constituent: Chloride (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						204		112	
10/3/2016						220		115	
10/26/2016						249		115	
11/21/2016						256		117	
1/17/2017						301		99.3	
3/20/2017						320			
3/21/2017								79	
4/17/2017						340		85	
5/30/2017						310		99	
8/24/2017						290		110	
6/11/2018						260		81	
10/17/2018						270		85	
3/4/2019	3.81								
3/5/2019							194		191
4/10/2019						249		74.3	
10/14/2019						228	298	59.1	122
10/16/2019	4.45								
11/26/2019		2.43							
2/3/2020						267	338		101
2/4/2020	4.27	2.34		12.9				43.2	
8/4/2020	4.51			12.7		222	305		
8/5/2020		2	159		3.28			41	80.9
3/1/2021						250			
3/2/2021	4.63	2.28		10.9					
3/3/2021			152		4.8		307	40.3	70.8
7/13/2021					2.41				
7/14/2021	4.7	1.69	189	11.5		207		102	68.4
7/15/2021							294		
1/25/2022		1.83							
1/26/2022	5.4			10.2		255	238		
1/27/2022			171		3.75			103	51.9

# Time Series

Constituent: Chloride (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	GS-GSA-MW-9V	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	4.03				2.22	3.23	1.47	2.07
10/3/2016	3.87				2.34	3.21		2.02
10/4/2016							1.59	
10/26/2016	4.08				2.34	3.35	1.27	2.07
11/21/2016	4.39				2.5	3.34	1.38	2.39
1/17/2017	7.22				2.68	3.58		
1/18/2017							1.34	1.9
3/20/2017	5.7							
3/22/2017					3.7	3.4	2	1.5 (J)
4/18/2017	4.7				2.4	2.6	2.2	1.6 (J)
5/30/2017	15				2.6			
5/31/2017						4.4	1.5 (J)	
8/23/2017					2.7	4.4	1.8 (J)	2.3
8/24/2017	93							
5/22/2018					2.3	3.2		
5/23/2018								2
5/24/2018							1.6 (J)	
6/12/2018	140				2.3	3.7	1.4 (J)	1.7 (J)
10/17/2018	180				1.7 (J)	4.6	<2	1.5 (J)
11/19/2018					1.7 (J)	3	<2	<2
3/5/2019			313					
4/10/2019	174				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
10/14/2019	207							
10/16/2019			145		2.42	4.04	1.4	1.92
2/3/2020					2.07	2.48	2.12	1.72
2/4/2020	94.1		139					
2/5/2020		9.05						
8/3/2020					2.05	4.03	1.17	
8/4/2020			109	58.6				
8/5/2020	146	13.9						1.57
2/22/2021					2.16	1.72	2.22	1.52
3/1/2021	92.5	19.4		58.7				
3/2/2021			84.7					
7/12/2021					2.19	2.36	2.13	1.56
7/13/2021			78.6	62				
7/14/2021	129	16.7						
1/25/2022					2.09	2.14	2.12	1.54
1/26/2022		18.9	59.3	57.2				
1/27/2022	122							



# Time Series

Constituent: Chromium (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						<0.00102		<0.00102	
10/3/2016						<0.00102		<0.00102	
10/26/2016						<0.00102		<0.00102	
11/21/2016						<0.00102		<0.00102	
1/17/2017						<0.00102		<0.00102	
3/20/2017						<0.00102			
3/21/2017								<0.00102	
4/17/2017						<0.00102		<0.00102	
5/30/2017						<0.00102		<0.00102	
2/13/2018						<0.00102		<0.00102	
6/11/2018						<0.00102		<0.00102	
10/17/2018						<0.00102		<0.00102	
3/4/2019	<0.00102								
3/5/2019							<0.00102		<0.00102
4/10/2019						<0.00102		<0.00102	
10/14/2019						<0.00102	<0.00102	<0.00102	<0.00102
10/16/2019	<0.00102								
11/26/2019		<0.00102							
2/3/2020						<0.00102	<0.00102		<0.00102
2/4/2020	<0.00102	<0.00102		<0.00102				<0.00102	
8/4/2020	<0.00102			<0.00102		<0.00102	<0.00102		
8/5/2020		<0.00102	<0.00102		<0.00102			<0.00102	<0.00102
3/1/2021						0.000386 (J)			
3/2/2021	0.000295 (J)	0.000242 (J)		0.000285 (J)					
3/3/2021			<0.00102		<0.00102		<0.00102	0.000567 (J)	<0.00102
7/13/2021					0.0005 (J)				
7/14/2021	0.00034 (J)	0.00059 (J)	0.00025 (J)	0.00032 (J)		0.00039 (J)		0.0007 (J)	0.00027 (J)
7/15/2021							0.00027 (J)		
1/25/2022		0.00033 (J)							
1/26/2022	0.00052 (J)			0.00023 (J)		0.00048 (J)	0.0005 (J)		
1/27/2022			0.00025 (J)		0.0005 (J)			0.00107	0.00029 (J)

# Time Series

Constituent: Chromium (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	GS-GSA-MW-9V	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	<0.00102
10/3/2016	<0.00102				<0.00102	<0.00102		<0.00102
10/4/2016							<0.00102	
10/26/2016	<0.00102				<0.00102	<0.00102	<0.00102	<0.00102
11/21/2016	<0.00102				<0.00102	<0.00102	<0.00102	<0.00102
1/17/2017	<0.00102				<0.00102	<0.00102		
1/18/2017							<0.00102	<0.00102
3/20/2017	<0.00102							
3/22/2017					<0.00102	<0.00102	0.00945 (J)	<0.00102
4/18/2017	<0.00102				<0.00102	<0.00102	0.0105	<0.00102
5/30/2017	<0.00102				<0.00102			
5/31/2017						<0.00102	<0.00102	
2/13/2018	<0.00102				<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	<0.00102
10/17/2018	<0.00102				<0.00102	<0.00102	<0.00102	<0.00102
11/19/2018					<0.00102	<0.00102	<0.00102	<0.00102
3/5/2019			<0.00102					
4/10/2019	<0.00102				<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
10/14/2019	<0.00102							
10/16/2019			<0.00102		<0.00102	<0.00102	<0.00102	<0.00102
2/3/2020					<0.00102	<0.00102	<0.00102	<0.00102
2/4/2020	<0.00102		<0.00102					
2/5/2020		<0.00102						
8/3/2020					<0.00102	<0.00102	<0.00102	
8/4/2020			<0.00102	<0.00102				
8/5/2020	<0.00102	<0.00102						<0.00102
2/22/2021					0.000382 (J)	<0.00102	0.00035 (J)	<0.00102
3/1/2021	0.000423 (J)	<0.00102		<0.00102				
3/2/2021			0.000218 (J)					
7/12/2021					0.00049 (J)	0.00025 (J)	0.00031 (J)	0.0003 (J)
7/13/2021			0.00026 (J)	0.0003 (J)				
7/14/2021	0.0003 (J)	<0.00102						
1/25/2022					0.00043 (J)	0.00022 (J)	0.00051 (J)	0.00021 (J)
1/26/2022		0.00023 (J)	0.00024 (J)	<0.00102				
1/27/2022	0.00046 (J)							

# Time Series

Constituent: Cobalt (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						0.0303		0.151	
10/3/2016						0.041		0.143	
10/26/2016						0.0505		0.154	
11/21/2016						0.0617		0.155	
1/17/2017						0.0793		0.16	
3/20/2017						0.0726			
3/21/2017								0.158	
4/17/2017						0.294 (o)		0.159	
5/30/2017						0.0832		0.159	
2/13/2018						0.124		0.19	
6/11/2018						0.138		0.166	
10/17/2018						0.138		0.154	
3/4/2019	0.0066								
3/5/2019							0.0059		0.0836
4/10/2019						0.151		0.241	
10/14/2019						0.102	0.00845	0.213	0.12
10/16/2019	0.00598								
11/26/2019		0.435							
2/3/2020						0.0843	0.0135		0.108
2/4/2020	0.00582	0.351		0.0442				0.217	
8/4/2020	0.0061			0.111		0.0862	0.0133		
8/5/2020		0.436	<0.0002		0.237			0.235	0.141
3/1/2021						0.119			
3/2/2021	0.00512	0.307		0.143					
3/3/2021			0.00028		0.202		0.0134	0.24	0.118
7/13/2021					0.193				
7/14/2021	0.00475	0.299	0.00018 (J)	0.116		0.0555		0.296	0.12
7/15/2021							0.0121		
1/25/2022		0.315							
1/26/2022	0.00479			0.228		0.0794	0.012		
1/27/2022			0.00022		0.178			0.406	0.124

# Time Series

Constituent: Cobalt (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	GS-GSA-MW-9V	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	0.0201				0.0471	0.093	0.271	<0.0002
10/3/2016	0.0167				0.0525	0.0964		<0.0002
10/4/2016							0.148	
10/26/2016	0.0253				0.0527	0.0904	0.236	<0.0002
11/21/2016	0.0233				0.0569	0.0857	0.241	<0.0002
1/17/2017	0.0708				0.0768	0.0745		
1/18/2017							0.347	<0.0002
3/20/2017	0.00277 (J)							
3/22/2017					0.0535	0.0328	0.271	<0.0002
4/18/2017	<0.0002				0.0442	0.0242	0.00324 (J)	<0.0002
5/30/2017	<0.0002				0.0465			
5/31/2017						0.0441	0.225	
2/13/2018	0.00492 (J)				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	<0.0002				0.0512	0.0366	0.291	<0.0002
10/17/2018	<0.0002				0.0751	0.0745	0.49	<0.0002
11/19/2018					0.0825	0.0225	0.386	<0.0002
3/5/2019			0.14					
4/10/2019	<0.0002				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
10/14/2019	<0.0002							
10/16/2019			0.168		0.08	0.073	0.848 (o)	<0.0002
2/3/2020					0.0495	0.0193	0.0114	<0.0002
2/4/2020	<0.0002		0.159					
2/5/2020		<0.0002						
8/3/2020					0.0722	0.0589	0.64	
8/4/2020			0.178	0.00412 (J)				
8/5/2020	<0.0002	<0.0002						<0.0002
2/22/2021					0.0657	0.0161	0.0515	<0.0002
3/1/2021	0.00546	<0.0002		0.000992				
3/2/2021			0.163					
7/12/2021					0.0556	0.0155	0.00567	<0.0002
7/13/2021			0.141	0.00077				
7/14/2021	0.00026	<0.0002						
1/25/2022					0.0654	0.0166	0.0051	<0.0002
1/26/2022		<0.0002	0.141	0.00054				
1/27/2022	0.00067							

# Time Series

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						0.389 (U)		0.741	
10/3/2016						0.683		0.648	
10/26/2016						0.242 (U)		0.632	
11/21/2016						0.764		1.57	
1/17/2017						0.191 (U)		0.493	
3/20/2017						-0.0158 (U)			
3/21/2017								0.604 (U)	
4/17/2017						0.307 (U)		0.252 (U)	
5/30/2017						0.724		0.925	
2/13/2018						0.633		0.382	
6/11/2018						0.773		0.796	
10/17/2018						0.668		0.922	
3/4/2019	0.135 (U)								
3/5/2019							0.932		0.364 (U)
4/10/2019						0.265 (U)		0.622	
10/14/2019						0.297 (U)	0.184 (U)	0.317 (U)	0.369 (U)
10/16/2019	0.189 (U)								
2/3/2020						0.28 (U)	0.408 (U)		0.758
2/4/2020	0.319 (U)	0.939		0.624				0.324 (U)	
8/4/2020	0.0315 (U)			-0.402 (U)		0.45 (U)	-0.00668 (U)		
8/5/2020		-0.306 (U)	-0.284 (U)		0.758 (U)			0.389 (U)	0.533 (U)
3/1/2021						0.57 (U)			
3/2/2021	0.308 (U)	2.18		0.686 (U)					
3/3/2021			0.388 (U)		0.185 (U)		1.11 (U)	0.836 (U)	0.325 (U)
7/13/2021					1.06 (U)				
7/14/2021	0.398 (U)	1.42	0.657 (U)	0.826 (U)		0.668 (U)		1.58	0.917 (U)
7/15/2021							0.362 (U)		
1/25/2022		1.22 (U)							
1/26/2022	0.506 (U)			0.354 (U)		0.335 (U)	0.546 (U)		
1/27/2022			0.361 (U)		0.247 (U)			0.791 (U)	0.624 (U)

# Time Series

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	GS-GSA-MW-9V	MW-1 (bg)	MW-2 (bg)	MW-3 (bg)	MW-4 (bg)
8/24/2016	0.558 (U)				0.566 (U)	0.65	0.131 (U)	0.266 (U)
10/3/2016	0.565				0.537 (U)	0.845		0.59 (U)
10/4/2016							0.514 (U)	
10/26/2016	0.555 (U)				0.636	0.994	0.755	0.164 (U)
11/21/2016	0.987				0.807	0.537 (U)	0.7	0.296 (U)
1/17/2017	0.476 (U)				0.308 (U)	-0.0159 (U)		
1/18/2017							0.606	0.0267 (U)
3/20/2017	0.633 (U)							
3/22/2017					0.344 (U)	0.279 (U)	0.927	0.132 (U)
4/18/2017	0.248 (U)				0.934	0.32 (U)	0.334 (U)	-0.0439 (U)
5/30/2017	0.412 (U)				0.149 (U)			
5/31/2017						0.178 (U)	0.8	0.3 (U)
2/13/2018	1.08				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	0.446 (U)				1.18	-0.315 (U)	0.234 (U)	0.153 (U)
10/17/2018	1.05				0.553 (U)	0.574 (U)	0.852	0.313 (U)
11/19/2018					0.862	0.654	0.521	0.794
3/5/2019			0.852					
4/10/2019	0.128 (U)				0.342 (U)	0.329 (U)	0.198 (U)	0.515
5/14/2019								0.352 (U)
10/8/2019					1.47	0.493 (U)	0.833 (U)	
10/10/2019								1.02 (U)
10/14/2019	0.225 (U)							
10/16/2019			1.29		0.204 (U)	0.046 (U)	0.0279 (U)	0.356 (U)
2/3/2020					0.521 (U)	-0.0245 (U)	0.0246 (U)	0.254 (U)
2/4/2020	0.336 (U)		0.441 (U)					
2/5/2020		0.576						
8/3/2020					-0.127 (U)	0.888 (U)	0.765 (U)	
8/4/2020			-0.385 (U)	0.837 (U)				
8/5/2020	-0.115 (U)	1.85						0.565 (U)
2/22/2021					0.677 (U)	0.434 (U)	0.472 (U)	0 (U)
3/1/2021	0.902 (U)	1.49		0.686 (U)				
3/2/2021			0.87 (U)					
7/12/2021					0.476 (U)	0.155 (U)	0.114 (U)	0.301 (U)
7/13/2021			0.877 (U)	0.194 (U)				
7/14/2021	1.23 (U)	1.85						
1/25/2022					1.01 (U)	0.663 (U)	0.418 (U)	0.884 (U)
1/26/2022		0.155 (U)	1.06	0.53 (U)				
1/27/2022	0.28 (U)							

# Time Series

Constituent: Fluoride (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						0.264 (J)		0.793	
10/3/2016						0.276 (J)		0.769	
10/26/2016						0.182 (J)		0.578	
11/21/2016						0.238 (J)		0.562	
1/17/2017						0.34		0.571	
3/20/2017						0.39			
3/21/2017								0.54	
4/17/2017						0.57		0.54	
5/30/2017						0.38		0.49	
8/24/2017						0.54		0.7	
2/13/2018						0.57		0.63	
6/11/2018						0.63		0.39	
10/17/2018						0.78		0.44	
3/4/2019	0.101								
3/5/2019							0.249		0.477
4/10/2019						0.738		<0.1	
10/14/2019						0.619	0.37	<0.1	0.449
10/16/2019	0.0875 (J)								
11/26/2019		<0.1							
2/3/2020						0.427	0.438		0.555
2/4/2020	0.0743 (J)	<0.1		0.115				<0.1	
8/4/2020	0.109			0.113		0.389	0.349		
8/5/2020		<0.1	0.217		0.082 (J)			<0.1	0.363
3/1/2021						0.449			
3/2/2021	0.0758 (J)	<0.1		0.167					
3/3/2021			0.243		<0.1		0.458	<0.1	0.262
7/13/2021					<0.1				
7/14/2021	0.0848 (J)	<0.1	0.335	0.196		0.556		<0.1	0.276
7/15/2021							0.493		
1/25/2022		<0.1							
1/26/2022	0.0809 (J)			0.208		0.447	0.516		
1/27/2022			0.329		<0.1			<0.1	0.373

# Time Series

Constituent: Fluoride (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	GS-GSA-MW-9V	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	0.165 (J)				0.133 (J)	0.129 (J)	0.346	0.329
10/3/2016	0.114 (J)				0.103 (J)	0.086 (J)		0.287 (J)
10/4/2016							0.266 (J)	
10/26/2016	0.056 (J)				0.05 (J)	0.027 (J)	0.266 (J)	0.194 (J)
11/21/2016	0.059 (J)				0.047 (J)	0.027 (J)	0.244 (J)	0.192 (J)
1/17/2017	0.07 (J)				0.09 (J)	0.066 (J)		
1/18/2017							0.385	0.223 (J)
3/20/2017	0.18							
3/22/2017					0.12	0.13	0.41	0.32
4/18/2017	0.17				0.12	0.16	0.29	0.32
5/30/2017	0.16				0.13			
5/31/2017						0.13	0.37	
8/23/2017					0.16	0.16	0.55	0.38
8/24/2017	0.18							
2/13/2018	0.15				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	0.15				0.16	0.16	0.53	0.39
10/17/2018	0.16				0.18	0.16	0.63	0.39
11/19/2018					0.15	0.18	0.31	0.36
3/5/2019			0.239					
4/10/2019	0.156				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
10/14/2019	0.118							
10/16/2019			0.101		0.0756 (J)	0.114	0.106	0.302
2/3/2020					0.0982 (J)	0.182	0.256	0.37
2/4/2020	0.132		0.205					
2/5/2020		0.162						
8/3/2020					<0.1	0.122	0.0766 (J)	
8/4/2020			0.127	0.135				
8/5/2020	0.119	0.256						0.359
2/22/2021					0.082 (J)	0.209	0.246	0.357
3/1/2021	0.106	0.346		0.12				
3/2/2021			0.094 (J)					
7/12/2021					0.125	0.196	0.287	0.35
7/13/2021			0.182	0.211				
7/14/2021	0.221	0.339						
1/25/2022					0.101	0.204	0.325	0.364
1/26/2022		0.306	0.117	0.155				
1/27/2022	0.179							



# Time Series

Constituent: Lead (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						<0.0002		<0.0002	
10/3/2016						<0.0002		<0.0002	
10/26/2016						<0.0002		<0.0002	
11/21/2016						<0.0002		<0.0002	
1/17/2017						<0.0002		<0.0002	
3/20/2017						<0.0002			
3/21/2017								<0.0002	
4/17/2017						<0.0002		<0.0002	
5/30/2017						<0.0002		<0.0002	
2/13/2018						<0.0002		<0.0002	
6/11/2018						<0.0002		<0.0002	
10/17/2018						<0.0002		<0.0002	
3/4/2019	<0.0002								
3/5/2019							<0.0002		<0.0002
4/10/2019						<0.0002		<0.0002	
10/14/2019						<0.0002	<0.0002	<0.0002	<0.0002
10/16/2019	<0.0002								
11/26/2019		0.00271 (J)							
2/3/2020						<0.0002	<0.0002		<0.0002
2/4/2020	<0.0002	0.00334 (J)		<0.0002				<0.0002	
8/4/2020	<0.0002			<0.0002		<0.0002	<0.0002		
8/5/2020		0.00329 (J)	<0.0002		0.00122 (J)			<0.0002	<0.0002
3/1/2021						0.000157 (J)			
3/2/2021	0.000145 (J)	0.00478		<0.0002					
3/3/2021			<0.0002		0.000876		<0.0002	0.000609	<0.0002
7/13/2021					0.00096				
7/14/2021	0.00014 (J)	0.00557	<0.0002	<0.0002		0.00018 (J)		0.00079	<0.0002
7/15/2021							<0.0002		
1/25/2022		0.0052							
1/26/2022	0.00023			<0.0002		0.00014 (J)	<0.0002		
1/27/2022			<0.0002		0.00087			0.00103	7E-05 (J)

# Time Series

Constituent: Lead (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	GS-GSA-MW-9V	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	<0.0002
10/3/2016	<0.0002				<0.0002	<0.0002		<0.0002
10/4/2016							<0.0002	
10/26/2016	<0.0002				<0.0002	<0.0002	<0.0002	<0.0002
11/21/2016	<0.0002				<0.0002	<0.0002	<0.0002	<0.0002
1/17/2017	<0.0002				<0.0002	<0.0002		
1/18/2017							<0.0002	<0.0002
3/20/2017	<0.0002							
3/22/2017					<0.0002	<0.0002	<0.0002	<0.0002
4/18/2017	<0.0002				<0.0002	<0.0002	<0.0002	<0.0002
5/30/2017	<0.0002				<0.0002			
5/31/2017						<0.0002	<0.0002	
2/13/2018	<0.0002				<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	<0.0002
10/17/2018	<0.0002				<0.0002	<0.0002	0.00102 (J)	<0.0002
11/19/2018					<0.0002	<0.0002	0.00692 (o)	<0.0002
3/5/2019			<0.0002					
4/10/2019	<0.0002				<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
10/14/2019	<0.0002							
10/16/2019			<0.0002		<0.0002	<0.0002	0.00108 (J)	<0.0002
2/3/2020					<0.0002	<0.0002	<0.0002	<0.0002
2/4/2020	<0.0002		<0.0002					
2/5/2020		<0.0002						
8/3/2020					<0.0002	<0.0002	0.002 (J)	
8/4/2020			<0.0002	<0.0002				
8/5/2020	<0.0002	<0.0002						<0.0002
2/22/2021					<0.0002	<0.0002	8.8E-05 (J)	<0.0002
3/1/2021	0.000145 (J)	<0.0002		<0.0002				
3/2/2021			0.000206					
7/12/2021					<0.0002	<0.0002	8E-05 (J)	<0.0002
7/13/2021			0.00016 (J)	<0.0002				
7/14/2021	<0.0002	<0.0002						
1/25/2022					<0.0002	<0.0002	<0.0002	<0.0002
1/26/2022		<0.0002	0.00013 (J)	<0.0002				
1/27/2022	0.00015 (J)							

# Time Series

Constituent: Lithium (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						0.362		0.291	
10/3/2016						0.371		0.287	
10/26/2016						0.416		0.298	
11/21/2016						0.401		0.294	
1/17/2017						0.497		0.27	
3/20/2017						0.533			
3/21/2017								0.258	
4/17/2017						0.47		0.274	
5/30/2017						0.479		0.285	
2/13/2018						0.508		0.274	
6/11/2018						0.425		0.266	
10/17/2018						0.494		0.266	
3/4/2019	<0.02								
3/5/2019							0.309		0.369
4/10/2019						0.425		0.282	
10/14/2019						0.459	0.38	0.262	0.317
10/16/2019	<0.02								
11/26/2019		0.449							
2/3/2020						0.474	0.46		0.332
2/4/2020	<0.02	0.394		0.0506				0.29	
8/4/2020	<0.02			0.0534		0.468	0.395		
8/5/2020		0.441	0.334		0.512			0.273	0.322
3/1/2021						0.353			
3/2/2021	<0.02	0.456		0.0439					
3/3/2021			0.411		0.54		0.455	0.313	0.345
7/13/2021					0.514				
7/14/2021	<0.02	0.454	0.374	0.0524		0.485		0.487	0.337
7/15/2021							0.441		
1/25/2022		0.397							
1/26/2022	<0.02			0.0301		0.31	0.347		
1/27/2022			0.303		0.43			0.671	0.305

# Time Series

Constituent: Lithium (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	GS-GSA-MW-9V	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	0.0683				0.0236 (J)	0.0651	0.138	0.0488 (J)
10/3/2016	0.0661				0.0229 (J)	0.0622		0.0476 (J)
10/4/2016							0.0966	
10/26/2016	0.0681				0.0227 (J)	0.0293 (J)	0.134	0.049 (J)
11/21/2016	0.0682				0.0236 (J)	0.0667	0.167	0.0477 (J)
1/17/2017	0.0516				0.0228 (J)	0.0636		
1/18/2017							0.237	0.045 (J)
3/20/2017	0.135							
3/22/2017					0.0238 (J)	0.0464 (J)	0.203	0.0493 (J)
4/18/2017	0.139				0.0242 (J)	0.0446 (J)	0.0764	0.0494 (J)
5/30/2017	0.141				0.0229 (J)			
5/31/2017						0.0496 (J)	0.218	
2/13/2018	0.163				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	0.166				0.0251 (J)	0.0472 (J)	0.194	0.0511
10/17/2018	0.188				0.025 (J)	0.0633	0.384	0.0532
11/19/2018					0.0241	0.0584	0.323	0.0467
3/5/2019			0.169					
4/10/2019	0.195				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
10/14/2019	0.209							
10/16/2019			0.184		0.0263	0.0661	0.337	0.052
2/3/2020					0.0292	0.0534	0.0825	0.0556
2/4/2020	0.188		0.203					
2/5/2020		0.327						
8/3/2020					0.0259	0.0611	0.27	
8/4/2020			0.166	0.364				
8/5/2020	0.206	0.275						0.0519
2/22/2021					0.0301	0.0625	0.126	0.0558
3/1/2021	0.149	0.292		0.424				
3/2/2021			0.178					
7/12/2021					0.0266	0.0495	0.0808	0.0533
7/13/2021			0.166	0.408				
7/14/2021	0.213	0.286						
1/25/2022					0.0239	0.051	0.077	0.0433
1/26/2022		0.233	0.115	0.312				
1/27/2022	0.185							

# Time Series

Constituent: Mercury (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						<0.0005		<0.0005	
10/3/2016						<0.0005		<0.0005	
10/26/2016						<0.0005		<0.0005	
11/21/2016						<0.0005		<0.0005	
1/17/2017						<0.0005		<0.0005	
3/20/2017						<0.0005			
3/21/2017								<0.0005	
4/17/2017						<0.0005		<0.0005	
5/30/2017						<0.0005		<0.0005	
2/13/2018						<0.0005		<0.0005	
6/11/2018						<0.0005		<0.0005	
10/17/2018						<0.0005		<0.0005	
3/4/2019	<0.0005								
3/5/2019							<0.0005		<0.0005
4/10/2019						<0.0005		<0.0005	
10/14/2019						<0.0005	<0.0005	<0.0005	<0.0005
10/16/2019	<0.0005								
11/26/2019		<0.0005							
2/3/2020						<0.0005	<0.0005		<0.0005
2/4/2020	<0.0005	<0.0005		<0.0005				<0.0005	
8/4/2020	<0.0005			<0.0005		<0.0005	<0.0005		
8/5/2020		<0.0005	<0.0005		<0.0005			<0.0005	<0.0005
3/1/2021						<0.0005			
3/2/2021	<0.0005	<0.0005		<0.0005					
3/3/2021			<0.0005		<0.0005		<0.0005	<0.0005	<0.0005
7/13/2021					<0.0005				
7/14/2021	<0.0005	<0.0005	<0.0005	<0.0005		<0.0005		<0.0005	<0.0005
7/15/2021							<0.0005		
1/25/2022		<0.0005							
1/26/2022	<0.0005			<0.0005		<0.0005	<0.0005		
1/27/2022			<0.0005		<0.0005			<0.0005	<0.0005

# Time Series

Constituent: Mercury (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	GS-GSA-MW-9V	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	<0.0005
10/3/2016	<0.0005				<0.0005	<0.0005		<0.0005
10/4/2016							<0.0005	
10/26/2016	<0.0005				<0.0005	<0.0005	<0.0005	<0.0005
11/21/2016	<0.0005				<0.0005	<0.0005	<0.0005	<0.0005
1/17/2017	<0.0005				<0.0005	<0.0005		
1/18/2017							<0.0005	<0.0005
3/20/2017	<0.0005							
3/22/2017					<0.0005	<0.0005	<0.0005	<0.0005
4/18/2017	<0.0005				<0.0005	<0.0005	<0.0005	<0.0005
5/30/2017	<0.0005				<0.0005			
5/31/2017						<0.0005	<0.0005	
2/13/2018	<0.0005				<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	<0.0005
10/17/2018	<0.0005				<0.0005	<0.0005	<0.0005	<0.0005
11/19/2018					<0.0005	<0.0005	<0.0005	<0.0005
3/5/2019			<0.0005					
4/10/2019	<0.0005				<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
10/14/2019	<0.0005							
10/16/2019			<0.0005		<0.0005	<0.0005	<0.0005	<0.0005
2/3/2020					<0.0005	<0.0005	<0.0005	<0.0005
2/4/2020	<0.0005		<0.0005					
2/5/2020		<0.0005						
8/3/2020					<0.0005	<0.0005	<0.0005	
8/4/2020			<0.0005	<0.0005				
8/5/2020	<0.0005	<0.0005						<0.0005
2/22/2021					<0.0005	<0.0005	<0.0005	<0.0005
3/1/2021	<0.0005	<0.0005		<0.0005				
3/2/2021			<0.0005					
7/12/2021					<0.0005	<0.0005	<0.0005	<0.0005
7/13/2021			<0.0005	<0.0005				
7/14/2021	<0.0005	<0.0005						
1/25/2022					<0.0005	<0.0005	<0.0005	<0.0005
1/26/2022		<0.0005	<0.0005	<0.0005				
1/27/2022	<0.0005							

# Time Series

Constituent: Molybdenum (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						<0.0002		<0.0002	
10/3/2016						<0.0002		<0.0002	
10/26/2016						<0.0002		<0.0002	
11/21/2016						<0.0002		<0.0002	
1/17/2017						<0.0002		<0.0002	
3/20/2017						<0.0002			
3/21/2017								<0.0002	
4/17/2017						<0.0002		<0.0002	
5/30/2017						<0.0002		<0.0002	
2/13/2018						<0.0002		<0.0002	
6/11/2018						<0.0002		<0.0002	
10/17/2018						<0.0002		<0.0002	
3/4/2019	<0.0002								
3/5/2019							0.00347 (J)		<0.0002
4/10/2019						<0.0002		<0.0002	
10/14/2019						<0.0002	<0.0002	<0.0002	<0.0002
10/16/2019	<0.0002								
11/26/2019		<0.0002							
2/3/2020						<0.0002	<0.0002		<0.0002
2/4/2020	<0.0002	<0.0002		<0.0002				<0.0002	
8/4/2020	<0.0002			<0.0002		<0.0002	<0.0002		
8/5/2020		<0.0002	0.00247 (J)		<0.0002			<0.0002	<0.0002
3/1/2021						0.00022			
3/2/2021	<0.0002	<0.0002		0.00138					
3/3/2021			0.00123		7.06E-05 (J)		7.93E-05 (J)	<0.0002	<0.0002
7/13/2021					<0.0002				
7/14/2021	<0.0002	<0.0002	0.00203	0.0005		0.00026		<0.0002	<0.0002
7/15/2021							9E-05 (J)		
1/25/2022		<0.0002							
1/26/2022	0.00011 (J)			0.00126		0.00022	0.00012 (J)		
1/27/2022			0.00268		9E-05 (J)			<0.0002	9E-05 (J)

# Time Series

Constituent: Molybdenum (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	GS-GSA-MW-9V	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	0.0031 (J)				<0.0002	<0.0002	<0.0002	<0.0002
10/3/2016	<0.0002				<0.0002	<0.0002		<0.0002
10/4/2016							<0.0002	
10/26/2016	<0.0002				<0.0002	<0.0002	<0.0002	<0.0002
11/21/2016	<0.0002				<0.0002	<0.0002	<0.0002	<0.0002
1/17/2017	<0.0002				<0.0002	<0.0002		
1/18/2017							<0.0002	<0.0002
3/20/2017	<0.0002							
3/22/2017					<0.0002	<0.0002	<0.0002	<0.0002
4/18/2017	<0.0002				<0.0002	<0.0002	<0.0002	<0.0002
5/30/2017	<0.0002				<0.0002			
5/31/2017						<0.0002	<0.0002	
2/13/2018	<0.0002				<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	<0.0002
10/17/2018	<0.0002				<0.0002	<0.0002	<0.0002	<0.0002
11/19/2018					<0.0002	<0.0002	<0.0002	<0.0002
3/5/2019			<0.0002					
4/10/2019	<0.0002				<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
10/14/2019	<0.0002							
10/16/2019			<0.0002		<0.0002	<0.0002	<0.0002	<0.0002
2/3/2020					<0.0002	<0.0002	<0.0002	<0.0002
2/4/2020	<0.0002		<0.0002					
2/5/2020		<0.0002						
8/3/2020					<0.0002	<0.0002	<0.0002	
8/4/2020			<0.0002	0.00423 (J)				
8/5/2020	<0.0002	<0.0002						<0.0002
2/22/2021					<0.0002	<0.0002	<0.0002	0.000131 (J)
3/1/2021	0.00277	0.000654		0.000532				
3/2/2021			<0.0002					
7/12/2021					<0.0002	<0.0002	<0.0002	0.00014 (J)
7/13/2021			<0.0002	0.00056				
7/14/2021	0.00015 (J)	0.00026						
1/25/2022					<0.0002	<0.0002	8E-05 (J)	0.00011 (J)
1/26/2022		0.00078	<0.0002	0.0003				
1/27/2022	0.00012 (J)							



# Time Series

Constituent: pH (pH) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						6.28		3.83 (E)	
10/3/2016						6.28		3.82 (E)	
10/26/2016						6.19		3.81 (E)	
11/21/2016						6.2		3.81	
1/17/2017						6.13		3.78	
3/20/2017						6.17			
3/21/2017								3.76	
4/17/2017						5.6		3.76	
5/30/2017						6.07		3.76	
8/24/2017						5.99		3.7	
2/13/2018						5.88		3.73	
6/11/2018						5.91		3.8	
10/17/2018						5.88		3.81	
3/4/2019	6.04								
3/5/2019							6.7		6.19
4/10/2019						5.83		3.83	
10/14/2019						6.04	6.39	3.91	5.89
10/16/2019	6.07								
2/3/2020						5.98	5.88		5.84
2/4/2020	6.02	4.57		6				3.83	
8/4/2020	5.74			5.89		6.09	5.9		
8/5/2020		4.13	6.15		3.83			3.86	5.81
3/1/2021						5.82			
3/2/2021	5.89	4.11			5.85				
3/3/2021			6.11		4.02		5.76	3.76	5.75
7/13/2021					3.8				
7/14/2021	5.72	4.04	6.21	5.55		5.93		3.74	5.75
7/15/2021							5.92		
1/25/2022		4.11							
1/26/2022	5.95			6.08		6.52	6.61		
1/27/2022			6.19		4.1			3.73	6.17

# Time Series

Constituent: pH (pH) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	GS-GSA-MW-9V	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	6.78						5.63	6.11
10/3/2016	6.71				5.21	5.91		6.13
10/4/2016							5.69	
10/26/2016	6.65				5.2	5.84	5.56	6.12
11/21/2016	6.7				5.19	5.82	5.42	6.09
1/17/2017	6.25				5.17	5.87		
1/18/2017							5.11	6.09
3/20/2017	7.04							
3/22/2017					5.2	6.01	4.52	6.15
4/18/2017	6.99				5.2	6.02	5.84	6.19
5/30/2017	6.98				5.14			
5/31/2017						5.85	4.56	
8/23/2017					5.12	5.89	4.77	6.12
8/24/2017	6.89							
2/13/2018	6.85				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	6.83				5.15	5.95	4.79	6.16
10/17/2018	6.81				5.12	5.9	4.75	6.12
11/19/2018					5.09	6.03	3.77 (o)	6.16
3/5/2019			5.88					
4/10/2019	6.71				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
10/14/2019	6.88							
10/16/2019			5.43		5.16	5.98	4.51	6.19
2/3/2020					5	5.95	5.54	6.14
2/4/2020	6.85		5.34					
2/5/2020		7.48						
8/3/2020					5.08	5.95	5.06	
8/4/2020			5.33	6.88				
8/5/2020	6.76	7.58						6.15
2/22/2021					5.06	6.1	5.59	6.19
3/1/2021	6.48	7.67		6.84				
3/2/2021			5.29					
7/12/2021					5.13	6.16	5.86	6.06
7/13/2021			5.13	6.92				
7/14/2021	6.88	7.97						
1/25/2022					5.11	6.22	5.9	6.3
1/26/2022		8.18	5.35	6.89				
1/27/2022	6.85							

# Time Series

Constituent: Selenium (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						<0.00102		0.00234 (J)	
10/3/2016						<0.00102		0.00739 (J)	
10/26/2016						<0.00102		0.00266 (J)	
11/21/2016						<0.00102		0.00212 (J)	
1/17/2017						<0.00102		0.00263 (J)	
3/20/2017						<0.00102			
3/21/2017								0.00588 (J)	
4/17/2017						0.00521 (J)		0.00579 (J)	
5/30/2017						<0.00102		0.00471 (J)	
2/13/2018						0.00267 (J)		0.00498 (J)	
6/11/2018						0.00236 (J)		0.00388 (J)	
10/17/2018						<0.00102		<0.00102	
3/4/2019	<0.00102								
3/5/2019							<0.00102		<0.00102
4/10/2019						0.00234 (J)		0.00322 (J)	
10/14/2019						<0.00102	<0.00102	<0.00102	<0.00102
10/16/2019	<0.00102								
11/26/2019		0.00614 (J)							
2/3/2020						<0.00102	<0.00102		<0.00102
2/4/2020	<0.00102	<0.00102		<0.00102				<0.00102	
8/4/2020	<0.00102			<0.00102		<0.00102	<0.00102		
8/5/2020		0.00417 (J)	<0.00102		0.00571 (J)			0.00298 (J)	<0.00102
3/1/2021						0.00141			
3/2/2021	<0.00102	0.00463		<0.00102					
3/3/2021			<0.00102		0.00554		<0.00102	0.00294	0.000749 (J)
7/13/2021					0.00607				
7/14/2021	<0.00102	0.00441	<0.00102	<0.00102		0.00151		0.00563	0.00095 (J)
7/15/2021							<0.00102		
1/25/2022		0.00311							
1/26/2022	<0.00102			0.00069 (J)		0.00117	<0.00102		
1/27/2022			<0.00102		0.00401			0.00817	0.00101 (J)

# Time Series

Constituent: Selenium (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	GS-GSA-MW-9V	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	<0.00102
10/3/2016	<0.00102				0.00211 (J)	<0.00102		<0.00102
10/4/2016							<0.00102	
10/26/2016	<0.00102				<0.00102	<0.00102	<0.00102	<0.00102
11/21/2016	<0.00102				<0.00102	<0.00102	<0.00102	<0.00102
1/17/2017	<0.00102				<0.00102	<0.00102		
1/18/2017							<0.00102	<0.00102
3/20/2017	<0.00102							
3/22/2017					0.0022 (J)	<0.00102	0.0141	<0.00102
4/18/2017	<0.00102				0.0027 (J)	<0.00102	0.0158	<0.00102
5/30/2017	<0.00102				0.00316 (J)			
5/31/2017						<0.00102	0.00632 (J)	
2/13/2018	<0.00102				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	<0.00102				0.00409 (J)	<0.00102	0.00836 (J)	<0.00102
10/17/2018	<0.00102				<0.00102	<0.00102	<0.00102	<0.00102
11/19/2018					<0.00102	<0.00102	0.00439 (J)	0.00436 (J)
3/5/2019			<0.00102					
4/10/2019	<0.00102				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
10/14/2019	<0.00102							
10/16/2019			<0.00102		<0.00102	<0.00102	0.00286 (J)	<0.00102
2/3/2020					0.00272 (J)	<0.00102	0.012	0.00212 (J)
2/4/2020	<0.00102		<0.00102					
2/5/2020		<0.00102						
8/3/2020					0.00278 (J)	<0.00102	0.0146	
8/4/2020			<0.00102	<0.00102				
8/5/2020	<0.00102	<0.00102						0.00232 (J)
2/22/2021					0.00241	<0.00102	0.0181	0.00222
3/1/2021	<0.00102	<0.00102		<0.00102				
3/2/2021			0.00138					
7/12/2021					0.0028	<0.00102	0.0133	0.00155
7/13/2021			0.00141	<0.00102				
7/14/2021	<0.00102	<0.00102						
1/25/2022					0.00216	<0.00102	0.0154	0.00224
1/26/2022		<0.00102	0.00129	<0.00102				
1/27/2022	<0.00102							

# Time Series

Constituent: Sulfate (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						2910		567	
10/3/2016						2980		596	
10/26/2016						2790		585	
11/21/2016						2880		593	
1/17/2017						2950		637	
3/20/2017						2800			
3/21/2017								530	
4/17/2017						2400		530	
5/30/2017						2900		530	
8/24/2017						2900		530	
6/11/2018						2900		540	
10/17/2018						2800		520	
3/4/2019	785								
3/5/2019							1170		871
4/10/2019						2980		616	
10/14/2019						3110	1710	641	818
10/16/2019	750								
11/26/2019		997							
2/3/2020						2840	1970		808
2/4/2020	725	978		720				571	
8/4/2020	694			773		2820	1860		
8/5/2020		811	1830		796			519	761
3/1/2021						2320			
3/2/2021	835	890		861					
3/3/2021			1930		803		1930	609	746
7/13/2021					787				
7/14/2021	747	878	2000	857		2880		752	797
7/15/2021							1960		
1/25/2022		903							
1/26/2022	745			883		2620	2010		
1/27/2022			1990		784			1130	825

# Time Series

Constituent: Sulfate (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	GS-GSA-MW-9V	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	1250				1450	1130	2190	2770
10/3/2016	1270				1460	1140		3060
10/4/2016							1950	
10/26/2016	1240				1330	1060	1980	2650
11/21/2016	1210				1420	1100	2060	2720
1/17/2017	1150				1350	1160		
1/18/2017							2620	2650
3/20/2017	1400							
3/22/2017					1500	900	3200	2700
4/18/2017	1300				1300	870	2500	2400
5/30/2017	1500				1400			
5/31/2017						1100	2800	
8/23/2017					1500	920	2600	2700
8/24/2017	1800							
5/22/2018					2100 (o)	1200		
5/23/2018								2400
5/24/2018							2700	
6/12/2018	1800				1500	860	2500	2600
10/17/2018	1600				1400	970	2700	2600
11/19/2018					1300	1000	3000	2400
3/5/2019			2010					
4/10/2019	2150				1700	889	2460	2090
5/14/2019					1560	948	2460	2240
10/8/2019					1540	1230	2950	
10/10/2019								2690
10/14/2019	2090							
10/16/2019			2020		1680	1170	2820	3050
2/3/2020					1510	803	2290	1920
2/4/2020	1570		1710					
2/5/2020		223						
8/3/2020					1370	907	2330	
8/4/2020			1790	1700				
8/5/2020	1880	243						1930
2/22/2021					1400	864	3040	2040
3/1/2021	1450	183		1680				
3/2/2021			1750					
7/12/2021					1560	763	2380	1930
7/13/2021			1750	1820				
7/14/2021	1700	196						
1/25/2022					1430	842	2550	1930
1/26/2022		199	1660	1820				
1/27/2022	2000							

# Time Series

Constituent: Thallium (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						<0.0002		<0.0002	
10/3/2016						<0.0002		<0.0002	
10/26/2016						<0.0002		<0.0002	
11/21/2016						<0.0002		<0.0002	
1/17/2017						<0.0002		<0.0002	
3/20/2017						<0.0002			
3/21/2017								<0.0002	
4/17/2017						<0.0002		<0.0002	
5/30/2017						<0.0002		<0.0002	
2/13/2018						<0.0002		<0.0002	
6/11/2018						<0.0002		<0.0002	
10/17/2018						<0.0002		<0.0002	
3/4/2019	<0.0002								
3/5/2019							<0.0002		<0.0002
4/10/2019						<0.0002		<0.0002	
10/14/2019						<0.0002	<0.0002	<0.0002	<0.0002
10/16/2019	<0.0002								
11/26/2019		0.000375 (J)							
2/3/2020						<0.0002	<0.0002		<0.0002
2/4/2020	<0.0002	0.000491 (J)		<0.0002				<0.0002	
8/4/2020	<0.0002			<0.0002		<0.0002	<0.0002		
8/5/2020		0.000297 (J)	<0.0002		<0.0002			0.000205 (J)	<0.0002
3/1/2021						<0.0002			
3/2/2021	<0.0002	0.000371		<0.0002					
3/3/2021			<0.0002		7.98E-05 (J)		<0.0002	0.000178 (J)	<0.0002
7/13/2021					<0.0002				
7/14/2021	<0.0002	0.00034	<0.0002	<0.0002		<0.0002		9E-05 (J)	<0.0002
7/15/2021							<0.0002		
1/25/2022		0.00032							
1/26/2022	<0.0002			<0.0002		<0.0002	<0.0002		
1/27/2022			<0.0002		7E-05 (J)			0.00022	<0.0002

# Time Series

Constituent: Thallium (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	GS-GSA-MW-9V	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	<0.0002
10/3/2016	<0.0002				<0.0002	<0.0002		<0.0002
10/4/2016							<0.0002	
10/26/2016	<0.0002				<0.0002	<0.0002	0.000209 (J)	<0.0002
11/21/2016	<0.0002				<0.0002	<0.0002	<0.0002	<0.0002
1/17/2017	<0.0002				<0.0002	<0.0002		
1/18/2017							<0.0002	<0.0002
3/20/2017	<0.0002							
3/22/2017					<0.0002	<0.0002	<0.0002	<0.0002
4/18/2017	<0.0002				<0.0002	<0.0002	<0.0002	<0.0002
5/30/2017	<0.0002				<0.0002			
5/31/2017						<0.0002	<0.0002	
2/13/2018	<0.0002				<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	<0.0002
10/17/2018	<0.0002				<0.0002	<0.0002	<0.0002	<0.0002
11/19/2018					<0.0002	<0.0002	0.000226 (J)	<0.0002
3/5/2019			0.00021 (J)					
4/10/2019	<0.0002				<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
10/14/2019	<0.0002							
10/16/2019			0.000262 (J)		<0.0002	<0.0002	<0.0002	<0.0002
2/3/2020					<0.0002	<0.0002	<0.0002	<0.0002
2/4/2020	<0.0002		0.000233 (J)					
2/5/2020		<0.0002						
8/3/2020					<0.0002	<0.0002	<0.0002	
8/4/2020			0.000265 (J)	<0.0002				
8/5/2020	<0.0002	<0.0002						<0.0002
2/22/2021					<0.0002	<0.0002	<0.0002	<0.0002
3/1/2021	<0.0002	<0.0002		<0.0002				
3/2/2021			0.000221					
7/12/2021					<0.0002	<0.0002	<0.0002	<0.0002
7/13/2021			0.00013 (J)	<0.0002				
7/14/2021	<0.0002	<0.0002						
1/25/2022					<0.0002	<0.0002	<0.0002	<0.0002
1/26/2022		<0.0002	0.00022	<0.0002				
1/27/2022	<0.0002							



# Time Series

Constituent: Total dissolved solids (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-11H	GS-GSA-MW-12H	GS-GSA-MW-12V	GS-GSA-MW-13H	GS-GSA-MW-14H	GS-GSA-MW-3	GS-GSA-MW-3V	GS-GSA-MW-4	GS-GSA-MW-4V
8/24/2016						5020		992	
10/3/2016						4880		988	
10/26/2016						5020		1030	
11/21/2016						5090		1020	
1/17/2017						4330		988	
3/20/2017						2690			
3/21/2017								990	
4/17/2017						4780		884	
5/30/2017						5170		1060	
8/24/2017						5140		1060	
6/11/2018						4960		944	
10/17/2018						4910		928	
3/4/2019	1150								
3/5/2019							2170		1410
4/10/2019						5090		1000	
10/14/2019						5110	3200	967	1340
10/16/2019	1150								
11/26/2019		1580							
2/3/2020						4920	3660		1290
2/4/2020	1200	1580		1200				978	
8/4/2020	1230			1350		5110	3530		
8/5/2020		1380	3330		1280			938	1330
3/1/2021						4390			
3/2/2021	1190	1390		1450					
3/3/2021			3450				3640	1040	1320
7/13/2021					1260				
7/14/2021	1190	1330	3360	1300		4920		1300	1340
7/15/2021					1180		3430		
1/25/2022		1320							
1/26/2022	1140			1360		4260	3150		
1/27/2022			3170		1130			1840	1330

# Time Series

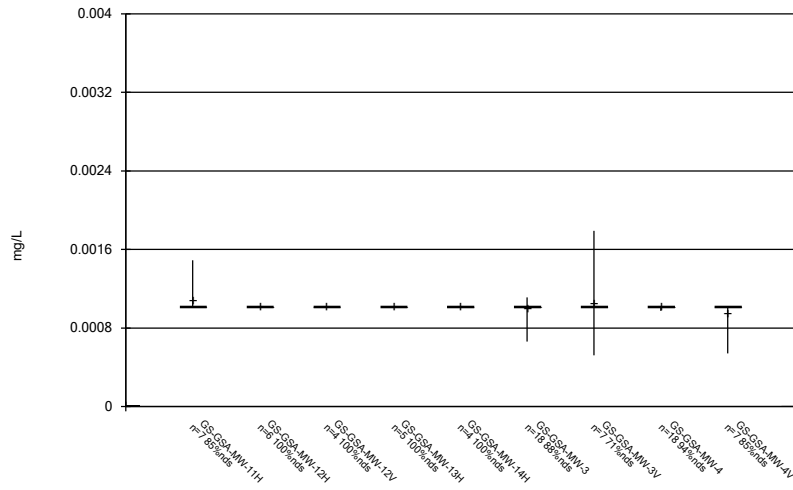
Constituent: Total dissolved solids (mg/L) Analysis Run 5/11/2022 6:05 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	GS-GSA-MW-8	GS-GSA-MW-8V	GS-GSA-MW-9H	GS-GSA-MW-9V	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	2280				2040	1720	3080	4190
10/3/2016	2370				2110	1800		4190
10/4/2016							2900	
10/26/2016	2350				2000	1800	2940	4400
11/21/2016	2530				2070	1740	3090	4230
1/17/2017	2380				1930	1960		
1/18/2017							4020	4120
3/20/2017	2630							
3/22/2017					2060	1510	4180	3980
4/18/2017	2700				2140	1580	4440	3880
5/30/2017	2980				2240			
5/31/2017						1730	3970	
8/23/2017					2160	1550	4050	3990
8/24/2017	3390							
5/22/2018					2380	1500		
5/23/2018								3740
5/24/2018							3680	
6/12/2018	3510				2400	1550	3820	4080
10/17/2018	3550				2220	1740	4730	4250
11/19/2018					2360	1990	4710	3920
3/5/2019			3240					
4/10/2019	3580				2630	1250	3680	3280
5/14/2019					2340	1480	3580	3130 (D)
10/8/2019					2330	1840	4720	
10/10/2019								4000
10/14/2019	3730							
10/16/2019			3080		3650 (o)	1830	4210	4060
2/3/2020					2380	1440	3530	3240
2/4/2020	3190		3110					
2/5/2020		1100						
8/3/2020					2200	1650	3760	
8/4/2020			2920	3080				
8/5/2020	3610	1100						3200
2/22/2021					2230	1620	4670	3190
3/1/2021	2870	1060		3140				
3/2/2021			2860					
7/12/2021					2210	1390	3510	3000
7/13/2021			2640	2870				
7/14/2021	3150	1060						
1/25/2022					2150	1500	3950	3180
1/26/2022		1050	2490	2890				
1/27/2022	3290							

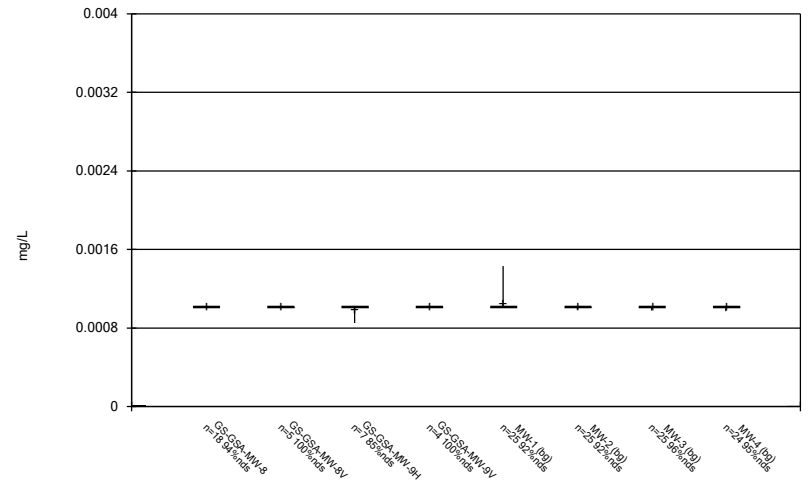
FIGURE B.

Box & Whiskers Plot



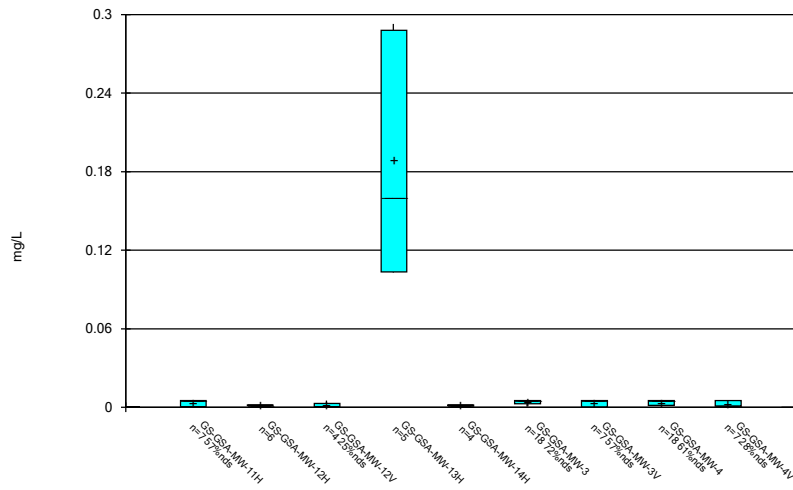
Constituent: Antimony Analysis Run 5/11/2022 6:05 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



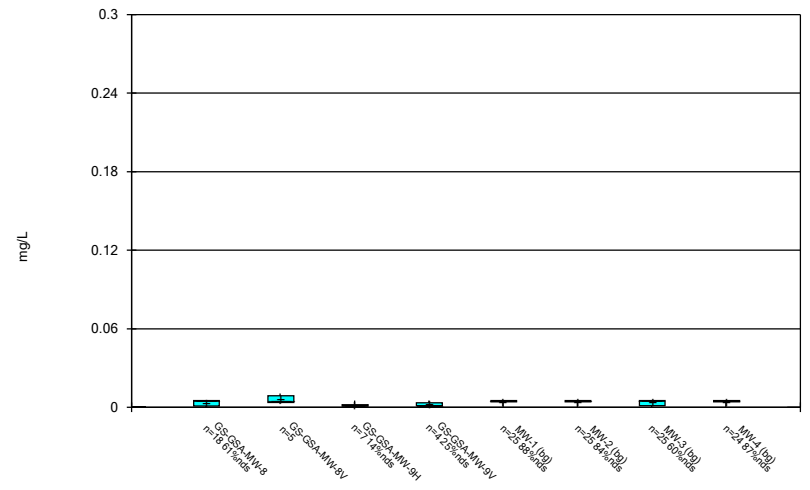
Constituent: Antimony Analysis Run 5/11/2022 6:05 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



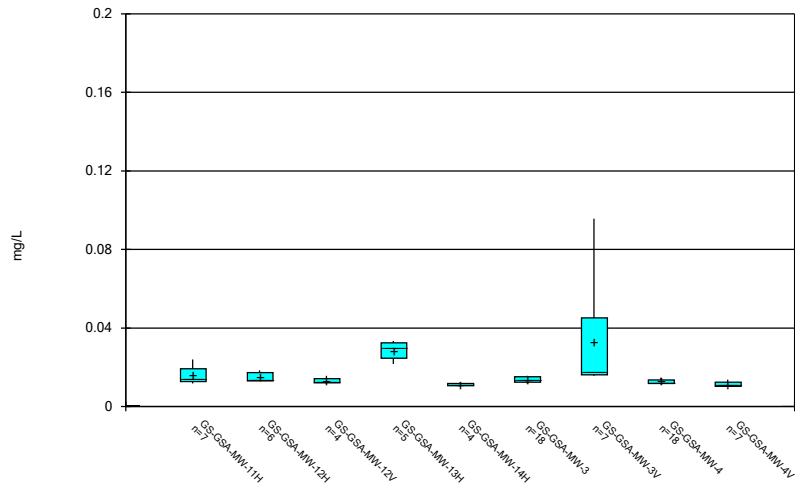
Constituent: Arsenic Analysis Run 5/11/2022 6:05 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



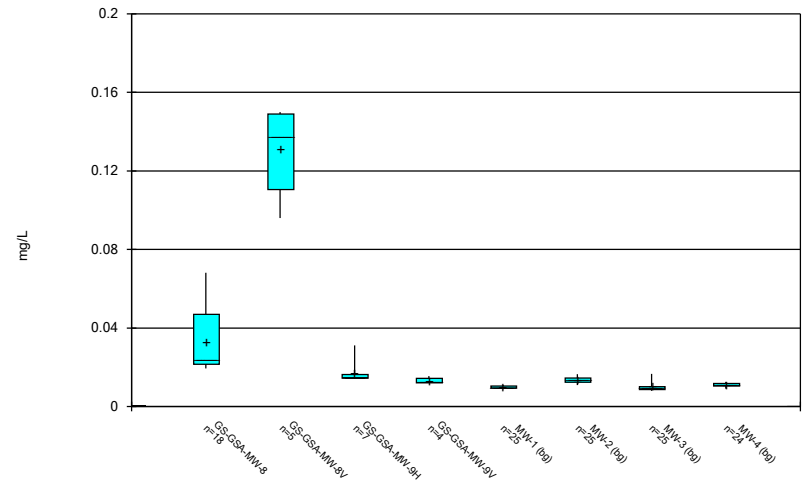
Constituent: Arsenic Analysis Run 5/11/2022 6:05 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



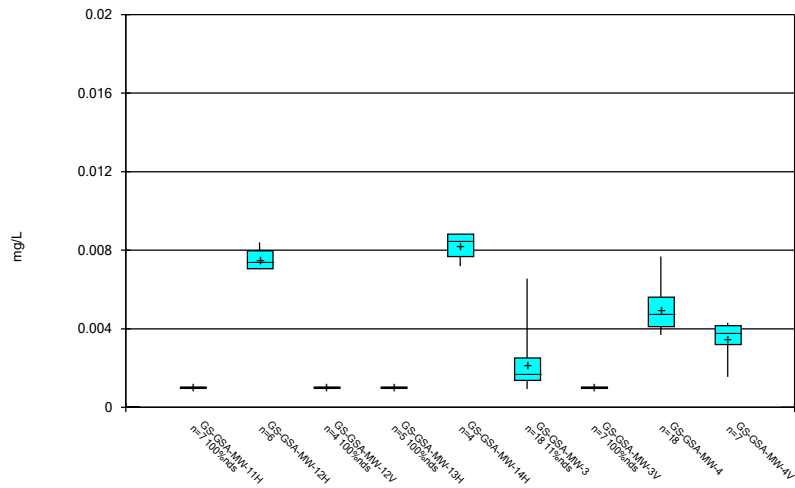
Constituent: Barium Analysis Run 5/11/2022 6:05 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



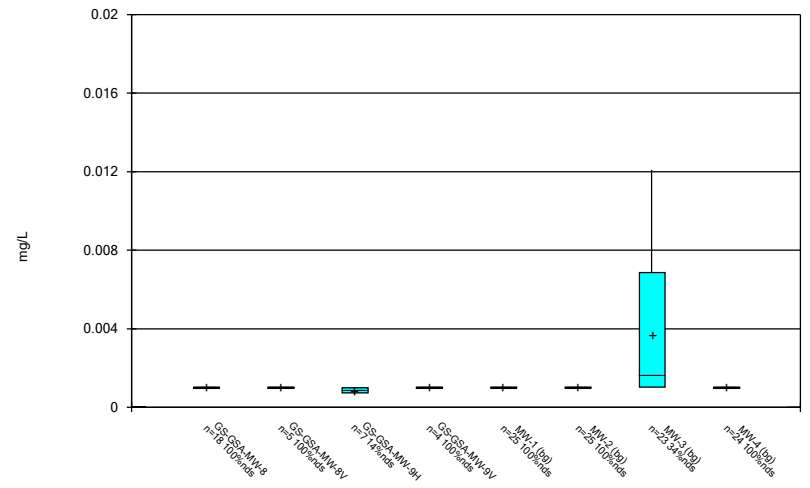
Constituent: Barium Analysis Run 5/11/2022 6:05 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



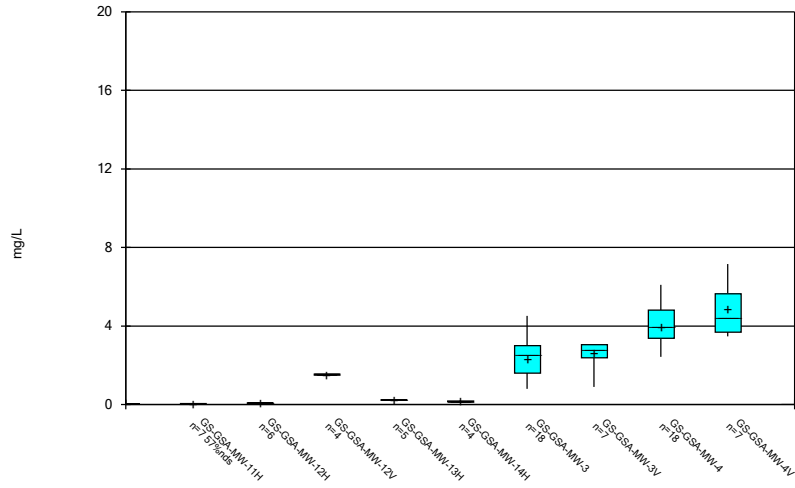
Constituent: Beryllium Analysis Run 5/11/2022 6:05 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



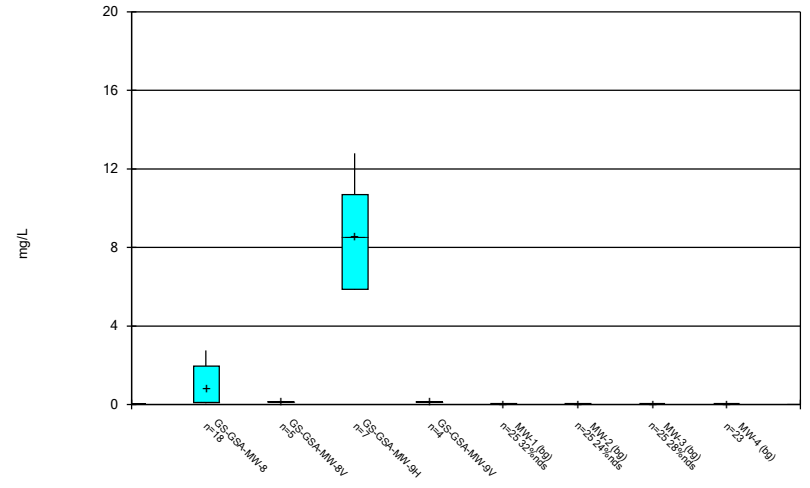
Constituent: Beryllium Analysis Run 5/11/2022 6:05 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



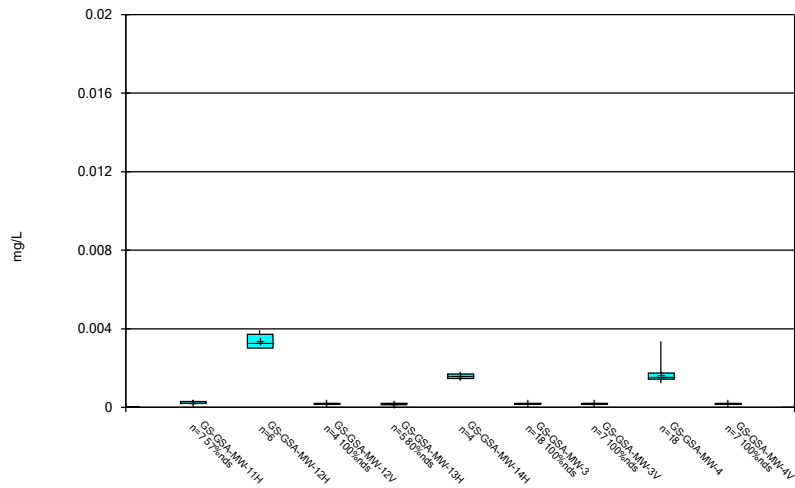
Constituent: Boron Analysis Run 5/11/2022 6:05 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



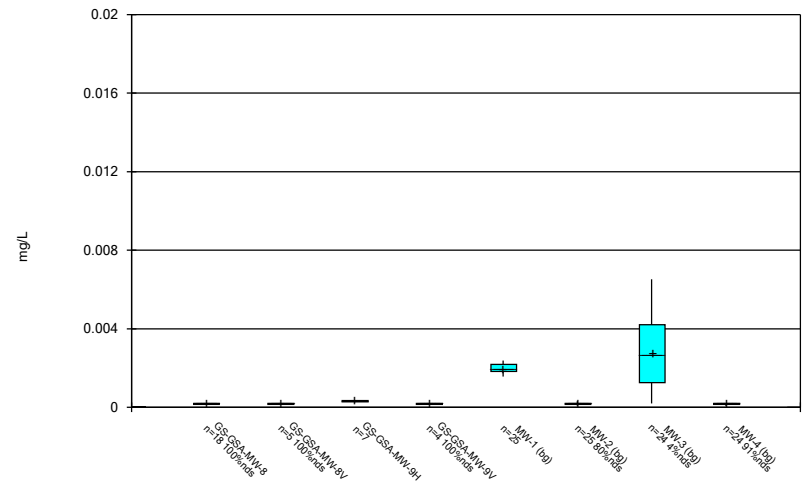
Constituent: Boron Analysis Run 5/11/2022 6:05 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



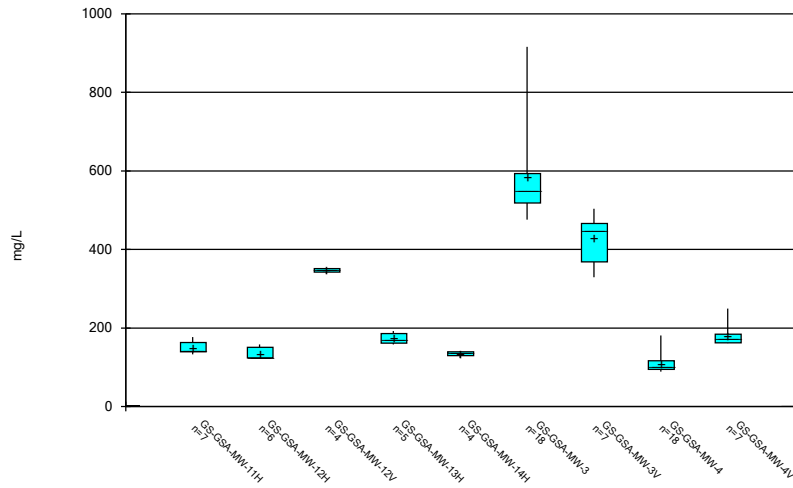
Constituent: Cadmium Analysis Run 5/11/2022 6:06 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



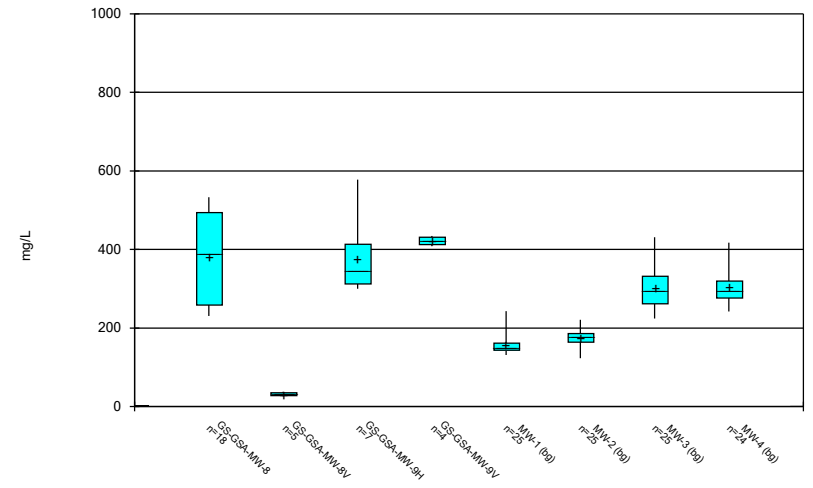
Constituent: Cadmium Analysis Run 5/11/2022 6:06 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



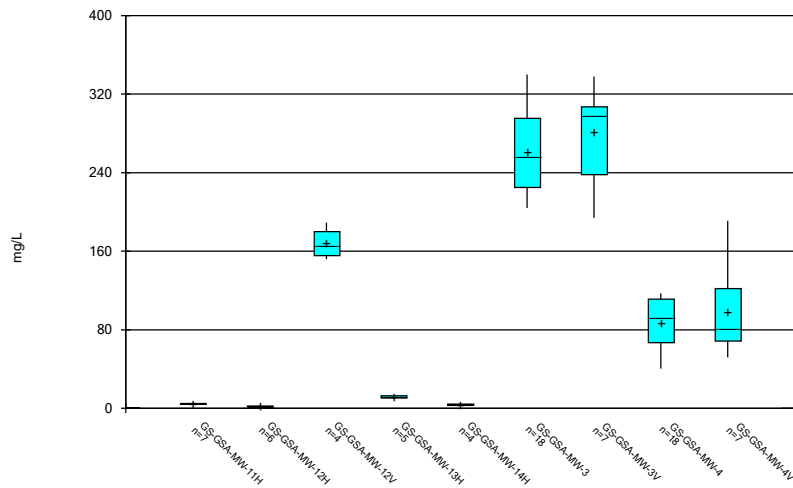
Constituent: Calcium Analysis Run 5/11/2022 6:06 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



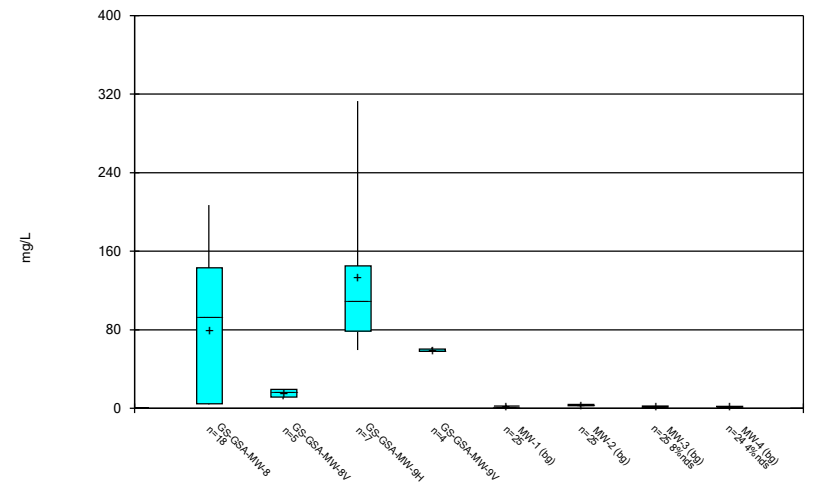
Constituent: Calcium Analysis Run 5/11/2022 6:06 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



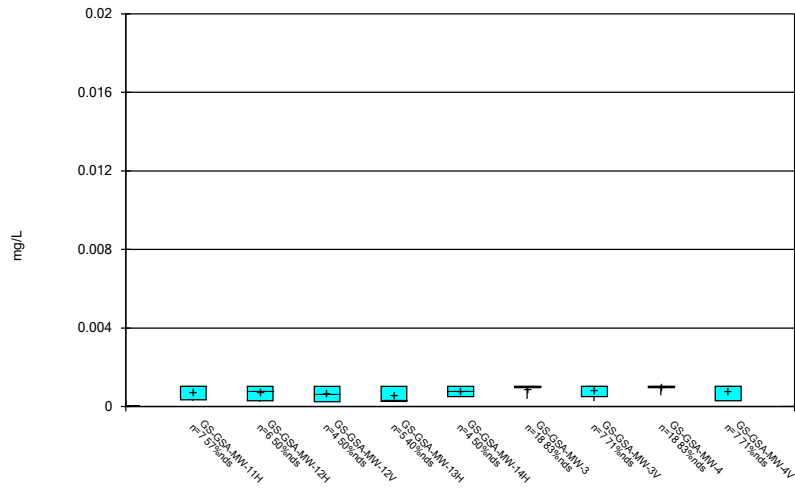
Constituent: Chloride Analysis Run 5/11/2022 6:06 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



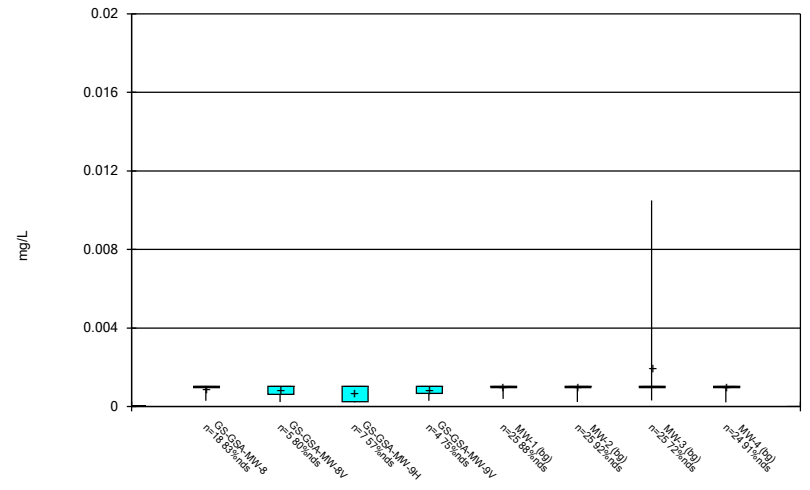
Constituent: Chloride Analysis Run 5/11/2022 6:06 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



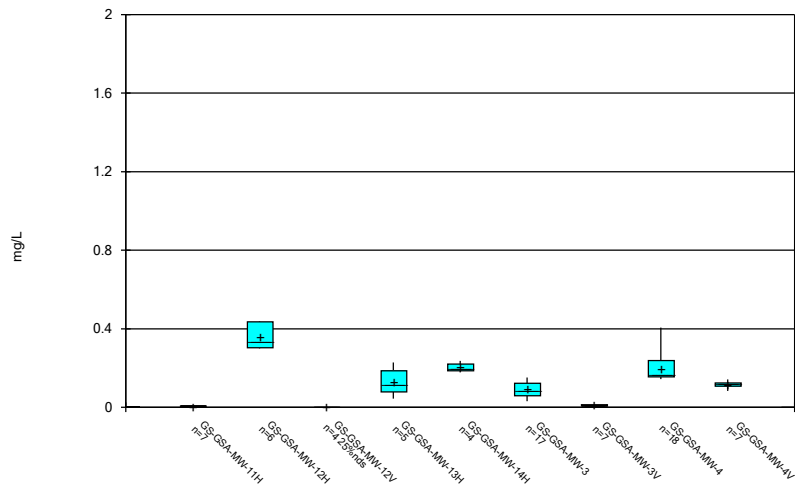
Constituent: Chromium Analysis Run 5/11/2022 6:06 PM View: Constituents View  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



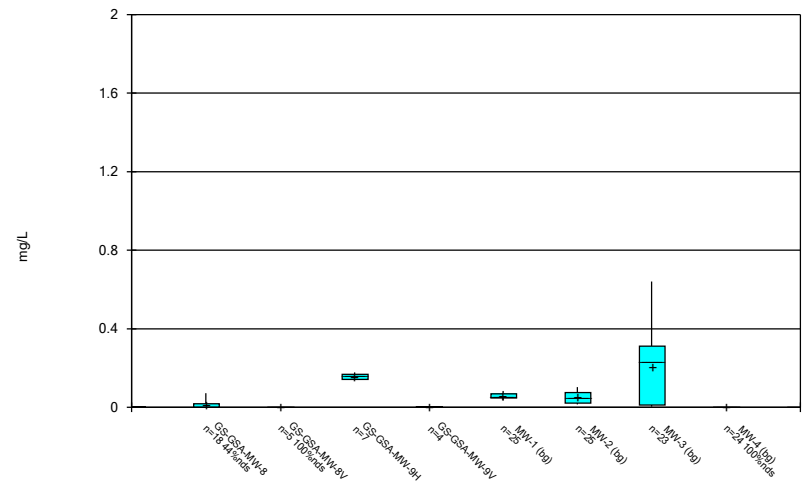
Constituent: Chromium Analysis Run 5/11/2022 6:06 PM View: Constituents View  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



Constituent: Cobalt Analysis Run 5/11/2022 6:06 PM View: Constituents View  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

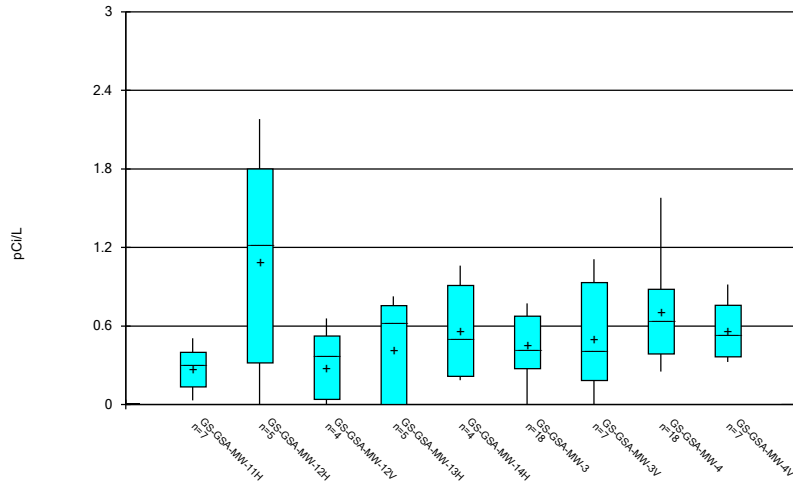
Box & Whiskers Plot



Constituent: Cobalt Analysis Run 5/11/2022 6:06 PM View: Constituents View  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

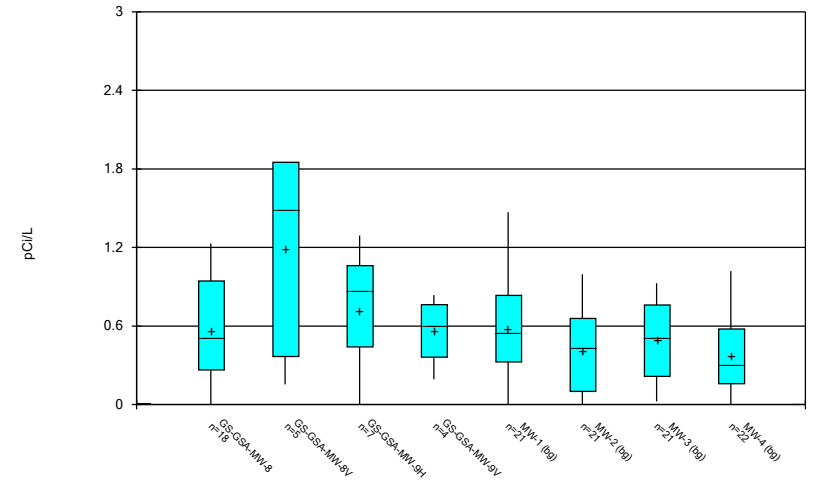


Box & Whiskers Plot



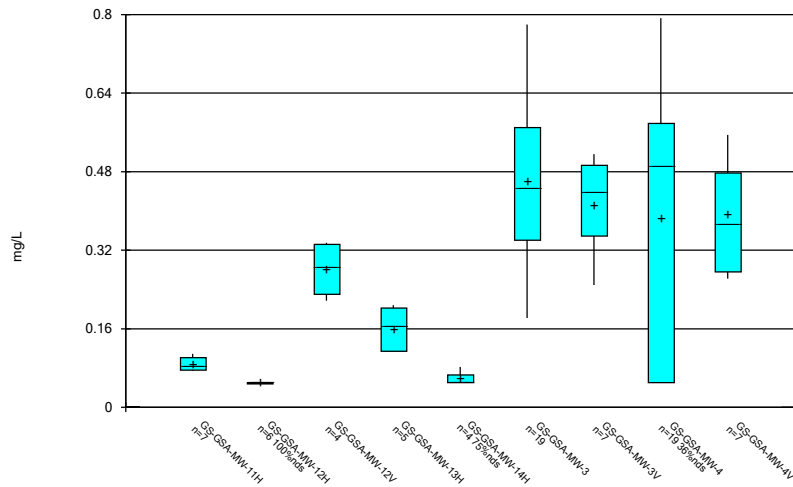
Constituent: Combined Radium 226 + 228 Analysis Run 5/11/2022 6:06 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



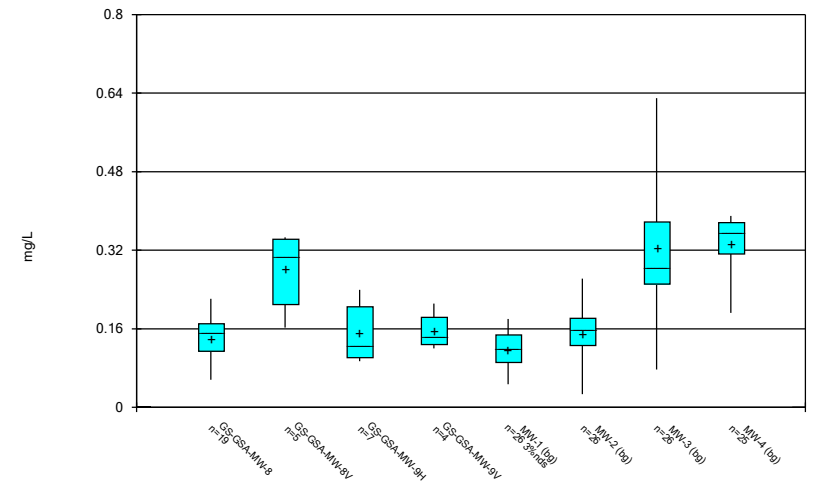
Constituent: Combined Radium 226 + 228 Analysis Run 5/11/2022 6:06 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



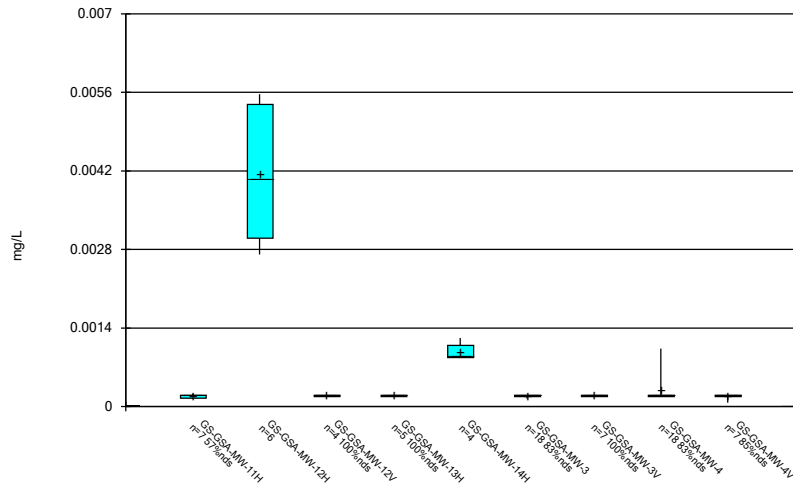
Constituent: Fluoride Analysis Run 5/11/2022 6:06 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



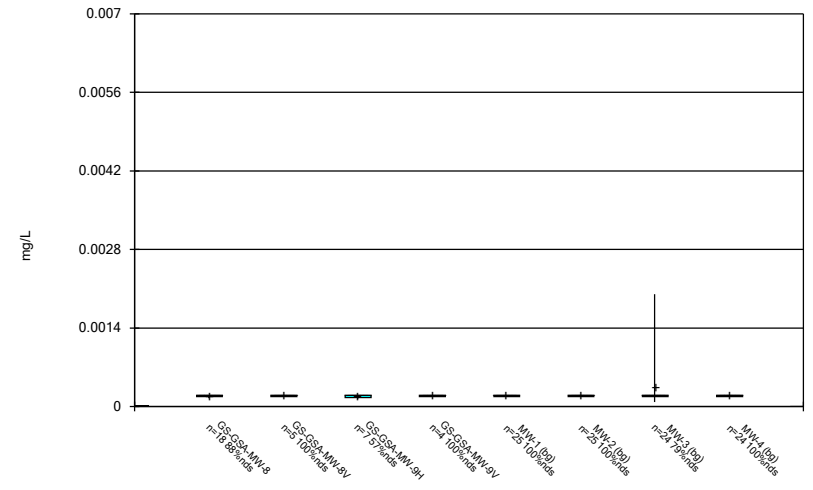
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Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



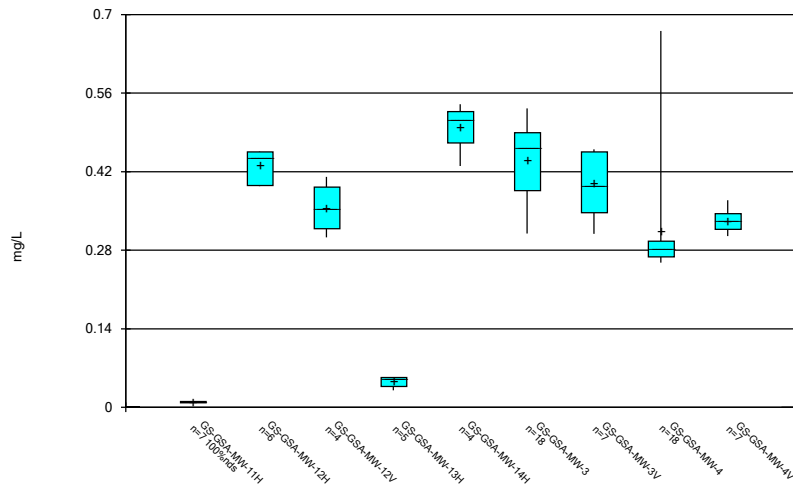
Constituent: Lead Analysis Run 5/11/2022 6:06 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



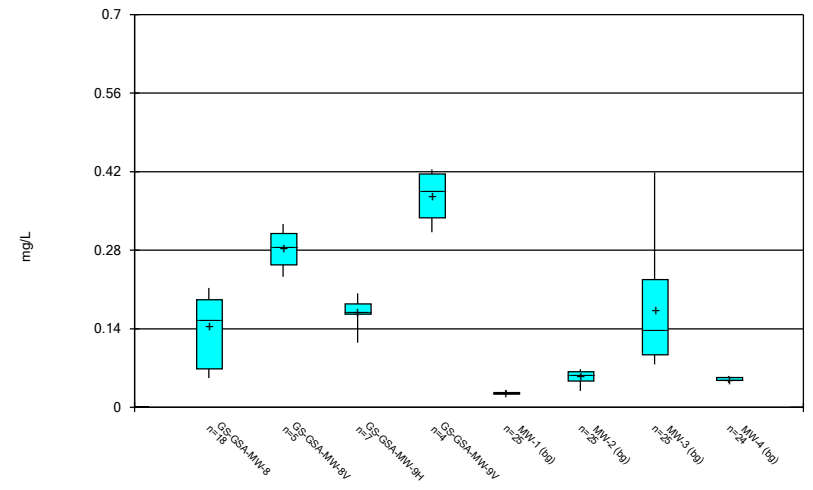
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Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



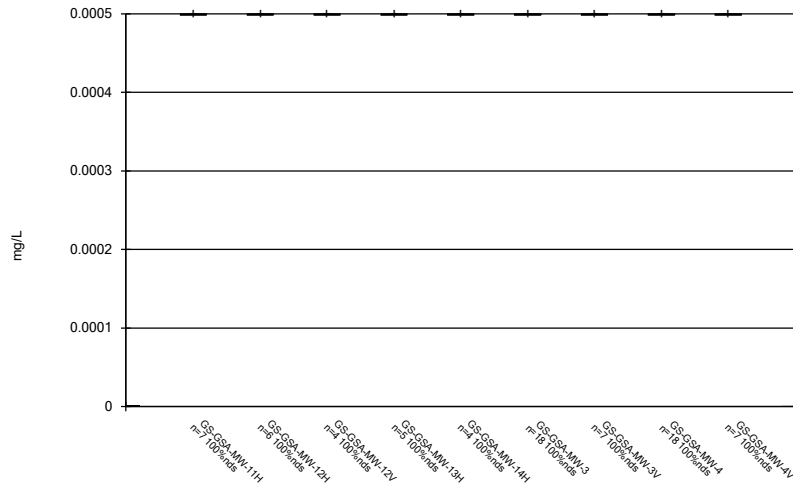
Constituent: Lithium Analysis Run 5/11/2022 6:06 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



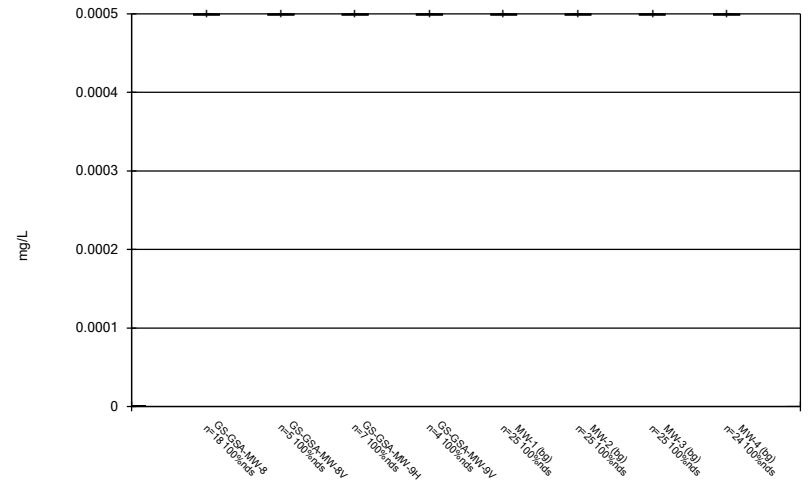
Constituent: Lithium Analysis Run 5/11/2022 6:06 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



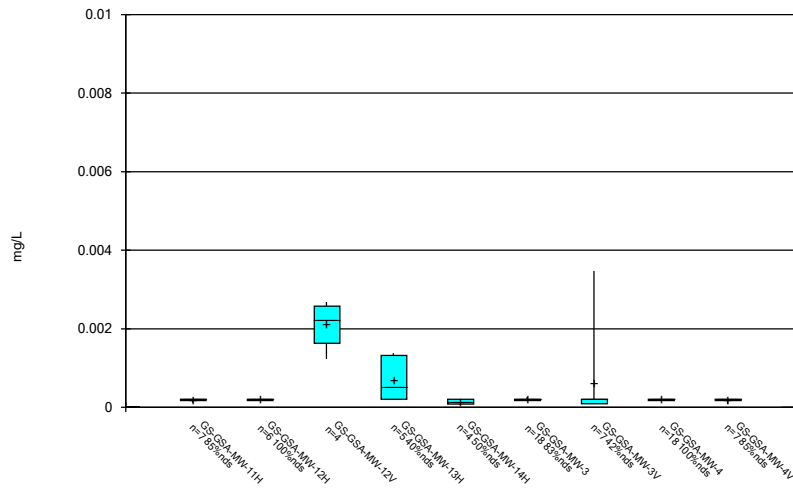
Constituent: Mercury Analysis Run 5/11/2022 6:06 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



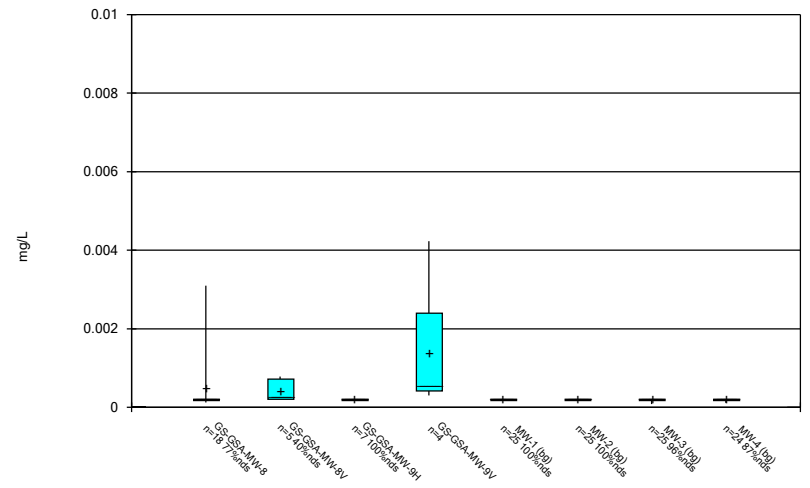
Constituent: Mercury Analysis Run 5/11/2022 6:06 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



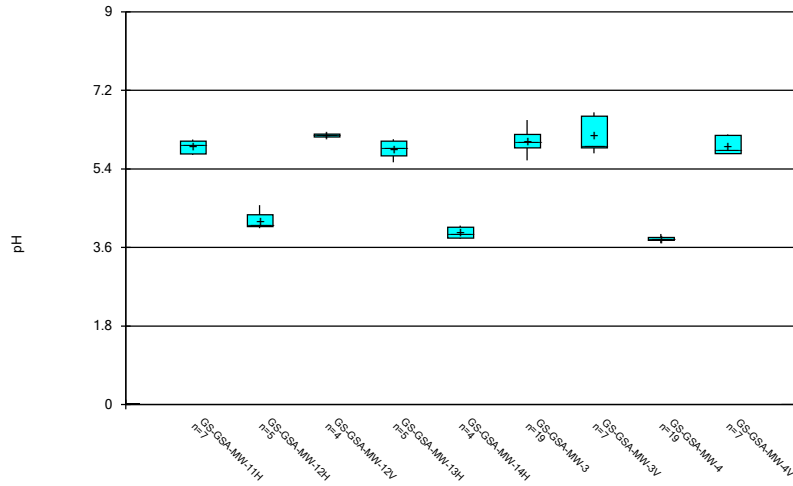
Constituent: Molybdenum Analysis Run 5/11/2022 6:06 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



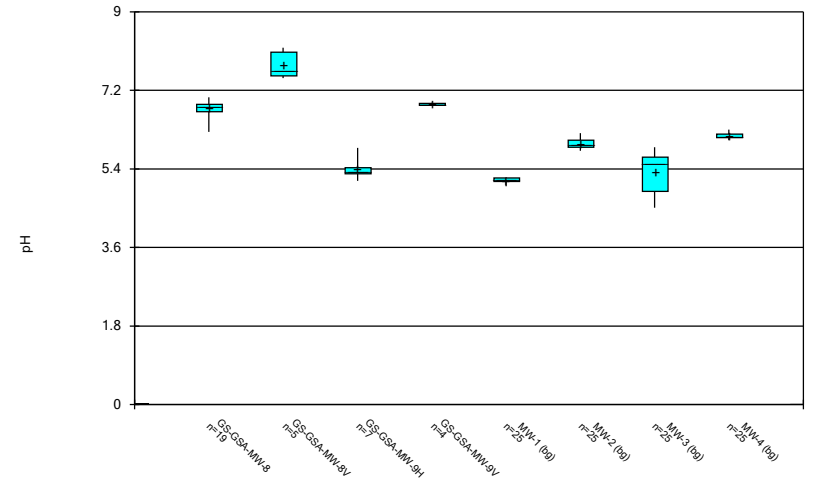
Constituent: Molybdenum Analysis Run 5/11/2022 6:06 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



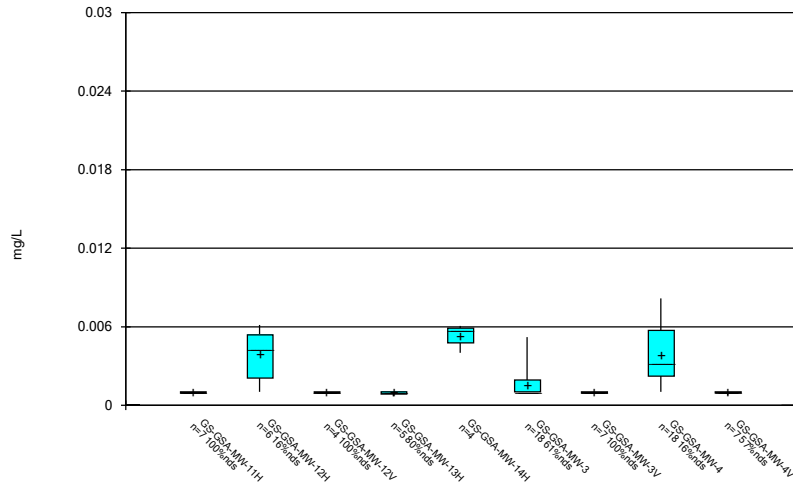
Constituent: pH Analysis Run 5/11/2022 6:06 PM View: Constituents View  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



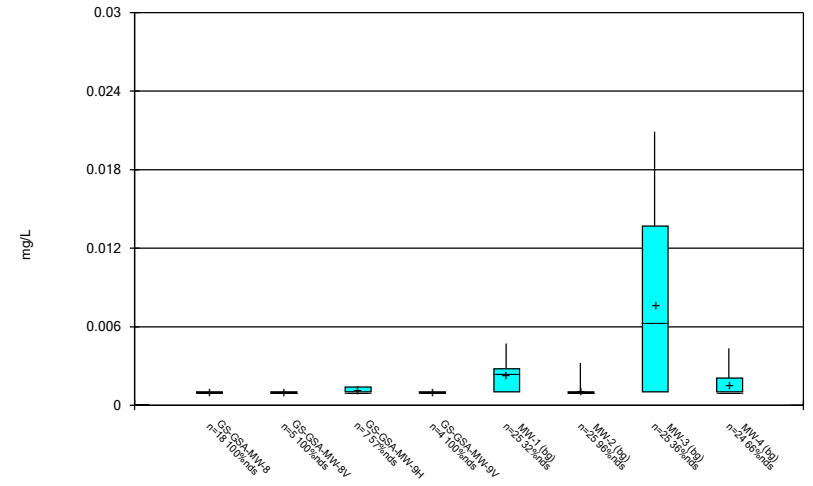
Constituent: pH Analysis Run 5/11/2022 6:06 PM View: Constituents View  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



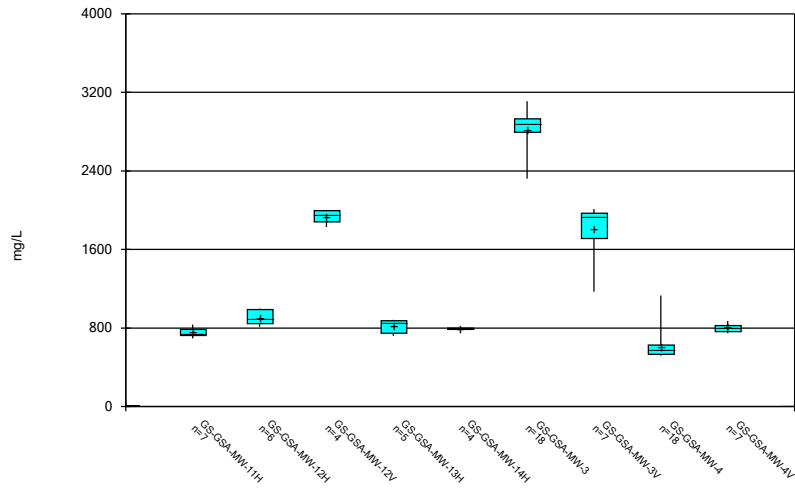
Constituent: Selenium Analysis Run 5/11/2022 6:06 PM View: Constituents View  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



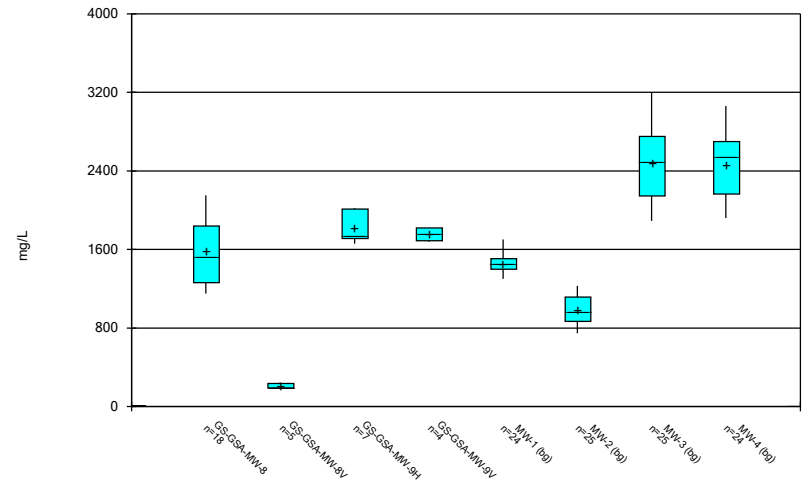
Constituent: Selenium Analysis Run 5/11/2022 6:06 PM View: Constituents View  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



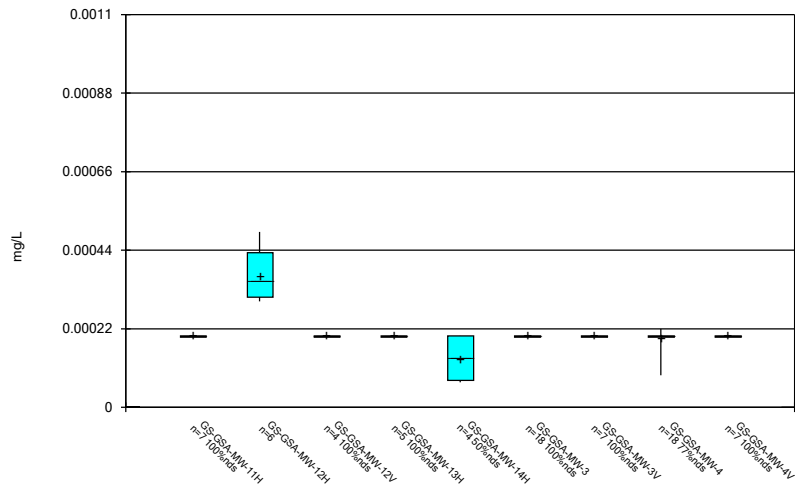
Constituent: Sulfate Analysis Run 5/11/2022 6:06 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



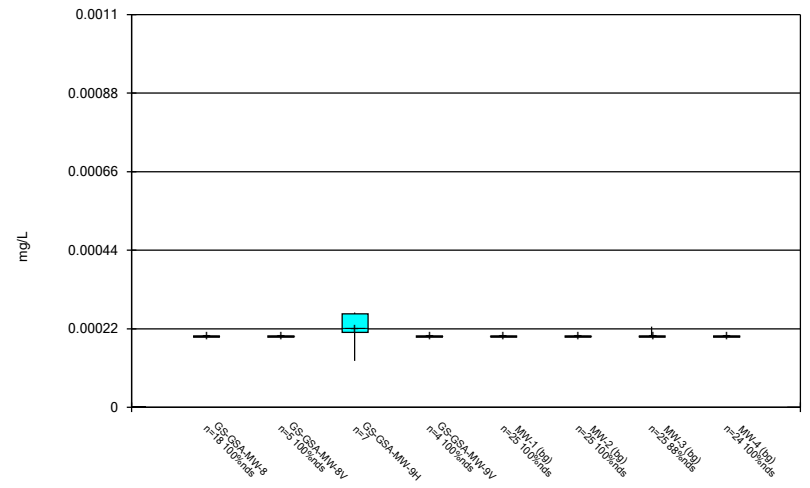
Constituent: Sulfate Analysis Run 5/11/2022 6:06 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



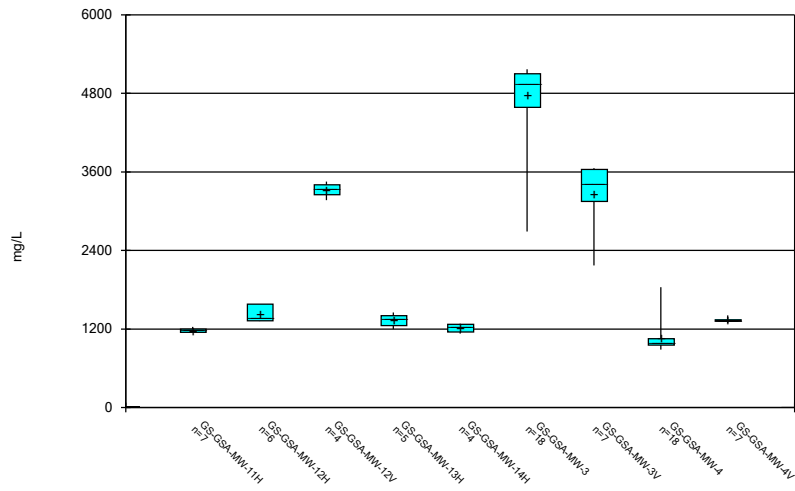
Constituent: Thallium Analysis Run 5/11/2022 6:06 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



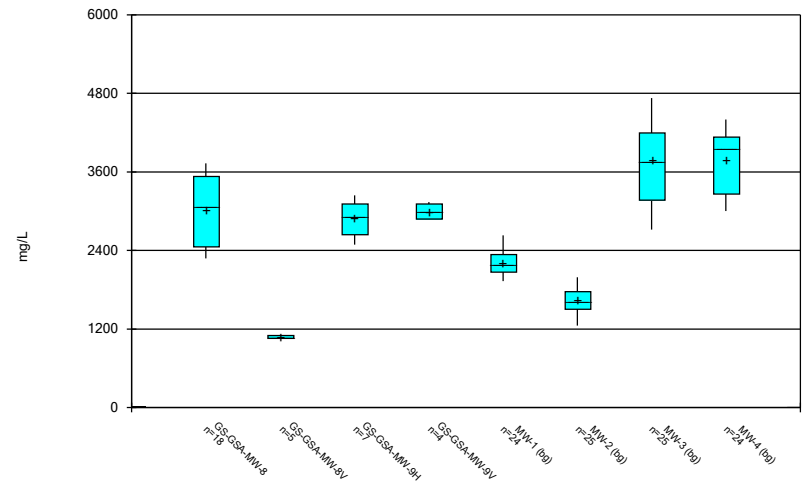
Constituent: Thallium Analysis Run 5/11/2022 6:06 PM View: Constituents View  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



Constituent: Total dissolved solids Analysis Run 5/11/2022 6:06 PM View: Constituents View  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Box & Whiskers Plot



Constituent: Total dissolved solids Analysis Run 5/11/2022 6:06 PM View: Constituents View  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

FIGURE C.

# Outlier Summary

Plant Gorgas Client: Southern Company Data: Gorgas GSA Printed 5/11/2022, 6:07 PM

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	MW-3 Beryllium (mg/L)	MW-4 Boron (mg/L)	MW-3 Cadmium (mg/L)	GS-GSA-MW-3 Cobalt (mg/L)	MW-3 Cobalt (mg/L)	MW-3 Lead (mg/L)	MW-3 pH (pH)	MW-1 Sulfate (mg/L)	MW-1 Total dissolved solids (mg/L)
4/25/2016			0.0121 (o)						
1/18/2017	0.0169 (o)								
4/17/2017			0.294 (o)						
5/22/2018								2100 (o)	
11/19/2018	0.0185 (o)				0.00692 (o)	3.77 (o)			
5/14/2019		<0.203 (o)							
10/8/2019					1.07 (o)				
10/16/2019					0.848 (o)				3650 (o)



FIGURE D.

# Appendix III Intrawell Prediction Limits - Significant Results

Plant Gorgas Client: Southern Company Data: Gorgas GSA Printed 5/11/2022, 6:15 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
pH (pH)	GS-GSA-MW-3	6.38	5.66	1/26/2022	6.52	Yes	17	6.02	0.1846	0	None	No	0.001253	Param Intra 1 of 2
pH (pH)	MW-2	6.145	5.788	1/25/2022	6.22	Yes	23	5.967	0.09604	0	None	No	0.001253	Param Intra 1 of 2
pH (pH)	MW-4	6.237	6.076	1/25/2022	6.3	Yes	23	6.157	0.04323	0	None	No	0.001253	Param Intra 1 of 2
Sulfate (mg/L)	GS-GSA-MW-4	653.2	n/a	1/27/2022	1130	Yes	16	569.6	42.43	0	None	No	0.002505	Param Intra 1 of 2
Total dissolved solids (mg/L)	GS-GSA-MW-4	1084	n/a	1/27/2022	1840	Yes	16	987.9	48.59	0	None	No	0.002505	Param Intra 1 of 2

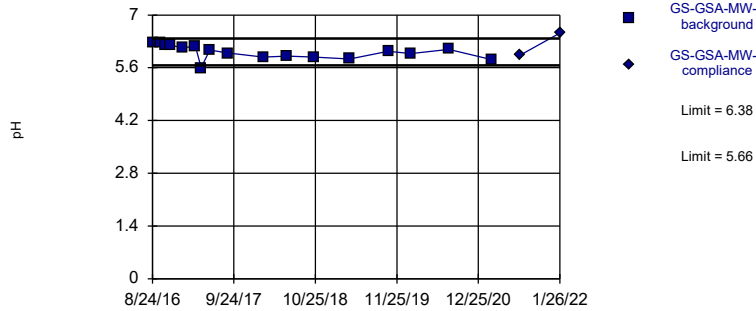
# Appendix III Intrawell Prediction Limits - All Results

Plant Gorgas Client: Southern Company Data: Gorgas GSA Printed 5/11/2022, 6:15 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
<b>pH (pH)</b>	<b>GS-GSA-MW-3</b>	<b>6.38</b>	<b>5.66</b>	<b>1/26/2022</b>	<b>6.52</b>	<b>Yes</b>	<b>17</b>	<b>6.02</b>	<b>0.1846</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.001253</b>	<b>Param Intra 1 of 2</b>
pH (pH)	GS-GSA-MW-4	3.896	3.699	1/27/2022	3.73	No	17	3.798	0.05044	0	None	No	0.001253	Param Intra 1 of 2
pH (pH)	GS-GSA-MW-8	7.149	6.399	1/27/2022	6.85	No	17	6.774	0.1922	0	None	No	0.001253	Param Intra 1 of 2
pH (pH)	MW-1	5.249	5.046	1/25/2022	5.11	No	23	5.147	0.05471	0	None	No	0.001253	Param Intra 1 of 2
<b>pH (pH)</b>	<b>MW-2</b>	<b>6.145</b>	<b>5.788</b>	<b>1/25/2022</b>	<b>6.22</b>	<b>Yes</b>	<b>23</b>	<b>5.967</b>	<b>0.09604</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.001253</b>	<b>Param Intra 1 of 2</b>
pH (pH)	MW-3	5.987	4.38	1/25/2022	5.9	No	23	149.3	35.15	0	None	x^3	0.001253	Param Intra 1 of 2
<b>pH (pH)</b>	<b>MW-4</b>	<b>6.237</b>	<b>6.076</b>	<b>1/25/2022</b>	<b>6.3</b>	<b>Yes</b>	<b>23</b>	<b>6.157</b>	<b>0.04323</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.001253</b>	<b>Param Intra 1 of 2</b>
Sulfate (mg/L)	GS-GSA-MW-3	3163	n/a	1/26/2022	2620	No	16	2.3e10	4.4e9	0	None	x^3	0.002505	Param Intra 1 of 2
<b>Sulfate (mg/L)</b>	<b>GS-GSA-MW-4</b>	<b>653.2</b>	<b>n/a</b>	<b>1/27/2022</b>	<b>1130</b>	<b>Yes</b>	<b>16</b>	<b>569.6</b>	<b>42.43</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.002505</b>	<b>Param Intra 1 of 2</b>
Sulfate (mg/L)	GS-GSA-MW-8	2169	n/a	1/27/2022	2000	No	16	1541	318.8	0	None	No	0.002505	Param Intra 1 of 2
Sulfate (mg/L)	MW-1	1653	n/a	1/25/2022	1430	No	22	1456	105.3	0	None	No	0.002505	Param Intra 1 of 2
Sulfate (mg/L)	MW-2	1257	n/a	1/25/2022	842	No	23	1001	137.9	0	None	No	0.002505	Param Intra 1 of 2
Sulfate (mg/L)	MW-3	3195	n/a	1/25/2022	2550	No	23	2487	381.4	0	None	No	0.002505	Param Intra 1 of 2
Sulfate (mg/L)	MW-4	3107	n/a	1/25/2022	1930	No	22	2505	321.9	0	None	No	0.002505	Param Intra 1 of 2
Total dissolved solids (mg/L)	GS-GSA-MW-3	5170	n/a	1/26/2022	4260	No	16	n/a	n/a	0	n/a	n/a	0.006456	NP Intra (normality) 1 of 2
<b>Total dissolved solids (mg/L)</b>	<b>GS-GSA-MW-4</b>	<b>1084</b>	<b>n/a</b>	<b>1/27/2022</b>	<b>1840</b>	<b>Yes</b>	<b>16</b>	<b>987.9</b>	<b>48.59</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.002505</b>	<b>Param Intra 1 of 2</b>
Total dissolved solids (mg/L)	GS-GSA-MW-8	4017	n/a	1/27/2022	3290	No	16	2978	527.4	0	None	No	0.002505	Param Intra 1 of 2
Total dissolved solids (mg/L)	MW-1	2516	n/a	1/25/2022	2150	No	22	2201	168.2	0	None	No	0.002505	Param Intra 1 of 2
Total dissolved solids (mg/L)	MW-2	2005	n/a	1/25/2022	1500	No	23	1648	192.4	0	None	No	0.002505	Param Intra 1 of 2
Total dissolved solids (mg/L)	MW-3	4954	n/a	1/25/2022	3950	No	23	3773	635.9	0	None	No	0.002505	Param Intra 1 of 2
Total dissolved solids (mg/L)	MW-4	4484	n/a	1/25/2022	3180	No	22	5.8e10	1.7e10	0	None	x^3	0.002505	Param Intra 1 of 2

Exceeds Limits

### Prediction Limit Intrawell Parametric

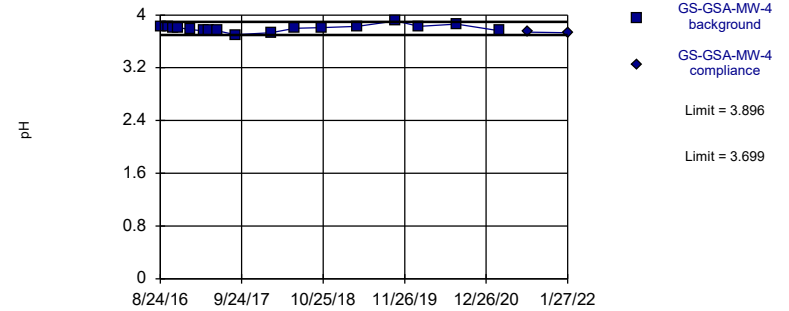


Background Data Summary: Mean=6.02, Std. Dev.=0.1846, n=17. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9599, critical = 0.851. Kappa = 1.951 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: pH Analysis Run 5/11/2022 6:13 PM View: Appendix III - Intrawell PLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Within Limits

### Prediction Limit Intrawell Parametric

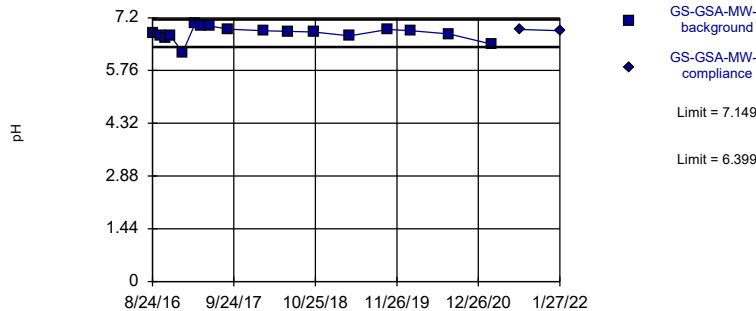


Background Data Summary: Mean=3.798, Std. Dev.=0.05044, n=17. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9673, critical = 0.851. Kappa = 1.951 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: pH Analysis Run 5/11/2022 6:13 PM View: Appendix III - Intrawell PLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Within Limits

### Prediction Limit Intrawell Parametric

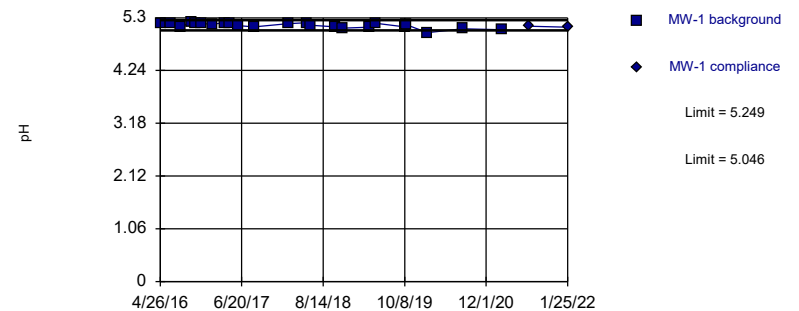


Background Data Summary: Mean=6.774, Std. Dev.=0.1922, n=17. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9038, critical = 0.851. Kappa = 1.951 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: pH Analysis Run 5/11/2022 6:13 PM View: Appendix III - Intrawell PLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Within Limits

### Prediction Limit Intrawell Parametric

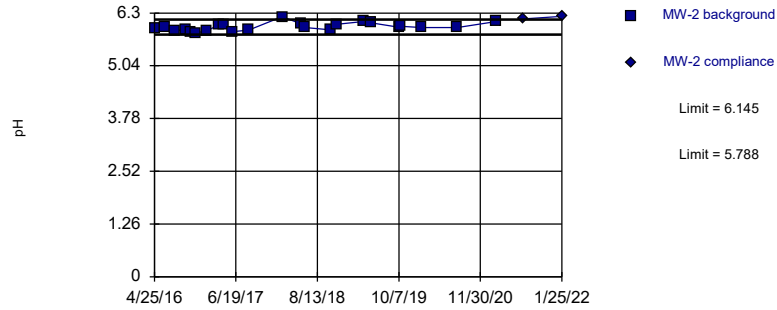


Background Data Summary: Mean=5.147, Std. Dev.=0.05471, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8955, critical = 0.881. Kappa = 1.857 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: pH Analysis Run 5/11/2022 6:13 PM View: Appendix III - Intrawell PLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Exceeds Limits

### Prediction Limit Intrawell Parametric

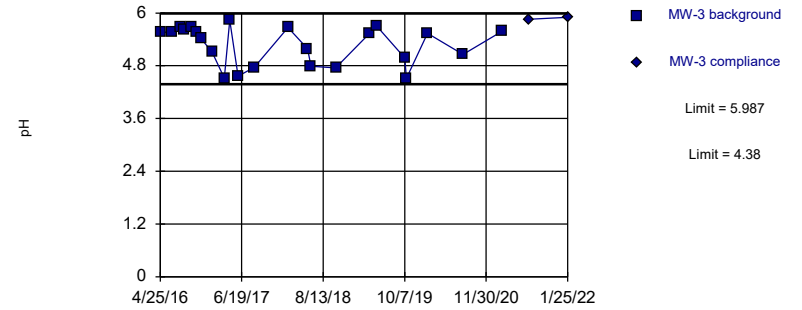


Background Data Summary: Mean=5.967, Std. Dev.=0.09604, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9622, critical = 0.881. Kappa = 1.857 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: pH Analysis Run 5/11/2022 6:13 PM View: Appendix III - Intrawell PLs  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Within Limits

### Prediction Limit Intrawell Parametric

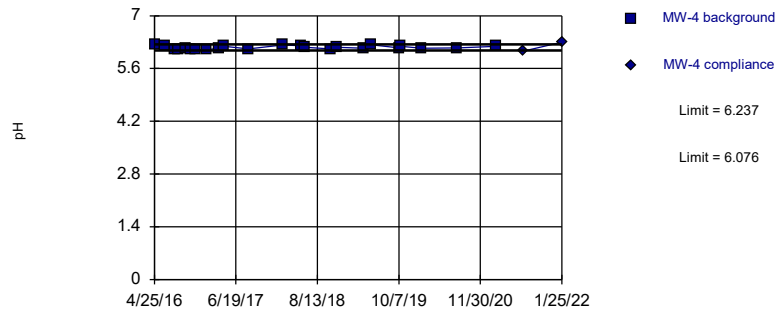


Background Data Summary (based on cube transformation): Mean=149.3, Std. Dev.=35.15, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8845, critical = 0.881. Kappa = 1.857 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: pH Analysis Run 5/11/2022 6:13 PM View: Appendix III - Intrawell PLs  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Exceeds Limits

### Prediction Limit Intrawell Parametric

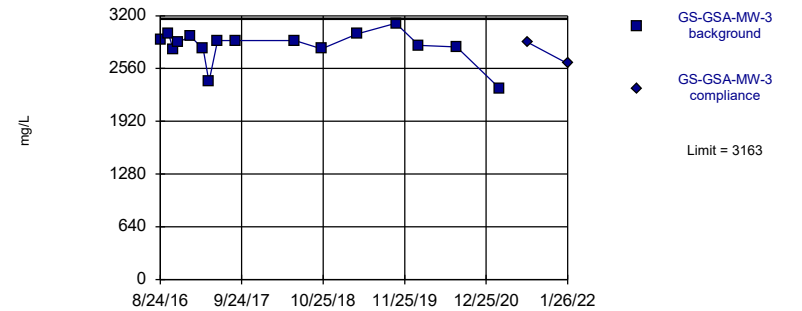


Background Data Summary: Mean=6.157, Std. Dev.=0.04323, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9401, critical = 0.881. Kappa = 1.857 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: pH Analysis Run 5/11/2022 6:13 PM View: Appendix III - Intrawell PLs  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Within Limit

### Prediction Limit Intrawell Parametric

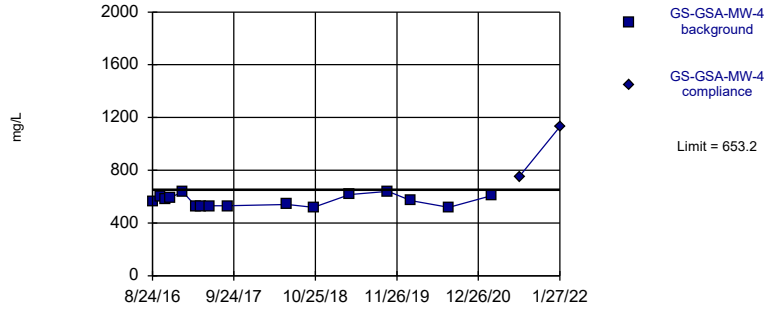


Background Data Summary (based on cube transformation): Mean=2.3e10, Std. Dev.=4.4e9, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8468, critical = 0.844. Kappa = 1.97 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: Sulfate Analysis Run 5/11/2022 6:13 PM View: Appendix III - Intrawell PLs  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Exceeds Limit

### Prediction Limit Intrawell Parametric

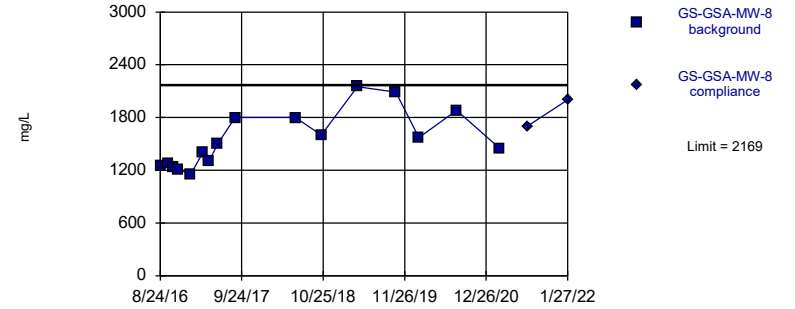


Background Data Summary: Mean=569.6, Std. Dev.=42.43, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8989, critical = 0.844. Kappa = 1.97 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: Sulfate Analysis Run 5/11/2022 6:14 PM View: Appendix III - Intrawell PLs  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Within Limit

### Prediction Limit Intrawell Parametric

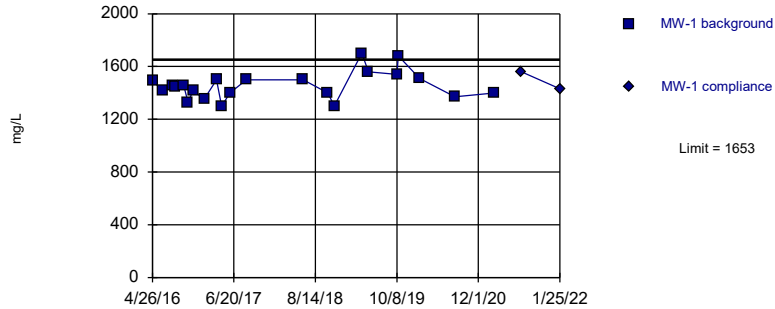


Background Data Summary: Mean=1541, Std. Dev.=318.8, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9147, critical = 0.844. Kappa = 1.97 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: Sulfate Analysis Run 5/11/2022 6:14 PM View: Appendix III - Intrawell PLs  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Within Limit

### Prediction Limit Intrawell Parametric

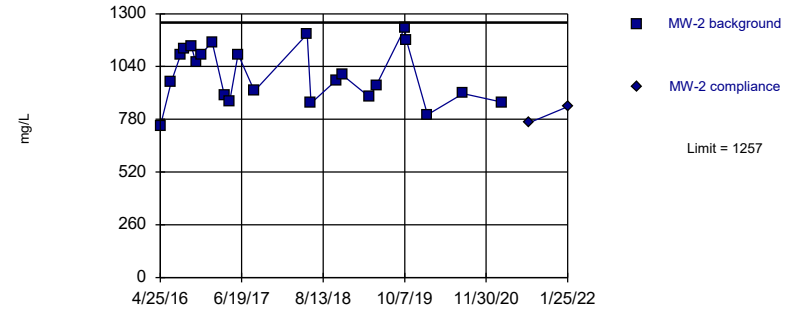


Background Data Summary: Mean=1456, Std. Dev.=105.3, n=22. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9431, critical = 0.878. Kappa = 1.869 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: Sulfate Analysis Run 5/11/2022 6:14 PM View: Appendix III - Intrawell PLs  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Within Limit

### Prediction Limit Intrawell Parametric

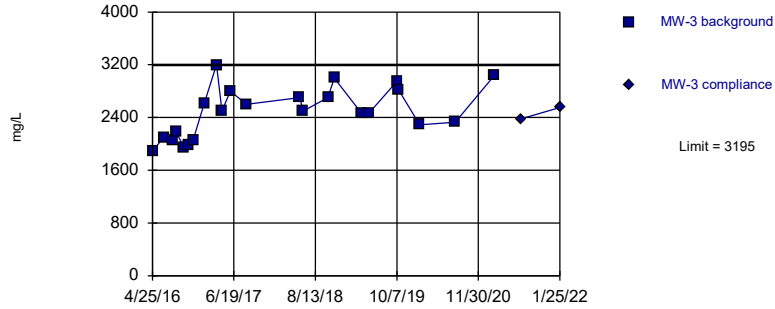


Background Data Summary: Mean=1001, Std. Dev.=137.9, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9535, critical = 0.881. Kappa = 1.857 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: Sulfate Analysis Run 5/11/2022 6:14 PM View: Appendix III - Intrawell PLs  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Within Limit

### Prediction Limit Intrawell Parametric

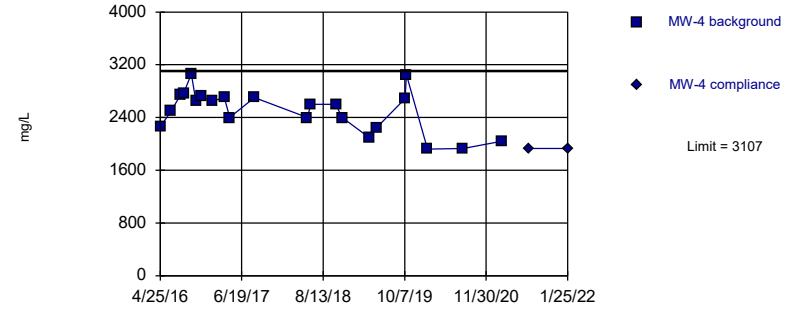


Background Data Summary: Mean=2487, Std. Dev.=381.4, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.964, critical = 0.881. Kappa = 1.857 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: Sulfate Analysis Run 5/11/2022 6:14 PM View: Appendix III - Intrawell PLS  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Within Limit

### Prediction Limit Intrawell Parametric

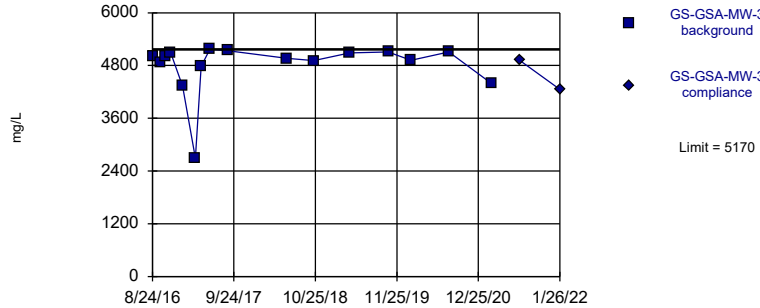


Background Data Summary: Mean=2505, Std. Dev.=321.9, n=22. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.945, critical = 0.878. Kappa = 1.869 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: Sulfate Analysis Run 5/11/2022 6:14 PM View: Appendix III - Intrawell PLS  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Within Limit

### Prediction Limit Intrawell Non-parametric

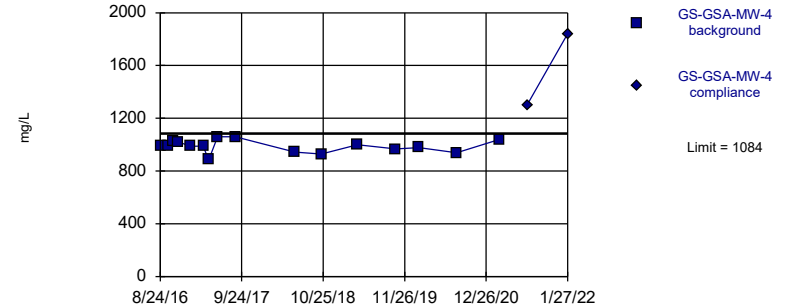


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 16 background values. Well-constituent pair annual alpha = 0.01287. Individual comparison alpha = 0.006456 (1 of 2).

Constituent: Total dissolved solids Analysis Run 5/11/2022 6:14 PM View: Appendix III - Intrawell PLS  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Exceeds Limit

### Prediction Limit Intrawell Parametric

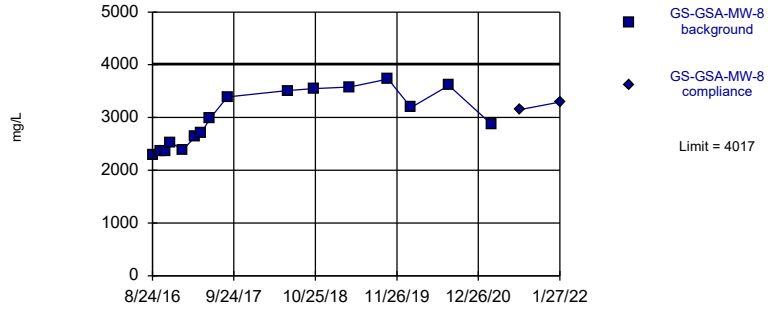


Background Data Summary: Mean=987.9, Std. Dev.=48.59, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9659, critical = 0.844. Kappa = 1.97 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: Total dissolved solids Analysis Run 5/11/2022 6:14 PM View: Appendix III - Intrawell PLS  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Within Limit

Prediction Limit  
Intrawell Parametric

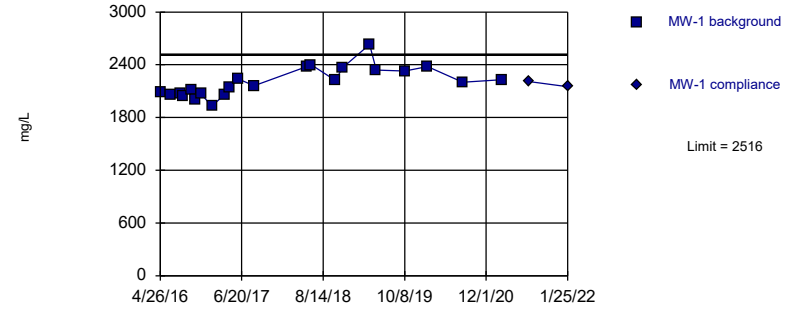


Background Data Summary: Mean=2978, Std. Dev.=527.4, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8919, critical = 0.844. Kappa = 1.97 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: Total dissolved solids Analysis Run 5/11/2022 6:14 PM View: Appendix III - Intrawell PLS  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Within Limit

Prediction Limit  
Intrawell Parametric

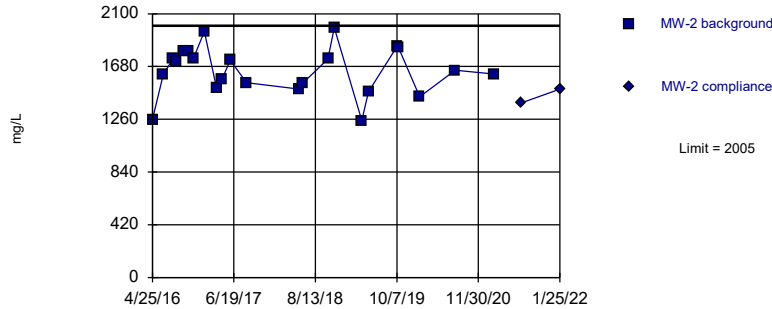


Background Data Summary: Mean=2201, Std. Dev.=168.2, n=22. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9467, critical = 0.878. Kappa = 1.869 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: Total dissolved solids Analysis Run 5/11/2022 6:14 PM View: Appendix III - Intrawell PLS  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Within Limit

Prediction Limit  
Intrawell Parametric

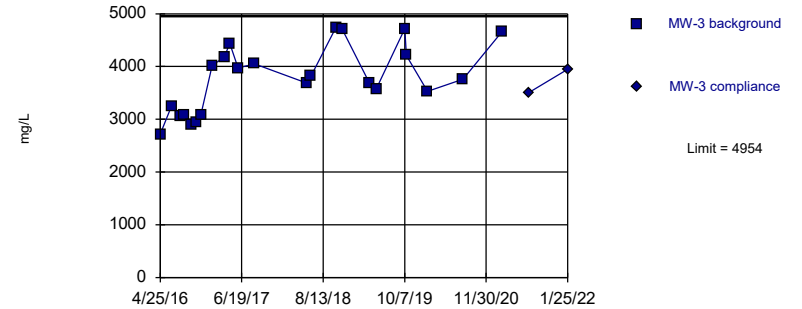


Background Data Summary: Mean=1648, Std. Dev.=192.4, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.968, critical = 0.881. Kappa = 1.857 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: Total dissolved solids Analysis Run 5/11/2022 6:14 PM View: Appendix III - Intrawell PLS  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Within Limit

Prediction Limit  
Intrawell Parametric



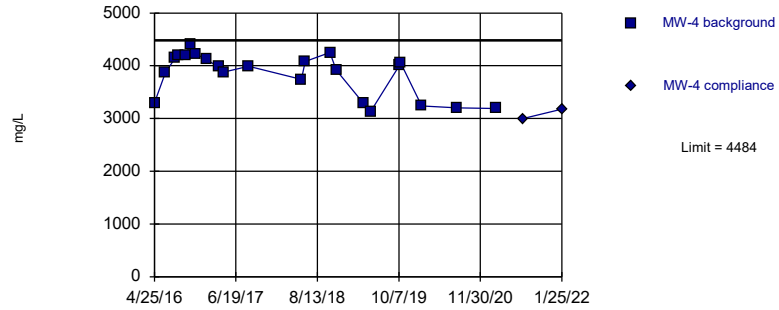
Background Data Summary: Mean=3773, Std. Dev.=635.9, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9443, critical = 0.881. Kappa = 1.857 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: Total dissolved solids Analysis Run 5/11/2022 6:14 PM View: Appendix III - Intrawell PLS  
Plant Gorgas Client: Southern Company Data: Gorgas GSA



Within Limit

Prediction Limit  
Intrawell Parametric



Background Data Summary (based on cube transformation): Mean=5.8e10, Std. Dev.=1.7e10, n=22. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8912, critical = 0.878. Kappa = 1.869 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: Total dissolved solids    Analysis Run 5/11/2022 6:14 PM    View: Appendix III - Intrawell PLs  
Plant Gorgas    Client: Southern Company    Data: Gorgas GSA

# Prediction Limit

Constituent: pH (pH) Analysis Run 5/11/2022 6:15 PM View: Appendix III - Intravel PLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-3	GS-GSA-MW-3
8/24/2016	6.28	
10/3/2016	6.28	
10/26/2016	6.19	
11/21/2016	6.2	
1/17/2017	6.13	
3/20/2017	6.17	
4/17/2017	5.6	
5/30/2017	6.07	
8/24/2017	5.99	
2/13/2018	5.88	
6/11/2018	5.91	
10/17/2018	5.88	
4/10/2019	5.83	
10/14/2019	6.04	
2/3/2020	5.98	
8/4/2020	6.09	
3/1/2021	5.82	
7/14/2021		5.93
1/26/2022		6.52

# Prediction Limit

Constituent: pH (pH) Analysis Run 5/11/2022 6:15 PM View: Appendix III - Intravel PLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-4	GS-GSA-MW-4
8/24/2016	3.83 (E)	
10/3/2016	3.82 (E)	
10/26/2016	3.81 (E)	
11/21/2016	3.81	
1/17/2017	3.78	
3/21/2017	3.76	
4/17/2017	3.76	
5/30/2017	3.76	
8/24/2017	3.7	
2/13/2018	3.73	
6/11/2018	3.8	
10/17/2018	3.81	
4/10/2019	3.83	
10/14/2019	3.91	
2/4/2020	3.83	
8/5/2020	3.86	
3/3/2021	3.76	
7/14/2021		3.74
1/27/2022		3.73

# Prediction Limit

Constituent: pH (pH) Analysis Run 5/11/2022 6:15 PM View: Appendix III - Intravel PLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-8	GS-GSA-MW-8
8/24/2016	6.78	
10/3/2016	6.71	
10/26/2016	6.65	
11/21/2016	6.7	
1/17/2017	6.25	
3/20/2017	7.04	
4/18/2017	6.99	
5/30/2017	6.98	
8/24/2017	6.89	
2/13/2018	6.85	
6/12/2018	6.83	
10/17/2018	6.81	
4/10/2019	6.71	
10/14/2019	6.88	
2/4/2020	6.85	
8/5/2020	6.76	
3/1/2021	6.48	
7/14/2021		6.88
1/27/2022		6.85

# Prediction Limit

Constituent: pH (pH) Analysis Run 5/11/2022 6:15 PM View: Appendix III - Inrawell PLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	MW-1	MW-1
4/26/2016	5.2	
6/20/2016	5.18	
8/8/2016	5.12	
10/3/2016	5.21	
10/26/2016	5.2	
11/21/2016	5.19	
1/17/2017	5.17	
3/22/2017	5.2	
4/18/2017	5.2	
5/30/2017	5.14	
8/23/2017	5.12	
2/13/2018	5.18	
5/22/2018	5.2	
6/12/2018	5.15	
10/17/2018	5.12	
11/19/2018	5.09	
4/10/2019	5.11	
5/14/2019	5.19	
10/8/2019	5.12	
10/16/2019	5.16	
2/3/2020	5	
8/3/2020	5.08	
2/22/2021	5.06	
7/12/2021		5.13
1/25/2022		5.11

# Prediction Limit

Constituent: pH (pH) Analysis Run 5/11/2022 6:15 PM View: Appendix III - Inrawell PLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	MW-2	MW-2
4/25/2016	5.94	
6/20/2016	5.96	
8/8/2016	5.88	
10/3/2016	5.91	
10/26/2016	5.84	
11/21/2016	5.82	
1/17/2017	5.87	
3/22/2017	6.01	
4/18/2017	6.02	
5/31/2017	5.85	
8/23/2017	5.89	
2/13/2018	6.21	
5/22/2018	6.04	
6/12/2018	5.95	
10/17/2018	5.9	
11/19/2018	6.03	
4/10/2019	6.1	
5/14/2019	6.07	
10/8/2019	5.96	
10/16/2019	5.98	
2/3/2020	5.95	
8/3/2020	5.95	
2/22/2021	6.1	
7/12/2021		6.16
1/25/2022		6.22

# Prediction Limit

Constituent: pH (pH) Analysis Run 5/11/2022 6:16 PM View: Appendix III - Intravel PLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	MW-3	MW-3
4/25/2016	5.56	
6/22/2016	5.57	
8/9/2016	5.67	
8/24/2016	5.63	
10/4/2016	5.69	
10/26/2016	5.56	
11/21/2016	5.42	
1/18/2017	5.11	
3/22/2017	4.52	
4/18/2017	5.84	
5/31/2017	4.56	
8/23/2017	4.77	
2/13/2018	5.67	
5/24/2018	5.19	
6/12/2018	4.79	
10/17/2018	4.75	
11/19/2018	3.77 (o)	
4/10/2019	5.54	
5/14/2019	5.71	
10/8/2019	4.98	
10/16/2019	4.51	
2/3/2020	5.54	
8/3/2020	5.06	
2/22/2021	5.59	
7/12/2021		5.86
1/25/2022		5.9

# Prediction Limit

Constituent: pH (pH) Analysis Run 5/11/2022 6:16 PM View: Appendix III - Inrawell PLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	MW-4	MW-4
4/25/2016	6.22	
6/20/2016	6.21	
8/9/2016	6.11	
8/24/2016	6.11	
10/3/2016	6.13	
10/26/2016	6.12	
11/21/2016	6.09	
1/18/2017	6.09	
3/22/2017	6.15	
4/18/2017	6.19	
8/23/2017	6.12	
2/13/2018	6.22	
5/23/2018	6.21	
6/12/2018	6.16	
10/17/2018	6.12	
11/19/2018	6.16	
4/10/2019	6.14	
5/14/2019	6.23	
10/10/2019	6.15	
10/16/2019	6.19	
2/3/2020	6.14	
8/5/2020	6.15	
2/22/2021	6.19	
7/12/2021		6.06
1/25/2022		6.3



# Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 5/11/2022 6:16 PM View: Appendix III - Intrawell PLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-3	GS-GSA-MW-3
8/24/2016	2910	
10/3/2016	2980	
10/26/2016	2790	
11/21/2016	2880	
1/17/2017	2950	
3/20/2017	2800	
4/17/2017	2400	
5/30/2017	2900	
8/24/2017	2900	
6/11/2018	2900	
10/17/2018	2800	
4/10/2019	2980	
10/14/2019	3110	
2/3/2020	2840	
8/4/2020	2820	
3/1/2021	2320	
7/14/2021		2880
1/26/2022		2620

# Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 5/11/2022 6:16 PM View: Appendix III - Intrawell PLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-4	GS-GSA-MW-4
8/24/2016	567	
10/3/2016	596	
10/26/2016	585	
11/21/2016	593	
1/17/2017	637	
3/21/2017	530	
4/17/2017	530	
5/30/2017	530	
8/24/2017	530	
6/11/2018	540	
10/17/2018	520	
4/10/2019	616	
10/14/2019	641	
2/4/2020	571	
8/5/2020	519	
3/3/2021	609	
7/14/2021		752
1/27/2022		1130

# Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 5/11/2022 6:16 PM View: Appendix III - Intrawell PLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-8	GS-GSA-MW-8
8/24/2016	1250	
10/3/2016	1270	
10/26/2016	1240	
11/21/2016	1210	
1/17/2017	1150	
3/20/2017	1400	
4/18/2017	1300	
5/30/2017	1500	
8/24/2017	1800	
6/12/2018	1800	
10/17/2018	1600	
4/10/2019	2150	
10/14/2019	2090	
2/4/2020	1570	
8/5/2020	1880	
3/1/2021	1450	
7/14/2021		1700
1/27/2022		2000

# Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 5/11/2022 6:16 PM View: Appendix III - Intrawell PLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	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	
2/3/2020	1510	
8/3/2020	1370	
2/22/2021	1400	
7/12/2021		1560
1/25/2022		1430

# Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 5/11/2022 6:16 PM View: Appendix III - Intrawell PLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	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	
2/3/2020	803	
8/3/2020	907	
2/22/2021	864	
7/12/2021		763
1/25/2022		842

# Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 5/11/2022 6:16 PM View: Appendix III - Intrawell PLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	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	
2/3/2020	2290	
8/3/2020	2330	
2/22/2021	3040	
7/12/2021		2380
1/25/2022		2550

# Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 5/11/2022 6:16 PM View: Appendix III - Intrawell PLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	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	
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	
2/3/2020	1920	
8/5/2020	1930	
2/22/2021	2040	
7/12/2021		1930
1/25/2022		1930

# Prediction Limit

Constituent: Total dissolved solids (mg/L) Analysis Run 5/11/2022 6:16 PM View: Appendix III - IntraWell PLs

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-3	GS-GSA-MW-3
8/24/2016	5020	
10/3/2016	4880	
10/26/2016	5020	
11/21/2016	5090	
1/17/2017	4330	
3/20/2017	2690	
4/17/2017	4780	
5/30/2017	5170	
8/24/2017	5140	
6/11/2018	4960	
10/17/2018	4910	
4/10/2019	5090	
10/14/2019	5110	
2/3/2020	4920	
8/4/2020	5110	
3/1/2021	4390	
7/14/2021		4920
1/26/2022		4260



# Prediction Limit

Constituent: Total dissolved solids (mg/L) Analysis Run 5/11/2022 6:16 PM View: Appendix III - IntraWell PLs

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-4	GS-GSA-MW-4
8/24/2016	992	
10/3/2016	988	
10/26/2016	1030	
11/21/2016	1020	
1/17/2017	988	
3/21/2017	990	
4/17/2017	884	
5/30/2017	1060	
8/24/2017	1060	
6/11/2018	944	
10/17/2018	928	
4/10/2019	1000	
10/14/2019	967	
2/4/2020	978	
8/5/2020	938	
3/3/2021	1040	
7/14/2021		1300
1/27/2022		1840

# Prediction Limit

Constituent: Total dissolved solids (mg/L) Analysis Run 5/11/2022 6:16 PM View: Appendix III - IntraWell PLs

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-8	GS-GSA-MW-8
8/24/2016	2280	
10/3/2016	2370	
10/26/2016	2350	
11/21/2016	2530	
1/17/2017	2380	
3/20/2017	2630	
4/18/2017	2700	
5/30/2017	2980	
8/24/2017	3390	
6/12/2018	3510	
10/17/2018	3550	
4/10/2019	3580	
10/14/2019	3730	
2/4/2020	3190	
8/5/2020	3610	
3/1/2021	2870	
7/14/2021		3150
1/27/2022		3290

# Prediction Limit

Constituent: Total dissolved solids (mg/L) Analysis Run 5/11/2022 6:16 PM View: Appendix III - IntraWell PLs

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	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)	
2/3/2020	2380	
8/3/2020	2200	
2/22/2021	2230	
7/12/2021		2210
1/25/2022		2150

# Prediction Limit

Constituent: Total dissolved solids (mg/L) Analysis Run 5/11/2022 6:16 PM View: Appendix III - IntraWell PLs

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	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	
2/3/2020	1440	
8/3/2020	1650	
2/22/2021	1620	
7/12/2021		1390
1/25/2022		1500

# Prediction Limit

Constituent: Total dissolved solids (mg/L) Analysis Run 5/11/2022 6:16 PM View: Appendix III - IntraWell PLs

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	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	
2/3/2020	3530	
8/3/2020	3760	
2/22/2021	4670	
7/12/2021		3510
1/25/2022		3950

# Prediction Limit

Constituent: Total dissolved solids (mg/L) Analysis Run 5/11/2022 6:16 PM View: Appendix III - IntraWell PLs

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	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	
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	
2/3/2020	3240	
8/5/2020	3200	
2/22/2021	3190	
7/12/2021		3000
1/25/2022		3180

FIGURE E.

# Appendix III Interwell Prediction Limits - Significant Results

Plant Gorgas Client: Southern Company Data: Gorgas GSA Printed 5/11/2022, 6:12 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Obsrv.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	GS-GSA-MW-3	0.0596	n/a	1/26/2022	2.5	Yes	98	n/a	n/a	21.43	n/a	n/a	0.0002025	NP Inter (normality) 1 of 2
Boron (mg/L)	GS-GSA-MW-4	0.0596	n/a	1/27/2022	6.1	Yes	98	n/a	n/a	21.43	n/a	n/a	0.0002025	NP Inter (normality) 1 of 2
Boron (mg/L)	GS-GSA-MW-8	0.0596	n/a	1/27/2022	2.76	Yes	98	n/a	n/a	21.43	n/a	n/a	0.0002025	NP Inter (normality) 1 of 2
Calcium (mg/L)	GS-GSA-MW-3	431	n/a	1/26/2022	517	Yes	99	n/a	n/a	0	n/a	n/a	0.0001981	NP Inter (normality) 1 of 2
Calcium (mg/L)	GS-GSA-MW-8	431	n/a	1/27/2022	491	Yes	99	n/a	n/a	0	n/a	n/a	0.0001981	NP Inter (normality) 1 of 2
Chloride (mg/L)	GS-GSA-MW-3	3.664	n/a	1/26/2022	255	Yes	99	1.291	0.15	3.03	None	x^(1/3)	0.002505	Param Inter 1 of 2
Chloride (mg/L)	GS-GSA-MW-4	3.664	n/a	1/27/2022	103	Yes	99	1.291	0.15	3.03	None	x^(1/3)	0.002505	Param Inter 1 of 2
Chloride (mg/L)	GS-GSA-MW-8	3.664	n/a	1/27/2022	122	Yes	99	1.291	0.15	3.03	None	x^(1/3)	0.002505	Param Inter 1 of 2



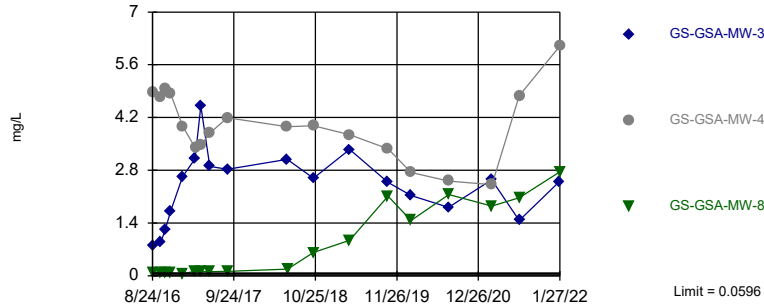
# Appendix III Interwell Prediction Limits - All Results

Plant Gorgas Client: Southern Company Data: Gorgas GSA Printed 5/11/2022, 6:12 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	GS-GSA-MW-3	0.0596	n/a	1/26/2022	2.5	Yes	98	n/a	n/a	21.43	n/a	n/a	0.0002025	NP Inter (normality) 1 of 2
Boron (mg/L)	GS-GSA-MW-4	0.0596	n/a	1/27/2022	6.1	Yes	98	n/a	n/a	21.43	n/a	n/a	0.0002025	NP Inter (normality) 1 of 2
Boron (mg/L)	GS-GSA-MW-8	0.0596	n/a	1/27/2022	2.76	Yes	98	n/a	n/a	21.43	n/a	n/a	0.0002025	NP Inter (normality) 1 of 2
Calcium (mg/L)	GS-GSA-MW-3	431	n/a	1/26/2022	517	Yes	99	n/a	n/a	0	n/a	n/a	0.0001981	NP Inter (normality) 1 of 2
Calcium (mg/L)	GS-GSA-MW-4	431	n/a	1/27/2022	181	No	99	n/a	n/a	0	n/a	n/a	0.0001981	NP Inter (normality) 1 of 2
Calcium (mg/L)	GS-GSA-MW-8	431	n/a	1/27/2022	491	Yes	99	n/a	n/a	0	n/a	n/a	0.0001981	NP Inter (normality) 1 of 2
Chloride (mg/L)	GS-GSA-MW-3	3.664	n/a	1/26/2022	255	Yes	99	1.291	0.15	3.03	None	x^(1/3)	0.002505	Param Inter 1 of 2
Chloride (mg/L)	GS-GSA-MW-4	3.664	n/a	1/27/2022	103	Yes	99	1.291	0.15	3.03	None	x^(1/3)	0.002505	Param Inter 1 of 2
Chloride (mg/L)	GS-GSA-MW-8	3.664	n/a	1/27/2022	122	Yes	99	1.291	0.15	3.03	None	x^(1/3)	0.002505	Param Inter 1 of 2
Fluoride (mg/L)	GS-GSA-MW-3	0.63	n/a	1/26/2022	0.447	No	103	n/a	n/a	0.9709	n/a	n/a	0.0001849	NP Inter (normality) 1 of 2
Fluoride (mg/L)	GS-GSA-MW-4	0.63	n/a	1/27/2022	0.05ND	No	103	n/a	n/a	0.9709	n/a	n/a	0.0001849	NP Inter (normality) 1 of 2
Fluoride (mg/L)	GS-GSA-MW-8	0.63	n/a	1/27/2022	0.179	No	103	n/a	n/a	0.9709	n/a	n/a	0.0001849	NP Inter (normality) 1 of 2

Exceeds Limit: GS-GSA-MW-3, GS-GSA-MW-4, GS-GSA-MW-8

Prediction Limit  
Interwell Non-parametric

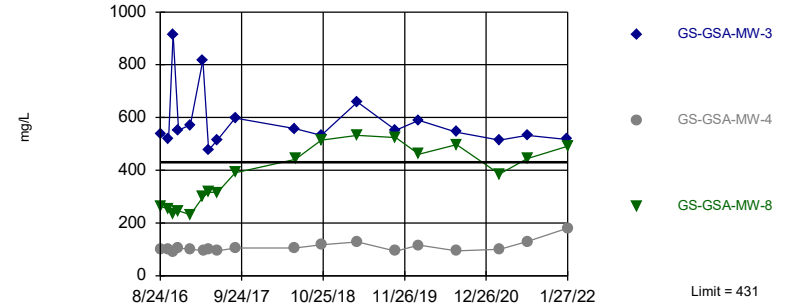


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 98 background values. 21.43% NDs. Annual per-constituent alpha = 0.001215. Individual comparison alpha = 0.0002025 (1 of 2). Comparing 3 points to limit.

Constituent: Boron Analysis Run 5/11/2022 6:10 PM View: Appendix III - Interwell PL  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Exceeds Limit: GS-GSA-MW-3, GS-GSA-MW-8

Prediction Limit  
Interwell Non-parametric

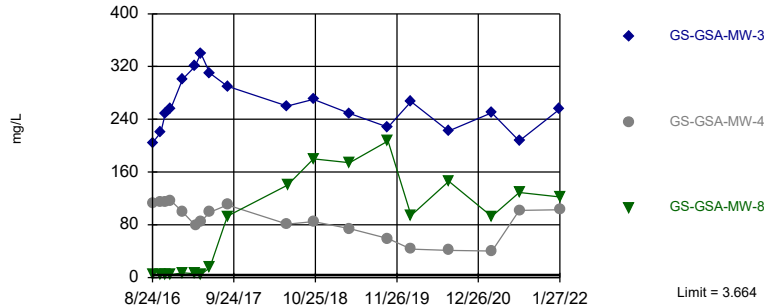


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 99 background values. Annual per-constituent alpha = 0.001188. Individual comparison alpha = 0.0001981 (1 of 2). Comparing 3 points to limit.

Constituent: Calcium Analysis Run 5/11/2022 6:10 PM View: Appendix III - Interwell PL  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Exceeds Limit: GS-GSA-MW-3, GS-GSA-MW-4, GS-GSA-MW-8

Prediction Limit  
Interwell Parametric

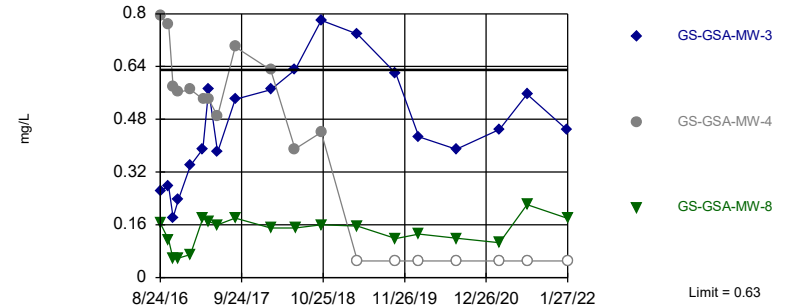


Background Data Summary (based on cube root transformation): Mean=1.291, Std. Dev.=0.15, n=99, 3.03% NDs. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9683, critical = 0.967. Kappa = 1.673 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.002505. Comparing 3 points to limit.

Constituent: Chloride Analysis Run 5/11/2022 6:10 PM View: Appendix III - Interwell PL  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Hollow symbols indicate censored values.  
Within Limit

Prediction Limit  
Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Chi Squared normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 103 background values. 0.9709% NDs. Annual per-constituent alpha = 0.001109. Individual comparison alpha = 0.0001849 (1 of 2). Comparing 3 points to limit.

Constituent: Fluoride Analysis Run 5/11/2022 6:10 PM View: Appendix III - Interwell PL  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

# Prediction Limit

Constituent: Boron (mg/L) Analysis Run 5/11/2022 6:12 PM View: Appendix III - Interwell PL

Plant Gorgas Client: Southern Company Data: Gorgas GSA

	MW-2 (bg)	MW-4 (bg)	MW-3 (bg)	MW-1 (bg)	GS-GSA-MW-4	GS-GSA-MW-3	GS-GSA-MW-8
4/25/2016	0.0241 (J)	0.0414 (J)	0.028 (J)				
4/26/2016				0.0231 (J)			
6/20/2016	0.0284 (J)	0.0434 (J)		0.0227 (J)			
6/22/2016			0.0433 (J)				
8/8/2016	0.034 (J)			0.0278 (J)			
8/9/2016		0.0453 (J)	0.0429 (J)				
8/24/2016	0.0316 (J)	0.0451 (J)	0.0431 (J)	0.0247 (J)	4.88	0.799	0.0898 (J)
10/3/2016	0.0367 (J)	0.0511 (J)		0.0307 (J)	4.75	0.889	0.0821 (J)
10/4/2016			0.04 (J)				
10/26/2016	0.0331 (J)	0.0507 (J)	0.0375 (J)	0.0241 (J)	4.96	1.23	0.0889 (J)
11/21/2016	0.035 (J)	0.0458 (J)	0.0406 (J)	0.0202 (J)	4.82	1.72	0.0788 (J)
1/17/2017	0.0259 (J)			0.0201 (J)	3.97	2.63	0.0607 (J)
1/18/2017		0.0445 (J)	0.0548 (J)				
3/20/2017						3.11	0.114
3/21/2017					3.39		
3/22/2017	0.0243 (J)	0.0432 (J)	0.0344 (J)	0.0224 (J)			
4/17/2017					3.46	4.51	
4/18/2017	0.0206 (J)	0.0409 (J)	<0.1015	<0.1015			0.108
5/30/2017				<0.1015	3.79	2.9	0.105
5/31/2017	0.0234 (J)		0.0454 (J)				
8/23/2017	0.0267 (J)	0.042 (J)	0.0425 (J)	0.0253 (J)			
8/24/2017					4.19	2.83	0.12
5/22/2018	0.0251 (J)			0.0224 (J)			
5/23/2018		0.0433 (J)					
5/24/2018			0.0339 (J)				
6/11/2018					3.96	3.09	
6/12/2018	0.0275 (J)	0.0478 (J)	0.0371 (J)	0.0214 (J)			0.181
10/17/2018	0.0321 (J)	0.0468 (J)	0.0596 (J)	0.0216 (J)	3.98	2.59	0.616
11/19/2018	0.0324 (J)	0.0526 (J)	0.0514 (J)	0.0237 (J)			
4/10/2019	<0.1015	0.0438 (J)	<0.1015	0.0304 (J)	3.74	3.35	0.944
5/14/2019	<0.1015	<0.203 (o)	<0.1015	<0.1015			
10/8/2019	0.0371 (J)		0.0537 (J)	<0.1015			
10/10/2019		0.0487 (J)					
10/14/2019					3.37	2.48	2.11
10/16/2019	0.0419 (J)	0.0505 (J)	0.05 (J)	0.0385 (J)			
2/3/2020	<0.1015	0.0433 (J)	<0.1015	<0.1015		2.13	
2/4/2020					2.74		1.47
8/3/2020	0.0317 (J)		0.0424 (J)	<0.1015			
8/4/2020						1.82	
8/5/2020		0.0459 (J)			2.51		2.16
2/22/2021	<0.1015	0.0397 (J)	<0.1015	0.0307 (J)			
3/1/2021						2.55	1.85
3/3/2021					2.42		
7/12/2021	<0.1015	0.0411 (J)	<0.1015	<0.1015			
7/14/2021					4.78	1.47	2.07
1/25/2022	<0.1015	0.0408 (J)	<0.1015	<0.1015			
1/26/2022						2.5	
1/27/2022					6.1		2.76





# Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 5/11/2022 6:12 PM View: Appendix III - Interwell PL  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

	MW-4 (bg)	MW-3 (bg)	MW-2 (bg)	MW-1 (bg)	GS-GSA-MW-8	GS-GSA-MW-4	GS-GSA-MW-3
4/25/2016	0.372	0.243 (J)	0.149 (J)				
4/26/2016				0.146 (J)			
6/20/2016	0.361		0.148 (J)	0.148 (J)			
6/22/2016		0.269 (J)					
8/8/2016			0.134 (J)	0.137 (J)			
8/9/2016	0.326	0.363					
8/24/2016	0.329	0.346	0.129 (J)	0.133 (J)	0.165 (J)	0.793	0.264 (J)
10/3/2016	0.287 (J)		0.086 (J)	0.103 (J)	0.114 (J)	0.769	0.276 (J)
10/4/2016		0.266 (J)					
10/26/2016	0.194 (J)	0.266 (J)	0.027 (J)	0.05 (J)	0.056 (J)	0.578	0.182 (J)
11/21/2016	0.192 (J)	0.244 (J)	0.027 (J)	0.047 (J)	0.059 (J)	0.562	0.238 (J)
1/17/2017			0.066 (J)	0.09 (J)	0.07 (J)	0.571	0.34
1/18/2017	0.223 (J)	0.385					
3/20/2017					0.18		0.39
3/21/2017						0.54	
3/22/2017	0.32	0.41	0.13	0.12			
4/17/2017						0.54	0.57
4/18/2017	0.32	0.29	0.16	0.12	0.17		
5/30/2017				0.13	0.16	0.49	0.38
5/31/2017		0.37	0.13				
8/23/2017	0.38	0.55	0.16	0.16			
8/24/2017					0.18	0.7	0.54
2/13/2018	0.38	0.27	0.22	0.14	0.15	0.63	0.57
5/22/2018			0.17	0.16			
5/23/2018	0.38						
5/24/2018		0.6					
6/11/2018						0.39	0.63
6/12/2018	0.39	0.53	0.16	0.16	0.15		
10/17/2018	0.39	0.63	0.16	0.18	0.16	0.44	0.78
11/19/2018	0.36	0.31	0.18	0.15			
4/10/2019	0.384	0.273	0.262	0.102	0.156	<0.1	0.738
5/14/2019	0.335	0.281	0.17	0.119			
10/8/2019		0.225	0.164	0.0924 (J)			
10/10/2019	0.304						
10/14/2019					0.118	<0.1	0.619
10/16/2019	0.302	0.106	0.114	0.0756 (J)			
2/3/2020	0.37	0.256	0.182	0.0982 (J)			0.427
2/4/2020					0.132	<0.1	
8/3/2020		0.0766 (J)	0.122	<0.1			
8/4/2020							0.389
8/5/2020	0.359				0.119	<0.1	
2/22/2021	0.357	0.246	0.209	0.082 (J)			
3/1/2021					0.106		0.449
3/3/2021						<0.1	
7/12/2021	0.35	0.287	0.196	0.125			
7/14/2021					0.221	<0.1	0.556
1/25/2022	0.364	0.325	0.204	0.101			
1/26/2022							0.447
1/27/2022					0.179	<0.1	

FIGURE F.

# Appendix III Trend Test Summary - Significant Results

Plant Gorgas Client: Southern Company Data: Gorgas GSA Printed 5/11/2022, 6:32 PM

<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
Boron (mg/L)	GS-GSA-MW-8	0.4163	119	68	Yes	18	0	n/a	n/a	0.01	NP
Boron (mg/L)	MW-2 (bg)	0.003945	129	111	Yes	25	24	n/a	n/a	0.01	NP
Calcium (mg/L)	GS-GSA-MW-8	61.21	87	68	Yes	18	0	n/a	n/a	0.01	NP
Chloride (mg/L)	GS-GSA-MW-4	-14.3	-75	-68	Yes	18	0	n/a	n/a	0.01	NP
Chloride (mg/L)	GS-GSA-MW-8	26.11	93	68	Yes	18	0	n/a	n/a	0.01	NP
pH (pH)	MW-1 (bg)	-0.01883	-147	-111	Yes	25	0	n/a	n/a	0.01	NP
pH (pH)	MW-2 (bg)	0.039	127	111	Yes	25	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-4 (bg)	-137.6	-125	-105	Yes	24	0	n/a	n/a	0.01	NP
Total dissolved solids (mg/L)	MW-1 (bg)	56.43	113	105	Yes	24	0	n/a	n/a	0.01	NP
Total dissolved solids (mg/L)	MW-4 (bg)	-177.4	-123	-105	Yes	24	0	n/a	n/a	0.01	NP

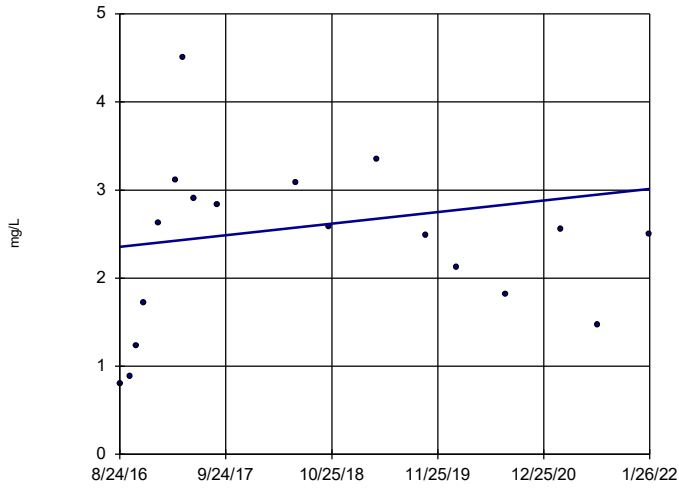


# Appendix III Trend Test Summary - All Results

Plant Gorgas    Client: Southern Company    Data: Gorgas GSA    Printed 5/11/2022, 6:32 PM

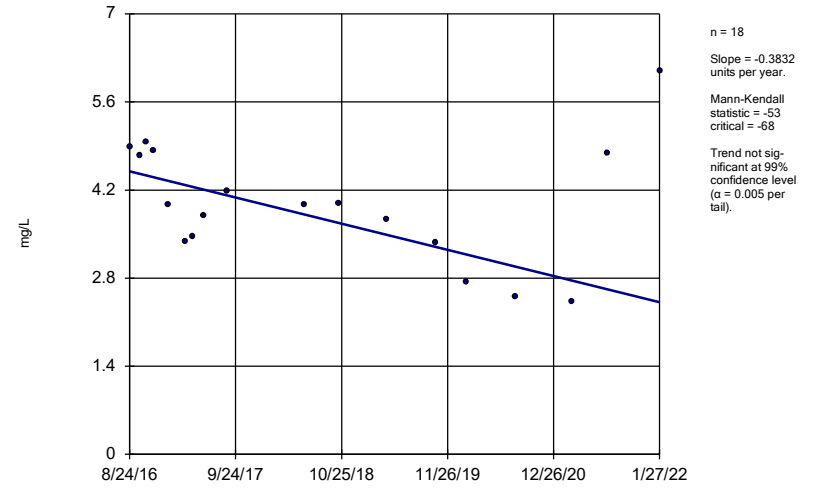
Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	GS-GSA-MW-3	0.1215	11	68	No	18	0	n/a	n/a	0.01	NP
Boron (mg/L)	GS-GSA-MW-4	-0.3832	-53	-68	No	18	0	n/a	n/a	0.01	NP
<b>Boron (mg/L)</b>	<b>GS-GSA-MW-8</b>	<b>0.4163</b>	<b>119</b>	<b>68</b>	<b>Yes</b>	<b>18</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Boron (mg/L)	MW-1 (bg)	0.003819	110	111	No	25	32	n/a	n/a	0.01	NP
<b>Boron (mg/L)</b>	<b>MW-2 (bg)</b>	<b>0.003945</b>	<b>129</b>	<b>111</b>	<b>Yes</b>	<b>25</b>	<b>24</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Boron (mg/L)	MW-3 (bg)	0.002231	87	111	No	25	28	n/a	n/a	0.01	NP
Boron (mg/L)	MW-4 (bg)	-0.0003942	-28	-98	No	23	0	n/a	n/a	0.01	NP
Calcium (mg/L)	GS-GSA-MW-3	-6.045	-27	-68	No	18	0	n/a	n/a	0.01	NP
<b>Calcium (mg/L)</b>	<b>GS-GSA-MW-8</b>	<b>61.21</b>	<b>87</b>	<b>68</b>	<b>Yes</b>	<b>18</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Calcium (mg/L)	MW-1 (bg)	2.531	86	111	No	25	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-2 (bg)	2.037	42	111	No	25	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-3 (bg)	10.56	65	111	No	25	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-4 (bg)	-6.803	-60	-105	No	24	0	n/a	n/a	0.01	NP
Chloride (mg/L)	GS-GSA-MW-3	-6.058	-18	-68	No	18	0	n/a	n/a	0.01	NP
<b>Chloride (mg/L)</b>	<b>GS-GSA-MW-4</b>	<b>-14.3</b>	<b>-75</b>	<b>-68</b>	<b>Yes</b>	<b>18</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
<b>Chloride (mg/L)</b>	<b>GS-GSA-MW-8</b>	<b>26.11</b>	<b>93</b>	<b>68</b>	<b>Yes</b>	<b>18</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Chloride (mg/L)	MW-1 (bg)	-0.02423	-34	-111	No	25	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-2 (bg)	-0.09448	-35	-111	No	25	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-3 (bg)	0.09968	71	111	No	25	8	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-4 (bg)	-0.06727	-80	-105	No	24	4.167	n/a	n/a	0.01	NP
pH (pH)	GS-GSA-MW-3	-0.06414	-61	-74	No	19	0	n/a	n/a	0.01	NP
<b>pH (pH)</b>	<b>MW-1 (bg)</b>	<b>-0.01883</b>	<b>-147</b>	<b>-111</b>	<b>Yes</b>	<b>25</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
<b>pH (pH)</b>	<b>MW-2 (bg)</b>	<b>0.039</b>	<b>127</b>	<b>111</b>	<b>Yes</b>	<b>25</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
pH (pH)	MW-3 (bg)	0	-1	-111	No	25	0	n/a	n/a	0.01	NP
pH (pH)	MW-4 (bg)	0.008156	45	111	No	25	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	GS-GSA-MW-4	9.649	25	68	No	18	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-1 (bg)	14.12	44	105	No	24	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-2 (bg)	-36.24	-65	-111	No	25	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-3 (bg)	110.7	99	111	No	25	0	n/a	n/a	0.01	NP
<b>Sulfate (mg/L)</b>	<b>MW-4 (bg)</b>	<b>-137.6</b>	<b>-125</b>	<b>-105</b>	<b>Yes</b>	<b>24</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Total dissolved solids (mg/L)	GS-GSA-MW-4	5.547	17	68	No	18	0	n/a	n/a	0.01	NP
<b>Total dissolved solids (mg/L)</b>	<b>MW-1 (bg)</b>	<b>56.43</b>	<b>113</b>	<b>105</b>	<b>Yes</b>	<b>24</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Total dissolved solids (mg/L)	MW-2 (bg)	-28.02	-47	-111	No	25	0	n/a	n/a	0.01	NP
Total dissolved solids (mg/L)	MW-3 (bg)	192.9	99	111	No	25	0	n/a	n/a	0.01	NP
<b>Total dissolved solids (mg/L)</b>	<b>MW-4 (bg)</b>	<b>-177.4</b>	<b>-123</b>	<b>-105</b>	<b>Yes</b>	<b>24</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>

### Sen's Slope Estimator GS-GSA-MW-3



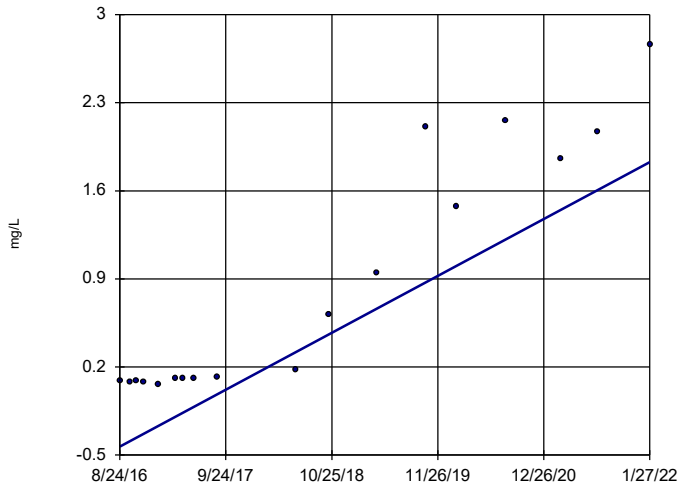
Constituent: Boron Analysis Run 5/11/2022 6:18 PM View: Appendix III - Trend Test  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator GS-GSA-MW-4



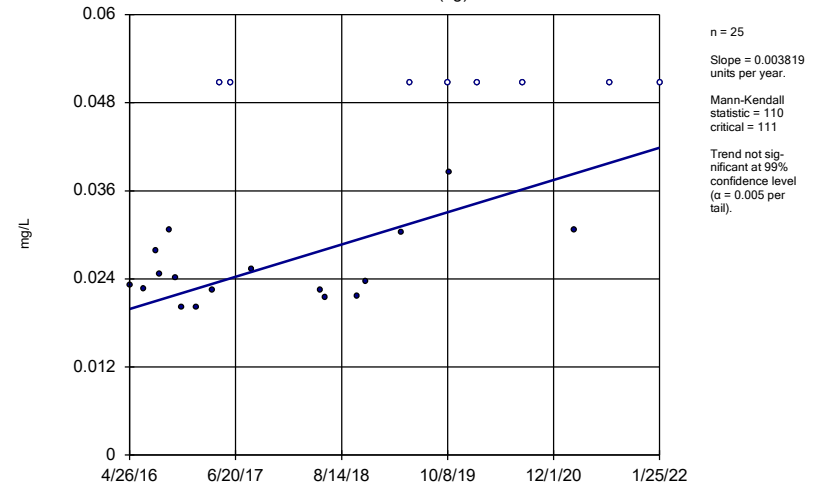
Constituent: Boron Analysis Run 5/11/2022 6:18 PM View: Appendix III - Trend Test  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator GS-GSA-MW-8



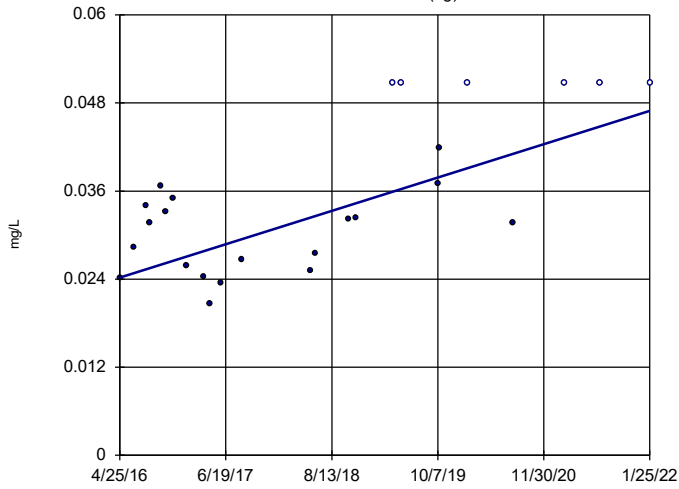
Constituent: Boron Analysis Run 5/11/2022 6:18 PM View: Appendix III - Trend Test  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator MW-1 (bg)



Constituent: Boron Analysis Run 5/11/2022 6:18 PM View: Appendix III - Trend Test  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

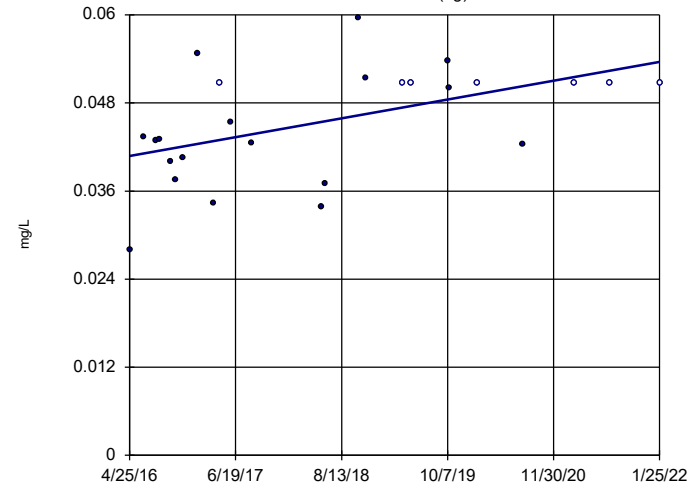
Sen's Slope Estimator  
MW-2 (bg)



n = 25  
Slope = 0.003945  
units per year.  
Mann-Kendall  
statistic = 129  
critical = 111  
Increasing trend  
significant at 99%  
confidence level  
( $\alpha = 0.005$  per  
tail).

Constituent: Boron Analysis Run 5/11/2022 6:18 PM View: Appendix III - Trend Test  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

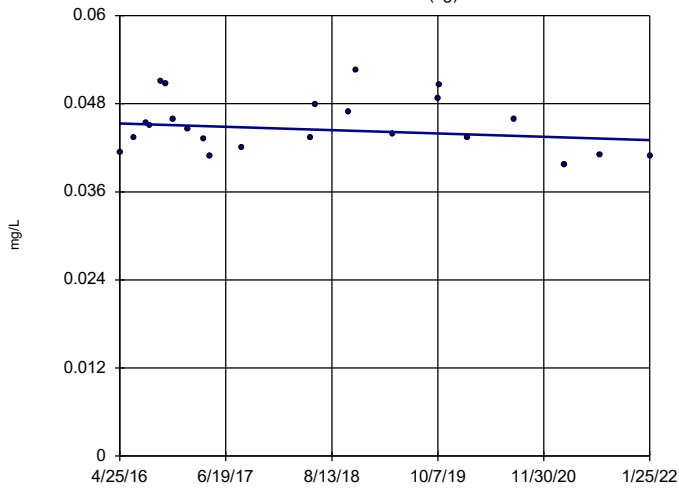
Sen's Slope Estimator  
MW-3 (bg)



n = 25  
Slope = 0.002231  
units per year.  
Mann-Kendall  
statistic = 87  
critical = 111  
Trend not sig-  
nificant at 99%  
confidence level  
( $\alpha = 0.005$  per  
tail).

Constituent: Boron Analysis Run 5/11/2022 6:18 PM View: Appendix III - Trend Test  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

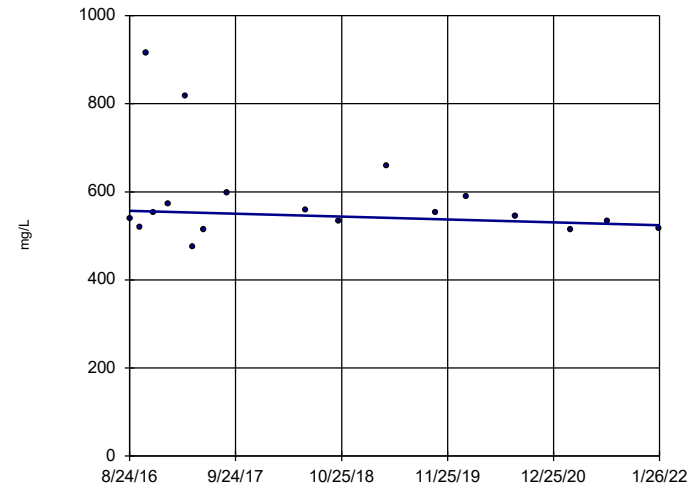
Sen's Slope Estimator  
MW-4 (bg)



n = 23  
Slope = -0.0003942  
units per year.  
Mann-Kendall  
statistic = -28  
critical = -98  
Trend not sig-  
nificant at 99%  
confidence level  
( $\alpha = 0.005$  per  
tail).

Constituent: Boron Analysis Run 5/11/2022 6:18 PM View: Appendix III - Trend Test  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Sen's Slope Estimator  
GS-GSA-MW-3

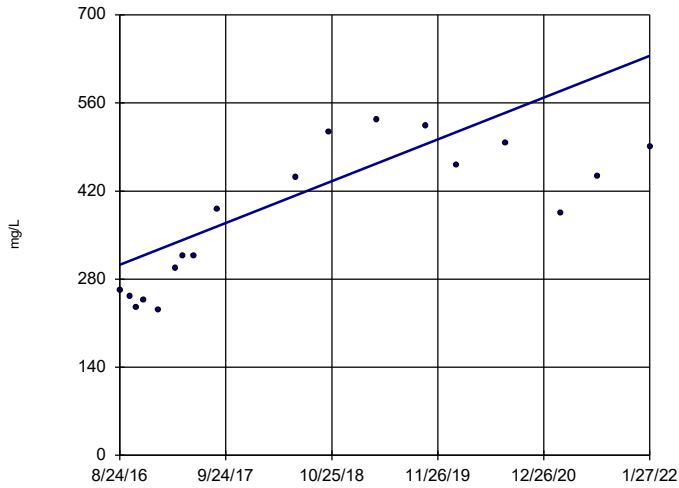


n = 18  
Slope = -6.045  
units per year.  
Mann-Kendall  
statistic = -27  
critical = -68  
Trend not sig-  
nificant at 99%  
confidence level  
( $\alpha = 0.005$  per  
tail).

Constituent: Calcium Analysis Run 5/11/2022 6:18 PM View: Appendix III - Trend Test  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

GS-GSA-MW-8

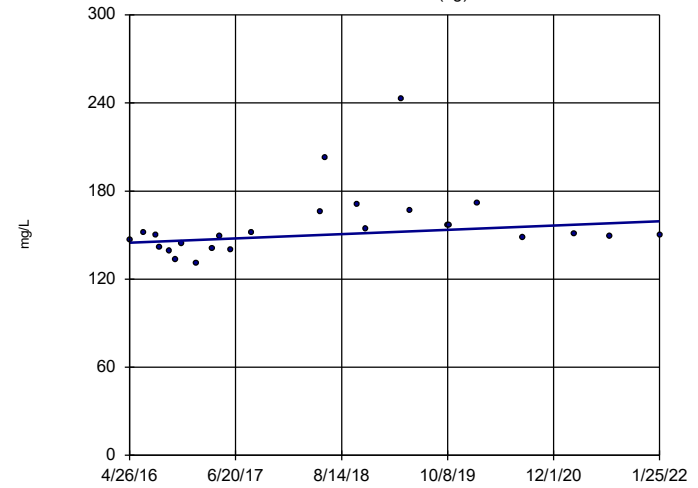


n = 18  
 Slope = 61.21  
 units per year.  
 Mann-Kendall  
 statistic = 87  
 critical = 68  
 Increasing trend  
 significant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Calcium Analysis Run 5/11/2022 6:18 PM View: Appendix III - Trend Test  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

MW-1 (bg)

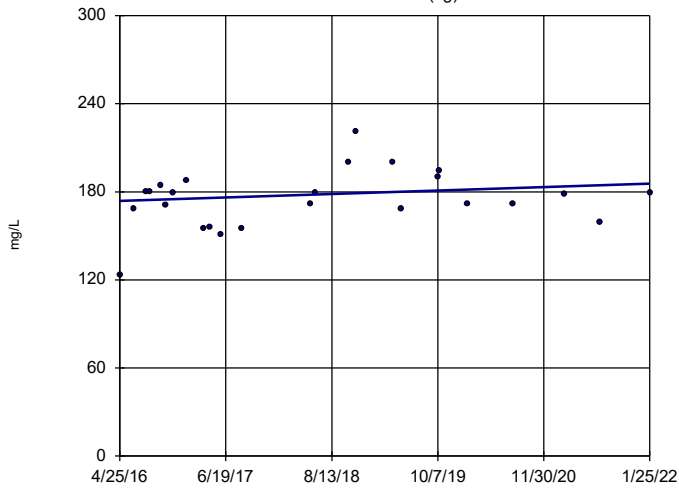


n = 25  
 Slope = 2.531  
 units per year.  
 Mann-Kendall  
 statistic = 86  
 critical = 111  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Calcium Analysis Run 5/11/2022 6:18 PM View: Appendix III - Trend Test  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

MW-2 (bg)

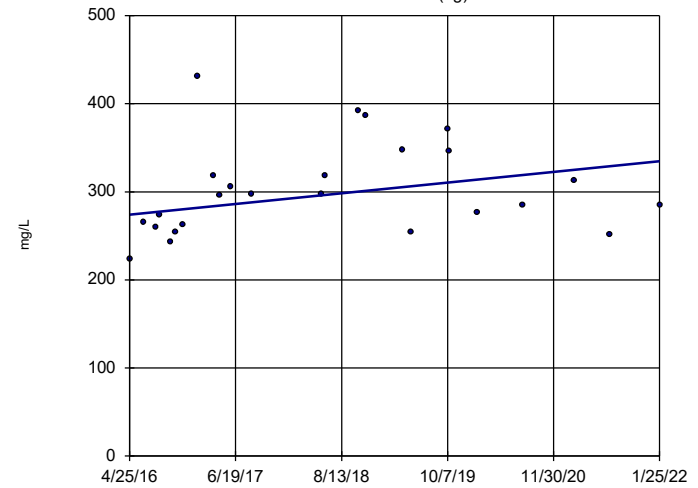


n = 25  
 Slope = 2.037  
 units per year.  
 Mann-Kendall  
 statistic = 42  
 critical = 111  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Calcium Analysis Run 5/11/2022 6:18 PM View: Appendix III - Trend Test  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

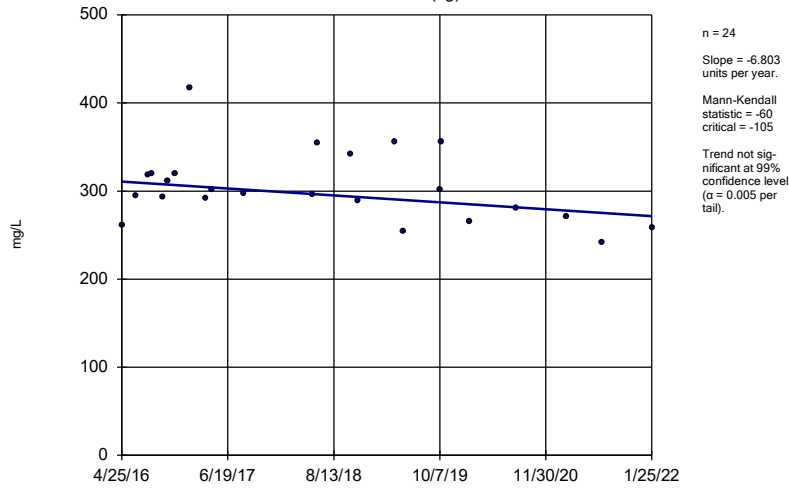
MW-3 (bg)



n = 25  
 Slope = 10.56  
 units per year.  
 Mann-Kendall  
 statistic = 65  
 critical = 111  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

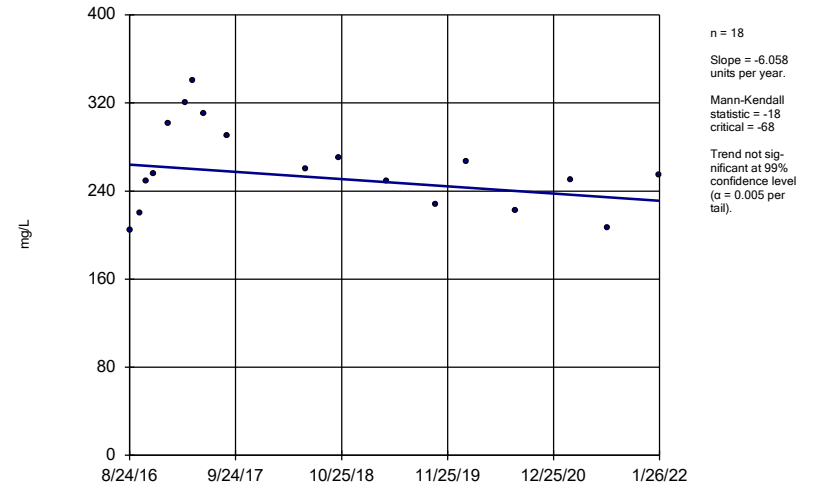
Constituent: Calcium Analysis Run 5/11/2022 6:18 PM View: Appendix III - Trend Test  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Sen's Slope Estimator  
MW-4 (bg)



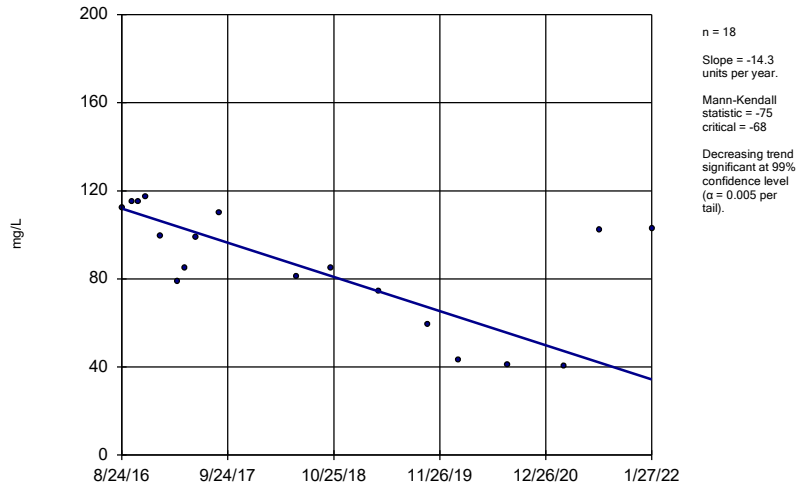
Constituent: Calcium Analysis Run 5/11/2022 6:18 PM View: Appendix III - Trend Test  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Sen's Slope Estimator  
GS-GSA-MW-3



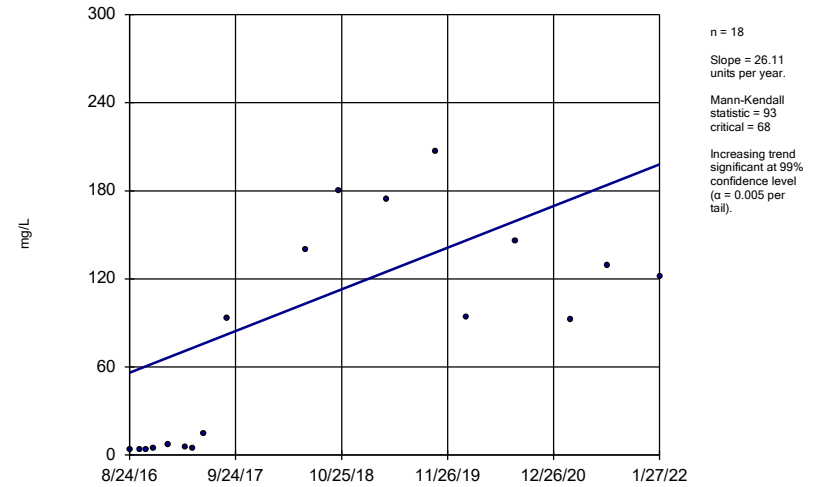
Constituent: Chloride Analysis Run 5/11/2022 6:18 PM View: Appendix III - Trend Test  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Sen's Slope Estimator  
GS-GSA-MW-4



Constituent: Chloride Analysis Run 5/11/2022 6:18 PM View: Appendix III - Trend Test  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

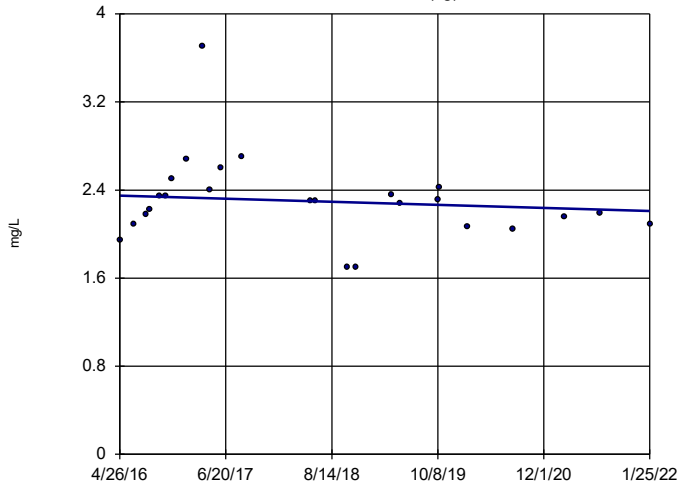
Sen's Slope Estimator  
GS-GSA-MW-8



Constituent: Chloride Analysis Run 5/11/2022 6:18 PM View: Appendix III - Trend Test  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

MW-1 (bg)

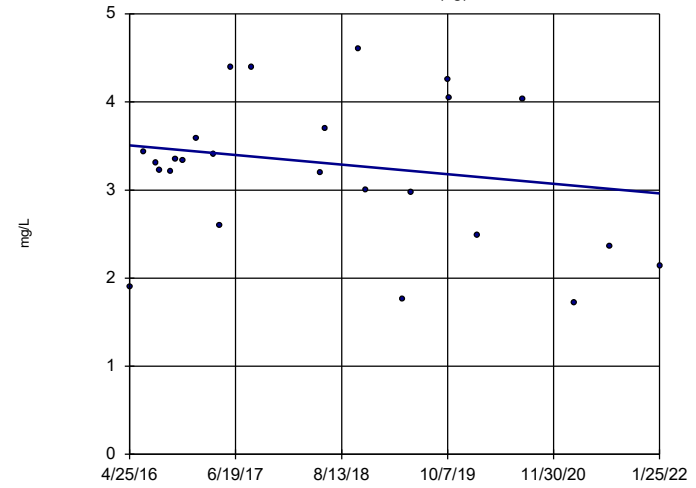


n = 25  
 Slope = -0.02423  
 units per year.  
 Mann-Kendall  
 statistic = -34  
 critical = -111  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 (α = 0.005 per  
 tail).

Constituent: Chloride Analysis Run 5/11/2022 6:18 PM View: Appendix III - Trend Test  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

MW-2 (bg)



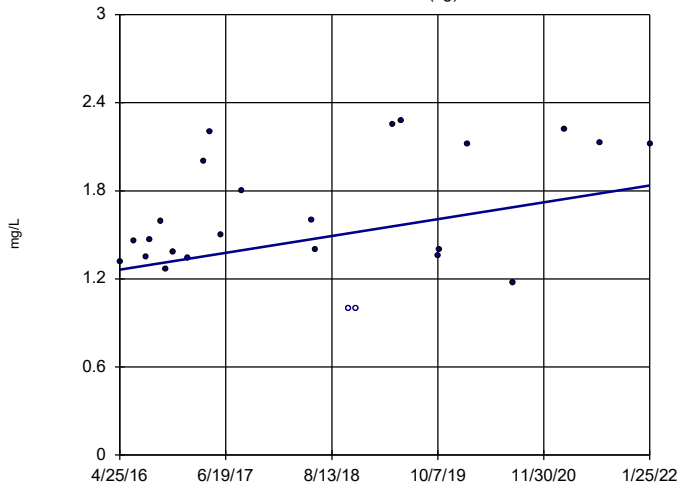
n = 25  
 Slope = -0.09448  
 units per year.  
 Mann-Kendall  
 statistic = -35  
 critical = -111  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 (α = 0.005 per  
 tail).

Constituent: Chloride Analysis Run 5/11/2022 6:19 PM View: Appendix III - Trend Test  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Hollow symbols indicate censored values.

### Sen's Slope Estimator

MW-3 (bg)



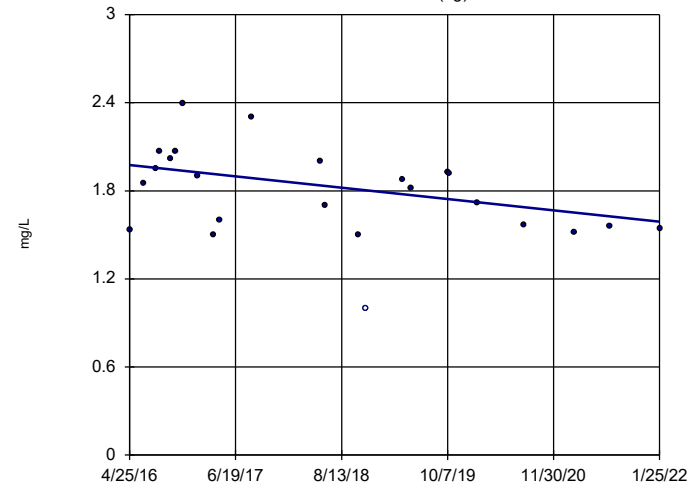
n = 25  
 Slope = 0.09968  
 units per year.  
 Mann-Kendall  
 statistic = 71  
 critical = 111  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 (α = 0.005 per  
 tail).

Constituent: Chloride Analysis Run 5/11/2022 6:19 PM View: Appendix III - Trend Test  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

Hollow symbols indicate censored values.

### Sen's Slope Estimator

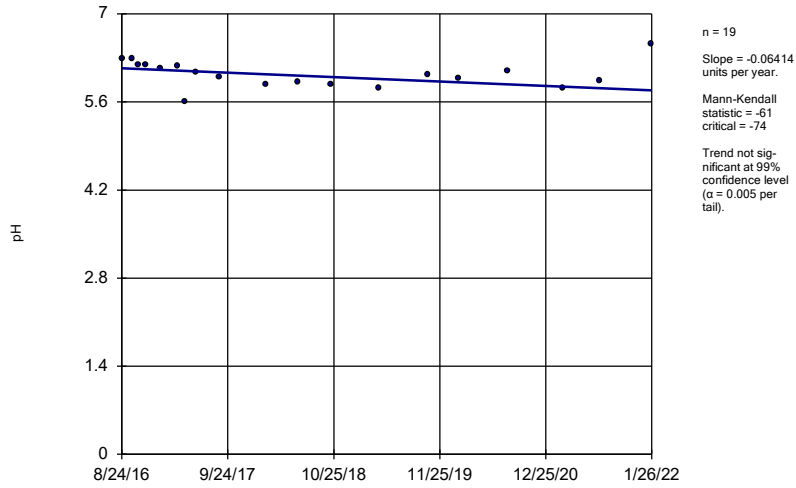
MW-4 (bg)



n = 24  
 Slope = -0.06727  
 units per year.  
 Mann-Kendall  
 statistic = -80  
 critical = -105  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 (α = 0.005 per  
 tail).

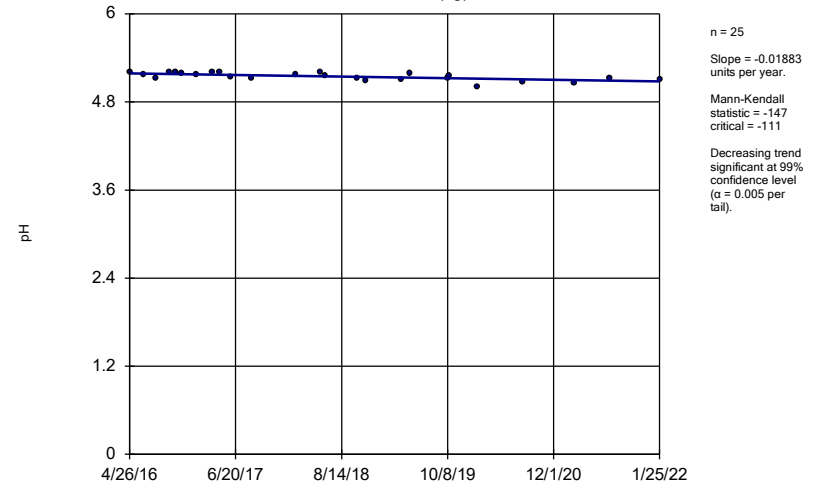
Constituent: Chloride Analysis Run 5/11/2022 6:19 PM View: Appendix III - Trend Test  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator GS-GSA-MW-3



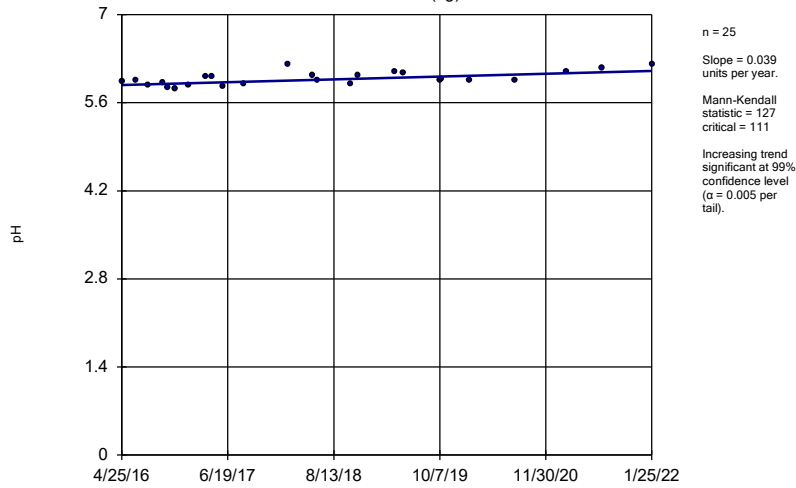
Constituent: pH Analysis Run 5/11/2022 6:19 PM View: Appendix III - Trend Test  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator MW-1 (bg)



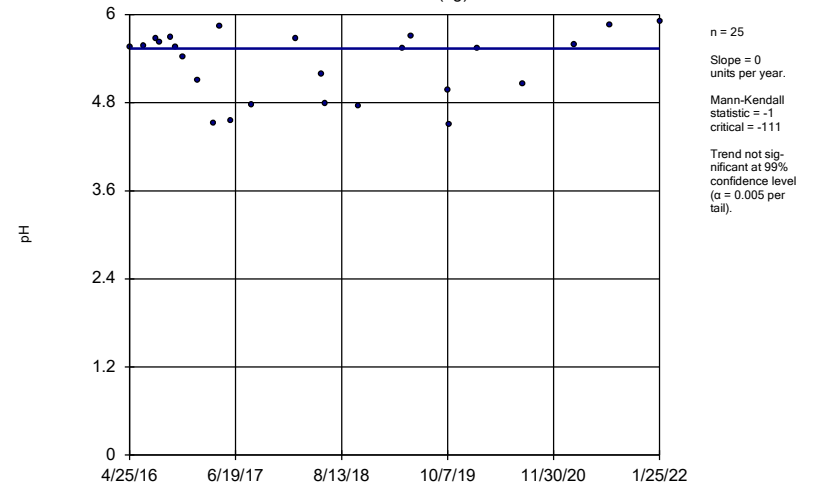
Constituent: pH Analysis Run 5/11/2022 6:19 PM View: Appendix III - Trend Test  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator MW-2 (bg)



Constituent: pH Analysis Run 5/11/2022 6:19 PM View: Appendix III - Trend Test  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

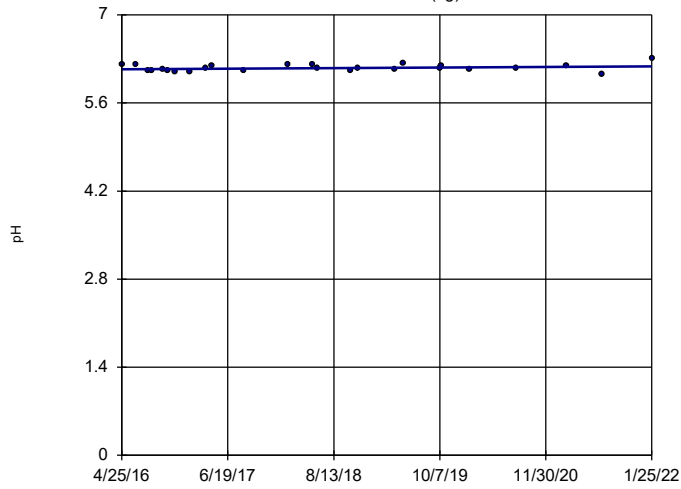
### Sen's Slope Estimator MW-3 (bg)



Constituent: pH Analysis Run 5/11/2022 6:19 PM View: Appendix III - Trend Test  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

MW-4 (bg)

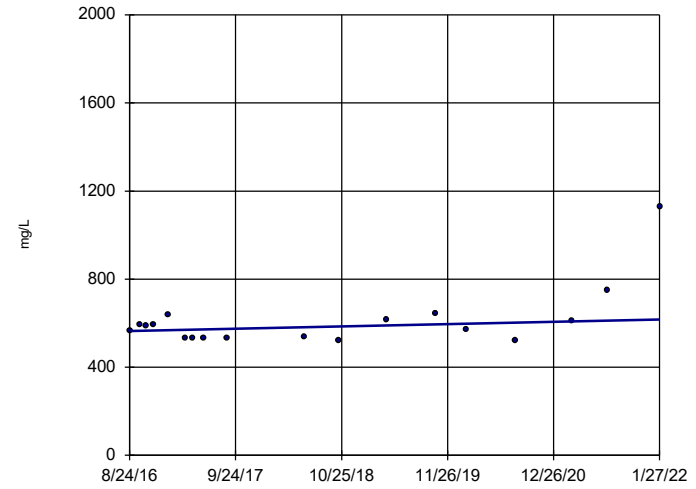


n = 25  
 Slope = 0.008156  
 units per year.  
 Mann-Kendall  
 statistic = 45  
 critical = 111  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: pH Analysis Run 5/11/2022 6:19 PM View: Appendix III - Trend Test  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

GS-GSA-MW-4

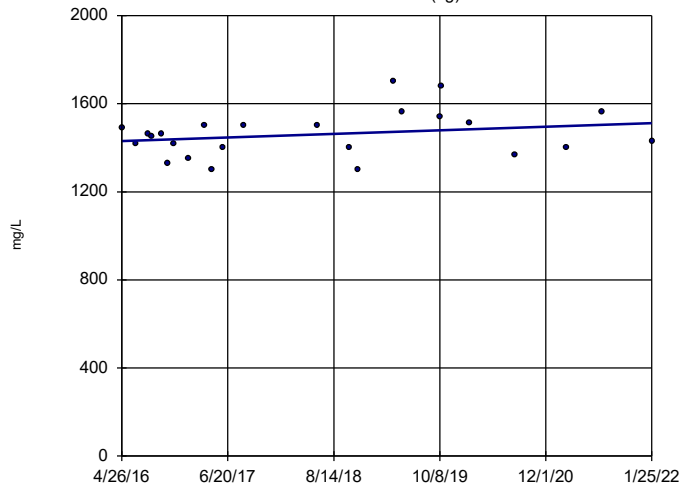


n = 18  
 Slope = 9.649  
 units per year.  
 Mann-Kendall  
 statistic = 25  
 critical = 68  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Sulfate Analysis Run 5/11/2022 6:19 PM View: Appendix III - Trend Test  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

MW-1 (bg)

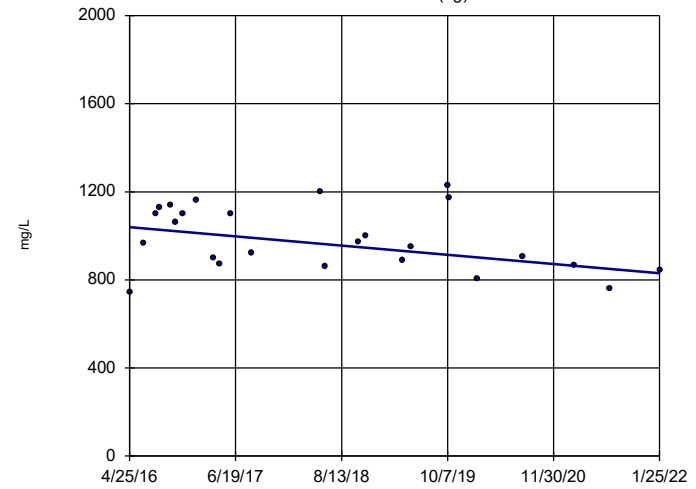


n = 24  
 Slope = 14.12  
 units per year.  
 Mann-Kendall  
 statistic = 44  
 critical = 105  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Sulfate Analysis Run 5/11/2022 6:19 PM View: Appendix III - Trend Test  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

MW-2 (bg)

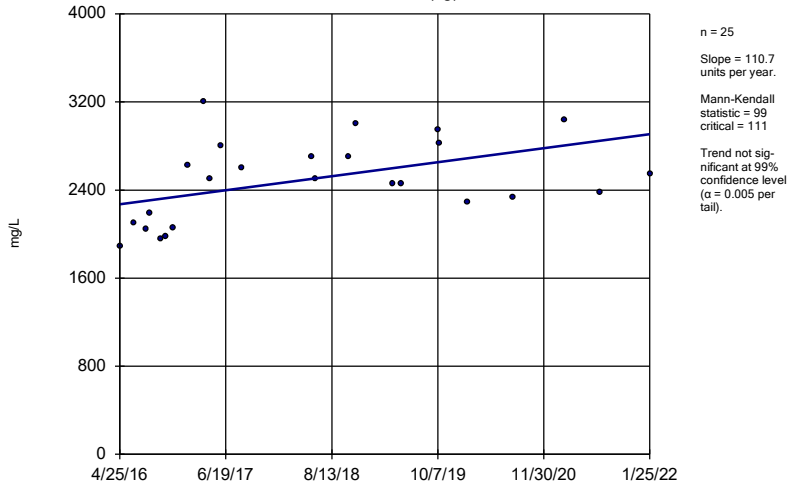


n = 25  
 Slope = -36.24  
 units per year.  
 Mann-Kendall  
 statistic = -65  
 critical = -111  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Sulfate Analysis Run 5/11/2022 6:19 PM View: Appendix III - Trend Test  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

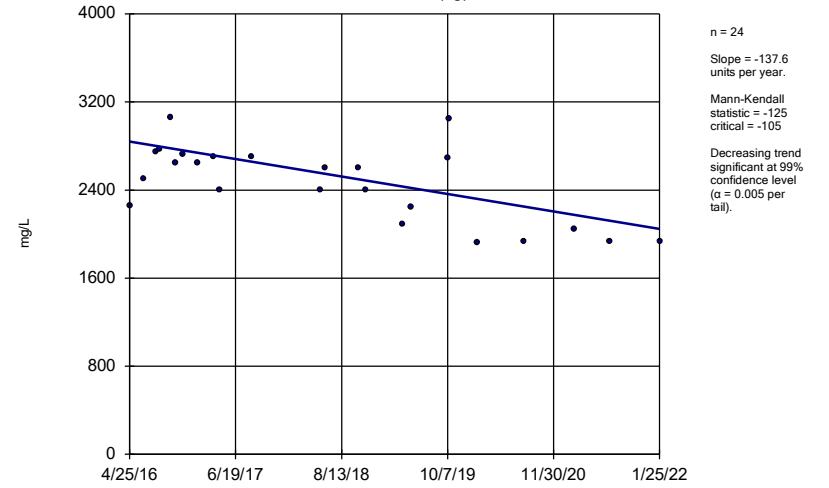


Sen's Slope Estimator  
MW-3 (bg)



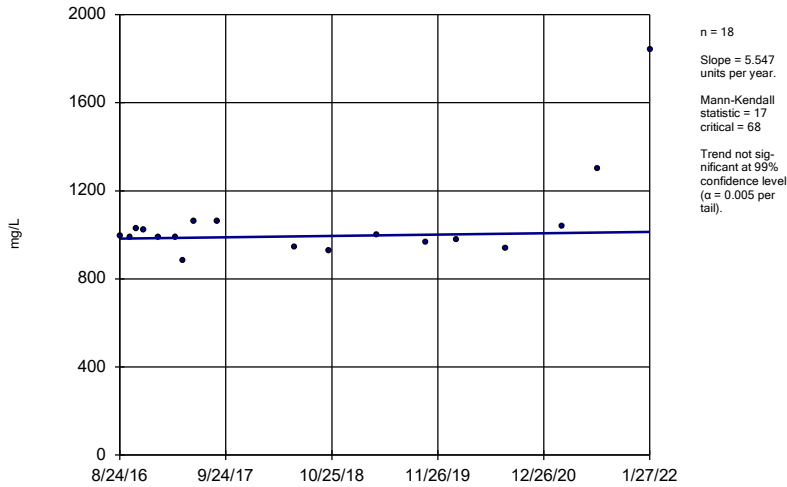
Constituent: Sulfate Analysis Run 5/11/2022 6:19 PM View: Appendix III - Trend Test  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Sen's Slope Estimator  
MW-4 (bg)



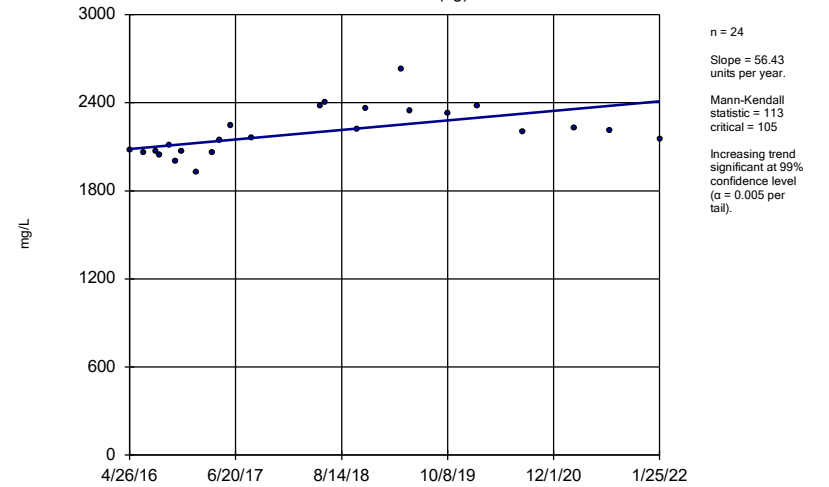
Constituent: Sulfate Analysis Run 5/11/2022 6:19 PM View: Appendix III - Trend Test  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

Sen's Slope Estimator  
GS-GSA-MW-4



Constituent: Total dissolved solids Analysis Run 5/11/2022 6:19 PM View: Appendix III - Trend Test  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

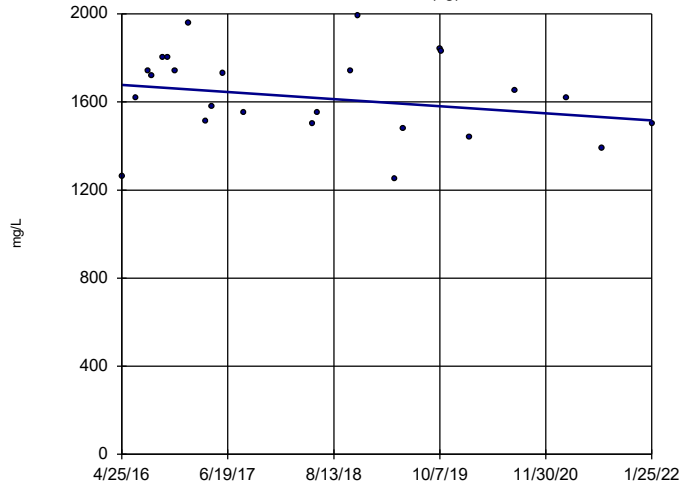
Sen's Slope Estimator  
MW-1 (bg)



Constituent: Total dissolved solids Analysis Run 5/11/2022 6:19 PM View: Appendix III - Trend Test  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

MW-2 (bg)

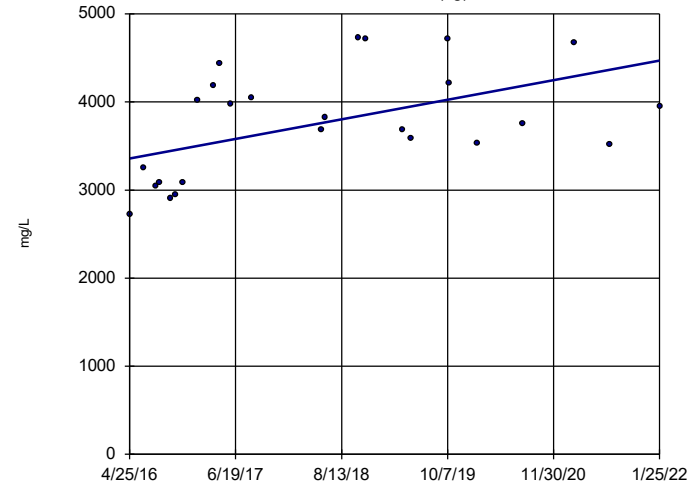


n = 25  
 Slope = -28.02 units per year.  
 Mann-Kendall statistic = -47  
 critical = -111  
 Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Total dissolved solids Analysis Run 5/11/2022 6:19 PM View: Appendix III - Trend Test  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

MW-3 (bg)

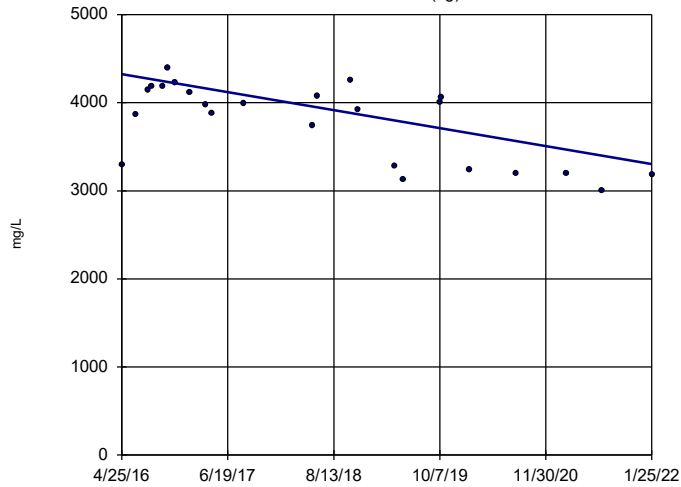


n = 25  
 Slope = 192.9 units per year.  
 Mann-Kendall statistic = 99  
 critical = 111  
 Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Total dissolved solids Analysis Run 5/11/2022 6:19 PM View: Appendix III - Trend Test  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

MW-4 (bg)



n = 24  
 Slope = -177.4 units per year.  
 Mann-Kendall statistic = -123  
 critical = -105  
 Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Total dissolved solids Analysis Run 5/11/2022 6:19 PM View: Appendix III - Trend Test  
 Plant Gorgas Client: Southern Company Data: Gorgas GSA

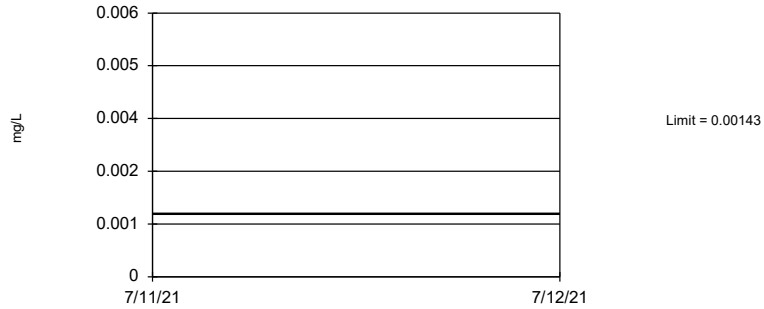
FIGURE G.

# Upper Tolerance Limits Summary Table

Plant Gorgas Client: Southern Company Data: Gorgas GSA Printed 11/16/2021, 4:56 PM

<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	95	n/a	n/a	93.68	n/a	n/a	0.007651	NP Inter
Arsenic (mg/L)	n/a	0.005	n/a	n/a	n/a	95	n/a	n/a	83.16	n/a	n/a	0.007651	NP Inter
Barium (mg/L)	n/a	0.0166	n/a	n/a	n/a	95	n/a	n/a	0	n/a	n/a	0.007651	NP Inter
Beryllium (mg/L)	n/a	0.0121	n/a	n/a	n/a	93	n/a	n/a	83.87	n/a	n/a	0.008478	NP Inter
Cadmium (mg/L)	n/a	0.00652	n/a	n/a	n/a	94	n/a	n/a	44.68	n/a	n/a	0.008054	NP Inter
Chromium (mg/L)	n/a	0.0105	n/a	n/a	n/a	95	n/a	n/a	89.47	n/a	n/a	0.007651	NP Inter
Cobalt (mg/L)	n/a	0.64	n/a	n/a	n/a	93	n/a	n/a	24.73	n/a	n/a	0.008478	NP Inter
Combined Radium 226 + 228 (pCi/L)	n/a	1.47	n/a	n/a	n/a	81	n/a	n/a	0	n/a	n/a	0.01569	NP Inter
Fluoride (mg/L)	n/a	0.63	n/a	n/a	n/a	99	n/a	n/a	1.01	n/a	n/a	0.006232	NP Inter
Lead (mg/L)	n/a	0.002	n/a	n/a	n/a	94	n/a	n/a	94.68	n/a	n/a	0.008054	NP Inter
Lithium (mg/L)	n/a	0.419	n/a	n/a	n/a	95	n/a	n/a	0	n/a	n/a	0.007651	NP Inter
Mercury (mg/L)	n/a	0.0005	n/a	n/a	n/a	95	n/a	n/a	100	n/a	n/a	0.007651	NP Inter
Molybdenum (mg/L)	n/a	0.0002	n/a	n/a	n/a	95	n/a	n/a	97.89	n/a	n/a	0.007651	NP Inter
Selenium (mg/L)	n/a	0.0209	n/a	n/a	n/a	95	n/a	n/a	58.95	n/a	n/a	0.007651	NP Inter
Thallium (mg/L)	n/a	0.000226	n/a	n/a	n/a	95	n/a	n/a	96.84	n/a	n/a	0.007651	NP Inter

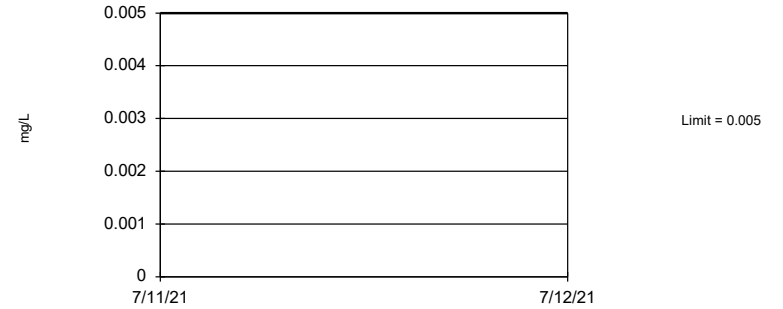
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 95 background values. 93.68% NDs. 95.12% coverage at alpha=0.01; 97.07% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.007651.

Constituent: Antimony Analysis Run 11/16/2021 4:55 PM View: UTLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

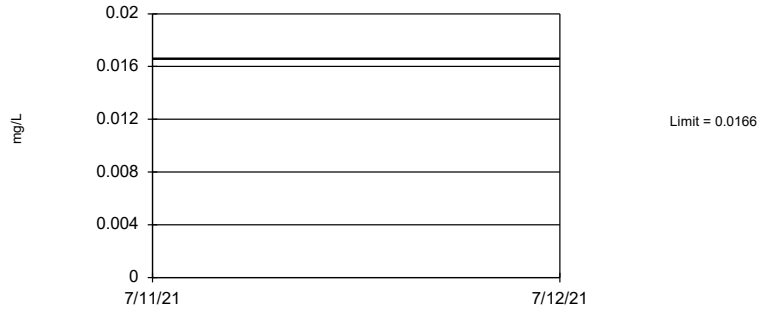
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 95 background values. 83.16% NDs. 95.12% coverage at alpha=0.01; 97.07% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.007651.

Constituent: Arsenic Analysis Run 11/16/2021 4:55 PM View: UTLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

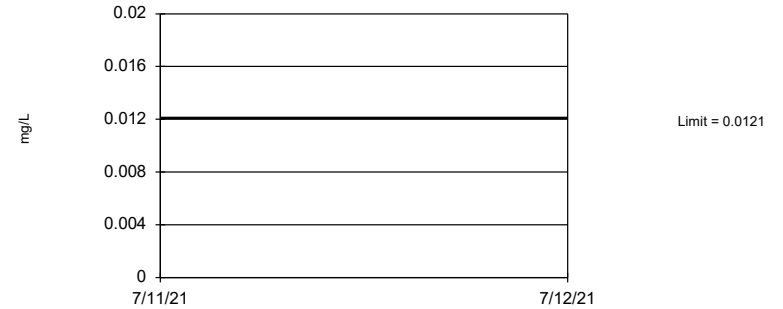
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 95 background values. 95.12% coverage at alpha=0.01; 97.07% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.007651.

Constituent: Barium Analysis Run 11/16/2021 4:55 PM View: UTLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

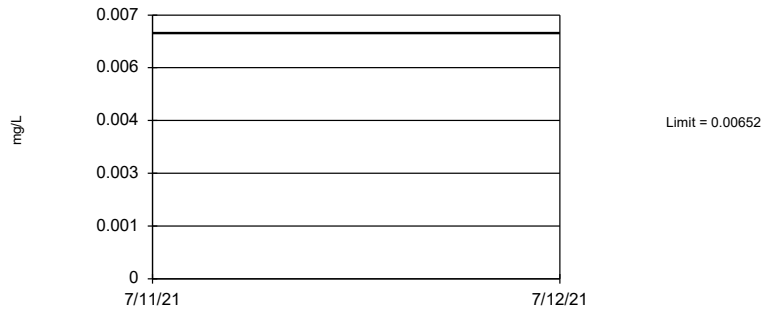
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 93 background values. 83.87% NDs. 95.12% coverage at alpha=0.01; 96.68% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.008478.

Constituent: Beryllium Analysis Run 11/16/2021 4:55 PM View: UTLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

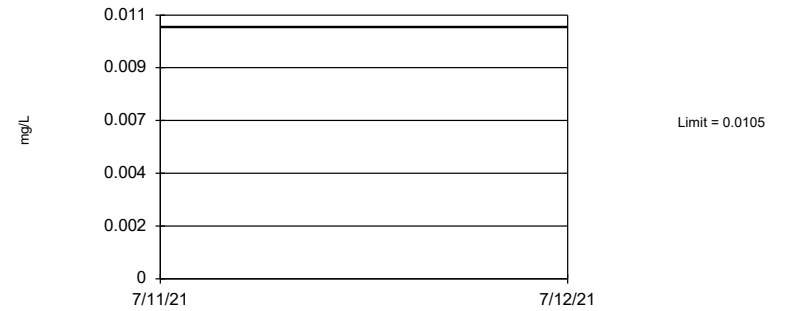
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 94 background values. 44.68% NDs. 95.12% coverage at alpha=0.01; 96.68% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.008054.

Constituent: Cadmium Analysis Run 11/16/2021 4:55 PM View: UTLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

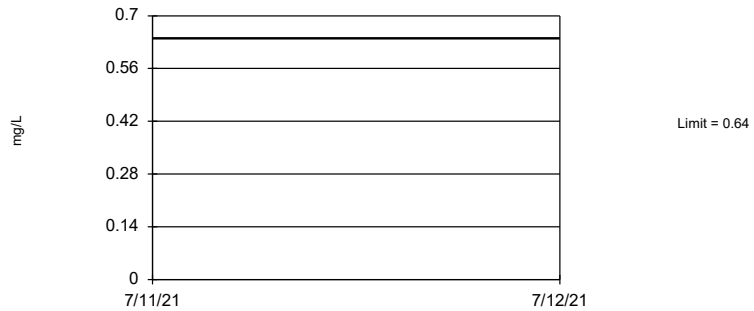
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 95 background values. 89.47% NDs. 95.12% coverage at alpha=0.01; 97.07% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.007651.

Constituent: Chromium Analysis Run 11/16/2021 4:55 PM View: UTLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

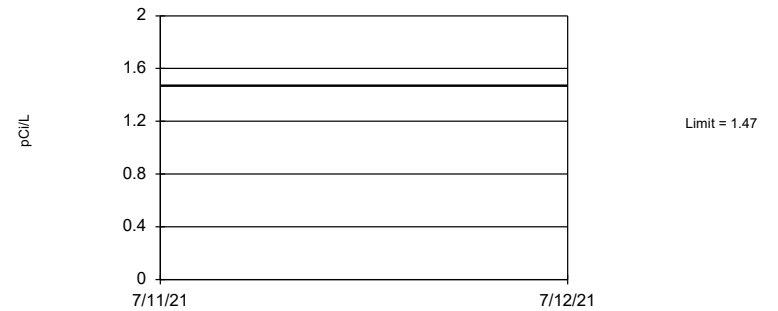
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 93 background values. 24.73% NDs. 95.12% coverage at alpha=0.01; 96.68% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.008478.

Constituent: Cobalt Analysis Run 11/16/2021 4:55 PM View: UTLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

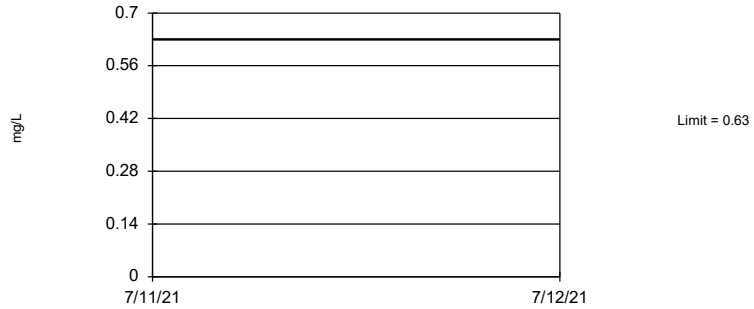
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 81 background values. 94.34% coverage at alpha=0.01; 96.29% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.01569.

Constituent: Combined Radium 226 + 228 Analysis Run 11/16/2021 4:55 PM View: UTLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

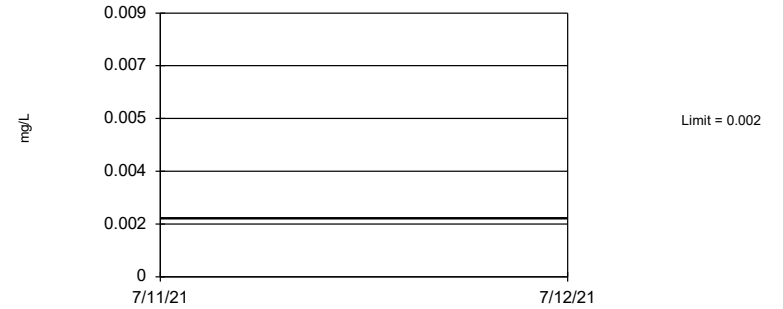
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 99 background values. 1.01% NDs. 95.51% coverage at alpha=0.01; 97.07% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.006232.

Constituent: Fluoride Analysis Run 11/16/2021 4:55 PM View: UTLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

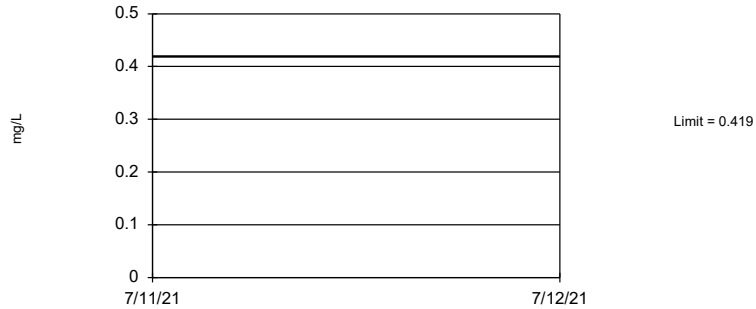
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 94 background values. 94.68% NDs. 95.12% coverage at alpha=0.01; 96.68% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.008054.

Constituent: Lead Analysis Run 11/16/2021 4:55 PM View: UTLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

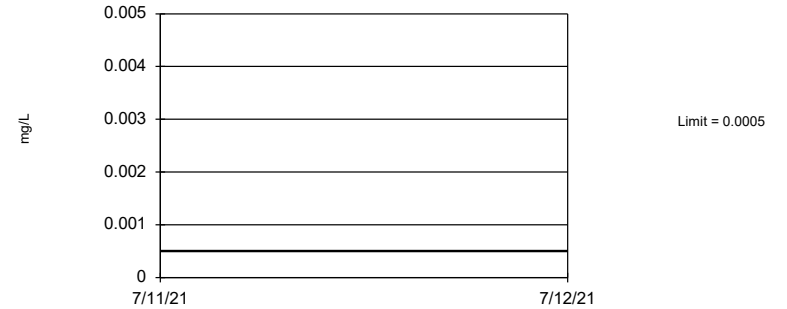
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 95 background values. 95.12% coverage at alpha=0.01; 97.07% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.007651.

Constituent: Lithium Analysis Run 11/16/2021 4:55 PM View: UTLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

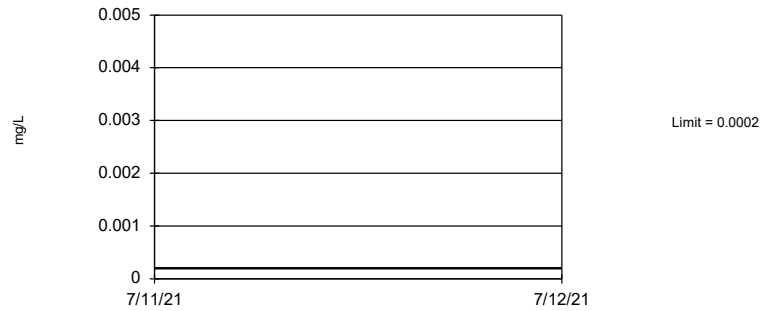
### Tolerance Limit Interwell Non-parametric



NP test selected by user. All background values were censored; limit is most recent reporting limit. 95.12% coverage at alpha=0.01; 97.07% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.007651.

Constituent: Mercury Analysis Run 11/16/2021 4:55 PM View: UTLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

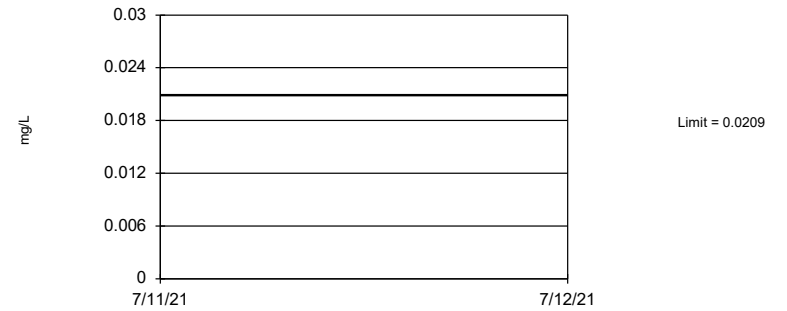
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 95 background values. 97.89% NDs. 95.12% coverage at alpha=0.01; 97.07% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.007651.

Constituent: Molybdenum Analysis Run 11/16/2021 4:55 PM View: UTLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

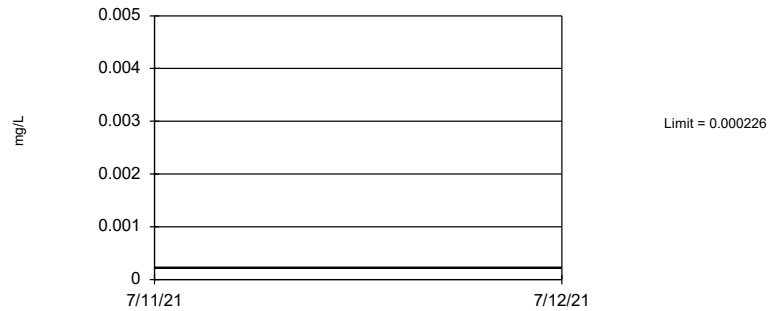
### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 95 background values. 58.95% NDs. 95.12% coverage at alpha=0.01; 97.07% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.007651.

Constituent: Selenium Analysis Run 11/16/2021 4:55 PM View: UTLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 95 background values. 96.84% NDs. 95.12% coverage at alpha=0.01; 97.07% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.007651.

Constituent: Thallium Analysis Run 11/16/2021 4:55 PM View: UTLs  
Plant Gorgas Client: Southern Company Data: Gorgas GSA



FIGURE H.

<b>GORGAS GYPSUM POND GWPS</b>			
<b>Analyte</b>	<b>Units</b>	<b>Background</b>	<b>GWPS</b>
Antimony	mg/L	0.00143	0.006
Arsenic	mg/L	0.005	0.01
Barium	mg/L	0.0166	2
Beryllium	mg/L	0.0121	0.004
Cadmium	mg/L	0.00652	0.005
Chromium	mg/L	0.0105	0.1
Cobalt	mg/L	0.64	0.64
Combined Radium-226/228	pCi/L	1.47	5
Fluoride	mg/L	0.63	4
Lead	mg/L	0.00692	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	0.0181	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.

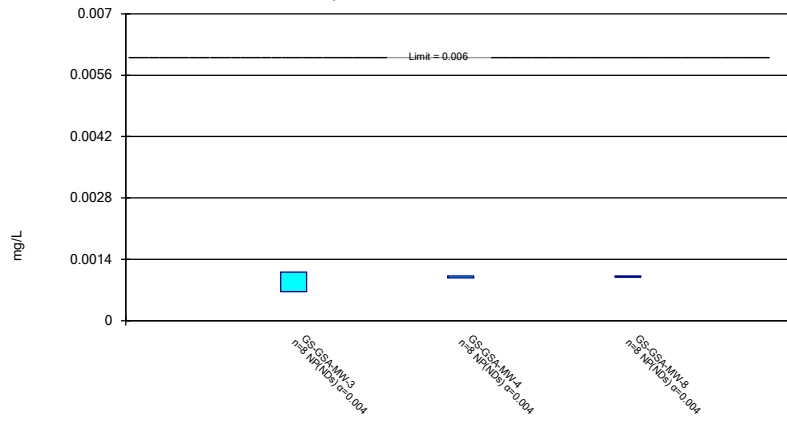
# Confidence Interval Summary Table - All Results (No Significant)

Plant Gorgas    Client: Southern Company    Data: Gorgas GSA    Printed 5/11/2022, 6:38 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Std. Dev.	%NDs	Transform	Alpha	Method
Antimony (mg/L)	GS-GSA-MW-3	0.00111	0.00066	0.006	No	8	0.0001355	75	No	0.004	NP (NDs)
Antimony (mg/L)	GS-GSA-MW-4	0.00102	0.000976	0.006	No	8	0.00001556	87.5	No	0.004	NP (NDs)
Antimony (mg/L)	GS-GSA-MW-8	0.00102	0.00102	0.006	No	8	1.2e-11	87.5	No	0.004	NP (NDs)
Arsenic (mg/L)	GS-GSA-MW-3	0.005	0.00057	0.01	No	8	0.002081	50	No	0.004	NP (normality)
Arsenic (mg/L)	GS-GSA-MW-4	0.005	0.00115	0.01	No	8	0.001323	12.5	No	0.004	NP (normality)
Arsenic (mg/L)	GS-GSA-MW-8	0.005	0.00024	0.01	No	8	0.002393	62.5	No	0.004	NP (NDs)
Barium (mg/L)	GS-GSA-MW-3	0.01522	0.01286	2	No	8	0.001115	0	No	0.01	Param.
Barium (mg/L)	GS-GSA-MW-4	0.01418	0.01174	2	No	8	0.001149	0	No	0.01	Param.
Barium (mg/L)	GS-GSA-MW-8	0.0235	0.02	2	No	8	0.001653	0	No	0.01	Param.
Beryllium (mg/L)	GS-GSA-MW-3	0.00345	0.00141	0.004	No	8	0.0006843	0	No	0.004	NP (normality)
Beryllium (mg/L)	GS-GSA-MW-4	0.00768	0.00369	0.004	No	8	0.001358	0	No	0.004	NP (normality)
Cadmium (mg/L)	GS-GSA-MW-4	0.00336	0.00143	0.005	No	8	0.0006563	0	No	0.004	NP (normality)
Chromium (mg/L)	GS-GSA-MW-3	0.01	0.000386	0.1	No	8	0.004959	62.5	No	0.004	NP (NDs)
Chromium (mg/L)	GS-GSA-MW-4	0.01	0.000567	0.1	No	8	0.004774	62.5	No	0.004	NP (NDs)
Chromium (mg/L)	GS-GSA-MW-8	0.01	0.0003	0.1	No	8	0.004972	62.5	No	0.004	NP (NDs)
Cobalt (mg/L)	GS-GSA-MW-3	0.136	0.06788	0.64	No	8	0.03212	0	No	0.01	Param.
Cobalt (mg/L)	GS-GSA-MW-4	0.3289	0.1716	0.64	No	8	0.07419	0	No	0.01	Param.
Cobalt (mg/L)	GS-GSA-MW-8	0.00546	0.00026	0.64	No	8	0.002143	62.5	No	0.004	NP (NDs)
Combined Radium 226 + 228 (pCi/L)	GS-GSA-MW-3	0.6243	0.2672	5	No	8	0.1726	0	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	GS-GSA-MW-4	1.168	0.277	5	No	8	0.4204	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	GS-GSA-MW-8	1.021	-0.01234	5	No	8	0.4876	0	No	0.01	Param.
Fluoride (mg/L)	GS-GSA-MW-3	0.7083	0.393	4	No	8	0.1488	0	No	0.01	Param.
Fluoride (mg/L)	GS-GSA-MW-4	0.44	0.05	4	No	8	0.1379	87.5	No	0.004	NP (NDs)
Fluoride (mg/L)	GS-GSA-MW-8	0.1894	0.1083	4	No	8	0.03827	0	No	0.01	Param.
Lead (mg/L)	GS-GSA-MW-3	0.0002	0.00014	0.015	No	8	0.00002378	62.5	No	0.004	NP (NDs)
Lead (mg/L)	GS-GSA-MW-4	0.00103	0.0002	0.015	No	8	0.0003351	62.5	No	0.004	NP (NDs)
Lead (mg/L)	GS-GSA-MW-8	0.0002	0.000145	0.015	No	8	0.00002434	75	No	0.004	NP (NDs)
Lithium (mg/L)	GS-GSA-MW-3	0.4994	0.3666	0.419	No	8	0.06719	0	x^2	0.01	Param.
Lithium (mg/L)	GS-GSA-MW-4	0.671	0.262	0.419	No	8	0.1473	0	No	0.004	NP (normality)
Lithium (mg/L)	GS-GSA-MW-8	0.2131	0.1702	0.419	No	8	0.02023	0	No	0.01	Param.
Molybdenum (mg/L)	GS-GSA-MW-3	0.01	0.00022	0.1	No	8	0.005055	62.5	No	0.004	NP (NDs)
Molybdenum (mg/L)	GS-GSA-MW-8	0.01	0.00012	0.1	No	8	0.004722	62.5	No	0.004	NP (NDs)
Selenium (mg/L)	GS-GSA-MW-3	0.01	0.00117	0.05	No	8	0.004498	50	No	0.004	NP (normality)
Selenium (mg/L)	GS-GSA-MW-4	0.01	0.00294	0.05	No	8	0.003295	37.5	No	0.004	NP (normality)
Thallium (mg/L)	GS-GSA-MW-4	0.001	0.00009	0.002	No	8	0.0004436	50	No	0.004	NP (normality)

### Non-Parametric Confidence Interval

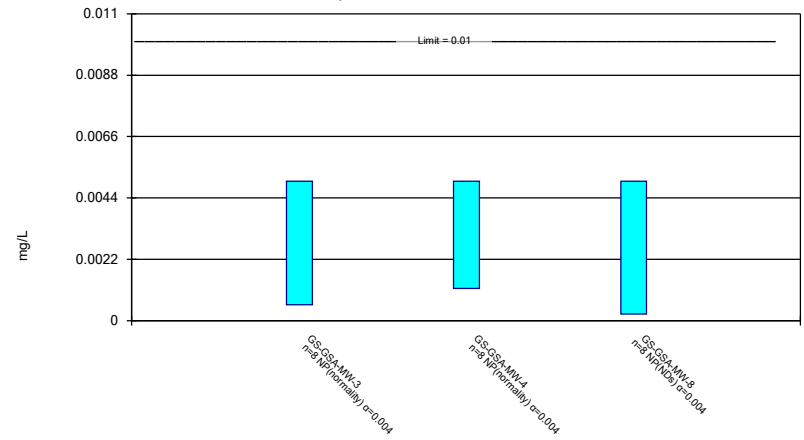
Compliance Limit is not exceeded.



Constituent: Antimony Analysis Run 5/11/2022 6:37 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Non-Parametric Confidence Interval

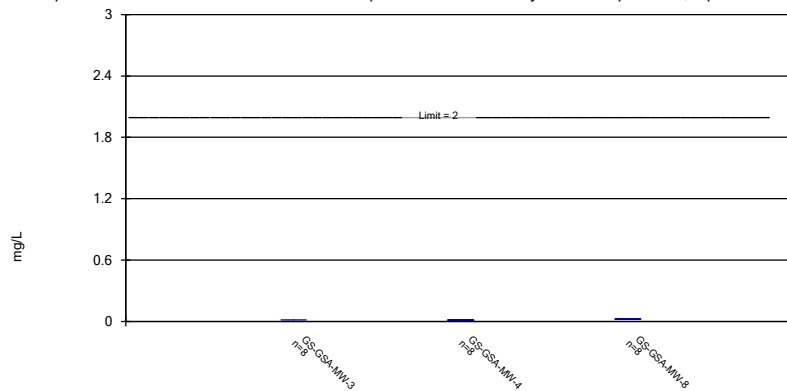
Compliance Limit is not exceeded.



Constituent: Arsenic Analysis Run 5/11/2022 6:37 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Parametric Confidence Interval

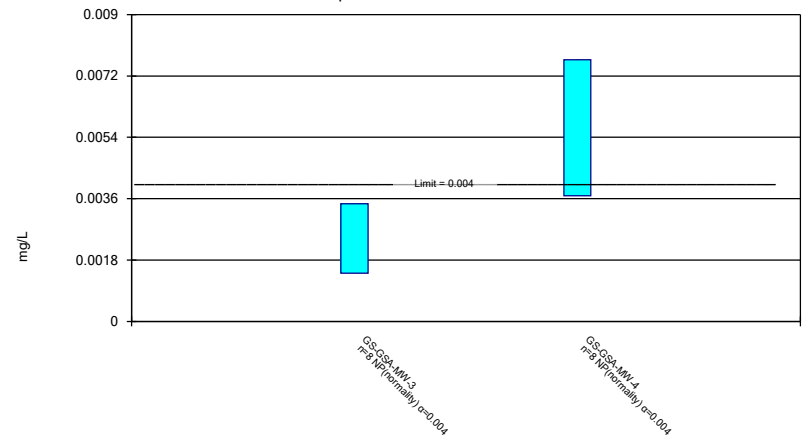
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Barium Analysis Run 5/11/2022 6:37 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Non-Parametric Confidence Interval

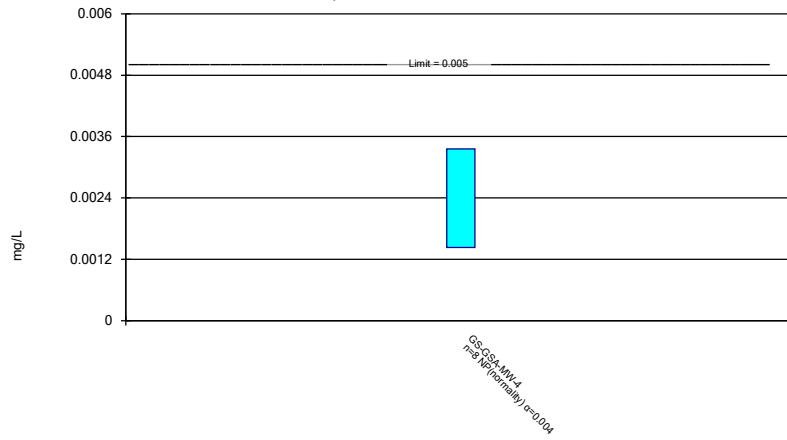
Compliance Limit is not exceeded.



Constituent: Beryllium Analysis Run 5/11/2022 6:37 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Non-Parametric Confidence Interval

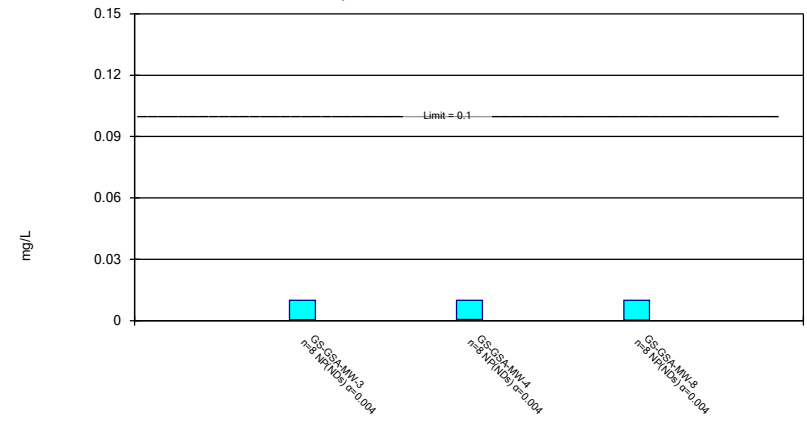
Compliance Limit is not exceeded.



Constituent: Cadmium Analysis Run 5/11/2022 6:37 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Non-Parametric Confidence Interval

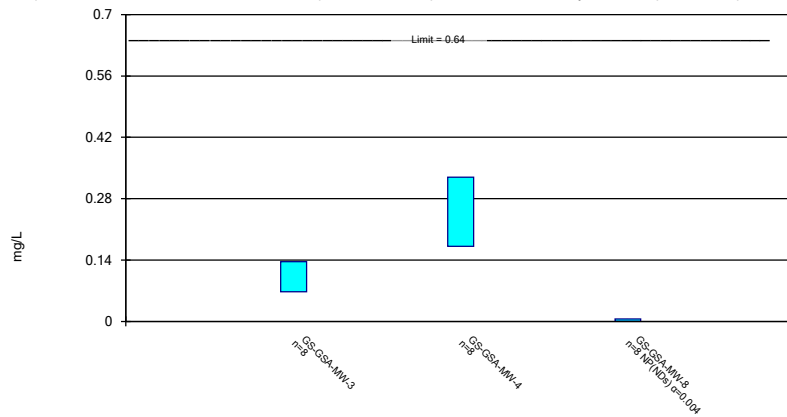
Compliance Limit is not exceeded.



Constituent: Chromium Analysis Run 5/11/2022 6:37 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Parametric and Non-Parametric (NP) Confidence Interval

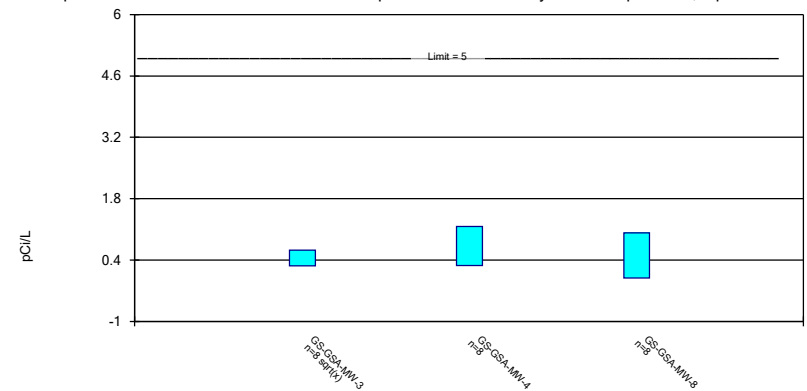
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cobalt Analysis Run 5/11/2022 6:37 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Parametric Confidence Interval

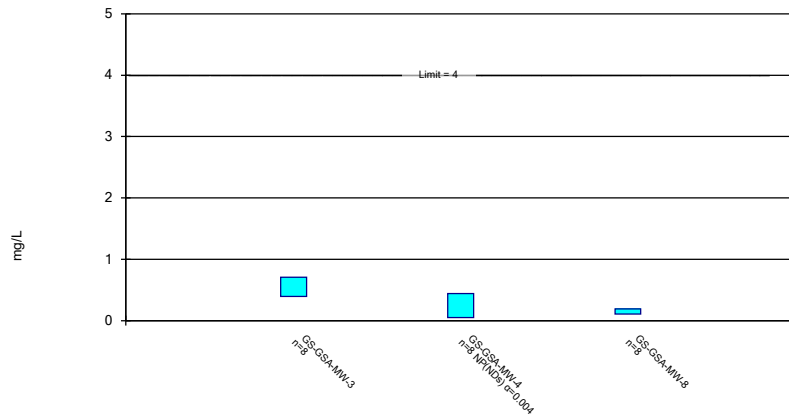
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Combined Radium 226 + 228 Analysis Run 5/11/2022 6:37 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Parametric and Non-Parametric (NP) Confidence Interval

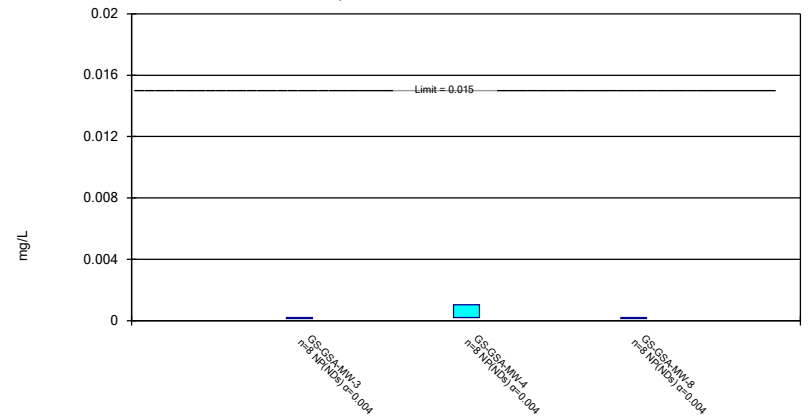
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Fluoride Analysis Run 5/11/2022 6:37 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Non-Parametric Confidence Interval

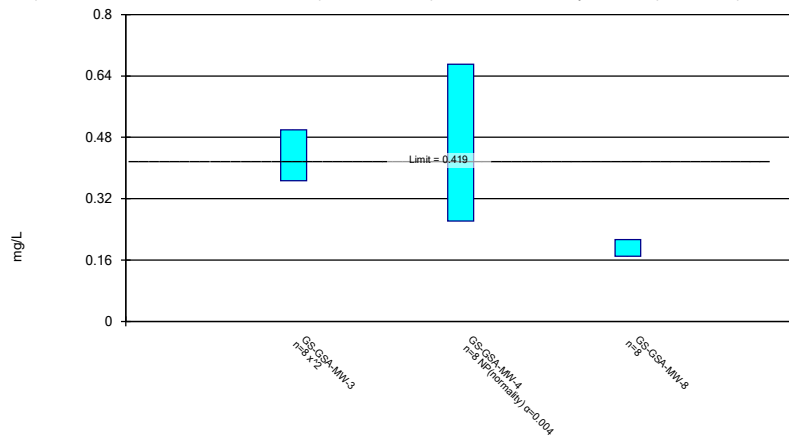
Compliance Limit is not exceeded.



Constituent: Lead Analysis Run 5/11/2022 6:37 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Parametric and Non-Parametric (NP) Confidence Interval

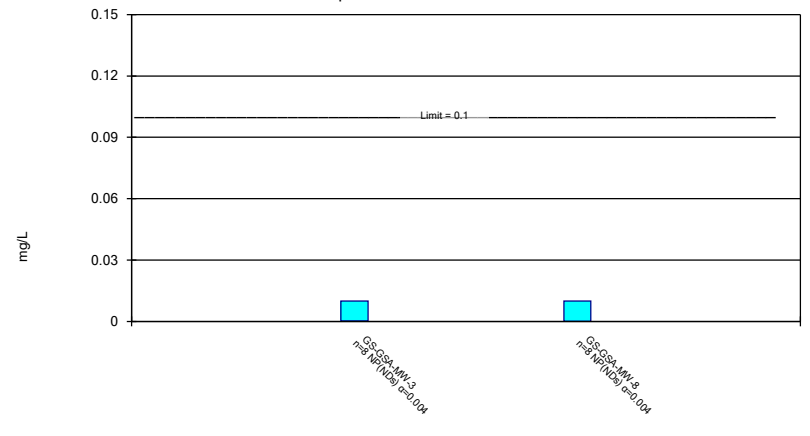
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lithium Analysis Run 5/11/2022 6:38 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Non-Parametric Confidence Interval

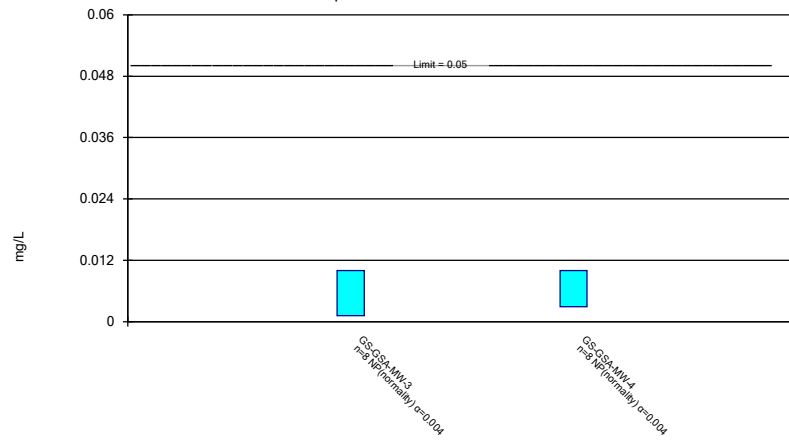
Compliance Limit is not exceeded.



Constituent: Molybdenum Analysis Run 5/11/2022 6:38 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Non-Parametric Confidence Interval

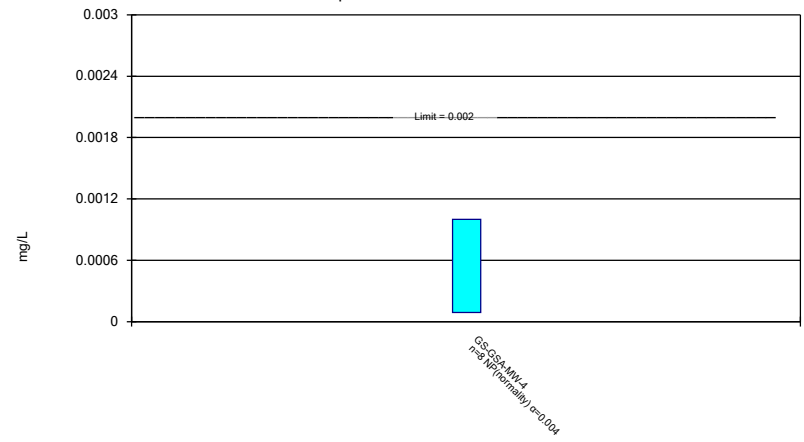
Compliance Limit is not exceeded.



Constituent: Selenium Analysis Run 5/11/2022 6:38 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

### Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



Constituent: Thallium Analysis Run 5/11/2022 6:38 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA



# Confidence Interval

Constituent: Antimony (mg/L) Analysis Run 5/11/2022 6:38 PM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-3	GS-GSA-MW-4	GS-GSA-MW-8
10/17/2018	<0.00102	<0.00102	<0.00102
4/10/2019	0.00111 (J)	0.000976 (J)	0.00102 (J)
10/14/2019	<0.00102	<0.00102	<0.00102
2/3/2020	<0.00102		
2/4/2020		<0.00102	<0.00102
8/4/2020	<0.00102		
8/5/2020		<0.00102	<0.00102
3/1/2021	<0.00102		<0.00102
3/3/2021		<0.00102	
7/14/2021	<0.00102	<0.00102	<0.00102
1/26/2022	0.00066 (J)		
1/27/2022		<0.00102	<0.00102
Mean	0.0009862	0.001014	0.00102
Std. Dev.	0.0001355	1.556E-05	1.2E-11
Upper Lim.	0.00111	0.00102	0.00102
Lower Lim.	0.00066	0.000976	0.00102

# Confidence Interval

Constituent: Arsenic (mg/L) Analysis Run 5/11/2022 6:38 PM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-3	GS-GSA-MW-4	GS-GSA-MW-8
10/17/2018	<0.005	<0.005	<0.005
4/10/2019	0.00121 (J)	0.00176 (J)	<0.005
10/14/2019	<0.005	0.0012 (J)	<0.005
2/3/2020	<0.005		
2/4/2020		0.00128 (J)	<0.005
8/4/2020	<0.005		
8/5/2020		0.00115 (J)	<0.005
3/1/2021	0.0014		0.000633
3/3/2021		0.00116	
7/14/2021	0.00057	0.00174	0.00024
1/26/2022	0.00136		
1/27/2022		0.00274	0.00027
Mean	0.003067	0.002004	0.003268
Std. Dev.	0.002081	0.001323	0.002393
Upper Lim.	0.005	0.005	0.005
Lower Lim.	0.00057	0.00115	0.00024

# Confidence Interval

Constituent: Barium (mg/L) Analysis Run 5/11/2022 6:38 PM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-3	GS-GSA-MW-4	GS-GSA-MW-8
10/17/2018	0.013	0.0125	0.0236
4/10/2019	0.0153	0.0136	0.02
10/14/2019	0.0122	0.0147	0.0215
2/3/2020	0.0141		
2/4/2020		0.0124	0.0209
8/4/2020	0.0139		
8/5/2020		0.0142	0.0216
3/1/2021	0.0154		0.0194
3/3/2021		0.0117	
7/14/2021	0.0136	0.0115	0.0232
1/26/2022	0.0148		
1/27/2022		0.0131	0.0238
Mean	0.01404	0.01296	0.02175
Std. Dev.	0.001115	0.001149	0.001653
Upper Lim.	0.01522	0.01418	0.0235
Lower Lim.	0.01286	0.01174	0.02

# Confidence Interval

Constituent: Beryllium (mg/L) Analysis Run 5/11/2022 6:38 PM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-3	GS-GSA-MW-4
10/17/2018	0.00345	0.00369
4/10/2019	0.00257 (J)	0.00469
10/14/2019	0.00162 (J)	0.00403
2/3/2020	0.00141 (J)	
2/4/2020		0.00415
8/4/2020	0.00174 (J)	
8/5/2020		0.00385
3/1/2021	0.00157	
3/3/2021		0.00406
7/14/2021	0.00175	0.00577
1/26/2022	0.00179	
1/27/2022		0.00768
Mean	0.001988	0.00474
Std. Dev.	0.0006843	0.001358
Upper Lim.	0.00345	0.00768
Lower Lim.	0.00141	0.00369

# Confidence Interval

Constituent: Cadmium (mg/L) Analysis Run 5/11/2022 6:38 PM View: Appendix IV  
Plant Gorgas Client: Southern Company Data: Gorgas GSA

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GS-GSA-MW-4

10/17/2018	0.00188
4/10/2019	0.00176
10/14/2019	0.0015
2/4/2020	0.00143
8/5/2020	0.00157
3/3/2021	0.00162
7/14/2021	0.00246
1/27/2022	0.00336
Mean	0.001948
Std. Dev.	0.0006563
Upper Lim.	0.00336
Lower Lim.	0.00143

# Confidence Interval

Constituent: Chromium (mg/L) Analysis Run 5/11/2022 6:38 PM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-3	GS-GSA-MW-4	GS-GSA-MW-8
10/17/2018	<0.01	<0.01	<0.01
4/10/2019	<0.01	<0.01	<0.01
10/14/2019	<0.01	<0.01	<0.01
2/3/2020	<0.01		
2/4/2020		<0.01	<0.01
8/4/2020	<0.01		
8/5/2020		<0.01	<0.01
3/1/2021	0.000386 (J)		0.000423 (J)
3/3/2021		0.000567 (J)	
7/14/2021	0.00039 (J)	0.0007 (J)	0.0003 (J)
1/26/2022	0.00048 (J)		
1/27/2022		0.00107	0.00046 (J)
Mean	0.006407	0.006542	0.006398
Std. Dev.	0.004959	0.004774	0.004972
Upper Lim.	0.01	0.01	0.01
Lower Lim.	0.000386	0.000567	0.0003

# Confidence Interval

Constituent: Cobalt (mg/L) Analysis Run 5/11/2022 6:38 PM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-3	GS-GSA-MW-4	GS-GSA-MW-8
4/17/2017	0.294 (o)		
10/17/2018	0.138	0.154	<0.005
4/10/2019	0.151	0.241	<0.005
10/14/2019	0.102	0.213	<0.005
2/3/2020	0.0843		
2/4/2020		0.217	<0.005
8/4/2020	0.0862		
8/5/2020		0.235	<0.005
3/1/2021	0.119		0.00546
3/3/2021		0.24	
7/14/2021	0.0555	0.296	0.00026
1/26/2022	0.0794		
1/27/2022		0.406	0.00067
Mean	0.1019	0.2503	0.003924
Std. Dev.	0.03212	0.07419	0.002143
Upper Lim.	0.136	0.3289	0.00546
Lower Lim.	0.06788	0.1716	0.00026

# Confidence Interval

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 5/11/2022 6:38 PM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-3	GS-GSA-MW-4	GS-GSA-MW-8
10/17/2018	0.668	0.922	1.05
4/10/2019	0.265 (U)	0.622	0.128 (U)
10/14/2019	0.297 (U)	0.317 (U)	0.225 (U)
2/3/2020	0.28 (U)		
2/4/2020		0.324 (U)	0.336 (U)
8/4/2020	0.45 (U)		
8/5/2020		0.389 (U)	-0.115 (U)
3/1/2021	0.57 (U)		0.902 (U)
3/3/2021		0.836 (U)	
7/14/2021	0.668 (U)	1.58	1.23 (U)
1/26/2022	0.335 (U)		
1/27/2022		0.791 (U)	0.28 (U)
Mean	0.4416	0.7226	0.5045
Std. Dev.	0.1726	0.4204	0.4876
Upper Lim.	0.6243	1.168	1.021
Lower Lim.	0.2672	0.277	-0.01234



# Confidence Interval

Constituent: Fluoride (mg/L) Analysis Run 5/11/2022 6:38 PM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-3	GS-GSA-MW-4	GS-GSA-MW-8
10/17/2018	0.78	0.44	0.16
4/10/2019	0.738	<0.1	0.156
10/14/2019	0.619	<0.1	0.118
2/3/2020	0.427		
2/4/2020		<0.1	0.132
8/4/2020	0.389		
8/5/2020		<0.1	0.119
3/1/2021	0.449		0.106
3/3/2021		<0.1	
7/14/2021	0.556	<0.1	0.221
1/26/2022	0.447		
1/27/2022		<0.1	0.179
Mean	0.5506	0.09875	0.1489
Std. Dev.	0.1488	0.1379	0.03827
Upper Lim.	0.7083	0.44	0.1894
Lower Lim.	0.393	0.05	0.1083

# Confidence Interval

Constituent: Lead (mg/L) Analysis Run 5/11/2022 6:38 PM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-3	GS-GSA-MW-4	GS-GSA-MW-8
10/17/2018	<0.0002	<0.0002	<0.0002
4/10/2019	<0.0002	<0.0002	<0.0002
10/14/2019	<0.0002	<0.0002	<0.0002
2/3/2020	<0.0002		
2/4/2020		<0.0002	<0.0002
8/4/2020	<0.0002		
8/5/2020		<0.0002	<0.0002
3/1/2021	0.000157 (J)		0.000145 (J)
3/3/2021		0.000609	
7/14/2021	0.00018 (J)	0.00079	<0.0002
1/26/2022	0.00014 (J)		
1/27/2022		0.00103	0.00015 (J)
Mean	0.0001846	0.0004286	0.0001869
Std. Dev.	2.378E-05	0.0003351	2.434E-05
Upper Lim.	0.0002	0.00103	0.0002
Lower Lim.	0.00014	0.0002	0.000145

# Confidence Interval

Constituent: Lithium (mg/L) Analysis Run 5/11/2022 6:38 PM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-3	GS-GSA-MW-4	GS-GSA-MW-8
10/17/2018	0.494	0.266	0.188
4/10/2019	0.425	0.282	0.195
10/14/2019	0.459	0.262	0.209
2/3/2020	0.474		
2/4/2020		0.29	0.188
8/4/2020	0.468		
8/5/2020		0.273	0.206
3/1/2021	0.353		0.149
3/3/2021		0.313	
7/14/2021	0.485	0.487	0.213
1/26/2022	0.31		
1/27/2022		0.671	0.185
Mean	0.4335	0.3555	0.1916
Std. Dev.	0.06719	0.1473	0.02023
Upper Lim.	0.4994	0.671	0.2131
Lower Lim.	0.3666	0.262	0.1702

# Confidence Interval

Constituent: Molybdenum (mg/L) Analysis Run 5/11/2022 6:38 PM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-3	GS-GSA-MW-8
10/17/2018	<0.01	<0.01
4/10/2019	<0.01	<0.01
10/14/2019	<0.01	<0.01
2/3/2020	<0.01	
2/4/2020		<0.01
8/4/2020	<0.01	
8/5/2020		<0.01
3/1/2021	0.00022	0.00277
7/14/2021	0.00026	0.00015 (J)
1/26/2022	0.00022	
1/27/2022		0.00012 (J)
Mean	0.006337	0.00663
Std. Dev.	0.005055	0.004722
Upper Lim.	0.01	0.01
Lower Lim.	0.00022	0.00012

# Confidence Interval

Constituent: Selenium (mg/L) Analysis Run 5/11/2022 6:38 PM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-3	GS-GSA-MW-4
10/17/2018	<0.01	<0.01
4/10/2019	0.00234 (J)	0.00322 (J)
10/14/2019	<0.01	<0.01
2/3/2020	<0.01	
2/4/2020		<0.01
8/4/2020	<0.01	
8/5/2020		0.00298 (J)
3/1/2021	0.00141	
3/3/2021		0.00294
7/14/2021	0.00151	0.00563
1/26/2022	0.00117	
1/27/2022		0.00817
Mean	0.005804	0.006617
Std. Dev.	0.004498	0.003295
Upper Lim.	0.01	0.01
Lower Lim.	0.00117	0.00294

# Confidence Interval

Constituent: Thallium (mg/L) Analysis Run 5/11/2022 6:38 PM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas GSA

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	GS-GSA-MW-4
10/17/2018	<0.001
4/10/2019	<0.001
10/14/2019	<0.001
2/4/2020	<0.001
8/5/2020	0.000205 (J)
3/3/2021	0.000178 (J)
7/14/2021	9E-05 (J)
1/27/2022	0.00022
Mean	0.0005866
Std. Dev.	0.0004436
Upper Lim.	0.001
Lower Lim.	9E-05

# Appendix B



Isotope Analyses for:  
Alabama Power General  
Test Lab

IT<sup>2</sup> FILE #  
210277

2021-09-03

Approved by:

**Orfan Shouakar-Stash, PhD**  
**Director**

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**File Number:** 210277  
**Project Number:** WMWGORG 1329

#	Sample ID	Sample Collection		Sample #	$\delta^{11}\text{B}$	Result	Repeat	Sample Size	B Concn.
		Date	Time						
1	BB12697 MW-8	2021-07-14	10:52	74181	X	33.6	32.7	1 x 1Litre Bottle	2.07
2	BB12776 MW-14H	2021-07-13	13:51	74182	X	11.6		1 x 1Litre Bottle	0.139
3	BB12777 MW-14H DUP	2021-07-13	13:51	74183	X	3.7		1 x 1Litre Bottle	0.139
4	BB12779 MW-4	2021-07-14	8:38	74184	X	2.8	4.0	1 x 1Litre Bottle	4.78
5	BB12780 MW-4V	2021-07-14	10:04	74185	X	-2.6		1 x 1Litre Bottle	3.68
6	BB12785 EB-1	2021-07-14	16:15	74186	X	BDL		1 x 1Litre Bottle	N.D.
7	BB12846 MW-9H	2021-07-13	13:45	74187	X	0.0	-0.1	1 x 1Litre Bottle	5.84
8	BB12847 MW-12H	2021-07-14	9:35	74188	X	8.8		1 x 1Litre Bottle	0.0742
9	BB12852 MW-3	2021-07-14	14:55	74189	X	14.4		1 x 1Litre Bottle	1.47
10	BB12853 MW-3V	2021-07-15	10:50	74190	X	25.3		1 x 1Litre Bottle	3.04
11	BB12854 FB-2	2021-07-15	12:05	74191	X	BDL		1 x 1Litre Bottle	N.D.

BDL: Below Detection Limit

Low signal, uncertainty higher than normal

### **$^{11}\text{B}$ Analyses**

#### **Instrument Used:**

Thermal Ionization Mass Spectrometry (TIMS), TI-Box, spectromat, Germany

#### **Standard Used:**

120 ratios are taken for each sample and the average is used to calculate the delta value.

Delta values are calculated with respect to NIST SRM951a.

A secondary standard of sea water (SB1) is ran with each carousel.

#### **Typical Standard deviation:**

+/- 2 permil

Approved by:

*Orfan S-Stash*

**Orfan Shouakar-Stash, PhD**

**Director**

Isotope Tracer Technologies Inc.

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CHAIN OF CUSTODY / ANALYTICAL SERVICES REQUEST FORM Page 1 of 3

Note: all TAT Quoted material is in business days which exclude statutory holidays and weekends.

Specify date required	Service Requested	
	(regular)	
4 Weeks	(Rush)	

COMPANY NAME Alabama Power General Test Lab										ANALYSIS REQUEST		PLEASE INDICATE FILTERED, PRESERVED OR BOTH <- - - - (F, P, F/P)		
OFFICE ADDRESS 744 Co. Rd. 87, GSC#8 Calera, AL 35040												SUBMISSION #:		
PROJECT MANAGER: Laura Midkiff												ENTERED BY:		
PROJECT # WMWGORG_1329												DATE/TIME ENTERED:		
PHONE 205-664-6197		FAX		REPORT FORMAT/DISTRIBUTION								BIN #:		
PO # APC63628-0001				EMAIL <input checked="" type="checkbox"/> FAX _____ BOTH _____ SELECT: PDF _____ DIGITAL _____ BOTH <input checked="" type="checkbox"/> EMAIL 1 <u>LB MIDKIFF@SOUTHERNCO.COM</u> EMAIL 2 <u>RGARNER@SOUTHERNCO.COM</u> EMAIL 3 <u>TBWILL@SOUTHERNCO.COM</u>										
SAMPLING INFORMATION														
Sample Date/Time		TYPE		MATRIX										
Date (YYYY-MM-DD)	Time (24hr) (hh:mm)	COMP	GRAB	WATER	SOIL	OTHER	SAMPLE DESCRIPTION TO APPEAR ON REPORT		NUMBER OF CONTAINERS	Boron Method (Isotopes 10 & 11)			COMMENTS	LAB ID
7/14/2021	10:52		x	x			BB12697 MW-8	1	X					
SPECIAL INSTRUCTIONS/COMMENTS				THE QUESTIONS BELOW MUST BE ANSWERED FOR WATER SAMPLES ( CHECK Yes OR No )				SAMPLE CONDITION						
				Are any samples taken from a regulated DW System? Yes ___ No <input checked="" type="checkbox"/> If yes, an authorized drinking water COC MUST be used for this submission. Is the water sampled intended to be potable for human consumption? Yes ___ No ___				___ FROZEN ___ COLD ___ COOLING INITIATED ___ AMBIENT						
SAMPLED BY: Anthony Goggins				7/14/2021 15:35		RECEIVED BY: Laura Midkiff		7/14/2021 15:35		Observations				
RELINQUISHED BY: <i>Laura Midkiff</i>				DATE & TIME 7/16/21 1320		RECEIVED AT LAB BY: <i>K.M.</i>		DATE & TIME 8 Jul 22, 2021 12:00						

1. TAT may vary dependent on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs.  
 2. Any known or suspected hazards relating to a sample must be noted on the chain of custody in comments section.



CHAIN OF CUSTODY / ANALYTICAL SERVICES REQUEST FORM Page 2 of 3

Note: all TAT Quoted material is in business days which exclude statutory holidays and weekends.

Specify date required	Service Requested
	(regular)
4 Weeks	(Rush)

COMPANY NAME		Alabama Power General Test Lab																		PLEASE INDICATE FILTERED, PRESERVED OR BOTH <- - - - (F, P, F/P)			
OFFICE ADDRESS		744 Co. Rd. 87, GSC#8 Calera, AL 35040																		SUBMISSION #:			
PROJECT MANAGER: Laura Midkiff																				ENTERED BY:			
PROJECT # WMWGORG_1329																				DATE/TIME ENTERED:			
PHONE 205-664-6197		FAX				REPORT FORMAT/DISTRIBUTION														BIN #:			
		PO # APC63628-0001				EMAIL <input checked="" type="checkbox"/> FAX _____ BOTH _____ SELECT: PDF _____ DIGITAL _____ BOTH <input checked="" type="checkbox"/> EMAIL 1 <input type="checkbox"/> LB MIDKIF@SOUTHERNCO.COM _____ EMAIL 2 <input type="checkbox"/> RGARNER@SOUTHERNCO.COM _____ EMAIL 3 <input type="checkbox"/> TBWILL@SOUTHERNCO.COM _____																	
SAMPLING INFORMATION																							
Sample Date/Time		TYPE		MATRIX																			
Date (YYYY-MM-DD)		Time (24hr) (hh:mm)		COMP	GRAB	WATER	SOIL	OTHER	SAMPLE DESCRIPTION TO APPEAR ON REPORT		NUMBER OF CONTAINERS		Boron Method (Isotopes 10 & 11)								COMMENTS		LAB ID
7/13/2021		13:51			x	x			BB12776 MW-14H		x	x											
7/13/2021		13:51			x	x			BB12777 MW-14H DUP		x	x											
7/14/2021		8:38			x	x			BB12779 MW-4		x	x											
7/14/2021		10:04			x	x			BB12780 MW-4V		x	x											
7/14/2021		16:15			x	x			BB12785 EB-1		x	x											
SPECIAL INSTRUCTIONS/COMMENTS																							
THE QUESTIONS BELOW MUST BE ANSWERED FOR WATER SAMPLES ( CHECK Yes OR No )																							
Are any samples taken from a regulated DW System? Yes ___ No <input checked="" type="checkbox"/>																							
If yes, an authorized drinking water COC MUST be used for this submission.																							
Is the water sampled intended to be potable for human consumption? Yes ___ No ___																							
SAMPLE CONDITION																							
___ FROZEN																							
___ COLD																							
___ COOLING INITIATED																							
___ AMBIENT																							
SAMPLED BY: Dallas Gentry		7/15/2021 8:44		RECEIVED BY: Laura Midkiff		7/15/2021 8:44		Observations															
RELINQUISHED BY: <i>Laura Midkiff</i>		DATE & TIME: <i>7/16/21 1:30</i>		RECEIVED AT LAB BY: <i>K.M.</i>		DATE & TIME: <i>Jul 22, 21 12:00</i>																	

1. TAT may vary dependent on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs.  
 2. Any known or suspected hazards relating to a sample must be noted on the chain of custody in comments section.



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

# *Analytical Report*



**Sample Group :** WMWGORG\_1342

**Project/Site :** Gorgas Gypsum  
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

November 19, 2021

Dear Dustin Brooks,

Enclosed are the analytical results for sample(s) received by the laboratory on October 13, 2021. 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: 2021.11.19 14:20:21 -06'00'

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: 2021.11.22 08:59:32 -06'00'



### 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 Gypsum

WMWGORG\_1342

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>
BB19046	711015	WMWGORG_1342
BB19047	711015	WMWGORG_1342
BB19048	711015	WMWGORG_1342
BB19049	711015	WMWGORG_1342
BB19050	711015	WMWGORG_1342
BB19051	711015	WMWGORG_1342

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 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.
- 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>
BB19046	Calcium & Magnesium	50.75
BB19047	Calcium & Magnesium	50.75
BB19049	Calcium & Magnesium	50.75
BB19050	Calcium	50.75

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



## Case Narrative

Dissolved Metals ICP

Gorgas Gypsum

WMWGORG\_1342

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>
BB19046	710937	WMWGORG_1342
BB19047	710937	WMWGORG_1342
BB19049	710937	WMWGORG_1342
BB19050	710937	WMWGORG_1342

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 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 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.
  - A matrix spike and matrix spike duplicate were analyzed with each ICP 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.

Total Metals ICPMS

Gorgas Gypsum

WMWGORG\_1342

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>
BB19046	710844	WMWGORG_1342
BB19047	710844	WMWGORG_1342
BB19048	710844	WMWGORG_1342
BB19049	710844	WMWGORG_1342
BB19050	710844	WMWGORG_1342
BB19051	710844	WMWGORG_1342

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. All samples were analyzed without a dilution factor.
  8. The raw data results are shown with dilution factors included.

Dissolved Metals ICPMS

Gorgas Gypsum

WMWGORG\_1342

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>
BB19046	710735	WMWGORG_1342
BB19047	710735	WMWGORG_1342
BB19049	710735	WMWGORG_1342
BB19050	710735	WMWGORG_1342

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. All samples were analyzed without a dilution factor.
  8. The raw data results are shown with dilution factors included.

Mercury

Gorgas Gypsum

WMWGORG\_1342

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>
BB19046	710869	WMWGORG_1342
BB19047	710869	WMWGORG_1342
BB19048	710869	WMWGORG_1342
BB19049	710869	WMWGORG_1342
BB19050	710869	WMWGORG_1342
BB19051	710869	WMWGORG_1342

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 batch. All acceptance criteria for accuracy were met.
  - A matrix spike and matrix spike duplicate were digested and analyzed with each batch. All acceptance criteria for precision were met.
7. All samples were analyzed without a dilution factor.
  8. The raw data results are shown with dilution factors included.



TDS

Gorgas Gypsum

WMWGORG\_1342

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>
BB19046	710477	WMWGORG_1342
BB19047	710477	WMWGORG_1342
BB19048	710477	WMWGORG_1342
BB19049	710477	WMWGORG_1342
BB19050	710477	WMWGORG_1342
BB19051	710477	WMWGORG_1342

4. All of the above samples were analyzed and prepared 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. RPD/2 was less than 5%.
- A laboratory control sample was analyzed with each batch. All criteria were met.
- Samples were between 2.5mg and 200mg residue.
- All samples with residue <2.5mg had the maximum volume of 150mL filtered. Affected samples are as follows:
  - BB19048
  - BB19051

Anions

Gorgas Gypsum

WMWGORG\_1342

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>
BB19046	710407, 710882, & 710966	WMWGORG_1342
BB19047	710407, 710882, & 710966	WMWGORG_1342
BB19048	710407, 710882, & 710966	WMWGORG_1342
BB19049	710407, 710882, & 710966	WMWGORG_1342
BB19050	710407, 710882, & 710966	WMWGORG_1342
BB19051	710407, 710882, & 710966	WMWGORG_1342

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.
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>
BB19046	Chloride & Sulfate	10 & 50
BB19047	Chloride & Sulfate	10 & 50
BB19049	Chloride & Sulfate	10 & 50
BB19050	Sulfate	40

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

# Case Narrative

Alkalinity

Gorgas Gypsum

WMWGORG\_1342

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>
BB19046	711480 & 711481	WMWGORG_1342
BB19047	711480 & 711481	WMWGORG_1342
BB19049	711480 & 711481	WMWGORG_1342
BB19050	711480 & 711481	WMWGORG_1342

4. All of the above samples were analyzed and prepared 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.

# Certificate Of Analysis

**Description:** Gorgas Gypsum - SP-3

**Location Code:** WMWGORG  
**Collected:** 10/13/21 10:18  
**Customer ID:**  
**Submittal Date:** 10/13/21 15:24

**Laboratory ID Number:** BB19046

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: RDA</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Total	10/21/21 12:00	10/22/21 11:29		1.015	7.25	mg/L	0.030000	0.1015	
* Calcium, Total	10/21/21 12:00	10/22/21 14:13		50.75	656	mg/L	3.50175	20.3	
* Iron, Total	10/21/21 12:00	10/22/21 11:29		1.015	0.0142	mg/L	0.008120	0.0406	J
* Lithium, Total	10/21/21 12:00	10/22/21 11:29		1.015	0.0330	mg/L	0.007105	0.01999956	
* Magnesium, Total	10/21/21 12:00	10/22/21 14:13		50.75	65.7	mg/L	1.06575	20.3	
* Sodium, Total	10/21/21 12:00	10/22/21 11:29		1.015	3.21	mg/L	0.03045	0.406	
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: RDA</b>						
* Iron, Dissolved	10/20/21 14:00	10/21/21 11:19		1.015	Not Detected	mg/L	0.008120	0.0406	U
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: DLJ</b>		<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	10/14/21 07:36	10/14/21 16:54		1.015	0.00132	mg/L	0.000508	0.001015	
* Arsenic, Total	10/14/21 07:36	10/14/21 16:54		1.015	0.0344	mg/L	0.000068	0.000203	
* Barium, Total	10/14/21 07:36	10/14/21 16:54		1.015	0.0195	mg/L	0.000102	0.000203	
* Beryllium, Total	10/14/21 07:36	10/14/21 16:54		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	10/14/21 07:36	10/14/21 16:54		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	10/14/21 07:36	10/14/21 16:54		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Total	10/14/21 07:36	10/14/21 16:54		1.015	0.000469	mg/L	0.000068	0.000203	
* Lead, Total	10/14/21 07:36	10/14/21 16:54		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Molybdenum, Total	10/14/21 07:36	10/14/21 16:54		1.015	0.0152	mg/L	0.000068	0.000203	
* Potassium, Total	10/14/21 07:36	10/14/21 16:54		1.015	4.00	mg/L	0.169505	0.5075	
* Manganese, Total	10/14/21 07:36	10/14/21 16:54		1.015	0.0654	mg/L	0.000068	0.000203	
* Selenium, Total	10/14/21 07:36	10/14/21 16:54		1.015	0.0169	mg/L	0.000508	0.001015	
* Thallium, Total	10/14/21 07:36	10/14/21 16:54		1.015	0.000230	mg/L	0.000068	0.000203	
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: DLJ</b>						
* Manganese, Dissolved	10/14/21 08:13	10/14/21 09:54		1.015	0.00168	mg/L	0.000068	0.000203	
<b>Analytical Method: EPA 245.1</b>			<b>Analyst: CRB</b>						
* Mercury, Total by CVAA	10/19/21 13:32	10/19/21 19:23		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: SM 2320 B</b>			<b>Analyst: JAG</b>						
Alkalinity, Total as CaCO3	10/26/21 10:15	10/26/21 10:50		1	43.4	mg/L		0.1	
<b>Analytical Method: SM 2540C</b>			<b>Analyst: CNJ</b>						
* Solids, Dissolved	10/15/21 10:41	10/18/21 13:10		1	2380	mg/L		125	

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 Gypsum - SP-3

**Location Code:** WMWGORG  
**Collected:** 10/13/21 10:18  
**Customer ID:**  
**Submittal Date:** 10/13/21 15:24

**Laboratory ID Number:** BB19046

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: JAG</b>							
Bicarbonate Alkalinity, (calc.)	10/26/21 10:15	10/26/21 10:50		1	42.6	mg/L			
Carbonate Alkalinity, (calc.)	10/26/21 10:15	10/26/21 10:50		1	0.71	mg/L			
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	10/14/21 12:01	10/14/21 12:01		10	102	mg/L	5.00	10	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	10/19/21 09:13	10/19/21 09:13		1	3.19	mg/L	0.06	0.1	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	10/20/21 14:02	10/20/21 14:02		50	1650	mg/L	25.00	50	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: AWG</b>							
Conductivity	10/13/21 10:15	10/13/21 10:15			2541.12	uS/cm			FA
pH	10/13/21 10:15	10/13/21 10:15			8.24	SU			FA
Temperature	10/13/21 10:15	10/13/21 10:15			27.51	C			FA
Turbidity	10/13/21 10:15	10/13/21 10:15			1.79	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:** WMWGORG  
**Sample Date:** 10/13/21 10:18  
**Customer ID:**  
**Delivery Date:** 10/13/21 15:24

**Description:** Gorgas Gypsum - SP-3

**Laboratory ID Number:** BB19046

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BB19051	Barium, Total	mg/L	0.000000	0.000200	0.100	0.101	0.0999	0.0979	0.0850 to 0.115	101	70.0 to 130	1.10	20.0
BB19051	Boron, Total	mg/L	0.00153	0.0650	1.00	1.02	1.03	1.02	0.850 to 1.15	102	70.0 to 130	0.976	20.0
BB19051	Mercury, Total by CVAA	mg/L	6.000E-05	0.000500	0.004	0.00396	0.0039	0.00404	0.00340 to 0.00460	99.0	70.0 to 130	1.53	20.0
BB19051	Manganese, Total	mg/L	0.0000251	0.000147	0.100	0.0981	0.102	0.103	0.0850 to 0.115	98.1	70.0 to 130	3.90	20.0
BB19051	Arsenic, Total	mg/L	-0.0000563	0.000147	0.100	0.100	0.0996	0.103	0.0850 to 0.115	100	70.0 to 130	0.401	20.0
BB19051	Cadmium, Total	mg/L	0.0000000	0.000147	0.100	0.0997	0.103	0.101	0.0850 to 0.115	99.7	70.0 to 130	3.26	20.0
BB19051	Sodium, Total	mg/L	0.000254	0.0660	5.00	5.06	5.07	5.08	4.25 to 5.75	101	70.0 to 130	0.197	20.0
BB19051	Beryllium, Total	mg/L	0.0000219	0.000880	0.100	0.106	0.108	0.0915	0.0850 to 0.115	106	70.0 to 130	1.87	20.0
BB19051	Molybdenum, Total	mg/L	0.0000519	0.000147	0.100	0.0986	0.0997	0.0993	0.0850 to 0.115	98.6	70.0 to 130	1.11	20.0
BB19051	Lead, Total	mg/L	0.0000094	0.000147	0.100	0.101	0.104	0.102	0.0850 to 0.115	101	70.0 to 130	2.93	20.0
BB19051	Calcium, Total	mg/L	0.00139	0.152	5.00	5.23	5.27	5.13	4.25 to 5.75	105	70.0 to 130	0.762	20.0
BB19051	Thallium, Total	mg/L	0.0000015	0.000147	0.100	0.0942	0.0970	0.0945	0.0850 to 0.115	94.2	70.0 to 130	2.93	20.0
BB19051	Iron, Total	mg/L	0.000116	0.0176	0.2	0.206	0.208	0.205	0.170 to 0.230	103	70.0 to 130	0.966	20.0
BB19051	Cobalt, Total	mg/L	0.0000059	0.000147	0.100	0.0993	0.101	0.104	0.0850 to 0.115	99.3	70.0 to 130	1.70	20.0
BB19051	Lithium, Total	mg/L	-3.240E-05	0.0154	0.200	0.204	0.205	0.201	0.170 to 0.230	102	70.0 to 130	0.489	20.0
BB19051	Antimony, Total	mg/L	0.000153	0.00100	0.100	0.0960	0.0931	0.0979	0.0850 to 0.115	96.0	70.0 to 130	3.07	20.0
BB19050	Manganese, Dissolved	mg/L	-0.0000441	0.000147	0.100	0.101	0.106	0.104	0.0850 to 0.115	101	70.0 to 130	4.83	20.0
BB19051	Chromium, Total	mg/L	-0.0000246	0.000440	0.100	0.0976	0.0988	0.103	0.0850 to 0.115	97.6	70.0 to 130	1.22	20.0
BB19051	Potassium, Total	mg/L	-0.00508	0.367	10.0	10.2	10.3	10.3	8.50 to 11.5	102	70.0 to 130	0.976	20.0
BB19050	Iron, Dissolved	mg/L	-2.780E-05	0.0176	0.2	0.204	0.203	0.205	0.170 to 0.230	102	70.0 to 130	0.491	20.0
BB19051	Selenium, Total	mg/L	-0.0000644	0.00100	0.100	0.102	0.105	0.103	0.0850 to 0.115	102	70.0 to 130	2.90	20.0
BB19051	Magnesium, Total	mg/L	0.000272	0.0462	5.00	5.29	5.37	5.22	4.25 to 5.75	106	70.0 to 130	1.50	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:** WMWGORG  
**Sample Date:** 10/13/21 10:18  
**Customer ID:**  
**Delivery Date:** 10/13/21 15:24

**Description:** Gorgas Gypsum - SP-3

**Laboratory ID Number:** BB19046

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BB19050	Alkalinity, Total as CaCO3	mg/L					37.6	49.7	45.0 to 55.0			5.75	10.0
BB19051	Sulfate	mg/L	0.201	1.00	20.0	19.3	0.222	18.1	18.0 to 22.0	96.5	80.0 to 120	0.00	20.0
BB19050	Solids, Dissolved	mg/L	0.0000	25.0			902	49.0	40.0 to 60.0			0.445	10.0
BB19051	Fluoride	mg/L	-0.0151	0.100	2.50	2.47	0.0121	2.57	2.25 to 2.75	98.8	80.0 to 120	0.00	20.0
BB19051	Chloride	mg/L	0.0129	1.00	10.0	9.89	0.049	9.96	9.00 to 11.0	98.9	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 Gypsum - SP-3 DUP

**Location Code:** WMWGORG  
**Collected:** 10/13/21 10:18  
**Customer ID:**  
**Submittal Date:** 10/13/21 15:24

**Laboratory ID Number:** BB19047

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: RDA</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Total	10/21/21 12:00	10/22/21 11:32		1.015	7.21	mg/L	0.030000	0.1015	
* Calcium, Total	10/21/21 12:00	10/22/21 14:16		50.75	654	mg/L	3.50175	20.3	
* Iron, Total	10/21/21 12:00	10/22/21 11:32		1.015	0.0145	mg/L	0.008120	0.0406	J
* Lithium, Total	10/21/21 12:00	10/22/21 11:32		1.015	0.0330	mg/L	0.007105	0.01999956	
* Magnesium, Total	10/21/21 12:00	10/22/21 14:16		50.75	65.6	mg/L	1.06575	20.3	
* Sodium, Total	10/21/21 12:00	10/22/21 11:32		1.015	3.19	mg/L	0.03045	0.406	
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: RDA</b>						
* Iron, Dissolved	10/20/21 14:00	10/21/21 11:22		1.015	Not Detected	mg/L	0.008120	0.0406	U
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: DLJ</b>		<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	10/14/21 07:36	10/14/21 16:57		1.015	0.00127	mg/L	0.000508	0.001015	
* Arsenic, Total	10/14/21 07:36	10/14/21 16:57		1.015	0.0344	mg/L	0.000068	0.000203	
* Barium, Total	10/14/21 07:36	10/14/21 16:57		1.015	0.0190	mg/L	0.000102	0.000203	
* Beryllium, Total	10/14/21 07:36	10/14/21 16:57		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	10/14/21 07:36	10/14/21 16:57		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	10/14/21 07:36	10/14/21 16:57		1.015	0.000322	mg/L	0.000203	0.001015	J
* Cobalt, Total	10/14/21 07:36	10/14/21 16:57		1.015	0.000471	mg/L	0.000068	0.000203	
* Lead, Total	10/14/21 07:36	10/14/21 16:57		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Molybdenum, Total	10/14/21 07:36	10/14/21 16:57		1.015	0.0162	mg/L	0.000068	0.000203	
* Potassium, Total	10/14/21 07:36	10/14/21 16:57		1.015	4.12	mg/L	0.169505	0.5075	
* Manganese, Total	10/14/21 07:36	10/14/21 16:57		1.015	0.0679	mg/L	0.000068	0.000203	
* Selenium, Total	10/14/21 07:36	10/14/21 16:57		1.015	0.0174	mg/L	0.000508	0.001015	
* Thallium, Total	10/14/21 07:36	10/14/21 16:57		1.015	0.000247	mg/L	0.000068	0.000203	
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: DLJ</b>						
* Manganese, Dissolved	10/14/21 08:13	10/14/21 09:58		1.015	0.00172	mg/L	0.000068	0.000203	
<b>Analytical Method: EPA 245.1</b>			<b>Analyst: CRB</b>						
* Mercury, Total by CVAA	10/19/21 13:32	10/19/21 19:27		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: SM 2320 B</b>			<b>Analyst: JAG</b>						
Alkalinity, Total as CaCO3	10/26/21 10:15	10/26/21 10:50		1	46.8	mg/L		0.1	
<b>Analytical Method: SM 2540C</b>			<b>Analyst: CNJ</b>						
* Solids, Dissolved	10/15/21 10:41	10/18/21 13:10		1	2360	mg/L		125	

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 Gypsum - SP-3 DUP

**Location Code:** WMWGORG  
**Collected:** 10/13/21 10:18  
**Customer ID:**  
**Submittal Date:** 10/13/21 15:24

**Laboratory ID Number:** BB19047

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: JAG</b>							
Bicarbonate Alkalinity, (calc.)	10/26/21 10:15	10/26/21 10:50		1	45.8	mg/L			
Carbonate Alkalinity, (calc.)	10/26/21 10:15	10/26/21 10:50		1	0.90	mg/L			
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	10/14/21 12:03	10/14/21 12:03		10	98.8	mg/L	5.00	10	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	10/19/21 09:14	10/19/21 09:14		1	3.47	mg/L	0.06	0.1	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	10/20/21 14:04	10/20/21 14:04		50	1650	mg/L	25.00	50	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: AWG</b>							
Conductivity	10/13/21 10:15	10/13/21 10:15			2541.12	uS/cm			FA
pH	10/13/21 10:15	10/13/21 10:15			8.24	SU			FA
Temperature	10/13/21 10:15	10/13/21 10:15			27.51	C			FA
Turbidity	10/13/21 10:15	10/13/21 10:15			1.79	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:** WMWGORG  
**Sample Date:** 10/13/21 10:18  
**Customer ID:**  
**Delivery Date:** 10/13/21 15:24

**Description:** Gorgas Gypsum - SP-3 DUP

**Laboratory ID Number:** BB19047

Sample	Analysis	Units	MB	MB				Standard		Rec			Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit	Prec		
BB19051	Mercury, Total by CVAA	mg/L	6.000E-05	0.000500	0.004	0.00396	0.0039	0.00404	0.00340 to 0.00460	99.0	70.0 to 130	1.53	20.0	
BB19051	Manganese, Total	mg/L	0.0000251	0.000147	0.100	0.0981	0.102	0.103	0.0850 to 0.115	98.1	70.0 to 130	3.90	20.0	
BB19051	Arsenic, Total	mg/L	-0.0000563	0.000147	0.100	0.100	0.0996	0.103	0.0850 to 0.115	100	70.0 to 130	0.401	20.0	
BB19051	Cadmium, Total	mg/L	0.0000000	0.000147	0.100	0.0997	0.103	0.101	0.0850 to 0.115	99.7	70.0 to 130	3.26	20.0	
BB19051	Barium, Total	mg/L	0.0000000	0.000200	0.100	0.101	0.0999	0.0979	0.0850 to 0.115	101	70.0 to 130	1.10	20.0	
BB19051	Boron, Total	mg/L	0.00153	0.0650	1.00	1.02	1.03	1.02	0.850 to 1.15	102	70.0 to 130	0.976	20.0	
BB19051	Selenium, Total	mg/L	-0.0000644	0.00100	0.100	0.102	0.105	0.103	0.0850 to 0.115	102	70.0 to 130	2.90	20.0	
BB19051	Magnesium, Total	mg/L	0.000272	0.0462	5.00	5.29	5.37	5.22	4.25 to 5.75	106	70.0 to 130	1.50	20.0	
BB19051	Antimony, Total	mg/L	0.000153	0.00100	0.100	0.0960	0.0931	0.0979	0.0850 to 0.115	96.0	70.0 to 130	3.07	20.0	
BB19050	Manganese, Dissolved	mg/L	-0.0000441	0.000147	0.100	0.101	0.106	0.104	0.0850 to 0.115	101	70.0 to 130	4.83	20.0	
BB19051	Chromium, Total	mg/L	-0.0000246	0.000440	0.100	0.0976	0.0988	0.103	0.0850 to 0.115	97.6	70.0 to 130	1.22	20.0	
BB19051	Potassium, Total	mg/L	-0.00508	0.367	10.0	10.2	10.3	10.3	8.50 to 11.5	102	70.0 to 130	0.976	20.0	
BB19050	Iron, Dissolved	mg/L	-2.780E-05	0.0176	0.2	0.204	0.203	0.205	0.170 to 0.230	102	70.0 to 130	0.491	20.0	
BB19051	Lithium, Total	mg/L	-3.240E-05	0.0154	0.200	0.204	0.205	0.201	0.170 to 0.230	102	70.0 to 130	0.489	20.0	
BB19051	Sodium, Total	mg/L	0.000254	0.0660	5.00	5.06	5.07	5.08	4.25 to 5.75	101	70.0 to 130	0.197	20.0	
BB19051	Beryllium, Total	mg/L	0.0000219	0.000880	0.100	0.106	0.108	0.0915	0.0850 to 0.115	106	70.0 to 130	1.87	20.0	
BB19051	Molybdenum, Total	mg/L	0.0000519	0.000147	0.100	0.0986	0.0997	0.0993	0.0850 to 0.115	98.6	70.0 to 130	1.11	20.0	
BB19051	Lead, Total	mg/L	0.0000094	0.000147	0.100	0.101	0.104	0.102	0.0850 to 0.115	101	70.0 to 130	2.93	20.0	
BB19051	Calcium, Total	mg/L	0.00139	0.152	5.00	5.23	5.27	5.13	4.25 to 5.75	105	70.0 to 130	0.762	20.0	
BB19051	Thallium, Total	mg/L	0.0000015	0.000147	0.100	0.0942	0.0970	0.0945	0.0850 to 0.115	94.2	70.0 to 130	2.93	20.0	
BB19051	Iron, Total	mg/L	0.000116	0.0176	0.2	0.206	0.208	0.205	0.170 to 0.230	103	70.0 to 130	0.966	20.0	
BB19051	Cobalt, Total	mg/L	0.0000059	0.000147	0.100	0.0993	0.101	0.104	0.0850 to 0.115	99.3	70.0 to 130	1.70	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:** WMWGORG  
**Sample Date:** 10/13/21 10:18  
**Customer ID:**  
**Delivery Date:** 10/13/21 15:24

**Description:** Gorgas Gypsum - SP-3 DUP

**Laboratory ID Number:** BB19047

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Limit	Prec	Limit
BB19050	Solids, Dissolved	mg/L	0.0000	25.0			902	49.0	40.0 to 60.0			0.445	10.0
BB19050	Alkalinity, Total as CaCO3	mg/L					37.6	49.7	45.0 to 55.0			5.75	10.0
BB19051	Sulfate	mg/L	0.201	1.00	20.0	19.3	0.222	18.1	18.0 to 22.0	96.5	80.0 to 120	0.00	20.0
BB19051	Fluoride	mg/L	-0.0151	0.100	2.50	2.47	0.0121	2.57	2.25 to 2.75	98.8	80.0 to 120	0.00	20.0
BB19051	Chloride	mg/L	0.0129	1.00	10.0	9.89	0.049	9.96	9.00 to 11.0	98.9	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 Gypsum Field Blank-1

**Location Code:** WMWGORGFB  
**Collected:** 10/13/21 10:40  
**Customer ID:**  
**Submittal Date:** 10/13/21 15:25

**Laboratory ID Number:** BB19048

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: RDA</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Total	10/21/21 12:00	10/22/21 11:36		1.015	Not Detected	mg/L	0.030000	0.1015	U
* Calcium, Total	10/21/21 12:00	10/22/21 11:36		1.015	Not Detected	mg/L	0.070035	0.406	U
* Iron, Total	10/21/21 12:00	10/22/21 11:36		1.015	Not Detected	mg/L	0.008120	0.0406	U
* Lithium, Total	10/21/21 12:00	10/22/21 11:36		1.015	Not Detected	mg/L	0.007105	0.01999956	U
* Magnesium, Total	10/21/21 12:00	10/22/21 11:36		1.015	Not Detected	mg/L	0.021315	0.406	U
* Sodium, Total	10/21/21 12:00	10/22/21 11:36		1.015	Not Detected	mg/L	0.03045	0.406	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>			<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	10/14/21 07:36	10/14/21 17:01		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Arsenic, Total	10/14/21 07:36	10/14/21 17:01		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Barium, Total	10/14/21 07:36	10/14/21 17:01		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Beryllium, Total	10/14/21 07:36	10/14/21 17:01		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	10/14/21 07:36	10/14/21 17:01		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	10/14/21 07:36	10/14/21 17:01		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Total	10/14/21 07:36	10/14/21 17:01		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Lead, Total	10/14/21 07:36	10/14/21 17:01		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Molybdenum, Total	10/14/21 07:36	10/14/21 17:01		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	10/14/21 07:36	10/14/21 17:01		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Potassium, Total	10/14/21 07:36	10/14/21 17:01		1.015	Not Detected	mg/L	0.169505	0.5075	U
* Selenium, Total	10/14/21 07:36	10/14/21 17:01		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	10/14/21 07:36	10/14/21 17:01		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	10/19/21 13:32	10/19/21 19:31		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	10/15/21 10:41	10/18/21 13:10		1	Not Detected	mg/L		25	U
<b>Analytical Method: SM4500CI E</b>		<b>Analyst: JCC</b>							
* Chloride	10/14/21 12:04	10/14/21 12:04		1	Not Detected	mg/L	0.50	1	U
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	10/19/21 09:15	10/19/21 09:15		1	Not Detected	mg/L	0.06	0.1	U
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	10/20/21 14:08	10/20/21 14:08		1	0.638	mg/L	0.50	1	J

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

**Comments:**

# Batch QC Summary

**Customer Account:** WMWGORGFB  
**Sample Date:** 10/13/21 10:40  
**Customer ID:**  
**Delivery Date:** 10/13/21 15:25

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

**Laboratory ID Number:** BB19048

Sample	Analysis	Units	MB	MB		MS	MSD	Standard		Rec		Prec	Limit
				Limit	Spike			Standard	Limit	Rec	Limit		
BB19051	Barium, Total	mg/L	0.0000000	0.000200	0.100	0.101	0.0999	0.0979	0.0850 to 0.115	101	70.0 to 130	1.10	20.0
BB19051	Boron, Total	mg/L	0.00153	0.0650	1.00	1.02	1.03	1.02	0.850 to 1.15	102	70.0 to 130	0.976	20.0
BB19051	Lithium, Total	mg/L	-3.240E-05	0.0154	0.200	0.204	0.205	0.201	0.170 to 0.230	102	70.0 to 130	0.489	20.0
BB19051	Selenium, Total	mg/L	-0.0000644	0.00100	0.100	0.102	0.105	0.103	0.0850 to 0.115	102	70.0 to 130	2.90	20.0
BB19051	Magnesium, Total	mg/L	0.000272	0.0462	5.00	5.29	5.37	5.22	4.25 to 5.75	106	70.0 to 130	1.50	20.0
BB19051	Mercury, Total by CVAA	mg/L	6.000E-05	0.000500	0.004	0.00396	0.0039	0.00404	0.00340 to 0.00460	99.0	70.0 to 130	1.53	20.0
BB19051	Manganese, Total	mg/L	0.0000251	0.000147	0.100	0.0981	0.102	0.103	0.0850 to 0.115	98.1	70.0 to 130	3.90	20.0
BB19051	Arsenic, Total	mg/L	-0.0000563	0.000147	0.100	0.100	0.0996	0.103	0.0850 to 0.115	100	70.0 to 130	0.401	20.0
BB19051	Cadmium, Total	mg/L	0.0000000	0.000147	0.100	0.0997	0.103	0.101	0.0850 to 0.115	99.7	70.0 to 130	3.26	20.0
BB19051	Antimony, Total	mg/L	0.000153	0.00100	0.100	0.0960	0.0931	0.0979	0.0850 to 0.115	96.0	70.0 to 130	3.07	20.0
BB19051	Chromium, Total	mg/L	-0.0000246	0.000440	0.100	0.0976	0.0988	0.103	0.0850 to 0.115	97.6	70.0 to 130	1.22	20.0
BB19051	Potassium, Total	mg/L	-0.00508	0.367	10.0	10.2	10.3	10.3	8.50 to 11.5	102	70.0 to 130	0.976	20.0
BB19051	Lead, Total	mg/L	0.0000094	0.000147	0.100	0.101	0.104	0.102	0.0850 to 0.115	101	70.0 to 130	2.93	20.0
BB19051	Calcium, Total	mg/L	0.00139	0.152	5.00	5.23	5.27	5.13	4.25 to 5.75	105	70.0 to 130	0.762	20.0
BB19051	Thallium, Total	mg/L	0.0000015	0.000147	0.100	0.0942	0.0970	0.0945	0.0850 to 0.115	94.2	70.0 to 130	2.93	20.0
BB19051	Iron, Total	mg/L	0.000116	0.0176	0.2	0.206	0.208	0.205	0.170 to 0.230	103	70.0 to 130	0.966	20.0
BB19051	Cobalt, Total	mg/L	0.0000059	0.000147	0.100	0.0993	0.101	0.104	0.0850 to 0.115	99.3	70.0 to 130	1.70	20.0
BB19051	Sodium, Total	mg/L	0.000254	0.0660	5.00	5.06	5.07	5.08	4.25 to 5.75	101	70.0 to 130	0.197	20.0
BB19051	Beryllium, Total	mg/L	0.0000219	0.000880	0.100	0.106	0.108	0.0915	0.0850 to 0.115	106	70.0 to 130	1.87	20.0
BB19051	Molybdenum, Total	mg/L	0.0000519	0.000147	0.100	0.0986	0.0997	0.0993	0.0850 to 0.115	98.6	70.0 to 130	1.11	20.0

**Comments:**

## Batch QC Summary

**Customer Account:** WMWGORGFB

**Sample Date:** 10/13/21 10:40

**Customer ID:**

**Delivery Date:** 10/13/21 15:25

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

**Laboratory ID Number:** BB19048

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Limit	Prec	Prec Limit
BB19051	Sulfate	mg/L	0.201	1.00	20.0	19.3	0.222	18.1	18.0 to 22.0	96.5	80.0 to 120	0.00	20.0
BB19051	Fluoride	mg/L	-0.0151	0.100	2.50	2.47	0.0121	2.57	2.25 to 2.75	98.8	80.0 to 120	0.00	20.0
BB19051	Chloride	mg/L	0.0129	1.00	10.0	9.89	0.049	9.96	9.00 to 11.0	98.9	80.0 to 120	0.00	20.0
BB19050	Solids, Dissolved	mg/L	0.0000	25.0			902	49.0	40.0 to 60.0			0.445	10.0

**Comments:**

# Certificate Of Analysis

**Description:** Gorgas Gypsum - SP-2

**Location Code:** WMWGORG  
**Collected:** 10/13/21 10:54  
**Customer ID:**  
**Submittal Date:** 10/13/21 15:25

**Laboratory ID Number:** BB19049

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: RDA</b>		<b>Preparation Method: EPA 1638</b>				
* Boron, Total	10/21/21 12:00	10/22/21 11:39		1.015	6.52	mg/L	0.030000	0.1015	
* Calcium, Total	10/21/21 12:00	10/22/21 14:26		50.75	592	mg/L	3.50175	20.3	
* Iron, Total	10/21/21 12:00	10/22/21 11:39		1.015	Not Detected	mg/L	0.008120	0.0406	U
* Lithium, Total	10/21/21 12:00	10/22/21 11:39		1.015	0.0299	mg/L	0.007105	0.01999956	
* Magnesium, Total	10/21/21 12:00	10/22/21 14:26		50.75	58.8	mg/L	1.06575	20.3	
* Sodium, Total	10/21/21 12:00	10/22/21 11:39		1.015	3.00	mg/L	0.03045	0.406	
<b>Analytical Method: EPA 200.7</b>			<b>Analyst: RDA</b>						
* Iron, Dissolved	10/20/21 14:00	10/21/21 11:26		1.015	Not Detected	mg/L	0.008120	0.0406	U
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: DLJ</b>		<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	10/14/21 07:36	10/14/21 17:04		1.015	0.00123	mg/L	0.000508	0.001015	
* Arsenic, Total	10/14/21 07:36	10/14/21 17:04		1.015	0.0566	mg/L	0.000068	0.000203	
* Barium, Total	10/14/21 07:36	10/14/21 17:04		1.015	0.0197	mg/L	0.000102	0.000203	
* Beryllium, Total	10/14/21 07:36	10/14/21 17:04		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	10/14/21 07:36	10/14/21 17:04		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	10/14/21 07:36	10/14/21 17:04		1.015	0.000207	mg/L	0.000203	0.001015	J
* Cobalt, Total	10/14/21 07:36	10/14/21 17:04		1.015	0.000249	mg/L	0.000068	0.000203	
* Lead, Total	10/14/21 07:36	10/14/21 17:04		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Molybdenum, Total	10/14/21 07:36	10/14/21 17:04		1.015	0.0137	mg/L	0.000068	0.000203	
* Potassium, Total	10/14/21 07:36	10/14/21 17:04		1.015	3.78	mg/L	0.169505	0.5075	
* Manganese, Total	10/14/21 07:36	10/14/21 17:04		1.015	0.0743	mg/L	0.000068	0.000203	
* Selenium, Total	10/14/21 07:36	10/14/21 17:04		1.015	0.0179	mg/L	0.000508	0.001015	
* Thallium, Total	10/14/21 07:36	10/14/21 17:04		1.015	0.000250	mg/L	0.000068	0.000203	
<b>Analytical Method: EPA 200.8</b>			<b>Analyst: DLJ</b>						
* Manganese, Dissolved	10/14/21 08:13	10/14/21 10:01		1.015	0.00334	mg/L	0.000068	0.000203	
<b>Analytical Method: EPA 245.1</b>			<b>Analyst: CRB</b>						
* Mercury, Total by CVAA	10/19/21 13:32	10/19/21 19:35		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: SM 2320 B</b>			<b>Analyst: JAG</b>						
Alkalinity, Total as CaCO3	10/26/21 10:15	10/26/21 10:50		1	42.8	mg/L		0.1	
<b>Analytical Method: SM 2540C</b>			<b>Analyst: CNJ</b>						
* Solids, Dissolved	10/15/21 10:41	10/18/21 13:10		1	2130	mg/L		125	

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 Gypsum - SP-2

**Location Code:** WMWGORG  
**Collected:** 10/13/21 10:54  
**Customer ID:**  
**Submittal Date:** 10/13/21 15:25

**Laboratory ID Number:** BB19049

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: JAG</b>							
Bicarbonate Alkalinity, (calc.)	10/26/21 10:15	10/26/21 10:50		1	42.0	mg/L			
Carbonate Alkalinity, (calc.)	10/26/21 10:15	10/26/21 10:50		1	0.70	mg/L			
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	10/14/21 12:05	10/14/21 12:05		10	87.4	mg/L	5.00	10	
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	10/19/21 09:16	10/19/21 09:16		1	3.15	mg/L	0.06	0.1	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	10/20/21 14:05	10/20/21 14:05		50	1470	mg/L	25.00	50	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: AWG</b>							
Conductivity	10/13/21 10:51	10/13/21 10:51			2344.21	uS/cm			FA
pH	10/13/21 10:51	10/13/21 10:51			8.18	SU			FA
Temperature	10/13/21 10:51	10/13/21 10:51			27.71	C			FA
Turbidity	10/13/21 10:51	10/13/21 10:51			2.3	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:** WMWGORG  
**Sample Date:** 10/13/21 10:54  
**Customer ID:**  
**Delivery Date:** 10/13/21 15:25

**Description:** Gorgas Gypsum - SP-2

**Laboratory ID Number:** BB19049

Sample	Analysis	Units	MB					Standard		Rec		Prec	Limit
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BB19051	Barium, Total	mg/L	0.0000000	0.000200	0.100	0.101	0.0999	0.0979	0.0850 to 0.115	101	70.0 to 130	1.10	20.0
BB19051	Boron, Total	mg/L	0.00153	0.0650	1.00	1.02	1.03	1.02	0.850 to 1.15	102	70.0 to 130	0.976	20.0
BB19051	Mercury, Total by CVAA	mg/L	6.000E-05	0.000500	0.004	0.00396	0.0039	0.00404	0.00340 to 0.00460	99.0	70.0 to 130	1.53	20.0
BB19051	Manganese, Total	mg/L	0.0000251	0.000147	0.100	0.0981	0.102	0.103	0.0850 to 0.115	98.1	70.0 to 130	3.90	20.0
BB19051	Arsenic, Total	mg/L	-0.0000563	0.000147	0.100	0.100	0.0996	0.103	0.0850 to 0.115	100	70.0 to 130	0.401	20.0
BB19051	Cadmium, Total	mg/L	0.0000000	0.000147	0.100	0.0997	0.103	0.101	0.0850 to 0.115	99.7	70.0 to 130	3.26	20.0
BB19051	Selenium, Total	mg/L	-0.0000644	0.00100	0.100	0.102	0.105	0.103	0.0850 to 0.115	102	70.0 to 130	2.90	20.0
BB19051	Magnesium, Total	mg/L	0.000272	0.0462	5.00	5.29	5.37	5.22	4.25 to 5.75	106	70.0 to 130	1.50	20.0
BB19051	Lithium, Total	mg/L	-3.240E-05	0.0154	0.200	0.204	0.205	0.201	0.170 to 0.230	102	70.0 to 130	0.489	20.0
BB19051	Sodium, Total	mg/L	0.000254	0.0660	5.00	5.06	5.07	5.08	4.25 to 5.75	101	70.0 to 130	0.197	20.0
BB19051	Beryllium, Total	mg/L	0.0000219	0.000880	0.100	0.106	0.108	0.0915	0.0850 to 0.115	106	70.0 to 130	1.87	20.0
BB19051	Molybdenum, Total	mg/L	0.0000519	0.000147	0.100	0.0986	0.0997	0.0993	0.0850 to 0.115	98.6	70.0 to 130	1.11	20.0
BB19051	Antimony, Total	mg/L	0.000153	0.00100	0.100	0.0960	0.0931	0.0979	0.0850 to 0.115	96.0	70.0 to 130	3.07	20.0
BB19050	Manganese, Dissolved	mg/L	-0.0000441	0.000147	0.100	0.101	0.106	0.104	0.0850 to 0.115	101	70.0 to 130	4.83	20.0
BB19051	Chromium, Total	mg/L	-0.0000246	0.000440	0.100	0.0976	0.0988	0.103	0.0850 to 0.115	97.6	70.0 to 130	1.22	20.0
BB19051	Potassium, Total	mg/L	-0.00508	0.367	10.0	10.2	10.3	10.3	8.50 to 11.5	102	70.0 to 130	0.976	20.0
BB19050	Iron, Dissolved	mg/L	-2.780E-05	0.0176	0.2	0.204	0.203	0.205	0.170 to 0.230	102	70.0 to 130	0.491	20.0
BB19051	Lead, Total	mg/L	0.0000094	0.000147	0.100	0.101	0.104	0.102	0.0850 to 0.115	101	70.0 to 130	2.93	20.0
BB19051	Calcium, Total	mg/L	0.00139	0.152	5.00	5.23	5.27	5.13	4.25 to 5.75	105	70.0 to 130	0.762	20.0
BB19051	Thallium, Total	mg/L	0.0000015	0.000147	0.100	0.0942	0.0970	0.0945	0.0850 to 0.115	94.2	70.0 to 130	2.93	20.0
BB19051	Iron, Total	mg/L	0.000116	0.0176	0.2	0.206	0.208	0.205	0.170 to 0.230	103	70.0 to 130	0.966	20.0
BB19051	Cobalt, Total	mg/L	0.0000059	0.000147	0.100	0.0993	0.101	0.104	0.0850 to 0.115	99.3	70.0 to 130	1.70	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:** WMWGORG  
**Sample Date:** 10/13/21 10:54  
**Customer ID:**  
**Delivery Date:** 10/13/21 15:25

**Description:** Gorgas Gypsum - SP-2

**Laboratory ID Number:** BB19049

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Limit	Prec	Limit
BB19050	Alkalinity, Total as CaCO3	mg/L					37.6	49.7	45.0 to 55.0			5.75	10.0
BB19051	Sulfate	mg/L	0.201	1.00	20.0	19.3	0.222	18.1	18.0 to 22.0	96.5	80.0 to 120	0.00	20.0
BB19051	Fluoride	mg/L	-0.0151	0.100	2.50	2.47	0.0121	2.57	2.25 to 2.75	98.8	80.0 to 120	0.00	20.0
BB19051	Chloride	mg/L	0.0129	1.00	10.0	9.89	0.049	9.96	9.00 to 11.0	98.9	80.0 to 120	0.00	20.0
BB19050	Solids, Dissolved	mg/L	0.0000	25.0			902	49.0	40.0 to 60.0			0.445	10.0

**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 Gypsum - SP-1

**Location Code:** WMWGORG  
**Collected:** 10/13/21 11:28  
**Customer ID:**  
**Submittal Date:** 10/13/21 15:25

**Laboratory ID Number:** BB19050

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: RDA</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Total	10/21/21 12:00	10/22/21 11:42		1.015	0.0866	mg/L	0.030000	0.1015	J
* Calcium, Total	10/21/21 12:00	10/22/21 14:30		50.75	260	mg/L	3.50175	20.3	
* Iron, Total	10/21/21 12:00	10/22/21 11:42		1.015	0.00935	mg/L	0.008120	0.0406	J
* Lithium, Total	10/21/21 12:00	10/22/21 11:42		1.015	Not Detected	mg/L	0.007105	0.01999956	U
* Magnesium, Total	10/21/21 12:00	10/22/21 11:42		1.015	8.04	mg/L	0.021315	0.406	
* Sodium, Total	10/21/21 12:00	10/22/21 11:42		1.015	1.23	mg/L	0.03045	0.406	
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: RDA</b>							
* Iron, Dissolved	10/20/21 14:00	10/21/21 11:29		1.015	Not Detected	mg/L	0.008120	0.0406	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>			<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	10/14/21 07:36	10/14/21 17:08		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Arsenic, Total	10/14/21 07:36	10/14/21 17:08		1.015	0.00529	mg/L	0.000068	0.000203	
* Barium, Total	10/14/21 07:36	10/14/21 17:08		1.015	0.0133	mg/L	0.000102	0.000203	
* Beryllium, Total	10/14/21 07:36	10/14/21 17:08		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	10/14/21 07:36	10/14/21 17:08		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	10/14/21 07:36	10/14/21 17:08		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Total	10/14/21 07:36	10/14/21 17:08		1.015	0.0000699	mg/L	0.000068	0.000203	J
* Lead, Total	10/14/21 07:36	10/14/21 17:08		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Molybdenum, Total	10/14/21 07:36	10/14/21 17:08		1.015	0.00146	mg/L	0.000068	0.000203	
* Potassium, Total	10/14/21 07:36	10/14/21 17:08		1.015	0.860	mg/L	0.169505	0.5075	
* Manganese, Total	10/14/21 07:36	10/14/21 17:08		1.015	0.0962	mg/L	0.000068	0.000203	
* Selenium, Total	10/14/21 07:36	10/14/21 17:08		1.015	0.000759	mg/L	0.000508	0.001015	J
* Thallium, Total	10/14/21 07:36	10/14/21 17:08		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>							
* Manganese, Dissolved	10/14/21 08:13	10/14/21 10:05		1.015	0.000341	mg/L	0.000068	0.000203	
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	10/19/21 13:32	10/19/21 19:39		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: SM 2320 B</b>		<b>Analyst: JAG</b>							
Alkalinity, Total as CaCO3	10/26/21 10:15	10/26/21 10:50		1	35.5	mg/L		0.1	
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	10/15/21 10:41	10/18/21 13:10		1	894	mg/L		50	

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 Gypsum - SP-1

**Location Code:** WMWGORG  
**Collected:** 10/13/21 11:28  
**Customer ID:**  
**Submittal Date:** 10/13/21 15:25

**Laboratory ID Number:** BB19050

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: SM 4500CO2 D</b>		<b>Analyst: JAG</b>							
Bicarbonate Alkalinity, (calc.)	10/26/21 10:15	10/26/21 10:50		1	34.9	mg/L			
Carbonate Alkalinity, (calc.)	10/26/21 10:15	10/26/21 10:50		1	0.50	mg/L			
<b>Analytical Method: SM4500Cl E</b>		<b>Analyst: JCC</b>							
* Chloride	10/14/21 12:06	10/14/21 12:06		1	0.725	mg/L	0.50	1	J
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	10/19/21 09:18	10/19/21 09:18		1	0.990	mg/L	0.06	0.1	
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	10/20/21 14:06	10/20/21 14:06		40	554	mg/L	20.00	40	
<b>Analytical Method: Field Measurements</b>		<b>Analyst: AWG</b>							
Conductivity	10/13/21 11:25	10/13/21 11:25			1079.72	uS/cm			FA
pH	10/13/21 11:25	10/13/21 11:25			8.21	SU			FA
Temperature	10/13/21 11:25	10/13/21 11:25			28.15	C			FA
Turbidity	10/13/21 11:25	10/13/21 11:25			2.37	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:** WMWGORG  
**Sample Date:** 10/13/21 11:28  
**Customer ID:**  
**Delivery Date:** 10/13/21 15:25

**Description:** Gorgas Gypsum - SP-1

**Laboratory ID Number:** BB19050

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BB19051	Mercury, Total by CVAA	mg/L	6.000E-05	0.000500	0.004	0.00396	0.0039	0.00404	0.00340 to 0.00460	99.0	70.0 to 130	1.53	20.0
BB19051	Manganese, Total	mg/L	0.0000251	0.000147	0.100	0.0981	0.102	0.103	0.0850 to 0.115	98.1	70.0 to 130	3.90	20.0
BB19051	Arsenic, Total	mg/L	-0.0000563	0.000147	0.100	0.100	0.0996	0.103	0.0850 to 0.115	100	70.0 to 130	0.401	20.0
BB19051	Cadmium, Total	mg/L	0.0000000	0.000147	0.100	0.0997	0.103	0.101	0.0850 to 0.115	99.7	70.0 to 130	3.26	20.0
BB19051	Lithium, Total	mg/L	-3.240E-05	0.0154	0.200	0.204	0.205	0.201	0.170 to 0.230	102	70.0 to 130	0.489	20.0
BB19051	Barium, Total	mg/L	0.0000000	0.000200	0.100	0.101	0.0999	0.0979	0.0850 to 0.115	101	70.0 to 130	1.10	20.0
BB19051	Boron, Total	mg/L	0.00153	0.0650	1.00	1.02	1.03	1.02	0.850 to 1.15	102	70.0 to 130	0.976	20.0
BB19051	Selenium, Total	mg/L	-0.0000644	0.00100	0.100	0.102	0.105	0.103	0.0850 to 0.115	102	70.0 to 130	2.90	20.0
BB19051	Magnesium, Total	mg/L	0.000272	0.0462	5.00	5.29	5.37	5.22	4.25 to 5.75	106	70.0 to 130	1.50	20.0
BB19051	Sodium, Total	mg/L	0.000254	0.0660	5.00	5.06	5.07	5.08	4.25 to 5.75	101	70.0 to 130	0.197	20.0
BB19051	Beryllium, Total	mg/L	0.0000219	0.000880	0.100	0.106	0.108	0.0915	0.0850 to 0.115	106	70.0 to 130	1.87	20.0
BB19051	Molybdenum, Total	mg/L	0.0000519	0.000147	0.100	0.0986	0.0997	0.0993	0.0850 to 0.115	98.6	70.0 to 130	1.11	20.0
BB19051	Antimony, Total	mg/L	0.000153	0.00100	0.100	0.0960	0.0931	0.0979	0.0850 to 0.115	96.0	70.0 to 130	3.07	20.0
BB19050	Manganese, Dissolved	mg/L	-0.0000441	0.000147	0.100	0.101	0.106	0.104	0.0850 to 0.115	101	70.0 to 130	4.83	20.0
BB19051	Chromium, Total	mg/L	-0.0000246	0.000440	0.100	0.0976	0.0988	0.103	0.0850 to 0.115	97.6	70.0 to 130	1.22	20.0
BB19051	Potassium, Total	mg/L	-0.00508	0.367	10.0	10.2	10.3	10.3	8.50 to 11.5	102	70.0 to 130	0.976	20.0
BB19050	Iron, Dissolved	mg/L	-2.780E-05	0.0176	0.2	0.204	0.203	0.205	0.170 to 0.230	102	70.0 to 130	0.491	20.0
BB19051	Lead, Total	mg/L	0.0000094	0.000147	0.100	0.101	0.104	0.102	0.0850 to 0.115	101	70.0 to 130	2.93	20.0
BB19051	Calcium, Total	mg/L	0.00139	0.152	5.00	5.23	5.27	5.13	4.25 to 5.75	105	70.0 to 130	0.762	20.0
BB19051	Thallium, Total	mg/L	0.0000015	0.000147	0.100	0.0942	0.0970	0.0945	0.0850 to 0.115	94.2	70.0 to 130	2.93	20.0
BB19051	Iron, Total	mg/L	0.000116	0.0176	0.2	0.206	0.208	0.205	0.170 to 0.230	103	70.0 to 130	0.966	20.0
BB19051	Cobalt, Total	mg/L	0.0000059	0.000147	0.100	0.0993	0.101	0.104	0.0850 to 0.115	99.3	70.0 to 130	1.70	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:** WMWGORG  
**Sample Date:** 10/13/21 11:28  
**Customer ID:**  
**Delivery Date:** 10/13/21 15:25

**Description:** Gorgas Gypsum - SP-1

**Laboratory ID Number:** BB19050

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Limit	Prec	Limit
BB19050	Solids, Dissolved	mg/L	0.0000	25.0			902	49.0	40.0 to 60.0			0.445	10.0
BB19051	Fluoride	mg/L	-0.0151	0.100	2.50	2.47	0.0121	2.57	2.25 to 2.75	98.8	80.0 to 120	0.00	20.0
BB19051	Chloride	mg/L	0.0129	1.00	10.0	9.89	0.049	9.96	9.00 to 11.0	98.9	80.0 to 120	0.00	20.0
BB19050	Alkalinity, Total as CaCO3	mg/L					37.6	49.7	45.0 to 55.0			5.75	10.0
BB19051	Sulfate	mg/L	0.201	1.00	20.0	19.3	0.222	18.1	18.0 to 22.0	96.5	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 Gypsum Equipment Blank-1

**Location Code:** WMWGORGEB  
**Collected:** 10/13/21 11:50  
**Customer ID:**  
**Submittal Date:** 10/13/21 15:25

**Laboratory ID Number:** BB19051

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
<b>Analytical Method: EPA 200.7</b>		<b>Analyst: RDA</b>			<b>Preparation Method: EPA 1638</b>				
* Boron, Total	10/21/21 12:00	10/22/21 11:46		1.015	Not Detected	mg/L	0.030000	0.1015	U
* Calcium, Total	10/21/21 12:00	10/22/21 11:46		1.015	Not Detected	mg/L	0.070035	0.406	U
* Iron, Total	10/21/21 12:00	10/22/21 11:46		1.015	Not Detected	mg/L	0.008120	0.0406	U
* Lithium, Total	10/21/21 12:00	10/22/21 11:46		1.015	Not Detected	mg/L	0.007105	0.01999956	U
* Magnesium, Total	10/21/21 12:00	10/22/21 11:46		1.015	Not Detected	mg/L	0.021315	0.406	U
* Sodium, Total	10/21/21 12:00	10/22/21 11:46		1.015	Not Detected	mg/L	0.03045	0.406	U
<b>Analytical Method: EPA 200.8</b>		<b>Analyst: DLJ</b>			<b>Preparation Method: EPA 1638</b>				
* Antimony, Total	10/14/21 07:36	10/14/21 17:12		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Arsenic, Total	10/14/21 07:36	10/14/21 17:12		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Barium, Total	10/14/21 07:36	10/14/21 17:12		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Beryllium, Total	10/14/21 07:36	10/14/21 17:12		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	10/14/21 07:36	10/14/21 17:12		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	10/14/21 07:36	10/14/21 17:12		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Total	10/14/21 07:36	10/14/21 17:12		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Lead, Total	10/14/21 07:36	10/14/21 17:12		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Molybdenum, Total	10/14/21 07:36	10/14/21 17:12		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	10/14/21 07:36	10/14/21 17:12		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Potassium, Total	10/14/21 07:36	10/14/21 17:12		1.015	Not Detected	mg/L	0.169505	0.5075	U
* Selenium, Total	10/14/21 07:36	10/14/21 17:12		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	10/14/21 07:36	10/14/21 17:12		1.015	Not Detected	mg/L	0.000068	0.000203	U
<b>Analytical Method: EPA 245.1</b>		<b>Analyst: CRB</b>							
* Mercury, Total by CVAA	10/19/21 13:32	10/19/21 19:43		1	Not Detected	mg/L	0.0003	0.0005	U
<b>Analytical Method: SM 2540C</b>		<b>Analyst: CNJ</b>							
* Solids, Dissolved	10/15/21 10:41	10/18/21 13:10		1	Not Detected	mg/L		25	U
<b>Analytical Method: SM4500CI E</b>		<b>Analyst: JCC</b>							
* Chloride	10/14/21 12:07	10/14/21 12:07		1	Not Detected	mg/L	0.50	1	U
<b>Analytical Method: SM4500F G 2017</b>		<b>Analyst: JCC</b>							
* Fluoride	10/19/21 09:19	10/19/21 09:19		1	Not Detected	mg/L	0.06	0.1	U
<b>Analytical Method: SM4500SO4 E 2011</b>		<b>Analyst: JCC</b>							
* Sulfate	10/20/21 14:07	10/20/21 14:07		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:** WMWGORGEB  
**Sample Date:** 10/13/21 11:50  
**Customer ID:**  
**Delivery Date:** 10/13/21 15:25

**Description:** Gorgas Gypsum Equipment Blank-1

**Laboratory ID Number:** BB19051

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BB19051	Antimony, Total	mg/L	0.000153	0.00100	0.100	0.0960	0.0931	0.0979	0.0850 to 0.115	96.0	70.0 to 130	3.07	20.0
BB19051	Chromium, Total	mg/L	-0.0000246	0.000440	0.100	0.0976	0.0988	0.103	0.0850 to 0.115	97.6	70.0 to 130	1.22	20.0
BB19051	Potassium, Total	mg/L	-0.00508	0.367	10.0	10.2	10.3	10.3	8.50 to 11.5	102	70.0 to 130	0.976	20.0
BB19051	Sodium, Total	mg/L	0.000254	0.0660	5.00	5.06	5.07	5.08	4.25 to 5.75	101	70.0 to 130	0.197	20.0
BB19051	Beryllium, Total	mg/L	0.0000219	0.000880	0.100	0.106	0.108	0.0915	0.0850 to 0.115	106	70.0 to 130	1.87	20.0
BB19051	Molybdenum, Total	mg/L	0.0000519	0.000147	0.100	0.0986	0.0997	0.0993	0.0850 to 0.115	98.6	70.0 to 130	1.11	20.0
BB19051	Barium, Total	mg/L	0.0000000	0.000200	0.100	0.101	0.0999	0.0979	0.0850 to 0.115	101	70.0 to 130	1.10	20.0
BB19051	Boron, Total	mg/L	0.00153	0.0650	1.00	1.02	1.03	1.02	0.850 to 1.15	102	70.0 to 130	0.976	20.0
BB19051	Mercury, Total by CVAA	mg/L	6.000E-05	0.000500	0.004	0.00396	0.0039	0.00404	0.00340 to 0.00460	99.0	70.0 to 130	1.53	20.0
BB19051	Manganese, Total	mg/L	0.0000251	0.000147	0.100	0.0981	0.102	0.103	0.0850 to 0.115	98.1	70.0 to 130	3.90	20.0
BB19051	Arsenic, Total	mg/L	-0.0000563	0.000147	0.100	0.100	0.0996	0.103	0.0850 to 0.115	100	70.0 to 130	0.401	20.0
BB19051	Cadmium, Total	mg/L	0.0000000	0.000147	0.100	0.0997	0.103	0.101	0.0850 to 0.115	99.7	70.0 to 130	3.26	20.0
BB19051	Lithium, Total	mg/L	-3.240E-05	0.0154	0.200	0.204	0.205	0.201	0.170 to 0.230	102	70.0 to 130	0.489	20.0
BB19051	Selenium, Total	mg/L	-0.0000644	0.00100	0.100	0.102	0.105	0.103	0.0850 to 0.115	102	70.0 to 130	2.90	20.0
BB19051	Magnesium, Total	mg/L	0.000272	0.0462	5.00	5.29	5.37	5.22	4.25 to 5.75	106	70.0 to 130	1.50	20.0
BB19051	Lead, Total	mg/L	0.0000094	0.000147	0.100	0.101	0.104	0.102	0.0850 to 0.115	101	70.0 to 130	2.93	20.0
BB19051	Calcium, Total	mg/L	0.00139	0.152	5.00	5.23	5.27	5.13	4.25 to 5.75	105	70.0 to 130	0.762	20.0
BB19051	Thallium, Total	mg/L	0.0000015	0.000147	0.100	0.0942	0.0970	0.0945	0.0850 to 0.115	94.2	70.0 to 130	2.93	20.0
BB19051	Iron, Total	mg/L	0.000116	0.0176	0.2	0.206	0.208	0.205	0.170 to 0.230	103	70.0 to 130	0.966	20.0
BB19051	Cobalt, Total	mg/L	0.0000059	0.000147	0.100	0.0993	0.101	0.104	0.0850 to 0.115	99.3	70.0 to 130	1.70	20.0

**Comments:**

## Batch QC Summary

**Customer Account:** WMWGORGEB

**Sample Date:** 10/13/21 11:50

**Customer ID:**

**Delivery Date:** 10/13/21 15:25

**Description:** Gorgas Gypsum Equipment Blank-1

**Laboratory ID Number:** BB19051

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Limit	Prec	Limit
BB19050	Solids, Dissolved	mg/L	0.0000	25.0			902	49.0	40.0 to 60.0			0.445	10.0
BB19051	Fluoride	mg/L	-0.0151	0.100	2.50	2.47	0.0121	2.57	2.25 to 2.75	98.8	80.0 to 120	0.00	20.0
BB19051	Chloride	mg/L	0.0129	1.00	10.0	9.89	0.049	9.96	9.00 to 11.0	98.9	80.0 to 120	0.00	20.0
BB19051	Sulfate	mg/L	0.201	1.00	20.0	19.3	0.222	18.1	18.0 to 22.0	96.5	80.0 to 120	0.00	20.0

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**Comments:**

# Definitions

**Project Number:** WMWGORG\_1342

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.
U	Compound was analyzed, but not detected.





## Semi-Quantitative X-Ray Diffraction

**Report Prepared for:** SGS Canada Inc  
**Project Number/ LIMS No.** Custom XRD/MI4505-FEB22  
**Sample Receipt:** February 7, 2022  
**Sample Analysis:** February 8, 2022  
**Reporting Date:** March 23, 2022

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**Instrument:** BRUKER AXS D8 Advance Diffractometer  
**Test Conditions:** Co radiation, 35 kV, 40 mA; Detector: LYNXEYE  
Regular Scanning: Step: 0.02°, Step time:0.2s, 2θ range: 6-70°  
**Interpretations :** PDF2/PDF4 powder diffraction databases issued by the International Center for Diffraction Data (ICDD). DiffracPlus Eva software.  
**Detection Limit :** 0.5-2%. Strongly dependent on crystallinity.

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**Contents:**

- 1) Method Summary
- 2) Summary of Mineral Assemblages
- 3) Semi-Quantitative XRD Results
- 4) Chemical Balance(s)
- 5) XRD Pattern(s)

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Kim Gibbs, H.B.Sc., P.Geo.  
Senior Mineralogist

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Huyun Zhou, Ph.D., P.Geo.  
Senior Mineralogist

**ACCREDITATION:** SGS Natural Resources Lakefield is accredited to the requirements of ISO/IEC 17025 for specific tests as listed on our scope of accreditation, including geochemical, mineralogical and trade mineral tests. To view a list of the accredited methods, please visit the following website and search SGS Canada Inc. - Minerals: <https://www.scc.ca/en/search/palcan>.



## Method Summary

The Semi-Quantitative Mineral Identification by XRD (ME-LR-MIN-MET-MN-D03) method used by SGS Natural Resources is accredited to the requirements of ISO/IEC 17025.

### ***Mineral Identification and Interpretation:***

Mineral identification and interpretation involve matching the diffraction pattern of a test sample material to patterns of single-phase reference materials. The reference patterns are compiled by the Joint Committee on Powder Diffraction Standards - International Center for Diffraction Data (JCPDS-ICDD) and released on software as a database of Powder Diffraction Files (PDF).

Interpretations do not reflect the presence of non-crystalline and/or amorphous compounds. Mineral proportions are based on relative peak heights and may be strongly influenced by crystallinity, structural group or preferred orientations. Interpretations and relative proportions should be accompanied by supporting petrographic and geochemical data (Whole Rock Analysis, Inductively Coupled Plasma - Optical Emission Spectroscopy, etc.).

### ***Semi-Quantitative Analysis:***

The Semi-Quantitative analysis (RIR method) is performed based on each mineral's relative peak heights and of their respective  $I/I_{cor}$  values, which are available from the PDF database. Mineral abundances for the bulk sample (in weight %) are generated by Bruker-EVA Software. These data are reconciled with a bulk chemistry (e.g. whole rock analysis including  $SiO_2$ ,  $Al_2O_3$ ,  $Na_2O$ ,  $K_2O$ ,  $CaO$ ,  $MgO$ ,  $Fe_2O_3$ ,  $Cr_2O_3$ ,  $MnO$ ,  $TiO_2$ ,  $P_2O_5$ ,  $V_2O_5$  or other chemical data). A chemical balance table shows the difference between the assay results and elemental concentrations determined by XRD.

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**WARNING:** The sample(s) to which the findings recorded herein (the "Findings") relate was(were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.

### Semi-Quantitative X-ray Diffraction Results

Mineral	MW-3V-170-180 (wt %)	MW-3V-180-190 (wt %)	MW-4V-130-140 (wt %)	MW-4V-140-150 (wt %)	MW-8V-81-84 (wt %)	MW-8V-94-97 (wt %)	MW-8V-155-160 (wt %)	MW-8V-160-165 (wt %)	MW-9H-40-50 (wt %)	MW-9H-50-60 (wt %)	MW-12H-60-64 (wt %)	MW-12V-120-130 (wt %)
Quartz	36.3	56.0	42.2	39.1	24.5	43.0	33.8	42.8	54.2	57.8	43.6	40.2
Muscovite	22.9	8.9	11.9	12.8	15.2	8.4	22.0	16.6	8.9	5.3	15.7	15.8
Kaolinite	6.5	8.9	5.8	6.2	23.0	11.3	5.8	4.4	5.6	4.7	10.6	8.0
Chamosite	9.3	-	10.9	11.7	-	-	11.4	8.6	9.0	7.5	7.5	9.0
Microcline	3.7	4.7	10.3	11.0	6.9	10.2	10.4	7.7	7.8	5.8	6.5	7.9
Albite	9.9	9.6	9.5	10.9	3.1	6.3	10.0	14.0	9.7	15.1	10.2	12.3
Jarosite	-	-	-	-	14.2	7.0	-	-	2.6	-	-	-
Pyrite	-	6.5	2.6	1.2	3.6	2.6	1.3	1.0	1.3	-	-	-
Clinochlore	-	0.5	-	-	5.0	6.2	-	-	-	-	-	-
Biotite	4.2	-	1.7	1.9	-	-	1.7	1.3	-	-	-	-
Gypsum	-	1.2	1.2	1.3	2.8	4.2	-	-	-	-	0.6	-
Siderite	3.6	1.8	1.0	1.1	-	-	1.0	0.7	-	-	1.6	1.9
Rutile	0.9	1.1	1.0	1.1	1.6	0.8	1.0	0.7	0.9	0.8	0.8	0.9
Fluorapatite	2.6	-	-	1.7	-	-	-	-	-	-	1.9	2.3
Actinolite	-	-	-	-	-	-	1.5	1.2	-	-	-	-
Calcite	-	-	1.1	-	-	-	-	0.8	-	3.0	-	1.7
Lizardite	-	0.9	-	-	-	-	-	-	-	-	1.1	-
Calcite magnesian	-	-	0.8	-	-	-	-	-	-	-	-	-
TOTAL	100	100	100	100	100	100	100	100	100	100	100	100

### Mineral List

Mineral	Composition
Quartz	SiO <sub>2</sub>
Muscovite	KAl <sub>2</sub> (AlSi <sub>3</sub> O <sub>10</sub> )(OH) <sub>2</sub>
Kaolinite	Al <sub>2</sub> Si <sub>2</sub> O <sub>5</sub> (OH) <sub>4</sub>
Chamosite	Fe <sub>3</sub> Mg <sub>1.5</sub> AlFe <sub>0.5</sub> Si <sub>3</sub> AlO <sub>12</sub> (OH) <sub>6</sub>
Microcline	KAlSi <sub>3</sub> O <sub>8</sub>
Albite	NaAlSi <sub>3</sub> O <sub>8</sub>
Jarosite	KFe <sub>3</sub> (SO <sub>4</sub> ) <sub>2</sub> (OH) <sub>6</sub>
Pyrite	FeS <sub>2</sub>
Clinocllore	(Fe,Mg) <sub>5</sub> Al(Si <sub>3</sub> Al)O <sub>10</sub> (OH) <sub>8</sub>
Biotite	K(Mg,Fe) <sub>3</sub> (AlSi <sub>3</sub> O <sub>10</sub> )(OH) <sub>2</sub>
Gypsum	CaSO <sub>4</sub> ·2H <sub>2</sub> O
Siderite	FeCO <sub>3</sub>
Rutile	TiO <sub>2</sub>
Fluorapatite	Ca <sub>5</sub> (PO <sub>4</sub> ) <sub>3</sub> F
Actinolite	Ca <sub>2</sub> (Mg,Fe) <sub>5</sub> Si <sub>8</sub> O <sub>22</sub> (OH) <sub>2</sub>
Calcite	CaCO <sub>3</sub>
Lizardite	Mg <sub>3</sub> Si <sub>2</sub> O <sub>5</sub> (OH) <sub>4</sub>
Calcite magnesian	(Ca,Mg)CO <sub>3</sub>



## Chemical Balance

### MW-3V-170-180

Name	Assay <sup>1</sup>	SQD <sup>2</sup>	Delta	Status
Oxygen	-	49.3	-	SQD
Silicon	25.6	29.8	-4.12	Both
Aluminum	9.92	8.16	1.76	Both
Iron	5.91	4.28	1.63	Both
Potassium	3.30	3.11	0.19	Both
Magnesium	1.36	1.56	-0.20	Both
Sodium	0.65	0.91	-0.26	Both
Calcium	0.55	0.88	-0.33	Both
Titanium	0.53	0.52	0.00	Both
Manganese	0.09	-	-	XRF
Phosphorus	0.08	0.43	0.36	Both
Vanadium	0.02	-	-	XRF
Hydrogen	-	0.35	-	SQD
Carbon	-	0.38	-	SQD
Fluorine	-	0.09	-	SQD
Lanthanum	-	0.22	-	SQD

1. Values measured by chemical assay. Reported in weight percent.

2. Values calculated based on mineral/compound formulas and quantites identified by semi-quantitative XRD.

### MW-3V-180-190

Name	Assay <sup>1</sup>	SQD <sup>2</sup>	Delta	Status
Oxygen	-	48.5	-	SQD
Silicon	32.6	34.7	-2.15	Both
Aluminum	7.10	5.15	1.95	Both
Iron	3.74	3.93	-0.18	Both
Potassium	1.56	1.50	0.06	Both
Sodium	0.57	0.86	-0.29	Both
Titanium	0.44	0.64	-0.20	Both
Magnesium	0.31	0.34	-0.03	Both
Calcium	0.09	0.29	-0.19	Both
Lithium	0.03	-	-	XRF
Manganese	0.01	0.00	0.01	Both
Vanadium	0.01	-	-	XRF
Hydrogen	-	0.23	-	SQD
Carbon	-	0.19	-	SQD
Sulfur	-	3.69	-	SQD

1. Values measured by chemical assay. Reported in weight percent.

2. Values calculated based on mineral/compound formulas and quantites identified by semi-quantitative XRD.

## Chemical Balance

### MW-4V-130-140

Name	Assay <sup>1</sup>	SQD <sup>2</sup>	Delta	Status
Oxygen	-	48.8	-	SQD
Silicon	28.0	31.3	-3.34	Both
Aluminum	8.62	6.86	1.75	Both
Iron	4.64	4.26	0.38	Both
Potassium	2.86	2.69	0.17	Both
Calcium	1.15	1.02	0.14	Both
Magnesium	1.10	1.24	-0.14	Both
Sodium	0.73	0.88	-0.14	Both
Titanium	0.52	0.62	-0.11	Both
Phosphorus	0.08	-	-	XRF
Manganese	0.06	-	-	XRF
Vanadium	0.01	-	-	XRF
Hydrogen	-	0.32	-	SQD
Carbon	-	0.33	-	SQD
Sulfur	-	1.63	-	SQD

1. Values measured by chemical assay. Reported in weight percent.

2. Values calculated based on mineral/compound formulas and quantites identified by semi-quantitative XRD.

### MW-4V-140-150

Name	Assay <sup>1</sup>	SQD <sup>2</sup>	Delta	Status
Oxygen	-	49.1	-	SQD
Silicon	28.4	31.0	-2.64	Both
Aluminum	8.78	7.45	1.33	Both
Iron	5.03	3.82	1.21	Both
Potassium	2.86	2.90	-0.03	Both
Magnesium	1.17	1.31	-0.15	Both
Sodium	0.76	1.01	-0.26	Both
Titanium	0.54	0.67	-0.13	Both
Calcium	0.46	0.86	-0.40	Both
Manganese	0.07	-	-	XRF
Phosphorus	0.07	0.28	0.21	Both
Vanadium	0.02	-	-	XRF
Hydrogen	-	0.35	-	SQD
Carbon	-	0.11	-	SQD
Fluorine	-	0.06	-	SQD
Sulfur	-	0.88	-	SQD
Lanthanum	-	0.14	-	SQD

1. Values measured by chemical assay. Reported in weight percent.

2. Values calculated based on mineral/compound formulas and quantites identified by semi-quantitative XRD.

## Chemical Balance

### MW-8V-81-84

Name	Assay <sup>1</sup>	SQD <sup>2</sup>	Delta	Status
Oxygen	-	49.4	-	SQD
Silicon	14.3	23.5	-9.19	Both
Aluminum	9.63	9.30	0.33	Both
Iron	2.57	6.68	-4.11	Both
Potassium	2.04	2.99	-0.94	Both
Magnesium	0.55	1.06	-0.52	Both
Titanium	0.44	0.98	-0.54	Both
Calcium	0.22	0.66	-0.44	Both
Sodium	0.15	0.30	-0.16	Both
Lithium	0.04	-	-	XRF
Phosphorus	0.04	-	-	XRF
Vanadium	0.02	-	-	XRF
Hydrogen	-	0.79	-	SQD
Sulfur	-	4.29	-	SQD

1. Values measured by chemical assay. Reported in weight percent.

2. Values calculated based on mineral/compound formulas and quantites identified by semi-quantitative XRD.

### MW-8V-94-97

Name	Assay <sup>1</sup>	SQD <sup>2</sup>	Delta	Status
Oxygen	-	50.1	-	SQD
Silicon	12.0	30.4	-18.3	Both
Aluminum	6.61	6.22	0.38	Both
Iron	2.52	3.82	-1.30	Both
Potassium	1.30	2.47	-1.18	Both
Titanium	0.38	0.48	-0.11	Both
Magnesium	0.37	1.31	-0.95	Both
Calcium	0.29	0.97	-0.68	Both
Sodium	0.19	0.59	-0.41	Both
Phosphorus	0.06	-	-	XRF
Lithium	0.02	-	-	XRF
Manganese	0.01	-	-	XRF
Vanadium	0.01	-	-	XRF
Hydrogen	-	0.51	-	SQD
Sulfur	-	3.09	-	SQD

1. Values measured by chemical assay. Reported in weight percent.

2. Values calculated based on mineral/compound formulas and quantites identified by semi-quantitative XRD.

## Chemical Balance

### MW-8V-155-160

Name	Assay <sup>1</sup>	SQD <sup>2</sup>	Delta	Status
Oxygen	-	48.8	-	SQD
Silicon	26.8	30.2	-3.39	Both
Aluminum	10.1	9.05	1.08	Both
Iron	5.25	4.07	1.18	Both
Potassium	3.71	3.70	0.01	Both
Magnesium	1.31	1.35	-0.04	Both
Sodium	0.88	0.92	-0.04	Both
Titanium	0.55	0.58	-0.03	Both
Calcium	0.40	0.12	0.28	Both
Phosphorus	0.09	-	-	XRF
Manganese	0.06	0.02	0.04	Both
Vanadium	0.02	-	-	XRF
Hydrogen	-	0.36	-	SQD
Carbon	-	0.10	-	SQD
Sulfur	-	0.72	-	SQD

1. Values measured by chemical assay. Reported in weight percent.

2. Values calculated based on mineral/compound formulas and quantites identified by semi-quantitative XRD.

### MW-8V-160-165

Name	Assay <sup>1</sup>	SQD <sup>2</sup>	Delta	Status
Oxygen	-	49.6	-	SQD
Silicon	30.9	32.9	-2.00	Both
Aluminum	7.73	7.49	0.24	Both
Iron	4.04	3.08	0.96	Both
Potassium	2.56	2.83	-0.27	Both
Sodium	1.16	1.23	-0.06	Both
Magnesium	1.01	1.02	-0.02	Both
Calcium	0.64	0.42	0.22	Both
Titanium	0.57	0.44	0.13	Both
Phosphorus	0.08	-	-	XRF
Manganese	0.04	0.01	0.03	Both
Vanadium	0.01	-	-	XRF
Hydrogen	-	0.27	-	SQD
Carbon	-	0.18	-	SQD
Sulfur	-	0.54	-	SQD

1. Values measured by chemical assay. Reported in weight percent.

2. Values calculated based on mineral/compound formulas and quantites identified by semi-quantitative XRD.

## Chemical Balance

### MW-9H-40-50

Name	Assay <sup>1</sup>	SQD <sup>2</sup>	Delta	Status
Oxygen	-	50.2	-	SQD
Silicon	31.1	35.0	-3.99	Both
Aluminum	7.65	5.68	1.97	Both
Iron	3.69	3.40	0.29	Both
Potassium	1.86	2.17	-0.31	Both
Magnesium	0.81	0.86	-0.05	Both
Sodium	0.68	0.85	-0.17	Both
Titanium	0.56	0.56	0.00	Both
Calcium	0.11	-	-	XRF
Phosphorus	0.03	-	-	XRF
Manganese	0.01	-	-	XRF
Vanadium	0.01	-	-	XRF
Hydrogen	-	0.28	-	SQD
Sulfur	-	1.02	-	SQD

1. Values measured by chemical assay. Reported in weight percent.

2. Values calculated based on mineral/compound formulas and quantites identified by semi-quantitative XRD.

### MW-9H-50-60

Name	Assay <sup>1</sup>	SQD <sup>2</sup>	Delta	Status
Oxygen	-	51.1	-	SQD
Silicon	36.4	36.7	-0.32	Both
Aluminum	4.59	4.97	-0.38	Both
Iron	2.55	1.62	0.93	Both
Calcium	1.15	1.19	-0.04	Both
Potassium	1.05	1.34	-0.29	Both
Sodium	1.00	1.32	-0.32	Both
Magnesium	0.58	0.72	-0.14	Both
Titanium	0.44	0.47	-0.03	Both
Phosphorus	0.05	-	-	XRF
Manganese	0.04	-	-	XRF
Hydrogen	-	0.20	-	SQD
Carbon	-	0.36	-	SQD

1. Values measured by chemical assay. Reported in weight percent.

2. Values calculated based on mineral/compound formulas and quantites identified by semi-quantitative XRD.

## Chemical Balance

### MW-12H-60-64

Name	Assay <sup>1</sup>	SQD <sup>2</sup>	Delta	Status
Oxygen	-	50.5	-	SQD
Silicon	29.5	32.4	-2.91	Both
Aluminum	8.17	7.88	0.29	Both
Iron	5.22	2.39	2.84	Both
Potassium	2.41	2.46	-0.06	Both
Magnesium	0.99	1.00	-0.01	Both
Sodium	0.88	0.90	-0.03	Both
Titanium	0.53	0.47	0.06	Both
Calcium	0.30	0.79	-0.49	Both
Manganese	0.09	-	-	XRF
Phosphorus	0.07	0.32	0.25	Both
Vanadium	0.01	-	-	XRF
Hydrogen	-	0.37	-	SQD
Carbon	-	0.17	-	SQD
Fluorine	-	0.07	-	SQD
Sulfur	-	0.10	-	SQD
Dysprosium	-	0.15	-	SQD

1. Values measured by chemical assay. Reported in weight percent.

2. Values calculated based on mineral/compound formulas and quantites identified by semi-quantitative XRD.

### MW-12V-120-130

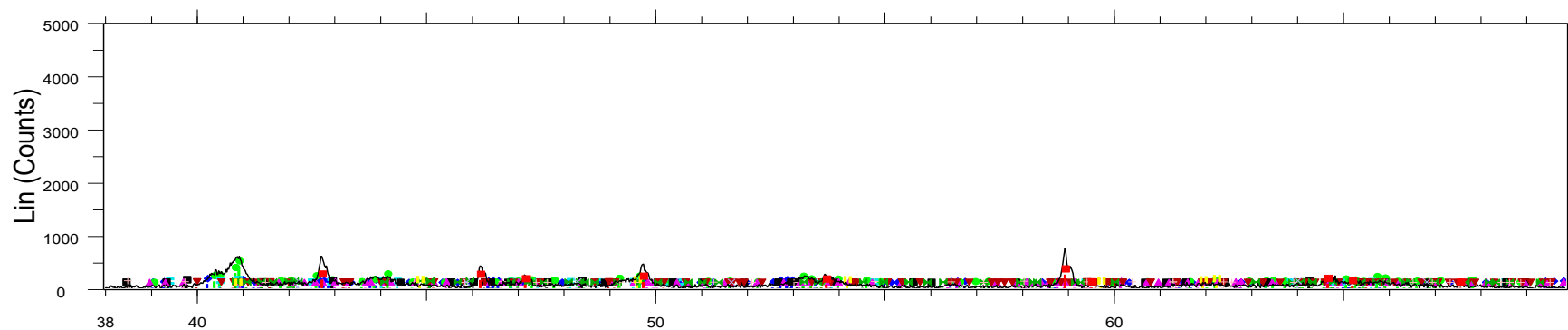
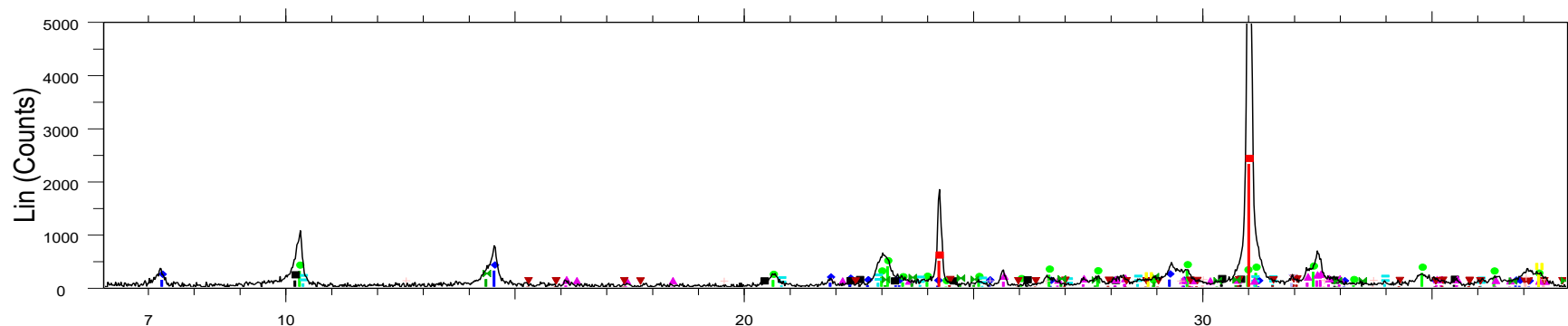
Name	Assay <sup>1</sup>	SQD <sup>2</sup>	Delta	Status
Oxygen	-	49.9	-	SQD
Silicon	29.5	31.3	-1.85	Both
Aluminum	7.82	7.86	-0.04	Both
Iron	4.63	2.88	1.75	Both
Potassium	2.45	2.66	-0.21	Both
Calcium	1.16	1.47	-0.31	Both
Magnesium	1.00	0.86	0.14	Both
Sodium	0.91	1.09	-0.19	Both
Titanium	0.52	0.56	-0.05	Both
Phosphorus	0.07	0.39	-0.31	Both
Manganese	0.06	-	-	XRF
Vanadium	0.02	-	-	XRF
Hydrogen	-	0.32	-	SQD
Carbon	-	0.40	-	SQD
Fluorine	-	0.08	-	SQD
Dysprosium	-	0.18	-	SQD

1. Values measured by chemical assay. Reported in weight percent.

2. Values calculated based on mineral/compound formulas and quantites identified by semi-quantitative XRD.



# MW-3V-170-180

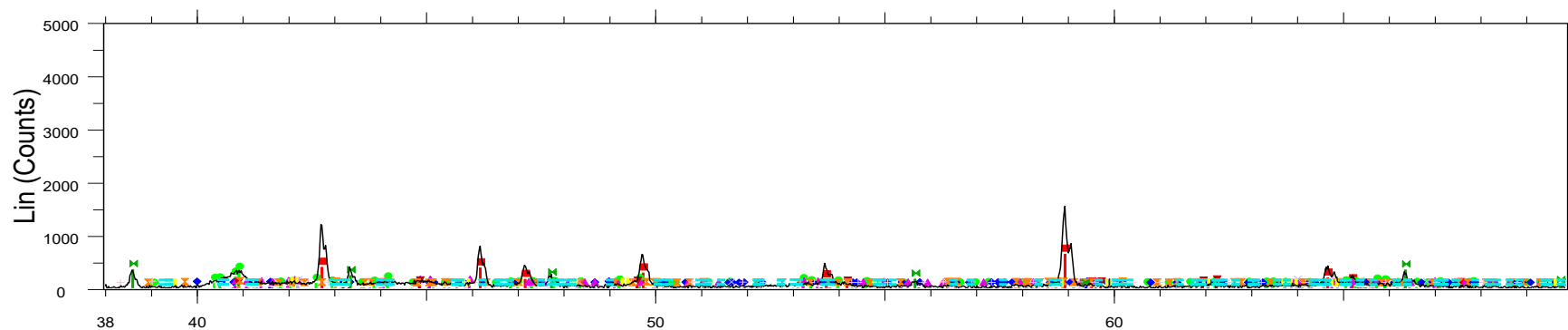
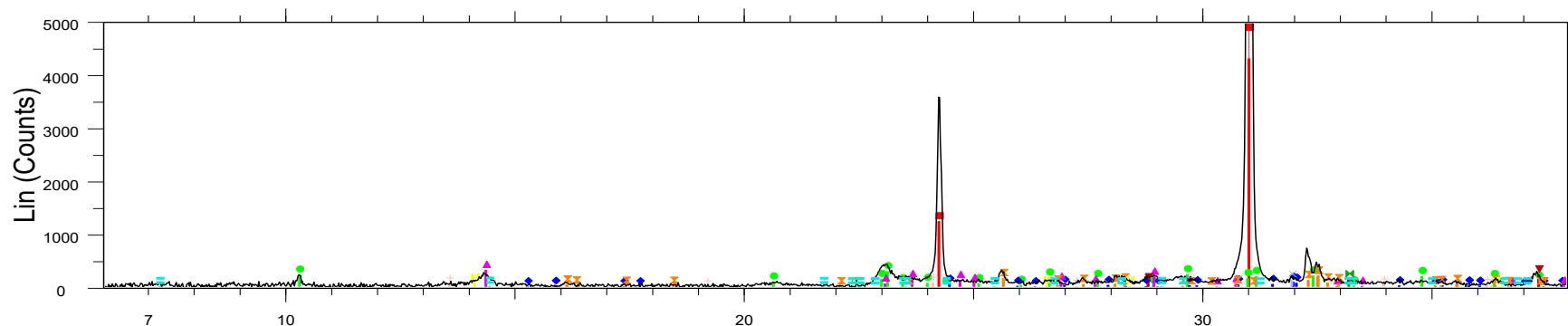


## 2-Theta - Scale

- ▮ MW-3V-170-180 - File: FEB4505-1.raw
- ▮ 01-079-1910 (C) - Quartz - SiO<sub>2</sub>
- ▮ 01-085-2163 (C) - Chamosite - (Mg<sub>5.036</sub>Fe<sub>4.964</sub>)Al<sub>2.724</sub>(Si<sub>5.70</sub>Al<sub>2.300</sub>O<sub>20</sub>)(OH)<sub>16</sub>
- ▮ 01-084-1302 (C) - Muscovite - KAl<sub>3</sub>Si<sub>3</sub>O<sub>10</sub>(OH)<sub>2</sub>
- ▮ 00-021-0993 (I) - Muscovite-1M, magnesian - KMgAlSi<sub>4</sub>O<sub>10</sub>(OH)<sub>2</sub>
- ▮ 01-080-1108 (C) - Biotite - KFeMg<sub>2</sub>(AlSi<sub>3</sub>O<sub>10</sub>)(OH)<sub>2</sub>
- ▮ 01-084-0752 (C) - Albite low - Na(AlSi<sub>3</sub>O<sub>8</sub>)
- ▮ 01-084-1455 (C) - Microcline Pellotsalo - K-rich phase - (K<sub>0.95</sub>Na<sub>0.05</sub>)AlSi<sub>3</sub>O<sub>8</sub>
- ▮ 01-080-0885 (C) - Kaolinite - Al<sub>2</sub>(Si<sub>2</sub>O<sub>5</sub>)(OH)<sub>4</sub>
- ▮ 01-083-1009 (C) - Fluorapatite, syn - (Ca<sub>3.552</sub>Na<sub>0.356</sub>La<sub>0.092</sub>)(Ca<sub>5.442</sub>La<sub>0.558</sub>)(P<sub>5.71</sub>
- ▮ 01-083-1764 (C) - Siderite - Fe(CO<sub>3</sub>)
- ▮ 01-087-0920 (C) - Rutile, syn - TiO<sub>2</sub>



# MW-3V-180-190



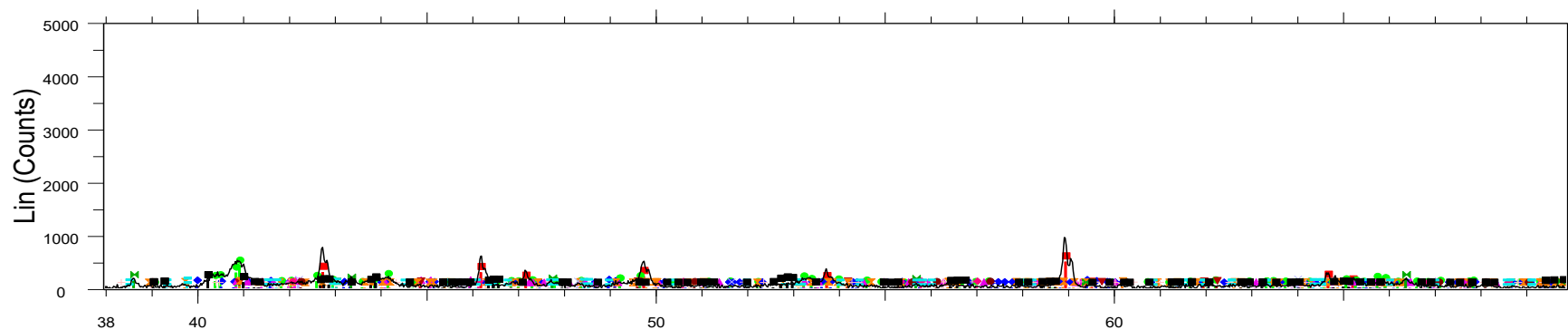
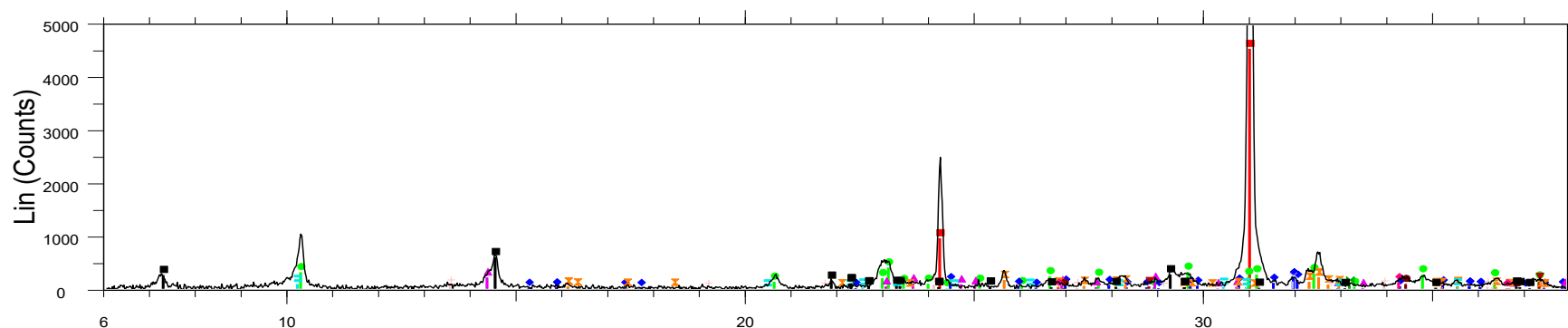
## 2-Theta - Scale

- ☒ MW-3V-180-190 - File: FEB4505-2.raw
- ☒ 01-079-1910 (C) - Quartz - SiO<sub>2</sub>
- ☒ 01-084-1302 (C) - Muscovite - KAl<sub>3</sub>Si<sub>3</sub>O<sub>10</sub>(OH)<sub>2</sub>
- ☒ 01-084-1455 (C) - Microcline Pellotsalo - K-rich phase - (K<sub>0.95</sub>Na<sub>0.05</sub>)AlSi<sub>3</sub>O<sub>8</sub>
- ☒ 01-080-0885 (C) - Kaolinite - Al<sub>2</sub>(Si<sub>2</sub>O<sub>5</sub>)(OH)<sub>4</sub>
- ☒ 01-083-1764 (C) - Siderite - Fe(CO<sub>3</sub>)
- ☒ 01-075-1142 (C) - Albite high - Na(AlSi<sub>3</sub>O<sub>8</sub>)
- ☒ 01-071-2219 (C) - Pvrite - FeS<sub>2</sub>
- ☒ 01-087-0920 (C) - Rutile, syn - TiO<sub>2</sub>
- ☒ 01-080-1119 (C) - Clinocllore - Mg<sub>4</sub>.54Al<sub>0.97</sub>Fe<sub>0.46</sub>Mn<sub>0.03</sub>(Si<sub>2.85</sub>Al<sub>1.15</sub>O<sub>10</sub>)(OH)<sub>8</sub>
- ☒ 01-086-0403 (C) - Lizardite - Mg<sub>3</sub>(Si<sub>2</sub>O<sub>5</sub>(OH)<sub>4</sub>)
- ☒ 01-074-1904 (C) - Gypsum - Ca(SO<sub>4</sub>)(H<sub>2</sub>O)<sub>2</sub>





# MW-4V-130-140

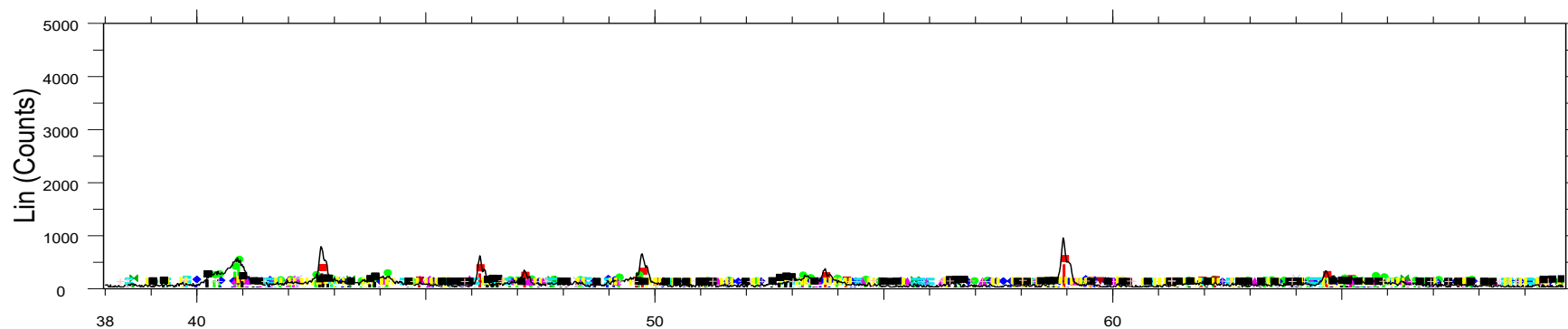
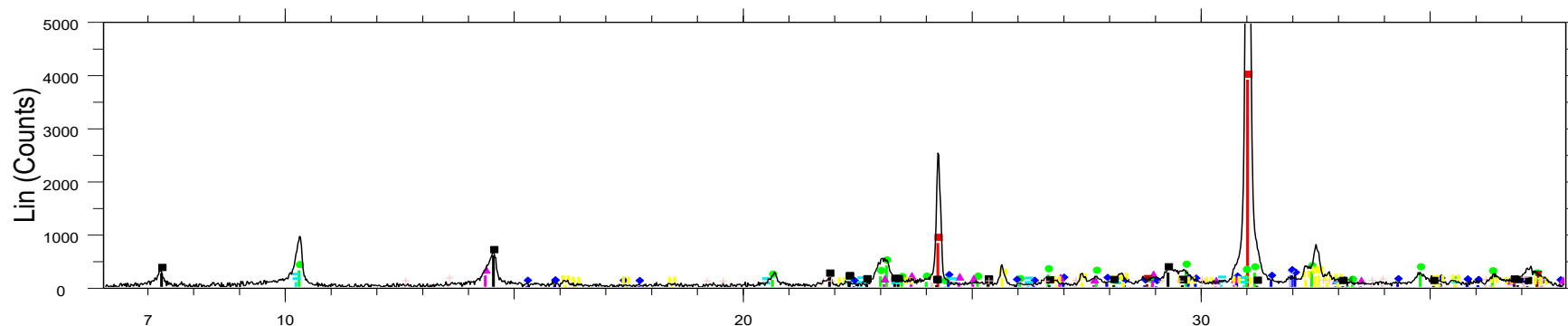


## 2-Theta - Scale

- |  |  |
|--|--|
| MW-4V-130-140 - File: FEB4505-3.raw  | 01-087-0920 (C) - Rutile, syn - TiO <sub>2</sub>   |
| 01-079-1910 (C) - Quartz - SiO <sub>2</sub>  | 01-074-1904 (C) - Gypsum - Ca(SO <sub>4</sub> )(H <sub>2</sub> O) <sub>2</sub>   |
| 01-084-1302 (C) - Muscovite - KAl <sub>3</sub> Si <sub>3</sub> O <sub>10</sub> (OH) <sub>2</sub>                                 | 01-086-2335 (C) - Calcite magnesian - (Mg <sub>0.64</sub> Ca <sub>0.936</sub> )(CO <sub>3</sub> )  |
| 01-084-1455 (C) - Microcline Pellotsalo - K-rich phase - (K <sub>0.95</sub> Na <sub>0.05</sub> )AlSi <sub>3</sub> O <sub>8</sub> | 01-086-2334 (C) - Calcite - Ca(CO <sub>3</sub> )   |
| 01-080-0885 (C) - Kaolinite - Al <sub>2</sub> (Si <sub>2</sub> O <sub>5</sub> )(OH) <sub>4</sub>                                 | 01-080-1109 (C) - Biotite - KFeMg <sub>2</sub> (AlSi <sub>3</sub> O <sub>10</sub> )(OH) <sub>2</sub>   |
| 01-083-1764 (C) - Siderite - Fe(CO <sub>3</sub> )  | 01-085-2163 (C) - Chamosite - (Mg <sub>5.036</sub> Fe <sub>4.964</sub> )Al <sub>2</sub> .724(Si <sub>5.70</sub> Al <sub>2.30</sub> O <sub>20</sub> )(OH) <sub>16</sub> |
| 01-075-1142 (C) - Albite high - Na(AlSi <sub>3</sub> O <sub>8</sub> )  |  |
| 01-071-2219 (C) - Pvrite - FeS <sub>2</sub>  |  |



# MW-4V-140-150

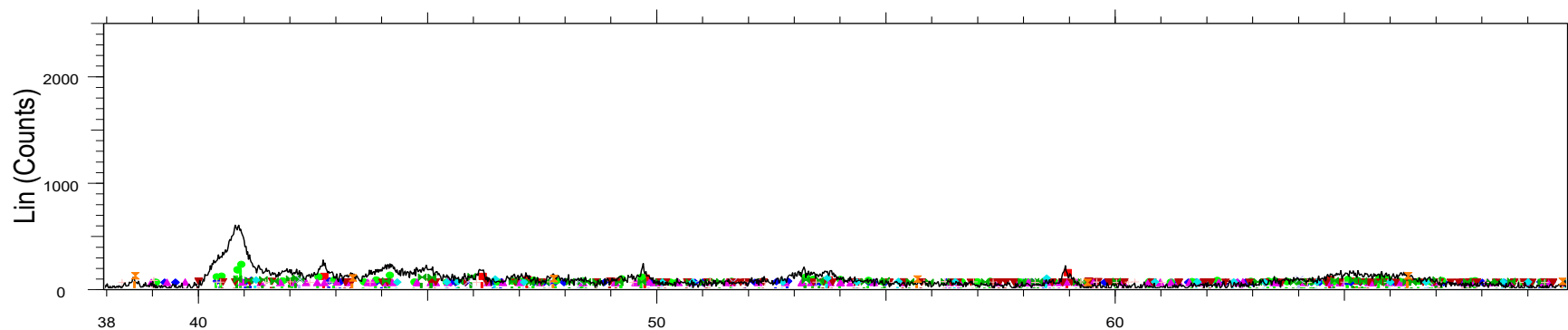
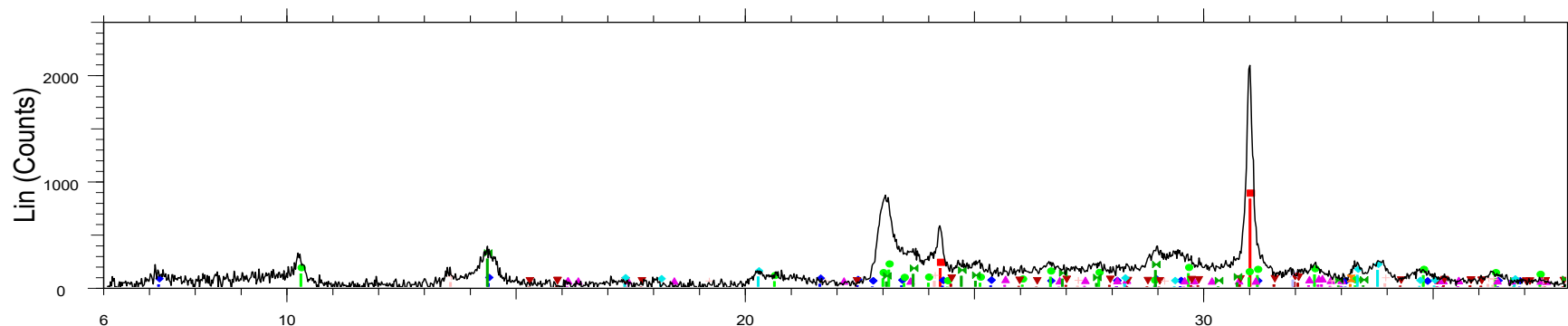


## 2-Theta - Scale

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>▮ MW-4V-140-150 - File: FEB4505-4.raw</li> <li>▮ 01-079-1910 (C) - Quartz - SiO<sub>2</sub></li> <li>▮ 01-084-1302 (C) - Muscovite - KAl<sub>3</sub>Si<sub>3</sub>O<sub>10</sub>(OH)<sub>2</sub></li> <li>▮ 01-084-1455 (C) - Microcline Pellotsalo - K-rich phase - (K<sub>0.95</sub>Na<sub>0.05</sub>)AlSi<sub>3</sub>O<sub>8</sub></li> <li>▮ 01-080-0885 (C) - Kaolinite - Al<sub>2</sub>(Si<sub>2</sub>O<sub>5</sub>)(OH)<sub>4</sub></li> <li>▮ 01-083-1764 (C) - Siderite - Fe(CO<sub>3</sub>)</li> <li>▮ 01-071-2219 (C) - Pyrite - FeS<sub>2</sub></li> <li>▮ 01-087-0920 (C) - Rutile. svn - TiO<sub>2</sub></li> </ul> | <ul style="list-style-type: none"> <li>▮ 01-074-1904 (C) - Gypsum - Ca(SO<sub>4</sub>)(H<sub>2</sub>O)<sub>2</sub></li> <li>▮ 01-080-1109 (C) - Biotite - KFeMg<sub>2</sub>(AlSi<sub>3</sub>O<sub>10</sub>)(OH)<sub>2</sub></li> <li>▮ 01-084-0752 (C) - Albite low - Na(AlSi<sub>3</sub>O<sub>8</sub>)</li> <li>▮ 01-085-2163 (C) - Chamosite - (Mg<sub>5.036</sub>Fe<sub>4.964</sub>)Al<sub>2</sub>.724(Si<sub>5.70</sub>Al<sub>2.30</sub>O<sub>20</sub>)(OH)<sub>16</sub></li> <li>▮ 01-083-1009 (C) - Fluorapatite, syn - (Ca<sub>3.552</sub>Na<sub>0.356</sub>La<sub>0.092</sub>)(Ca<sub>5.442</sub>La<sub>0.558</sub>)(P<sub>5.71</sub>)</li> </ul> |
|--|---|



# MW-8V-81-84

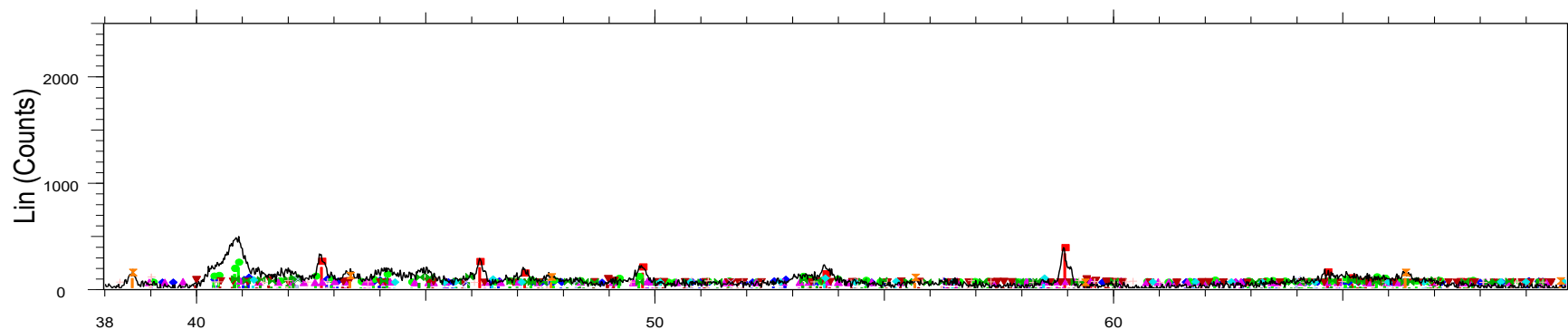
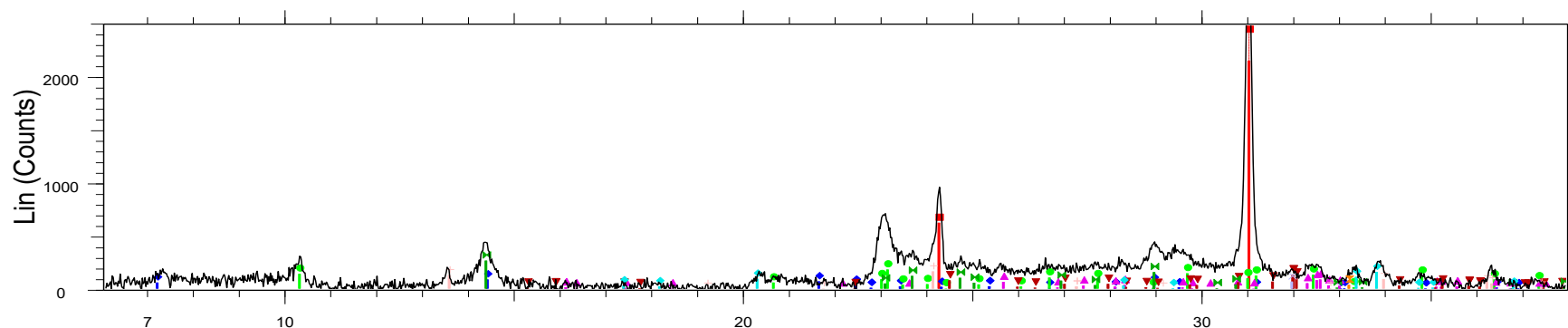


## 2-Theta - Scale

- ▮ MW-8V-81-84 - File: FEB4505-5.raw
- ▮ 01-079-1910 (C) - Quartz - SiO<sub>2</sub>
- ▮ 01-082-0038 (C) - Clinocllore IIb-4 (Cr-, Mg-rich) - (Mg<sub>0.99</sub>Al<sub>0.01</sub>)<sub>5</sub>(Al<sub>0.67</sub>Fe<sub>0.33</sub>)(Si<sub>3</sub>O<sub>8</sub>)
- ▮ 01-084-1302 (C) - Muscovite - KAl<sub>3</sub>Si<sub>3</sub>O<sub>10</sub>(OH)<sub>2</sub>
- ▮ 01-084-0752 (C) - Albite low - Na(AlSi<sub>3</sub>O<sub>8</sub>)
- ▮ 01-084-1455 (C) - Microcline Pellotsalo - K-rich phase - (K<sub>0.95</sub>Na<sub>0.05</sub>)AlSi<sub>3</sub>O<sub>8</sub>
- ▮ 01-080-0885 (C) - Kaolinite - Al<sub>2</sub>(Si<sub>2</sub>O<sub>5</sub>)(OH)<sub>4</sub>
- ▮ 01-087-0920 (C) - Rutile. svn - TiO<sub>2</sub>
- ▮ 01-071-2219 (C) - Pyrite - FeS<sub>2</sub>
- ▮ 01-074-1904 (C) - Gypsum - Ca(SO<sub>4</sub>)(H<sub>2</sub>O)<sub>2</sub>
- ▮ 00-036-0427 (\*) - Jarosite, hydronian syn - (K<sub>3</sub>H<sub>3</sub>O)Fe<sub>3</sub>(SO<sub>4</sub>)<sub>2</sub>(OH)<sub>6</sub>



# MW-8V-94-97

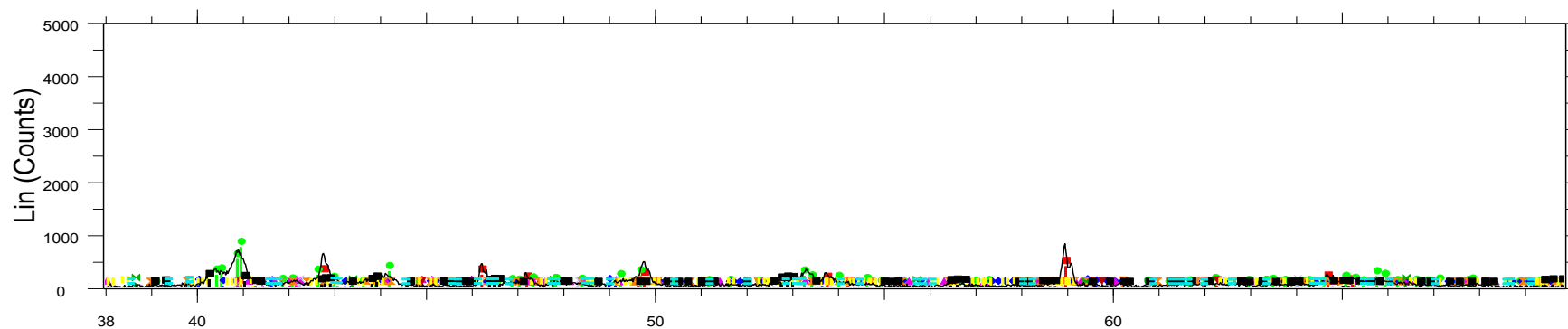
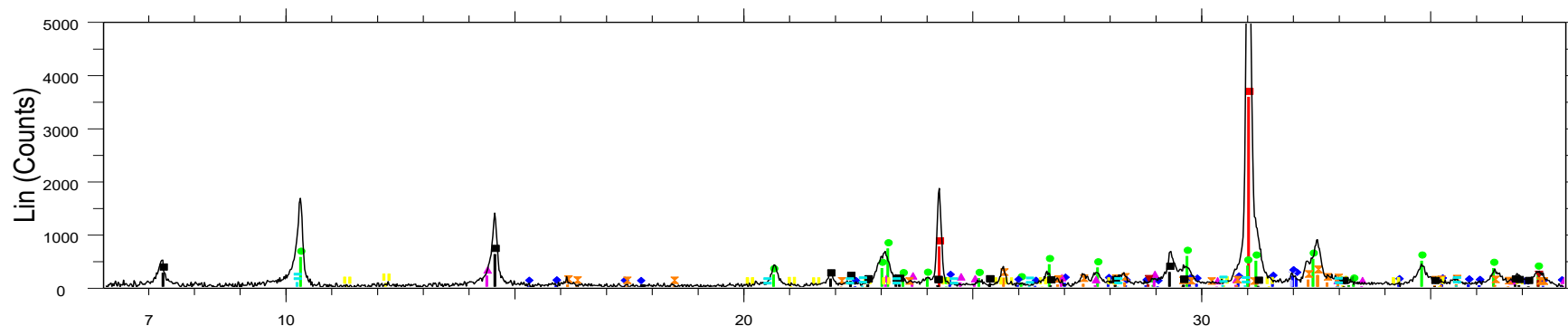


## 2-Theta - Scale

- ☒ MW-8V-94-97 - File: FEB4505-6.raw
- ☒ 01-079-1910 (C) - Quartz - SiO<sub>2</sub>
- ☒ 01-082-0038 (C) - Clinocllore 11b-4 (Cr-, Mg-rich) - (Mg<sub>0.99</sub>Al<sub>0.01</sub>)<sub>5</sub>(Al<sub>0.67</sub>Fe<sub>0.33</sub>)(Si<sub>3.02</sub>)
- ☒ 01-084-1302 (C) - Muscovite - KAl<sub>3</sub>Si<sub>3</sub>O<sub>10</sub>(OH)<sub>2</sub>
- ☒ 01-084-0752 (C) - Albite low - Na(AlSi<sub>3</sub>O<sub>8</sub>)
- ☒ 01-084-1455 (C) - Microcline Pellotsalo - K-rich phase - (K<sub>0.95</sub>Na<sub>0.05</sub>)AlSi<sub>3</sub>O<sub>8</sub>
- ☒ 01-080-0885 (C) - Kaolinite - Al<sub>2</sub>(Si<sub>2</sub>O<sub>5</sub>)(OH)<sub>4</sub>
- ☒ 01-087-0920 (C) - Rutile. svn - TiO<sub>2</sub>
- ☒ 01-071-2219 (C) - Pyrite - FeS<sub>2</sub>
- ☒ 01-074-1904 (C) - Gypsum - Ca(SO<sub>4</sub>)(H<sub>2</sub>O)<sub>2</sub>
- ☒ 00-036-0427 (\*) - Jarosite, hydronian syn - (K<sub>3</sub>H<sub>3</sub>O)Fe<sub>3</sub>(SO<sub>4</sub>)<sub>2</sub>(OH)<sub>6</sub>



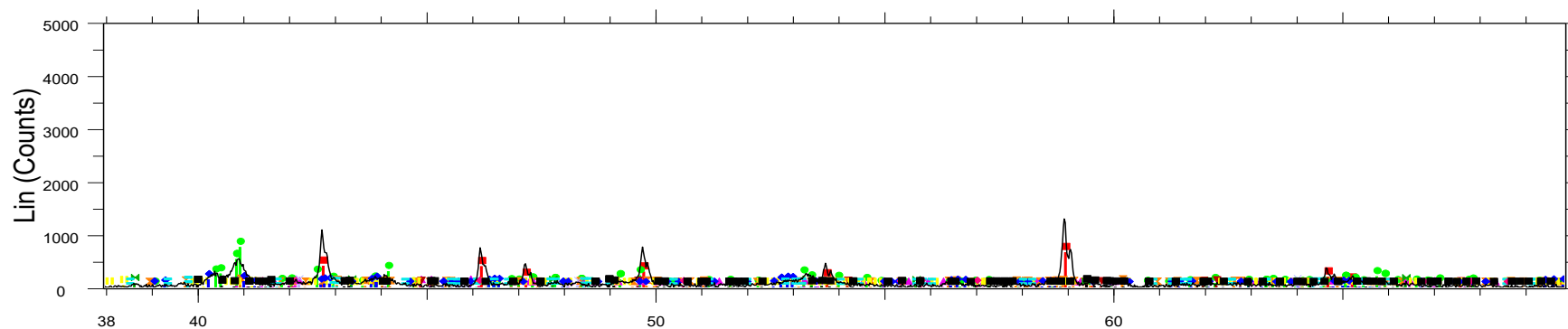
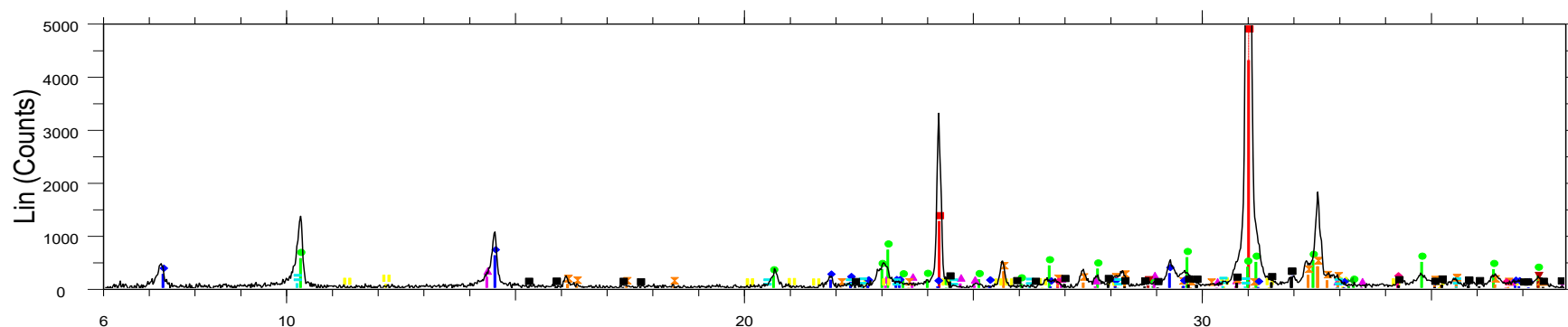
# MW-8V-155-160



## 2-Theta - Scale

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>  MW-8V-155-160 - File: FEB4505-7.raw         </li> <li>  01-079-1910 (C) - Quartz - SiO<sub>2</sub> </li> <li>  01-084-1302 (C) - Muscovite - KAl<sub>3</sub>Si<sub>3</sub>O<sub>10</sub>(OH)<sub>2</sub> </li> <li>  01-084-1455 (C) - Microcline Pellotsalo - K-rich phase - (K<sub>0.95</sub>Na<sub>0.05</sub>)AlSi<sub>3</sub>O<sub>8</sub> </li> <li>  01-080-0885 (C) - Kaolinite - Al<sub>2</sub>(Si<sub>2</sub>O<sub>5</sub>)(OH)<sub>4</sub> </li> <li>  01-083-1764 (C) - Siderite - Fe(CO<sub>3</sub>)         </li> <li>  01-075-1142 (C) - Albite high - Na(AlSi<sub>3</sub>O<sub>8</sub>)         </li> <li>  01-071-2219 (C) - Pvrite - FeS<sub>2</sub> </li> </ul> | <ul style="list-style-type: none"> <li>  01-087-0920 (C) - Rutile, syn - TiO<sub>2</sub> </li> <li>  01-073-2339 (C) - Actinolite - Na<sub>0.08</sub>Ca<sub>1.76</sub>Mn<sub>0.16</sub>Mg<sub>1.88</sub>Fe<sub>2.72</sub>Fe<sub>0.32</sub>Al<sub>0.32</sub>Si<sub>7.68</sub>O<sub>22</sub>(OH)         </li> <li>  01-085-2163 (C) - Chamosite - (Mg<sub>5.036</sub>Fe<sub>4.964</sub>)Al<sub>2.724</sub>(Si<sub>5.70</sub>Al<sub>2.30</sub>O<sub>20</sub>)(OH)<sub>16</sub> </li> <li>  01-080-1109 (C) - Biotite - KFeMg<sub>2</sub>(AlSi<sub>3</sub>O<sub>10</sub>)(OH)<sub>2</sub> </li> </ul> |
|--|--|

# MW-8V-160-165

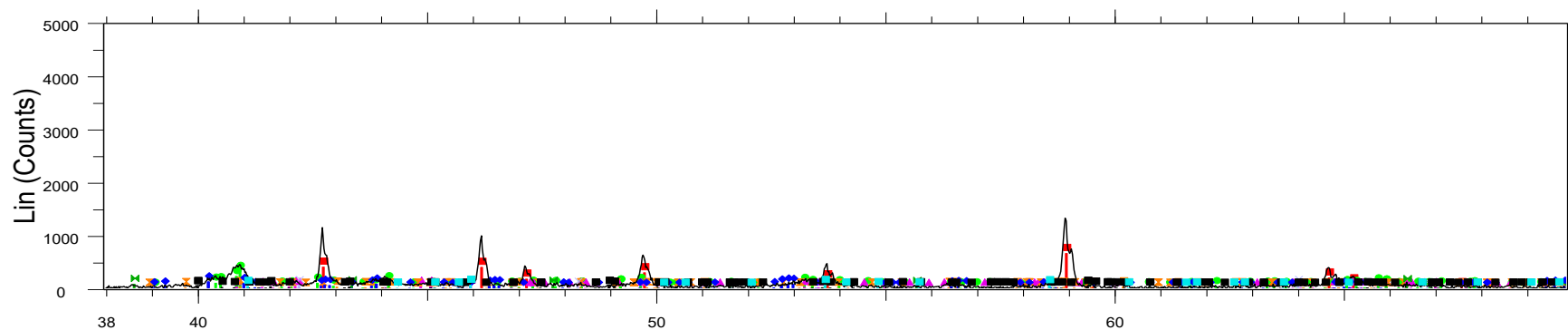
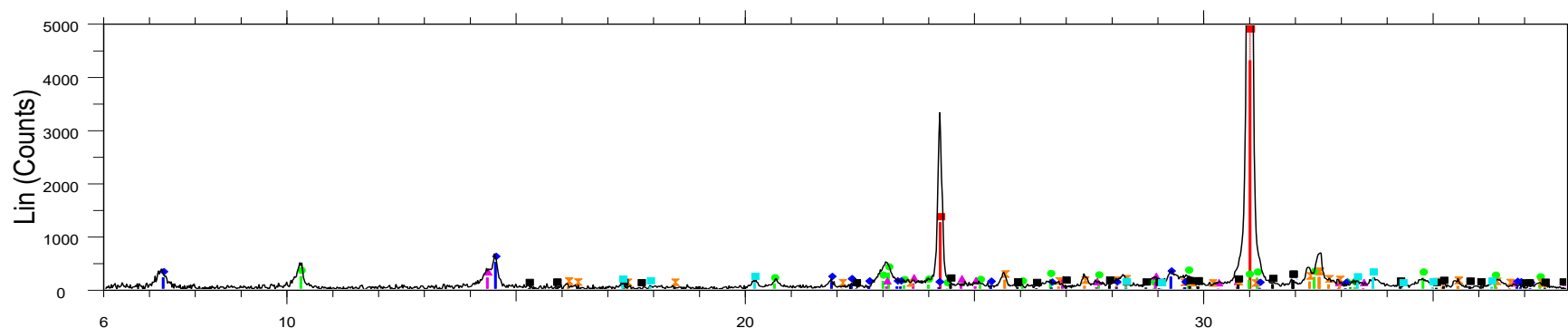


### 2-Theta - Scale

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>▮ MW-8V-160-165 - File: FEB4505-8.raw</li> <li>▮ 01-079-1910 (C) - Quartz - SiO<sub>2</sub></li> <li>▮ 01-084-1302 (C) - Muscovite - KAl<sub>3</sub>Si<sub>3</sub>O<sub>10</sub>(OH)<sub>2</sub></li> <li>▮ 01-080-0885 (C) - Kaolinite - Al<sub>2</sub>(Si<sub>2</sub>O<sub>5</sub>)(OH)<sub>4</sub></li> <li>▮ 01-083-1764 (C) - Siderite - Fe(CO<sub>3</sub>)</li> <li>▮ 01-075-1142 (C) - Albite high - Na(AlSi<sub>3</sub>O<sub>8</sub>)</li> <li>▮ 01-071-2219 (C) - Pyrite - FeS<sub>2</sub></li> <li>▮ 01-087-0920 (C) - Rutile, svn - TiO<sub>2</sub></li> </ul> | <ul style="list-style-type: none"> <li>▮ 01-073-2339 (C) - Actinolite - Na<sub>0.08</sub>Ca<sub>1.76</sub>Mn<sub>0.16</sub>Mg<sub>1.88</sub>Fe<sub>2.72</sub>Fe<sub>0.32</sub>Al<sub>0.32</sub>Si<sub>7.68</sub>O<sub>22</sub>(OH)</li> <li>▮ 01-085-2163 (C) - Chamosite - (Mg<sub>5.036</sub>Fe<sub>4.964</sub>)Al<sub>2.724</sub>(Si<sub>5.70</sub>Al<sub>2.30</sub>O<sub>20</sub>)(OH)<sub>16</sub></li> <li>▮ 01-080-1109 (C) - Biotite - KFeMg<sub>2</sub>(AlSi<sub>3</sub>O<sub>10</sub>)(OH)<sub>2</sub></li> <li>▮ 01-086-2334 (C) - Calcite - Ca(CO<sub>3</sub>)</li> <li>▮ 01-084-0709 (C) - Microcline - KAlSi<sub>3</sub>O<sub>8</sub></li> </ul> |
|--|--|



# MW-9H-40-50

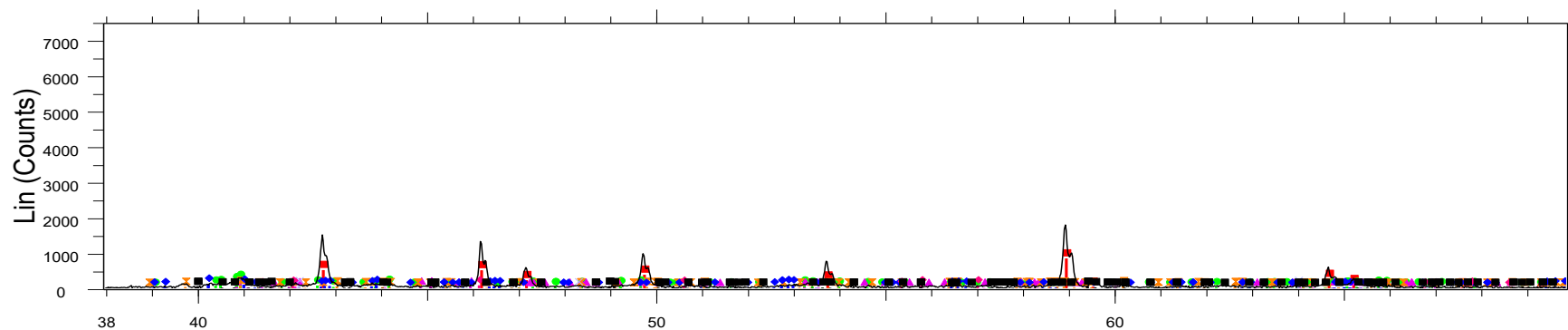
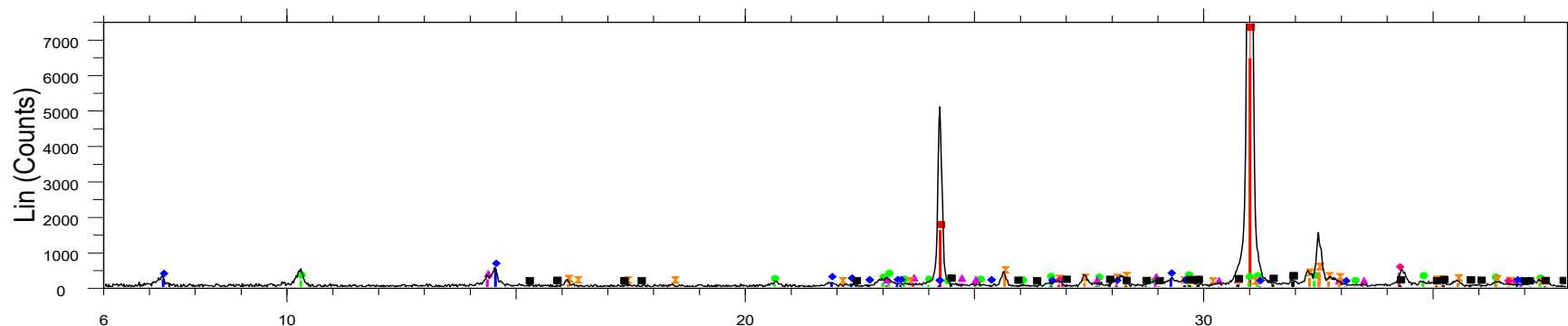


2-Theta - Scale

- ▣ MW-9H-40-50 - File: FEB4505-9.raw
- ▣ 01-079-1910 (C) - Quartz - SiO<sub>2</sub>
- ▣ 01-084-1302 (C) - Muscovite - KAl<sub>3</sub>Si<sub>3</sub>O<sub>10</sub>(OH)<sub>2</sub>
- ▣ 01-080-0885 (C) - Kaolinite - Al<sub>2</sub>(Si<sub>2</sub>O<sub>5</sub>)(OH)<sub>4</sub>
- ▣ 01-075-1142 (C) - Albite high - Na(AlSi<sub>3</sub>O<sub>8</sub>)
- ▣ 01-071-2219 (C) - Pyrite - FeS<sub>2</sub>
- ▣ 01-087-0920 (C) - Rutile, syn - TiO<sub>2</sub>
- ▣ 01-085-2163 (C) - Chamosite - (Mg<sub>5.036</sub>Fe<sub>4.964</sub>)Al<sub>2.724</sub>(Si<sub>5.70</sub>Al<sub>2.30</sub>O<sub>20</sub>)(OH)<sub>16</sub>
- ▣ 01-084-0709 (C) - Microcline - KAlSi<sub>3</sub>O<sub>8</sub>
- ▣ 01-071-1777 (C) - Jarosite, syn - K(Fe<sub>3</sub>(SO<sub>4</sub>)<sub>2</sub>(OH)<sub>6</sub>)



# MW-9H-50-60

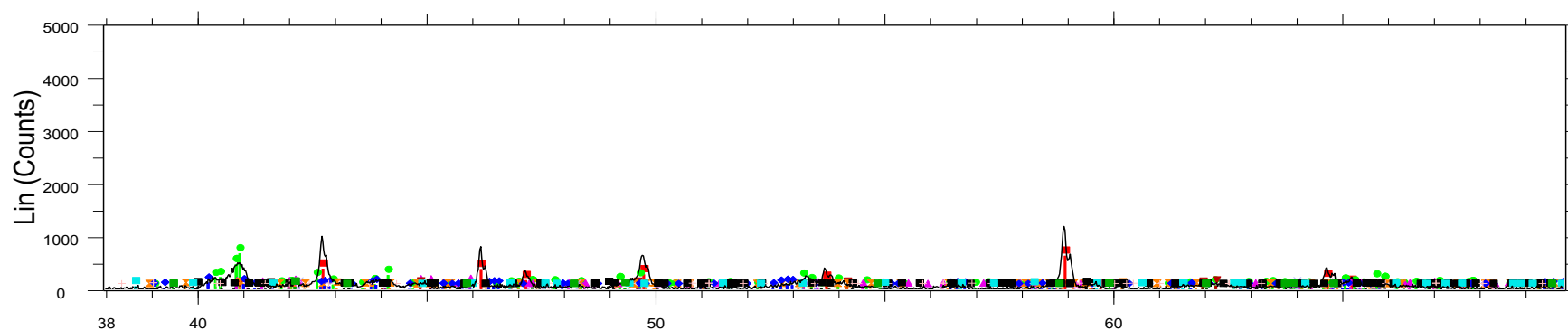
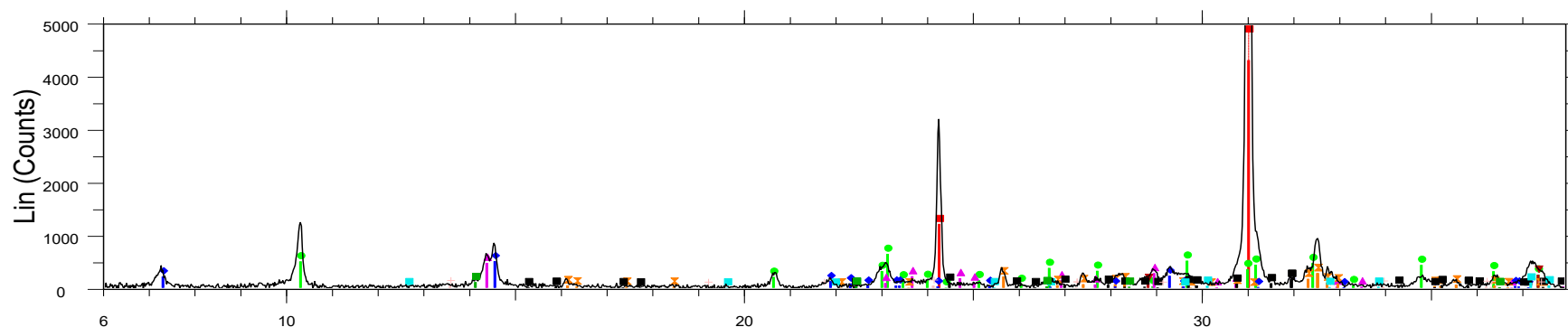


2-Theta - Scale

- ▬ MW-9H-50-60 - File: FEB4505-10.raw
- 01-079-1910 (C) - Quartz - SiO<sub>2</sub>
- 01-084-1302 (C) - Muscovite - KAl<sub>3</sub>Si<sub>3</sub>O<sub>10</sub>(OH)<sub>2</sub>
- 01-080-0885 (C) - Kaolinite - Al<sub>2</sub>(Si<sub>2</sub>O<sub>5</sub>)(OH)<sub>4</sub>
- 01-075-1142 (C) - Albite high - Na(AlSi<sub>3</sub>O<sub>8</sub>)
- 01-087-0920 (C) - Rutile, syn - TiO<sub>2</sub>
- 01-085-2163 (C) - Chamosite - (Mg<sub>5.036</sub>Fe<sub>4.964</sub>)Al<sub>2.724</sub>(Si<sub>5.70</sub>Al<sub>2.300</sub>O<sub>20</sub>)(OH)<sub>16</sub>
- 01-086-2334 (C) - Calcite - Ca(CO<sub>3</sub>)
- 01-084-0709 (C) - Microcline - KAlSi<sub>3</sub>O<sub>8</sub>



# MW-12H-60-64

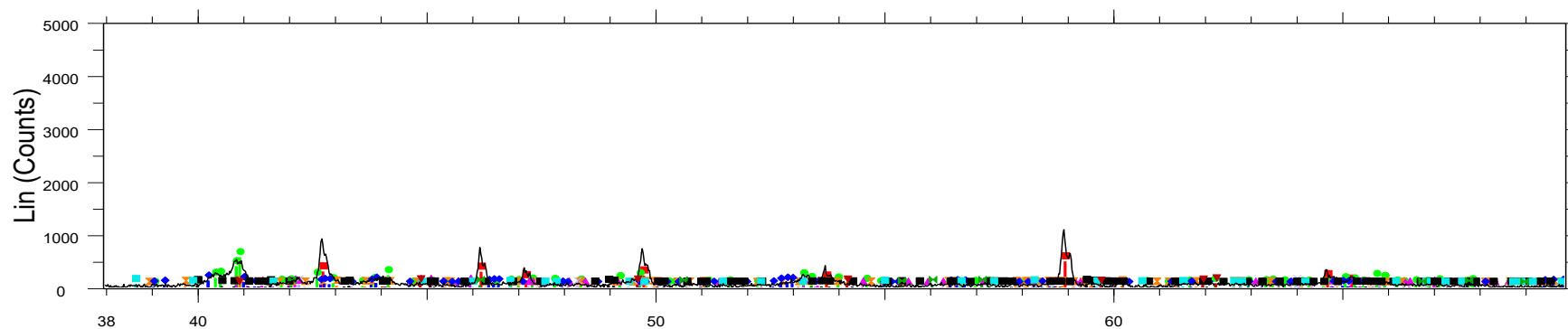
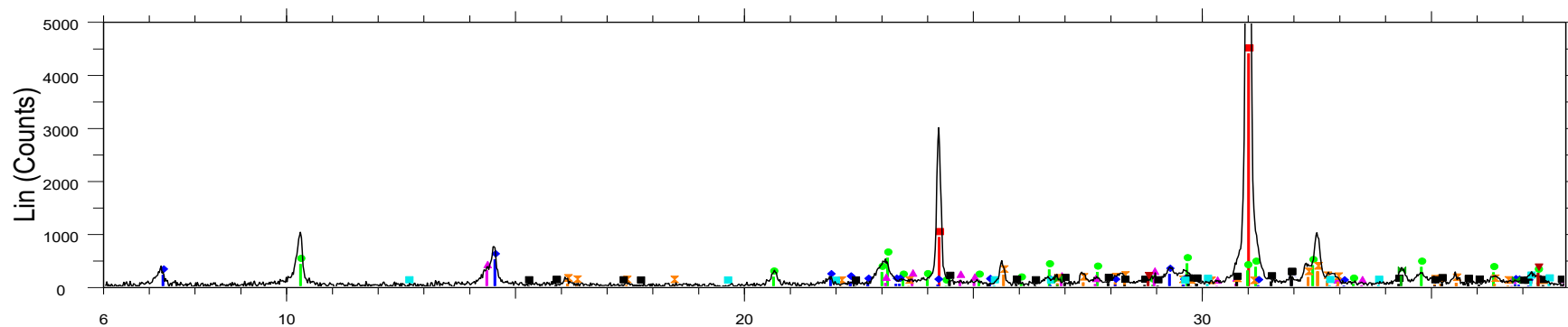


### 2-Theta - Scale

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>■ MW-12H-60-64 - File: FEB4505-11.raw</li> <li>■ 01-079-1910 (C) - Quartz - SiO<sub>2</sub></li> <li>● 01-084-1302 (C) - Muscovite - KAl<sub>3</sub>Si<sub>3</sub>O<sub>10</sub>(OH)<sub>2</sub></li> <li>▲ 01-080-0885 (C) - Kaolinite - Al<sub>2</sub>(Si<sub>2</sub>O<sub>5</sub>)(OH)<sub>4</sub></li> <li>▼ 01-083-1764 (C) - Siderite - Fe(CO<sub>3</sub>)</li> <li>⊠ 01-075-1142 (C) - Albite high - Na(AlSi<sub>3</sub>O<sub>8</sub>)</li> <li>⊞ 01-087-0920 (C) - Rutile, syn - TiO<sub>2</sub></li> <li>◆ 01-085-2163 (C) - Chamosite - (Mg<sub>5.036</sub>Fe<sub>4.964</sub>)Al<sub>2.724</sub>(Si<sub>5.70</sub>Al<sub>2.30</sub>O<sub>20</sub>)(OH)<sub>16</sub></li> </ul> | <ul style="list-style-type: none"> <li>■ 01-084-0709 (C) - Microcline - KAlSi<sub>3</sub>O<sub>8</sub></li> <li>⊕ 01-074-1904 (C) - Gypsum - Ca(SO<sub>4</sub>)(H<sub>2</sub>O)<sub>2</sub></li> <li>■ 01-083-1012 (C) - Fluorapatite, syn - (Ca<sub>3.528</sub>Na<sub>0.316</sub>Dy<sub>0.156</sub>)(Ca<sub>5.64</sub>Dy<sub>0.36</sub>)(P<sub>5.75</sub>Si</li> <li>■ 01-086-0403 (C) - Lizardite - Mg<sub>3</sub>(Si<sub>2</sub>O<sub>5</sub>(OH)<sub>4</sub>)</li> </ul> |
|---|--|



# MW-12V-120-130



## 2-Theta - Scale

- MW-12V-120-130 - File: FEB4505-12.raw
- 01-079-1910 (C) - Quartz - SiO<sub>2</sub>
- 01-084-1302 (C) - Muscovite - KAl<sub>3</sub>Si<sub>3</sub>O<sub>10</sub>(OH)<sub>2</sub>
- 01-080-0885 (C) - Kaolinite - Al<sub>2</sub>(Si<sub>2</sub>O<sub>5</sub>)(OH)<sub>4</sub>
- 01-083-1764 (C) - Siderite - Fe(CO<sub>3</sub>)
- 01-075-1142 (C) - Albite high - Na(AlSi<sub>3</sub>O<sub>8</sub>)
- 01-087-0920 (C) - Rutile, syn - TiO<sub>2</sub>
- 01-085-2163 (C) - Chamosite - (Mg<sub>5.036</sub>Fe<sub>4.964</sub>)Al<sub>2.724</sub>(Si<sub>5.70</sub>Al<sub>2.30</sub>O<sub>20</sub>)(OH)<sub>16</sub>
- 01-084-0709 (C) - Microcline - KAlSi<sub>3</sub>O<sub>8</sub>
- 01-083-1012 (C) - Fluorapatite, syn - (Ca<sub>3.528</sub>Na<sub>0.316</sub>Dy<sub>0.156</sub>)(Ca<sub>5.64</sub>Dy<sub>0.36</sub>)(P<sub>5.75</sub>Si
- 01-072-1651 (C) - Calcite - CaCO<sub>3</sub>



**CLIENT: Golder**  
**PROJECT: Southern Company**  
**SGS Project #: 2204**  
**Test: Metals by Aqua Regia Digestion with ICP-MS/ AES Finish**  
**Date: 16 Feb 22**

Sample ID	Ag ppm	Al %	Ba ppm	Ca %	Cr ppm	Cu ppm	Fe %	K %	Li ppm	Mg %
Method Code	ICM21B20	ICP21B20	ICP21B20	ICP21B20	ICP21B20	ICP21B20	ICP21B20	ICP21B20	ICP21B20	ICP21B20
LOD	0.01	0.01	5	0.01	1	0.5	0.01	0.01	1	0.01
MW-3V-170-180	0.08	1.87	231	0.52	27	47.6	5.02	0.39	40	0.94
MW-3V-180-190	0.02	0.68	134	0.07	8	12.1	3.17	0.16	43	0.11
MW-4V-130-140	0.06	1.51	179	1.11	23	33.4	3.93	0.32	30	0.74
MW-4V-140-150	0.07	1.45	85	0.43	22	32.7	4.25	0.28	30	0.81
MW-8V-81-84	0.2	0.71	256	0.19	17	66	1.37	0.18	39	0.17
MW-8V-94-97	0.22	0.52	272	0.3	17	52.9	1.66	0.13	20	0.14
MW-8V-155-160	0.09	1.71	189	0.37	23	43.2	4.22	0.32	35	0.83
MW-8V-160-165	0.05	1.36	140	0.59	20	26.8	3.43	0.26	27	0.72
MW-9H-40-50	0.06	1.38	240	0.09	20	17.2	3.15	0.19	42	0.59
MW-9H-50-60	0.03	0.8	74	1.1	14	10.9	2.28	0.13	14	0.45
MW-12H-60-64	0.09	1.28	138	0.26	20	39.2	4.62	0.25	23	0.74
MW-12V-120-130	0.1	1.33	105	1.1	21	34.5	3.99	0.23	25	0.72
<b>Duplicates</b>										
*Rep MW-12V-120-130	0.09	1.23	96	1.02	19	31.8	3.69	0.21	23	0.67
<b>QC</b>										
OREAS 260	0.15	1.26	143	0.87	48	46.8	3.61	0.26	20	0.59
Certified Values	0.146	1.33	151	0.885	49.2	46.5	3.73	0.285	21.5	0.593
Tolerance (%)	30.77	12.80	20.12	14.46	16.31	13.55	11.33	23.08	24.25	14.55
OREAS 502c	0.77	1.97	390	1.05	60	7850	4.35	1.05	29	1.2
Certified Values	0.796	2.07	383	1.09	66.0	7790	4.45	1.07	30.9	1.21
Tolerance (%)	13.14	11.21	13.26	12.29	13.79	10.02	10.56	12.34	18.09	12.07

**CLIENT: Golder**  
**PROJECT: Southern Company**  
**SGS Project #: 2204**  
**Test: Metals by Aqua Regia Digest**  
**Date: 16 Feb 22**

Sample ID	Ag ppm	Mn ppm	Na %	Ni ppm	P %	S %	Sr ppm	Ti %	V ppm	Zn ppm	Zr ppm
Method Code	ICM21B20	ICP21B20	ICP21B20	ICP21B20	ICP21B20	ICP21B20	ICP21B20	ICP21B20	ICP21B20	ICP21B20	ICP21B20
LOD	0.01	2	0.01	0.5	0.005	0.01	0.5	0.01	1	1	0.5
MW-3V-170-180	0.08	884	0.04	47	0.07	0.09	44	<0.01	40	116	10.8
MW-3V-180-190	0.02	119	0.05	21	<0.01	1.75	15.4	<0.01	12	27	8.4
MW-4V-130-140	0.06	515	0.03	45	0.07	0.95	45.9	<0.01	31	114	10.6
MW-4V-140-150	0.07	723	0.03	35	0.06	0.25	26.7	<0.01	32	107	10.2
MW-8V-81-84	0.2	48	0.04	35	0.02	1.21	72.5	0.01	36	84	11.4
MW-8V-94-97	0.22	127	0.04	21	0.03	1.49	136	0.02	36	31	10.6
MW-8V-155-160	0.09	495	0.06	40	0.08	0.19	33.3	<0.01	31	119	12.1
MW-8V-160-165	0.05	405	0.05	38	0.08	0.21	33	0.01	29	125	12.9
MW-9H-40-50	0.06	191	0.03	41	0.03	0.81	11.5	0.01	25	78	11.4
MW-9H-50-60	0.03	397	0.02	21	0.04	0.08	37.1	<0.01	15	52	7.4
MW-12H-60-64	0.09	740	0.04	39	0.06	0.18	16.8	0.02	35	109	11.5
MW-12V-120-130	0.1	567	0.02	33	0.07	0.09	49	0.01	33	106	11
<b>Duplicates</b>											
*Rep MW-12V-120-130	0.09	532	0.03	30	0.06	0.09	45.4	0.01	30	98	10.8
<b>QC</b>											
OREAS 260	0.15	422	0.08	80	0.04	0.08	13.9	<0.01	21	119	15.3
Certified Values	0.146	450	0.082	75	0.04	0.077	14.8	BDL	22.0	125	12.6
Tolerance (%)	30.77	11.76	46.15	14.29	66.67	66.67	20.32	BDL	23.9	12.77	#N/A
OREAS 502c	0.77	359	0.2	35	0.1	0.8	65.6	0.34	116	94	9.2
Certified Values	0.796	380	0.192	36.4	0.096	0.821	66.0	BDL	110.0	102	BDL
Tolerance (%)	13.14	11.32	23.02	16.87	23.02	13.05	11.89		12.3	12.45	

**CLIENT: Golder**  
**PROJECT: Southern Company**  
**SGS Project #: 2204**  
**Test: Metals by Aqua Regia Digest**  
**Date: 16 Feb 22**

Sample ID	Ag ppm	As ppm	Be ppm	Bi ppm	Cd ppm	Ce ppm	Co ppm	Cs ppm	Ga ppm	Ge ppm	Hf ppm
Method Code	ICM21B20	IMS21B20	IMS21B20	IMS21B20	IMS21B20	IMS21B20	IMS21B20	IMS21B20	IMS21B20	IMS21B20	IMS21B20
LOD	0.01	1	0.1	0.02	0.01	0.05	0.1	0.05	0.1	0.1	0.05
MW-3V-170-180	0.08	5	1.1	0.4	0.12	37.8	18.5	2.23	7.5	0.1	0.29
MW-3V-180-190	0.02	38	0.7	0.16	0.02	48.31	12.1	2.98	2.3	0.1	0.2
MW-4V-130-140	0.06	18	0.9	0.31	0.1	32.22	17.6	1.93	6.4	0.1	0.29
MW-4V-140-150	0.07	9	1	0.3	0.09	36.62	14.6	2.05	6.2	0.1	0.3
MW-8V-81-84	0.2	49	1	0.59	0.18	25.91	12.7	2.81	2.8	<0.1	0.4
MW-8V-94-97	0.22	43	1.1	0.42	0.13	29.86	6.8	2.06	2.2	<0.1	0.38
MW-8V-155-160	0.09	14	1.1	0.33	0.12	51.4	18.6	1.84	7	0.1	0.32
MW-8V-160-165	0.05	13	0.7	0.24	0.14	44.37	16.4	1.31	5.6	0.1	0.37
MW-9H-40-50	0.06	28	0.6	0.18	0.06	32.79	13.7	1.9	5.6	0.1	0.33
MW-9H-50-60	0.03	4	0.3	0.06	0.04	26.54	9.2	0.44	3.2	0.1	0.26
MW-12H-60-64	0.09	9	1	0.27	0.17	41.76	15.1	1.36	6.2	0.1	0.34
MW-12V-120-130	0.1	9	0.7	0.26	0.18	41.11	14.9	1.33	5.8	<0.1	0.31
<b>Duplicates</b>											
*Rep MW-12V-120-130	0.09	8	0.7	0.24	0.16	37.6	13.3	1.17	5.3	<0.1	0.29
<b>QC</b>											
OREAS 260	0.15	12	1.1	0.54	0.2	63.36	31.4	2.71	4.7	0.1	0.4
Certified Values	0.146	12.5	1.24	0.54	0.21	55	32.10	3.12	5.05	BDL	0.33
Tolerance (%)	30.77	35.29	35.07	20.41	27.03	#N/A	11.39	#N/A	16.04	BDL	#N/A
OREAS 502c	0.77	59	0.4	0.66	0.3	58.93	12.7	9.03	9.4	0.3	0.38
Certified Values	0.796	59	0.53	0.68	BDL	59	13.50	9.02	8.67	BDL	0.41
Tolerance (%)	13.14	14.24	57.17	17.35		10.21	11.85	11.39	12.88		40.49

**CLIENT: Golder**  
**PROJECT: Southern Company**  
**SGS Project #: 2204**  
**Test: Metals by Aqua Regia Digest**  
**Date: 16 Feb 22**

Sample ID	Ag ppm	Hg ppm	In ppm	La ppm	Lu ppm	Mo ppm	Nb ppm	Pb ppm	Rb ppm	Sb ppm	Sc ppm
Method Code	ICM21B20	IMS21B20	IMS21B20	IMS21B20	IMS21B20	IMS21B20	IMS21B20	IMS21B20	IMS21B20	IMS21B20	IMS21B20
LOD	0.01	0.01	0.02	0.1	0.01	0.05	0.05	0.2	0.2	0.05	0.1
MW-3V-170-180	0.08	0.01	0.04	14.3	0.17	1.46	0.07	24.3	31.9	0.3	6.3
MW-3V-180-190	0.02	0.08	0.03	16.5	0.09	0.89	<0.05	16.4	16.2	1.07	2.8
MW-4V-130-140	0.06	0.05	0.04	12	0.16	1.08	0.09	20.7	28.4	0.37	4.9
MW-4V-140-150	0.07	0.02	0.04	14	0.14	0.61	0.09	17.7	26.7	0.13	5.3
MW-8V-81-84	0.2	0.45	0.04	10.2	0.14	5.58	0.51	30.9	18.5	0.84	5
MW-8V-94-97	0.22	0.5	0.04	12.7	0.13	6.37	0.56	24.2	14	0.6	5.5
MW-8V-155-160	0.09	0.02	0.03	19.7	0.17	2.31	<0.05	23.1	24.6	0.35	4.7
MW-8V-160-165	0.05	0.02	0.03	16.8	0.12	0.85	0.08	19.8	19.6	0.47	3.2
MW-9H-40-50	0.06	0.08	0.03	13.1	0.09	0.4	0.21	10.1	16	0.25	3.3
MW-9H-50-60	0.03	<0.01	<0.02	9.9	0.1	0.61	<0.05	7.9	9.2	0.13	3
MW-12H-60-64	0.09	0.02	0.03	16.4	0.16	1.2	0.16	18.6	20.1	0.33	5.9
MW-12V-120-130	0.1	0.03	0.03	15.6	0.15	1.37	0.11	18.4	19.7	0.38	5.6
<b>Duplicates</b>											
*Rep MW-12V-120-130	0.09	0.01	0.03	14.5	0.14	1.26	0.1	16.7	17.3	0.34	5.2
<b>QC</b>											
OREAS 260	0.15	0.05	0.03	31.2	0.15	0.39	<0.05	30.5	22.6	1.27	3.2
Certified Values	0.146	0.047	0.027	28.1	0.140	0.43	BDL	30.7	21.2	1.32	3.39
Tolerance (%)	30.77	#N/A	90.91	#N/A	33.33	49.28	BDL	12.35	#N/A	21.85	19.06
OREAS 502c	0.77	0.03	0.06	29.6	0.23	228	1.44	11.3	125	4.67	7.1
Certified Values	0.796	BDL	0.061	29.4	0.220	223.00	BDL	11.1	124.0	4.78	7.28
Tolerance (%)	13.14		91.97	10.85	21.36	10.06		14.50	10.4	12.62	13.43

**CLIENT: Golder**  
**PROJECT: Southern Company**  
**SGS Project #: 2204**  
**Test: Metals by Aqua Regia Digest**  
**Date: 16 Feb 22**

Sample ID	Ag ppm	Se ppm	Sn ppm	Ta ppm	Tb ppm	Te ppm	Th ppm	Tl ppm	U ppm	W ppm	Y ppm	Yb ppm
Method Code	ICM21B20	IMS21B20	IMS21B20	IMS21B20	IMS21B20	IMS21B20	IMS21B20	IMS21B20	IMS21B20	IMS21B20	IMS21B20	IMS21B20
LOD	0.01	1	0.3	0.05	0.02	0.05	0.1	0.02	0.05	0.1	0.05	0.1
MW-3V-170-180	0.08	<1	0.6	<0.05	0.71	<0.05	7.7	0.05	1.24	<0.1	14.48	1.1
MW-3V-180-190	0.02	<1	0.5	<0.05	0.56	<0.05	5.7	0.18	0.98	<0.1	7.87	0.6
MW-4V-130-140	0.06	<1	0.7	<0.05	0.7	<0.05	7.4	0.09	1.2	0.3	14.22	1
MW-4V-140-150	0.07	<1	0.5	<0.05	0.64	<0.05	7	0.06	1.02	<0.1	12.02	0.9
MW-8V-81-84	0.2	5	0.7	<0.05	0.47	0.09	5.6	0.33	1.54	<0.1	10.62	0.9
MW-8V-94-97	0.22	7	0.5	<0.05	0.45	<0.05	5.6	0.34	1.51	0.1	10.6	0.9
MW-8V-155-160	0.09	<1	0.5	<0.05	1	<0.05	8.8	0.06	1.43	<0.1	17.53	1.2
MW-8V-160-165	0.05	1	0.5	<0.05	0.6	<0.05	8.1	0.06	1.23	<0.1	10.92	0.8
MW-9H-40-50	0.06	<1	0.5	<0.05	0.37	<0.05	4.8	0.09	0.83	<0.1	7.31	0.6
MW-9H-50-60	0.03	<1	<0.3	<0.05	0.48	<0.05	4.7	0.05	0.51	0.2	9.57	0.7
MW-12H-60-64	0.09	1	0.6	<0.05	0.74	<0.05	7.3	0.06	1.19	0.6	14.58	1.1
MW-12V-120-130	0.1	<1	0.5	<0.05	0.7	<0.05	7.5	0.05	1.2	<0.1	15.45	1.2
<b>Duplicates</b>												
*Rep MW-12V-120-130	0.09	<1	0.5	<0.05	0.66	<0.05	6.9	0.05	1.13	<0.1	13.86	1.1
<b>QC</b>												
OREAS 260	0.15	<1	0.5	<0.05	0.53	0.06	11.1	0.21	1.31	<0.1	11.85	1
Certified Values	0.146	BDL	0.62	BDL	0.52	0.081	11.30	0.22	1.29	BDL	11.7	0.99
Tolerance (%)	30.77	BDL	#N/A	BDL	21.28	89.66	13.01	37.84	21.46	BDL	11.76	42.94
OREAS 502c	0.77	4	2.7	<0.05	0.57	0.51	16.8	0.69	4.47	2.7	15.77	1.4
Certified Values	0.796	BDL	2.71	0.009	0.58	0.47	17.60	0.34	4.53	2.98	16.1	1.51
Tolerance (%)	13.14		37.68	1398.9	18.62	36.60	11.42	17.35	12.76	18.39	10.78	26.56



**CLIENT: Golder**  
**PROJECT: Southern Company**  
**SGS Project #: 2204**  
**Test: Metals by Multi Acid Digestion with ICP-MS/ AES Finish**  
**Date: 16 Feb 22**

Sample ID	Ag ppm	Al %	Ba ppm	Ca %	Cr ppm	Cu ppm	Fe %	K %	Li ppm	Mg %
Method Code	ICM40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12
LOD	0.02	0.01	1	0.01	1	0.5	0.01	0.01	1	0.01
MW-3V-170-180	0.04	11.71	1077	0.66	119	51	7.14	3.88	97	1.63
MW-3V-180-190	<0.02	7.95	562	0.11	53	10.3	4.63	1.77	299	0.34
MW-4V-130-140	<0.02	10.14	1077	1.35	92	31.2	5.61	3.37	69	1.26
MW-4V-140-150	<0.02	9.81	792	0.54	89	31.2	6.1	3.19	67	1.32
MW-8V-81-84	0.18	11.34	1100	0.27	111	73.2	3.02	2.36	367	0.69
MW-8V-94-97	0.13	7.82	704	0.34	73	57.3	3.24	1.48	243	0.43
MW-8V-155-160	0.06	11.91	1205	0.49	99	45	6.23	4.31	72	1.56
MW-8V-160-165	<0.02	8.72	842	0.72	74	25.9	5.01	2.9	50	1.18
MW-9H-40-50	0.02	9.09	989	0.13	66	16.1	4.49	2.22	128	0.96
MW-9H-50-60	<0.02	5.4	382	1.35	37	10	3.04	1.21	30	0.65
MW-12H-60-64	0.04	9.48	825	0.36	73	38.5	6.63	2.76	56	1.18
MW-12V-120-130	0.08	8.2	723	1.2	67	32.8	5.31	2.61	52	1.07
<b>Duplicate</b>										
*Rep MW-9H-50-60	<0.02	5.61	402	1.4	45	11.1	3.16	1.25	31	0.68
<b>QC</b>										
OREAS 601b	45.21	6.3	1516	0.83	23	961	2.28	2.31	22	0.1
Certified Values	50.1	6.63	BDL	0.887	23.7	0.101	2.29	2.41	22.6	996
Tolerance (%)	10.4	10.1		14.9	37.6	6.79	10.7	9.40	26.3	20.0

**CLIENT: Golder**  
**PROJECT: Southern Com**  
**SGS Project #: 2204**  
**Test: Metals by Multi Acid**  
**Date: 16 Feb 22**

<b>Sample ID</b>	<b>Mn ppm</b>	<b>Na %</b>	<b>Ni ppm</b>	<b>P %</b>	<b>S %</b>	<b>Sr ppm</b>	<b>Ti %</b>	<b>V ppm</b>	<b>Zn ppm</b>	<b>Zr ppm</b>
Method Code	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12
LOD	2	0.01	1	0.01	0.01	0.5	0.01	2	1	0.5
MW-3V-170-180	1196	0.75	56	0.09	0.12	158	0.48	175	145	127
MW-3V-180-190	161	0.64	32	0.01	1.97	60.3	0.37	90	40	96.2
MW-4V-130-140	667	0.88	52	0.1	1.17	150	0.43	148	134	131
MW-4V-140-150	936	0.84	42	0.07	0.3	123	0.44	147	128	129
MW-8V-81-84	93	0.18	50	0.05	1.68	235	0.46	175	115	117
MW-8V-94-97	171	0.22	28	0.06	1.82	297	0.36	135	45	99.6
MW-8V-155-160	694	1.02	46	0.1	0.23	132	0.45	174	155	141
MW-8V-160-165	542	1.32	43	0.09	0.25	123	0.42	130	145	144
MW-9H-40-50	264	0.81	48	0.04	0.96	85.5	0.45	105	104	133
MW-9H-50-60	504	1.17	23	0.06	0.1	105	0.31	61	63	133
MW-12H-60-64	1029	1	45	0.07	0.21	109	0.43	123	130	120
MW-12V-120-130	706	0.95	36	0.08	0.11	130	0.36	118	123	116
<b>Duplicate</b>										
*Rep MW-9H-50-60	522	1.2	25	0.06	0.1	109	0.34	64	63	149
<b>QC</b>										
OREAS 601b	238	1.8	6	0.03	1.43	242	0.12	10	295	184
Certified Values	222	1.90	6.54	292	1.50	241	0.135	12.1	318	186
Tolerance (%)	11.1	14.3	30.9	15.1	7.20	14.7	11.8	21.7	5.55	17.0

**CLIENT: Golder**  
**PROJECT: Southern Com**  
**SGS Project #: 2204**  
**Test: Metals by Multi Acid**  
**Date: 16 Feb 22**

Sample ID	As ppm	Be ppm	Bi ppm	Cd ppm	Ce ppm	Co ppm	Cs ppm	Ga ppm	Hf ppm	In ppm
Method Code	IMS40Q12	IMS40Q12	IMS40Q12	IMS40Q12	IMS40Q12	IMS40Q12	IMS40Q12	IMS40Q12	IMS40Q12	IMS40Q12
LOD	1	0.1	0.04	0.02	0.05	0.1	1	0.1	0.02	0.02
MW-3V-170-180	11	3.5	0.46	0.13	106	21.5	12	32.5	3.6	0.1
MW-3V-180-190	61	2.3	0.21	0.04	87.44	16.5	9	18.9	2.88	0.07
MW-4V-130-140	29	2.8	0.33	0.12	88.43	20.1	9	27	3.47	0.09
MW-4V-140-150	16	2.8	0.31	0.1	90.44	15.9	9	25.1	3.5	0.09
MW-8V-81-84	79	2.7	0.74	0.21	97.43	17.1	14	29.2	3.21	0.11
MW-8V-94-97	66	2.1	0.5	0.16	73.28	8.4	8	18.9	2.7	0.08
MW-8V-155-160	23	3.5	0.39	0.16	102	20.5	10	31.8	3.97	0.11
MW-8V-160-165	21	2.5	0.27	0.16	95.21	18.7	6	22.5	4.13	0.08
MW-9H-40-50	41	2	0.21	0.08	84.47	16.8	7	21.9	3.9	0.07
MW-9H-50-60	7	1	0.07	0.04	56.38	9.9	2	10.8	3.36	0.04
MW-12H-60-64	16	2.8	0.32	0.2	86.92	18.2	6	24.7	3.26	0.08
MW-12V-120-130	14	2.5	0.34	0.18	88.1	16.9	6	24	3.61	0.09
<b>Duplicate</b>										
*Rep MW-9H-50-60	8	1	0.08	0.06	58.63	10.5	2	11.7	3.81	0.04
<b>QC</b>										
OREAS 601b	275	2.3	17.88	1.89	69.59	2.9	5	23.7	4.93	0.44
Certified Values	284	2.24	18.0	2.05	70	2.97	4.88	23.4	5.09	0.47
Tolerance (%)	19.2	44.2	19.0	16.3	35.5	18.6	11.4	22.9	17.4	17.0

**CLIENT: Golder**  
**PROJECT: Southern Com**  
**SGS Project #: 2204**  
**Test: Metals by Multi Acid**  
**Date: 16 Feb 22**

Sample ID	La ppm	Lu ppm	Mo ppm	Nb ppm	Pb ppm	Rb ppm	Sb ppm	Sc ppm	Se ppm	Sn ppm
Method Code	IMS40Q12	IMS40Q12	IMS40Q12	IMS40Q12	IMS40Q12	IMS40Q12	IMS40Q12	IMS40Q12	IMS40Q12	IMS40Q12
LOD	0.1	0.01	0.05	0.1	0.5	0.2	0.05	0.5	2	0.3
MW-3V-170-180	47.7	0.57	2.7	14.9	30.9	208	0.87	26	2	3.8
MW-3V-180-190	35.3	0.38	1.57	10.8	24.9	90.1	3.11	17.2	<2	2.9
MW-4V-130-140	39.7	0.53	1.72	13.3	27.4	172	1.04	20.9	<2	3.6
MW-4V-140-150	39.5	0.51	1.04	13.2	23.1	161	0.57	20.8	<2	3.4
MW-8V-81-84	43.3	0.53	9.05	13.4	43.5	137	3.53	22.4	8	4
MW-8V-94-97	34	0.41	9.8	10.6	32.2	81.1	2.2	18.8	9	3
MW-8V-155-160	43.8	0.61	3.25	14.5	31.2	198	1.15	25.8	<2	3.8
MW-8V-160-165	41.9	0.5	1.3	12.6	25.2	141	1.22	19.8	<2	3
MW-9H-40-50	37.2	0.44	0.67	13.2	15	106	0.84	17.3	<2	3.1
MW-9H-50-60	24.5	0.35	0.78	7.4	10.5	53.9	0.39	10.1	<2	1.5
MW-12H-60-64	37.1	0.5	1.78	13.4	25.2	134	0.86	20.1	<2	3.4
MW-12V-120-130	38.6	0.53	1.88	12.3	25.6	141	1.05	20.3	<2	3.2
<b>Duplicate</b>										
*Rep MW-9H-50-60	25.8	0.37	0.8	8.4	11.1	56.1	0.43	10.7	<2	1.5
<b>QC</b>										
OREAS 601b	33.3	0.09	5.19	14.4	302	91.7	22.76	5	9	3.2
Certified Values	33.5	0.0731	5.22	14.4	318	98	22.9	3.77	10.6	3.36
Tolerance (%)	22.6	54.6	27.1	21.7	14.7	10.9	27.4	19.0	31.2	15.8

**CLIENT: Golder**  
**PROJECT: Southern Com**  
**SGS Project #: 2204**  
**Test: Metals by Multi Acid**  
**Date: 16 Feb 22**

Sample ID	Ta ppm	Tb ppm	Te ppm	Th ppm	Tl ppm	U ppm	W ppm	Y ppm	Yb ppm
Method Code	IMS40Q12	IMS40Q12	IMS40Q12	IMS40Q12	IMS40Q12	IMS40Q12	IMS40Q12	IMS40Q12	IMS40Q12
LOD	0.05	0.05	0.05	0.2	0.02	0.05	0.1	0.1	0.1
MW-3V-170-180	1.07	1.29	0.09	16.1	1.14	4.48	3.2	25.8	3.9
MW-3V-180-190	0.87	1.08	<0.05	11.7	0.88	3.32	1.4	15.6	2.5
MW-4V-130-140	0.97	1.15	0.08	14.8	1.06	3.96	1.8	23.1	3.4
MW-4V-140-150	0.98	1.11	0.07	14.7	0.94	3.77	1.5	20.5	3.4
MW-8V-81-84	1.06	1.12	0.12	18	1.63	4.72	1.7	22.1	3.5
MW-8V-94-97	0.87	0.87	0.08	14.1	0.92	3.98	1.4	17	2.7
MW-8V-155-160	1.06	1.59	0.08	15.5	1.2	4.89	1.7	26.5	4.1
MW-8V-160-165	0.92	1.09	0.08	15.4	0.83	4.12	1.4	19.6	3.2
MW-9H-40-50	0.97	1	<0.05	13.1	0.84	3.77	1.6	17.4	2.9
MW-9H-50-60	0.54	0.77	<0.05	8.6	0.31	2.21	1	14.8	2.2
MW-12H-60-64	0.96	1.23	<0.05	13.7	0.74	3.84	4.4	23.5	3.3
MW-12V-120-130	0.98	1.32	0.07	14.6	0.85	4.12	1.6	24.2	3.6
<b>Duplicate</b>									
*Rep MW-9H-50-60	0.64	0.81	<0.05	9.1	0.31	2.36	1.1	15.7	2.4
<b>QC</b>									
OREAS 601b	1.14	0.66	11.67	12.8	1.44	4.61	6.7	11	0.6
Certified Values	1.11	0.52	12.6	11.9	1.44	4.64	6.13	11.1	0.54
Tolerance (%)	20.6	40.4	22.8	20.7	19.2	14.0	16.6	13.7	30.4

**CLIENT** : Golder  
**PROJECT** : Southern Company  
**SGS Project #** : 2204  
**Test** : Metals by Aqua Regia Digestion with ICP-MS/ AES Finish  
**Date** : 16 Feb 22

Sample ID	Al2O3 %	CaO %	Cr2O3 %	Fe2O3 %	K2O %	MgO %	Mn3O4 %	Na2O %	P2O5 %	SiO2 %	TiO2 %	V2O5 %	LOI %	Sum %
Method Code	XRF72	XRF72	XRF72	XRF72	XRF72	XRF72	XRF72	XRF72	XRF72	XRF72	XRF72	XRF72	XRF72	XRF72
LOD	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	-10	0.01
MW-3V-170-180	18.75	0.77	0.01	8.45	3.97	2.25	0.13	0.87	0.18	54.87	0.88	0.03	8.78	91.49
MW-3V-180-190	13.41	0.13	<0.01	5.35	1.88	0.51	0.02	0.77	0.02	69.68	0.74	0.02	7.03	92.66
MW-4V-130-140	16.28	1.61	0.01	6.64	3.45	1.82	0.08	0.99	0.19	59.9	0.86	0.02	6.93	94.14
MW-4V-140-150	16.59	0.64	0.01	7.19	3.45	1.94	0.1	1.02	0.16	60.72	0.90	0.03	7.01	93.47
MW-8V-81-84	18.20	0.31	0.01	3.68	2.46	0.91	<0.01	0.2	0.09	30.64	0.74	0.03	42.25	57.6
MW-8V-94-97	12.48	0.40	<0.01	3.60	1.56	0.61	0.02	0.25	0.13	25.76	0.63	0.02	54.00	45.75
MW-8V-155-160	19.15	0.56	0.01	7.50	4.47	2.17	0.08	1.19	0.2	57.33	0.92	0.04	6.02	94.21
MW-8V-160-165	14.60	0.90	<0.01	5.77	3.08	1.67	0.06	1.57	0.19	66.16	0.95	0.02	4.64	95.57
MW-9H-40-50	14.46	0.15	<0.01	5.27	2.24	1.34	0.02	0.92	0.08	66.43	0.93	0.02	7.89	92.06
MW-9H-50-60	8.68	1.61	<0.01	3.64	1.26	0.96	0.06	1.35	0.11	77.86	0.73	0.01	3.52	96.52
MW-12H-60-64	15.44	0.42	<0.01	7.47	2.9	1.64	0.12	1.18	0.16	63.09	0.88	0.02	6.59	93.84
MW-12V-120-130	14.78	1.62	<0.01	6.62	2.95	1.66	0.08	1.22	0.17	63.05	0.86	0.03	6.23	93.39
<b>Duplicate</b>														
*Rep MW-12H-60-64	15.34	0.41	<0.01	7.51	2.86	1.65	0.11	1.16	0.16	62.8	0.88	0.02	6.649	93.46
<b>QC</b>														
OREAS 751	15.8	1.04	<0.01	2.4	2.92	0.50	0.09	3.4	0.28	71.24	0.24	<0.01		
OREAS 70B													6.81	
Expected Values	15.88	1.06	-	2.4	2.92	0.507	0.089	3.42	0.28	71.43	0.243	-	6.69	-
Tolerance +/-	0.34	0.05	-	0.07	0.08	0.035	0.027	0.09	0.03	1.45	0.030	-	0.694	-



SGS proposal: 18888  
SGS project #: 2204

Sample receipt date: 6-May-22  
Report date: 7-Jun-22

Version: Final

**Customer details**

Name:	Robert Singleton
Address:	Southern Company  c/o Golder

Project reference: Southern Company

P.O. number:

COC:

**ANALYSIS REPORT**

SGS WO: 2

**Report Distribution**

Name	Email
Robert Singleton	<a href="mailto:rosingle@southernco.com">rosingle@southernco.com</a>

**Special notes:**

Tessier Sequential extraction on 4 samples



SGS proposal: 18888  
SGS project #: 2204

Sample receipt date: 6-May-22  
Report date: 7-Jun-22

Version: Final

## ANALYSIS REPORT

### Method Summaries

*Test method information available upon request.*

S(T) and C(T): Total sulfur and total carbon by LECO, Method CSA06V  
S(SO4): Sulfate by HCl digestion with ICP finish, Method CSA07V  
S(S2-): Sulfide by calculation of S(T) - S(SO4)

TIC: Total inorganic carbon by coulometry, Method CSB02V  
AP: Acid generating potential based on sulfide sulfur  
NP: Modified neutralisation potential by excess acid addition and back titration to pH 8.3  
Net NP: Net neutralisation potential = NP - AP  
NPR: Neutralisation potential ratio = NP/AP

Metals by Aqua regia digest with ICP-OES/MS finish, Method ICP21B20/ICM21B20  
Metals by multi-acid digest with ICP-OES/MS finish, Method ICP40Q12/IMS40Q12  
Tessier Sequential Extraction - method available on request

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### Preliminary Data

### Final Data Approval

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Noelene Ahern - Manager: ARD

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Noelene Ahern - Manager: ARD





SGS proposal: 18888  
 SGS project #: 2204

Sample receipt date: 6-May-22  
 Report date: 7-Jun-22

Version: Final

**Tessier Extraction**

<b>Water Soluble Metals</b>								
Reagent: 15 mL of Nanopure Distilled Water								
Sample		MW-3V-180-190	MW-9H-40-50	MW-8V-81-84	MW-8V-155-160	MW-4V-130-140	MW-12H-60-64	Blank
Sample weight (g)		1.0770	1.0101	1.0102	1.0043	1.0099	1.0484	0
Reagent volume (mL)		15	15	15.0	15.0	15.0	15	15
Volume analysed (after wash dilution and preservation) (mL)		22.5	22.5	22.5	22.5	22.5	22.5	22.5
Final diluted solution weight (g)		23.79	23.46	23.6	22.7	22.5	22.495	23.39
Parameter	Units	RDL						
Hardness CaCO <sub>3</sub>	mg/L	0.05	51800	54800	56700	56300	57300	53200
Aluminum Al	mg/L	0.001	6	15	23	1	1	< 0.1
Antimony Sb	mg/L	0.0009	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09
Arsenic As	mg/L	0.0002	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Barium Ba	mg/L	0.00002	3.16	2.9	2.28	2.64	2.28	1.56
Beryllium Be	mg/L	0.00007	0.0037	0.0023	0.002	< 0.0007	< 0.0007	< 0.0007
Bismuth Bi	mg/L	0.00001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Boron B	mg/L	0.002	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Cadmium Cd	mg/L	0.00003	0.0003	< 0.0003	0.0007	0.0005	0.0004	< 0.0003
Calcium Ca	mg/L	0.01	8	3	8	21	62	11
Chromium Cr	mg/L	0.00008	< 0.008	< 0.008	0.01	0.009	< 0.008	< 0.008
Cobalt Co	mg/L	0.00004	0.0923	0.0227	0.038	0.0157	0.0039	0.0182
Copper Cu	mg/L	0.0002	0.0577	0.0928	0.182	0.0319	0.0261	0.0382
Iron Fe	mg/L	0.007	9	4	11	1	2	< 0.7
Lead Pb	mg/L	0.00009	0.044	0.011	0.058	< 0.009	< 0.009	< 0.009
Lithium Li	mg/L	0.001	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Magnesium Mg	mg/L	0.001	12600	13300	13800	13700	13900	12900
Manganese Mn	mg/L	0.00001	0.47	0.16	0.08	0.56	0.55	0.72
Mercury Hg	ug/L	0.01	0.05	0.04	0.26	< 0.01	< 0.01	0.07
Molybdenum Mo	mg/L	0.00004	< 0.0004	0.0019	0.0005	0.0061	0.0015	0.0025
Nickel Ni	mg/L	0.0001	0.121	0.0788	0.077	0.017	0.008	0.0195
Phosphorus P	mg/L	0.003	< 0.03	< 0.03	< 0.03	< 0.03	0.2	< 0.03
Potassium K	mg/L	0.003	4.6	2.4	3.7	16.8	11.6	10.8
Selenium Se	mg/L	0.00004	0.0009	< 0.0004	0.002	0.0027	0.0008	0.0009
Silicon Si	mg/L	0.02	3.6	3.9	2.9	2.6	3.8	3.9
Silver Ag	mg/L	0.00005	0.0015	0.0021	0.0026	0.0017	0.0013	0.0017
Sodium Na	mg/L	0.01	5.4	5.1	5	9.5	5.2	5.4
Strontium Sr	mg/L	0.00002	0.341	0.0403	0.154	0.393	0.342	0.0917
Sulphur (S)	mg/L	1	14	60	88	95	104	78
Thallium Tl	mg/L	0.000005	0.0008	0.0003	0.0004	0.0005	0.0003	< 0.00005
Tin Sn	mg/L	0.00006	0.0011	0.0006	0.0006	0.0008	< 0.0006	0.0008
Titanium Ti	mg/L	0.00005	0.0667	0.0578	0.0195	0.0074	0.0318	0.0459
Uranium U	mg/L	0.000002	0.0014	0.0009	0.0005	0.0007	0.0022	0.0001
Vanadium V	mg/L	0.00001	0.0033	0.0049	0.0043	0.0044	0.0058	0.0039
Zinc Zn	mg/L	0.002	0.09	0.11	0.26	0.03	< 0.02	0.05
Zirconium Zr	mg/L	0.002	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02



SGS proposal: 18888  
 SGS project #: 2204

Sample receipt date: 6-May-22  
 Report date: 7-Jun-22

Version: Final

**Tessier Extraction**

<b>Exchangeable Metals</b>									
Reagent: 15 mL of 1 M MgCl <sub>2</sub> (pH 7)									
Sample			MW-3V-180-190	MW-9H-40-50	MW-8V-81-84	MW-8V-155-160	MW-4V-130-140	MW-12H-60-64	Blank
Reagent volume (mL)			15	15	15.0	15.0	15.0	15	15
Volume analysed (after wash dilution and preservation) (mL)			27.5	27.5	27.5	27.5	27.5	27.5	27.5
Final diluted solution weight (g)			29.325	29.905	29.7	30.1	29.6	29.775	30.08
Parameter	Units	RDL							
Hardness CaCO <sub>3</sub>	mg/L	0.05	91.1	156	297	17	119	19.8	< 5
Aluminum Al	mg/L	0.001	2	10	38	14	4	10	< 0.1
Antimony Sb	mg/L	0.0009	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09
Arsenic As	mg/L	0.0002	0.03	< 0.02	0.02	0.04	< 0.02	< 0.02	< 0.02
Barium Ba	mg/L	0.00002	0.021	0.116	0.072	0.35	0.059	0.124	< 0.008
Beryllium Be	mg/L	0.000007	0.0033	0.0058	0.0167	0.002	0.0007	0.0008	< 0.0007
Bismuth Bi	mg/L	0.00001	0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Boron B	mg/L	0.002	< 0.2	0.8	0.4	0.2	< 0.2	< 0.2	< 0.2
Cadmium Cd	mg/L	0.000003	< 0.0003	0.0006	0.0046	< 0.0003	< 0.0003	< 0.0003	< 0.0003
Calcium Ca	mg/L	0.01	16	19	84	3	32	2	< 1
Chromium Cr	mg/L	0.00008	< 0.008	< 0.008	0.021	0.016	< 0.008	0.012	< 0.008
Cobalt Co	mg/L	0.000004	0.203	0.284	0.548	0.0145	0.0032	0.0085	0.0008
Copper Cu	mg/L	0.0002	0.293	0.253	1.08	0.114	0.0887	0.103	0.0581
Iron Fe	mg/L	0.007	12	14	22	13	3	12	< 0.7
Lead Pb	mg/L	0.00009	< 0.009	< 0.009	< 0.009	0.04	< 0.009	0.021	< 0.009
Lithium Li	mg/L	0.0001	0.2	0.2	0.5	0.03	0.03	0.04	< 0.01
Magnesium Mg	mg/L	0.001	11	26	21	2	10	3	< 0.1
Manganese Mn	mg/L	0.00001	0.776	1.81	1.01	0.163	0.051	0.256	0.002
Mercury Hg	ug/L	0.01	0.1	< 0.01	0.1	0.11	0.06	< 0.01	< 0.01
Molybdenum Mo	mg/L	0.00004	0.00232	0.0264	0.0025	0.0316	0.0028	0.0091	0.0007
Nickel Ni	mg/L	0.0001	0.251	0.912	1.08	0.0217	0.0057	0.0202	0.001
Phosphorus P	mg/L	0.003	< 0.003	0.098	0.098	0.588	0.098	0.098	< 0.003
Potassium K	mg/L	0.003	8.48	1.8	4.7	11.7	18.2	13.1	< 0.003
Selenium Se	mg/L	0.00004	0.00107	0.00147	0.01147	0.00559	0.00226	0.00167	0.0002
Silicon Si	mg/L	0.02	6	7	5	21	9	16	< 2
Silver Ag	mg/L	0.00005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Sodium Na	mg/L	0.01	9	3	3	15	7	10	< 1
Strontium Sr	mg/L	0.00002	0.15	0.041	0.17	0.043	0.16	0.025	< 0.008
Sulphur (S)	mg/L	1	< 100	< 100	138	< 100	< 100	< 100	< 100
Thallium Tl	mg/L	0.000005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Tin Sn	mg/L	0.00006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006
Titanium Ti	mg/L	0.00005	0.019	0.074	0.036	0.14	0.2	0.45	< 0.005
Uranium U	mg/L	0.000002	0.0003	0.0041	0.0101	0.0016	0.0005	0.0012	< 0.0002
Vanadium V	mg/L	0.00001	0.002	0.003	0.003	0.029	0.01	0.02	< 0.001
Zinc Zn	mg/L	0.002	< 0.2	1	3	< 0.2	< 0.2	< 0.2	< 0.2
Zirconium Zr	mg/L	0.002	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2



SGS proposal: 18888  
 SGS project #: 2204

Sample receipt date: 6-May-22  
 Report date: 7-Jun-22

Version: Final

**Tessier Extraction**

<b>Metals Bound to Carbonates</b>								
Reagent: 15 mL of 1 M NaOAc (adjusted to pH 5.0 with Acetic Acid)								
Sample		MW-3V-180-190	MW-9H-40-50	MW-8V-81-84	MW-8V-155-160	MW-4V-130-140	MW-12H-60-64	Blank
Reagent volume (mL)		15	15	15.0	15.0	15.0	15	15
Volume analysed (after wash dilution and preservation) (mL)		32.5	32.5	32.5	32.5	32.5	32.5	32.5
Final diluted solution weight (g)		34.59	34.12	34.6	34.1	34.7	34.345	34.61
Parameter	Units	RDL						
Hardness CaCO3	mg/L	0.05	216	246	359	358	254	0.6
Aluminum Al	mol/L	0.001	15	12.9	2.3	17	15.1	< 0.01
Antimony Sb	mg/L	0.0009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009
Arsenic As	mol/L	0.0002	0.022	0.049	0.083	0.022	0.018	< 0.002
Barium Ba	mg/L	0.00002	0.894	1.09	0.813	1.7	2.14	0.0055
Beryllium Be	mg/L	0.000007	0.00516	0.00156	0.00075	0.00714	0.00525	< 0.00007
Bismuth Bi	mg/L	0.00001	0.0005	0.0002	0.0008	0.0041	0.002	< 0.0001
Boron B	mg/L	0.002	< 0.02	< 0.02	< 0.02	< 0.02	0.03	< 0.02
Cadmium Cd	mg/L	0.000003	0.00003	0.00008	0.00018	0.00038	0.00084	< 0.00003
Calcium Ca	mg/L	0.01	0.25	0.22	0.32	18.3	216	2.4
Chromium Cr	mg/L	0.00008	0.028	0.028	0.0123	0.0207	0.0273	0.0241
Cobalt Co	mg/L	0.00004	0.0306	0.0065	0.00391	0.0879	0.0994	0.0912
Copper Cu	mg/L	0.0002	0.029	0.045	0.084	0.175	0.172	0.222
Iron Fe	mg/L	0.007	21.1	16.9	24.3	33.3	38.4	39.6
Lead Pb	mg/L	0.00009	0.0315	0.0052	0.0183	0.213	0.0941	0.116
Lithium Li	mg/L	0.0001	0.07	0.017	0.017	0.027	0.03	0.021
Magnesium Mg	mg/L	0.001	52.4	59.7	87	75.9	96.9	60.2
Manganese Mn	mol/L	0.00001	0.152	0.0517	0.0155	1.84	4.63	1.97
Mercury Hg	ug/L	0.01	< 0.01	< 0.01	0.01	< 0.01	< 0.01	< 0.01
Molybdenum Mo	mg/L	0.00004	0.0014	0.0009	0.002	0.0018	0.0011	0.0049
Nickel Ni	mg/L	0.0001	0.043	0.018	0.009	0.098	0.141	0.131
Phosphorus P	mg/L	0.003	< 0.03	0.09	0.13	0.36	0.34	0.17
Potassium K	mg/L	0.003	6.3	5.2	5	13.2	12.1	11.4
Selenium Se	mg/L	0.00004	0.0007	0.0012	0.0069	0.0024	0.0021	0.0019
Silicon Si	mg/L	0.02	3.75	3.15	2.47	12.8	13.9	9.65
Silver Ag	mg/L	0.00005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Sodium Na	mol/L	0.01	11600	11600	11500	11400	11500	11500
Strontium Sr	mg/L	0.00002	0.0139	0.009	0.0277	0.106	0.63	0.024
Sulphur (S)	mol/L	1	19	24	26	20	22	19
Thallium Tl	mg/L	0.000005	0.00019	0.00009	0.00022	0.00018	0.0002	0.00018
Tin Sn	mg/L	0.00006	< 0.0006	< 0.0006	< 0.0006	< 0.0006	< 0.0006	< 0.0006
Titanium Ti	mg/L	0.00005	0.0083	0.013	0.0042	0.031	0.0132	0.0198
Uranium U	mg/L	0.000002	0.00406	0.00182	0.00181	0.00894	0.00605	0.005
Vanadium V	mg/L	0.00001	0.002	0.0025	0.0033	0.0187	0.0193	0.026
Zinc Zn	mg/L	0.002	0.05	0.04	0.05	0.16	0.5	0.28
Zirconium Zr	mg/L	0.002	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02



SGS proposal: 18888  
SGS project #: 2204

Sample receipt date: 6-May-22  
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Version: Final

**Tessier Extraction**

<b>Metals Bound to Fe and Mn Oxides</b>								
Reagent: 15 mL of 0.04M NH <sub>2</sub> OH·HCl in 25% HOAc								
Sample		MW-3V-180-190	MW-9H-40-50	MW-8V-81-84	MW-8V-155-160	MW-4V-130-140	MW-12H-60-64	Blank
Reagent volume (mL)		15	15	15.0	15.0	15.0	15	15
Volume analysed (after wash dilution and preservation) (mL)		32.5	32.5	32.5	32.5	32.5	32.5	32.5
Final diluted solution weight (g)		34.535	34.64	34.6	34.1	33.9	34.12	33.91
Parameter	Units	RDL						
Hardness CaCO <sub>3</sub>	mg/L	0.05	39	88	53	344	315	362
Aluminum Al	mg/L	0.001	27	41	21	35	37	23
Antimony Sb	mg/L	0.0009	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09
Arsenic As	mg/L	0.0002	0.2	0.3	0.8	0.04	0.06	< 0.02
Barium Ba	mg/L	0.00002	0.21	0.11	0.088	0.61	1	0.58
Beryllium Be	mg/L	0.000007	0.0069	0.0042	0.004	0.0119	0.0115	0.0126
Bismuth Bi	mg/L	0.00001	0.003	0.001	0.007	0.004	0.004	< 0.001
Boron B	mg/L	0.002	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Cadmium Cd	mg/L	0.000003	< 0.0003	0.0007	0.0005	0.0005	0.0007	0.0009
Calcium Ca	mg/L	0.01	4	6	2	56	51	46
Chromium Cr	mg/L	0.00008	0.094	0.11	0.043	0.08	0.12	0.12
Cobalt Co	mg/L	0.000004	0.0841	0.0521	0.0207	0.114	0.158	0.0825
Copper Cu	mg/L	0.0002	0.03	0.09	0.05	0.09	0.1	0.09
Iron Fe	mg/L	0.007	394	295	238	383	334	708
Lead Pb	mg/L	0.00009	0.19	0.01	0.18	0.23	0.13	0.19
Lithium Li	mg/L	0.0001	0.3	0.3	0.3	0.1	0.1	0.06
Magnesium Mg	mg/L	0.001	7	18	12	50	46	60
Manganese Mn	mg/L	0.00001	1.3	0.7	0.26	8.3	6.7	17.2
Mercury Hg	ug/L	0.01	0.1	0.09	0.05	0.03	0.01	< 0.01
Molybdenum Mo	mg/L	0.00004	0.009	0.012	0.047	0.015	0.02	0.008
Nickel Ni	mg/L	0.0001	0.1	0.1	0.05	0.2	0.3	0.2
Phosphorus P	mg/L	0.003	0	2	1	4	5	2
Potassium K	mg/L	0.003	8	14	13	5	7	4
Selenium Se	mg/L	0.00004	< 0.004	< 0.004	0.022	< 0.004	< 0.004	< 0.004
Silicon Si	mg/L	0.02	19	28	23	28	32	19
Silver Ag	mg/L	0.00005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Sodium Na	mg/L	0.01	64	60	111	47	49	42
Strontium Sr	mg/L	0.00002	0.055	0.05	0.096	0.21	0.22	0.12
Sulphur (S)	mg/L	1	< 100	< 100	< 100	< 100	< 100	< 100
Thallium Tl	mg/L	0.000005	0.0017	0.002	0.0083	< 0.0005	< 0.0005	< 0.0005
Tin Sn	mg/L	0.00006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006
Titanium Ti	mg/L	0.00005	0.015	0.042	0.034	0.017	0.023	0.014
Uranium U	mg/L	0.000002	0.004	0.0025	0.0031	0.0084	0.0099	0.0066
Vanadium V	mg/L	0.00001	0.094	0.12	0.12	0.14	0.19	0.34
Zinc Zn	mg/L	0.002	1	1	1	1	1	0
Zirconium Zr	mg/L	0.002	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2



SGS proposal: 18888  
 SGS project #: 2204

Sample receipt date: 6-May-22  
 Report date: 7-Jun-22

Version: Final

**Tessier Extraction**

<b>Metals Bound to Organics</b>								
Reagent: 3 mL of 0.02 M HNO <sub>3</sub> + 5 mL 30% H <sub>2</sub> O <sub>2</sub> + 5 mL 1.2 M NH <sub>4</sub> OAc in 20% H <sub>2</sub> O								
Sample	MW-3V-180-190	MW-9H-40-50	MW-8V-81-84	MW-8V-155-160	MW-4V-130-140	MW-12H-60-64	Blank	
Reagent volume (mL)	15	15	15.0	15	15	15	15	
Volume analysed (after wash dilution and preservation) (mL) (Vol. is approximate)	37.5	37.5	37.5	37.5	37.5	37.5	37.5	
Final diluted solution weight (g)	38.425	38.635	38.2	39.1	38.8	38.92	40.52	
Parameter	Units	RDL						
Hardness CaCO <sub>3</sub>	mg/L	0.05	16	55	36	115	107	105
Aluminum Al	mg/L	0.001	22	31	33	31	37	22
Antimony Sb	mg/L	0.0009	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09
Arsenic As	mg/L	0.0002	0.5	0.2	0.7	0.2	0.3	0.1
Barium Ba	mg/L	0.0002	0.116	0.189	0.603	0.202	0.069	0.152
Beryllium Be	mg/L	0.00007	0.0015	0.0011	0.0014	0.0019	0.0022	0.002
Bismuth Bi	mg/L	0.0001	< 0.001	< 0.001	0.001	< 0.001	0.001	< 0.001
Boron B	mg/L	0.002	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Cadmium Cd	mg/L	0.00003	< 0.0003	< 0.0003	0.0012	0.0018	0.0009	0.0024
Calcium Ca	mg/L	0.01	2	10	3	30	25	27
Chromium Cr	mg/L	0.0008	0.037	0.032	0.053	0.035	0.092	0.018
Cobalt Co	mg/L	0.00004	0.0408	0.02	0.0299	0.137	0.0815	0.0905
Copper Cu	mg/L	0.0002	0.2	0.1	0.5	0.7	0.6	0.6
Iron Fe	mg/L	0.007	336	83	147	67	288	73
Lead Pb	mg/L	0.0009	< 0.009	< 0.009	0.167	0.083	0.014	0.077
Lithium Li	mg/L	0.0001	0.09	0.08	0.1	0.07	0.07	0.04
Magnesium Mg	mg/L	0.001	3	7	10	10	9	0
Manganese Mn	mg/L	0.0001	1.18	0.273	0.255	0.508	1.99	0.903
Mercury Hg	ug/L	0.01	0.03	0.02	0.05	0.02	< 0.01	< 0.01
Molybdenum Mo	mg/L	0.0004	0.009	< 0.004	0.038	0.01	0.018	0.005
Nickel Ni	mg/L	0.0001	0.1	0.08	0.1	0.2	0.6	0.3
Phosphorus P	mg/L	0.003	10	14	13	21	21	18
Potassium K	mg/L	0.003	< 0.3	1	1	2	1	< 0.3
Selenium Se	mg/L	0.0004	< 0.004	0.004	0.075	0.005	0.006	0.004
Silicon Si	mg/L	0.02	11	16	17	18	20	13
Silver Ag	mg/L	0.00005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Sodium Na	mg/L	0.01	8	9	10	9	10	9
Strontium Sr	mg/L	0.0002	0.018	0.049	0.072	0.156	0.105	0.009
Sulphur (S)	mg/L	1	320	< 100	< 100	< 100	197	< 100
Thallium Tl	mg/L	0.00005	0.0019	0.0024	0.0084	0.0006	0.0017	0.0006
Tin Sn	mg/L	0.00006	0.28	0.616	1.22	0.61	0.739	0.617
Titanium Ti	mg/L	0.00005	0.043	0.16	0.033	0.16	0.129	0.152
Uranium U	mg/L	0.00002	0.0011	0.002	0.0019	0.0047	0.0044	< 0.0002
Vanadium V	mg/L	0.0001	0.029	0.033	0.07	0.042	0.05	0.041
Zinc Zn	mg/L	0.002	0	0	1	1	3	1
Zirconium Zr	mg/L	0.002	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2



SGS proposal: 18888  
 SGS project #: 2204

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**Metals - Multi-Acid Digestion with ICP-OES/MS Finish**

Test Units Method Code	Residual wt g	Al % ICP40Q12	Ba mg/kg ICP40Q12	Ca % ICP40Q12	Cr mg/kg ICP40Q12	Cu mg/kg ICP40Q12	Fe % ICP40Q12	K % ICP40Q12	Li mg/kg ICP40Q12	Mg % ICP40Q12	Mn mg/kg ICP40Q12	Na % ICP40Q12	Ni mg/kg ICP40Q12	P % ICP40Q12	S % ICP40Q12	Sr mg/kg ICP40Q12	Ti % ICP40Q12
Lower detection		0.01	1	0.01	1	0.5	0.01	0.01	1	0.01	2	0.01	1	0.01	0.01	0.5	0.01
Upper detection		15	10000	15	10000	10000	15	15	10000	15	10000	15	10000	15	5	10000	15
<b>Sample ID</b>																	
MW-3V-180-190	0.9095	7.520	388	0.03	28	1.2	1.11	1.62	250	0.26	29	0.59	13	0.02	0.13	40.8	0.43
MW-9H-40-50	0.9349	8.010	669	0.02	55	3.4	2.56	2	97	0.73	150	0.74	19	0.03	0.12	68.7	0.45
MW-8V-81-84	0.8965	9.920	781	0.03	89	22.8	1.15	2.08	286	0.47	39	0.13	19	0.05	0.37	187	0.42
MW-8V-155-160	0.9126	10.010	889	0.02	84	7.9	3.78	3.8	55	1.14	236	0.86	24	0.05	<0.01	88	0.45
MW-4V-130-140	0.9004	9.040	724	0.03	84	5.9	3.05	2.98	53	0.92	191	0.75	23	0.05	0.06	90.5	0.47
MW-12H-60-64	0.9425	8.77	625	0.04	58	5.9	2.8	2.57	47	0.79	190	0.93	23	0.04	<0.01	86.3	0.46
<b>QA/QC</b>																	
*Rep MW-3V-180-190		7.710	384	0.04	40	0.7	1.12	1.62	252	0.26	31	0.59	14	0.02	0.12	41.5	0.42
*Blk BLANK		0.010	6	<0.01	2	0.6	<0.01	<0.01	<1	<0.01	<2	<0.01	1	<0.01	<0.01	<0.5	<0.01
<b>Certified standards</b>																	
*Std OREAS 601b		6.850	1612	0.84	15	972.0	2.28	2.53	24	0.10	228	2.01	6	0.03	1.47	250	0.13
*Std OREAS 905		7.640	2778	0.55	11	1565.0	4.13	3.07	21	0.28	362	2.55	10	0.03	0.07	161	0.12



SGS proposal: 18888  
 SGS project #: 2204

Sample receipt date: 6-May-22  
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Version: Final

**Metals - Multi-Acid Digestion with ICP-OES/MS Finish**

Test	V	Zn	Zr	Ag	As	Be	Bi	Cd	Ce	Co	Cs	Ga	Hf	In	La	Lu
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Method Code	ICP40Q12	ICP40Q12	ICP40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12
Lower detection	2	1	0.5	0.02	1	0.1	0.04	0.02	0.05	0.1	1	0.1	0.02	0.01	0.05	0.1
Upper detection	10000	10000	10000	100	10000	2500	10000	10000	1000	10000	1000	1000	500	1000	10000	1000
<b>Sample ID</b>																
MW-3V-180-190	81	19	94.4	0.03	24	1.7	0.06	0.71	97.33	5.1	8.00	17.1	2.89	0.1	40.1	0.30
MW-9H-40-50	98	49	129	0.05	14	1.7	0.13	0.66	84.47	7.3	7.00	21.3	3.84	0.2	37.1	0.36
MW-8V-81-84	161	28	106	0.18	11	2.1	0.32	0.68	101	3.4	12.00	26.4	3.04	0.2	49.0	0.44
MW-8V-155-160	148	71	125	<0.02	10	2.9	0.09	0.25	97.92	7.9	8.00	28.2	3.89	0.1	44.7	0.45
MW-4V-130-140	129	62	133	0.05	11	2.4	0.14	0.55	84.41	8	8.00	23.8	3.85	0.2	41.4	0.37
MW-12H-60-64	106	57	114	0.07	5	2.2	0.11	0.68	82.91	8.3	5.00	22.6	3.43	0.2	37.8	0.37
<b>QA/QC</b>																
*Rep MW-3V-180-190	85	19	92.7	0.04	23	1.7	0.07	0.65	86.53	5.2	8.00	17.4	2.69	0.2	38.8	0.29
*BIK BLANK	<2	2	<0.5	<0.02	<1	<0.1	<0.04	0.05	0.08	<0.1	<1	<0.1	<0.02	<0.02	<0.1	<0.01
<b>Certified standards</b>																
*Std OREAS 601b	10	297	181	50.31	297	2.3	17.5	1.86	68.55	3	5.00	23.8	5.07	0.5	34.4	0.07
*Std OREAS 905	8	128	250	0.56	33	3	5.78	0.34	92.15	15	7.00	25.2	6.96	0.7	43.8	0.10



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**Metals - Multi-Acid Digestion with ICP-OES/MS Finish**

Test	Mo	Nb	Pb	Rb	Sb	Sc	Se	Sn	Ta	Tb	Te	Th	Tl	U	W	Y	Yb
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ppm	ppm
Method Code	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12
Lower detection	0.5	0.2	0.05	0.5	2	0.3	0.05	0.05	0.05	0.2	0.02	0.05	0.1	0.1	0.1	0.05	0.1
Upper detection	10000	10000	10000	10000	1000	1000	10000	10000	1000	10000	10000	10000	10000	10000	1000	10000	100
<b>Sample ID</b>																	
MW-3V-180-190	0.89	13.5	14.6	88	2.97	11.8	<2	239	1.07	0.74	<0.05	10.0	0.63	2.6	1.3	17.2	2
MW-9H-40-50	0.26	14.2	13.9	107	0.74	13.8	<2	248	1.06	0.6	<0.05	11.3	0.64	3.2	1.5	16.9	2.3
MW-8V-81-84	5.9	12.8	29.2	127	2.86	17.2	<2	205	1.03	0.75	0.07	15.1	0.96	3.8	1.4	23.0	2.7
MW-8V-155-160	1.42	15.5	9.2	199	0.79	20.5	<2	231	1.14	0.55	<0.05	12.0	1.04	3.7	3.5	18.6	3
MW-4V-130-140	0.99	14.9	19.7	175	0.87	15.2	<2	245	1.06	0.39	<0.05	10.3	0.87	3.3	3.3	13.5	2.5
MW-12H-60-64	1.26	14.3	11.6	129	0.77	13.3	<2	239	1.04	0.53	<0.05	11.0	0.65	3.0	2.5	18.2	2.3
<b>QA/QC</b>																	
*Rep MW-3V-180-190	0.72	12.3	14.9	90	2.8	10.6	<2	240	0.98	0.69	<0.05	9.4	0.67	2.7	1.3	15.0	1.8
*BIK BLANK	0.07	<0.1	<0.5	<0.2	<0.05	<0.5	<2	<0.3	<0.05	<0.05	<0.05	<0.2	<0.02	<0.05	<0.1	<0.1	<0.1
<b>Certified standards</b>																	
*Std OREAS 601b	5.2	15.5	301.0	94	23.58	3.6	6.0	3.8	1.15	0.52	11.71	11.4	1.43	4.6	6.0	11.3	0.5
*Std OREAS 905	3.27	19	31.7	141	1.97	5	<2	4	1.37	0.77	0.07	14.0	0.70	4.7	2.8	15.4	0.7





SGS proposal: 19020-PR1-R1  
 SGS project #: 2224

**Metals - Multi Acid Digestion with ICP-OES/MS Finish - CRM Expected Values and Tolerance**

CRM	Test	Al	Ba	Ca	Cr	Cu	Fe	K	Li	Mg	Mn	Na	Ni	P	S	Sr	Ti	V
Method Code	Units	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12
	Lower detection	0.01	5	0.01	1	0.5	0.01	0.01	1	0.01	2	0.01	1	0.01	0.01	0.5	0.01	1
	Upper detection	15	10000	15	10000	10000	15	15	10000	15	10000	15	10000	15	5	10000	15	10000
OREAS 905	Expected value	7.42	2699.0	0.59	19.2	1533	4.08	2.88	20	0.28	380	2.40	9.5	0.028	0.07	157	0.12	10.1
	Tolerance (%)	10.7	14.0	14.2	49.1	11.9	11.5	12.1	23.9	17.2	13.0	14.1	26.5	24.6	29.4	12.5	15.4	28.6
OREAS 601B	Expected value	6.63	BDL	0.887	23.7	1010	2.29	2.41	22.6	0.10	222	1.90	6.5	0.029	1.50	241	0.14	12.1
	Tolerance (%)	10.1		14.9	37.6	6.8	10.7	9.4	26.3	20.0	11.1	14.3	30.9	15.1	7.2	14.7	11.8	21.7

CRM	Test	Zn	Zr	Ag	As	Be	Bi	Cd	Ce	Co	Cs	Ga	Hf	In	La	Lu	Mo	Nb
Method Code	Units	ICP40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12
	Lower detection	1	0.5	0.01	1	0.1	0.02	0.01	0.05	0.1	0.05	0.1	0.05	0.02	0.1	0.01	0.05	0.05
	Upper detection	10000	10000	100	10000	100	10000	10000	1000	10000	1000	10000	500	500	10000	1000	10000	1000
OREAS 905	Expected value	138	252.000	0.52	34.7	3.04	5.7	0.36	92	14.8	6.78	25.1	6.8	0.64	46	0.1	3.27	18.1
	Tolerance (%)	14.5	13.7	55.1	15.0	31.2	17.7	37.7	14.0	16.3	18.0	12.2	16.5	22.3	19.4	43.4	24.0	18.1
OREAS 601B	Expected value	318	186.000	50.10	284	2.24	18.0	2.05	70	2.97	4.88	23.4	5.1	0.47	33.5	0.0731	5.22	14.4
	Tolerance (%)	5.6	17.0	10.4	19.2	44.2	19.0	16.3	35.5	18.6	11.4	22.9	17.4	17.0	22.6	54.6	27.1	21.7

CRM	Test	Pb	Rb	Sb	Sc	Se	Sn	Ta	Tb	Te	Th	Tl	U	W	Y	Yb
Method Code	Units	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12
	Lower detection	0.2	0.2	0.05	0.1	1	0.3	0.05	0.02	0.05	0.1	0.02	0.05	0.1	0.05	0.1
	Upper detection	10000	10000	10000	10000	1000	1000	10000	10000	1000	10000	10000	10000	10000	10000	100
OREAS 905	Expected value	30.40	138	1.95	4.9	2.84	3.96	1.34	0.77	0.1	14.60	0.7	5.0	2.78	15.7	0.68
	Tolerance (%)	20.7	13.8	19.7	28.2	34.0	20.5	18.5	27.1	58.3	15.6	22.9	18.4	18.8	15.4	21.2
OREAS 601B	Expected value	318.0	98	22.9	3.8	10.6	3.36	1.11	0.52	12.6	11.90	1.4	4.6	6.13	11.1	0.54
	Tolerance (%)	14.7	10.9	27.4	19.0	31.2	15.8	20.6	40.4	22.8	20.7	19.2	14.0	16.6	13.7	30.4



# MINERALOGY DATA

prepared for:

**Custom Min**

**2204 ARD (Southern Company)**

**MI7013-JAN22**

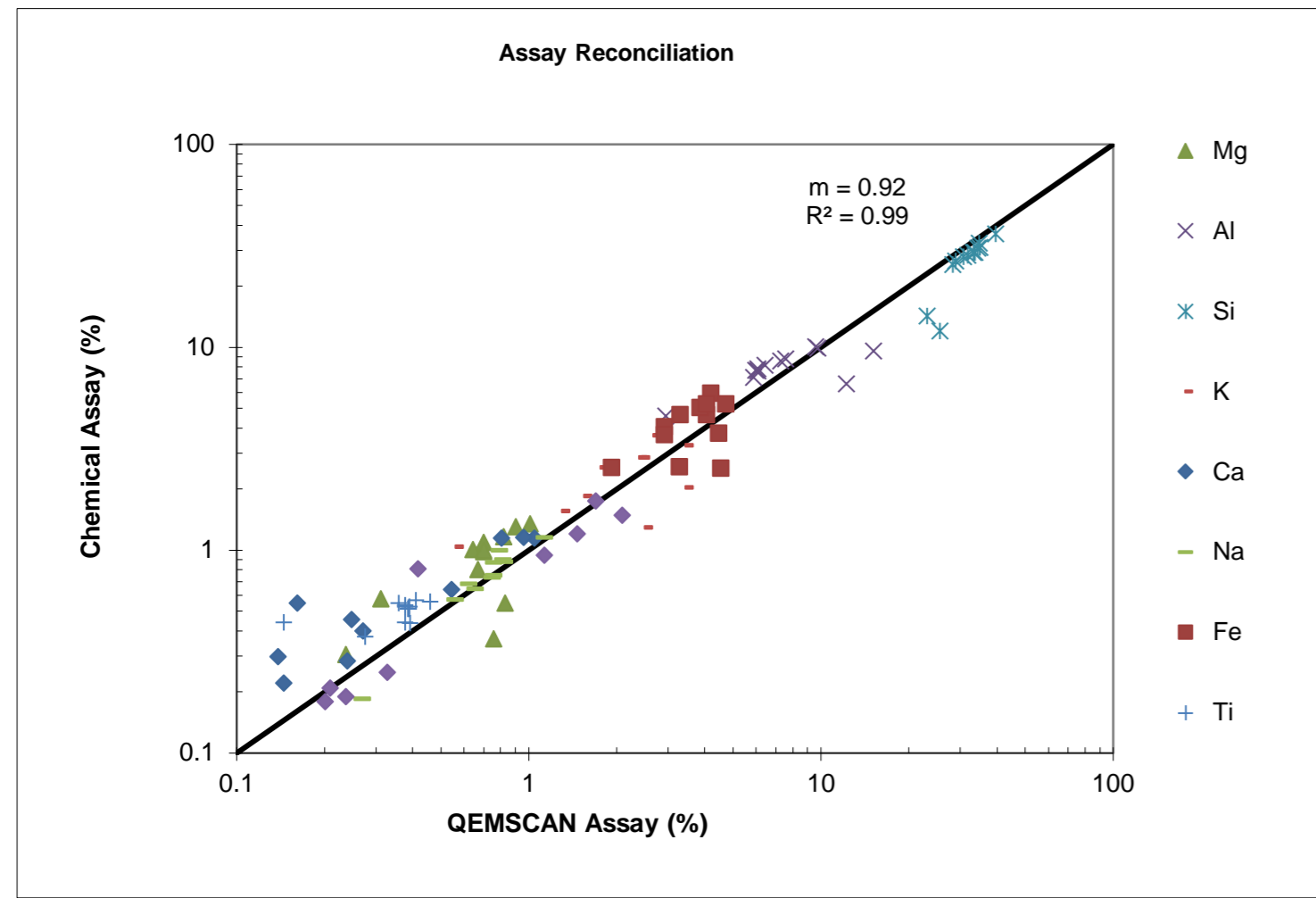
April 12, 2022

Prepared by:



**Margot Aldis/Lain Glossop**  
**Mineralogist/Senior Mineralogist**

Elemental Mass (%)

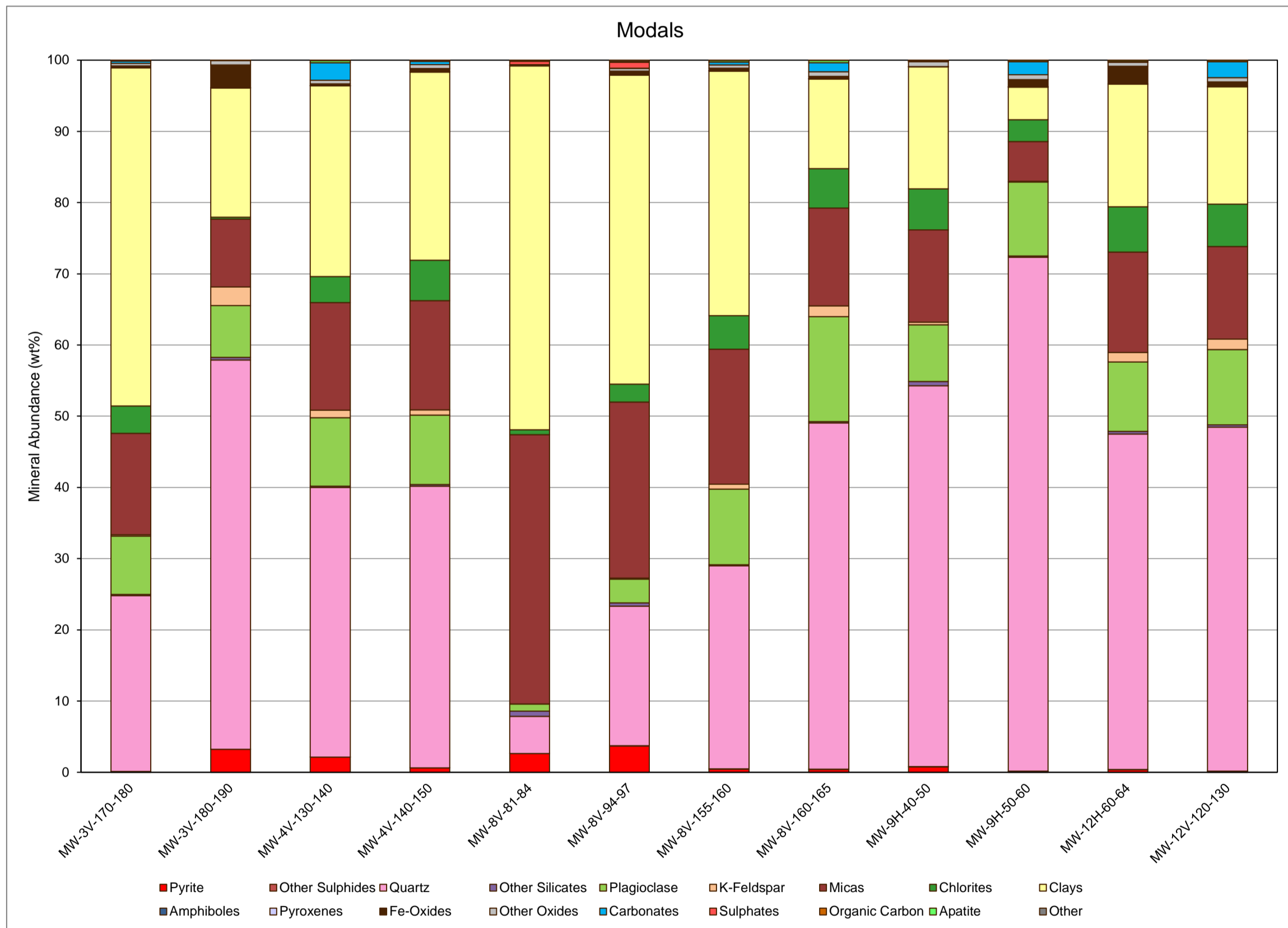


Elemental Mass (%) Absolute

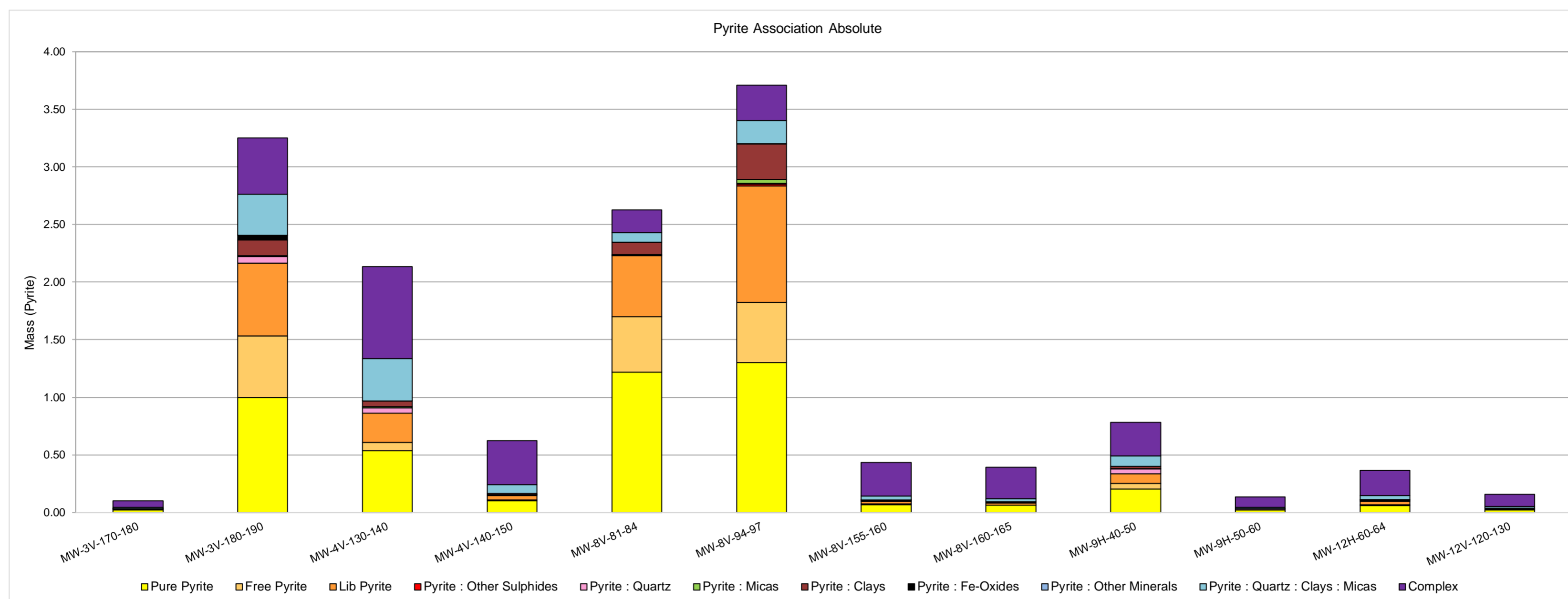
Mineral Name	Magnesium		Aluminum		Silicon		Potassium		Calcium		Sodium		Iron		Sulphur		Titanium	
	Mg (Calculated)	Mg (Assay)	Al (Calculated)	Al (Assay)	Si (Calculated)	Si (Assay)	K (Calculated)	K (Assay)	Ca (Calculated)	Ca (Assay)	Na (Calculated)	Na (Assay)	Fe (Calculated)	Fe (Assay)	S (Calculated)	S (Assay)	Ti (Calculated)	Ti (Assay)
MW-3V-170-180	1.01	1.36	9.75	9.92	28.2	25.6	3.43	3.30	0.16	0.55	0.66	0.65	4.21	5.91	0.06	0.09	0.39	0.53
MW-3V-180-190	0.24	0.31	5.85	7.10	34.7	32.6	1.30	1.56	0.01	0.09	0.56	0.57	4.49	3.74	1.70	1.75	0.38	0.44
MW-4V-130-140	0.70	1.10	7.25	8.62	30.8	28.0	2.39	2.86	1.04	1.15	0.75	0.73	4.07	4.64	1.13	0.95	0.39	0.52
MW-4V-140-150	0.82	1.17	7.55	8.78	31.8	28.4	2.44	2.86	0.25	0.46	0.76	0.76	3.87	5.03	0.33	0.25	0.38	0.54
MW-8V-81-84	0.83	0.55	15.1	9.63	23.0	14.3	3.44	2.04	0.14	0.22	0.10	0.15	3.30	2.57	1.46	1.21	0.14	0.44
MW-8V-94-97	0.76	0.37	12.2	6.61	25.5	12.0	2.50	1.30	0.24	0.29	0.27	0.19	4.56	2.52	2.08	1.49	0.28	0.38
MW-8V-155-160	0.90	1.31	9.55	10.1	28.8	26.8	2.66	3.71	0.27	0.40	0.83	0.88	4.08	5.25	0.24	0.19	0.36	0.55
MW-8V-160-165	0.64	1.01	5.95	7.73	34.3	30.9	1.76	2.56	0.54	0.64	1.14	1.16	2.92	4.04	0.21	0.21	0.41	0.57
MW-9H-40-50	0.67	0.81	6.08	7.65	35.0	31.1	1.55	1.86	0.07	0.11	0.63	0.68	2.93	3.69	0.42	0.81	0.46	0.56
MW-9H-50-60	0.31	0.58	2.94	4.59	39.6	36.4	0.56	1.05	0.80	1.15	0.80	1.00	1.93	2.55	0.07	0.08	0.39	0.44
MW-12H-60-64	0.70	0.99	6.41	8.17	33.3	29.5	1.85	2.41	0.14	0.30	0.76	0.88	4.73	5.22	0.20	0.18	0.38	0.53
MW-12V-120-130	0.70	1.00	6.08	7.82	33.6	29.5	1.86	2.45	0.96	1.16	0.82	0.91	3.30	4.63	0.09	0.09	0.39	0.52

Modals

Mineral (%)	MW-3V-170-180	MW-3V-180-190	MW-4V-130-140	MW-4V-140-150	MW-8V-81-84	MW-8V-94-97	MW-8V-155-160	MW-8V-160-165	MW-9H-40-50	MW-9H-50-60	MW-12H-60-64	MW-12V-120-130
Pyrite	0.10	3.25	2.14	0.62	2.63	3.71	0.43	0.39	0.78	0.14	0.37	0.16
Other Sulphides	0.02	0.00	0.01	0.01	0.02	0.01	0.04	0.03	0.01	0.01	0.01	0.01
Quartz	24.7	54.7	37.8	39.6	5.20	19.6	28.5	48.7	53.5	72.2	47.1	48.3
Other Silicates	0.22	0.38	0.21	0.23	0.72	0.47	0.14	0.16	0.59	0.21	0.33	0.32
Plagioclase	8.18	7.24	9.60	9.72	1.02	3.34	10.6	14.8	7.95	10.4	9.78	10.6
K-Feldspar	0.20	2.61	1.06	0.74	0.02	0.15	0.67	1.48	0.37	0.10	1.33	1.46
Micas	14.2	9.55	15.1	15.3	37.8	24.7	19.0	13.7	12.9	5.57	14.1	13.0
Chlorites	3.87	0.24	3.63	5.69	0.70	2.56	4.70	5.54	5.79	3.08	6.35	5.92
Clays	47.5	18.2	26.8	26.4	51.1	43.4	34.3	12.6	17.1	4.54	17.2	16.5
Amphiboles	0.06	0.00	0.02	0.03	0.01	0.01	0.05	0.03	0.01	0.02	0.02	0.04
Pyroxenes	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.00
Fe-Oxides	0.21	3.22	0.27	0.48	0.02	0.54	0.38	0.35	0.01	1.05	2.47	0.65
Other Oxides	0.36	0.62	0.49	0.52	0.10	0.38	0.46	0.65	0.70	0.68	0.58	0.61
Carbonates	0.33	0.02	2.45	0.47	0.04	0.06	0.40	1.28	0.02	1.85	0.05	2.22
Sulphates	0.00	0.00	0.04	0.00	0.47	0.79	0.01	0.00	0.01	0.00	0.02	0.01
Organic Carbon	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apatite	0.11	0.00	0.28	0.15	0.04	0.14	0.22	0.31	0.13	0.18	0.18	0.18
Other	0.02	0.02	0.05	0.02	0.10	0.18	0.03	0.04	0.07	0.02	0.04	0.03
Total	100	100	100	100	100	100	100	100	100	100	100	100

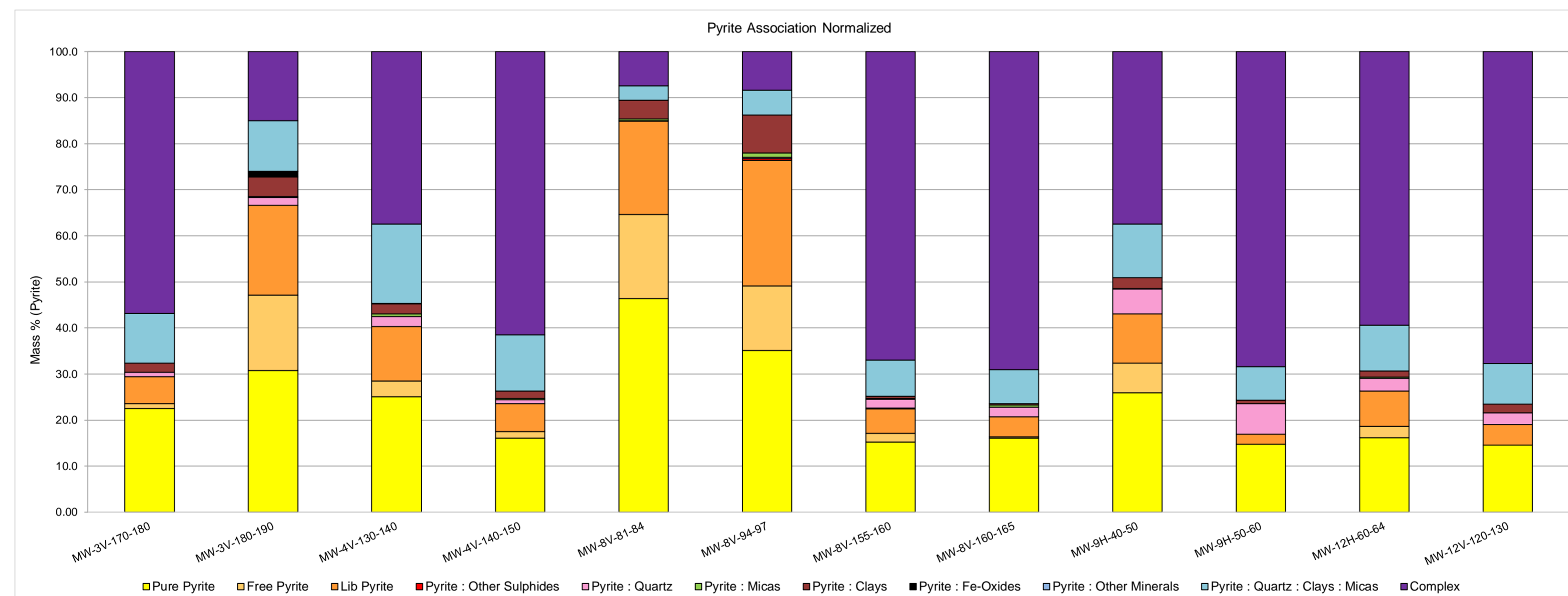


Pyrite Association



Pyrite Association Absolute

Mass (Pyrite)	MW-3V-170-180	MW-3V-180-190	MW-4V-130-140	MW-4V-140-150	MW-8V-81-84	MW-8V-94-97	MW-8V-155-160	MW-8V-160-165	MW-9H-40-50	MW-9H-50-60	MW-12H-60-64	MW-12V-120-130
Pure Pyrite	0.02	1.00	0.54	0.10	1.22	1.30	0.07	0.06	0.20	0.02	0.06	0.02
Free Pyrite	0.00	0.53	0.07	0.01	0.48	0.52	0.01	0.00	0.05	0.00	0.01	0.00
Lib Pyrite	0.01	0.63	0.25	0.04	0.53	1.01	0.02	0.02	0.08	0.00	0.03	0.01
Pyrite : Other Sulphides	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Pyrite : Quartz	0.00	0.06	0.05	0.01	0.00	0.01	0.01	0.01	0.04	0.01	0.01	0.00
Pyrite : Micas	0.00	0.01	0.01	0.00	0.01	0.04	0.00	0.00	0.00	0.00	0.00	0.00
Pyrite : Clays	0.00	0.14	0.05	0.01	0.11	0.31	0.00	0.00	0.02	0.00	0.01	0.00
Pyrite : Fe-Oxides	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pyrite : Other Minerals	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pyrite : Quartz : Clays : Micas	0.01	0.36	0.37	0.08	0.08	0.20	0.03	0.03	0.09	0.01	0.04	0.01
Complex	0.06	0.49	0.80	0.38	0.19	0.31	0.29	0.27	0.29	0.09	0.22	0.11
Mass %	0.10	3.25	2.14	0.62	2.63	3.71	0.43	0.39	0.78	0.14	0.37	0.16



Pyrite Association Normalized

Mass (% Pyrite)	MW-3V-170-180	MW-3V-180-190	MW-4V-130-140	MW-4V-140-150	MW-8V-81-84	MW-8V-94-97	MW-8V-155-160	MW-8V-160-165	MW-9H-40-50	MW-9H-50-60	MW-12H-60-64	MW-12V-120-130
Pure Pyrite	22.5	30.8	25.0	16.1	46.4	35.1	15.2	16.1	25.9	14.7	16.2	14.6
Free Pyrite	0.98	16.4	3.46	1.44	18.2	14.0	1.85	0.26	6.39	0.00	2.47	0.00
Lib Pyrite	5.88	19.4	11.8	6.10	20.2	27.3	5.31	4.35	10.7	2.21	7.67	4.43
Pyrite : Other Sulphides	0.00	0.00	0.00	0.00	0.00	0.38	0.23	0.00	0.00	0.00	0.00	0.00
Pyrite : Quartz	0.98	1.69	2.20	0.80	0.11	0.22	1.85	2.05	5.36	6.62	2.74	2.53
Pyrite : Micas	0.00	0.25	0.51	0.32	0.38	0.94	0.23	0.51	0.13	0.00	0.27	0.00
Pyrite : Clays	1.96	4.24	2.25	1.61	4.08	8.27	0.46	0.26	2.43	0.74	1.37	1.90
Pyrite : Fe-Oxides	0.00	1.17	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pyrite : Other Minerals	0.00	0.03	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00
Pyrite : Quartz : Clays : Micas	10.8	11.0	17.3	12.2	3.16	5.39	7.85	7.42	11.6	7.35	9.86	8.86
Complex	56.9	15.0	37.4	61.5	7.39	8.35	67.0	69.1	37.4	68.4	59.5	67.7
Total	100	100	100	100	100	100	100	100	100	100	100	100
Free and liberated	29.4	66.6	40.3	23.6	84.9	76.4	22.4	20.7	43.0	16.9	26.3	19.0



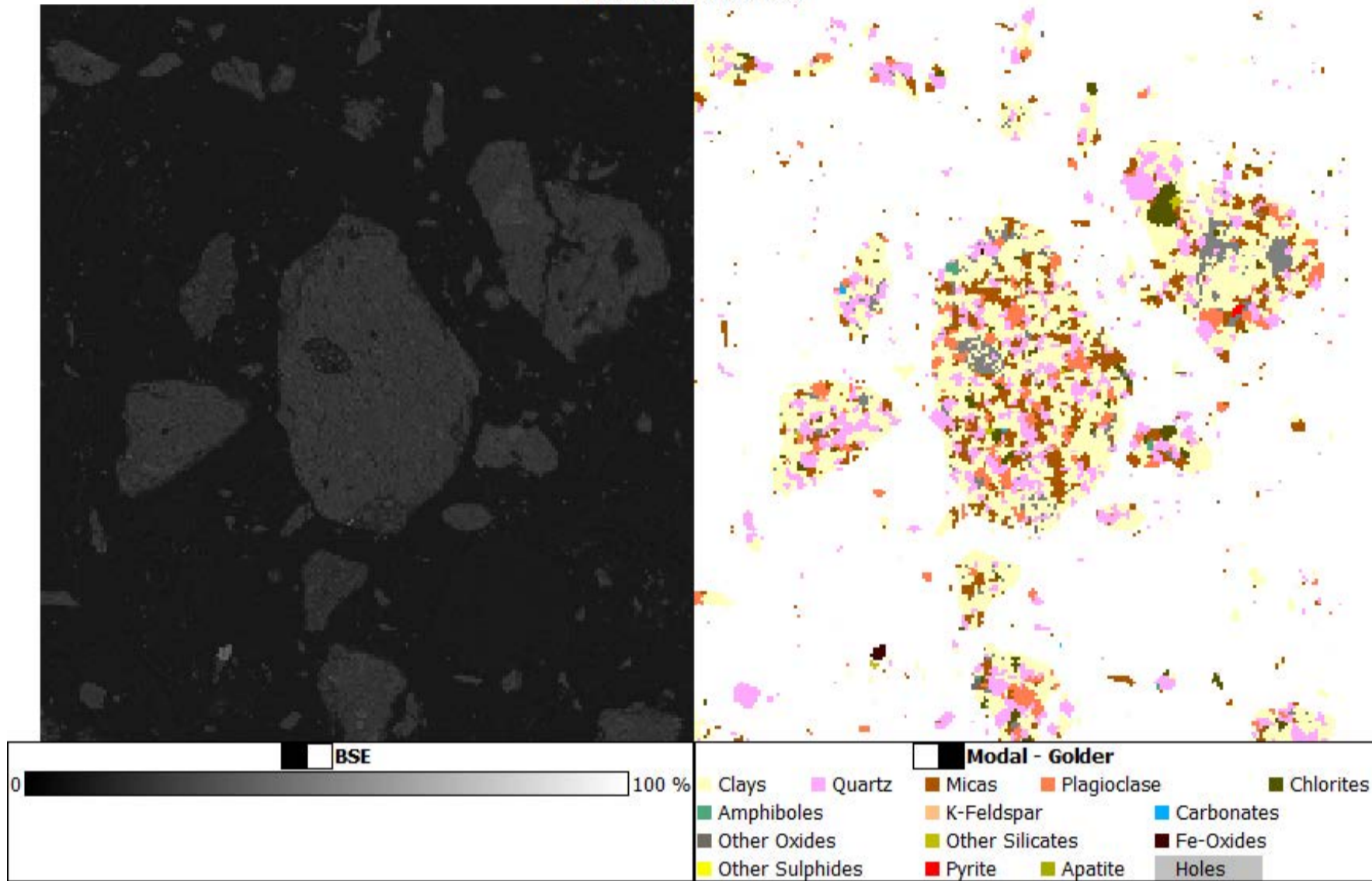




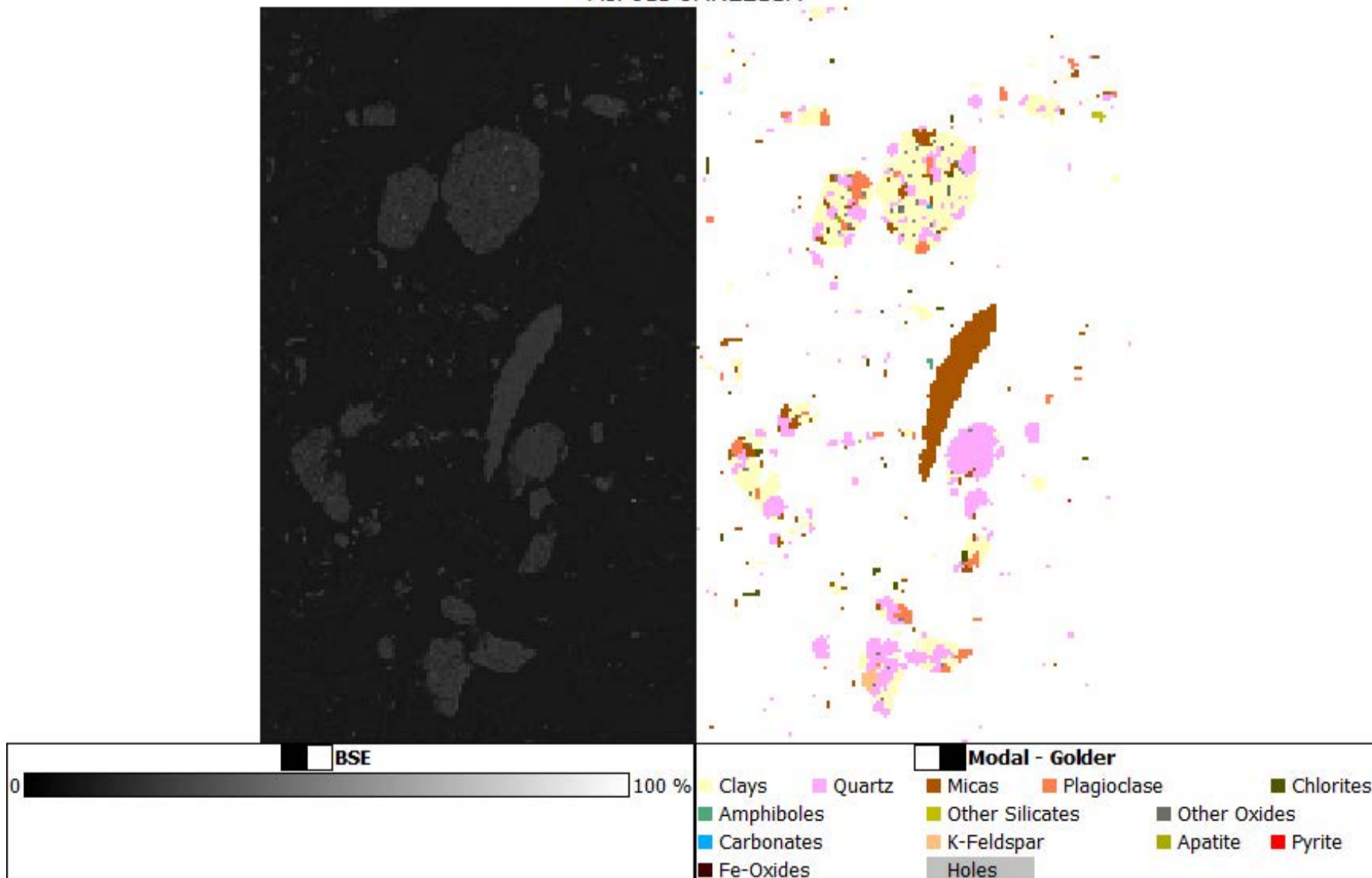


Sample: MW-3V-170-180

**Field H16**  
 MI7013-JAN2211A

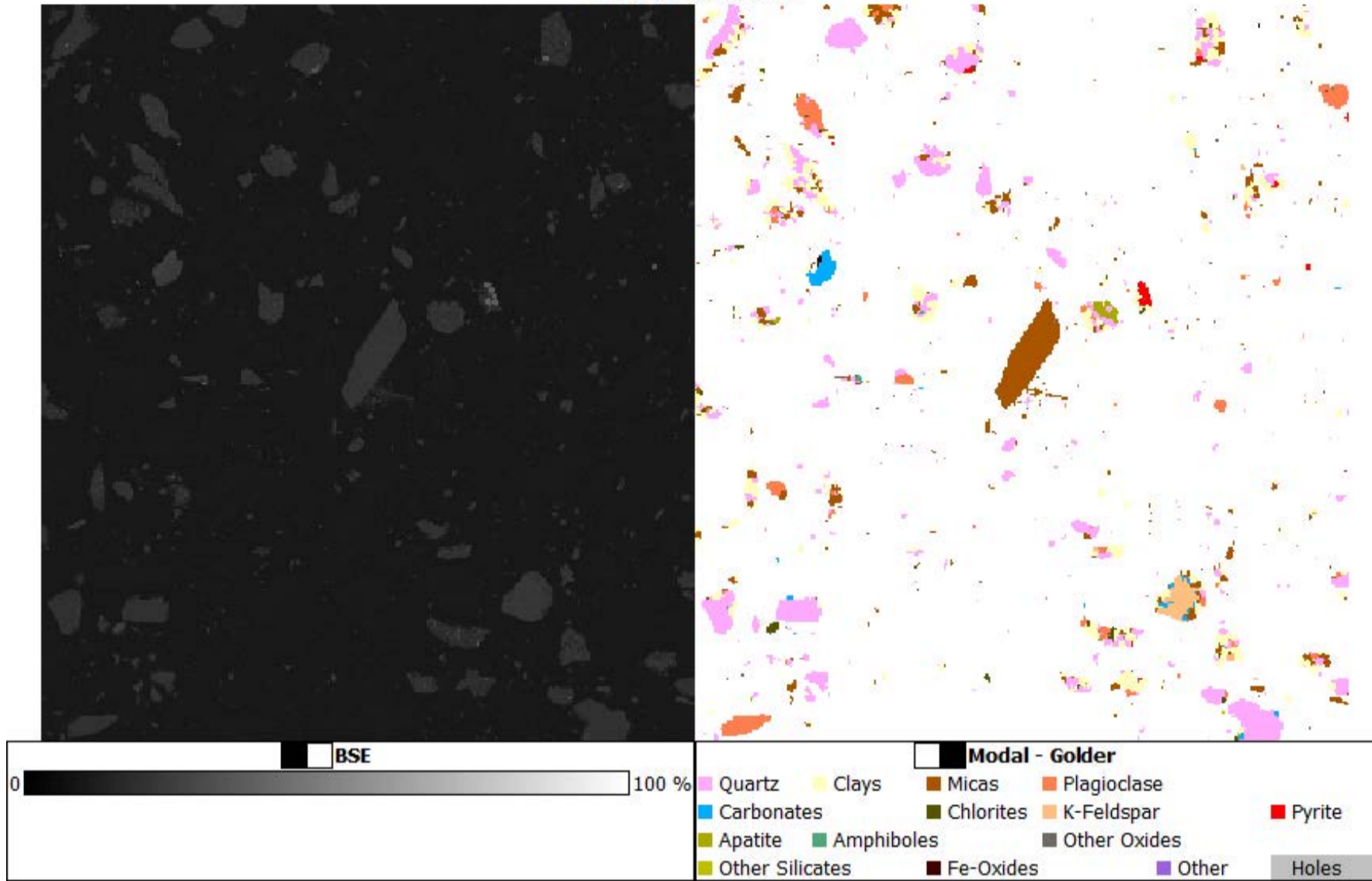


**Field J16**  
 MI7013-JAN2211A

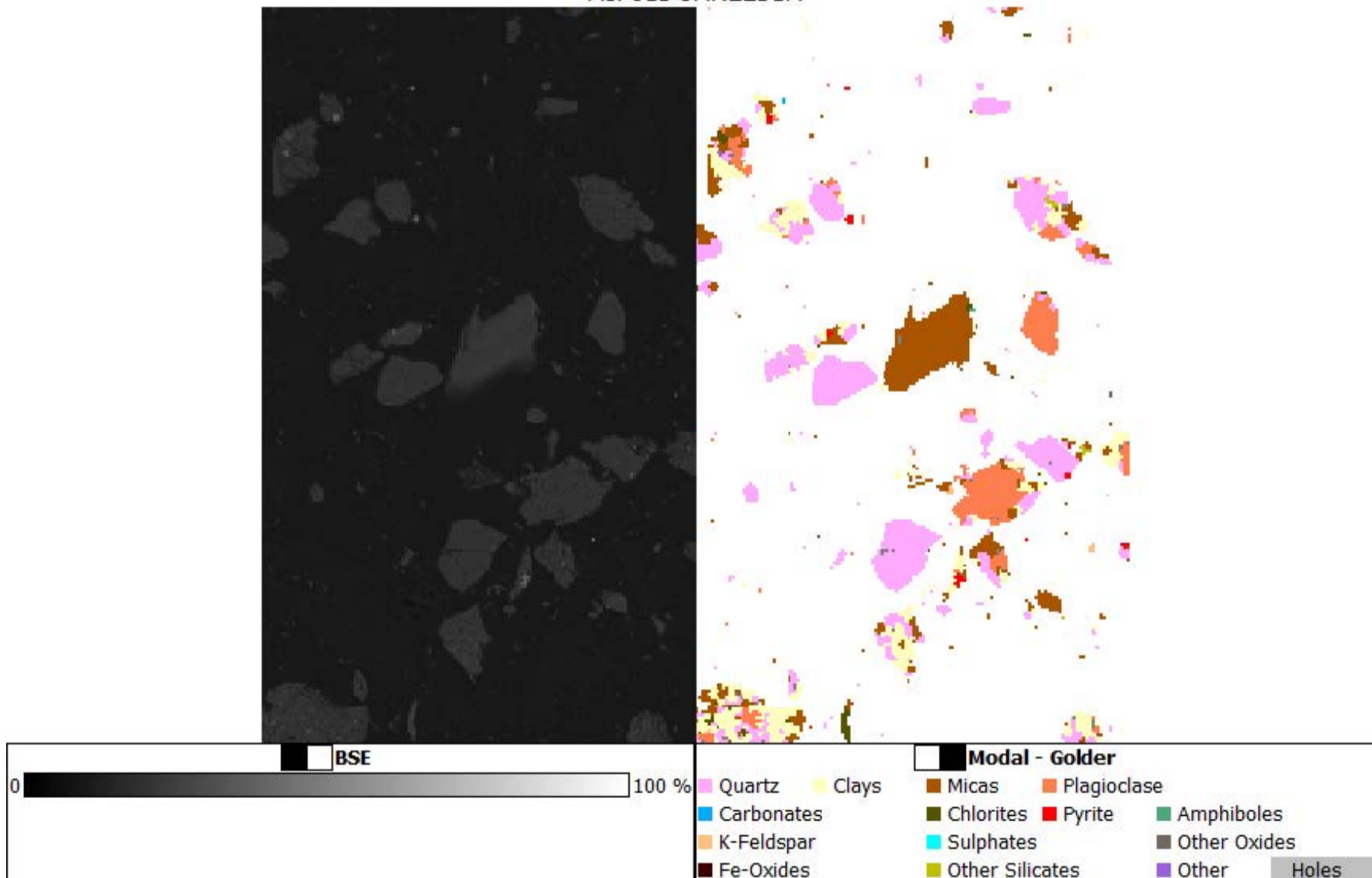


Sample: MW-4V-130-140

Field P08  
MI7013-JAN2231B

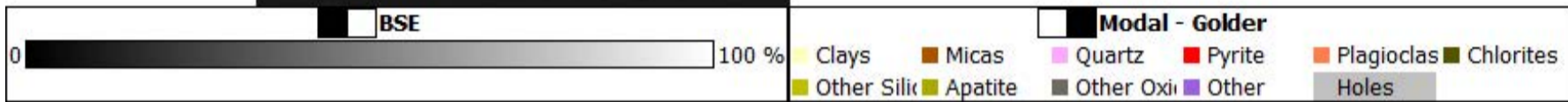
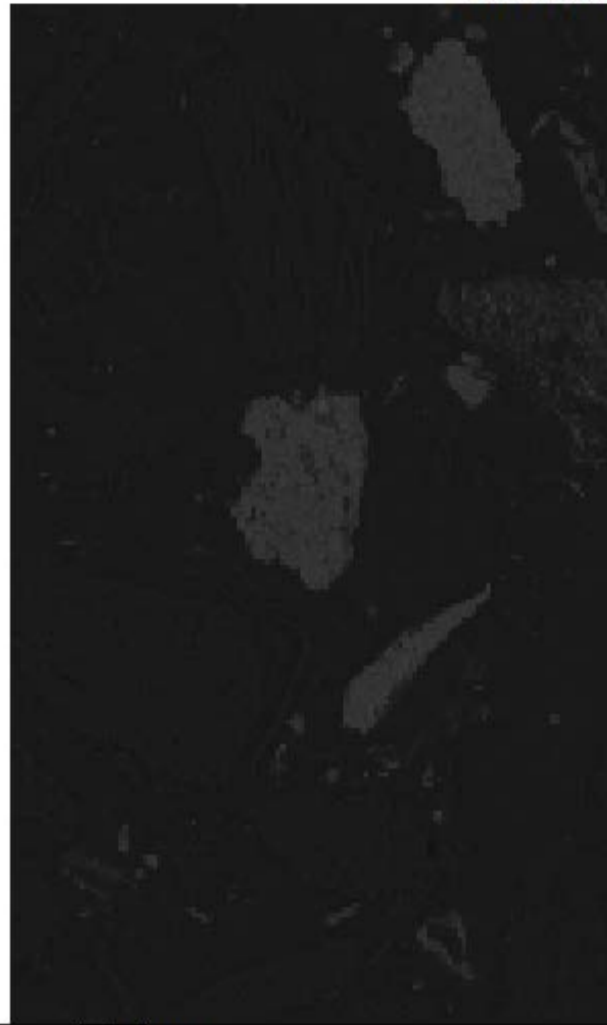


Field I17  
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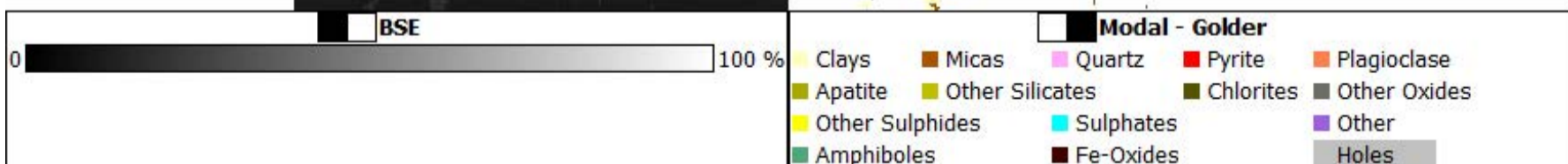


Sample: MW-8V-81-84

Field G15  
MI7013-JAN2251A

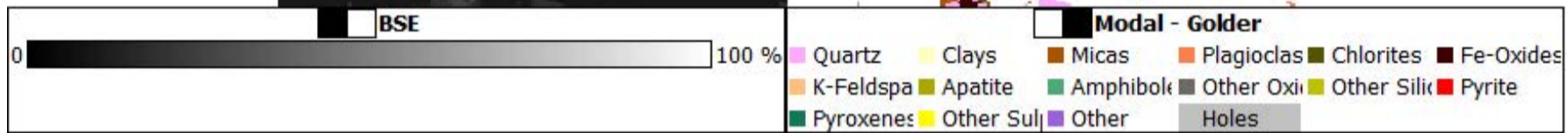
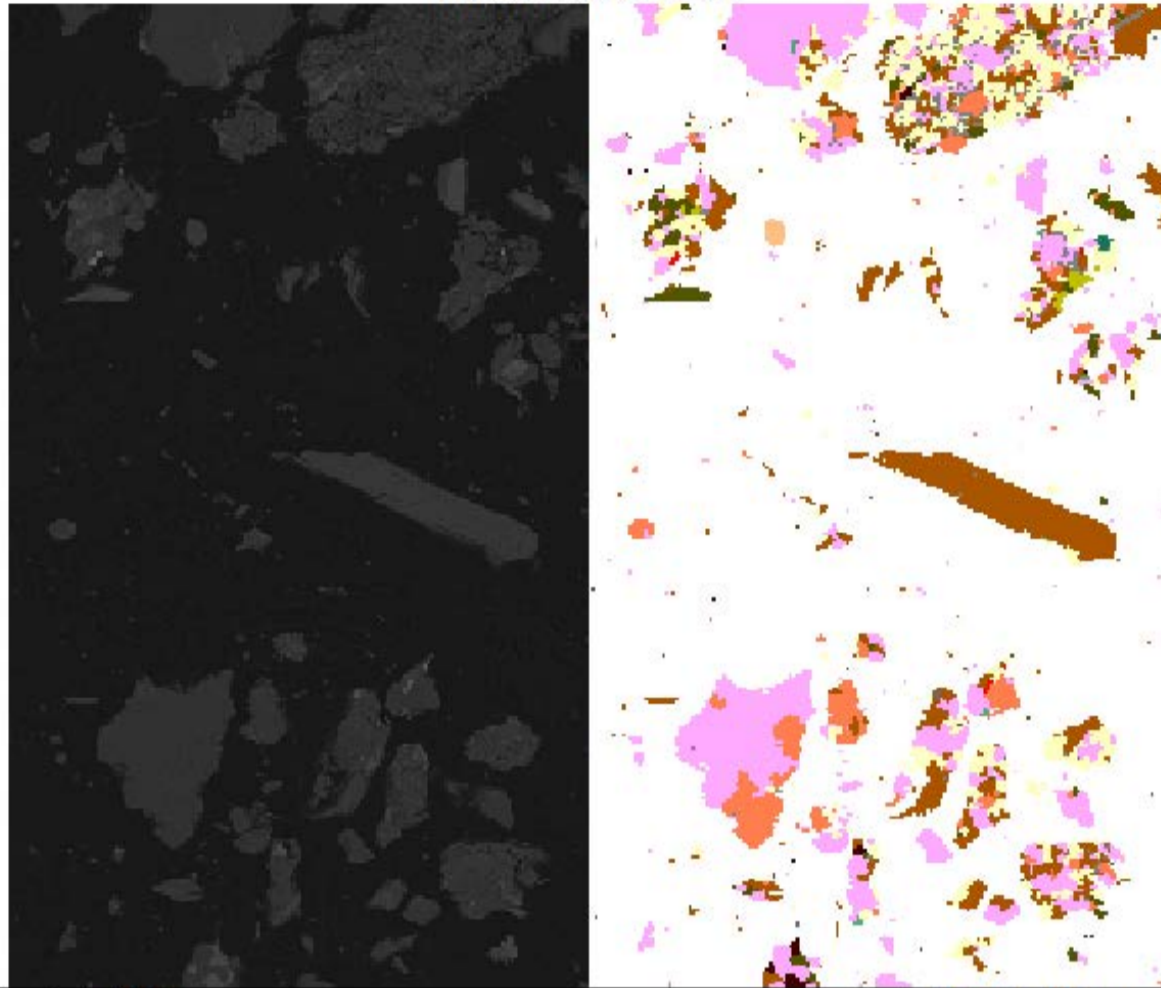


Field D08  
MI7013-JAN2251A

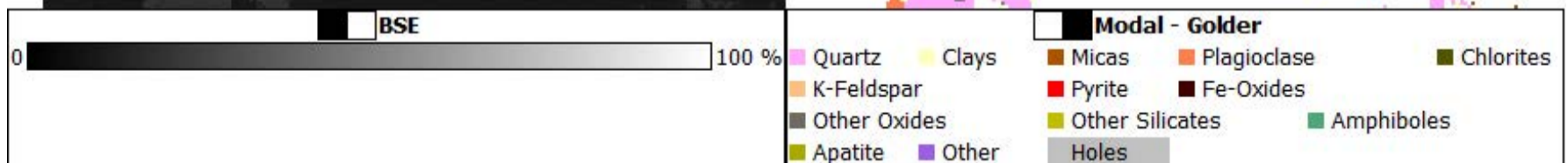
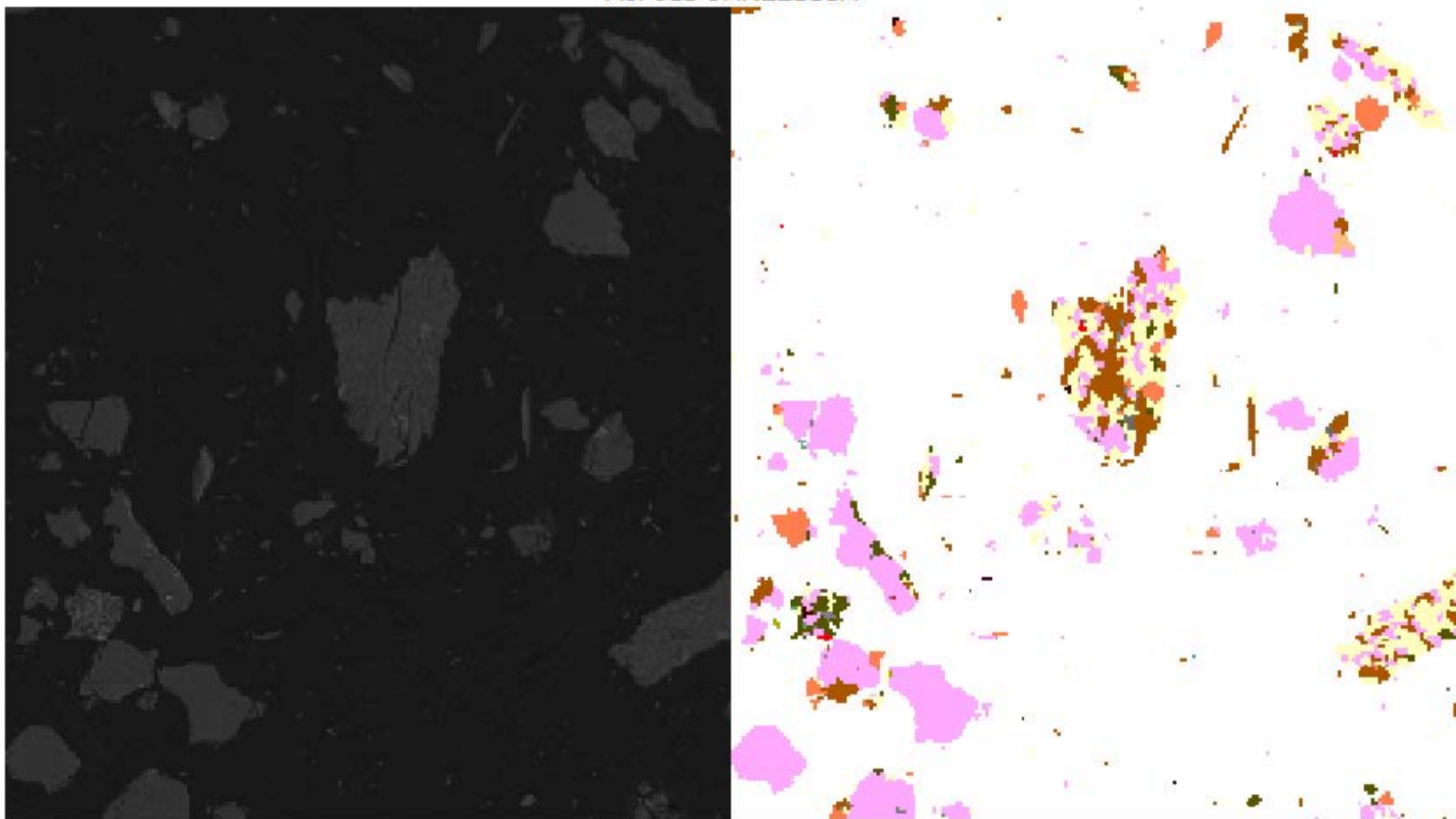


Sample: MW-12H-60-64

Field 008  
MI7013-JAN22111A



Field E07  
MI7013-JAN22111A



Oxide Weight Percent:  
MW-3V-180-190  
21A EMPA

LA-ICP-MS

Pt#	Na2O	MgO	Al2O3	SiO2	K2O	CaO	TiO2	MnO	FeO	Rb2O	Cs2O	BaO	F	Cl	Total	X(mm)	Y(mm)	Label	LA-ICP #	Li7_ppm_m ean
1	1.016	0.000	18.09	62.92	15.76	0.030	0.033	0.004	0.047	0.079	0.000	0.230	0.000	0.018	98.22	59.794	21.8945 Ksp	SGS - 1	BelowLOD	
2	0.975	0.000	18.32	62.82	15.63	0.002	0.000	0.003	0.031	0.095	0.000	0.204	0.000	0.006	98.08	59.3125	21.8307 Ksp	SGS - 2	BelowLOD	
3	11.34	0.005	19.79	68.13	0.046	0.148	0.029	0.009	0.051	0.056	0.013	0.000	0.000	0.005	99.62	60.2717	22.4315 Plg	SGS - 3	BelowLOD	
4	0.008	0.033	36.74	41.81	0.035	0.010	0.000	0.019	0.503	0.014	0.000	0.149	0.087	0.008	79.38	60.393	23.2417 Clay	SGS - 4	70.91	
5	0.202	0.923	31.95	50.60	2.562	0.111	0.317	0.005	2.709	0.036	0.020	0.000	0.027	0.014	89.47	61.0557	21.4775 Clay	SGS - 5	667.28	
6	2.023	1.409	29.67	49.40	4.880	0.134	0.416	0.003	3.010	0.038	0.001	0.213	0.000	0.029	91.21	60.4622	21.8422 Clay	SGS - 6	389.75	
7	0.299	1.559	28.82	44.79	9.620	0.006	1.489	0.042	3.870	0.029	0.000	0.149	0.021	0.013	90.69	62.9132	21.4712 Mica	SGS - 7	35.57	
8	10.30	0.007	21.24	64.43	0.246	2.267	0.000	0.000	0.133	0.024	0.000	0.000	0.000	0.003	98.66	62.6445	21.435 Plg	SGS - 8	BelowLOD	
9	0.183	6.060	21.76	34.84	2.942	0.229	3.300	0.063	16.92	0.035	0.000	0.138	0.186	0.029	86.61	62.5605	21.7802 Clay	SGS - 9	370.21	
10	11.75	0.000	18.99	67.27	0.038	0.024	0.048	0.006	0.063	0.022	0.001	0.000	0.000	0.008	98.21	64.5787	22.9415 Plg	SGS - 10	BelowLOD	
11	0.295	1.358	32.95	42.79	3.540	0.061	1.129	0.010	3.580	0.005	0.000	0.000	0.101	0.037	85.80	63.7907	22.4757 Clay	SGS - 11	1497.99	
12	0.735	0.045	19.15	63.71	15.36	0.000	0.026	0.000	0.127	0.041	0.003	0.221	0.000	0.024	99.43	65.6867	20.0945 Ksp	SGS - 12	84.09	
13	11.71	0.030	20.29	66.55	0.096	0.142	0.000	0.000	0.027	0.016	0.000	0.027	0.000	0.015	98.90	65.3832	20.081 Plg	SGS - 13	BelowLOD	
14	1.117	0.000	17.70	64.11	15.43	0.000	0.000	0.001	0.077	0.052	0.000	0.060	0.000	0.005	98.55	64.8852	20.228 Ksp	SGS - 14	BelowLOD	
15	0.019	0.192	38.28	46.79	0.589	0.089	0.003	0.000	0.377	0.009	0.000	0.000	0.033	0.009	86.37	67.7615	21.622 Clay	SGS - 15	147.12	
16	11.14	0.171	20.87	65.74	0.567	0.443	0.070	0.022	0.522	0.022	0.000	0.000	0.005	0.017	99.57	68.2352	21.3977 Plg	SGS - 16	288.40	
17	0.257	1.302	30.93	44.95	3.330	0.117	0.444	0.006	4.410	0.043	0.000	0.000	0.091	0.027	85.86	68.5885	21.5907 Clay	SGS - 17	1160.77	
18	0.380	1.480	33.13	47.47	9.650	0.039	0.730	0.025	2.517	0.024	0.000	0.240	0.084	0.000	95.73	69.644	21.429 Mica	SGS - 18	35.74	
19	0.532	1.200	28.93	49.81	3.940	0.213	1.640	0.006	6.490	0.031	0.000	0.000	0.058	0.014	92.84	69.9657	21.6415 Clay	SGS - 19	458.46	
20	0.118	0.904	33.18	51.52	2.642	0.146	0.447	0.023	2.552	0.006	0.000	0.325	0.123	0.016	91.94	70.5937	21.602 Clay	SGS - 20	814.02	
21	10.44	0.000	21.45	66.46	0.257	2.142	0.020	0.004	0.039	0.042	0.000	0.000	0.000	0.015	100.86	68.8902	20.5052 Plg	SGS - 21	BelowLOD	
22	0.195	1.181	34.22	47.88	2.954	0.154	0.962	0.024	3.320	0.020	0.000	0.198	0.073	0.015	91.16	68.4935	20.9255 Clay	SGS - 22	I.S.	
23	1.105	1.014	34.25	44.24	7.860	0.034	0.567	0.008	1.277	0.030	0.000	0.441	0.025	0.017	90.85	68.7417	21.1862 Mica	SGS - 23	29.31	
24	0.596	0.923	21.67	53.96	3.610	0.077	0.538	0.005	6.700	0.034	0.000	0.201	0.141	0.046	88.43	71.9335	21.884 Clay	SGS - 24	651.50	
25	0.514	0.004	18.17	62.85	16.06	0.015	0.000	0.014	0.138	0.096	0.000	0.199	0.000	0.000	98.05	72.0132	22.1272 Ksp	SGS - 25	10.03	
26	11.44	0.000	19.29	67.76	0.061	0.286	0.000	0.009	0.097	0.025	0.000	0.022	0.000	0.005	98.99	71.7935	22.5532 Plg	SGS - 26	27.70	
27	0.478	0.940	33.49	45.08	9.630	0.009	0.841	0.005	1.755	0.021	0.000	0.455	0.122	0.008	92.79	73.433	22.886 Mica	SGS - 27	67.02	
28	0.186	0.829	33.81	50.23	2.592	0.077	0.269	0.000	2.223	0.021	0.000	0.000	0.055	0.014	90.28	73.0252	23.5955 Clay	SGS - 28	566.16	
29	0.391	1.331	32.13	42.27	3.340	0.170	1.127	0.011	4.180	0.025	0.000	0.054	0.082	0.012	85.09	73.5895	23.276 Clay	SGS - 29	1193.64	
30	4.840	1.022	16.73	54.02	2.386	0.624	0.895	0.090	6.980	0.047	0.000	0.243	0.028	0.012	87.91	68.3175	23.5017 Clay	SGS - 30	72.22	
31	0.391	1.413	29.41	43.59	3.770	0.084	0.809	0.010	3.990	0.058	0.013	0.000	0.073	0.004	83.59	68.081	23.9762 Clay	SGS - 31	909.35	
32	0.124	0.781	25.85	61.00	2.570	0.061	0.486	0.000	2.483	0.017	0.003	0.166	0.246	0.028	93.70	68.4497	24.0745 Clay	SGS - 32	687.07	
33	0.296	1.517	34.41	48.51	3.320	0.156	1.664	0.021	4.270	0.050	0.000	0.000	0.126	0.020	94.31	68.869	24.197 Clay	SGS - 33	1371.41	
34	0.723	0.000	18.16	64.35	16.15	0.000	0.000	0.008	0.212	0.058	0.000	0.000	0.000	0.009	99.67	68.6975	24.6622 Ksp	SGS - 34	170.94	
35	0.171	1.046	33.34	48.09	2.863	0.122	0.397	0.000	2.897	0.016	0.000	0.030	0.046	0.008	89.01	68.6312	24.6595 Clay	SGS - 35	I.S.	
36	0.098	0.739	14.97	73.48	2.214	0.074	0.336	0.001	3.050	0.053	0.000	0.198	0.018	0.005	95.23	68.0627	24.581 Clay	SGS - 36	125.66	
37	0.218	1.034	30.60	40.88	4.730	0.137	0.668	0.000	3.060	0.048	0.000	0.117	0.107	0.030	81.58	65.2127	24.0252 Clay	SGS - 37	508.43	
38	0.305	1.386	29.52	45.18	10.50	0.000	1.333	0.000	5.130	0.016	0.000	0.511	0.059	0.003	93.91	64.7265	24.043 Mica	SGS - 38	15.52	
39	0.749	0.015	18.70	64.19	15.49	0.050	0.039	0.000	0.122	0.039	0.009	0.245	0.000	0.000	99.65	65.6725	25.5642 Ksp	SGS - 39	19.82	
40	0.368	1.068	22.97	50.30	2.724	0.036	0.380	0.038	4.650	0.009	0.000	0.005	0.037	0.072	82.63	65.7602	24.8442 Clay	SGS - 40	255.78	
41	0.192	0.985	32.38	47.38	3.000	0.040	0.332	0.015	2.961	0.037	0.000	0.081	0.093	0.049	87.50	65.2382	26.6055 Clay	SGS - 41	891.53	
42	0.858	0.005	18.83	63.74	15.92	0.007	0.017	0.000	0.000	0.046	0.000	0.339	0.000	0.000	99.76	65.1645	26.5575 Ksp	SGS - 42	8.69	
43	11.52	0.000	19.28	68.02	0.069	0.258	0.000	0.014	0.026	0.037	0.000	0.020	0.000	0.004	99.23	64.6625	26.651 Plg	SGS - 43	BelowLOD	
44	0.287	0.017	18.26	63.99	16.26	0.000	0.000	0.015	0.125	0.071	0.018	0.020	0.000	0.009	99.07	64.5172	27.1542 Ksp	SGS - 44	32.92	
45	0.239	0.888	29.36	47.13	5.220	0.169	0.744	0.014	4.090	0.033	0.000	0.135	0.101	0.006	88.09	63.8457	27.0957 Clay	SGS - 45	426.30	
46	3.560	0.663	23.77	53.33	2.218	0.138	0.483	0.039	1.925	0.029	0.000	0.094	0.072	0.007	86.29	63.3045	27.3407 Clay	SGS-46	646.60	
47	0.970	0.000	18.48	65.13	15.58	0.012	0.007	0.014	0.056	0.038	0.000	0.306	0.000	0.007	100.59	63.0107	27.296 Ksp	SGS - 47	BelowLOD	
48	11.37	0.011	18.94	68.99	0.113	0.110	0.010	0.000	0.055	0.023	0.000	0.000	0.000	0.000	99.63	61.6822	25.363 Plg	SGS - 48	BelowLOD	
49	0.645	0.000	18.40	63.59	16.16	0.000	0.018	0.000	0.062	0.089	0.000	0.054	0.000	0.004	99.02	61.6182	25.5582 Ksp	SGS - 49	BelowLOD	
50	0.357	0.000	18.06	63.18	16.20	0.001	0.000	0.000	0.068	0.058	0.000	0.591	0.000	0.000	98.52	61.5575	25.6027 Ksp	SGS - 50	BelowLOD	
51	1.511	0.099	21.01	64.95	11.26	0.077	0.143	0.006	0.258	0.041	0.000	0.323	0.000	0.017	99.70	59.8655	26.3135 Ksp	SGS - 51	10.95	
52	0.120	0.379	12.63	80.84	1.287	0.047	0.352	0.018	1.066	0.087	0.000	0.000	0.047	0.007	96.86	59.3785	26.4997 Clay	SGS-52	224.67	
53	0.004	0.000	0.000	99.74	0.000	0.001	0.005	0.003	0.074	0.080	0.000	0.021	0.000	0.000	99.93	59.4105	26.1235 Qtz	SGS - 53	BelowLOD	

MW-4V-130-140  
31A

Pt#	Na2O	MgO	Al2O3	SiO2	K2O	CaO	TiO2	MnO	FeO	Rb2O	Cs2O	BaO	F	Cl	Total	X(mm)	Y(mm)	Label	LA-ICP #	Li7_ppm_m ean
54	0.205	2.117	20.69	59.99	4.470	0.151	0.506	0.026	2.764	0.033	0.000	0.124	0.220	0.000	91.21	39.1692	0.6612 Clay	SGS - 54	62.19	
55	10.81	0.025	20.76	67.96	0.208	0.885	0.023	0.044	0.217	0.017	0.000	0.165	0.000	0.001	101.12	39.4217	1.0582 Plg	SGS - 55	12.76	
56	0.109	7.630	15.54	26.43	0.593	9.010	0.889	0.155	21.01	0.003	0.000	0.049	0.426	0.007	81.66	38.7395	1.5855 Ca-Fe Sil	SGS - 56	136.61	
57	0.524	1.029	8.990	79.78	2.015	0.463	0.119	0.050	3.040	0.039	0.014	0.041								

MW-8V-81-84

51A

Pt#	Na2O	MgO	Al2O3	SiO2	K2O	CaO	TiO2	MnO	FeO	Rb2O	Cs2O	BaO	F	Cl	Total	X(mm)	Y(mm)	Label		
105	0.203	1.224	30.83	45.89	5.420	0.074	1.920	0.028	2.164	0.022	0.000	0.336	0.045	0.020	88.15	15.818	16.7475	Clay	SGS - 105	188.91
106	0.197	1.777	28.94	49.10	4.840	0.037	0.839	0.000	5.310	0.024	0.000	0.151	0.067	0.018	91.27	14.549	16.723	Clay	SGS - 106	962.91
107	0.168	1.810	27.66	49.19	3.510	0.142	1.105	0.049	5.420	0.021	0.000	0.140	0.108	0.041	89.30	12.8115	17.1267	Clay	SGS - 107	296.75
108	0.189	1.447	33.22	49.45	3.700	0.154	0.788	0.032	3.110	0.019	0.000	0.195	0.184	0.017	92.42	12.7367	17.6437	mica	SGS - 108	483.19
109	0.305	1.431	33.46	50.14	4.810	0.084	0.639	0.006	2.832	0.048	0.005	0.147	0.124	0.027	93.99	13.1662	17.9237	mica	SGS - 109	383.11
110	0.200	1.384	31.16	48.00	4.290	0.059	0.979	0.021	3.110	0.034	0.000	0.092	0.038	0.014	89.37	12.91	18.1465	mica	SGS - 110	398.83
111	0.205	1.341	29.42	52.73	5.170	0.040	0.774	0.000	2.680	0.041	0.000	0.196	0.089	0.012	92.66	12.1065	18.591	mica	SGS - 111	191.89
112	0.208	1.299	32.63	49.37	3.900	0.053	0.767	0.016	3.050	0.019	0.000	0.103	0.153	0.022	91.52	12.265	19.1182	mica	SGS - 112	661.88
113	0.199	0.947	25.01	60.56	3.360	0.085	0.422	0.000	2.410	0.058	0.000	0.104	0.076	0.015	93.21	13.93	18.7657	Clay	SGS - 113	385.92
114	0.259	1.376	31.84	46.59	5.360	0.045	0.797	0.015	3.280	0.040	0.008	0.092	0.103	0.032	89.78	15.0352	18.7222	Clay	SGS - 114	800.52
115	0.182	1.270	28.22	52.44	4.900	0.044	3.260	0.000	2.738	0.019	0.000	0.076	0.167	0.011	93.25	16.0785	18.1607	Clay	SGS - 115	237.35
116	0.192	1.311	32.32	48.94	4.050	0.060	1.351	0.010	3.130	0.015	0.000	0.000	0.055	0.010	91.41	17.2395	18.6622	mica	SGS - 116	507.19
117	0.004	0.000	0.019	100.32	0.000	0.000	0.008	0.022	0.050	0.065	0.021	0.000	0.000	0.016	100.52	17.624	18.0712	Qtz	SGS - 117	BelowLOD
118	0.166	1.359	23.98	60.79	5.050	0.025	2.189	0.027	3.380	0.018	0.000	0.228	0.046	0.016	97.25	19.0727	17.9682	Clay	SGS - 118	191.39
119	0.377	1.741	32.34	48.44	5.530	0.112	0.523	0.011	4.340	0.014	0.000	0.292	0.000	0.015	93.73	20.16	18.0387	Clay	SGS - 119	438.21
120	0.280	1.538	33.19	51.61	4.200	0.087	0.893	0.010	3.410	0.021	0.009	0.152	0.030	0.035	95.44	20.292	17.5472	Clay	SGS - 120	416.09
121	0.768	1.620	20.58	60.89	4.390	0.031	1.273	0.016	4.900	0.038	0.000	0.205	0.000	0.046	94.74	21.899	18.042	Clay	SGS - 121	82.35
122	0.215	1.341	32.27	46.48	5.990	0.112	0.636	0.013	2.854	0.031	0.000	0.222	0.045	0.028	90.21	22.3877	18.7637	Clay	SGS - 122	647.20
123	0.315	1.383	31.81	45.40	6.480	0.034	0.290	0.020	3.060	0.018	0.000	0.049	0.093	0.020	88.92	23.275	19.355	Clay	SGS - 123	403.25
124	0.179	1.458	25.33	46.07	4.500	0.077	0.781	0.054	4.360	0.054	0.002	0.188	0.151	0.083	83.20	23.8415	19.7992	Clay	SGS - 124	223.75
125	0.444	1.459	32.30	46.65	3.940	0.076	0.595	0.000	2.731	0.023	0.006	0.157	0.056	0.003	88.41	23.6522	20.4757	Clay	SGS - 125	597.66
126	0.160	0.982	26.41	57.21	4.490	0.062	0.633	0.009	2.288	0.027	0.000	0.000	0.100	0.010	92.35	23.6735	21.837	Clay	SGS-126	362.48
127	0.270	1.286	31.83	54.30	2.802	0.165	0.858	0.018	3.420	0.023	0.022	0.011	0.106	0.030	95.09	23.3277	22.1232	Clay	SGS - 127	805.51
128	0.215	1.066	29.64	50.74	3.010	0.154	1.441	0.017	3.110	0.026	0.000	0.168	0.121	0.007	89.67	21.9165	21.6882	Clay	SGS - 128	616.56
129	0.365	2.434	31.04	44.87	6.590	0.030	0.599	0.024	4.720	0.036	0.000	0.395	0.083	0.016	91.17	20.826	21.448	Clay	SGS - 129	546.82
130	0.208	1.355	32.00	48.15	4.100	0.035	0.643	0.015	3.100	0.041	0.000	0.043	0.000	0.026	89.71	20.8265	20.6582	mica	SGS - 130	450.84
131	0.175	1.274	29.87	50.87	5.070	0.032	0.511	0.016	3.270	0.052	0.000	0.080	0.040	0.021	91.25	19.74	20.8437	Clay	SGS - 131	127.42
132	0.180	1.705	27.01	44.43	5.050	0.067	0.793	0.020	4.280	0.042	0.000	0.062	0.009	0.032	83.67	19.0707	22.7912	Clay	SGS - 132	275.07
133	0.270	1.385	28.56	41.44	4.860	0.037	0.554	0.024	3.190	0.026	0.005	0.118	0.072	0.044	80.55	17.5785	22.8632	Clay	SGS - 133	404.98
134	0.377	1.976	32.32	43.46	3.350	0.087	1.265	0.020	4.170	0.013	0.000	0.026	0.056	0.026	87.12	17.4277	23.406	Clay	SGS - 134	1117.32
135	0.311	1.397	31.94	46.44	6.410	0.018	0.669	0.024	2.412	0.033	0.007	0.338	0.101	0.014	90.07	16.7417	23.0512	mica	SGS - 135	321.87
136	0.309	1.410	32.98	49.11	5.000	0.085	0.783	0.001	2.799	0.010	0.000	0.104	0.077	0.002	92.64	13.7135	22.855	Clay	SGS - 136	680.90
137	0.317	1.385	30.78	43.65	2.809	0.118	0.628	0.000	3.830	0.023	0.000	0.139	0.219	0.015	83.82	13.206	22.6147	Clay	SGS - 137	989.71
138	0.388	1.308	17.75	68.52	3.990	0.008	0.564	0.016	3.490	0.048	0.000	0.135	0.043	0.028	96.26	12.6137	23.3097	Clay	SGS - 138	66.42
139	0.212	1.775	26.28	56.89	5.690	0.017	0.441	0.012	3.880	0.047	0.000	0.134	0.075	0.008	95.42	12.4737	22.792	Clay	SGS - 139	126.64
140	0.312	1.556	33.34	47.24	3.520	0.040	0.766	0.001	3.290	0.027	0.000	0.273	0.050	0.005	90.39	12.042	24.6547	mica	SGS - 140	771.79
141	0.244	1.148	28.10	43.58	3.530	0.076	0.575	0.011	4.020	0.011	0.003	0.103	0.078	0.089	81.53	8.9262	24.7342	mica	SGS - 141	583.08
142	0.292	2.322	14.14	67.96	7.240	5.160	0.133	0.028	0.143	0.080	0.000	0.000	0.000	0.010	100.13	8.988	24.9707	Ksp?	SGS - 142	513.39
143	0.227	1.875	30.70	47.72	5.910	0.070	1.023	0.000	3.590	0.020	0.005	0.056	0.106	0.015	91.27	10.0585	25.715	Clay	SGS - 143	172.30
144	0.182	1.205	28.73	47.31	4.040	0.038	0.410	0.000	2.522	0.046	0.001	0.285	0.070	0.061	84.85	8.1532	25.7882	mica	SGS - 144	390.49
145	0.375	1.633	31.48	48.41	4.880	0.064	1.314	0.005	3.880	0.010	0.015	0.107	0.077	0.014	92.23	7.0227	25.6327	mica	SGS - 145	406.46
146	0.392	1.578	31.95	46.75	5.550	0.036	0.632	0.014	2.944	0.041	0.000	0.092	0.102	0.009	90.05	5.9962	26.5387	Clay	SGS - 146	335.09
147	1.394	1.830	20.24	47.49	3.750	0.605	0.593	0.065	4.620	0.050	0.000	0.170	0.065	0.074	80.90	8.0952	28.0817	Clay	SGS - 147	120.40
148	0.057	0.032	28.78	0.000	0.029	5.090	0.025	0.012	0.381	0.000	0.000	6.170	0.042	0.022	40.61	9.9267	28.0792	phos (see	SGS-148	296.75
149	0.421	1.476	30.39	43.83	4.960	0.041	0.895	0.014	3.200	0.021	0.000	0.180	0.048	0.012	85.47	12.445	28.2257	Clay	SGS - 149	523.56
150	0.156	1.557	26.13	45.81	4.500	0.129	0.834	0.003	4.220	0.009	0.000	0.373	0.022	0.035	83.77	15.171	28.5405	Clay	SGS - 150	295.11
151	0.279	1.350	32.84	46.67	4.630	0.051	0.671	0.014	3.420	0.031	0.000	0.148	0.106	0.036	90.18	16.9375	29.2907	Clay	SGS - 151	532.15
152	0.264	1.584	30.73	44.78	6.010	0.027	0.990	0.027	3.700	0.026	0.000	0.078	0.041	0.030	88.26	20.4595	29.2615	Clay	SGS - 152	379.44
153	0.161	1.116	25.34	58.17	4.400	0.034	0.222	0.030	2.313	0.056	0.000	0.026	0.165	0.018	91.97	21.9317	29.7845	Clay	SGS - 153	184.63
154	0.383	1.540	28.93	45.51	3.790	0.081	1.428	0.016	3.630	0.030	0.005	0.041	0.027	0.021	85.41	20.1695	29.8247	mica	SGS - 154	614.58
155	0.185	1.171	29.61	45.50	5.260	0.040	0.155	0.031	2.250	0.027	0.030	0.057	0.068	0.013	84.36	19.3215	30.8365	Clay	SGS - 155	416.46
156	0.364	1.611	32.60	49.61	6.500	0.016	0.766	0.000	2.920	0.040	0.003	0.249	0.095	0.016	94.75	18.7162	31.2865	Clay	SGS - 156	240.69

MW-8V-155-160

71A

Pt#	Na2O	MgO	Al2O3	SiO2	K2O	CaO	TiO2	MnO	FeO	Rb2O	Cs2O	BaO	F	Cl	Total	X(mm)	Y(mm)	Label		
157	11.57	0.001	18.74	66.79	0.074	0.030	0.012	0.000	0.156	0.023	0.000	0.000	0.000	0.005	97.40	66.2447	53.5997	Plg	SGS - 157	BelowLOD
158	1.310	0.988	15.79	61.64	4.820	0.035	0.202	0.043	3.310	0.062	0.000	0.000	0.051	0.032	88.25	65.0062	54.1452	Clay	SGS - 158	55.21
159	0.002	0.000	0.039	97.99	0.005	0.001	0.013	0.000	0.055	0.088	0.000									

MW-9H-40-50

91A

Pt#	Na2O	MgO	Al2O3	SiO2	K2O	CaO	TiO2	MnO	FeO	Rb2O	Cs2O	BaO	F	Cl	Total	X(mm)	Y(mm)	Label	SGS	
209	0.505	0.682	31.66	46.21	9.690	0.032	0.534	0.028	4.070	0.043	0.000	0.228	0.071	0.013	93.73	38.1745	39.3045	Mica	SGS - 209	18.96
210	0.011	0.000	0.384	98.40	0.063	0.006	0.000	0.000	0.083	0.097	0.002	0.105	0.000	0.002	99.15	39.069	38.8105	Qtz	SGS - 210	I.S.
211	0.745	0.730	28.65	43.40	9.350	0.027	0.161	0.017	3.330	0.025	0.000	0.378	0.015	0.018	86.83	40.9077	38.6665	Mica	SGS - 211	22.84
212	0.334	1.401	25.75	44.00	10.52	0.047	0.521	0.016	4.040	0.048	0.000	0.103	0.097	0.024	86.85	41.4705	38.099	Mica	SGS - 212	71.11
213	7.000	0.557	20.23	63.60	2.568	0.226	0.255	0.024	1.934	0.057	0.000	0.000	0.066	0.013	96.50	41.7942	38.754	Clay	SGS - 213	70.34
214	0.189	2.983	20.44	52.30	4.770	0.082	0.507	0.038	10.15	0.027	0.000	0.005	0.035	0.018	91.53	43.3482	38.9105	Mica	SGS - 214	71.45
215	1.024	0.964	18.71	58.02	5.110	0.080	2.124	0.000	3.270	0.078	0.004	0.159	0.043	0.028	89.60	41.2497	40.7512	Clay	SGS - 215	38.94
216	3.600	0.348	30.23	52.06	3.910	0.059	0.029	0.013	0.866	0.017	0.000	0.124	0.058	0.011	91.31	40.5065	40.0522	Clay	SGS - 216	118.31
217	0.524	1.458	24.19	49.84	5.960	0.105	0.557	0.061	6.080	0.034	0.000	0.123	0.145	0.013	89.04	39.066	39.966	Clay	SGS - 217	70.24
218	11.44	0.068	18.36	68.97	0.499	0.248	0.052	0.026	0.233	0.034	0.002	0.140	0.000	0.012	100.07	36.0532	39.7695	Plg	SGS - 218	BelowLOD
219	11.59	0.009	18.18	70.18	0.117	0.100	0.038	0.006	0.093	0.043	0.009	0.077	0.000	0.006	100.45	34.2285	39.737	Plg	SGS - 219	5.25
220	0.493	1.430	29.26	47.35	9.670	0.005	0.443	0.000	2.266	0.062	0.000	0.628	0.053	0.011	91.65	32.9582	41.3745	Ksp	SGS - 220	67.51
221	1.293	0.945	30.39	46.15	8.640	0.002	0.352	0.028	1.644	0.040	0.000	0.432	0.026	0.011	89.94	34.2997	41.3105	Mica	SGS - 221	469.69
222	0.382	0.566	31.00	45.18	7.500	0.015	0.370	0.030	1.518	0.025	0.000	0.757	0.028	0.011	87.37	37.5025	41.1712	Mica	SGS - 222	24.33
223	11.77	0.004	19.26	68.11	0.051	0.136	0.000	0.028	0.084	0.033	0.021	0.010	0.000	0.015	99.52	38.3875	41.2062	Plg	SGS - 223	I.S.
224	11.58	0.044	20.42	67.80	0.372	0.153	0.000	0.025	0.152	0.038	0.000	0.086	0.000	0.009	100.68	38.7602	41.0047	Plg	SGS - 224	23.86
225	0.354	0.790	32.47	45.24	8.990	0.031	0.685	0.033	4.360	0.027	0.000	0.205	0.000	0.017	93.19	41.9127	41.5435	Mica	SGS - 225	172.56
226	11.41	0.000	18.74	70.23	0.029	0.035	0.006	0.019	0.113	0.041	0.000	0.000	0.000	0.004	100.63	42.8155	42.384	Plg	SGS - 226	I.S.
227	0.487	1.456	21.65	51.88	4.430	0.046	0.287	0.027	5.600	0.043	0.000	0.198	0.062	0.055	86.18	44.581	42.4962	Clay	SGS - 227	97.15
228	0.207	1.400	32.08	46.74	8.610	0.034	0.854	0.051	2.131	0.043	0.004	0.495	0.172	0.014	92.76	45.5102	42.5295	Mica	SGS - 228	46.38
229	0.062	1.020	14.90	58.12	4.230	0.068	0.945	0.000	2.305	0.065	0.005	0.119	0.065	0.034	81.90	45.1942	41.189	Clay	SGS - 229	62.61
230	0.651	1.441	17.92	68.75	5.240	0.048	0.422	0.009	3.150	0.063	0.000	0.099	0.038	0.032	97.83	46.006	41.6615	Clay	SGS - 230	33.38
231	0.208	5.750	19.39	31.10	0.715	0.198	2.015	0.201	21.69	0.016	0.000	0.104	0.192	0.060	81.54	49.849	45.504	Chl	SGS - 231	450.99
232	0.096	1.816	23.82	55.48	7.170	0.028	0.702	0.001	2.185	0.038	0.000	0.187	0.141	0.028	91.62	44.006	42.7422	Clay	SGS - 232	131.53
233	0.114	3.270	27.76	48.13	8.620	0.033	0.496	0.001	5.010	0.042	0.000	0.569	0.100	0.015	94.10	42.0415	44.756	Clay	SGS - 233	156.31
234	0.532	0.000	18.40	63.42	15.64	0.033	0.038	0.000	0.182	0.051	0.007	0.669	0.000	0.032	99.00	41.8377	44.7745	Ksp	SGS - 234	20.47
235	0.155	0.995	21.06	48.27	7.130	0.044	0.418	0.004	2.186	0.054	0.000	0.288	0.059	0.052	80.69	38.0325	43.6152	Clay	SGS - 235	71.46
236	0.153	1.363	15.30	64.17	4.020	0.049	0.475	0.006	5.030	0.076	0.000	0.066	0.083	0.031	90.78	33.5007	43.9842	Clay	SGS - 236	126.54
237	4.080	0.375	20.51	52.16	1.390	0.046	0.219	0.010	1.325	0.034	0.000	0.000	0.026	0.014	80.17	33.9775	42.8737	Clay	SGS-237	76.76
238	1.834	0.530	13.78	62.54	1.606	0.074	0.277	0.000	2.872	0.028	0.011	0.134	0.072	0.044	83.77	44.1387	44.8152	Clay	SGS-238	209.00
239	11.64	0.000	18.20	67.71	0.073	0.247	0.000	0.000	0.087	0.045	0.000	0.000	0.000	0.005	98.00	48.1155	43.7977	Plg	SGS - 239	BelowLOD
240	0.050	0.408	7.020	86.73	1.636	0.055	0.151	0.002	0.637	0.070	0.000	0.011	0.000	0.024	96.78	49.4862	47.4335	Clay	SGS - 240	24.49
241	10.91	0.072	20.56	68.52	0.955	0.298	0.033	0.000	0.329	0.019	0.000	0.000	0.000	0.009	101.70	48.3355	46.7457	Plg	SGS - 241	BelowLOD
242	0.255	1.277	29.00	47.65	4.810	0.107	0.800	0.005	3.600	0.029	0.000	0.129	0.104	0.021	87.74	40.0292	42.796	Clay	SGS - 242	403.59
243	0.123	1.758	19.75	45.17	5.970	0.101	0.750	0.014	5.810	0.048	0.000	0.247	0.095	0.015	79.81	38.6085	47.1492	Clay	SGS - 243	78.73
244	0.112	1.398	16.22	52.96	4.930	0.178	0.576	0.060	3.510	0.056	0.000	0.096	0.033	0.136	80.22	33.3792	44.6937	Clay	SGS - 244	173.66
245	2.812	0.266	18.85	65.49	1.147	0.050	0.159	0.000	1.203	0.041	0.009	0.000	0.065	0.045	90.09	28.078	44.3262	Clay	SGS - 245	282.01
246	11.20	0.021	19.80	69.87	0.210	0.291	0.000	0.011	0.192	0.044	0.000	0.000	0.000	0.019	101.65	27.3845	44.904	Plg	SGS - 246	BelowLOD
247	0.805	0.956	27.98	40.46	7.810	0.038	0.370	0.019	1.067	0.031	0.000	0.131	0.039	0.119	79.78	33.1072	45.4322	Mica	SGS - 247	34.05
248	0.177	6.310	20.35	29.59	0.077	0.149	1.513	0.088	28.82	0.002	0.000	0.000	0.157	0.011	87.17	32.3547	46.36	Chl	SGS - 248	397.65
249	10.58	0.017	18.67	68.59	0.142	0.088	0.055	0.005	0.599	0.017	0.005	0.000	0.000	0.040	98.80	41.4552	46.1217	Plg	SGS - 249	BelowLOD
250	0.465	0.000	18.19	64.44	15.93	0.000	0.000	0.018	0.084	0.066	0.000	0.273	0.000	0.010	99.47	42.2447	46.449	Ksp	SGS - 250	7.41
251	0.109	1.519	8.970	80.54	1.594	0.032	0.089	0.045	4.440	0.050	0.002	0.172	0.020	0.010	97.57	33.7112	48.5177	Clay	SGS-251	94.67
252	10.57	0.000	18.17	68.20	0.014	0.563	0.041	0.001	0.071	0.030	0.015	0.000	0.000	0.014	97.69	29.2027	48.2722	Plg	SGS - 252	BelowLOD
253	11.74	0.007	19.82	68.01	0.047	0.000	0.018	0.000	0.460	0.032	0.000	0.000	0.000	0.003	100.19	27.0347	46.8942	Plg	SGS-253	201.90
254	0.042	0.556	14.73	55.32	2.546	0.027	0.140	0.000	1.501	0.076	0.000	0.000	0.008	0.014	74.96	26.0465	46.73	Clay	SGS - 254	114.58
255	0.077	0.484	16.20	63.59	0.335	0.013	0.094	0.000	2.369	0.091	0.003	0.000	0.000	0.010	83.26	29.1742	48.8235	Mica	SGS-255	439.47
256	0.217	1.237	33.07	49.36	10.02	0.010	1.565	0.024	1.961	0.046	0.000	0.314	0.063	0.000	97.86	26.6697	50.1662	Mica	SGS - 256	71.93
257	0.240	1.532	20.27	43.37	5.490	0.163	0.337	0.005	9.320	0.043	0.000	0.434	0.188	0.059	81.36	26.4557	49.5442	Clay	SGS - 257	65.03
258	0.045	0.498	30.86	56.53	1.277	0.031	0.341	0.000	2.223	0.013	0.000	0.000	0.026	0.028	91.85	33.2025	50.5515	Clay	SGS-258	680.99

MW-12H-60-64

111A

Pt#	Na2O	MgO	Al2O3	SiO2	K2O	CaO	TiO2	MnO	FeO	Rb2O	Cs2O	BaO	F	Cl	Total	X(mm)	Y(mm)	Label	SGS	
259	0.182	0.625	13.38	61.33	2.073	0.110	0.204	0.036	2.427	0.016	0.000	0.236	0.005	0.124	80.71	9.1287	52.4305	Clay	SGS-259	59.59
260	0.004	0.000	0.044	100.62	0.006	0.000	0.010	0.000	0.140	0.056	0.014	0.000	0.000	0.001	100.89	9.0645	52.3007	Qtz	SGS - 260	46.15
261	0.497	1.010	25.14	54.07	7.010	0.124	0.878	0.057	2.815	0.048	0.000	0.093	0.201	0.016	91.87	8.4637	52.5047	Clay	SGS - 261	66.77
262	7.100	0.020	13.53	79.15	0.043	0.025	0.020	0.000	0.113	0.051	0.013	0.000	0.000	0.006	100.07	7.0682	53.0982	Plg+Qtz	SGS-262	96.78
263	0.342	1.650	22.16	48.40	5.490	0.112	0.525	0.075	4.260	0.024	0.009	0.126	0.078	0.06						

