

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

**ALABAMA POWER COMPANY
PLANT GORGAS
BOTTOM ASH LANDFILL**

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



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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 annual groundwater monitoring activities at the Alabama Power Company (APC) William Crawford Gorgas Electric Generating Plant (Plant Gorgas) Bottom Ash Landfill (BALF) and to satisfy the requirements of § 257.90(e), ADEM Admin. Code r. 335-13-15-.06(1)(f), and Part E of AO 18-096-GW. Semi-annual groundwater monitoring and associated reporting for the Plant Gorgas BALF were performed in accordance with the monitoring requirements § 257.90 through § 257.95 and ADEM Admin. Code r. 335-13-15-.06(1) through r. 335-13-15-.06(6).

The CCR unit began the monitoring period in corrective monitoring pursuant to § 257.95 and ADEM Admin. Code r. 335-13-15-.06(6). Statistically significant increases (SSIs) of Appendix III constituents over background were identified in the results of the first detection monitoring event and assessment monitoring was initiated in January 2018. Statistically significant levels (SSLs) of the Appendix IV constituent arsenic were identified in one well while in assessment monitoring. Consequently, an Alternate Source Demonstration (ASD) was submitted to ADEM for arsenic SSLs above the GWPS in June 2019.

APC completed an Assessment of Corrective Measures (ACM) report, submitted to ADEM in June 2019, to address the occurrence of constituents in groundwater at statistically significant levels (SSL) at the Plant Gorgas Ash Pond and Gypsum Pond. In February 2020, APC revised the ACM to include the BALF.

Since the submittal of the ACM, investigations have been performed to select effective corrective measures to address the SSL at the BALF. 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. A Corrective Action Groundwater Monitoring Program document presenting the groundwater corrective action remedies to be implemented at the Site was submitted to ADEM on March 17, 2022.

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. and will supplement the ongoing CCR compliance groundwater monitoring currently being performed at the Site. 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.

Statistical evaluations of the first 2022 semi-annual monitoring data identified an SSL of arsenic above the GWPS in one well (MW-12). The following summarizes results and activities conducted during the first semi-annual monitoring period of 2022:

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

Statistical evaluations of the second 2022 semi-annual monitoring data identified an SSL of arsenic above the GWPS in one well (MW-12). The following summarizes results and activities conducted during the second semi-annual monitoring period of 2022:

- Submitted the 2022 Semi-Annual Groundwater Monitoring and Corrective Action Report on July 31, 2022.
- Completed the second semi-annual groundwater sampling event between July 5, 2022, and July 7, 2022.

The CCR unit concluded the monitoring period in assessment monitoring and APC has begun implementing the selected groundwater remedies identified in the Groundwater Remedy Selection Report submitted to ADEM in December 2021 and as detailed in the Corrective Action Groundwater Monitoring Program document. If the pending ASD is approved, the Site will return to assessment monitoring.

The following routine future actions will be taken or are recommended for the site:

- Evaluation of recently collected MNA parameter data and ongoing compliance monitoring to determine the effectiveness of the selected remedies in meeting long-term groundwater protection standards at the site.

- Conduct the first semi-annual monitoring event in 2023 and submit the semi-annual groundwater monitoring and corrective action report summarizing the findings to ADEM by July 31, 2023.

**Executive Summary Table.
Monitoring Period Summary
Plant Gorgas - Bottom Ash Landfill**

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	MW-10, MW-11, and MW-12
Calcium	NA
Chloride	MW-7, MW-8, MW-11, and MW-12
Fluoride	MW-12
pH	MW-7, MW-8, MW-10, and MW-11
Sulfate	NA
TDS	NA

Appendix IV SSLs

Parameter	Wells
Arsenic	MW-12

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

Assessment of Corrective Measures & Groundwater Remedy

Assessment of Corrective Measures

Date Initiated: January 13, 2019
 Date Complete: June 12, 2019
 Revised to Include the Bottom Ash Landfill: February 28, 2020
 Public Meeting Date: July 1, 2020

Groundwater Remedy

Selected During Period: Yes
 Selection Date: December 17, 2021
 Initiated During Period: Yes
 Ongoing During Period: Yes

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ABBREVIATIONS

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

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

1.0 INTRODUCTION

In accordance with the United States Environmental Protection Agency (EPA) coal combustion residual (CCR) rule (40 CFR Part 257, Subpart D), the State of Alabama Department of Environmental Management (ADEM) Admin. Code Ch. 335-13-15, and ADEM Administrative Order (AO) No. 18-096-GW, this *2022 Annual Groundwater Monitoring and Corrective Action Report* has been prepared to document first and second semi-annual groundwater monitoring activities for 2022 at the Plant Gorgas Bottom Ash Landfill (BALF) and to satisfy the requirements of § 257.90(e), ADEM Admin. Code r. 335-13-15-.06(1)(f), and Part E of AO No. 18-096-GW. Semi-annual groundwater monitoring and associated reporting for Plant Gorgas BALF is performed in accordance with the monitoring requirements § 257.90 through § 257.95 and ADEM Admin. Code r. 335-13-15-.06(1) through r. 335-13-15-.06(6).

Semi-Annual Groundwater Monitoring and Corrective Action Reports include an update on groundwater delineation activities completed since the submittal of the Facility Plan for Groundwater Investigation (November 13, 2018) and corrective action activities completed since the submittal of the Corrective Action Groundwater Monitoring Program (March 17, 2022).

2.0 MONITORING PROGRAM STATUS

In accordance with § 257.94(e) and ADEM Admin. Code r. 335-13-15-.06(5)(e), APC implemented assessment monitoring in January 2018. SSIs of Appendix III and an SSL of an Appendix IV parameter (arsenic) were identified at the Plant Gorgas BALF during the first and second semi-annual sampling events of 2022. An ASD was submitted to ADEM for arsenic SSLs above the GWPS in June of 2019. The Plant Gorgas ACM prepared under § 257.96, ADEM Admin. Code r. 335-13-15-.06(7), and AO No. 18-096-GW was amended to include the Bottom Ash Landfill in February 2020.

In accordance with § 257.95 and ADEM Admin. Code r. 335-13-15-.06(6), APC will continue semi-annual 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. Based on visual inspection of USGS topographic quadrangle maps and GIS plant boundary files provided by SCS, the plant occupies portions of Sections 7, 8, 9, 16, 17, 18, 19, 20, 21, 28 and 29, Township 16 South, Range 6 West and Section 12, 13 and 24, Township 16 South, Range 7 West (USGS, 1975; USGS, 1983).

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

3.1 PHYSICAL SETTING

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

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

3.2 SITE GEOLOGY AND HYDROGEOLOGY

Plant Gorgas lies in the Warrior Basin physiographic region (Sapp and Emplainscourt, 1975), a late Paleozoic basin formed as a result of flexure and sediment loading associated with Appalachian and Ouachita orogenies. The bedrock geology is dominated by clastic sedimentary rocks of the Lower Pottsville Formation. Deeper stratigraphy is marked by carbonates, shales, chert, and sandstones of Mississippian to

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

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

Strip mining was conducted over a large portion of the area down to the American seam. As a result, the overburden around the BALF is dominated by backfilled mine overburden (mine spoils) and is characterized by weathered shale and sandstone boulders with lenses of fine sediments and small amounts of coal fragments and coarse sediments. Geologic logs generated during various on-site investigations indicate that the depth to rock varies significantly, ranging from as little as 5 feet (un-mined areas) to as much as 160 feet below ground surface (BGS). Beneath the BALF, subsurface geology is characterized by thin remnants of mine backfill and un-mined portions of the Pratt Coal Group consisting predominantly of mudstone and sandstone. **Figure 4a, Geologic Cross-Section A-A'** and **Figure 4b Geologic Cross-Section B-B'**, illustrate the geologic layering beneath the Site.

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

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

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

3.2.1 Pottsville Formation – Rock Chemistry

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

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

- Boron – 6.3 to 83.6 ppm (average of 35 ppm).
- Cobalt – 1.6 to 19.8 ppm (average of 8 ppm).
- Molybdenum – 0.8 to 22.2 ppm (average of 5 ppm).

- Lithium – 1.4 to 128 ppm (average of 28 ppm).

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

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

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

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

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

3.2.2 Uppermost Aquifer

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

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

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

3.2.3 Flow Interpretation

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

3.3 GROUNDWATER MONITORING SYSTEM

Pursuant to § 257.91 and ADEM Admin. Code r. 335-13-15-.06(2), Plant Gorgas has installed a groundwater monitoring network to evaluate groundwater quality within the uppermost aquifer. The certified groundwater monitoring system for the Plant Gorgas BALF is designed to monitor groundwater flow passing the waste boundary of the CCR unit. Wells were sited to serve as upgradient or downgradient monitoring locations based on groundwater flow direction as determined by the potentiometric surface elevation contour maps. All groundwater monitoring wells were designed and constructed using “Design

and Installation of Groundwater Monitoring Wells in Aquifers,” ASTM Subcommittee D18.21, as a guideline.

3.3.1 Monitoring Wells

Well locations at the site are designated as upgradient, downgradient, 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 or designations. As described in the site Groundwater Monitoring Plan, modifications to the well network or designation must first be approved by ADEM.

Compliance monitoring wells are installed across the interface or transition from mine spoil overburden to weathered mudstones of the Pottsville. Mine spoil overburden are typically encountered to depths between 115 and 125 feet. MW-12 represents a unique outlier with mine spoil overburden materials displaying a thickness of approximately 160 feet.

The location and designation of site wells are presented in **Figure 5, Monitoring Well Location Map. Table 1a, Compliance Monitoring Well Network Details** and **Table 1b, Delineation Well Network Details** summarize the monitoring well construction details and design purpose for the Plant Gorgas BALF.

3.3.1.1 Upgradient Wells

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

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

3.3.1.2 Downgradient Wells

Monitoring well locations MW-7, MW-8, MW-10, MW-11, and MW-12 serve as downgradient locations for the BALF. Downgradient locations are located lateral to and south of the BALF as determined by water level monitoring and potentiometric surface maps.

3.3.1.3 Piezometers

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

3.3.1.4 Delineation Wells

Pursuant to § 257.95(g)(1), ADEM Admin. Code r. 335-13-15-.06(6)(g), and AO 18-096-GW, an additional monitoring well was installed to characterize the vertical extent of GWPS exceedances identified during assessment monitoring. One vertical delineation well (MW-12V) was installed adjacent to MW-12 to aid in defining the vertical extent of groundwater impacts. A second more shallow vertical delineation well targeting perched water above the MW-12 well screen interval could not be installed due to an unsaturated overburden zone that continued to the top of bedrock. Furthermore, a water-bearing zone was not observed during drilling activities.

3.3.1.5 Monitoring Well Replacement and Abandonment

Monitoring well replacement or abandonment activities were not performed during the most recent monitoring period.

3.4 GROUNDWATER MONITORING HISTORY

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

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

Statistical evaluations of 2018 assessment monitoring data identified statistically significant increases (SSIs) of Appendix III constituents. Statistically significant levels (SSLs) of Appendix IV constituent arsenic were identified in one well above the GWPS. An alternate source demonstration (ASD) was prepared that demonstrated the SSL was not caused by a release from the BALF. While pending ADEM review of the ASD, the Site entered Assessment of Corrective Measures. Pursuant to 40 CFR §257.95(g)(1), ADEM Admin. Code r. 335-13-15-.06(6)(g)2., and AO No. 18-096-GW, an additional monitoring well (**Table 1b, Figure 5**) was installed to characterize the vertical extent of potential GWPS exceedances. Existing well locations monitoring the Gorgas Gypsum Landfill and downgradient of the exceedance location provide sufficient coverage for horizontal delineation. The vertical delineation well installed at the Site is routinely and concurrently sampled with the compliance monitoring well network.

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, Groundwater Analytical Data**.

3.4.2 Historical Groundwater Flow

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

3.4.3 Monitoring Variance

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

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

3.5 GROUNDWATER SAMPLING AND ANALYSIS

Site compliance wells are sampled for groundwater semi-annually. 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) and monitored natural attenuation targeted parameters 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 NTU.
- Temperature and ORP – record only, no stabilization criteria.

During purging and sampling an In-Situ Aqua Troll instrument was used to monitor and record field parameters. Once stabilization was achieved, samples were collected and submitted to the laboratory following standard chain-of-custody (COC) protocol. Field data recorded in support of groundwater sampling activities for the monitoring 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 compliance 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)(f), the following describes monitoring-related activities performed during the annual monitoring period. The first and second semi-annual groundwater monitoring sampling events took place between January 24, 2022, to February 1, 2022 and July 5, 2022 to July 7, 2022, respectively.

Groundwater samples were analyzed for the full list of Appendix III and Appendix IV parameters during the annual monitoring event. General chemistry and targeted monitored natural attenuation parameters

were also collected during the monitoring period. All groundwater sampling activities were conducted by APC Field and Water Services. Pace Analytical Services performed the laboratory analyses of Radium-226 and Radium-228 (reported combined). APCEL performed the remaining Appendix III and Appendix IV analyses. Analytical data from the groundwater monitoring events is included as **Appendix C**, in accordance with the requirements of § 257.90(e)(3) and ADEM Admin. Code r. 335-13-15-.06(1)(f)3.

4.0 GROUNDWATER ELEVATIONS AND FLOW

During the first semi-annual sampling event, groundwater elevations ranged from 305.57 to 418.99 feet NAVD88 (feet above reference 1988 North American Datum) in BALF monitoring wells. **Figure 6A, Potentiometric Surface Contour Map (January 24, 2022)** depicts groundwater elevations and inferred groundwater flow.

During the second semi-annual sampling event, groundwater elevations ranged from 303.19 to 417.74 feet NAVD88 (feet above reference 1988 North American Datum) in BALF monitoring wells. **Figure 6B, Potentiometric Surface Contour Map (July 5, 2022)** depicts groundwater elevations and inferred groundwater flow.

As shown on **Figures 6A and 6B**, the general direction of lateral groundwater flow is south-to- southeast, consistent with historic observations. As indicated by groundwater elevations from paired wells MW-12 and MW-12V, an upward vertical gradient appears to exist between shallow and deeper flow zones. This indicates that (1) both vertically confining conditions exist and (2) deeper, older groundwater is upward flowing. Recent groundwater elevation data collected from the 2022 first and second semi-annual sampling events have been tabulated and included in **Table 3, Groundwater Elevations Summary**. All available groundwater elevation data recorded since 2016 have been tabulated and included in **Appendix B**.

4.1 GROUNDWATER FLOW VELOCITY CALCULATIONS

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

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

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

An estimate of horizontal flow velocity was calculated using the commonly-used derivative of Darcy's Law:

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

Where:

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

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

i = Horizontal hydraulic gradient

n_e = Effective porosity

Appendix D presents the estimated horizontal flow velocity calculated using groundwater elevation data from the first and second semi-annual sampling events in 2022. Darcy's Law provides an approximate horizontal flow velocity because, as stated above, the Site is not homogeneous or isotropic with respect to groundwater flow.

5.0 EVALUATION OF GROUNDWATER QUALITY DATA

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

5.1 DATA VALIDATION – QUALITY ASSURANCE/QUALITY CONTROL

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

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

Where:

RPD = Relative Percent Difference (%)

Conc1 = Higher concentration of the sample or field duplicate

Conc2 = Lower concentration of the sample or field duplicate

Where the RPD are below 20%, the difference is considered acceptable, and no further action is needed. Where an RPD is greater than 20%, further evaluation is required to attempt to determine the cause of the difference and potentially result in qualified data. **Table 4a, Relative Percent Difference Calculations,** provides the RPDs for sample and sample duplicates during the first and second semi-annual monitoring events of 2022. All RPDs were below 20% during the monitoring period.

Chromium was detected at a low level in one equipment blank (EB-1) and two field blanks (FB-1 and FB-2) collected for the downgradient compliance wells during the first semi-annual sampling event. Additionally, lead was detected a low level in one equipment blank (EB-1) collected for the downgradient compliance wells during the first semi-annual sampling event. **Table 4B, Field QC: Blank Detections** summarizes the results of the QC sample detections for the first semi-annual monitoring event. These detections are reported by the laboratory as estimated concentrations, above the MDL but below the RL, and qualified in the analytical report with a “J flag.” The reported concentrations are well below established background concentrations and the GWPS. However, because chromium and lead were detected above the MDL in equipment of field QC samples the resulting concentrations were compared and subsequently validated. Well locations with reported detections less than five times the blank detection were flagged with a (+) U* and MDL/RL values modified based upon the blank concentrations. **Table 4C, Field QC: Data Validation Results** summarizes the resulting qualifications for chromium and lead constituents during the first 2022 semi-annual monitoring event. Data validation was not required during the second semi-annual monitoring event, due to the absence of field and equipment blank detections.

5.2 STATISTICAL METHODOLOGY AND TESTS

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

5.2.1 Appendix III Evaluation

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

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

The following adjustments were made:

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

5.2.2 Appendix IV Evaluation

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

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

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

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

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

5.3 STATISTICAL EXCEEDANCES

Analytical data from the first and second semi-annual monitoring events in 2022 were statistically analyzed in accordance with the Professional Engineer (PE)-certified Statistical Analysis Plan (October 2017) and revised 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 groundwater protection standard.

5.3.1 Appendix III Constituents

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

5.3.2 Appendix IV Constituents

Table 5, Summary of Background Levels and Groundwater Protection Standards, summarizes the background limit established at each monitoring well and the GWPS. A summary table of the statistical limits accompanies the prediction limits in **Appendix E**. It should be noted that recent background concentrations for select constituents (Table 5) show values that exceed their respective GWPS

concentration. These occurrences are a result of recent background concentrations that have not yet been integrated into the Fall 2023 GWPS update. The next semi-annual report should reflect the appropriate changes to the GWPS.

Statistical analysis of Appendix IV data identified the following SSL over GWPS at the listed well for the first 2022 semi-annual groundwater monitoring event:

- MW-12: Arsenic.

Table 6, First Semi-Annual Monitoring Event Analytical Summary, provides a summary of all constituent concentrations for the first semi-annual monitoring event of 2022.

Statistical analysis of Appendix IV data identified the following SSL over GWPS at the listed well for the second 2022 semi-annual groundwater monitoring event:

- MW-12: Arsenic.

Table 7, Second Semi-Annual Monitoring Event Analytical Summary, provides a summary of all constituent concentrations for the second semi-annual monitoring event of 2022.

Statistical analyses are not conducted on Site delineation wells. A review of analytical data derived from delineation well MW-12V revealed no concentrations above GWPS during the first and second 2022 semi-annual sampling events. Details regarding the installation and sampling of MW-12V were submitted to ADEM in a delineation report on May 13, 2019.

6.0 ALTERNATE SOURCE DEMONSTRATION

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

Multiple lines of evidence support the conclusion that the SSL of arsenic in well MW-12 is naturally occurring and not the result of the BALF. The ASD satisfies Federal rules and precludes the need to complete an ACM under § 257.96.

Four key lines of evidence provide overwhelming support for an alternate source:

1. Documented data on naturally occurring arsenic in subsurface materials at the Site (further supported by numerous publications on elevated trace metals in the Pottsville formation).
2. Relative absence of arsenic occurring in BALF pore-water samples (lack of CCR source).
3. Boron isotopic analyses conclusively demonstrating that groundwater sampled in compliance well MW-12 does not have a CCR signature.
4. Spatial Pattern – wells adjacent and downgradient of MW-12, as well as the paired vertical delineation well (MW-12V), exhibit non-detected or low-level concentrations of arsenic and therefore, do not provide any indications of an arsenic plume.

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

7.0 GROUNDWATER ASSESSMENT AND CORRECTIVE ACTION

As required by Part E of the Order (AO 18-096 GW) and correspondence from ADEM (March 2021), this report provides an update of groundwater delineation activities completed since the submittal of the Facility Plan for Groundwater Investigation (November 13, 2018). The primary purpose of this plan was to identify the horizontal and vertical extent of groundwater impacts defined by EPA Appendix IV groundwater protection standards.

A comprehensive groundwater delineation report summarizing findings was submitted to ADEM in September 2020. The conclusions and results presented indicate that groundwater delineation has 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 semi-annual in March and September. APC received approval to combine information typically provided in the Semi-Annual Progress Reports with Semi-Annual Groundwater Monitoring and Corrective Action Reports 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 requires the installation of additional wells as necessary to define the extent of groundwater impacts. The following documents delineation activities completed at the Plant Gorgas BALF since submittal of the Facility Plan for Groundwater Investigation on November 13, 2018.

- Installed one vertical delineation well on January 9, 2019. A second shallow vertical delineation boring (MW-12SV) was attempted, but saturated conditions were not encountered during borehole advancement. Therefore, a shallow vertical delineation well was not installed.
- Developed vertical delineation well MW-12V in March 2019.
- Collected groundwater samples from MW-12V on March 12, 2019.
- Submitted a Groundwater Investigation Report to the Department on May 13, 2019. This report recommended no further delineation and data gathered indicated strong potential for an alternate source.

- Submitted an Alternate Source Demonstration for arsenic over the GWPS at well MW-12 to the Department in July 2019.
- On December 30, 2019, provided the Department with a response to comments received from the Department on November 14, 2019.
- Submitted a revised Assessment of Corrective Measures that included the BALF to the Department in February 2020.
- Submitted a Semi-Annual Progress and Groundwater Delineation Report documenting groundwater investigation activities on September 30, 2020.
- Responded to the February 3, 2021 ADEM Semi-Annual Progress and Groundwater Delineation Reports comments letter on March 5, 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 bottom ash pore-water at two (2) locations was conducted. One of the locations was dry, indicating that portions of the BALF are unsaturated or contain very little water. Bottom ash pore-water from the other location was sampled for all EPA Appendix III and IV constituents. Groundwater quality data was compared to source water and leachate composition to provide a basis for evaluating the degree to which the source area has contributed constituents to groundwater. A case for an alternative source was previously submitted to the Department in July 2019 documenting both natural arsenic in geologic materials at the site and a relative lack of arsenic in pore-water collected from the BALF.

7.1.3 Discussion of Delineation Results

Groundwater Monitoring and Corrective Action reports for the Plant Gorgas BALF have identified SSLs in groundwater for arsenic at MW-12. An isoconcentration map for arsenic from the first semi-annual sampling event is presented in **Figure 7A, Arsenic Concentrations Map (February 1, 2022)**. An isoconcentration map for arsenic from the second semi-annual sampling event is presented in **Figure 7B, Arsenic Concentrations Map (July 5, 2022)**.

Isoconcentration lines shown on **Figures 7A and 7B** are data-driven contours derived from the spatial distribution of constituent concentrations in the well network. When spatially distributed objects are correlated (i.e., objects close together with similar characteristics are compared), mathematical interpolation can be used to predict quantities between the objects. In this case, the Geostatistical Analyst tool within

ArcGIS was utilized to interpolate constituent concentrations between well locations within the area where concentrations were above laboratory method detection limits.

In cases where concentrations decrease below the GWPS in between well pairs, the extent of groundwater impacts are interpreted from the interpolated (predicted) data set. This takes into account the spatial pattern of decreasing concentrations observed in nearby wells.

A total of eight (8) compliance monitoring wells associated with the downgradient Gypsum Landfill exist between MW-12 and the property boundary. While these compliance wells are not associated with the BALF, they do act as de facto horizontal delineation wells since they are screened similarly to compliance wells at the BALF. These wells negate the technical need for horizontal delineation wells. Therefore, as shown on **Figure 5** and **Table 1b**, one vertical delineation well, MW-12V, has been installed at the site to assess potential impacts.

Figures 7A and 7B shows the extent of arsenic concentrations over the 0.01 mg/L GWPS. Spatially, arsenic concentrations appear concentrated in the immediate vicinity of MW-12, and a lack of exceedances in vertical delineation well MW-12V indicates impacts are limited to the uppermost aquifer. As discussed in **Section 6.0**, a strong case for an alternative source was previously submitted to the Department in July 2019 documenting both natural arsenic in geologic materials at the site and a relative lack of arsenic in pore-water collected from the BALF.

7.2 STATUS OF DELINEATION

Groundwater delineation activities at the site were completed in 2019. As shown on **Figures 7A and 7B**, the vertical and horizontal extent of arsenic has been delineated and is characterized by an isolated pocket of elevated arsenic likely limited to the well screen interval of the MW-12. The previously submitted ASD provides conclusive lines of evidence that the BALF is not the source of elevated arsenic concentrations in this well.

7.3 GROUNDWATER REMEDY AND CORRECTIVE ACTION

An Assessment of Corrective Measures (ACM) for groundwater impacts was conducted and formally 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 (complete) included dewatering, consolidation, and capping of the CCR unit,
- Monitored natural attenuation (MNA) over the entire site.

Closure of the Site, which included dewatering, consolidation, and capping, has reduced 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.

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 November 2020. Site closure included removal of free water, dewatering the CCR material, grading the Site to promote drainage, and installing a final cover consisting of a low-permeability cover system consisting of geomembrane and a vegetative cover.

In addition to continued rule-required assessment 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 March 2022 sampling event. These parameters in addition to field parameters, Appendix III, 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.

8.0 SUMMARY AND CONCLUSIONS

An ASD was prepared to address historical arsenic GWPS exceedances at compliance well MW-12 in June 2019. This ASD was prepared in accordance with § 257.95(g)(3)(ii) 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. ADEM has not yet approved the ASD for arsenic, so APC has amended the current Plant Gorgas ACM to include the BALF.

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. Statistical evaluations of the February and July 2022 groundwater monitoring data identified an SSL (arsenic) of Appendix IV constituents above the GWPS but did not identify any new or additional SSLs beyond those reported in the 2018 Groundwater Monitoring and Corrective Action Report.

In accordance with § 257.95(d) and Alabama Admin. Code r. 335-13-15-.06(6)(d), APC will continue semi-annual groundwater monitoring.

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

The following future actions will be taken or are recommended for the site:

- Evaluation of recently collected MNA parameter data and ongoing compliance monitoring to determine the effectiveness of the selected remedies in meeting long-term groundwater protection standards at the site.
- Conduct the first semi-annual groundwater monitoring event in 2023 and submit the semi-annual groundwater monitoring and corrective action report summarizing the findings to ADEM by July 31, 2023.

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Tables



**Table 1a. - Compliance Monitoring Well Network Details
Plant Gorgas Bottom Ash Landfill (BALF)**

Well ID	Hydraulic Location	Geologic Unit	Latitude	Longitude	Ground Surface Elevation (ft NAVD)	Top Of Casing Elevation (ft NAVD)	Well Depth (ft BTOC)	Top Of Screen Elevation (ft NAVD)	Bottom Of Screen Elevation (ft NAVD)	Screen Length (ft)	Date Of Installation
WELL NETWORK											
MW-1	Upgradient	Mine Spoil - Pottsville Fm Interface	33.65827	-87.19083	499.19	502.38	104.5	405.10	395.10	10	1/15/2014
MW-2	Upgradient	Mine Spoil - Pottsville Fm Interface	33.65899	-87.19258	498.54	502.17	91.0	417.90	407.90	10	10/23/2014
MW-3	Upgradient	Mine Spoil - Pottsville Fm Interface	33.65841	-87.1943	522.23	525.90	115.5	417.10	407.10	10	10/23/2014
MW-4	Upgradient	Mine Spoil - Pottsville Fm Interface	33.65689	-87.19473	516.67	517.89	126.7	400.40	390.40	10	2/19/2012
MW-7	Downgradient	Mine Spoil - Pottsville Fm Interface	33.65221	-87.19625	391.59	394.59	74.0	330.99	320.99	10	10/29/2014
MW-8	Downgradient	Mine Spoil - Pottsville Fm Interface	33.65009	-87.19496	413.15	416.10	72.3	354.25	344.25	10	1/16/2014
MW-10	Downgradient	Pottsville Fm - American Coal Seam	33.65184	-87.19305	391.66	395.10	108.6	306.86	286.86	20	7/24/2012
MW-11	Downgradient	Mine Spoil - Pottsville Fm Interface	33.65355	-87.19172	403.69	406.96	135.0	282.36	272.36	10	10/30/2014
MW-12	Downgradient	Mine Spoil - Pottsville Fm Interface	33.64956	-87.19209	470.70	474.24	169.0	315.60	305.60	10	11/3/2014

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 Bottom Ash Landfill (BALF)**

Well ID	Hydraulic Location	Geologic Unit	Latitude	Longitude	Ground Surface Elevation (ft NAVD)	Top Of Casing Elevation (ft NAVD)	Well Depth (ft BTOC)	Top Of Screen Elevation (ft NAVD)	Bottom Of Screen Elevation (ft NAVD)	Screen Length (ft)	Date Of Installation
WELL NETWORK											
MW-12V	Vertical Delineation	Pottsville Fm - Pratt Coal Group	33.65064	-87.18932	478.64	481.32	206.1	285.64	275.64	10	3/1/2019

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 2. Parameters And Reporting Limits

Plant Gorgas Bottom Ash Landfill (BALF)
07/05/2022 - 07/06/2022

Appendix III Parameters			
Parameters	Analytical Methods	Reporting Limits	Units of Measure
Boron	EPA 200.7	0.1015	mg/L
Calcium	EPA 200.7	4.06-40.599998	mg/L
Chloride	SM4500Cl E	1-4	mg/L
Fluoride	SM4500F G 2017	0.125	mg/L
pH_Field	Field Sampling	NA	SU
Sulfate	SM4500SO4 E 2011	80-320	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	0.961-1.61	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 Bottom Ash Landfill (BALF)
01/24/2022 - 07/05/2022

Measurement Date		01/24/2022		07/05/2022	
Well	TOC Elevation (ft. NAVD)	Depth To Water (ft. BTOC)	Groundwater Elevation (ft. NAVD)	Depth To Water (ft. BTOC)	Groundwater Elevation (ft. NAVD)
MW-1	502.38	90.76	411.62	90.86	411.52
MW-10	395.10	85.11	309.99	86.43	308.67
MW-11	406.96	101.39	305.57	103.77	303.19
MW-12	474.24	154.76	319.48	155.07	319.17
MW-12V	481.32	156.09	325.23	157.03	324.29
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
MW-7	394.59	57.43	337.16	60.43	334.16
MW-8	416.10	63.54	352.56	63.81	352.29

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 Bottom Ash Landfill (BALF)

01/25/2022 - 07/06/2022

MW-7				
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%
MW-7				
Sample Date = 7/6/2022				
Analyte	Units	Original Result	Duplicate Result	RPD (%)
Calcium	mg/L	280	307	9.20%
Chloride	mg/L	6.25	6.24	0.16%
Fluoride	mg/L	0.208	0.198	4.93%
Sulfate	mg/L	1330	1390	4.41%
Arsenic	mg/L	0.00164	0.00157	4.36%
Barium	mg/L	0.0142	0.0148	4.14%
Cobalt	mg/L	0.0059	0.00581	1.54%
Lithium	mg/L	0.0926	0.0918	0.87%
Molybdenum	mg/L	0.00085	0.00091	7.40%
MW-2				
Sample Date = 1/25/2022				
Analyte	Units	Original Result	Duplicate Result	RPD (%)
Calcium	mg/L	179	180	0.56%
Chloride	mg/L	2.14	2.28	6.34%
Fluoride	mg/L	0.204	0.239	15.80%
Sulfate	mg/L	842	847	0.59%
Arsenic	mg/L	0.00033	0.00033	0.00%
Barium	mg/L	0.0122	0.0127	4.02%
Cobalt	mg/L	0.0166	0.0167	0.60%
Lithium	mg/L	0.051	0.0502	1.58%

Notes:

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



Table 4b. - Field QC: Blank Detections

Plant Gorgas Bottom Ash Landfill (BALF)
01/25/2022 - 07/06/2022

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

Notes:

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



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

Plant Gorgas Bottom Ash Landfill (BALF)
01/25/2022 - 07/06/2022

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	MW-4	0.00021 J	mg/L	+(U)*
01/25/2022	EB-1	Chromium	0.00104	MW-1	0.00043 J	mg/L	+(U)*
01/25/2022	EB-1	Chromium	0.00104	MW-2	0.00022 J	mg/L	+(U)*
01/25/2022	EB-1	Chromium	0.00104	MW-3	0.00051 J	mg/L	+(U)*
02/01/2022	EB-1	Lead	0.00361	MW-12	0.0003 v	mg/L	+(U)*
02/01/2022	EB-1	Lead	0.00361	MW-8	9E-05 J	mg/L	+(U)*
02/01/2022	EB-1	Chromium	0.0014	MW-10	0.00029 J	mg/L	+(U)*
02/01/2022	EB-1	Chromium	0.0014	MW-12V	0.00039 J	mg/L	+(U)*
02/01/2022	EB-1	Chromium	0.0014	MW-11	0.00033 J	mg/L	+(U)*
02/01/2022	EB-1	Chromium	0.0014	MW-12	0.00033 J	mg/L	+(U)*
02/01/2022	EB-1	Chromium	0.0014	MW-8	0.00025 J	mg/L	+(U)*
02/01/2022	FB-2	Chromium	0.00149	MW-10	0.00029 J	mg/L	+(U)*
02/01/2022	FB-2	Chromium	0.00149	MW-12V	0.00039 J	mg/L	+(U)*
02/01/2022	FB-2	Chromium	0.00149	MW-11	0.00033 J	mg/L	+(U)*
02/01/2022	FB-2	Chromium	0.00149	MW-12	0.00033 J	mg/L	+(U)*
02/01/2022	FB-2	Chromium	0.00149	MW-8	0.00025 J	mg/L	+(U)*
01/31/2022	FB-1	Chromium	0.00165	MW-7	0.00032 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 Bottom Ash Landfill (BALF)

Appendix IV Analytes			
Analyte	Units	Background	GWPS
Antimony	mg/L	0.0014	0.006
Arsenic	mg/L	0.005	0.01
Barium	mg/L	0.0165	2
Beryllium	mg/L	0.0121	0.004
Cadmium	mg/L	0.00598	0.005
Chromium	mg/L	0.0105	0.1
Cobalt	mg/L	0.49	0.49
Fluoride	mg/L	0.63	4
Lead	mg/L	0.00108	0.015
Lithium	mg/L	0.419	0.419
Mercury	mg/L	0.0005	0.002
Molybdenum	mg/L	0.0002	0.1
Selenium	mg/L	0.0209	0.05
Thallium	mg/L	0.000226	0.002
Combined Radium 226 + 228	pCi/L	1.47	5

Notes:

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

Field Parameters										
Hydraulic Location	Well	Sample Date	DO mg/L	ORP mv	Turbidity NTU	Field Temperature C	pH_Field SU	Conductivity uS/cm		
Upgradient	MW-1	01/25/2022	0.96	342.61	1.07	20.4	5.11	2248.18		
Upgradient	MW-2	01/25/2022	0.9	76.06	1.13	20.03	6.22	1777.69		
Upgradient	MW-3	01/25/2022	6.2	262.48	2.05	20.01	5.9	3139.08		
Upgradient	MW-4	01/25/2022	2.8	241.8	1.1	21.37	6.3	2843.39		
Downgradient	MW-10	02/01/2022	0.59	-1.14	2.86	19.91	6.62	1272.32		
Downgradient	MW-11	02/01/2022	2.49	-34.11	0.57	20.12	6.83	2381.24		
Downgradient	MW-12	02/01/2022	0.5	36.22	3.19	20.95	5.64	3130.89		
Downgradient	MW-7	01/31/2022	0.13	11.12	1.24	21.03	6.48	2214.15		
Downgradient	MW-8	02/01/2022	1.05	6.61	8.92	18.42	6.77	2433.78		
Vert. Delineation	MW-12V	02/01/2022	0.66	-34.47	0.73	19.8	6.68	2458.25		

Notes:

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

Table 6. First Semi-Annual Monitoring Event

Analytical Results Summary
Plant Gorgas Bottom Ash Landfill (BALF)
01/25/2022 - 02/01/2022



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	MW-10	02/01/2022	0.177	155	3.97	0.157	6.62	707		
Downgradient	MW-11	02/01/2022	0.105	335	68.3	0.0848 J	6.83	1350		
Downgradient	MW-12	02/01/2022	0.208	334	11.5	0.174	5.64	2230		
Downgradient	MW-7	01/31/2022	0.0689 J	278	6.4	0.173	6.48	1370		
Downgradient	MW-8	02/01/2022	0.0639 J	284	8.56	0.177	6.77	1500		
Vert. Delineation	MW-12V	02/01/2022	0.149	293	69.3	0.151	6.68	1220		

Notes:

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

Table 6. First Semi-Annual Monitoring Event

Analytical Results Summary
Plant Gorgas Bottom Ash Landfill (BALF)
01/25/2022 - 02/01/2022



EPA Appendix IV Set											
Hydraulic Location	Well	Sample Date	Antimony mg/L	Arsenic mg/L	Barium mg/L	Beryllium mg/L	Cadmium mg/L	Chromium mg/L	Cobalt mg/L	Fluoride mg/L	
Upgradient	MW-1	01/25/2022	<0.000508	0.000248	0.0098	<0.000406	0.00196	0.000434 J	0.0654	0.101	
Upgradient	MW-2	01/25/2022	<0.000508	0.000334	0.0122	<0.000406	8.12e-005 J	0.000216 J	0.0166	0.204	
Upgradient	MW-3	01/25/2022	<0.000508	0.000275	0.00821	<0.000406	0.00178	0.000509 J	0.0051	0.325	
Upgradient	MW-4	01/25/2022	<0.000508	8.75e-005 J	0.00908	<0.000406	<6.8e-005	0.000208 J	<6.8e-005	0.364	
Downgradient	MW-10	02/01/2022	<0.000508	0.000733	0.0198	<0.000406	0.000101 J	0.000288 J	0.00978	0.157	
Downgradient	MW-11	02/01/2022	<0.000508	0.000854	0.0132	<0.000406	<6.8e-005	0.000334 J	0.000455	0.0848 J	
Downgradient	MW-12	02/01/2022	<0.000508	0.0679	0.0102	<0.000406	<6.8e-005	0.00033 J	0.0474	0.174	
Downgradient	MW-7	01/31/2022	<0.000508	0.00156	0.0126	<0.000406	<6.8e-005	0.000321 J	0.00546	0.173	
Downgradient	MW-8	02/01/2022	<0.000508	0.00131	0.0135	<0.000406	<6.8e-005	0.000253 J	0.0075	0.177	
Vert. Delineation	MW-12V	02/01/2022	<0.000508	0.00551	0.0193	<0.000406	<6.8e-005	0.000388 J	0.000224	0.151	

Notes:

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

Table 6. First Semi-Annual Monitoring Event

Analytical Results Summary
Plant Gorgas Bottom Ash Landfill (BALF)
01/25/2022 - 02/01/2022



EPA Appendix IV Set										
Hydraulic Location	Well	Sample Date	Lead mg/L	Lithium mg/L	Mercury mg/L	Molybdenum mg/L	Selenium mg/L	Thallium mg/L		
Upgradient	MW-1	01/25/2022	<6.8e-005	0.0239	<0.0003	<6.8e-005	0.00216	<6.8e-005		
Upgradient	MW-2	01/25/2022	<6.8e-005	0.051	<0.0003	<6.8e-005	<0.000508	<6.8e-005		
Upgradient	MW-3	01/25/2022	<6.8e-005	0.077	<0.0003	8.01e-005 J	0.0154	<6.8e-005		
Upgradient	MW-4	01/25/2022	<6.8e-005	0.0433	<0.0003	0.000114 J	0.00224	<6.8e-005		
Downgradient	MW-10	02/01/2022	<6.8e-005	0.157	<0.0003	<6.8e-005	<0.000508	<6.8e-005		
Downgradient	MW-11	02/01/2022	<6.8e-005	0.223	<0.0003	0.00181	<0.000508	<6.8e-005		
Downgradient	MW-12	02/01/2022	0.000304	0.0656	<0.0003	0.000191 J	0.000514 J	0.000105 J		
Downgradient	MW-7	01/31/2022	<6.8e-005	0.0907	<0.0003	0.000929	<0.000508	<6.8e-005		
Downgradient	MW-8	02/01/2022	8.59e-005 J	0.124	<0.0003	0.000309	<0.000508	<6.8e-005		
Vert. Delineation	MW-12V	02/01/2022	<6.8e-005	0.278	<0.0003	0.00215	<0.000508	<6.8e-005		

Notes:

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

Table 6. First Semi-Annual Monitoring Event

Analytical Results Summary
Plant Gorgas Bottom Ash Landfill (BALF)
01/25/2022 - 02/01/2022



General Chemistry and MNA Parameters											
Hydraulic Location	Well	Sample Date	Iron Total mg/L	Magnesium Total mg/L	Silicon mg/L	Sodium mg/L	Calcium mg/L	Silica mg/L	Aluminum mg/L	Manganese Total mg/L	
Upgradient	MW-1	01/25/2022	<0.00812	281	11.6	33.8	150	24.8	0.123	10.4	
Upgradient	MW-2	01/25/2022	1.18	194	5.2	20.1	179	11.1	<0.00406	4.05	
Upgradient	MW-3	01/25/2022	0.0451	542	11	49.9	285	23.5	0.0419	0.466	
Upgradient	MW-4	01/25/2022	<0.00812	424	5.8	33.1	259	12.4	0.00905 J	0.000745	
Downgradient	MW-10	02/01/2022	9.1	82.6	7.15	72.5	155	15.3	0.162	1.35	
Downgradient	MW-11	02/01/2022	3.99	177	10.3	140	335	22	<0.00406	1.33	
Downgradient	MW-12	02/01/2022	1.70	374	14	45.1	334	30	<0.00406	22.8	
Downgradient	MW-7	01/31/2022	2.12	253	5.06	38	278	10.8	<0.00406	2.77	
Downgradient	MW-8	02/01/2022	1.98	284	5.28	38.3	284	11.3	<0.00406	0.993	
Vert. Delineation	MW-12V	02/01/2022	3.56	193	7.14	126	293	15.3	<0.00406	0.555	

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.

General Chemistry and MNA Parameters										
Hydraulic Location	Well	Sample Date	Potassium mg/L	Nitrate Nitrite mg/L as N	Alkalinity Total as CaCO3 mg/L	Carbonate Alkalinity as CaCO3 mg/L	Bicarbonate Alkalinity as CaCO3 mg/L	Carbon, Total Organic mg/L	Chloride mg/L	Sulfate mg/L
Upgradient	MW-1	01/25/2022	6.85	1.13	21.6	0	21.6	1 J	2.09	1430
Upgradient	MW-2	01/25/2022	5.8	<0.2	344	0.08	344	1.84 J	2.14	842
Upgradient	MW-3	01/25/2022	7.05	3.7	71.5	0.01	71.5	1.01 J	2.12	2550
Upgradient	MW-4	01/25/2022	7.45	0.226 J	174	0.05	174	<1	1.54	1930
Downgradient	MW-10	02/01/2022	5.42	<0.2	145	0.08	145	<1	3.97	707
Downgradient	MW-11	02/01/2022	6.52	<0.2	286	0.26	286	1.36 J	68.3	1350
Downgradient	MW-12	02/01/2022	23.2	0.265 J	229	0.02	229	4.59	11.5	2230
Downgradient	MW-7	01/31/2022	6.92	<0.2	313	0.25	313	1 J	6.4	1370
Downgradient	MW-8	02/01/2022	8.1	<0.2	391	0.33	391	1.42 J	8.56	1500
Vert. Delineation	MW-12V	02/01/2022	7.69	<0.2	291	0.34	291	<1	69.3	1220

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.

Table 7. Second Semi-Annual Monitoring Event

Analytical Results Summary Plant Gorgas Bottom Ash Landfill (BALF) 07/05/2022 - 07/06/2022

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	07/05/2022	2312.33	0.88	259.28	5.01	20.8	0.23
Upgradient	MW-2	07/05/2022	1626.22	0.68	78.73	6.15	20.66	1.76
Upgradient	MW-3	07/05/2022	3672.69	4.25	210.81	5.34	29.15	4.93
Upgradient	MW-4	07/05/2022	3243.59	2.32	184.48	6.12	21.75	0.89
Downgradient	MW-10	07/06/2022	1079.16	0.75	-19.38	6.64	24.82	4.72
Downgradient	MW-11	07/05/2022	3296.73	0.63	-53.12	6.75	25.84	0.98
Downgradient	MW-12	07/05/2022	4121.59	0.85	43.45	5.82	23.84	3.75
Downgradient	MW-7	07/06/2022	2455.37	0.85	8.14	6.46	21.45	0.67
Downgradient	MW-8	07/06/2022	2581.88	0.87	-4.79	6.72	29.9	6.9
Vert. Delineation	MW-12V	07/05/2022	2568.98	0.56	-39.69	6.92	23.06	1.69

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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 Bottom Ash Landfill (BALF) 07/05/2022 - 07/06/2022

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	MW-10	07/06/2022	0.144	150	2.79	0.145	6.64	635
Downgradient	MW-11	07/05/2022	0.105	333	55.2	0.124 J	6.75	1250
Downgradient	MW-12	07/05/2022	0.172	330	10.5	0.275	5.82	2430
Downgradient	MW-7	07/06/2022	0.0752 J	280	6.25	0.208	6.46	1330
Downgradient	MW-8	07/06/2022	0.0686 J	306	6.5	0.173	6.72	1460
Vert. Delineation	MW-12V	07/05/2022	0.157	295	62	0.212	6.92	1300

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 Bottom Ash Landfill (BALF)
07/05/2022 - 07/06/2022

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	MW-10	07/06/2022	<0.000508	0.000348	0.0209	<0.000406	<6.8e-005	<0.000203	0.00285	0.145
Downgradient	MW-11	07/05/2022	<0.000508	0.000881	0.0148	<0.000406	<6.8e-005	0.000269 J	0.000443	0.124 J
Downgradient	MW-12	07/05/2022	<0.000508	0.0679	0.011	<0.000406	<6.8e-005	<0.000203	0.0512	0.275
Downgradient	MW-7	07/06/2022	<0.000508	0.00164	0.0142	<0.000406	<6.8e-005	<0.000203	0.0059	0.208
Downgradient	MW-8	07/06/2022	<0.000508	0.00136	0.0146	<0.000406	<6.8e-005	<0.000203	0.00701	0.173
Vert. Delineation	MW-12V	07/05/2022	<0.000508	0.0052	0.0189	<0.000406	<6.8e-005	<0.000203	6.83e-005 J	0.212

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 Bottom Ash Landfill (BALF) 07/05/2022 - 07/06/2022

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	MW-10	07/06/2022	<6.8e-005	0.172	<0.0003	<0.000102	<0.000508	<6.8e-005	0.501 U
Downgradient	MW-11	07/05/2022	<6.8e-005	0.233	<0.0003	0.00151	<0.000508	<6.8e-005	0.697 U
Downgradient	MW-12	07/05/2022	0.000185 J	0.0659	<0.0003	0.000402	<0.000508	<6.8e-005	1.72
Downgradient	MW-7	07/06/2022	<6.8e-005	0.0926	<0.0003	0.000846	0.000677 J	<6.8e-005	0.716 U
Downgradient	MW-8	07/06/2022	0.000109 J	0.132	<0.0003	0.000351	<0.000508	<6.8e-005	0.415 U
Vert. Delineation	MW-12V	07/05/2022	<6.8e-005	0.31	<0.0003	0.00234	<0.000508	<6.8e-005	1.09 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

Table 7. Second Semi-Annual Monitoring Event

Analytical Results Summary
Plant Gorgas Bottom Ash Landfill (BALF)
07/05/2022 - 07/06/2022

General Chemistry and MNA Parameters										
Hydraulic Location	Well	Sample Date	Nitrate Nitrite mg/L as N	Aluminum mg/L	Calcium mg/L	Iron Total mg/L	Potassium mg/L	Magnesium Total mg/L	Manganese Total mg/L	Sodium mg/L
Upgradient	MW-1	07/05/2022	1.57	0.114	168	<0.00812	7.28	307	10.4	38.2
Upgradient	MW-2	07/05/2022	<0.2	<0.00609	172	1.24	5.86	181	5.62	20.2
Upgradient	MW-3	07/05/2022	0.582	1.28	369	0.7	8.78	587	5.11	54.9
Upgradient	MW-4	07/05/2022	<0.2	0.00913 J	294	0.0217 J	8.2	451	0.00082	39.2
Downgradient	MW-10	07/06/2022	<0.2	0.0988	150	4.86	4.95	75.8	0.796	82.4
Downgradient	MW-11	07/05/2022	<0.2	<0.00609	333	3.92	6.56	185	1.23	155
Downgradient	MW-12	07/05/2022	0.364	0.00632 J	330	168	23.7	408	21.2	50.4
Downgradient	MW-7	07/06/2022	<0.2	<0.00609	280	2.22	7.21	243	2.78	35.3
Downgradient	MW-8	07/06/2022	<0.2	<0.00609	306	2.06	8.27	290	0.928	38.1
Vert. Delineation	MW-12V	07/05/2022	<0.2	<0.00609	295	3.58	7.4	205	0.479	156

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 Bottom Ash Landfill (BALF)
07/05/2022 - 07/06/2022

General Chemistry and MNA Parameters										
Hydraulic Location	Well	Sample Date	Silica mg/L	Silicon mg/L	Alkalinity Total as CaCO3 mg/L	Sulfide mg/L	Chloride mg/L	Sulfate mg/L	Carbon, Total Organic mg/L	Carbonate Alkalinity as CaCO3 mg/L
Upgradient	MW-1	07/05/2022	25.5	11.9	25.7	0	2.07	1600	1.14 J	NC
Upgradient	MW-2	07/05/2022	11.9	5.57	360	0	2.53	819	1.59 J	NC
Upgradient	MW-3	07/05/2022	43.4	20.3	11.3	0	1.59	3110	<1	NC
Upgradient	MW-4	07/05/2022	13.5	6.3	191	0	1.63	2380	1.07 J	0.64
Downgradient	MW-10	07/06/2022	11.8	5.51	208	0	2.79	635	2.93	NC
Downgradient	MW-11	07/05/2022	21.4	10	303	0	55.2	1250	1.27 J	NC
Downgradient	MW-12	07/05/2022	30.4	14.2	278	0	10.5	2430	4.78	NC
Downgradient	MW-7	07/06/2022	12.8	6	326	0	6.25	1330	1.09 J	NC
Downgradient	MW-8	07/06/2022	11.6	5.42	410	0	6.5	1460	1.03 J	0.75
Vert. Delineation	MW-12V	07/05/2022	15.3	7.17	306	0	62	1300	<1	2.22

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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

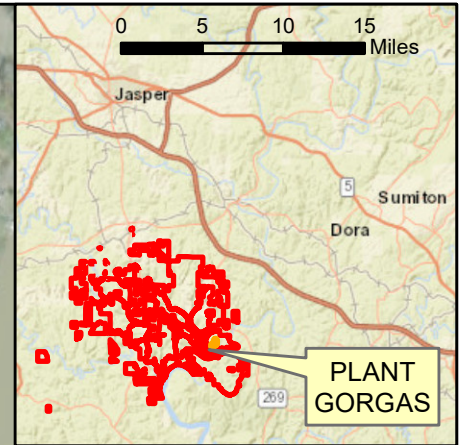
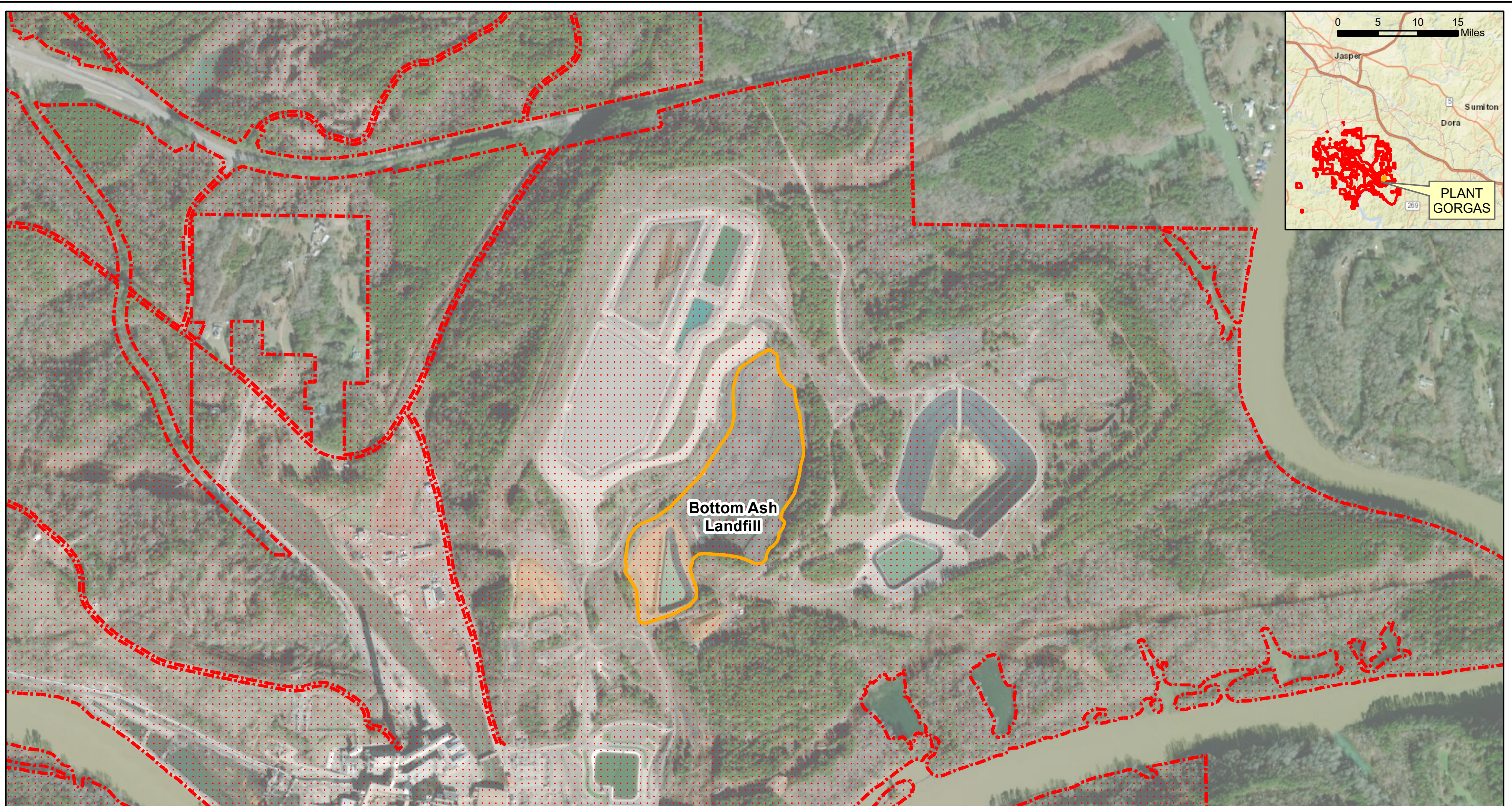
Analytical Results Summary
Plant Gorgas Bottom Ash Landfill (BALF)
07/05/2022 - 07/06/2022

General Chemistry and MNA Parameters			
Hydraulic Location	Well	Sample Date	Bicarbonate Alkalinity as CaCO ₃ 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	190
Downgradient	MW-10	07/06/2022	208
Downgradient	MW-11	07/05/2022	303
Downgradient	MW-12	07/05/2022	278
Downgradient	MW-7	07/06/2022	326
Downgradient	MW-8	07/06/2022	409
Vert. Delineation	MW-12V	07/05/2022	304



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6. NC = value not detected with alkalinity calculation

Figures




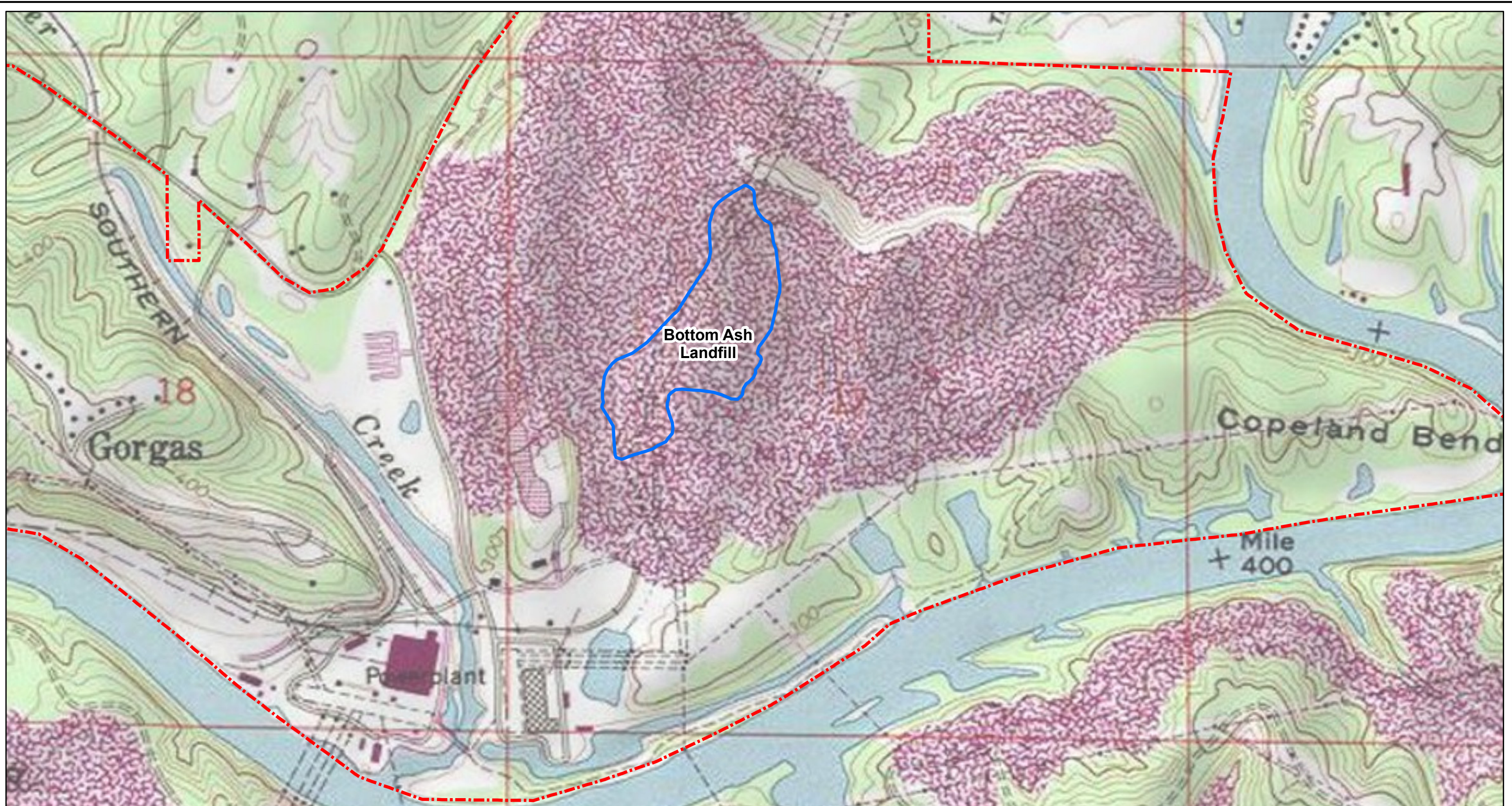
Legend

-  Bottom Ash Landfill Boundary (Approximate)
-  Property Boundary (Approximate)



SCALE	1:9000
DATE	11/5/2020
DRAWN BY	KAR
CHECKED BY	GBD

DRAWING TITLE	
SITE LOCATION MAP PLANT GORGAS BOTTOM ASH LANDFILL	
FIGURE NO	FIGURE 1
	



Legend

- Property Boundary (Approximate)
- Bottom Ash Landfill Boundary (Approximate)



SCALE 1:9000

DATE 3/23/2020

DRAWN BY KAR

CHECKED BY GBD

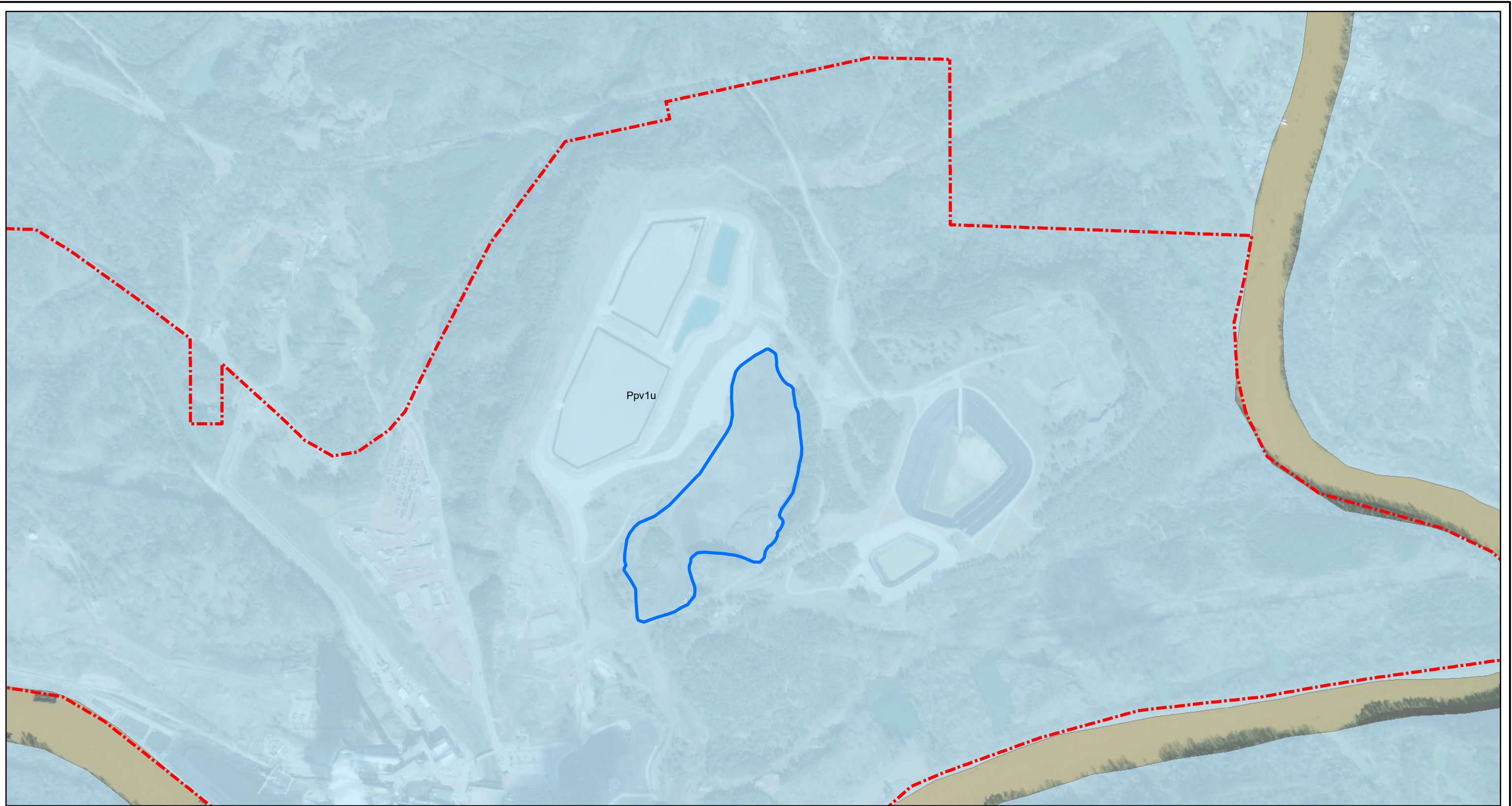
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
**SITE TOPOGRAPHIC MAP
PLANT GORGAS BOTTOM ASH LANDFILL**

FIGURE NO

FIGURE 2






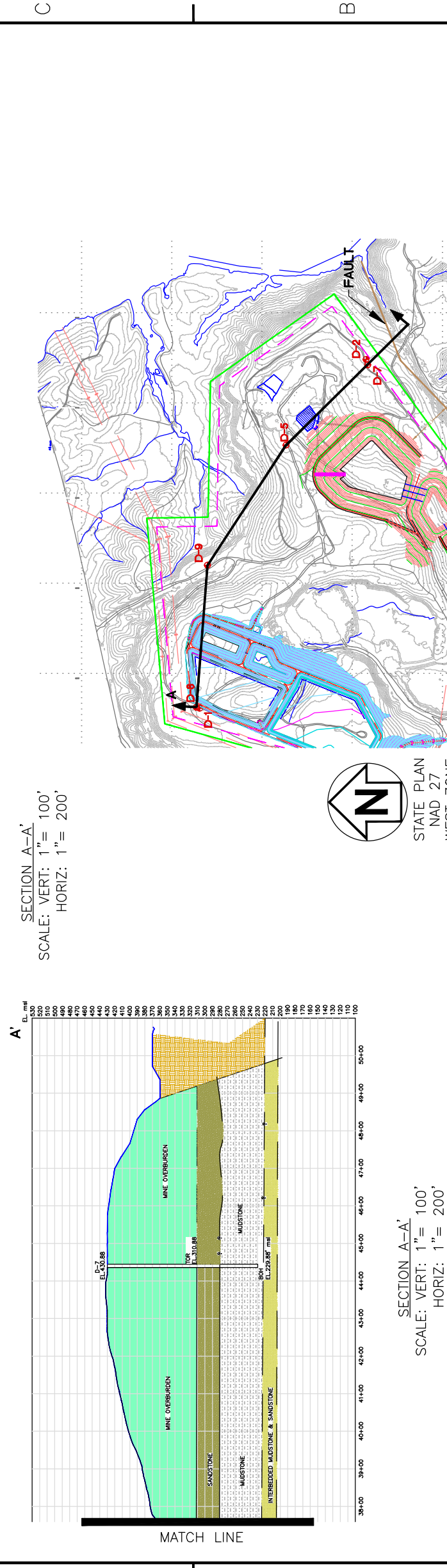
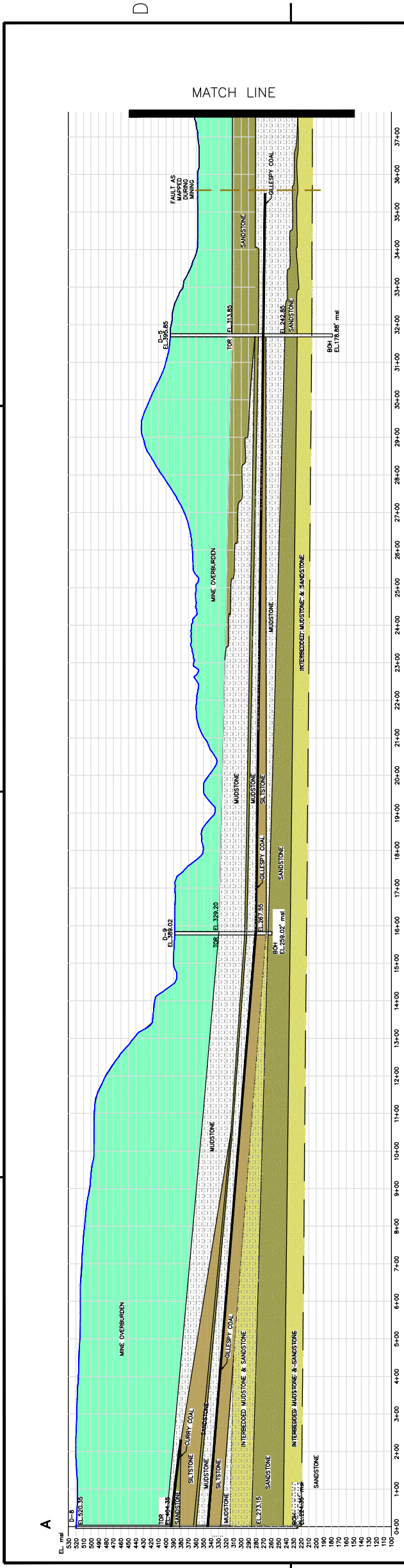
- Legend**
-  Property Boundary (Approximate)
 -  Bottom Ash Landfill Boundary (Approximate)
- Geologic Units**
-  Pottsville Formation (upper part), Appalachian Plateaus (Ppv1u)



SCALE	1:9000
DATE	3/23/2020
DRAWN BY	KAR
CHECKED BY	GBD

DRAWING TITLE	
SITE GEOLOGIC MAP PLANT GORGAS BOTTOM ASH LANDFILL	
FIGURE NO	
FIGURE 3	

4 3 2 1

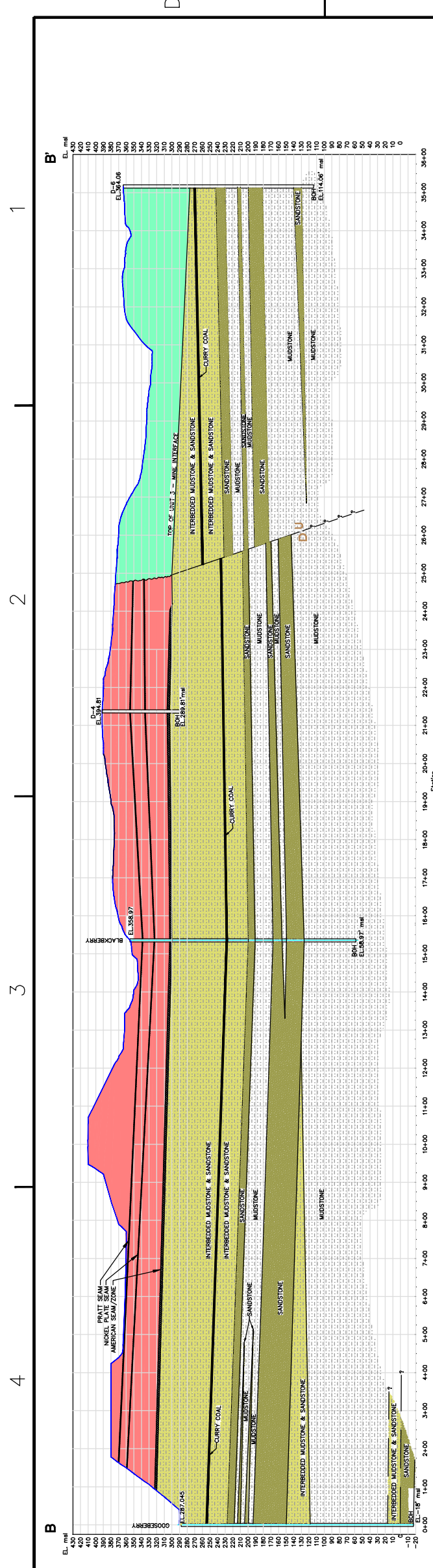


SECTION A-A'
SCALE: VERT: 1" = 100'
HORIZ: 1" = 200'

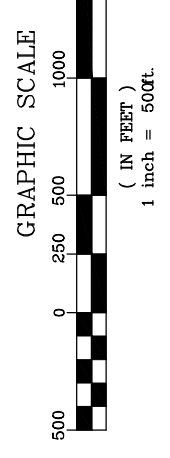
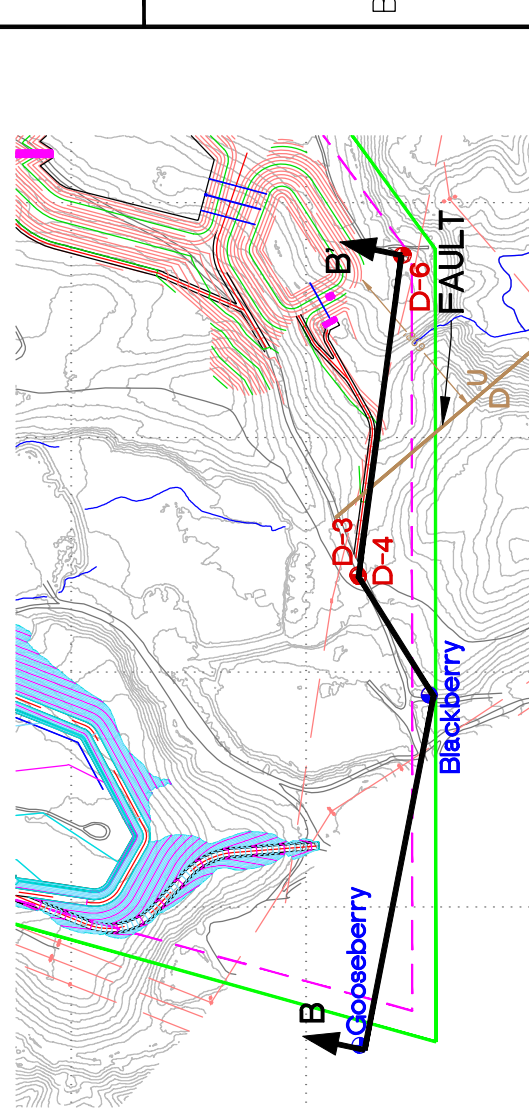
SECTION A'-A''
SCALE: VERT: 1" = 100'
HORIZ: 1" = 200'

GRAPHIC SCALE
(IN FEET)
1 inch = 800ft.

REVISION		DATE	REVISION	DATE	REVISION	DATE	REVISION	DATE	BY	CHK'D	CIVIL APPR	ELECT APPR	I/C APPR	MECH APPR	DISC MGR
0		07/07/2017	ISSUED FOR REPORT						CBD	GBD	SCB	XXX	XXX	XXX	XXX
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Southern Company Services Engineering and Construction Services FOR Alabama Power Company PLANT GORGAS UNIT 8, UNIT 9 AND UNIT 10 CCB STORAGE FACILITY GEOLOGIC CROSS SECTION A-A															
											SCALE	DRAWING NUMBER	SHEET	REV	
											AS SHOWN	FIGURE 4A	1	FINAL	
														O	







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



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ISSUED FOR REPORT		REVISION 0	DATE 07/07/2017
PLANT GORGAS UNIT 8, UNIT 9 AND UNIT 10 CCB STORAGE FACILITY GEOLOGIC CROSS SECTION B-B'		REVISION	DATE
BY	CHK'D	CIVIL APPR	ELECT APPR
GBD	GBD	SCB	XXX
MECH APPR	I/C APPR	DISC MGR	
XXX	XXX	XXX	XXX
AS SHOWN	DRAWING NUMBER		SHEET
FIGURE 4B	1		FINAL
SCALE	REV		
	CONT'D		O



Legend

-  Downgradient Monitoring Well
-  Upgradient Monitoring Well
-  Vertical Delineation Monitoring Well
-  Bottom Ash Landfill Boundary (Approximate)



SCALE 1:6000

DATE 6/23/2020

DRAWN BY KWR

CHECKED BY GBD

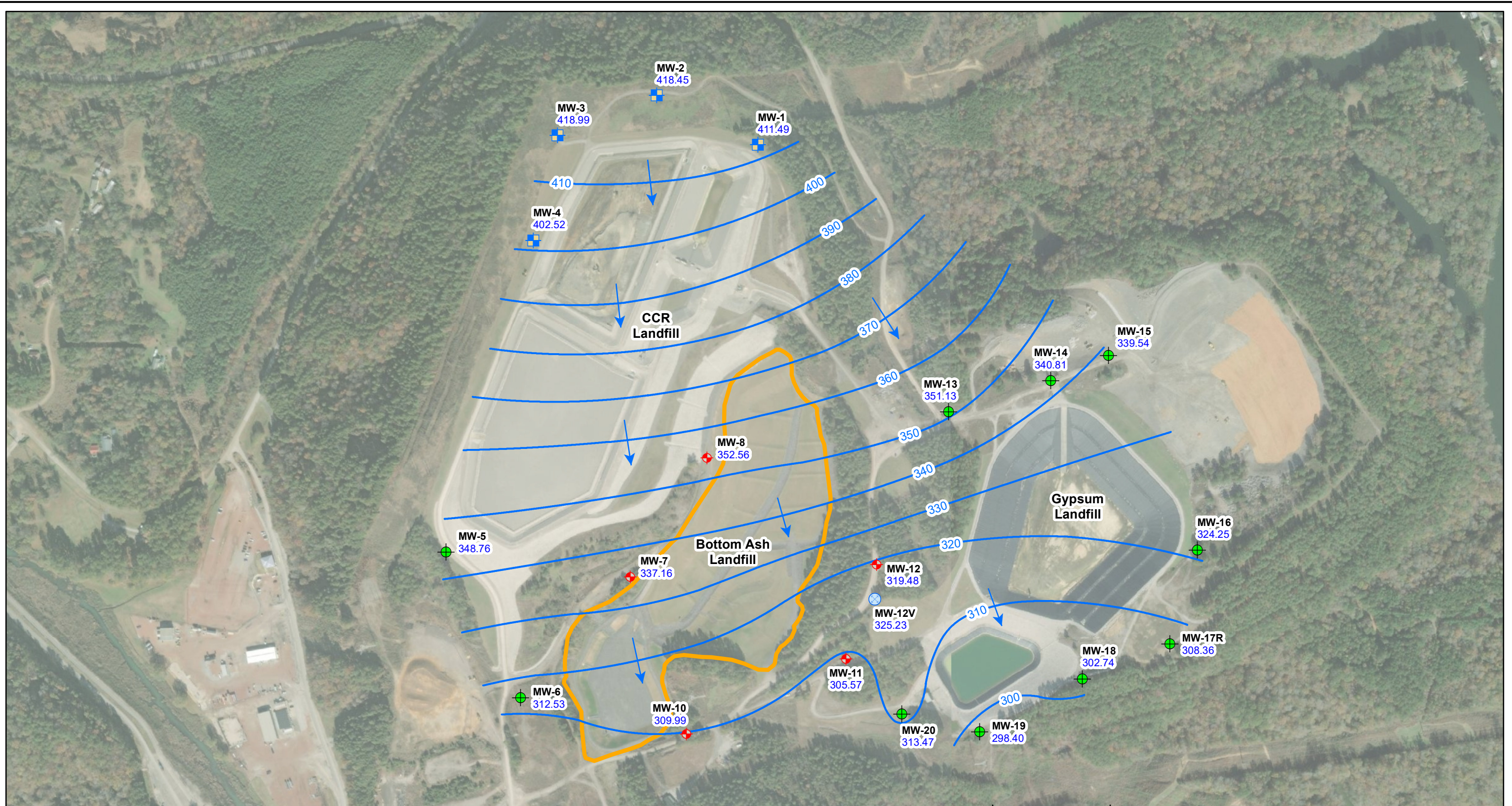
DRAWING TITLE

**MONITORING WELL LOCATION MAP
PLANT GORGAS BOTTOM ASH LANDFILL**

FIGURE NO

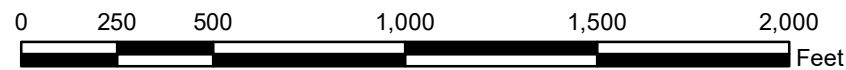
FIGURE 5





Legend

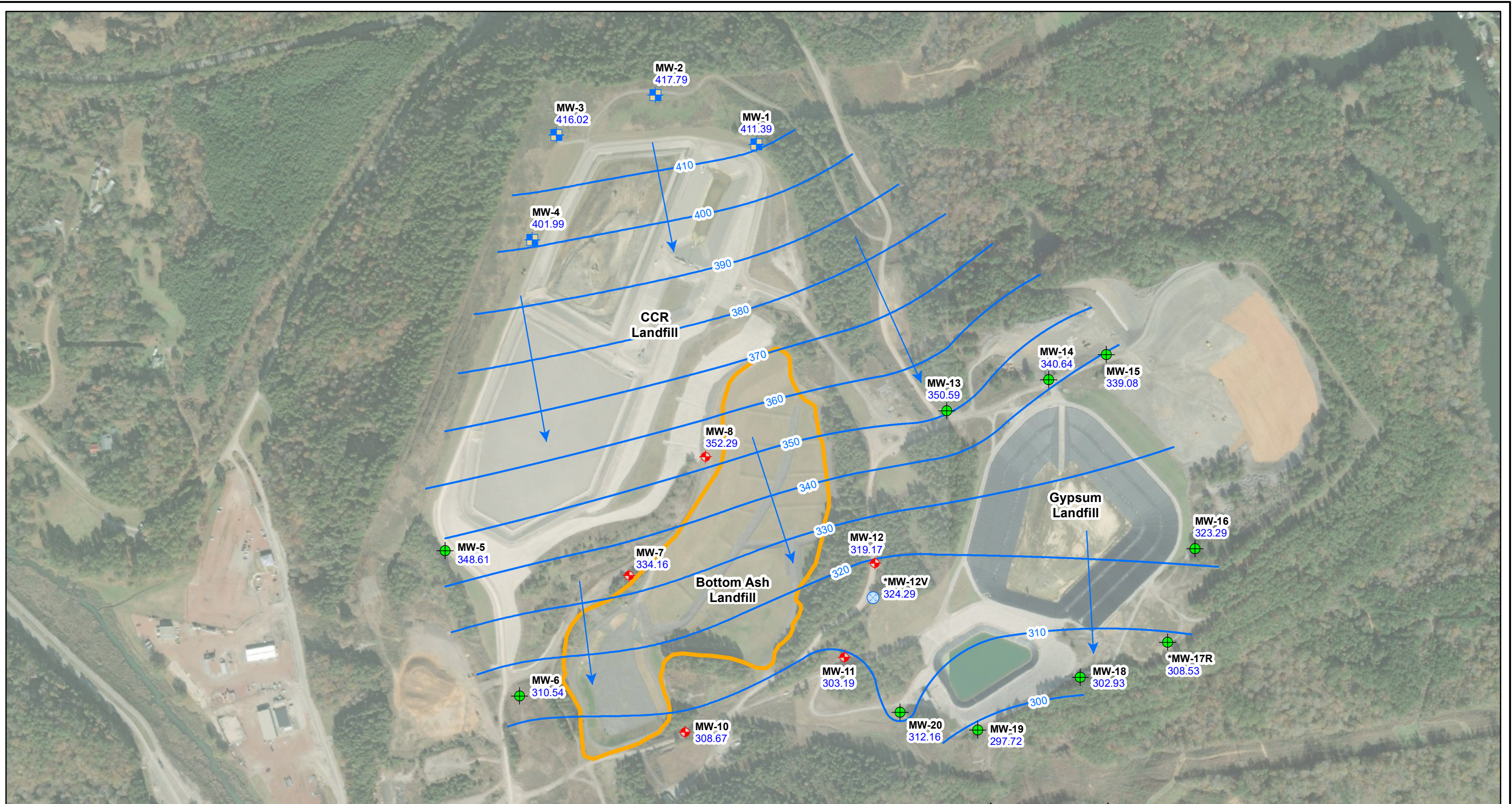
- ◆ Downgradient Monitoring Well
 - Upgradient Monitoring Well
 - ⊗ Vertical Delineation Well
 - Monitoring Well
 - Potentiometric Surface Contour (ft NAVD88)
 - Approximate Groundwater Flow Direction
 - Bottom Ash Landfill Boundary (Approximate)
- MW-1** Well ID
411.49 Groundwater Elevation



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

SCALE	1:6000
DATE	1/3/2023
DRAWN BY	KAR
CHECKED BY	ACP

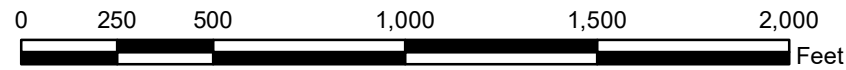
DRAWING TITLE	
POTENTIOMETRIC SURFACE CONTOUR MAP JANUARY 24, 2022 PLANT GORGAS BOTTOM ASH LANDFILL	
FIGURE NO	FIGURE 6A
Southern Company	



Legend

- ◆ Downgradient Monitoring Well
- Upgradient Monitoring Well
- ⊗ Vertical Delineation Well
- Monitoring Well
- Potentiometric Surface Contour (ft NAVD88)
- Approximate Groundwater Flow Direction
- Bottom Ash Landfill Boundary (Approximate)

MW-1 Well ID
411.39 Groundwater Elevation









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

SCALE	1:6000
DATE	1/3/2023
DRAWN BY	KAR
CHECKED BY	ACP

DRAWING TITLE	
POTENTIOMETRIC SURFACE CONTOUR MAP JULY 5, 2022 PLANT GORGAS BOTTOM ASH LANDFILL	
FIGURE NO	FIGURE 6B
Southern Company	



Legend

-  Arsenic GWPS Isoconcentration Contour (0.01 mg/L)
-  Arsenic Isoconcentration Contour (mg/L)
-  Downgradient Monitoring Well
-  Upgradient Monitoring Well
-  Vertical Delineation Monitoring Well
-  Bottom Ash Landfill Boundary



NOTES:

1. Groundwater samples were collected on January 31 and February 1, 2022.
2. ND indicates concentration not detected above laboratory Method Detection Limit (MDL) of 0.00007 mg/L.
3. Concentrations underlined in blue exceed the arsenic Groundwater Protection Standard of 0.01 mg/L.
4. J value indicates estimated concentration greater than or equal to the laboratory MDL and less than the laboratory Reporting Limit (RL).
4. Vertical delineation well MW-12V is screened across a deeper stratigraphic interval.

SCALE 1:6000

DATE 5/5/2022

DRAWN BY KAR

CHECKED BY ACP

DRAWING TITLE
ARSENIC CONCENTRATIONS MAP
FEBRUARY 1, 2022
PLANT GORGAS BOTTOM ASH LANDFILL

FIGURE NO
FIGURE 7





Legend

- Arsenic GWPS Isoconcentration Contour (0.01 mg/L)
- Arsenic Isoconcentration Contour (mg/L)
- Downgradient Monitoring Well
- Upgradient Monitoring Well
- Vertical Delineation Monitoring Well
- Bottom Ash Landfill



NOTES:

1. Groundwater samples were collected on July 5 and 6, 2022.
2. ND indicates concentration not detected above laboratory Method Detection Limit (MDL) of 0.00007 mg/L.
3. Concentrations underlined in blue exceed the arsenic Groundwater Protection Standard of 0.01 mg/L.
4. J value indicates estimated concentration greater than or equal to the laboratory MDL and less than the laboratory Reporting Limit (RL).
4. Vertical delineation well MW-12V is screened across a deeper stratigraphic interval.

SCALE	1:6000
DATE	11/7/2022
DRAWN BY	KAR
CHECKED BY	ACP

DRAWING TITLE	
ARSENIC CONCENTRATIONS MAP	
JULY 2022	
PLANT GORGAS BOTTOM ASH LANDFILL	
FIGURE NO	FIGURE 7B



Appendix A



Appendix A. Historical Analytical Data Summary Plant Gorgas Bottom Ash Landfill (BALF)

Analytes	Well	MW-1																												
	Date	04/26/2016	06/20/2016	08/08/2016	08/24/2016	10/03/2016	10/26/2016	11/21/2016	01/17/2017	03/22/2017	04/18/2017	05/08/2017	08/23/2017	02/13/2018	05/22/2018	06/12/2018	10/17/2018	11/19/2018	05/14/2019	10/08/2019	10/16/2019	02/03/2020	04/06/2020	07/13/2020	08/03/2020	02/22/2021	07/12/2021	01/25/2022	7/5/2022	
Appendix III																														
Boron	mg/L	0.0231 J	0.0227 J	0.0278 J	0.0247 J	0.0307 J	0.0241 J	0.0202 J	0.0201 J	0.0224 J	<-0.02	<-0.02	0.0253 J	--	0.0224 J	0.0214 J	0.0216 J	0.0237 J	<-0.0609	<-0.03	0.0385 J	<-0.03	<-0.03	<-0.03	<-0.03	0.0307 J	<-0.03	<-0.03	<-0.03	
Calcium	mg/L	147	152	150	142	139	133	144	131	141	149	140	152	--	166	203	171	154	167	157	157	172	149	147	148	151	149	159	158	
Chloride	mg/L	1.94	2.09	2.18	2.22	2.34	2.34	2.5	2.68	2.4	2.4	2.6	2.7	--	2.3	2.3	--	1.7 J	2.28	2.31	2.42	2.07	2.01	2.1	2.05	2.16	2.25	2.09	2.07	
Fluoride	mg/L	0.146 J	0.148 J	0.137 J	0.133 J	0.103 J	0.05 J	0.047 J	0.09 J	0.12	0.12	0.13	0.16	0.14	0.16	0.16	--	0.15	0.119	0.0924 J	0.0756 J	0.0982 J	0.101	0.0678 J	<-0.06	0.082 J	0.125	0.101	0.11 J	
pH_Field	SU	5.2	5.18	5.12	--	5.21	5.2	5.19	5.17	5.2	5.2	5.14	5.12	5.18	5.2	5.15	5.12	5.09	5.19	5.12	5.16	5	5.21	5.14	5.08	5.06	5.13	5.11	5.01	
Sulfate	mg/L	1490	1420	1460	1450	1460	1330	1420	1350	1500	1300	1400	1500	--	2100	1500	--	1300	1560	1540	1680	1510	1530	1450	1370	1400	1500	1430	1600	
TDS	mg/L	2080	2060	2070	2040	2110	2000	2070	1930	2060	2140	2240	2160	--	2380	2400	2220	2360	2340	2330	3650	2380	2240	2240	2200	2230	2210	2150	2100	
Appendix IV																														
Antimony	mg/L	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	--	<-0.0006	<-0.0006	<-0.0006	<-0.0008	<-0.0008	0.00137 J	<-0.0008	<-0.0008	<-0.0008	<-0.0008	<-0.0008	<-0.0008	<-0.0008	<-0.0008	<-0.0008	<-0.0008	<-0.0008
Arsenic	mg/L	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	--	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	0.000403	0.0003	0.000274	0.000282
Barium	mg/L	0.00941 J	0.00951 J	0.00991 J	0.00949 J	0.0105	0.00931 J	0.00879 J	0.00929 J	0.00938 J	0.00964 J	0.00982 J	--	0.00937 J	0.0102	0.0104	0.00952 J	0.00915 J	0.00913 J	0.0109	0.0106	0.00995 J	0.00971 J	0.0101	0.0107	0.0107	0.00984	0.0098	0.0093	
Beryllium	mg/L	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	--	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006	<-0.0006
Cadmium	mg/L	0.00196	0.0021	0.00206	0.00182	0.00188	0.00175	0.00197	0.002	0.0019	0.00159	0.00214	--	0.0018	0.00201	0.00217	0.00228	0.00156	0.00238	0.00218	0.00225	0.00182	0.00184	0.0019	0.00237	0.00184	0.00185	0.00221	0.00211	
Chromium	mg/L	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	--	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002
Cobalt	mg/L	0.0343	0.0413	0.0513	0.0471	0.0525	0.0527	0.0569	0.0768	0.0535	0.0442	0.0465	--	0.062	0.0443	0.0512	0.0751	0.0825	0.0485	0.0778	0.08	0.0495	0.0417	0.0532	0.0722	0.0657	0.0549	0.0654	0.0631	
Combined Radium 226 + 228	pCi/L	0.622	0.159 U	0.511 U	0.566 U	0.537 U	0.636	0.807	0.308 U	0.344 U	0.934	0.149 U	--	0.774	-0.091 U	1.18	--	0.862	0.509	1.47	0.204 U	0.521 U	0.309 U	0.219 U	-0.127 U	0.677 U	0.476 U	1.01 U	1.49	
Lead	mg/L	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	--	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001
Lithium	mg/L	0.0264 J	0.0246 J	0.0229 J	0.0236 J	0.0229 J	0.0227 J	0.0236 J	0.0228 J	0.0238 J	0.0242 J	0.0229 J	--	0.0233 J	0.0263 J	0.0251 J	0.025 J	0.0241	0.026 J	0.0268	0.0263	0.0292	0.0278	0.028	0.0259	0.0301	0.0267	0.0237	0.0237	
Mercury	mg/L	<-0.00025	<-0.00025	<-0.00025	<-0.00025	<-0.00025	<-0.00025	<-0.00025	<-0.00025	<-0.00025	<-0.00025	<-0.00025	--	<-0.00025	<-0.00025	<-0.00025	<-0.00025	<-0.00025	<-0.0003	<-0.0003	<-0.0003	<-0.0003	<-0.0003	<-0.0003	<-0.0003	<-0.0003	<-0.0003	<-0.0003	<-0.0003	<-0.0003
Molybdenum	mg/L	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	--	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002	<-0.002
Selenium	mg/L	0.00261 J	0.00242 J	0.00253 J	<-0.002	0.00211 J	<-0.002	<-0.002	<-0.002	0.0022 J	0.0027 J	0.00316 J	--	0.00211 J	0.00372 J	0.00409 J	<-0.002	<-0.002	0.00316 J	<-0.002	<-0.002	0.00272 J	0.00275 J	0.0025 J	0.00278 J	0.00241	0.0028	0.00216	0.00269	
Thallium	mg/L	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-0.0002	--	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-0.0002	<-0.0002

- Notes:
1. mg/L - Milligrams per Liter
 2. pCi/L - picocuries per Liter
 3. J - Result is reported as 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 Data Summary Plant Gorgas Bottom Ash Landfill (BALF)

Analytes	Well	MW-2																													
	Date	04/25/2016	05/05/2016	06/20/2016	08/08/2016	08/24/2016	10/03/2016	10/26/2016	11/21/2016	01/17/2017	03/22/2017	04/18/2017	05/31/2017	08/23/2017	02/13/2018	05/22/2018	06/12/2018	10/17/2018	11/19/2018	05/14/2019	10/08/2019	10/16/2019	02/03/2020	04/06/2020	07/13/2020	08/03/2020	02/22/2021	07/12/2021	01/25/2022	7/5/2022	
Appendix III																															
Boron	mg/L	0.0241 J	--	0.0284 J	0.034 J	0.0316 J	0.0367 J	0.0331 J	0.035 J	0.0259 J	0.0243 J	0.0206 J	0.0234 J	0.0267 J	--	0.0251 J	0.0275 J	0.0321 J	0.0324 J	<0.0609	0.0371 J	0.0419 J	<0.03	<0.03	<0.03	0.0317 J	<0.03	<0.03	<0.03	<0.03	<0.03
Calcium	mg/L	123	--	168	180	180	184	171	179	188	155	156	151	155	--	172	179	200	221	168	190	194	172	152	163	172	178	159	195	168	
Chloride	mg/L	1.9	--	3.43	3.31	3.23	3.21	3.35	3.34	3.58	3	2.6	4.4 J	4.4	--	3.2	3.7	--	3	2.98	4.26	4.04	2.48	2.43	4.05	4.03	1.72	2.36	2.14	2.62	
Fluoride	mg/L	0.149 J	--	0.148 J	0.134 J	0.129 J	0.086 J	0.027 J	0.027 J	0.066 J	0.13	0.16	0.13	0.16	0.22	0.17	0.16	--	0.18	0.17	0.164	0.114	0.182	0.207	0.132	0.122	0.209	0.196	0.204	0.2	
pH_Field	SU	5.94	--	5.96	5.88	--	5.91	5.84	5.82	5.87	6.01	6.02	5.85	5.89	6.21	6.04	5.95	5.9	6.03	6.07	5.96	5.98	5.95	6.21	5.84	5.95	6.1	6.16	6.22	6.15	
Sulfate	mg/L	745	--	964	1100	1130	1140	1060	1100	1160	900	870	1100	920	--	1200	860	--	1000	948	1230	1170	803	786	843	907	864	763	842	844	
TDS	mg/L	1260	--	1620	1740	1720	1800	1800	1740	1960	1510	1580	1730	1550	--	1500	1550	1740	1990	1480	1840	1830	1440	1440	1540	1650	1620	1390	1550	1250	
Appendix IV																															
Antimony	mg/L	<0.0006	--	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	--	<0.0006	<0.0006	<0.0006	<0.0008	<0.0008	0.000989 J	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	
Arsenic	mg/L	<0.001	--	<0.001	<0.001	<0.001	<0.001	<0.001	0.00111 J	<0.001	<0.001	<0.001	<0.001	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.000295	0.000364	0.00029	0.000278
Barium	mg/L	0.0134	--	0.0165	0.0162	0.0139	0.0164	0.0138	0.0144	0.0135	0.0132	0.012	0.0126	--	0.0127	0.0131	0.0138	0.0137	0.0115	0.0109	0.0151	0.0146	0.0122	0.0125	0.0145	0.0147	0.0132	0.013	0.0127	0.013	
Beryllium	mg/L	<0.0006	--	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	--	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006
Cadmium	mg/L	<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	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	8.96e-005 J	8.27e-005 J	0.00012 J	<6.8e-005
Chromium	mg/L	<0.002	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cobalt	mg/L	0.0487	--	0.0767	0.103	0.093	0.0964	0.0904	0.0857	0.0745	0.0328	0.0242	0.0441	--	0.0179	0.028	0.0366	0.0745	0.0225	0.0222	0.0674	0.073	0.0193	0.0116	0.0405	0.0589	0.0161	0.0155	0.0166	0.0192	
Combined Radium 226 + 228	pCi/L	--	-0.0718 U	0.295 U	0.231 U	0.65	0.845	0.994	0.537 U	-0.0159 U	0.279 U	0.32 U	0.178 U	--	0.804	0.0077 U	-0.315 U	--	0.654	0.579	0.493 U	0.046 U	-0.0245 U	0.212 U	0.0814 U	0.888 U	0.434 U	0.155 U	0.663 U	1.31	
Lead	mg/L	<0.001	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005
Lithium	mg/L	0.0353 J	--	0.0583	0.0627	0.0651	0.0622	0.0293 J	0.0667	0.0636	0.0464 J	0.0446 J	0.0496 J	--	0.0615	0.0465 J	0.0472 J	0.0633	0.0584	0.0445	0.0677	0.0661	0.0534	0.0496	0.0615	0.0611	0.0625	0.0495	0.0486	0.0412	
Mercury	mg/L	<0.00025	--	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	--	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Molybdenum	mg/L	<0.002	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<6.8e-005	<6.8e-005	<6.8e-005	<0.000102
Selenium	mg/L	<0.002	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Thallium	mg/L	<0.0002	--	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	--	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<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 reported as 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 Data Summary Plant Gorgas Bottom Ash Landfill (BALF)

Analytes	Well	MW-3																												
	Date	04/25/2016	06/22/2016	08/09/2016	08/24/2016	10/04/2016	10/26/2016	11/21/2016	01/18/2017	03/22/2017	04/18/2017	05/31/2017	08/23/2017	02/13/2018	05/24/2018	06/12/2018	11/19/2018	04/10/2019	05/14/2019	10/08/2019	10/16/2019	02/03/2020	04/06/2020	07/13/2020	08/03/2020	02/22/2021	07/12/2021	01/25/2022	7/5/2022	
Appendix III																														
Boron	mg/L	0.028 J	0.0433 J	0.0429 J	0.0431 J	0.04 J	0.0375 J	0.0406 J	0.0548 J	0.0344 J	<0.02	0.0454 J	0.0425 J	--	0.0339 J	0.0371 J	0.0514 J	<0.03	<0.0609	0.0537 J	0.05 J	--	<0.03	0.0366 J	0.0424 J	<0.03	<0.03	<0.03	<0.03	0.035 J
Calcium	mg/L	224	266	260	274	243	254	263	431	318	296	306	298	--	297	318	387	348	254	371	346	--	177	264	285	312	252	305	376	
Chloride	mg/L	1.32	1.46	1.35	1.47	1.59	1.27	1.38	1.34	2	2.2	1.5 J	1.8 J	--	1.6 J	1.4 J	<1.4	2.25	2.28	1.36	1.4	--	1.72	1.34	1.17	2.22	2.13	2.12	1.59	
Fluoride	mg/L	0.243 J	0.269 J	0.363	0.346	0.266 J	0.266 J	0.244 J	0.385	0.41	0.29	0.37	0.55	0.27	0.6	0.53	0.31	0.273	0.281	0.225	0.106	--	0.314	0.13	0.0766 J	0.246	0.287	0.325	0.386	
pH_Field	SU	5.56	5.57	5.67	5.63	5.69	5.56	5.42	5.11	4.52	5.84	4.56	4.77	5.67	5.19	4.79	3.77	5.54	5.71	4.98	4.51	--	5.91	5.16	5.06	5.59	5.86	5.9	5.34	
Sulfate	mg/L	1890	2100	2050	2190	1950	1980	2060	2620	3200	2500	2800	2600	--	2700	2500	3000	2460	2460	2950	2820	--	1670	2130	2330	3040	2380	2550	3110	
TDS	mg/L	2720	3250	3050	3080	2900	2940	3090	4020	4180	4440	3970	4050	--	3680	3820	4710	3680	3580	4720	4210	--	2630	3650	3760	4670	3510	3950	4220	
Appendix IV																														
Antimony	mg/L	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	--	<0.0006	<0.0006	<0.0006	<0.0008	0.000978 J	<0.0008	<0.0008	<0.0008	--	<0.0008	<0.0008	<0.0008	<0.000507	<0.000508	<0.000508	<0.000508	
Arsenic	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.00122 J	<0.001	<0.001	--	<0.001	<0.001	0.00103 J	0.0012 J	<0.001	<0.001	0.0048 J	0.00389 J	--	<0.001	0.0032 J	0.00426 J	0.000789	0.000376	0.000275	0.00426	
Barium	mg/L	0.00803 J	0.0101	0.00889 J	0.00962 J	0.00984 J	0.00878 J	0.00833 J	0.00966 J	0.00991 J	0.00976 J	0.00866 J	--	0.00821 J	0.00977 J	0.00997 J	0.0109	0.0101	0.00922 J	0.0154	0.0128	--	0.00931 J	0.0142	0.0166	0.00981	0.00857	0.00871	0.0151	
Beryllium	mg/L	0.00122 J	0.00144 J	0.00331	0.00308	0.00129 J	0.0071	0.00689	0.0169	0.00686	<0.0006	0.00547	--	<0.0006	0.00164 J	0.00306	0.0185	<0.0006	<0.0006	0.0084	0.0103	--	<0.0006	0.0021 J	0.00405	<0.000406	<0.000406	<0.000406	0.00237	
Cadmium	mg/L	0.0121	0.00163	0.00122	<0.0002	0.000689 J	0.00136	0.00171	0.003	0.00473	0.00117	0.00296	--	0.00232	0.00459	0.00351	0.00309	0.00337	0.0013	0.00598	0.00448	--	0.000645 J	0.0089	0.00652	0.00536	0.000937	0.00174	0.00848	
Chromium	mg/L	0.00373 J	0.00606 J	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.00945 J	0.0105	<0.002	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	<0.002	<0.002	<0.002	0.00035 J	0.000307 J	0.00034 J	0.000235 J	
Cobalt	mg/L	0.232	0.332	0.311	0.271	0.148	0.236	0.241	0.347	0.271	0.00324 J	0.225	--	0.00661 J	0.158	0.291	0.386	0.0144	0.00536	1.07	0.848	--	<0.002	0.47	0.64	0.0515	0.00567	0.00535	0.263	
Combined Radium 226 + 228	pCi/L	0.484 U	0.2 U	0.378 U	0.131 U	0.514 U	0.755	0.7	0.606	0.927	0.334 U	0.8	--	0.649	0.448 U	0.234 U	0.521	--	0.176 U	0.833 U	0.0279 U	0.0246 U	0.569 U	0.53	0.765 U	0.472 U	0.114 U	0.418 U	1.33	
Lead	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	--	<0.001	<0.001	<0.001	0.00692	<0.001	<0.001	<0.001	0.00108 J	--	<0.001	<0.001	0.002 J	8.8e-005 J	8.42e-005 J	<6.8e-005	0.000185 J	
Lithium	mg/L	0.0964	0.156	0.122	0.138	0.0966	0.134	0.167	0.237	0.203	0.0764	0.218	--	0.0964	0.145	0.194	0.323	0.0905	0.0828	0.419	0.337	--	0.0689	0.256	0.27	0.126	0.0808	0.077	0.217	
Mercury	mg/L	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	--	<0.00025	<0.00025	<0.00025	<0.00025	<0.0003	<0.0003	<0.0003	<0.0003	--	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	
Molybdenum	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	<0.002	<0.002	<0.002	<6.8e-005	<6.8e-005	8.01e-005 J	<0.000102	
Selenium	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.0141	0.0158	0.00632 J	--	0.0209	0.00918 J	0.00836 J	0.00439 J	0.0113	0.0119	0.00256 J	0.00286 J	--	0.01	0.0134	0.0146	0.0181	0.0133	0.0163	0.0238	
Thallium	mg/L	0.000205 J	<0.0002	<0.0002	<0.0002	<0.0002	0.000209 J	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	--	<0.0002	<0.0002	<0.0002	0.000226 J	<0.0002	<0.0002	<0.0002	<0.0002	--	<0.0002	<0.0002	<0.0002	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	

- Notes:
 1. mg/L - Milligrams per Liter
 2. pCi/L - picocuries per Liter
 3. J - Result is reported as 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 Data Summary Plant Gorgas Bottom Ash Landfill (BALF)

Analytes	Well	MW-4																											
		Date	04/25/2016	06/20/2016	08/09/2016	08/24/2016	10/03/2016	10/26/2016	11/21/2016	01/18/2017	03/22/2017	04/18/2017	05/31/2017	08/23/2017	02/13/2018	05/23/2018	06/12/2018	11/19/2018	04/10/2019	05/14/2019	10/10/2019	10/16/2019	02/03/2020	04/06/2020	07/14/2020	02/22/2021	07/12/2021	01/25/2022	7/5/2022
Appendix III																													
Boron	mg/L	0.0414 J	0.0434 J	0.0453 J	0.0451 J	0.0511 J	0.0507 J	0.0458 J	0.0445 J	0.0432 J	0.0409 J	0.0392 J	0.042 J	--	0.0433 J	0.0478 J	0.0526 J	0.0438 J	<0.0609	0.0487 J	0.0505 J	--	0.0428 J	0.0441 J	0.0397 J	0.0411 J	0.0432 J	0.0417 J	
Calcium	mg/L	261	295	318	319	293	311	320	417	292	302	284	297	--	296	355	289	356	254	302	356	--	222	259	271	242	264	271	
Chloride	mg/L	1.53	1.85	1.95	2.07	2.02	2.07	2.39	1.9	1.5 J	1.6 J	2.1	2.3	--	2	1.7 J	<1.4	1.88	1.82	1.93	1.92	--	1.5	1.61	1.52	1.56	1.54	1.63	
Fluoride	mg/L	0.372	0.361	0.326	0.329	0.287 J	0.194 J	0.192 J	0.223 J	0.32	0.32	0.31	0.38	0.38	0.38	0.39	0.36	0.384	0.335	0.304	0.302	--	0.368	0.33	0.357	0.35	0.364	0.362	
pH_Field	SU	6.22	6.21	6.11	6.11	6.13	6.12	6.09	6.09	6.15	6.19	6.13	6.12	6.22	6.21	6.16	6.16	6.14	6.23	6.15	6.19	--	6.35	6.2	6.19	6.06	6.3	6.12	
Sulfate	mg/L	2260	2500	2750	2770	3060	2650	2720	2650	2700	2400	2700	2700	--	2400	2600	2400	2090	2240	2690	3050	--	1810	1970	2040	1930	1930	2380	
TDS	mg/L	3300	3870	4140	4190	4190	4400	4230	4120	3980	3880	4210	3990	--	3740	4080	3920	3280	3130	4000	4060	--	2820	3310	3190	3000	3180	3240	
Appendix IV																													
Antimony	mg/L	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	--	<0.0006	<0.0006	<0.0006	<0.0008	0.00097 J	<0.0008	<0.0008	<0.0008	--	<0.0008	<0.0008	<0.000507	<0.000508	<0.000508	<0.000508	
Arsenic	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	--	<0.001	<0.001	0.000125 J	0.000116 J	6.97e-005 J	9.56e-005 J	
Barium	mg/L	0.0114	0.0103	0.0119	0.0118	0.0119	0.0104	0.0106	0.0101	0.0103	0.0107	0.0104	--	0.0111	0.0107	0.0108	0.0107	0.0107	0.00949 J	0.0116	0.0125	--	0.0115	0.0122	0.0111	0.0108	0.00991	0.0115	
Beryllium	mg/L	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	--	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	--	<0.0006	<0.0006	<0.000406	<0.000406	<0.000406	<0.000406	
Cadmium	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	--	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	--	<0.0003	<0.0003	8.96e-005 J	8.19e-005 J	<6.8e-005	6.94e-005 J	
Chromium	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	<0.002	<0.002	<0.000203	0.000302 J	0.000208 J	<0.000203	
Cobalt	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	<0.002	<0.002	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	
Combined Radium 226 + 228	pCi/L	0.434 U	0.287 U	0.516 U	0.266 U	0.59 U	0.164 U	0.296 U	0.0267 U	0.132 U	-0.0439 U	0.3 U	--	0.69	0.186 U	0.153 U	0.794	--	0.352 U	1.02 U	0.356 U	0.254 U	0.459 U	0.169 U	0 U	0.301 U	0.884 U	1.1	
Lead	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	--	<0.001	<0.001	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	
Lithium	mg/L	0.0528	0.0554	0.0452 J	0.0488 J	0.0476 J	0.049 J	0.0477 J	0.045 J	0.0493 J	0.0494 J	0.0501	--	0.0446 J	0.0513	0.0511	0.0467	0.0504	0.0485	0.054	0.052	--	0.0519	0.0543	0.0558	0.0533	0.0434	0.0484	
Mercury	mg/L	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	--	<0.00025	<0.00025	<0.00025	<0.00025	<0.0003	<0.0003	<0.0003	<0.0003	--	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	
Molybdenum	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	<0.002	<0.002	0.000131 J	0.000138 J	0.000114 J	<0.000102	
Selenium	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	0.00403 J	<0.002	<0.002	0.00436 J	<0.002	0.00201 J	<0.002	<0.002	--	0.00284 J	<0.002	0.00222	0.00155	0.00224	0.000967 J	
Thallium	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	--	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	--	<0.0002	<0.0002	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	

Notes:

1. mg/L - Milligrams per Liter
2. pCi/L - picocuries per Liter
3. J - Result is reported as 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 Data Summary Plant Gorgas Bottom Ash Landfill (BALF)

Analytes	Well	MW-7																			
	Date	04/27/2016	06/21/2016	10/12/2017	10/13/2017	10/14/2017	10/15/2017	10/16/2017	10/17/2017	11/16/2017	02/14/2018	05/23/2018	11/20/2018	05/15/2019	10/08/2019	04/08/2020	07/14/2020	02/23/2021	07/20/2021	01/31/2022	7/6/2022
Appendix III																					
Boron	mg/L	0.253	0.0768 J	0.0685 J	0.0674 J	0.0756 J	0.0719 J	0.0726 J	0.0716 J	0.0644 J	--	0.0715 J	0.0772 J	0.0678 J	0.073 J	0.077 J	0.0865 J	0.0803 J	0.0721 J	0.0689 J	0.0711 J
Calcium	mg/L	198	327	317	302	283	294	284	294	299	--	321	306	302	294	280	261	292	254	270	295
Chloride	mg/L	1.71	2.04	31	32	33	34	34	34	35	--	28	20	15.9	16.8	10.6	9.68	7.85	6.35	6.4	6.25
Fluoride	mg/L	0.2 J	0.163 J	0.17	0.19	0.2	0.2	0.2	0.19	0.18	0.18	0.18	0.19	0.169	0.183	0.153	0.193	0.2	0.286	0.173	0.198
pH_Field	SU	--	--	--	--	--	--	--	--	--	6.67	--	--	6.61	6.52	6.64	6.52	6.7	6.58	6.48	6.46
Sulfate	mg/L	1050	1410	1400	1400	1300	1300	1300	1300	1300	--	1900	1100	1510	1570	1270	1330	1320	1170	1370	1330
TDS	mg/L	1640	2460	2460	2420	2320	1150	2320	2360	2460	--	2390	2090	2310	2340	2230	2210	2320	2110	2140	2110
Appendix IV																					
Antimony	mg/L	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	--	<0.0006	<0.0006	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.000507	<0.000508	<0.000508
Arsenic	mg/L	<0.001	0.00165 J	0.00188 J	0.00181 J	0.00127 J	0.00144 J	0.00139 J	0.00138 J	--	0.00131 J	0.00155 J	0.00133 J	0.00138 J	0.00145 J	0.00136 J	0.00147 J	0.00141	0.00164	0.00156	0.00158
Barium	mg/L	0.0107	0.0129	0.014	0.0147	0.0123	0.0132	0.0122	0.0121	--	0.0119	0.0135	0.0116	0.0114	0.0145	0.0127	0.0148	0.014	0.0142	0.0126	0.0142
Beryllium	mg/L	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	--	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.000406	<0.000406	<0.000406
Cadmium	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	--	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<6.8e-005	<6.8e-005	<6.8e-005
Chromium	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.000203	<0.000203	0.000217 J
Cobalt	mg/L	<0.002	<0.002	0.00269 J	0.00341 J	0.00451 J	0.00371 J	0.00371 J	0.0035 J	--	<0.002	<0.002	0.00306 J	0.00234 J	0.00408 J	0.00394 J	0.00653	0.00294	0.00561	0.00546	0.00571
Combined Radium 226 + 228	pCi/L	0.374 U	0.151 U	0.182 U	0.517 U	0.43 U	0.45 U	0.55 U	0.474 U	--	0.736	0.0192 U	0.494	0.61	0.345 U	0.237 U	0.434	0.696 U	0.356 U	0.473 U	0.716 U
Lead	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<6.8e-005	<6.8e-005	<6.8e-005
Lithium	mg/L	0.163	0.171	0.134	0.127	0.112	0.129	0.122	0.122	--	0.131	0.129	0.12	0.127	0.131	0.117	0.103	0.131	0.096	0.0839	0.0806
Mercury	mg/L	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	--	<0.00025	<0.00025	<0.00025	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Molybdenum	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.00107	0.00086	0.000929
Selenium	mg/L	0.00445 J	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.000507	<0.000508	<0.000508
Thallium	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	--	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<6.8e-005	<6.8e-005	<6.8e-005

Notes:

1. mg/L - Milligrams per Liter
2. pCi/L - picocuries per Liter
3. J - Result is reported as 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 Data Summary Plant Gorgas Bottom Ash Landfill (BALF)

Analytes	Well	MW-8																			
		Date	04/27/2016	06/21/2016	10/12/2017	10/13/2017	10/14/2017	10/15/2017	10/16/2017	10/17/2017	11/16/2017	02/14/2018	05/23/2018	11/20/2018	05/15/2019	10/09/2019	04/08/2020	07/15/2020	02/23/2021	07/20/2021	02/01/2022
Appendix III																					
Boron	mg/L	0.0662 J	0.0681 J	0.0687 J	0.0831 J	0.0702 J	0.0702 J	0.0707 J	0.0695 J	0.0675 J	--	0.0693 J	0.0771 J	0.0689 J	0.0723 J	0.0683 J	0.0723 J	0.0731 J	0.0656 J	0.0639 J	0.0643 J
Calcium	mg/L	282	291	300	298	299	307	299	294	308	--	344	327	305	329	281	280	306	281	291	299
Chloride	mg/L	2.34	2.29	150	130	140	130	140	140	130	--	75	45	52	39.2	24.9	23.8	17.9	14.3	8.56	6.5
Fluoride	mg/L	0.212 J	0.211 J	0.22	0.23	0.22	0.22	0.22	0.21	0.22	0.21	0.21	0.21	0.192	0.189	0.192	0.196	0.208	0.262	0.177	0.173
pH_Field	SU	--	--	--	--	--	--	--	--	--	6.55	--	--	6.6	6.67	6.7	6.71	6.73	6.64	6.77	6.72
Sulfate	mg/L	1550	1470	1400	1600	1400	1400	1400	1400	1400	--	2100	1400	1640	1550	1380	1410	1420	1500	1500	1460
TDS	mg/L	2480	2360	2530	2740	2630	2530	2740	2650	2650	--	2750	2520	2540	2590	2450	2460	2550	2420	2420	2320
Appendix IV																					
Antimony	mg/L	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	--	<0.0006	<0.0006	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.000507	<0.000508	<0.000508
Arsenic	mg/L	<0.001	0.00101 J	0.00197 J	0.00159 J	0.00126 J	0.00106 J	0.00106 J	0.00103 J	--	0.00185 J	0.00157 J	0.00173 J	0.00136 J	0.00142 J	0.00102 J	0.00212 J	0.00117	0.00111	0.000401	0.000356
Barium	mg/L	0.0108	0.0116	0.0141	0.0148	0.0134	0.0139	0.0129	0.0126	--	0.0126	0.0137	0.0123	0.0122	0.0137	0.0137	0.0143	0.014	0.0141	0.0135	0.0132
Beryllium	mg/L	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	--	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.000406	<0.000406	<0.000406
Cadmium	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	--	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<6.8e-005	<6.8e-005	<6.8e-005
Chromium	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.000203	<0.000203	0.000368 J
Cobalt	mg/L	0.00436 J	0.00484 J	0.005 J	0.0052 J	0.00513 J	0.00518 J	0.00453 J	0.00463 J	--	0.00441 J	0.00466 J	0.00551	0.00643	0.00864	0.00762	0.00821	0.00796	0.00714	0.0075	0.00673
Combined Radium 226 + 228	pCi/L	-0.207 U	0.529	0.267 U	0.873 U	1.6 U	0.327 U	0.524 U	0.0455 U	--	0.633	0.377 U	0.28 U	0.697	0.416 U	1.38 U	0.398 U	0.685 U	0.42 U	0.643 U	0.415 U
Lead	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<6.8e-005	9.44e-005 J	<6.8e-005
Lithium	mg/L	0.171	0.181	0.182	0.189	0.177	0.191	0.189	0.184	--	0.183	0.194	0.181	0.16	0.163	0.149	0.152	0.166	0.151	0.124	0.124
Mercury	mg/L	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	--	<0.00025	<0.00025	<0.00025	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Molybdenum	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.0129	0.000329	0.000453
Selenium	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.000507	<0.000508	<0.000508
Thallium	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	--	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<6.8e-005	<6.8e-005	<6.8e-005

Notes:

1. mg/L - Milligrams per Liter
2. pCi/L - picocuries per Liter
3. J - Result is reported as 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 Data Summary Plant Gorgas Bottom Ash Landfill (BALF)

Analytes	Well	MW-10																			
	Date	04/27/2016	06/23/2016	08/10/2016	10/05/2016	11/21/2016	01/17/2017	03/21/2017	05/31/2017	08/23/2017	10/15/2017	05/24/2018	11/19/2018	05/15/2019	10/09/2019	04/08/2020	07/14/2020	02/23/2021	07/20/2021	02/01/2022	7/6/2022
Appendix III																					
Boron	mg/L	0.371	0.251	0.216	0.187	0.182	0.2	0.178	0.149	0.181	--	0.159	0.211	0.234	0.181	0.209	0.25	0.205	0.201	0.218	0.146
Calcium	mg/L	279	256	245	225	179	168	152	130	147	--	159	160	186	146	164	208	151	149	155	149
Chloride	mg/L	1.46	1.49	1.55	1.58	1.62	1.61	1.6 J	3.2	6.1	--	5	7.8	6.93	4.51	2.64	3.09	3.63	3.64	3.97	2.79
Fluoride	mg/L	0.337	0.155 J	0.123 J	0.086 J	0.056 J	0.103 J	0.15	0.18	0.23	0.23	0.13	0.26	0.276	0.142	0.243	0.224	0.202	0.268	0.157	0.145
pH_Field	SU	--	--	--	--	--	--	--	--	--	6.26	--	--	6.37	6.5	6.36	6.42	6.45	6.46	6.62	6.64
Sulfate	mg/L	1250	1010	992	1010	834	700	660	700	700	--	560	720	780	748	658	845	747	665	707	635
TDS	mg/L	1940	1680	1660	1640	1390	1300	1170	1210	1160	--	1100	1220	1230	1120	1120	1270	1110	1080	1050	967
Appendix IV																					
Antimony	mg/L	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	--	<0.0006	<0.0006	<0.0008	0.000996 J	<0.0008	<0.0008	<0.0008	<0.000507	<0.000508	<0.000508	<0.000508
Arsenic	mg/L	0.00196 J	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	--	<0.001	<0.001	<0.001	0.00162 J	<0.001	0.0013 J	0.00164 J	0.0016	0.00102	0.000998	0.000241
Barium	mg/L	0.0187	0.0181	0.0186	0.023	0.0219	0.0203	0.0203	0.0188	--	0.0199	0.0198	0.0187	0.0189	0.0204	0.0201	0.0245	0.0201	0.0208	0.0198	0.0226
Beryllium	mg/L	0.00486	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	0.000883 J	0.00123 J	--	0.00235 J	0.001 J	0.00203 J	0.00177 J	0.00072 J	0.00114 J	0.00135 J	0.00128	0.000951 J	<0.000406	<0.000406
Cadmium	mg/L	0.000452 J	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	--	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.000148 J	8.07e-005 J	0.000101 J	<6.8e-005
Chromium	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.000203	0.000213 J	0.000288 J	<0.000203
Cobalt	mg/L	0.0543	0.0106	0.00438 J	0.00663 J	0.0109	0.0146	0.013	0.0086 J	--	0.0199	0.00905 J	0.0147	0.0226	0.00969	0.0176	0.0232	0.0167	0.0131	0.00978	0.0037
Combined Radium 226 + 228	pCi/L	0.316 U	0.451 U	0.368 U	0.515	0.489 U	0.236 U	0.101 U	1.19	--	0.55	0.472	0.167 U	0.421 U	0.742 U	0.205 U	0.314 U	0.329 U	0.344 U	0.012 U	0.501 U
Lead	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<6.8e-005	7.67e-005 J	<6.8e-005	<6.8e-005
Lithium	mg/L	0.435	0.285	0.231	0.231	0.236	0.3	0.218	0.194	--	0.23	0.192	0.211	0.23	0.202	0.23	0.255	0.223	0.196	0.175	0.16
Mercury	mg/L	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	--	<0.00025	<0.00025	<0.00025	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
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	<6.8e-005	7.69e-005 J	6.96e-005 J	<0.000102
Selenium	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	0.00272 J	<0.002	<0.002	0.00289 J	<0.002	<0.002	0.00273 J	0.00217	0.000982 J	<0.000508	<0.000508
Thallium	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	--	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005

Notes:

1. mg/L - Milligrams per Liter
2. pCi/L - picocuries per Liter
3. J - Result is reported as 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 Data Summary Plant Gorgas Bottom Ash Landfill (BALF)

Analytes	Well	MW-11																				
	Date	04/26/2016	06/22/2016	08/09/2016	10/04/2016	11/21/2016	01/17/2017	03/21/2017	05/30/2017	08/23/2017	02/14/2018	05/22/2018	11/20/2018	05/15/2019	10/10/2019	04/06/2020	07/13/2020	02/24/2021	07/21/2021	02/01/2022	7/5/2022	
Appendix III																						
Boron	mg/L	0.094 J	0.0959 J	0.0964 J	0.0916 J	0.0929 J	0.0963 J	0.0947 J	0.0926 J	0.0968 J	--	0.102	0.106	0.101 J	0.109	0.109	0.111	0.108	0.104	0.105	0.103	
Calcium	mg/L	400	398	399	389	386	344	396	370	374	--	375	370	380	373	333	350	325	322	318	334	
Chloride	mg/L	2.16	2.16	2.19	2.21	2.24	2.23	2.5	3.2	2.8	--	24	59	75.4	84.6	100	79.6	113	73.8	68.3	55.2	
Fluoride	mg/L	0.084 J	0.106 J	0.092 J	0.049 J	<0.01	0.044 J	0.08 J	0.096 J	0.11	0.1	0.1	0.1	0.1	0.0915 J	0.118	0.108	0.107	0.16	0.0848 J	0.124 J	
pH_Field	SU	--	--	--	--	--	--	--	--	--	6.6	--	--	6.62	6.69	6.72	6.71	6.67	6.74	6.83	6.75	
Sulfate	mg/L	1750	1720	1740	1750	1690	1670	1900	1700	1700	--	2200	1400	1510	719	1400	1300	1330	1420	1350	1250	
TDS	mg/L	2800	2550	2860	2800	2920	2750	2750	2890	2760	--	2610	2480	2560	2460	2430	2400	2370	2210	2200	2020	
Appendix IV																						
Antimony	mg/L	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	--	<0.0006	<0.0006	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.000507	<0.000508	<0.000508	
Arsenic	mg/L	0.00189 J	0.00213 J	0.0021 J	0.00206 J	0.00182 J	0.00201 J	0.00183 J	0.00214 J	--	0.00171 J	0.00168 J	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.000834	0.000901	0.000854	0.000813
Barium	mg/L	0.011	0.0122	0.012	0.0142	0.0114	0.0119	0.012	0.012	--	0.0139	0.0148	0.0127	0.0132	0.0154	0.0147	0.0149	0.015	0.0159	0.015	0.0158	
Beryllium	mg/L	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	--	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.000406	<0.000406	<0.000406	
Cadmium	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	--	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<6.8e-005	<6.8e-005	<6.8e-005	
Chromium	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.000203	<0.000203	0.000334 J	
Cobalt	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.00026	0.000254	0.000517	
Combined Radium 226 + 228	pCi/L	0.57	0.724	0.579	0.372 U	1.19	-0.187 U	0.403 U	0.998	--	1.74	0.276 U	1.04	1.18	0.902	0.678	0.665	0.869 U	0.951 U	0.883 U	0.697 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	0.00145 J	<0.001	<0.001	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	
Lithium	mg/L	0.212	0.232	0.204	0.198	0.206	0.295	0.234	0.23	--	0.233	0.24	0.248	0.251	0.275	0.282	0.277	0.3	0.271	0.223	0.204	
Mercury	mg/L	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	--	<0.00025	<0.00025	<0.00025	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	
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	0.00148	0.0013	0.00181	
Selenium	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.000507	<0.000508	<0.000508	
Thallium	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	--	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005	

Notes:

1. mg/L - Milligrams per Liter
2. pCi/L - picocuries per Liter
3. J - Result is reported as 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 Data Summary Plant Gorgas Bottom Ash Landfill (BALF)

Analytes	Well	MW-12																					
	Date	04/27/2016	04/28/2016	06/22/2016	08/10/2016	10/05/2016	11/22/2016	01/18/2017	03/21/2017	05/31/2017	08/23/2017	02/15/2018	05/24/2018	11/19/2018	05/15/2019	10/09/2019	04/06/2020	07/13/2020	02/24/2021	07/20/2021	02/01/2022	7/5/2022	
Appendix III																							
Boron	mg/L	--	0.19	0.118	0.197	0.179	0.197	0.186	0.183	0.193	0.185	--	0.197	0.252	0.239	0.315	0.229	0.266	0.193	0.227	0.21	0.175	
Calcium	mg/L	--	349	374	348	344	342	359	352	313	349	--	349	348	411	359	354	392	346	330	338	341	
Chloride	mg/L	--	4.12	3.44	4.15	4.12	3.98	3.6	3.6	3.9	4.2	--	7.1	6.1	8.51	8.73	8.58	8.35	11.2	9.85	11.5	10.5	
Fluoride	mg/L	--	0.153 J	0.146 J	0.127 J	0.09 J	0.012 J	0.071 J	0.09 J	0.11	0.13	0.12	0.15	0.16	0.185	0.215	0.254	0.161	0.172	0.219	0.174	0.275	
pH_Field	SU	--	--	--	--	--	--	--	--	--	--	5.98	--	--	5.82	5.85	5.81	5.62	5.83	5.53	5.64	5.82	
Sulfate	mg/L	--	2360	1960	2300	2330	2220	1950	2400	2200	2100	--	2300	2100	2800	2550	2580	2610	2280	2500	2230	2430	
TDS	mg/L	--	3730	2760	3710	3580	3400	3360	3320	3440	3250	--	3300	3400	3890	4090	4060	4460	3810	3680	3610	3690	
Appendix IV																							
Antimony	mg/L	--	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	--	<0.0006	<0.0006	<0.0008	0.000977 J	<0.0008	<0.0008	<0.0008	<0.000507	<0.000508	<0.000508	<0.000508	
Arsenic	mg/L	--	0.0444	0.00953	0.0416	0.0431	0.0487	0.0428	0.0418	0.0466	--	0.0346	0.0478	0.0405	0.0511	0.0507	0.0597	0.0613	0.0516	0.0668	0.0679	0.0678	
Barium	mg/L	--	0.0109	0.0155	0.0125	0.0143	0.0118	0.0112	0.0108	0.0107	--	0.0113	0.0122	0.0108	0.0113	0.0126	0.0128	0.0124	0.0123	0.012	0.0112	0.0119	
Beryllium	mg/L	--	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	--	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.000406	<0.000406	<0.000406	<0.000406	
Cadmium	mg/L	--	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	--	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005
Chromium	mg/L	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.000203	0.000276 J	<0.000203	0.000253 J	
Cobalt	mg/L	--	0.0531	0.0388	0.0565	0.0479	0.0453	0.0431	0.0414	0.0379	--	0.0333	0.0399	0.0485	0.0603	0.0512	0.0537	0.0515	0.0442	0.046	0.0474	0.0513	
Combined Radium 226 + 228	pCi/L	0.259 U	0.608	0.45 U	1.03	0.494 U	0.578	0.216 U	0.101 U	1.4	--	0.925	0.756	0.648	1	1.18	1.22	0.787	1.24	1.15 U	1.13 U	1.72	
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	0.000178 J	0.000231	<6.8e-005	0.000102 J	
Lithium	mg/L	--	0.0735	0.118	0.0805	0.0757	0.0828	0.125	0.093	0.0787	--	0.104	0.0819	0.0816	0.0736	0.0838	0.0786	0.0784	0.0949	0.0769	0.0614	0.0601	
Mercury	mg/L	--	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	--	<0.00025	<0.00025	<0.00025	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	
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	8.8e-005 J	0.000169 J	0.000191 J	0.000402	
Selenium	mg/L	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.000507	<0.000508	0.000514 J	<0.000508	
Thallium	mg/L	--	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	--	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<6.8e-005	<6.8e-005	0.000106 J	0.000106 J	

- Notes:
1. mg/L - Milligrams per Liter
 2. pCi/L - picocuries per Liter
 3. J - Result is reported as 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 Data
Plant Gorgas Bottom Ash Landfill (BALF)**

Analytes	Well	MW-12V						
	Date	10/10/2019	04/06/2020	07/13/2020	02/24/2021	07/20/2021	02/01/2022	7/5/2022
Appendix III								
Boron	mg/L	0.15	0.149	0.15	0.16	0.149	0.148	0.153
Calcium	mg/L	319	301	305	293	283	293	302
Chloride	mg/L	79.3	79.4	70.1	101	59.2	69.3	62
Fluoride	mg/L	0.163	0.188	0.166	0.17	0.224	0.151	0.212
pH_Field	SU	6.77	6.79	6.61	6.83	6.84	6.68	6.92
Sulfate	mg/L	1490	1360	1280	1220	1220	1220	1300
TDS	mg/L	2360	2310	2240	2240	2190	2110	2100
Appendix IV								
Antimony	mg/L	<0.0008	<0.0008	<0.0008	<0.000507	<0.000508	<0.000508	<0.000508
Arsenic	mg/L	0.00827	0.00731	0.0071	0.00584	0.00573	0.00482	0.00491
Barium	mg/L	0.0236	0.019	0.019	0.0185	0.0186	0.0182	0.019
Beryllium	mg/L	<0.0006	<0.0006	<0.0006	<0.000406	<0.000406	<0.000406	<0.000406
Cadmium	mg/L	<0.0003	<0.0003	<0.0003	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005
Chromium	mg/L	<0.002	<0.002	<0.002	<0.000203	<0.000203	0.000388 J	0.00025 J
Cobalt	mg/L	<0.002	<0.002	<0.002	0.000378	0.000181 J	0.000218	0.000144 J
Combined Radium 226 + 228	pCi/L	0.446 U	0.116 U	0.794	0.865 U	0.763 U	1.01 U	1.09 U
Lead	mg/L	<0.001	<0.001	<0.001	<6.8e-005	<6.8e-005	<6.8e-005	<6.8e-005
Lithium	mg/L	0.297	0.298	0.294	0.345	0.33	0.277	0.276
Mercury	mg/L	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Molybdenum	mg/L	<0.002	<0.002	<0.002	0.00174	0.00188	0.00218	0.00247
Selenium	mg/L	<0.002	<0.002	<0.002	<0.000507	<0.000508	<0.000508	<0.000508
Thallium	mg/L	<0.0002	<0.0002	<0.0002	<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 reported as 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 BALF

Well ID	Top of Casing Elevation (ft. AMSL)	Groundwater Elevation (ft. AMSL)														
		4/25/2016	6/20/2016	8/8/2016	10/3/2016	11/21/2016	1/17/2017	3/20/2017	4/10/2017	5/30/2017	8/23/20107	10/12/2017	10/13/2017	10/14/2017	10/15/2017	10/16/2017
MW-1	502.25	411.22	410.70	410.49	410.31	410.10	410.07	410.67	410.89	410.80	411.06	410.70	410.72	410.68	410.73	410.68
MW-2	502.12	417.36	416.76	416.60	416.21	415.98	416.62	417.24	417.66	416.94	417.02	416.50	416.54	416.49	416.53	416.50
MW-3	525.90	416.41	415.45	415.00	414.82	414.43	415.27	416.07	418.23	415.53	415.73	415.10	415.14	415.15	415.17	415.13
MW-4	518.63	402.31	401.79	400.61	400.09	399.53	400.51	402.02	402.50	401.68	401.77	400.79	400.76	400.67	400.67	400.59
MW-7	394.59	336.39	334.07	333.91	333.86	333.71	333.81	334.10	336.18	334.24	335.75	334.36	334.53	334.45	334.45	334.42
MW-8	416.10	351.49	351.75	351.95	352.15	352.16	353.56	352.92	353.12	353.12	353.29	353.39	353.32	353.31	353.40	353.34
MW-10	395.10	310.15	309.72	309.51	309.27	308.95	309.08	309.71	310.10	309.77	310.00	309.79	309.78	309.75	309.75	309.74
MW-11	406.96	303.90	302.76	303.71	303.50	302.82	303.39	304.10	306.13	305.04	306.62	307.31	307.23	307.18	307.22	307.29
MW-12	474.24	321.11	319.94	318.35	319.22	319.15	319.20	319.32	319.71	319.35	319.26	319.32	319.32	319.25	319.25	319.26
MW-12V	481.32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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

**Appendix B.
Historical Groundwater Elevations Summary
Plant Gorgas BALF**

Well ID	Top of Casing Elevation (ft. AMSL)	Groundwater Elevation (ft. AMSL)															
		10/17/2017	11/15/2017	2/12/2018	4/9/2018	5/21/2018	10/29/2018	11/19/2018	3/13/2019	5/13/2019	10/7/2019	4/6/2020	7/13/2020	2/22/2021	7/12/2021	1/24/2022	7/5/2022
MW-1	502.25	410.65	410.66	410.89	411.35	411.47	410.62	410.80	412.11	411.77	410.79	412.16	411.22	411.59	411.54	411.49	411.39
MW-2	502.12	416.51	416.74	419.29	417.32	417.33	416.30	417.67	417.70	417.64	416.63	417.81	416.93	418.50	417.75	418.40	417.74
MW-3	525.90	415.12	415.41	418.49	416.25	416.28	414.85	416.31	418.31	416.40	415.17	417.64	415.34	419.94	421.54	418.99	416.02
MW-4	518.63	400.62	400.60	402.67	402.22	402.24	400.18	402.08	402.68	402.43	400.33	402.59	401.42	402.82	402.30	402.52	401.99
MW-7	394.59	334.41	334.14	336.82	335.68	336.60	334.01	337.61	339.54	338.44	334.13	338.34	335.86	338.01	336.47	337.16	334.16
MW-8	416.10	353.31	353.30	353.44	353.50	353.55	353.08	353.37	353.47	353.32	352.22	353.52	353.04	352.81	352.61	352.56	352.29
MW-10	395.10	309.72	309.73	310.54	310.12	310.25	309.62	310.39	311.24	310.79	309.60	310.96	309.95	310.72	310.21	309.99	308.67
MW-11	406.96	307.20	308.71	310.49	311.06	310.75	308.52	310.79	311.11	309.87	306.74	308.79	306.56	307.39	305.03	305.57	303.19
MW-12	474.24	319.26	319.28	319.49	319.56	320.02	318.96	319.45	321.63	320.45	318.90	320.45	319.34	319.66	319.41	319.48	319.17
MW-12V	481.32	--	--	--	--	--	--	--	327.31	--	326.23	328.00	326.53	326.61	325.92	325.23	324.29

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

Appendix C

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

Field Case Narrative



Plant Gorgas Landfill

2022 Compliance Event 1

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

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

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

Field quality control procedures were performed as follows:

- Blanks and Sample Duplicates were collected as described in the SAP.
 - FB-1 and FB-2 had results above the Reporting Limiting (RL) for Manganese.
 - EB-1 had a result above the RL for Lead.
- Calibration verifications for all required field parameters were performed daily, before and after sample collection.



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

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



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

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



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

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



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

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



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

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



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

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



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

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



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

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



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

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



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

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

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

Analytical Report



Sample Group : WMWGORLF_1349

Project/Site : Gorgas Landfill
Parrish, AL 35580

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

Attention : Dustin Brooks & Greg Dyer

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

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



March 21, 2022

Dear Dustin Brooks,

Enclosed are the analytical results for sample(s) received by the laboratory on February 01, 2022. All results reported herein conform to the laboratory's most current Quality Assurance Manual. Results marked with an asterisk conform to the most current applicable TNI/NELAC requirements. Exceptions will be noted in the body of the report.

Laboratory certification ID: E571114
Issued By: State of Florida, Department of Health
Expiration: June 30, 2022

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

Sincerely,

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

Supervision: **T. Durant Maske**
Digitally signed by T. Durant Maske
DN: cn=T. Durant Maske, o=Alabama
Power Company, ou=Environmental
Affairs, email=tdmaske@southernco.com,
c=US
Date: 2022.03.29 11:51:55 -05'00'



REPORT OF LABORATORY ANALYSIS

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



Total Metals ICP

Gorgas Landfill

WMWGORLF_1349

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

<u>Sample ID</u>	<u>Batch ID</u>	<u>Project ID</u>
BC02100	717312	WMWGORLF_1349
BC02101	717312	WMWGORLF_1349
BC02102	717312	WMWGORLF_1349
BC02103	717312	WMWGORLF_1349
BC02104	717312	WMWGORLF_1349
BC02105	717312	WMWGORLF_1349
BC02106	717312	WMWGORLF_1349
BC02107	717312	WMWGORLF_1349
BC02108	717312	WMWGORLF_1349
BC02109	717312	WMWGORLF_1349
BC02110	717313	WMWGORLF_1349
BC02111	717313	WMWGORLF_1349
BC02112	717313	WMWGORLF_1349
BC02113	717313	WMWGORLF_1349
BC02114	717313	WMWGORLF_1349
BC02115	717313	WMWGORLF_1349
BC02116	717313	WMWGORLF_1349
BC02117	717313	WMWGORLF_1349
BC02118	717313	WMWGORLF_1349
BC02119	717313	WMWGORLF_1349
BC02120	717314	WMWGORLF_1349

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

General Quality Control Procedures:

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

Matrix Specific Quality Control Procedures:

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

- A matrix spike and matrix spike duplicate were digested and analyzed with each ICP batch. All acceptance criteria for accuracy were met, except for the following:
 - BC02109 Calcium, Iron, Magnesium, & Sodium MS/MSD spike levels were <30% of the sample concentrations.
 - BC02119 Calcium, Magnesium, & Sodium MS/MSD spike levels were <30% of the sample concentrations.
 - BC02120 Calcium, Iron, & Magnesium MS/MSD spike levels were <30% of the sample concentrations.
- A matrix spike and matrix spike duplicate were digested and analyzed with each ICP batch. All acceptance criteria for precision were met.

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

<u>Sample ID</u>	<u>Analyte</u>	<u>Dilution Factor</u>
BC02100	Calcium, Magnesium	20.3
BC02101	Calcium, Magnesium	20.3
BC02102	Calcium, Iron Magnesium	20.3
BC02104	Calcium, Magnesium	20.3
BC02105	Calcium, Magnesium	20.3
BC02106	Calcium, Iron, Magnesium	20.3
BC02107	Calcium, Magnesium	20.3
BC02108	Calcium, Magnesium	20.3
BC02109	Calcium, Iron, Magnesium, Sodium	20.3
BC02111	Calcium, Magnesium, Sodium	20.3
BC02112	Calcium, Iron, Magnesium, Sodium	20.3
BC02113	Calcium, Iron, Magnesium, Sodium	20.3
BC02114	Calcium, Magnesium	20.3
BC02115	Calcium, Magnesium	20.3
BC02116	Calcium, Iron, Magnesium, Sodium	20.3
BC02117	Calcium, Magnesium, Sodium	20.3
BC02119	Calcium, Magnesium, Sodium	20.3
BC02120	Calcium, Iron, Magnesium, Sodium	50.75

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

Dissolved Metals ICP

Gorgas Landfill

WMWGORLF_1349

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

<u>Sample ID</u>	<u>Batch ID</u>	<u>Project ID</u>
BC02100	717272	WMWGORLF_1349
BC02101	717272	WMWGORLF_1349
BC02102	717272	WMWGORLF_1349
BC02104	717272	WMWGORLF_1349
BC02105	717272	WMWGORLF_1349
BC02106	717272	WMWGORLF_1349
BC02107	717272	WMWGORLF_1349
BC02108	717272	WMWGORLF_1349
BC02109	717272	WMWGORLF_1349
BC02111	717272	WMWGORLF_1349
BC02112	717273	WMWGORLF_1349
BC02113	717273	WMWGORLF_1349
BC02114	717273	WMWGORLF_1349
BC02115	717273	WMWGORLF_1349
BC02116	717273	WMWGORLF_1349
BC02117	717273	WMWGORLF_1349
BC02119	717273	WMWGORLF_1349
BC02120	717273	WMWGORLF_1349

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

General Quality Control Procedures:

- Prior to sample analysis, an initial calibration verification (ICV) was analyzed, and all criteria were met.
- Following the ICV, an initial calibration blank (ICB) was analyzed, and all criteria were met.
- All continued calibration verification (CCV) were within the acceptance criteria for the requested analytes.
- All continued calibration blanks (CCB) were analyzed, and all criteria were met.
- Due to no filtered method blank (MB) or laboratory control sample (LCS) submitted with the sample set, an unfiltered MB and LCS were analyzed with the samples in each batch.
- All laboratory control sample criteria were met.
- The method blank associated with each batch passed all acceptance criteria for all requested analytes.
- All calibration curve requirements were within acceptance criteria.
- All sample internal standard criteria were met.
- The spectral interference check associated with EPA 200.7 was analyzed and all acceptance criteria were met.
- It is noted that the QC summary page typically provides the QC results from the original batch analytical sequence. If dilutions were subsequently performed to bring sample concentrations within the calibration range, any additional QC data from the dilution analyses may need to be obtained from the laboratory. Any qualifications applied to original analyses or dilution re-analyses are based upon QC data available at the time of review.

Matrix Specific Quality Control Procedures:

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

- A matrix spike and matrix spike duplicate were analyzed with each ICP batch. All acceptance criteria for accuracy were met, except for the following:
 - BC02111 Calcium & Magnesium MS/MSD spike levels were <30% of the sample concentrations.
 - BC02120 Calcium, Iron, & Magnesium MS/MSD spike levels were <30% of the sample concentrations.
- A matrix spike and matrix spike duplicate were analyzed with each ICP batch. All acceptance criteria for precision were met.

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

<u>Sample ID</u>	<u>Analyte</u>	<u>Dilution Factor</u>
BC02100	Calcium, Magnesium	20.3
BC02101	Calcium, Magnesium	20.3
BC02102	Calcium, Iron Magnesium	20.3
BC02104	Calcium, Magnesium	20.3
BC02105	Calcium, Magnesium	20.3
BC02106	Calcium, Iron, Magnesium	20.3
BC02107	Calcium, Magnesium	20.3
BC02108	Calcium, Magnesium	20.3
BC02109	Calcium, Iron, Magnesium, Sodium	20.3
BC02111	Calcium, Magnesium, Sodium	20.3
BC02112	Calcium, Iron, Magnesium, Sodium	20.3
BC02113	Calcium, Iron, Magnesium, Sodium	20.3
BC02114	Calcium, Magnesium	20.3
BC02115	Calcium, Magnesium	20.3
BC02116	Calcium, Iron, Magnesium, Sodium	20.3
BC02117	Calcium, Magnesium, Sodium	20.3
BC02119	Calcium, Magnesium, Sodium	20.3
BC02120	Calcium, Iron, Magnesium, Sodium	50.75

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

Total Metals ICPMS

Gorgas Landfill

WMWGORLF_1349

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

<u>Sample ID</u>	<u>Batch ID</u>	<u>Project ID</u>
BC02100	717953	WMWGORLF_1349
BC02101	717953	WMWGORLF_1349
BC02102	717953	WMWGORLF_1349
BC02103	717953	WMWGORLF_1349
BC02104	717953	WMWGORLF_1349
BC02105	717953	WMWGORLF_1349
BC02106	717953	WMWGORLF_1349
BC02107	717953	WMWGORLF_1349
BC02108	717953	WMWGORLF_1349
BC02109	717953	WMWGORLF_1349
BC02110	717954	WMWGORLF_1349
BC02111	717954	WMWGORLF_1349
BC02112	717954	WMWGORLF_1349
BC02113	717954	WMWGORLF_1349
BC02114	717954	WMWGORLF_1349
BC02115	717954	WMWGORLF_1349
BC02116	717954	WMWGORLF_1349
BC02117	717954	WMWGORLF_1349
BC02118	717954	WMWGORLF_1349
BC02119	717954	WMWGORLF_1349
BC02120	717955	WMWGORLF_1349

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

General Quality Control Procedures:

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

Matrix Specific Quality Control Procedures:

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

- A matrix spike and matrix spike duplicate were digested and analyzed with each ICPMS batch. All acceptance criteria for accuracy were met, except for the following:
 - BC02119 Manganese MS/MSD spike level was <30% of the sample concentration.
 - BC02120 Manganese MS/MSD spike level was <30% of the sample concentration.
- A matrix spike and matrix spike duplicate were digested and analyzed with each ICPMS batch. All acceptance criteria for precision were met.

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

<u>Sample ID</u>	<u>Analyte</u>	<u>Dilution Factor</u>
BC02101	Manganese	10.15
BC02102	Manganese	92.365
BC02104	Manganese	10.15
BC02105	Manganese	10.15
BC02106	Manganese	92.365
BC02108	Manganese	10.15
BC02112	Manganese	92.365
BC02113	Manganese	92.365
BC02114	Manganese	10.15
BC02116	Manganese	10.15
BC02117	Manganese	10.15
BC02120	Manganese	92.365

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

Dissolved Metals ICPMS

Gorgas Landfill

WMWGORLF_1349

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

<u>Sample ID</u>	<u>Batch ID</u>	<u>Project ID</u>
BC02100	718327	WMWGORLF_1349
BC02101	718327	WMWGORLF_1349
BC02102	718327	WMWGORLF_1349
BC02104	718327	WMWGORLF_1349
BC02105	718327	WMWGORLF_1349
BC02106	718327	WMWGORLF_1349
BC02107	718327	WMWGORLF_1349
BC02108	718327	WMWGORLF_1349
BC02109	718327	WMWGORLF_1349
BC02111	718327	WMWGORLF_1349
BC02112	718328	WMWGORLF_1349
BC02113	718328	WMWGORLF_1349
BC02114	718328	WMWGORLF_1349
BC02115	718328	WMWGORLF_1349
BC02116	718328	WMWGORLF_1349
BC02117	718328	WMWGORLF_1349
BC02119	718328	WMWGORLF_1349
BC02120	718328	WMWGORLF_1349

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

General Quality Control Procedures:

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

Matrix Specific Quality Control Procedures:

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

- A matrix spike and matrix spike duplicate were analyzed with each ICPMS batch. All acceptance criteria for accuracy were met, except for the following:
 - BC02120 Manganese MS/MSD spike level was <30% of the sample concentration.
- A matrix spike and matrix spike duplicate were analyzed with each ICPMS batch. All acceptance criteria for precision were met.

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

<u>Sample ID</u>	<u>Analyte</u>	<u>Dilution Factor</u>
BC02100	Manganese	10.15
BC02101	Manganese	10.15
BC02102	Manganese	92.365
BC02104	Manganese	10.15
BC02105	Manganese	10.15
BC02106	Manganese	92.365
BC02108	Manganese	10.15
BC02109	Manganese	10.15
BC02112	Manganese	92.365
BC02113	Manganese	92.365
BC02114	Manganese	10.15
BC02116	Manganese	10.15
BC02117	Manganese	10.15
BC02120	Manganese	92.365

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

Case Narrative

Mercury

Gorgas Landfill

WMWGORLF_1349

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

<u>Sample ID</u>	<u>Batch ID</u>	<u>Project ID</u>
BC02100	717664	WMWGORLF_1349
BC02101	717664	WMWGORLF_1349
BC02102	717664	WMWGORLF_1349
BC02103	717664	WMWGORLF_1349
BC02104	717664	WMWGORLF_1349
BC02105	717664	WMWGORLF_1349
BC02106	717664	WMWGORLF_1349
BC02107	717664	WMWGORLF_1349
BC02108	717664	WMWGORLF_1349
BC02109	717664	WMWGORLF_1349
BC02110	717665	WMWGORLF_1349
BC02111	717665	WMWGORLF_1349
BC02112	717665	WMWGORLF_1349
BC02113	717665	WMWGORLF_1349
BC02114	717665	WMWGORLF_1349
BC02115	717665	WMWGORLF_1349
BC02116	717665	WMWGORLF_1349
BC02117	717665	WMWGORLF_1349
BC02118	717665	WMWGORLF_1349
BC02119	717665	WMWGORLF_1349
BC02120	717666	WMWGORLF_1349

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

General Quality Control Procedures:

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

Matrix Specific Quality Control Procedures:

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

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

7. All samples were analyzed without a dilution.

TDS

Gorgas Landfill

WMWGORLF_1349

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

<u>Sample ID</u>	<u>Batch ID</u>	<u>Project ID</u>
BC02100	717334	WMWGORLF_1349
BC02101	717334	WMWGORLF_1349
BC02102	717334	WMWGORLF_1349
BC02103	717334	WMWGORLF_1349
BC02104	717334	WMWGORLF_1349
BC02105	717334	WMWGORLF_1349
BC02106	717335	WMWGORLF_1349
BC02107	717335	WMWGORLF_1349
BC02108	717335	WMWGORLF_1349
BC02109	717335	WMWGORLF_1349
BC02110	717494	WMWGORLF_1349
BC02111	717335	WMWGORLF_1349
BC02112	717335	WMWGORLF_1349
BC02113	717335	WMWGORLF_1349
BC02114	717335	WMWGORLF_1349
BC02115	717335	WMWGORLF_1349
BC02116	717494	WMWGORLF_1349
BC02117	717494	WMWGORLF_1349
BC02118	717494	WMWGORLF_1349
BC02119	717494	WMWGORLF_1349
BC02120	717494	WMWGORLF_1349

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

General Quality Control Procedures:

- A Method Blank was analyzed with each batch. All criteria were met.
- All final weights of samples, standards, and blanks agreed within 0.5mg of the previous weight.
- A sample duplicate was analyzed with each batch, and RPD was $\leq 10\%$.
- A laboratory control sample was analyzed with each batch. All criteria were met.
- Samples were between 2.5mg and 200mg residue.
- All samples with residue $< 2.5\text{mg}$ had the maximum volume of 150mL filtered. Affected samples are as follows:
 - BC02103
 - BC02110
 - BC02118

Anions

Gorgas Landfill

WMWGORLF_1349

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

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

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

General Quality Control Procedures:

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

Matrix Specific Quality Control Procedures:

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

- A matrix spike was analyzed with each batch. Acceptance criteria for accuracy were met.
 - A sample duplicate was analyzed with each batch. Acceptance criteria for precision were met, except for the following:
 - BC02120 Fluoride precision is invalid due to sample concentration.
7. The following samples were diluted due to the analyzed sample concentration being greater than the high standard of the calibration curve:

<u>Sample ID</u>	<u>Analyte</u>	<u>Dilution Factor</u>
BC02100	Sulfate	50
BC02101	Sulfate	50
BC02102	Sulfate	50
BC02104	Sulfate	40
BC02105	Sulfate	40
BC02106	Sulfate	80
BC02107	Sulfate	50
BC02108	Sulfate	50
BC02109	Chloride & Sulfate	16 & 80

Case Narrative

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

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

Alkalinity

Gorgas Landfill

WMWGORLF_1349

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

<u>Sample ID</u>	<u>Batch ID</u>	<u>Project ID</u>
BC02100	717573 & 717574	WMWGORLF_1349
BC02101	717573 & 717574	WMWGORLF_1349
BC02102	717573 & 717574	WMWGORLF_1349
BC02104	717573 & 717574	WMWGORLF_1349
BC02105	717573 & 717574	WMWGORLF_1349
BC02106	717573 & 717574	WMWGORLF_1349
BC02107	717573 & 717574	WMWGORLF_1349
BC02108	717573 & 717574	WMWGORLF_1349
BC02109	717573 & 717574	WMWGORLF_1349
BC02111	717573 & 717574	WMWGORLF_1349
BC02112	717573 & 717574	WMWGORLF_1349
BC02113	717573 & 717574	WMWGORLF_1349
BC02114	717573 & 717574	WMWGORLF_1349
BC02115	717573 & 717574	WMWGORLF_1349
BC02116	717573 & 717574	WMWGORLF_1349
BC02117	717573 & 717574	WMWGORLF_1349
BC02119	717573 & 717574	WMWGORLF_1349
BC02120	717573 & 717574	WMWGORLF_1349

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

General Quality Control Procedures:

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

Nitrate-Nitrite

Gorgas Landfill

WMWGORLF_1349

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

<u>Sample ID</u>	<u>Batch ID</u>	<u>Project ID</u>
BC02100	717622	WMWGORLF_1349
BC02101	717622	WMWGORLF_1349
BC02102	717622	WMWGORLF_1349
BC02103	717622	WMWGORLF_1349
BC02104	717622	WMWGORLF_1349
BC02105	717622	WMWGORLF_1349
BC02106	717622	WMWGORLF_1349
BC02107	717622	WMWGORLF_1349
BC02108	717622	WMWGORLF_1349
BC02109	717622	WMWGORLF_1349
BC02110	717623	WMWGORLF_1349
BC02111	717623	WMWGORLF_1349
BC02112	717623	WMWGORLF_1349
BC02113	717623	WMWGORLF_1349
BC02114	717623	WMWGORLF_1349
BC02115	717623	WMWGORLF_1349
BC02116	717623	WMWGORLF_1349
BC02117	717623	WMWGORLF_1349
BC02118	717623	WMWGORLF_1349
BC02119	717623	WMWGORLF_1349
BC02120	717624	WMWGORLF_1349

4. All of the above samples were prepared and analyzed for NO_x by EPA 353.2.
5. All samples were prepared and analyzed within the established hold times.
6. All in house quality control procedures were followed, as described below.

General Quality Control Procedures:

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

EPA 353.2 Specific QC:

- Prior to sample analysis, Cadmium coil reduction efficiency check met criteria.
 - Matrix Specific QC:
 - A sample duplicate was run and criteria for precision was met, except for the following:
 - BC02120 precision is invalid due to sample concentration.
 - A matrix spike was run and criteria for accuracy was met, except for the following:
 - BC02120 matrix spike recovery is outside of the specification limit.
7. All samples were analyzed without a dilution.
 8. The raw data results are shown with dilution factors included.

Total Organic Carbon

Gorgas Landfill

WMWGORLF_1349

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

<u>Sample ID</u>	<u>Batch ID</u>	<u>Project ID</u>
BC02100	718055	WMWGORLF_1349
BC02101	718055	WMWGORLF_1349
BC02102	718055	WMWGORLF_1349
BC02103	718055	WMWGORLF_1349
BC02104	718055	WMWGORLF_1349
BC02105	718055	WMWGORLF_1349
BC02106	718055	WMWGORLF_1349
BC02107	718055	WMWGORLF_1349
BC02108	718055	WMWGORLF_1349
BC02109	718055	WMWGORLF_1349
BC02110	718056	WMWGORLF_1349
BC02111	718056	WMWGORLF_1349
BC02112	718056	WMWGORLF_1349
BC02113	718056	WMWGORLF_1349
BC02114	718056	WMWGORLF_1349
BC02115	718056	WMWGORLF_1349
BC02116	718056	WMWGORLF_1349
BC02117	718056	WMWGORLF_1349
BC02118	718056	WMWGORLF_1349
BC02119	718056	WMWGORLF_1349
BC02120	718057	WMWGORLF_1349

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

General Quality Control Procedures:

- All calibration criteria were met.
- Prior to sample analysis, an initial calibration verification (ICV) was analyzed and met all criteria.
- Prior to sample analysis, an initial calibration blank (ICB) was analyzed and was $<1/2RL$.
- All continued calibration verifications (CCVs) were within the acceptance range.
- All continued calibration blanks (CCBs) were $<1/2RL$.

Matrix Specific Quality Control Procedures:

- A matrix spike and matrix spike duplicate were analyzed with each batch. All acceptance criteria for accuracy were met.
 - A matrix spike and matrix spike duplicate were analyzed with each batch. All acceptance criteria for precision were met.
7. All samples were analyzed without a dilution.
 8. The raw data results are shown with dilution factors included.

Certificate Of Analysis

Description: Gorgas Landfill - MW-13

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

Laboratory ID Number: BC02100

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

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-13

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

Laboratory ID Number: BC02100

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

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-13

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

Laboratory ID Number: BC02100

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

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

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

Batch QC Summary

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

Description: Gorgas Landfill - MW-13

Laboratory ID Number: BC02100

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

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

Batch QC Summary

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

Description: Gorgas Landfill - MW-13

Laboratory ID Number: BC02100

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 10:18

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-13

Laboratory ID Number: BC02100

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-14

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

Laboratory ID Number: BC02101

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

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-14

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

Laboratory ID Number: BC02101

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

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-14

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

Laboratory ID Number: BC02101

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

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

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

Batch QC Summary

Customer Account: WMWGORLF
Sample Date: 1/31/22 11:16
Customer ID:
Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-14

Laboratory ID Number: BC02101

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 11:16

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-14

Laboratory ID Number: BC02101

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 11:16

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-14

Laboratory ID Number: BC02101

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-15

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

Laboratory ID Number: BC02102

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

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-15

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

Laboratory ID Number: BC02102

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

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-15

Location Code: WMWGORLF

Collected: 1/31/22 12:12

Customer ID:

Submittal Date: 2/1/22 16:40

Laboratory ID Number: BC02102

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

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 12:12

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-15

Laboratory ID Number: BC02102

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 12:12

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-15

Laboratory ID Number: BC02102

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 12:12

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-15

Laboratory ID Number: BC02102

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

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

Certificate Of Analysis

Description: Gorgas Landfill Field Blank-1

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

Laboratory ID Number: BC02103

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: EPA 200.7		Analyst: RDA			Preparation Method: EPA 1638				
* Boron, Total	2/7/22 11:00	2/8/22 10:24		1.015	Not Detected	mg/L	0.030000	0.1015	U
* Calcium, Total	2/7/22 11:00	2/8/22 10:24		1.015	Not Detected	mg/L	0.070035	0.406	U
* Iron, Total	2/7/22 11:00	2/8/22 10:24		1.015	Not Detected	mg/L	0.008120	0.0406	U
* Lithium, Total	2/7/22 11:00	2/8/22 10:24		1.015	Not Detected	mg/L	0.007105	0.01999956	U
* Magnesium, Total	2/7/22 11:00	2/8/22 10:24		1.015	Not Detected	mg/L	0.021315	0.406	U
Silica, Total (calc.)	2/7/22 11:00	2/8/22 10:24		1	Not Detected	mg/L			
Silicon, Total	2/7/22 11:00	2/8/22 10:24		1.015	Not Detected	mg/L	0.02030	0.25375	U
* Sodium, Total	2/7/22 11:00	2/8/22 10:24		1.015	Not Detected	mg/L	0.03045	0.406	U
Analytical Method: EPA 200.8		Analyst: ABB			Preparation Method: EPA 1638				
* Antimony, Total	2/8/22 14:11	2/9/22 13:22		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	2/8/22 14:11	2/9/22 13:22		1.015	Not Detected	mg/L	0.004060	0.01015	U
* Arsenic, Total	2/8/22 14:11	2/9/22 13:22		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Barium, Total	2/8/22 14:11	2/9/22 13:22		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Beryllium, Total	2/8/22 14:11	2/9/22 13:22		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	2/8/22 14:11	2/9/22 13:22		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	2/8/22 14:11	2/9/22 13:22		1.015	0.000330	mg/L	0.000203	0.001015	J
* Cobalt, Total	2/8/22 14:11	2/9/22 13:22		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Lead, Total	2/8/22 14:11	2/9/22 13:22		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	2/8/22 14:11	2/9/22 13:22		1.015	0.00116	mg/L	0.000068	0.000203	
* Molybdenum, Total	2/8/22 14:11	2/9/22 13:22		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Potassium, Total	2/8/22 14:11	2/9/22 13:22		1.015	Not Detected	mg/L	0.169505	0.5075	U
* Selenium, Total	2/8/22 14:11	2/9/22 13:22		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	2/8/22 14:11	2/9/22 13:22		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	2/10/22 13:23	2/10/22 17:32		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: ELH							
* Nitrogen, Nitrate/Nitrite	2/3/22 13:33	2/3/22 13:33		1	Not Detected	mg/L as N	0.20	0.3	U
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	2/2/22 11:55	2/3/22 13:40		1	Not Detected	mg/L		25	U

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

Comments:

Certificate Of Analysis

Description: Gorgas Landfill Field Blank-1

Location Code: WMWGORLFFB

Collected: 1/31/22 12:45

Customer ID:

Submittal Date: 2/1/22 16:40

Laboratory ID Number: BC02103

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

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

Comments:

Batch QC Summary

Customer Account: WMWGORLFFB

Sample Date: 1/31/22 12:45

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill Field Blank-1

Laboratory ID Number: BC02103

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

Comments:

Batch QC Summary

Customer Account: WMWGORLFFB

Sample Date: 1/31/22 12:45

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill Field Blank-1

Laboratory ID Number: BC02103

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

Comments:

Certificate Of Analysis

Description: Gorgas Landfill - MW-16

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

Laboratory ID Number: BC02104

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

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-16

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

Laboratory ID Number: BC02104

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

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-16

Location Code: WMWGORLF

Collected: 1/31/22 13:13

Customer ID:

Submittal Date: 2/1/22 16:40

Laboratory ID Number: BC02104

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

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 13:13

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-16

Laboratory ID Number: BC02104

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 13:13

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-16

Laboratory ID Number: BC02104

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 13:13

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-16

Laboratory ID Number: BC02104

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-16 DUP

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

Laboratory ID Number: BC02105

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

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-16 DUP

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

Laboratory ID Number: BC02105

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

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-16 DUP

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

Laboratory ID Number: BC02105

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

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 13:13

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-16 DUP

Laboratory ID Number: BC02105

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 13:13

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-16 DUP

Laboratory ID Number: BC02105

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 13:13

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-16 DUP

Laboratory ID Number: BC02105

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-17R

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

Laboratory ID Number: BC02106

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

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-17R

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

Laboratory ID Number: BC02106

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

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-17R

Location Code: WMWGORLF

Collected: 1/31/22 14:21

Customer ID:

Submittal Date: 2/1/22 16:40

Laboratory ID Number: BC02106

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

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 14:21

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-17R

Laboratory ID Number: BC02106

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 14:21

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-17R

Laboratory ID Number: BC02106

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 14:21

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-17R

Laboratory ID Number: BC02106

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-18

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

Laboratory ID Number: BC02107

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

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-18

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

Laboratory ID Number: BC02107

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

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-18

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

Laboratory ID Number: BC02107

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

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 15:25

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-18

Laboratory ID Number: BC02107

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 15:25

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-18

Laboratory ID Number: BC02107

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 15:25

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-18

Laboratory ID Number: BC02107

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-19

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

Laboratory ID Number: BC02108

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

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-19

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

Laboratory ID Number: BC02108

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

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-19

Location Code: WMWGORLF

Collected: 2/1/22 10:54

Customer ID:

Submittal Date: 2/1/22 16:40

Laboratory ID Number: BC02108

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

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 2/1/22 10:54

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-19

Laboratory ID Number: BC02108

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 2/1/22 10:54

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-19

Laboratory ID Number: BC02108

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 2/1/22 10:54

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-19

Laboratory ID Number: BC02108

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-20

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

Laboratory ID Number: BC02109

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

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-20

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

Laboratory ID Number: BC02109

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

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-20

Location Code: WMWGORLF

Collected: 2/1/22 12:03

Customer ID:

Submittal Date: 2/1/22 16:40

Laboratory ID Number: BC02109

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

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 2/1/22 12:03

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-20

Laboratory ID Number: BC02109

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 2/1/22 12:03

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-20

Laboratory ID Number: BC02109

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 2/1/22 12:03

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill - MW-20

Laboratory ID Number: BC02109

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

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

Certificate Of Analysis

Description: Gorgas Landfill Equipment Blank-1

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

Laboratory ID Number: BC02110

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: EPA 200.7			Analyst: RDA		Preparation Method: EPA 1638				
* Boron, Total	2/7/22 11:00	2/8/22 10:45		1.015	Not Detected	mg/L	0.030000	0.1015	U
* Calcium, Total	2/7/22 11:00	2/8/22 10:45		1.015	Not Detected	mg/L	0.070035	0.406	U
* Iron, Total	2/7/22 11:00	2/8/22 10:45		1.015	Not Detected	mg/L	0.008120	0.0406	U
* Lithium, Total	2/7/22 11:00	2/8/22 10:45		1.015	Not Detected	mg/L	0.007105	0.01999956	U
* Magnesium, Total	2/7/22 11:00	2/8/22 10:45		1.015	Not Detected	mg/L	0.021315	0.406	U
Silica, Total (calc.)	2/7/22 11:00	2/8/22 10:45		1	Not Detected	mg/L			
Silicon, Total	2/7/22 11:00	2/8/22 10:45		1.015	Not Detected	mg/L	0.02030	0.25375	U
* Sodium, Total	2/7/22 11:00	2/8/22 10:45		1.015	Not Detected	mg/L	0.03045	0.406	U
Analytical Method: EPA 200.8			Analyst: ABB		Preparation Method: EPA 1638				
* Antimony, Total	2/8/22 14:11	2/9/22 14:05		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	2/8/22 14:11	2/9/22 14:05		1.015	Not Detected	mg/L	0.004060	0.01015	U
* Arsenic, Total	2/8/22 14:11	2/9/22 14:05		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Barium, Total	2/8/22 14:11	2/9/22 14:05		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Beryllium, Total	2/8/22 14:11	2/9/22 14:05		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	2/8/22 14:11	2/9/22 14:05		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	2/8/22 14:11	2/9/22 14:05		1.015	0.000281	mg/L	0.000203	0.001015	J
* Cobalt, Total	2/8/22 14:11	2/9/22 14:05		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Lead, Total	2/8/22 14:11	2/9/22 14:05		1.015	0.000723	mg/L	0.000068	0.000203	
* Manganese, Total	2/8/22 14:11	2/9/22 14:05		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Molybdenum, Total	2/8/22 14:11	2/9/22 14:05		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Potassium, Total	2/8/22 14:11	2/9/22 14:05		1.015	Not Detected	mg/L	0.169505	0.5075	U
* Selenium, Total	2/8/22 14:11	2/9/22 14:05		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	2/8/22 14:11	2/9/22 14:05		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 245.1			Analyst: CRB						
* Mercury, Total by CVAA	2/10/22 13:23	2/10/22 18:16		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2			Analyst: ELH						
* Nitrogen, Nitrate/Nitrite	2/3/22 13:53	2/3/22 13:53		1	Not Detected	mg/L as N	0.20	0.3	U
Analytical Method: SM 2540C			Analyst: CNJ						
* Solids, Dissolved	2/4/22 11:40	2/7/22 13:22		1	Not Detected	mg/L		25	U

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

Comments:

Certificate Of Analysis

Description: Gorgas Landfill Equipment Blank-1

Location Code: WMWGORLFEB

Collected: 2/1/22 12:35

Customer ID:

Submittal Date: 2/1/22 16:40

Laboratory ID Number: BC02110

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

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

Comments:

Batch QC Summary

Customer Account: WMWGORLFEB

Sample Date: 2/1/22 12:35

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill Equipment Blank-1

Laboratory ID Number: BC02110

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

Comments:

Batch QC Summary

Customer Account: WMWGORLFEB

Sample Date: 2/1/22 12:35

Customer ID:

Delivery Date: 2/1/22 16:40

Description: Gorgas Landfill Equipment Blank-1

Laboratory ID Number: BC02110

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

Comments:

Certificate Of Analysis

Description: Gorgas Landfill - MW-5

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

Laboratory ID Number: BC02111

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

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-5

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

Laboratory ID Number: BC02111

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

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-5

Location Code: WMWGORLF

Collected: 1/31/22 13:22

Customer ID:

Submittal Date: 2/1/22 16:41

Laboratory ID Number: BC02111

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

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 13:22

Customer ID:

Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill - MW-5

Laboratory ID Number: BC02111

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

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

Batch QC Summary

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

Description: Gorgas Landfill - MW-5

Laboratory ID Number: BC02111

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 13:22

Customer ID:

Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill - MW-5

Laboratory ID Number: BC02111

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-6

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

Laboratory ID Number: BC02112

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

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-6

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

Laboratory ID Number: BC02112

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

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-6

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

Laboratory ID Number: BC02112

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

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

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

Batch QC Summary

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

Description: Gorgas Landfill - MW-6

Laboratory ID Number: BC02112

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

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

Batch QC Summary

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

Description: Gorgas Landfill - MW-6

Laboratory ID Number: BC02112

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 14:38

Customer ID:

Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill - MW-6

Laboratory ID Number: BC02112

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-6 DUP

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

Laboratory ID Number: BC02113

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

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-6 DUP

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

Laboratory ID Number: BC02113

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

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-6 DUP

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

Laboratory ID Number: BC02113

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

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 14:38

Customer ID:

Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill - MW-6 DUP

Laboratory ID Number: BC02113

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

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

Batch QC Summary

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

Description: Gorgas Landfill - MW-6 DUP

Laboratory ID Number: BC02113

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 14:38

Customer ID:

Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill - MW-6 DUP

Laboratory ID Number: BC02113

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-7

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

Laboratory ID Number: BC02114

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

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-7

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

Laboratory ID Number: BC02114

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

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-7

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

Laboratory ID Number: BC02114

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

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 15:45

Customer ID:

Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill - MW-7

Laboratory ID Number: BC02114

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

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

Batch QC Summary

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

Description: Gorgas Landfill - MW-7

Laboratory ID Number: BC02114

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 1/31/22 15:45

Customer ID:

Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill - MW-7

Laboratory ID Number: BC02114

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-8

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

Laboratory ID Number: BC02115

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

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-8

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

Laboratory ID Number: BC02115

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

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-8

Location Code: WMWGORLF

Collected: 2/1/22 08:50

Customer ID:

Submittal Date: 2/1/22 16:41

Laboratory ID Number: BC02115

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

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

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

Batch QC Summary

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

Description: Gorgas Landfill - MW-8

Laboratory ID Number: BC02115

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 2/1/22 08:50

Customer ID:

Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill - MW-8

Laboratory ID Number: BC02115

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 2/1/22 08:50

Customer ID:

Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill - MW-8

Laboratory ID Number: BC02115

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-10

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

Laboratory ID Number: BC02116

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

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-10

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

Laboratory ID Number: BC02116

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

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-10

Location Code: WMWGORLF

Collected: 2/1/22 10:50

Customer ID:

Submittal Date: 2/1/22 16:41

Laboratory ID Number: BC02116

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

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 2/1/22 10:50

Customer ID:

Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill - MW-10

Laboratory ID Number: BC02116

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 2/1/22 10:50

Customer ID:

Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill - MW-10

Laboratory ID Number: BC02116

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 2/1/22 10:50

Customer ID:

Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill - MW-10

Laboratory ID Number: BC02116

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-11

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

Laboratory ID Number: BC02117

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

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-11

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

Laboratory ID Number: BC02117

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

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-11

Location Code: WMWGORLF

Collected: 2/1/22 12:17

Customer ID:

Submittal Date: 2/1/22 16:41

Laboratory ID Number: BC02117

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

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 2/1/22 12:17

Customer ID:

Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill - MW-11

Laboratory ID Number: BC02117

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 2/1/22 12:17

Customer ID:

Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill - MW-11

Laboratory ID Number: BC02117

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 2/1/22 12:17

Customer ID:

Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill - MW-11

Laboratory ID Number: BC02117

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

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

Certificate Of Analysis

Description: Gorgas Landfill Field Blank-2

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

Laboratory ID Number: BC02118

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q	
Analytical Method: EPA 200.7		Analyst: RDA			Preparation Method: EPA 1638					
* Boron, Total	2/7/22 11:00	2/8/22 11:00		1.015	Not Detected	mg/L	0.030000	0.1015	U	
* Calcium, Total	2/7/22 11:00	2/8/22 11:00		1.015	Not Detected	mg/L	0.070035	0.406	U	
* Iron, Total	2/7/22 11:00	2/8/22 11:00		1.015	Not Detected	mg/L	0.008120	0.0406	U	
* Lithium, Total	2/7/22 11:00	2/8/22 11:00		1.015	Not Detected	mg/L	0.007105	0.01999956	U	
* Magnesium, Total	2/7/22 11:00	2/8/22 11:00		1.015	Not Detected	mg/L	0.021315	0.406	U	
Silica, Total (calc.)	2/7/22 11:00	2/8/22 11:00		1	Not Detected	mg/L				
Silicon, Total	2/7/22 11:00	2/8/22 11:00		1.015	Not Detected	mg/L	0.02030	0.25375	U	
* Sodium, Total	2/7/22 11:00	2/8/22 11:00		1.015	Not Detected	mg/L	0.03045	0.406	U	
Analytical Method: EPA 200.8		Analyst: ABB			Preparation Method: EPA 1638					
* Antimony, Total	2/8/22 14:11	2/9/22 14:33		1.015	Not Detected	mg/L	0.000508	0.001015	U	
* Aluminum, Total	2/8/22 14:11	2/9/22 14:33		1.015	Not Detected	mg/L	0.004060	0.01015	U	
* Arsenic, Total	2/8/22 14:11	2/9/22 14:33		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Barium, Total	2/8/22 14:11	2/9/22 14:33		1.015	Not Detected	mg/L	0.000102	0.000203	U	
* Beryllium, Total	2/8/22 14:11	2/9/22 14:33		1.015	Not Detected	mg/L	0.000406	0.001015	U	
* Cadmium, Total	2/8/22 14:11	2/9/22 14:33		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Chromium, Total	2/8/22 14:11	2/9/22 14:33		1.015	0.000298	mg/L	0.000203	0.001015	J	
* Cobalt, Total	2/8/22 14:11	2/9/22 14:33		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Lead, Total	2/8/22 14:11	2/9/22 14:33		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Manganese, Total	2/8/22 14:11	2/9/22 14:33		1.015	0.000261	mg/L	0.000068	0.000203		
* Molybdenum, Total	2/8/22 14:11	2/9/22 14:33		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Potassium, Total	2/8/22 14:11	2/9/22 14:33		1.015	Not Detected	mg/L	0.169505	0.5075	U	
* Selenium, Total	2/8/22 14:11	2/9/22 14:33		1.015	Not Detected	mg/L	0.000508	0.001015	U	
* Thallium, Total	2/8/22 14:11	2/9/22 14:33		1.015	Not Detected	mg/L	0.000068	0.000203	U	
Analytical Method: EPA 245.1		Analyst: CRB								
* Mercury, Total by CVAA	2/10/22 13:23	2/10/22 18:47		1	Not Detected	mg/L	0.0003	0.0005	U	
Analytical Method: EPA 353.2		Analyst: ELH								
* Nitrogen, Nitrate/Nitrite	2/3/22 14:08	2/3/22 14:08		1	Not Detected	mg/L as N	0.20	0.3	U	
Analytical Method: SM 2540C		Analyst: CNJ								
* Solids, Dissolved	2/4/22 11:40	2/7/22 13:22		1	Not Detected	mg/L		25	U	

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

Comments:

Certificate Of Analysis

Description: Gorgas Landfill Field Blank-2

Location Code: WMWGORLFFB

Collected: 2/1/22 13:30

Customer ID:

Submittal Date: 2/1/22 16:41

Laboratory ID Number: BC02118

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

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

Comments:

Batch QC Summary

Customer Account: WMWGORLFFB

Sample Date: 2/1/22 13:30

Customer ID:

Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill Field Blank-2

Laboratory ID Number: BC02118

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

Comments:

Batch QC Summary

Customer Account: WMWGORLFFB

Sample Date: 2/1/22 13:30

Customer ID:

Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill Field Blank-2

Laboratory ID Number: BC02118

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

Comments:

Certificate Of Analysis

Description: Gorgas Landfill - MW-12V

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

Laboratory ID Number: BC02119

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

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-12V

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

Laboratory ID Number: BC02119

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

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-12V

Location Code: WMWGORLF

Collected: 2/1/22 09:55

Customer ID:

Submittal Date: 2/1/22 16:41

Laboratory ID Number: BC02119

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

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

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

Batch QC Summary

Customer Account: WMWGORLF
Sample Date: 2/1/22 09:55
Customer ID:
Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill - MW-12V

Laboratory ID Number: BC02119

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 2/1/22 09:55

Customer ID:

Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill - MW-12V

Laboratory ID Number: BC02119

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 2/1/22 09:55

Customer ID:

Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill - MW-12V

Laboratory ID Number: BC02119

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-12

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

Laboratory ID Number: BC02120

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

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-12

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

Laboratory ID Number: BC02120

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

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-12

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

Laboratory ID Number: BC02120

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

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 2/1/22 10:55

Customer ID:

Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill - MW-12

Laboratory ID Number: BC02120

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 2/1/22 10:55

Customer ID:

Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill - MW-12

Laboratory ID Number: BC02120

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 2/1/22 10:55

Customer ID:

Delivery Date: 2/1/22 16:41

Description: Gorgas Landfill - MW-12

Laboratory ID Number: BC02120

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

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

Definitions

Project Number: WMWGORLF_1349

Abbreviation	Description
DF	Dilution Factor
LCS	Lab Control Sample
LFM	Lab Fortified Matrix
MB	Method Blank
MDL	Method Detection Limit; minimum concentration of an analyte that can be determined with 99% confidence that the concentration is greater than zero.
MS	Matrix Spike
MSD	Matrix Spike Duplicate
Prec	Precision (% RPD)
Q	Qualifier; comment used to note deviations or additional information associated with analytical results.
QC	Quality Control
Rec	Recovery of Matrix Spike
RL	Reporting Limit; lowest concentration at which an analyte can be quantitatively measured.
Vio Spec	Violation Specification; regulatory limit which has been exceeded by the sample analyzed.

Qualifier	Description
FA	Field results were reviewed by the Water Field Group. Refer to APC Field Case Narrative.
J	Reported value is an estimate because concentration is less than reporting limit.
PA	Precision is invalid due to sample concentration.
RA	Matrix spike is invalid due to sample concentration.
U	Compound was analyzed, but not detected.



Chain of Custody Groundwater

APC General Testing Laboratory

Field Complete
 Lab Complete

Outside Lab

Lab ETA

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

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

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

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

Relinquished By	Received By	Date/Time
<i>Anthony Goggins</i>	<i>Laura McLaughlin</i>	02/01/2022 15:26

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

Bottles/Pre-Preserved Bottles are provided by the GTL



Chain of Custody Groundwater

APC General Testing Laboratory

Field Complete

Outside Lab

Lab Complete

Lab ETA

Requested Complete Date	Routine	Results To	Dustin Brooks, Greg Dyer
	Collector: TJ Daugherty		Requested By: Greg Dyer
		Location	Gorgas Landfill

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

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

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

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

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

Bottles/Pre-Preserved Bottles are provided by the GTL



Chain of Custody

Groundwater

APC General Testing Laboratory

Field Complete
 Lab Complete

Outside Lab

Lab ETA

Requested Complete Date	Routine	Results To	Dustin Brooks, Greg Dyer
	Collector: Dallas Gentry		Requested By: Greg Dyer
		Location	Gorgas Landfill

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

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

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

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

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

Bottles/Pre-Preserved Bottles are provided by the GTL



Chain of Custody Groundwater

APC General Testing Laboratory

Field Complete
 Lab Complete

Outside Lab

Lab ETA

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

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

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

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

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

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

Bottles/Pre-Preserved Bottles are provided by the GTL



Chain of Custody

Groundwater

APC General Testing Laboratory

Field Complete
 Lab Complete

Outside Lab

Lab ETA

Requested Complete Date	Routine	Results To	Dustin Brooks, Greg Dyer
	Collector: Dallas Gentry		Requested By
		Location	Gorgas Landfill

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

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

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

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

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

Bottles/Pre-Preserved Bottles are provided by the GTL



Chain of Custody Groundwater

APC General Testing Laboratory

Field Complete
 Lab Complete

Outside Lab

Lab ETA

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

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

Comments	Sulfide bottles pH>9. Correcting date to 1/31/22 for MW-7 per TDJ LBM 2/1/22
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Sample #	Date	Time	Bottle Count	Description	Lab Filter	Lab Id
MW-5	01/31/2022	13:22	2	Groundwater		BC02132
MW-6	01/31/2022	14:38	2	Groundwater		BC02133
MW-6 Dup	01/31/2022	14:38	2	Sample Duplicate		BC02134
MW-7	01/31/2022	15:45	2	Groundwater		BC02135
MW-8	02/01/2022	08:50	2	Groundwater		BC02136
MW-10	02/01/2022	10:50	2	Groundwater		BC02137
MW-11	02/01/2022	12:17	2	Groundwater		BC02138
FB-2	02/01/2022	13:30	2	Field Blank		BC02139

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

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

Bottles/Pre-Preserved Bottles are provided by the GTL

February 07, 2022

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

RE: Project: WMWGORLF_1349
Pace Project No.: 20233689

Dear Laura Midkiff:

Enclosed are the analytical results for sample(s) received by the laboratory on February 02, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - New Orleans

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

Sincerely,



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

Enclosures

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



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: WMWGORLF_1349

Pace Project No.: 20233689

Pace Analytical Services New Orleans

Florida Department of Health (NELAC): E87595

Illinois Environmental Protection Agency: 0025721

Kansas Department of Health and Environment (NELAC):

E-10266

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

02006

Texas Commission on Env. Quality (NELAC):

T104704405-09-TX

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

00119

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: WMWGORLF_1349

Pace Project No.: 20233689

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

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SAMPLE ANALYTE COUNT

Project: WMWGORLF_1349

Pace Project No.: 20233689

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

PASI-N = Pace Analytical Services - New Orleans

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: WMWGORLF_1349

Pace Project No.: 20233689

Method: SM 4500-S-2 D

Description: 4500S2D Sulfide, Total

Client: Alabama Power

Date: February 07, 2022

General Information:

21 samples were analyzed for SM 4500-S-2 D by Pace Analytical Services New Orleans. All samples were received in acceptable condition with any exceptions noted below or on the chain-of-custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: WMWGORLF_1349

Pace Project No.: 20233689

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

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

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ANALYTICAL RESULTS

Project: WMWGORLF_1349

Pace Project No.: 20233689

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

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

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ANALYTICAL RESULTS

Project: WMWGORLF_1349

Pace Project No.: 20233689

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

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

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ANALYTICAL RESULTS

Project: WMWGORLF_1349

Pace Project No.: 20233689

Sample: BC02124 FB-1		Lab ID: 20233689004		Collected: 01/31/22 12:45	Received: 02/02/22 10:10	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total		Analytical Method: SM 4500-S-2 D Pace Analytical Services - New Orleans							
Sulfide, Total	ND	mg/L	0.020	0.012	1		02/04/22 14:59	18496-25-8	

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ANALYTICAL RESULTS

Project: WMWGORLF_1349

Pace Project No.: 20233689

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

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

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ANALYTICAL RESULTS

Project: WMWGORLF_1349
Pace Project No.: 20233689

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

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ANALYTICAL RESULTS

Project: WMWGORLF_1349

Pace Project No.: 20233689

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

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

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ANALYTICAL RESULTS

Project: WMWGORLF_1349
Pace Project No.: 20233689

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

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ANALYTICAL RESULTS

Project: WMWGORLF_1349
Pace Project No.: 20233689

Sample: BC02129 MW-19		Lab ID: 20233689009		Collected: 02/01/22 10:54	Received: 02/02/22 10:10	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total		Analytical Method: SM 4500-S-2 D Pace Analytical Services - New Orleans							
Sulfide, Total	ND	mg/L	0.020	0.012	1		02/06/22 11:34	18496-25-8	

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ANALYTICAL RESULTS

Project: WMWGORLF_1349
Pace Project No.: 20233689

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

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ANALYTICAL RESULTS

Project: WMWGORLF_1349

Pace Project No.: 20233689

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

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

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ANALYTICAL RESULTS

Project: WMWGORLF_1349
Pace Project No.: 20233689

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

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ANALYTICAL RESULTS

Project: WMWGORLF_1349
Pace Project No.: 20233689

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

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ANALYTICAL RESULTS

Project: WMWGORLF_1349

Pace Project No.: 20233689

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

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

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ANALYTICAL RESULTS

Project: WMWGORLF_1349
Pace Project No.: 20233689

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

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: WMWGORLF_1349

Pace Project No.: 20233689

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

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

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ANALYTICAL RESULTS

Project: WMWGORLF_1349

Pace Project No.: 20233689

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

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

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: WMWGORLF_1349

Pace Project No.: 20233689

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

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

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: WMWGORLF_1349

Pace Project No.: 20233689

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

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

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: WMWGORLF_1349

Pace Project No.: 20233689

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

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

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: WMWGORLF_1349
Pace Project No.: 20233689

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: WMWGORLF_1349

Pace Project No.: 20233689

QC Batch: 246786

Analysis Method: SM 4500-S-2 D

QC Batch Method: SM 4500-S-2 D

Analysis Description: 4500S2D Sulfide, Total

Laboratory: Pace Analytical Services - New Orleans

Associated Lab Samples: 20233689001, 20233689002, 20233689003

METHOD BLANK: 1171851

Matrix: Water

Associated Lab Samples: 20233689001, 20233689002, 20233689003

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

LABORATORY CONTROL SAMPLE: 1171852

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

MATRIX SPIKE SAMPLE: 1171854

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

SAMPLE DUPLICATE: 1171853

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

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: WMWGORLF_1349
Pace Project No.: 20233689

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

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

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

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

LABORATORY CONTROL SAMPLE: 1172273

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

MATRIX SPIKE SAMPLE: 1172275

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

SAMPLE DUPLICATE: 1172274

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

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: WMWGORLF_1349
Pace Project No.: 20233689

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

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

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

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

LABORATORY CONTROL SAMPLE: 1172472

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

MATRIX SPIKE SAMPLE: 1172474

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

SAMPLE DUPLICATE: 1172473

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

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: WMWGORLF_1349
Pace Project No.: 20233689

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

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

TNI - The Nelac Institute

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WMWGORLF_1349
Pace Project No.: 20233689

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

REPORT OF LABORATORY ANALYSIS

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20233689

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

Section A		Section B		Section C	
Required Client Information:		Required Project Information:		Invoice Information:	
Company: Alabama Power Company	Report To: Laura Midkiff	Company Name: Alabama Power Co.	Attention: Laura Midkiff	Company Name: Alabama Power Co.	Company Name: Alabama Power Co.
Address: 744 Highway 87 GSC Bldg #8	Copy To: Brooke Caton & Renee Jernigan	Address: 744 Highway 87 GSC Bldg #8	Address: Calera, AL 35040	Address: 744 Highway 87 GSC Bldg #8	Address: 744 Highway 87 GSC Bldg #8
Email To: lbmidkiff@southernco.com	Purchase Order #: APC10700668	Pace Quote: CCR	Project Name: Plant Gorgas CCB Landfills	Pace Project Manager: Karen Brown	Pace Project Manager: Karen Brown
Phone: 205-664-6197	Requested Due Date: Normal	Project Number: WMMWGORLF1349	State / Location: AL	Regulatory Agency:	Regulatory Agency:

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

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	TEMP IN C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Laura Midkiff APC GTL	2/1/2022	17:01	<i>FedEx</i>	2/1/22	10:10				
				<i>Any - fair</i>	2/12/22	10:10	7			

SAMPLER NAME AND SIGNATURE:
 PRINT Name of SAMPLER: _____
 SIGNATURE of SAMPLER: _____
 DATE Signed: _____

TEMP IN C: _____

Received on Ice (Y/N): _____

Custody Sealed Cooler (Y/N): _____

Samples Intact (Y/N): _____

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A

Required Client Information:

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

Section B

Required Project Information:

Report To: **Laura Midkiff**
 Copy To: **Brooke Caton & Renee Jernigan**
 Purchase Order # : **APC10700668**
 Project Name: **Plant Gorgas CGB Landfills**
 Project Number: **MMWGORLF_1349**

Section C

Invoice Information:

Attention: **Laura Midkiff**
 Company Name: **Alabama Power Co.**
 Address: **744 Highway 87 GSC Bldg #8**
 Pace Quote: **CCR**
 Pace Project Manager: **Karen Brown**
 Pace Profile #: **43866**

Regulatory Agency
 State / Location
 AL

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	EPA 9315	EPA 9320	Total Radium Sum	Total Sulfide	Residual Chlorine (Y/N)																			
									DATE	TIME																														
1	BC02132	APCO-GS-CCB-MW-5	APCO_Gorgas_CCBLandfills				GW	G	1/31/2022	13:22	1																													
2	BC02133	APCO-GS-CCB-MW-6	APCO_Gorgas_CCBLandfills				GW	G	1/31/2022	14:38	1																													
3	BC02134	APCO-GS-CCB-MW-6	APCO_Gorgas_CCBLandfills				GW	G	1/31/2022	14:38	1																													
4	BC02135	APCO-GS-CCB-MW-7	APCO_Gorgas_CCBLandfills	X			GW	G	1/31/2022	15:45	1																													
5	BC02136	APCO-GS-CCB-MW-8	APCO_Gorgas_CCBLandfills				GW	G	2/1/2022	8:50	1																													
6	BC02137	APCO-GS-CCB-MW-10	APCO_Gorgas_CCBLandfills				GW	G	2/1/2022	10:50	1																													
7	BC02138	APCO-GS-CCB-MW-11	APCO_Gorgas_CCBLandfills				GW	G	2/1/2022	12:17	1																													
8	BC02139	APCO-GS-CCB-MW-FB-2	APCO_Gorgas_CCBLandfills				GW	G	2/1/2022	13:30	1																													
9																																								
10																																								
11																																								
12																																								

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION		ACCEPTED BY / AFFILIATION		DATE		TIME	
	PRINT Name of SAMPLER:	SIGNATURE of SAMPLER:	PRINT Name of SAMPLER:	SIGNATURE of SAMPLER:	DATE	TIME	DATE	TIME
	Laura Midkiff/ APC GTL	<i>Laura Midkiff</i>	Laura Midkiff	<i>Arjuna Rao</i>	2/1/2022	17:01	2/2/22	10:10

TEMP in C

Received on (Y/N)

Custody (Y/N)

Sealed Cooler (Y/N)

Samples Intact (Y/N)

T.J Daugherty

DATE Signed:

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section C		Page : 3 Of 3	
Section B		Section C	
Required Client Information:		Invoice Information:	
Company: Alabama Power Company		Attention: Laura Midkiff	
Address: 744 Highway 87 GSC Bldg #8		Company Name: Alabama Power Co.	
Calera, AL 35040		Address: 744 Highway 87 GSC Bldg #8	
Email To: lbmidkiff@southernco.com		CCR	
Phone: 205-664-6197 Fax:		Purchase Order #: APC10700668	
Requested Due Date: Normal		Project Name: Plant Gorgas CCB Landfills	
		Project Number: WMMG0RLE-1349	
		Face Quote: 48996	
		Face Project Manager: <u>Karen Brown</u>	
		State / Location: <u>AL</u>	
		Regulatory Agency:	

ITEM #	SAMPLE ID	REQUIRED ANALYSES - FILTERED (Y/N)				COLLECTED	START TIME	DATE	ACCEPTED BY / AFFILIATION		DATE	SAMPLE CONDITIONS		
		Preservatives	NaOH+ZnAcetate	Unpreserved	EPA 9315				EPA 9320	Total Radium Sum		Total Sulfide	Received on Ice (Y/N)	Custody Sealed (Y/N)
1	BC02140		X			9:55	2/1/2022	Field G	FedEx	2/2/22	10:10	Y	Y	Y
2	BC02141		X			10:55	2/1/2022	Field G	Anthony Pagan	2/2/22	10:10	Y	Y	Y
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														

ADDITIONAL COMMENTS:	RESQUIRED BY / AFFILIATION
	Laura Midkiff / APC GTL
SAMPLER NAME AND SIGNATURE	
PRINT Name of SAMPLER: Anthony Goggins	
SIGNATURE of SAMPLER: Anthony Goggins	
DATE Signed:	



1000 Riverbend Blvd., Suite F
St. Rose, LA 70067

Sample Condition Upon Receipt

WO#: 20233689

PM: KHB Due Date: 02/14/22

CLIENT: 20-Alabama

Project #

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

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

Custody Seals intact: Yes No

Thermometer Used: Therm Fisher IR 7
 Therm Fisher IR 10

Type of Ice: Wet Blue None

Samples on ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

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

Temp must be measured from Temperature blank when present

Comments:

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

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

April 15, 2022

Laura Midkiff
Alabama Power
744 Highway 87
Calera, AL 35040

RE: Project: WMWGORLF_1349
Pace Project No.: 30465804

Dear Laura Midkiff:

Enclosed are the analytical results for sample(s) received by the laboratory on February 09, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Greensburg

(Greensburg, PA) - Revision 1 - This report replaces the 4/4/22 report. This project was revised on 4/15/22 to add in U qualifiers per client request.

#CR

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

Sincerely,



Skyler C. Richmond
skyler.richmond@pacelabs.com
(724)850-5600
Project Manager

Enclosures

cc: Brooke Caton, Alabama Power
Renee Jernigan, Alabama Power



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: WMWGORLF_1349
Pace Project No.: 30465804

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Florida: Cert E871149 SEKS WET
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991

Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: WMWGORLF_1349

Pace Project No.: 30465804

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

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: WMWGORLF_1349
Pace Project No.: 30465804

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

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: WMWGORLF_1349
Pace Project No.: 30465804

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

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: WMWGORLF_1349

Pace Project No.: 30465804

Method: EPA 9315

Description: 9315 Total Radium

Client: Alabama Power

Date: April 15, 2022

General Information:

25 samples were analyzed for EPA 9315 by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: WMWGORLF_1349

Pace Project No.: 30465804

Method: EPA 9320

Description: 9320 Radium 228

Client: Alabama Power

Date: April 15, 2022

General Information:

25 samples were analyzed for EPA 9320 by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: WMWGORLF_1349

Pace Project No.: 30465804

Method: Total Radium Calculation

Description: Total Radium 228+226

Client: Alabama Power

Date: April 15, 2022

General Information:

21 samples were analyzed for Total Radium Calculation by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

Sample: BC02121 MW-13 **Lab ID: 30465804001** Collected: 01/31/22 10:18 Received: 02/09/22 10:46 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	0.266U ± 0.389 (0.834) C:53% T:NA	pCi/L	03/11/22 08:10	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.624U ± 0.372 (0.683) C:80% T:78%	pCi/L	02/25/22 10:57	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.890U ± 0.761 (1.52)	pCi/L	03/14/22 21:57	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

Sample: BC02122 MW-14 **Lab ID: 30465804002** Collected: 01/31/22 11:16 Received: 02/09/22 10:46 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	0.204U ± 0.157 (0.255) C:99% T:NA	pCi/L	03/11/22 08:10	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	0.511U ± 0.343 (0.645) C:81% T:79%	pCi/L	02/25/22 10:58	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.715U ± 0.500 (0.900)	pCi/L	03/14/22 21:57	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

Sample: BC02123 MW-15 **Lab ID: 30465804003** Collected: 01/31/22 12:12 Received: 02/09/22 10:46 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	0.183U ± 0.158 (0.280) C:98% T:NA	pCi/L	03/11/22 08:10	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.332U ± 0.328 (0.672) C:81% T:77%	pCi/L	02/25/22 10:57	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.515U ± 0.486 (0.952)	pCi/L	03/14/22 21:57	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

Sample: BC02124 FB-1 **Lab ID: 30465804004** Collected: 01/31/22 12:45 Received: 02/09/22 10:46 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	0.000U ± 0.0847 (0.249) C:93% T:NA	pCi/L	03/11/22 08:10	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	0.534U ± 0.394 (0.769) C:78% T:77%	pCi/L	02/25/22 10:57	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.534U ± 0.479 (1.02)	pCi/L	03/14/22 21:57	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

Sample: BC02125 MW-16 **Lab ID: 30465804005** Collected: 01/31/22 13:13 Received: 02/09/22 10:46 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	0.113U ± 0.167 (0.362) C:69% T:NA	pCi/L	03/11/22 08:10	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.342U ± 0.403 (0.847) C:81% T:69%	pCi/L	02/25/22 10:57	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.455U ± 0.570 (1.21)	pCi/L	03/14/22 21:57	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

Sample: BC02126 MW-16 DUP **Lab ID: 30465804006** Collected: 01/31/22 13:13 Received: 02/09/22 10:46 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	0.103U ± 0.164 (0.365) C:96% T:NA	pCi/L	03/11/22 08:10	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	0.0942U ± 0.318 (0.720) C:78% T:83%	pCi/L	02/25/22 14:21	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.197U ± 0.482 (1.09)	pCi/L	03/14/22 21:57	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

Sample: BC02127MW-17R **Lab ID: 30465804007** Collected: 01/31/22 14:21 Received: 02/09/22 10:46 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	0.310 ± 0.197 (0.302) C:91% T:NA	pCi/L	03/11/22 08:10	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.485U ± 0.381 (0.746) C:80% T:76%	pCi/L	02/25/22 14:21	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.795U ± 0.578 (1.05)	pCi/L	03/14/22 21:57	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

Sample: BC02128 MW-18 **Lab ID: 30465804008** Collected: 01/31/22 15:25 Received: 02/09/22 10:46 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	0.0542U ± 0.111 (0.259) C:99% T:NA	pCi/L	03/11/22 08:10	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.0797U ± 0.330 (0.756) C:76% T:78%	pCi/L	02/25/22 14:21	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.134U ± 0.441 (1.02)	pCi/L	03/14/22 21:57	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

Sample: BC02129 MW-19 **Lab ID: 30465804009** Collected: 02/01/22 10:54 Received: 02/09/22 10:46 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	0.371 ± 0.205 (0.279) C:95% T:NA	pCi/L	03/11/22 08:10	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	0.331U ± 0.381 (0.798) C:77% T:75%	pCi/L	02/25/22 14:21	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.702U ± 0.586 (1.08)	pCi/L	03/14/22 21:57	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

Sample: BC02130 MW-20 **Lab ID: 30465804010** Collected: 02/01/22 12:03 Received: 02/09/22 10:46 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	0.226U ± 0.172 (0.281) C:99% T:NA	pCi/L	03/11/22 12:27	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	0.524U ± 0.338 (0.635) C:87% T:80%	pCi/L	03/04/22 10:48	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.750U ± 0.510 (0.916)	pCi/L	03/14/22 21:56	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

Sample: BC02131 EB-1 **Lab ID: 30465804011** Collected: 02/01/22 12:35 Received: 02/09/22 10:46 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	0.0363U ± 0.104 (0.257) C:97% T:NA	pCi/L	03/11/22 08:10	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	-0.496U ± 0.306 (0.814) C:74% T:81%	pCi/L	02/25/22 11:53	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.0363U ± 0.410 (1.07)	pCi/L	03/14/22 21:57	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

Sample: BC02132 MW-5 **Lab ID: 30465804012** Collected: 01/31/22 13:22 Received: 02/09/22 10:46 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	0.0523U ± 0.137 (0.332) C:98% T:NA	pCi/L	03/11/22 08:10	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	-0.0306U ± 0.311 (0.734) C:80% T:81%	pCi/L	02/25/22 11:53	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.0523U ± 0.448 (1.07)	pCi/L	03/14/22 21:57	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

Sample: BC02133 MW-6 **Lab ID: 30465804013** Collected: 01/31/22 14:38 Received: 02/09/22 10:46 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	0.251U ± 0.226 (0.429) C:95% T:NA	pCi/L	03/11/22 08:10	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.123U ± 0.379 (0.853) C:74% T:78%	pCi/L	02/25/22 11:54	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.374U ± 0.605 (1.28)	pCi/L	03/14/22 21:57	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

Sample: BC02134 MW-6 DUP **Lab ID: 30465804014** Collected: 01/31/22 14:38 Received: 02/09/22 10:46 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	0.209U ± 0.159 (0.257) C:93% T:NA	pCi/L	03/11/22 10:41	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	0.805 ± 0.363 (0.582) C:86% T:80%	pCi/L	02/25/22 15:04	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.01 ± 0.522 (0.839)	pCi/L	03/14/22 21:57	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

Sample: BC02135 MW-7 **Lab ID: 30465804015** Collected: 01/31/22 15:45 Received: 02/09/22 10:46 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	0.0784U ± 0.115 (0.246) C:97% T:NA	pCi/L	03/11/22 10:41	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.395U ± 0.347 (0.691) C:79% T:74%	pCi/L	02/25/22 15:04	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.473U ± 0.462 (0.937)	pCi/L	03/14/22 21:57	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

Sample: BC02136 MW-8 **Lab ID: 30465804016** Collected: 02/01/22 08:50 Received: 02/09/22 10:46 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	0.0988U ± 0.130 (0.268) C:83% T:NA	pCi/L	03/11/22 10:41	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	0.544U ± 0.381 (0.732) C:81% T:82%	pCi/L	02/25/22 15:04	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.643U ± 0.511 (1.000)	pCi/L	03/14/22 21:57	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

Sample: BC02137 MW-10 **Lab ID: 30465804017** Collected: 02/01/22 10:50 Received: 02/09/22 10:46 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	-0.0315U ± 0.0853 (0.280) C:94% T:NA	pCi/L	03/11/22 10:41	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	0.0120U ± 0.329 (0.769) C:76% T:76%	pCi/L	02/25/22 15:04	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.0120U ± 0.414 (1.05)	pCi/L	03/14/22 21:57	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

Sample: BC02138 MW-11 **Lab ID: 30465804018** Collected: 02/01/22 12:17 Received: 02/09/22 10:46 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	0.196U ± 0.144 (0.224) C:100% T:NA	pCi/L	03/11/22 10:41	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	0.687U ± 0.398 (0.714) C:81% T:75%	pCi/L	02/25/22 15:04	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.883U ± 0.542 (0.938)	pCi/L	03/14/22 21:57	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

Sample: BC02139 FB-2 **Lab ID: 30465804019** Collected: 02/01/22 13:30 Received: 02/09/22 10:46 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	0.112U ± 0.144 (0.299) C:100% T:NA	pCi/L	03/11/22 10:41	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.0391U ± 0.294 (0.679) C:82% T:82%	pCi/L	02/25/22 15:04	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.151U ± 0.438 (0.978)	pCi/L	03/14/22 21:57	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

Sample: BC02140 MW-12V **Lab ID: 30465804020** Collected: 02/01/22 09:55 Received: 02/09/22 10:46 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	0.119U ± 0.138 (0.271) C:101% T:NA	pCi/L	03/11/22 12:27	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	0.893U ± 0.917 (1.90) C:81% T:31%	pCi/L	03/04/22 10:49	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.01U ± 1.06 (2.17)	pCi/L	03/14/22 21:56	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

Sample: BC02141 MW-12 **Lab ID: 30465804021** Collected: 02/01/22 10:55 Received: 02/09/22 10:46 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	0.264U ± 0.191 (0.309) C:99% T:NA	pCi/L	03/11/22 12:27	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.862U ± 0.508 (0.926) C:81% T:63%	pCi/L	03/04/22 10:49	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	1.13U ± 0.699 (1.24)	pCi/L	03/14/22 21:56	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

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

PWS: Site ID: Sample Type:

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

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

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

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

PWS: Site ID: Sample Type:

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

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

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

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

PWS: Site ID: Sample Type:

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

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

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

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

PWS: Site ID: Sample Type:

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

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

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QUALITY CONTROL - RADIOCHEMISTRY

Project: WMWGORLF_1349
Pace Project No.: 30465804

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

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

METHOD BLANK:	2344490	Matrix:	Water
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Associated Lab Samples: 30465804001, 30465804002, 30465804003, 30465804004, 30465804005, 30465804006, 30465804007, 30465804008, 30465804009, 30465804011, 30465804012, 30465804013, 30465804014, 30465804015, 30465804016, 30465804017, 30465804018, 30465804019, 30465804022, 30465804023

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

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QUALITY CONTROL - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

QC Batch: 484775

Analysis Method: EPA 9315

QC Batch Method: EPA 9315

Analysis Description: 9315 Total Radium

Laboratory: Pace Analytical Services - Greensburg

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

METHOD BLANK: 2344491

Matrix: Water

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

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

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QUALITY CONTROL - RADIOCHEMISTRY

Project: WMWGORLF_1349

Pace Project No.: 30465804

QC Batch: 486655

Analysis Method: EPA 9320

QC Batch Method: EPA 9320

Analysis Description: 9320 Radium 228

Laboratory: Pace Analytical Services - Greensburg

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

METHOD BLANK: 2353489

Matrix: Water

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

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

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: WMWGORLF_1349

Pace Project No.: 30465804

QC Batch: 485927

Analysis Method: EPA 9315

QC Batch Method: EPA 9315

Analysis Description: 9315 Total Radium

Laboratory: Pace Analytical Services - Greensburg

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

METHOD BLANK: 2349793

Matrix: Water

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

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

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: WMWGORLF_1349

Pace Project No.: 30465804

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Act - Activity

Unc - Uncertainty: For Safe Drinking Water Act (SDWA) analyses, the reported Unc. is the calculated Count Uncertainty (95% confidence interval) using a coverage factor of 1.96. For all other matrices (non-SDWA), the reported Unc. is the calculated Expanded Uncertainty (aka Combined Standard Uncertainty, CSU), reported at the 95% confidence interval using a coverage factor of 1.96.

Gamma Spec: The Unc. reported for all gamma-spectroscopy analyses (EPA 901.1), is the calculated Expanded Uncertainty (CSU) at the 95.4% confidence interval, using a coverage factor of 2.0.

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WMWGORLF_1349
Pace Project No.: 30465804

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

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WMWGORLF_1349
Pace Project No.: 30465804

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

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A
Required Client Information:
 Company: Alabama Power Company
 Address: 744 Highway 87 GSC Bldg #8
 Calera, AL 35040
 Email To: lbmidkiff@southernco.com
 Phone: 205-664-6197
 Requested Due Date: Normal

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

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

Regulatory Agency:
State / Location: AL

ITEM #	Description	Station Name Location Code	Site Name Facility ID	Matrix Spike/Matrix Spike Duplicate	Field Filtered	MATRIX CODE	COLLECTED		# OF CONTAINERS	Preservatives	Y/N	Requested Analysis Filtered (Y/N)		Residual Chlorine (Y/N)
							DATE	TIME				EPA 9315	EPA 9320	
1	BC02121	APCO-GS-COB-MW-13	APCO_Gorgas_CCBLandfills			GW	G	1/31/2022	10:18	1		X	X	
2	BC02122	APCO-GS-COB-MW-14	APCO_Gorgas_CCBLandfills	X		GW	G	1/31/2022	11:16	3		X	X	
3	BC02123	APCO-GS-COB-MW-15	APCO_Gorgas_CCBLandfills			GW	G	1/31/2022	12:12	1		X	X	
4	BC02124	APCO-GS-COB-MW-EB-1	APCO_Gorgas_CCBLandfills			GW	G	1/31/2022	12:45	1		X	X	
5	BC02125	APCO-GS-COB-MW-16	APCO_Gorgas_CCBLandfills			GW	G	1/31/2022	13:13	1		X	X	
6	BC02126	MW-16 DUP	APCO_Gorgas_CCBLandfills	X		GW	G	1/31/2022	13:13	1		X	X	
7	BC02127	APCO-GS-COB-MW-17R	APCO_Gorgas_CCBLandfills			GW	G	1/31/2022	14:21	1		X	X	
8	BC02128	APCO-GS-COB-MW-18	APCO_Gorgas_CCBLandfills			GW	G	1/31/2022	15:25	1		X	X	
9	BC02129	APCO-GS-COB-MW-19	APCO_Gorgas_CCBLandfills			GW	G	2/1/2022	10:54	1		X	X	
10	BC02130	APCO-GS-COB-MW-20	APCO_Gorgas_CCBLandfills	X		GW	G	2/1/2022	12:03	3		X	X	
11	BC02131	APCO-GS-COB-MW-EB-1	APCO_Gorgas_CCBLandfills			GW	G	2/1/2022	12:35	1		X	X	
12														

ADDITIONAL COMMENTS

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

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

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

WO#: 30465804



30465804

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information: Company: Alabama Power Company Address: 744 Highway 87 GSC Bldg #8 Calera, AL 35040 Email To: lbmidkiff@southernco.com Phone: 205-664-6197 Fax: [blank] Requested Due Date: Normal		Section B Required Project Information: Report To: Laura Midkiff Copy To: Brooke Caton & Renee Jernigan Purchase Order #: APC10700668 Project Name: Plant Gorgas CCB Landfills Project Number: VMWGORLF_1349		Section C Invoice Information: Attention: Laura Midkiff Company Name: Alabama Power Co. Address: 744 Highway 87 GSC Bldg #8 CCR Peace Project Manager: Heather Dennison Peace Profile #: 13805		Regulatory Agency: AL State / Location: AL
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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	# OF CONTAINERS	Preservatives	Y/N	Requested Analysis Filtered [Y/N]				EPA 9320	EPA 9315	Total Radium Sum	Total Sulfide	Residual Chlorine (Y/N)												
														Unpreserved	NaOH/ZnAcetate	HNO3	ANALYSES TEST						DATE	TIME	DATE	TIME								
1	BC02132	MW-5	APCO-GS-CCB-MW-5	APCO_Gorgas_CCB_Landfills			GW	G	1/31/2022	13:22	1	X			X																			
2	BC02133	MW-6	APCO-GS-CCB-MW-6	APCO_Gorgas_CCB_Landfills			GW	G	1/31/2022	14:38	1	X			X																			
3	BC02134	MW-6 DUP	APCO-GS-CCB-MW-6	APCO_Gorgas_CCB_Landfills	X		GW	G	1/31/2022	14:38	1	X			X																			
4	BC02135	MW-7	APCO-GS-CCB-MW-7	APCO_Gorgas_CCB_Landfills			GW	G	1/31/2022	15:45	1	X			X																			
5	BC02136	MW-8	APCO-GS-CCB-MW-8	APCO_Gorgas_CCB_Landfills			GW	G	2/1/2022	8:50	1	X			X																			
6	BC02137	MW-10	APCO-GS-CCB-MW-10	APCO_Gorgas_CCB_Landfills			GW	G	2/1/2022	10:50	1	X			X																			
7	BC02138	MW-11	APCO-GS-CCB-MW-11	APCO_Gorgas_CCB_Landfills			GW	G	2/1/2022	12:17	1	X			X																			
8	BC02139	FB-2	APCO-GS-CCB-MW-FB-2	APCO_Gorgas_CCB_Landfills			GW	G	2/1/2022	13:30	1	X			X																			
9																																		
10																																		
11																																		
12																																		

ACCEPTED BY / AFFILIATION: Shilpaca Co / PAVE
 DATE: 2/2/2022
 TIME: 9:05

TEMP In C Received on [blank] (Y/N) Sealed [blank] (Y/N) Cooler [blank] (Y/N) Custody [blank] (Y/N) Samples [blank] (Y/N) Intact [blank] (Y/N)		DATE: 2/2/2022 TIME: 9:05 SIGNATURE: Laura Midkiff APC GTL PRINT Name of SAMPLER: SIGNATURE OF SAMPLER:		DATE Signed: [blank] Signature: TJ Daugherty	
---	--	---	--	---	--

NO#: 30465804
 PM: AES Due Date: 03/02/22
 CLIENT: ALABAMA PWR

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

Page : 3 Of 3

Section A Required Client Information:

Company: Alabama Power Company
Address: 744 Highway 87 GSC Bldg #8 Calera, AL 35040
Email To: lbmidkiff@southernco.com
Phone: 205-664-6197 | Fax

Section B Required Project Information:

Report To: Laura Midkiff
Copy To: Brooke Caton & Renee Jernigan
Purchase Order #: APC10700668
Project Name: Plant Gorgas CCB Landfills
Project Number: VMWVGORLF_1349

Section C Invoice Information:

Attention: Laura Midkiff
Company Name: Alabama Power Co.
Address: 744 Highway 87 GSC Bldg #8 CCR
Pace Project Manager: Heather Dennison
Pace Profile #: 13805

Regulatory Agency
State / Location AL

ITEM #	Description	Station Name Location_Codes	Site Name Facility_ID	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		Matrix Spike/Matrix Spike Duplicate	Sample Duplicate	Field Filled	MATRIX CODE	# OF CONTAINERS	Requested Analysis Filtered (Y/N)		TEMP in C
					DATE	TIME						Preservatives	Analyses Test	
1	BC02140 MW-12V	APCO-GS-CCB-MW-12V	APCO_Gorgas_CCB_Landfills	G	2/1/2022	9:55				GW	1	EPA 9315 X EPA 9320 X		
2	BC02141 MW-12	APCO-GS-CCB-MW-12	APCO_Gorgas_CCB_Landfills	G	2/1/2022	10:55				GW	1	EPA 9315 X EPA 9320 X		
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														
ADDITIONAL COMMENTS														
RELINQUISHED BY / AFFILIATION												DATE	TIME	
Laura Midkiff/ APC GTL												2/2/2022	9:05	
ACCEPTED BY / AFFILIATION												DATE	TIME	
Anthony Goggins / APE												3/1/22	10:16	
SAMPLE CONDITIONS														
RECEIVED ON														
Ice														
Sealed														
Custody														
Cooler														
In tact														

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Anthony Goggins
SIGNATURE of SAMPLER: Anthony Goggins
DATE Signed:

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

Pittsburgh Lab Sample Condition Upon Receipt



Client Name: Alabama Power

Project # _____

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Tracking #: 5557 2008 6257

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

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Thermometer Used _____ Type of Ice: Wet Blue None

Cooler Temperature _____ Observed Temp _____ °C Correction Factor: _____ °C Final Temp: _____ °C
Temp should be above freezing to 6°C

pH paper Lot#	<u>HCL09501</u>
Date and initials of person examining contents:	<u>2/16/20 RAE</u>

Comments:

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

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16.	<u>pHca</u>
17.	
18.	
Initial when completed	<u>RAE</u>
Date/time of preservation	<u>2/16/20</u>
Lot # of added preservative	
Initial when completed	<u>RAE</u>
Date	<u>2/16/20</u>
Survey Meter SN:	<u>2514380</u>

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

Client Notification/ Resolution:

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

Comments/ Resolution: _____

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

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)
 *PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.



Quality Control Sample Performance Assessment

Analyst Must Manually Enter All Fields Highlighted in Yellow.

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

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

Laboratory Control Sample Assessment		LCSD (Y or N)?	N
Count Date:	3/4/2022	LCSD65308	LCSD65308
Spike ID:	21-029		
Decay Corrected Spike Concentration (pCi/mL):	36.128		
Volume Used (mL):	0.10		
Aliquot Volume (L, g, F):	0.817		
Target Conc. (pCi/L, g, F):	4.421		
Uncertainty (Calculated):	0.217		
Result (pCi/L, g, F):	3.377		
LCSD/CSU 2 Sigma CSU (pCi/L, g, F):	0.855		
Numerical Performance Indicator:	-2.32		
Percent Recovery:	76.38%		
Status vs Numerical Indicator:	N/A		
Status vs Recovery:	Pass		
Upper % Recovery Limits:	135%		
Lower % Recovery Limits:	60%		

Duplicate Sample Assessment		Sample I.D.:	Enter Duplicate sample IDs if other than LCSD/CSU in the space below:
Duplicate Sample I.D.:			
Sample Result (pCi/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:			

Sample Matrix Spike Control Assessment		MS/MSD 1	MS/MSD 2
Sample Collection Date:	2/1/2022		
Sample I.D.:	30465804010		
Sample MS I.D.:	30465804024		
Sample MSD I.D.:	30465804025		
Spike I.D.:	21-029		
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	36.499		
Spike Volume Used in MS (mL):	0.20		
Spike Volume Used in MSD (mL):	0.20		
MS Aliquot (L, g, F):	0.803		
MS Target Conc. (pCi/L, g, F):	9.095		
MSD Aliquot (L, g, F):	0.816		
MSD Target Conc. (pCi/L, g, F):	8.951		
MS Spike Uncertainty (calculated):	0.446		
MSD Spike Uncertainty (calculated):	0.439		
MS/MSD Upper % Recovery Limits:	0.524		
MS/MSD Lower % Recovery Limits:	60%		
Sample Result:	0.338		
Sample Result 2 Sigma CSU (pCi/L, g, F):	7.740		
Sample Matrix Spike Result:	1.677		
Sample Matrix Spike Duplicate Result:	8.256		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.682		
MS Numerical Performance Indicator:	-2.083		
MSD Numerical Performance Indicator:	-1.348		
MS Percent Recovery:	79.39%		
MSD Percent Recovery:	86.39%		
MS Status vs Numerical Indicator:	Warning		
MSD Status vs Numerical Indicator:	Pass		
MS Status vs Recovery:	Pass		
MSD Status vs Recovery:	Pass		
Upper % Recovery Limits:	135%		
Lower % Recovery Limits:	60%		

Matrix Spike/Matrix Spike Duplicate Sample Assessment		Sample I.D.	Sample MS I.D.	Sample MSD I.D.
Sample I.D.:		30465804010		
Sample MS I.D.:		30465804024		
Sample MSD I.D.:		30465804025		
Matrix Spike Result:		7.740		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):		1.677		
Sample Matrix Spike Duplicate Result:		8.256		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		1.682		
Duplicate Numerical Performance Indicator:		-0.426		
Duplicate RPD:		8.50%		
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 ten times the blank value, the blank is acceptable, otherwise this batch must be re-prepped.

243/8/22

3/1/22

Quality Control Sample Performance Assessment



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

Analyst Must Manually Enter All Fields Highlighted in Yellow.

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

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

Duplicate Sample Assessment		
Sample I.D.:	LCSD (Y or N)?	Y
Duplicate Sample I.D.:	LCSD65175	3/11/2022
Sample Result (pCi/L, g, F):	4.710	0.266
Sample Result Counting Uncertainty (pCi/L, g, F):	0.446	0.387
Sample Duplicate Result (pCi/L, g, F):	4.725	0.166
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.450	0.276
Are sample and/or duplicate results below RL?	NO	See Below #
Duplicate Numerical Performance Indicator:	-0.047	0.415
(Based on the LCSD Percent Recoveries) Duplicate RPD:	0.61%	46.62%
Duplicate Status vs Numerical Indicator:	N/A	N/A
Duplicate Status vs RPD:	Pass	Fail***
% RPD Limit:	25%	25%

Sample Matrix Spike Control Assessment		MS/MSD 1	MS/MSD 2
Sample Collection Date:	1/31/2022		
Sample I.D.:	30465804002		
Sample MS I.D.:	30465804022		
Sample MSD I.D.:	30465804023		
Spike I.D.:	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):	0.272		
MS Aliquot (L, g, F):	0.272		
MS Target Conc. (pCi/L, g, F):	0.284		
MSD Aliquot (L, g, F):	16.941		
MSD Target Conc. (pCi/L, g, F):	0.212		
MS Spike Uncertainty (calculated):	0.203		
MSD Spike Uncertainty (calculated):	0.204		
Sample Result:	0.154		
Sample Result Counting Uncertainty (pCi/L, g, F):	17.801		
Sample Matrix Spike Result:	16.185		
Sample Matrix Spike Duplicate Result:	1.161		
MS Numerical Performance Indicator:	-0.074		
MSD Numerical Performance Indicator:	-1.582		
MS Percent Recovery:	99.74%		
MSD Percent Recovery:	94.33%		
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.:	MS/MSD 1	MS/MSD 2
Sample MS I.D.:	30465804022	
Sample MSD I.D.:	30465804023	
Sample Matrix Spike Result:	17.801	
Sample Matrix Spike Duplicate Result:	1.186	
Sample Matrix Spike Duplicate Result:	16.185	
Sample Matrix Spike Counting Uncertainty (pCi/L, g, F):	1.161	
Sample Matrix Spike Duplicate Counting Uncertainty (pCi/L, g, F):	1.907	
Duplicate Numerical Performance Indicator:	5.57%	
(Based on the Percent Recoveries) MS/MSD Duplicate RPD:	N/A	
MS/MSD Duplicate Status vs Numerical Indicator:	N/A	
MS/MSD Duplicate Status vs RPD:	Pass	
% RPD Limit:	25%	

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

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

WAM 3/11/22

WAM 3/11/22

WAM 3/11/22

Quality Control Sample Performance Assessment



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

Analyst Must Manually Enter All Fields Highlighted in Yellow.

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

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

Duplicate Sample Assessment	
Sample I.D.:	Duplicate Sample I.D.:
Sample Result (pCi/L, g, F):	Sample Result (pCi/L, g, F):
Sample Result Counting Uncertainty (pCi/L, g, F):	Sample Duplicate Result (pCi/L, g, F):
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):
Are sample and/or duplicate results below RL? :	See Below ##
Duplicate Numerical Performance Indicator:	Duplicate RPD:
Duplicate Status vs Numerical Indicator:	Duplicate Status vs Numerical Indicator:
Duplicate Status vs RPD:	Duplicate Status vs RPD:
% RPD Limit:	% RPD Limit:

Sample Matrix Spike Control Assessment		MS/MSD 1	MS/MSD 2
Sample Collection Date:	2/1/2022		
Sample I.D.:	30465804010		
Sample MS I.D.:	30465804024		
Sample MSD I.D.:	30465804025		
Spike I.D.:	19-033		
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	24.030		
Spike Volume Used in MS (mL):	0.20		
Spike Volume Used in MSD (mL):	0.20		
MS Aliquot (L, g, F):	0.251		
MS Target Conc. (pCi/L, g, F):	19.115		
MSD Aliquot (L, g, F):	0.255		
MSD Target Conc. (pCi/L, g, F):	18.846		
MSD Spike Uncertainty (calculated):	0.229		
MSD Spike Uncertainty (calculated):	0.226		
Sample Result:	0.117		
Sample Result Counting Uncertainty (pCi/L, g, F):	0.168		
Sample Matrix Spike Result:	19.262		
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	1.304		
Sample Matrix Spike Duplicate Result:	17.231		
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	1.289		
MS Numerical Performance Indicator:	-0.115		
MSD Numerical Performance Indicator:	-2.734		
MS Percent Recovery:	99.58%		
MSD Percent Recovery:	90.23%		
MS Status vs Numerical Indicator:	N/A		
MSD Status vs Numerical Indicator:	N/A		
MS Status vs Recovery:	Pass		
MSD Status vs Recovery:	Pass		
MS/MSD Upper % Recovery Limits:	125%		
MS/MSD Lower % Recovery Limits:	75%		

Matrix Spike/Matrix Spike Duplicate Sample Assessment	
Sample I.D.:	30465804010
Sample MS I.D.:	30465804024
Sample MSD I.D.:	30465804025
Sample Matrix Spike Result:	19.262
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	1.304
Sample Matrix Spike Duplicate Result:	17.231
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	1.289
Duplicate Numerical Performance Indicator:	2.172
(Based on the Percent Recoveries) MS/MSD Duplicate RPD:	9.98%
MS/MSD Duplicate Status vs Numerical Indicator:	N/A
MS/MSD Duplicate Status vs RPD:	Pass
% RPD Limit:	25%

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

Comments:

QC 3/14/22

WAM 3/14/22

Quality Control Sample Performance Assessment



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

Analyst Must Manually Enter All Fields Highlighted in Yellow.

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

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

Duplicate Sample Assessment	
Sample I.D.:	Duplicate Sample I.D.:
Sample Result (pCi/L, g, F):	Sample Result (pCi/L, g, F):
Sample Result Counting Uncertainty (pCi/L, g, F):	Sample Duplicate Result (pCi/L, g, F):
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):
Are sample and/or duplicate results below RL?	Duplicate Numerical Performance Indicator:
Duplicate Numerical Performance Indicator:	Duplicate RPD:
Duplicate Status vs Numerical Indicator:	Duplicate Status vs Numerical Indicator:
Duplicate Status vs RPD:	Duplicate Status vs RPD:
% RPD Limit:	% RPD Limit:

Sample Matrix Spike Control Assessment		MS/MSD 1	MS/MSD 2
Sample Collection Date:	2/9/2022		
Sample I.D.:	30467365002		
Sample MS I.D.:	30467365005		
Sample MSD I.D.:	30467365006		
Spike I.D.:	19-033		
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	24.030		
Spike Volume Used in MS (mL):	0.20		
Spike Volume Used in MSD (mL):	0.20		
MS Aliquot (L, g, F):	0.253		
MS Target Conc. (pCi/L, g, F):	19.016		
MSD Aliquot (L, g, F):	0.251		
MSD Target Conc. (pCi/L, g, F):	19.134		
MS Spike Uncertainty (calculated):	0.228		
MS Spike Uncertainty (calculated):	0.230		
Sample Result:	0.139		
Sample Result Counting Uncertainty (pCi/L, g, F):	0.153		
Sample Matrix Spike Result:	20.651		
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	1.359		
Sample Matrix Spike Duplicate Result:	17.738		
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	1.289		
MS Numerical Performance Indicator:	2.114		
MS Numerical Performance Indicator:	-2.317		
MS Percent Recovery:	107.87%		
MS Percent Recovery:	91.98%		
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.:	30467365002
Sample MS I.D.:	30467365005
Sample MSD I.D.:	30467365006
Sample Matrix Spike Result:	20.651
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	1.359
Sample Matrix Spike Duplicate Result:	17.738
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	1.269
Duplicate Numerical Performance Indicator:	3.071
(Based on the Percent Recoveries) MS/MSD Duplicate RPD:	15.90%
MS/MSD Duplicate Status vs Numerical Indicator:	N/A
MS/MSD Duplicate Status vs RPD:	Pass
% RPD Limit:	25%

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

See Below ##

3/11/22

AM 3/11/22



Quality Control Sample Performance Assessment

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

Analyst Must Manually Enter All Fields Highlighted in Yellow.

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

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

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

Duplicate Sample Assessment		
Sample I.D.:		Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.:		
Sample Result (pCi/L, g, F):		
Sample Result 2 Sigma CSU (pCi/L, g, F):		
Sample Duplicate Result (pCi/L, g, F):		
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
Are sample and/or duplicate results below RL?	See Below ##	
Duplicate Numerical Performance Indicator:		
Duplicate RPD:		
Duplicate Status vs Numerical Indicator:		
Duplicate Status vs RPD:		
% RPD Limit:		

Matrix Spike/Matrix Spike Duplicate Sample Assessment		
Sample I.D.:	30465804002	
Sample MS I.D.:	30465804022	
Sample MSD I.D.:	30465804023	
Sample Matrix Spike Result:	8.746	
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):	1.760	
Sample Matrix Spike Duplicate Result:	7.673	
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.558	
Duplicate Numerical Performance Indicator:	0.895	
(Based on the Percent Recoveries) MS/MSD Duplicate RPD:	13.10%	
MS/MSD Duplicate Status vs Numerical Indicator:	Pass	
MS/MSD Duplicate Status vs RPD:	Pass	
% RPD Limit:	36%	

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

Comments:

Alabama Power General Test Laboratory
744 County Road 87, GSC#8
Calera, AL 35040
(205) 664-6032 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.

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



Plant Gorgas Landfill

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.
 - FB-2 and EB-1 had results greater than the Reporting Limit (RL) for Manganese.
- Calibration verifications for all required field parameters were performed daily, before and after sample collection.

**Field Parameters Summary
Plant Gorgas Landfills**

WELL ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
MW-1	COND	Conductivity	7/5/2022 11:21	2265.09	uS/cm
MW-1	DO	DO	7/5/2022 11:21	1.08	mg/L
MW-1	DTW	Depth to Water Detail	7/5/2022 11:21	93.04	ft
MW-1	ORP	Oxidation Reduction Potention	7/5/2022 11:21	203.62	mv
MW-1	PH	pH	7/5/2022 11:21	5	SU
MW-1	TEMP	Temperature	7/5/2022 11:21	21.01	C
MW-1	TURB	Turbidity	7/5/2022 11:21	1.43	NTU
MW-1	COND	Conductivity	7/5/2022 11:26	2261.26	uS/cm
MW-1	DO	DO	7/5/2022 11:26	1.03	mg/L
MW-1	DTW	Depth to Water Detail	7/5/2022 11:26	93.26	ft
MW-1	ORP	Oxidation Reduction Potention	7/5/2022 11:26	229.44	mv
MW-1	PH	pH	7/5/2022 11:26	4.99	SU
MW-1	TEMP	Temperature	7/5/2022 11:26	20.95	C
MW-1	TURB	Turbidity	7/5/2022 11:26	0.42	NTU
MW-1	COND	Conductivity	7/5/2022 11:31	2316.42	uS/cm
MW-1	DO	DO	7/5/2022 11:31	0.94	mg/L
MW-1	DTW	Depth to Water Detail	7/5/2022 11:31	93.26	ft
MW-1	ORP	Oxidation Reduction Potention	7/5/2022 11:31	246.85	mv
MW-1	PH	pH	7/5/2022 11:31	4.99	SU
MW-1	TEMP	Temperature	7/5/2022 11:31	20.75	C
MW-1	TURB	Turbidity	7/5/2022 11:31	0.51	NTU
MW-1	COND	Conductivity	7/5/2022 11:36	2312.33	uS/cm
MW-1	DO	DO	7/5/2022 11:36	0.88	mg/L
MW-1	DTW	Depth to Water Detail	7/5/2022 11:36	93.26	ft
MW-1	ORP	Oxidation Reduction Potention	7/5/2022 11:36	259.28	mv
MW-1	PH	pH	7/5/2022 11:36	5.01	SU
MW-1	SULFIDE	Sulfide	7/5/2022 11:36	0	mg/L
MW-1	TEMP	Temperature	7/5/2022 11:36	20.8	C
MW-1	TURB	Turbidity	7/5/2022 11:36	0.23	NTU

**Field Parameters Summary
Plant Gorgas Landfills**

WELL ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
MW-2	COND	Conductivity	7/5/2022 12:20	1684.26	uS/cm
MW-2	DO	DO	7/5/2022 12:20	0.78	mg/L
MW-2	DTW	Depth to Water Detail	7/5/2022 12:20	84.49	ft
MW-2	ORP	Oxidation Reduction Potention	7/5/2022 12:20	81.82	mv
MW-2	PH	pH	7/5/2022 12:20	6.11	SU
MW-2	TEMP	Temperature	7/5/2022 12:20	20.43	C
MW-2	TURB	Turbidity	7/5/2022 12:20	27.3	NTU
MW-2	COND	Conductivity	7/5/2022 12:25	1668.28	uS/cm
MW-2	DO	DO	7/5/2022 12:25	0.78	mg/L
MW-2	DTW	Depth to Water Detail	7/5/2022 12:25	84.49	ft
MW-2	ORP	Oxidation Reduction Potention	7/5/2022 12:25	84.49	mv
MW-2	PH	pH	7/5/2022 12:25	6.11	SU
MW-2	TEMP	Temperature	7/5/2022 12:25	20.71	C
MW-2	TURB	Turbidity	7/5/2022 12:25	4.02	NTU
MW-2	COND	Conductivity	7/5/2022 12:30	1668.78	uS/cm
MW-2	DO	DO	7/5/2022 12:30	0.66	mg/L
MW-2	DTW	Depth to Water Detail	7/5/2022 12:30	84.49	ft
MW-2	ORP	Oxidation Reduction Potention	7/5/2022 12:30	80.95	mv
MW-2	PH	pH	7/5/2022 12:30	6.14	SU
MW-2	TEMP	Temperature	7/5/2022 12:30	20.77	C
MW-2	TURB	Turbidity	7/5/2022 12:30	2.2	NTU
MW-2	COND	Conductivity	7/5/2022 12:35	1626.22	uS/cm
MW-2	DO	DO	7/5/2022 12:35	0.68	mg/L
MW-2	DTW	Depth to Water Detail	7/5/2022 12:35	84.49	ft
MW-2	ORP	Oxidation Reduction Potention	7/5/2022 12:35	78.73	mv
MW-2	PH	pH	7/5/2022 12:35	6.15	SU
MW-2	SULFIDE	Sulfide	7/5/2022 12:35	0	mg/L
MW-2	TEMP	Temperature	7/5/2022 12:35	20.66	C
MW-2	TURB	Turbidity	7/5/2022 12:35	1.76	NTU

**Field Parameters Summary
Plant Gorgas Landfills**

WELL ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
MW-3	COND	Conductivity	7/5/2022 13:32	3600.84	uS/cm
MW-3	DO	DO	7/5/2022 13:32	7.64	mg/L
MW-3	DTW	Depth to Water Detail	7/5/2022 13:32	110.11	ft
MW-3	ORP	Oxidation Reduction Potention	7/5/2022 13:32	97.65	mv
MW-3	PH	pH	7/5/2022 13:32	6.54	SU
MW-3	TEMP	Temperature	7/5/2022 13:32	29.06	C
MW-3	TURB	Turbidity	7/5/2022 13:32	1.96	NTU
MW-3	COND	Conductivity	7/5/2022 13:37	3676.89	uS/cm
MW-3	DO	DO	7/5/2022 13:37	5.7	mg/L
MW-3	DTW	Depth to Water Detail	7/5/2022 13:37	110.51	ft
MW-3	ORP	Oxidation Reduction Potention	7/5/2022 13:37	132.58	mv
MW-3	PH	pH	7/5/2022 13:37	5.83	SU
MW-3	TEMP	Temperature	7/5/2022 13:37	29.7	C
MW-3	TURB	Turbidity	7/5/2022 13:37	4.9	NTU
MW-3	COND	Conductivity	7/5/2022 13:42	3623.85	uS/cm
MW-3	DO	DO	7/5/2022 13:42	4.29	mg/L
MW-3	DTW	Depth to Water Detail	7/5/2022 13:42	110.66	ft
MW-3	ORP	Oxidation Reduction Potention	7/5/2022 13:42	170.12	mv
MW-3	PH	pH	7/5/2022 13:42	5.52	SU
MW-3	TEMP	Temperature	7/5/2022 13:42	30.12	C
MW-3	TURB	Turbidity	7/5/2022 13:42	5.19	NTU
MW-3	COND	Conductivity	7/5/2022 13:47	3702.46	uS/cm
MW-3	DO	DO	7/5/2022 13:47	4.5	mg/L
MW-3	DTW	Depth to Water Detail	7/5/2022 13:47	110.71	ft
MW-3	ORP	Oxidation Reduction Potention	7/5/2022 13:47	195.29	mv
MW-3	PH	pH	7/5/2022 13:47	5.41	SU
MW-3	TEMP	Temperature	7/5/2022 13:47	29.93	C
MW-3	TURB	Turbidity	7/5/2022 13:47	4.28	NTU
MW-3	COND	Conductivity	7/5/2022 13:52	3672.69	uS/cm
MW-3	DO	DO	7/5/2022 13:52	4.25	mg/L
MW-3	DTW	Depth to Water Detail	7/5/2022 13:52	110.74	ft
MW-3	ORP	Oxidation Reduction Potention	7/5/2022 13:52	210.81	mv
MW-3	PH	pH	7/5/2022 13:52	5.34	SU
MW-3	SULFIDE	Sulfide	7/5/2022 13:52	0	mg/L
MW-3	TEMP	Temperature	7/5/2022 13:52	29.15	C
MW-3	TURB	Turbidity	7/5/2022 13:52	4.93	NTU

**Field Parameters Summary
Plant Gorgas Landfills**

WELL ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
MW-4	COND	Conductivity	7/5/2022 15:13	3231.3	uS/cm
MW-4	DO	DO	7/5/2022 15:13	2.35	mg/L
MW-4	DTW	Depth to Water Detail	7/5/2022 15:13	116.65	ft
MW-4	ORP	Oxidation Reduction Potention	7/5/2022 15:13	181.51	mv
MW-4	PH	pH	7/5/2022 15:13	6.04	SU
MW-4	TEMP	Temperature	7/5/2022 15:13	22.24	C
MW-4	TURB	Turbidity	7/5/2022 15:13	2.33	NTU
MW-4	COND	Conductivity	7/5/2022 15:18	3252.12	uS/cm
MW-4	DO	DO	7/5/2022 15:18	2.33	mg/L
MW-4	DTW	Depth to Water Detail	7/5/2022 15:18	116.65	ft
MW-4	ORP	Oxidation Reduction Potention	7/5/2022 15:18	181.82	mv
MW-4	PH	pH	7/5/2022 15:18	6.09	SU
MW-4	TEMP	Temperature	7/5/2022 15:18	21.9	C
MW-4	TURB	Turbidity	7/5/2022 15:18	1.83	NTU
MW-4	COND	Conductivity	7/5/2022 15:23	3241.57	uS/cm
MW-4	DO	DO	7/5/2022 15:23	2.34	mg/L
MW-4	DTW	Depth to Water Detail	7/5/2022 15:23	116.65	ft
MW-4	ORP	Oxidation Reduction Potention	7/5/2022 15:23	182.96	mv
MW-4	PH	pH	7/5/2022 15:23	6.11	SU
MW-4	TEMP	Temperature	7/5/2022 15:23	21.6	C
MW-4	TURB	Turbidity	7/5/2022 15:23	1.5	NTU
MW-4	COND	Conductivity	7/5/2022 15:28	3243.59	uS/cm
MW-4	DO	DO	7/5/2022 15:28	2.32	mg/L
MW-4	DTW	Depth to Water Detail	7/5/2022 15:28	116.65	ft
MW-4	ORP	Oxidation Reduction Potention	7/5/2022 15:28	184.48	mv
MW-4	PH	pH	7/5/2022 15:28	6.12	SU
MW-4	SULFIDE	Sulfide	7/5/2022 15:28	0	mg/L
MW-4	TEMP	Temperature	7/5/2022 15:28	21.75	C
MW-4	TURB	Turbidity	7/5/2022 15:28	0.89	NTU

**Field Parameters Summary
Plant Gorgas Landfills**

WELL ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
APCO-GS-CCB-MW-10	COND	Conductivity	7/6/2022 16:11	1861.65	uS/cm
APCO-GS-CCB-MW-10	DO	DO	7/6/2022 16:11	4.34	mg/L
APCO-GS-CCB-MW-10	DTW	Depth to Water Detail	7/6/2022 16:11	87.49	ft
APCO-GS-CCB-MW-10	ORP	Oxidation Reduction Potention	7/6/2022 16:11	24.12	mv
APCO-GS-CCB-MW-10	PH	pH	7/6/2022 16:11	6.64	SU
APCO-GS-CCB-MW-10	TEMP	Temperature	7/6/2022 16:11	24.43	C
APCO-GS-CCB-MW-10	TURB	Turbidity	7/6/2022 16:11	4.87	NTU
APCO-GS-CCB-MW-10	COND	Conductivity	7/6/2022 16:16	1096.24	uS/cm
APCO-GS-CCB-MW-10	DO	DO	7/6/2022 16:16	1.15	mg/L
APCO-GS-CCB-MW-10	DTW	Depth to Water Detail	7/6/2022 16:16	87.81	ft
APCO-GS-CCB-MW-10	ORP	Oxidation Reduction Potention	7/6/2022 16:16	-11.6	mv
APCO-GS-CCB-MW-10	PH	pH	7/6/2022 16:16	6.66	SU
APCO-GS-CCB-MW-10	TEMP	Temperature	7/6/2022 16:16	24.05	C
APCO-GS-CCB-MW-10	TURB	Turbidity	7/6/2022 16:16	8.67	NTU
APCO-GS-CCB-MW-10	COND	Conductivity	7/6/2022 16:21	1076.47	uS/cm
APCO-GS-CCB-MW-10	DO	DO	7/6/2022 16:21	0.82	mg/L
APCO-GS-CCB-MW-10	DTW	Depth to Water Detail	7/6/2022 16:21	88.1	ft
APCO-GS-CCB-MW-10	ORP	Oxidation Reduction Potention	7/6/2022 16:21	-16.88	mv
APCO-GS-CCB-MW-10	PH	pH	7/6/2022 16:21	6.66	SU
APCO-GS-CCB-MW-10	TEMP	Temperature	7/6/2022 16:21	23.98	C
APCO-GS-CCB-MW-10	TURB	Turbidity	7/6/2022 16:21	19	NTU
APCO-GS-CCB-MW-10	COND	Conductivity	7/6/2022 16:26	1067.76	uS/cm
APCO-GS-CCB-MW-10	DO	DO	7/6/2022 16:26	0.76	mg/L
APCO-GS-CCB-MW-10	DTW	Depth to Water Detail	7/6/2022 16:26	88.18	ft
APCO-GS-CCB-MW-10	ORP	Oxidation Reduction Potention	7/6/2022 16:26	-20.12	mv
APCO-GS-CCB-MW-10	PH	pH	7/6/2022 16:26	6.65	SU
APCO-GS-CCB-MW-10	TEMP	Temperature	7/6/2022 16:26	25	C
APCO-GS-CCB-MW-10	TURB	Turbidity	7/6/2022 16:26	12.09	NTU
APCO-GS-CCB-MW-10	COND	Conductivity	7/6/2022 16:31	1069.44	uS/cm
APCO-GS-CCB-MW-10	DO	DO	7/6/2022 16:31	0.74	mg/L
APCO-GS-CCB-MW-10	DTW	Depth to Water Detail	7/6/2022 16:31	88.23	ft
APCO-GS-CCB-MW-10	ORP	Oxidation Reduction Potention	7/6/2022 16:31	-19.62	mv
APCO-GS-CCB-MW-10	PH	pH	7/6/2022 16:31	6.65	SU
APCO-GS-CCB-MW-10	TEMP	Temperature	7/6/2022 16:31	24.94	C
APCO-GS-CCB-MW-10	TURB	Turbidity	7/6/2022 16:31	7.48	NTU
APCO-GS-CCB-MW-10	COND	Conductivity	7/6/2022 16:36	1074.3	uS/cm
APCO-GS-CCB-MW-10	DO	DO	7/6/2022 16:36	0.77	mg/L
APCO-GS-CCB-MW-10	DTW	Depth to Water Detail	7/6/2022 16:36	88.25	ft
APCO-GS-CCB-MW-10	ORP	Oxidation Reduction Potention	7/6/2022 16:36	-18.36	mv
APCO-GS-CCB-MW-10	PH	pH	7/6/2022 16:36	6.64	SU
APCO-GS-CCB-MW-10	TEMP	Temperature	7/6/2022 16:36	24.71	C
APCO-GS-CCB-MW-10	TURB	Turbidity	7/6/2022 16:36	5.47	NTU
APCO-GS-CCB-MW-10	COND	Conductivity	7/6/2022 16:41	1079.16	uS/cm
APCO-GS-CCB-MW-10	DO	DO	7/6/2022 16:41	0.75	mg/L
APCO-GS-CCB-MW-10	DTW	Depth to Water Detail	7/6/2022 16:41	88.26	ft
APCO-GS-CCB-MW-10	ORP	Oxidation Reduction Potention	7/6/2022 16:41	-19.38	mv
APCO-GS-CCB-MW-10	PH	pH	7/6/2022 16:41	6.64	SU
APCO-GS-CCB-MW-10	SULFIDE	Sulfide	7/6/2022 16:41	0	mg/L
APCO-GS-CCB-MW-10	TEMP	Temperature	7/6/2022 16:41	24.82	C
APCO-GS-CCB-MW-10	TURB	Turbidity	7/6/2022 16:41	4.72	NTU

**Field Parameters Summary
Plant Gorgas Landfills**

WELL ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
APCO-GS-CCB-MW-11	COND	Conductivity	7/5/2022 13:37	2060.46	uS/cm
APCO-GS-CCB-MW-11	DO	DO	7/5/2022 13:37	0.4	mg/L
APCO-GS-CCB-MW-11	DTW	Depth to Water Detail	7/5/2022 13:37	107.9	ft
APCO-GS-CCB-MW-11	ORP	Oxidation Reduction Potention	7/5/2022 13:37	-32.5	mv
APCO-GS-CCB-MW-11	PH	pH	7/5/2022 13:37	6.78	SU
APCO-GS-CCB-MW-11	TEMP	Temperature	7/5/2022 13:37	22.26	C
APCO-GS-CCB-MW-11	TURB	Turbidity	7/5/2022 13:37	0.87	NTU
APCO-GS-CCB-MW-11	COND	Conductivity	7/5/2022 13:42	3372.85	uS/cm
APCO-GS-CCB-MW-11	DO	DO	7/5/2022 13:42	0.3	mg/L
APCO-GS-CCB-MW-11	DTW	Depth to Water Detail	7/5/2022 13:42	110.43	ft
APCO-GS-CCB-MW-11	ORP	Oxidation Reduction Potention	7/5/2022 13:42	-40.17	mv
APCO-GS-CCB-MW-11	PH	pH	7/5/2022 13:42	6.78	SU
APCO-GS-CCB-MW-11	TEMP	Temperature	7/5/2022 13:42	22.23	C
APCO-GS-CCB-MW-11	TURB	Turbidity	7/5/2022 13:42	0.88	NTU
APCO-GS-CCB-MW-11	COND	Conductivity	7/5/2022 13:47	3294.11	uS/cm
APCO-GS-CCB-MW-11	DO	DO	7/5/2022 13:47	0.28	mg/L
APCO-GS-CCB-MW-11	DTW	Depth to Water Detail	7/5/2022 13:47	111.94	ft
APCO-GS-CCB-MW-11	ORP	Oxidation Reduction Potention	7/5/2022 13:47	-45.83	mv
APCO-GS-CCB-MW-11	PH	pH	7/5/2022 13:47	6.78	SU
APCO-GS-CCB-MW-11	TEMP	Temperature	7/5/2022 13:47	22.45	C
APCO-GS-CCB-MW-11	TURB	Turbidity	7/5/2022 13:47	0.66	NTU
APCO-GS-CCB-MW-11	COND	Conductivity	7/5/2022 13:52	3269.05	uS/cm
APCO-GS-CCB-MW-11	DO	DO	7/5/2022 13:52	0.44	mg/L
APCO-GS-CCB-MW-11	DTW	Depth to Water Detail	7/5/2022 13:52	111.92	ft
APCO-GS-CCB-MW-11	ORP	Oxidation Reduction Potention	7/5/2022 13:52	-48.61	mv
APCO-GS-CCB-MW-11	PH	pH	7/5/2022 13:52	6.76	SU
APCO-GS-CCB-MW-11	TEMP	Temperature	7/5/2022 13:52	25.9	C
APCO-GS-CCB-MW-11	TURB	Turbidity	7/5/2022 13:52	0.9	NTU
APCO-GS-CCB-MW-11	COND	Conductivity	7/5/2022 13:57	3345	uS/cm
APCO-GS-CCB-MW-11	DO	DO	7/5/2022 13:57	0.57	mg/L
APCO-GS-CCB-MW-11	DTW	Depth to Water Detail	7/5/2022 13:57	111.92	ft
APCO-GS-CCB-MW-11	ORP	Oxidation Reduction Potention	7/5/2022 13:57	-50.33	mv
APCO-GS-CCB-MW-11	PH	pH	7/5/2022 13:57	6.76	SU
APCO-GS-CCB-MW-11	TEMP	Temperature	7/5/2022 13:57	26.36	C
APCO-GS-CCB-MW-11	TURB	Turbidity	7/5/2022 13:57	0.92	NTU
APCO-GS-CCB-MW-11	COND	Conductivity	7/5/2022 14:02	3296.73	uS/cm
APCO-GS-CCB-MW-11	DO	DO	7/5/2022 14:02	0.63	mg/L
APCO-GS-CCB-MW-11	DTW	Depth to Water Detail	7/5/2022 14:02	111.92	ft
APCO-GS-CCB-MW-11	ORP	Oxidation Reduction Potention	7/5/2022 14:02	-53.12	mv
APCO-GS-CCB-MW-11	PH	pH	7/5/2022 14:02	6.75	SU
APCO-GS-CCB-MW-11	SULFIDE	Sulfide	7/5/2022 14:02	0	mg/L
APCO-GS-CCB-MW-11	TEMP	Temperature	7/5/2022 14:02	25.84	C
APCO-GS-CCB-MW-11	TURB	Turbidity	7/5/2022 14:02	0.98	NTU

**Field Parameters Summary
Plant Gorgas Landfills**

WELL ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
APCO-GS-CCB-MW-12	COND	Conductivity	7/5/2022 12:23	3786.24	uS/cm
APCO-GS-CCB-MW-12	DO	DO	7/5/2022 12:23	1.19	mg/L
APCO-GS-CCB-MW-12	DTW	Depth to Water Detail	7/5/2022 12:23	155.16	ft
APCO-GS-CCB-MW-12	ORP	Oxidation Reduction Potention	7/5/2022 12:23	39.32	mv
APCO-GS-CCB-MW-12	PH	pH	7/5/2022 12:23	5.84	SU
APCO-GS-CCB-MW-12	TEMP	Temperature	7/5/2022 12:23	23.96	C
APCO-GS-CCB-MW-12	TURB	Turbidity	7/5/2022 12:23	3.32	NTU
APCO-GS-CCB-MW-12	COND	Conductivity	7/5/2022 12:28	4003.12	uS/cm
APCO-GS-CCB-MW-12	DO	DO	7/5/2022 12:28	0.96	mg/L
APCO-GS-CCB-MW-12	DTW	Depth to Water Detail	7/5/2022 12:28	155.16	ft
APCO-GS-CCB-MW-12	ORP	Oxidation Reduction Potention	7/5/2022 12:28	38.64	mv
APCO-GS-CCB-MW-12	PH	pH	7/5/2022 12:28	5.84	SU
APCO-GS-CCB-MW-12	TEMP	Temperature	7/5/2022 12:28	23.83	C
APCO-GS-CCB-MW-12	TURB	Turbidity	7/5/2022 12:28	4.69	NTU
APCO-GS-CCB-MW-12	COND	Conductivity	7/5/2022 12:33	4072.89	uS/cm
APCO-GS-CCB-MW-12	DO	DO	7/5/2022 12:33	0.86	mg/L
APCO-GS-CCB-MW-12	DTW	Depth to Water Detail	7/5/2022 12:33	155.16	ft
APCO-GS-CCB-MW-12	ORP	Oxidation Reduction Potention	7/5/2022 12:33	41.21	mv
APCO-GS-CCB-MW-12	PH	pH	7/5/2022 12:33	5.83	SU
APCO-GS-CCB-MW-12	TEMP	Temperature	7/5/2022 12:33	23.97	C
APCO-GS-CCB-MW-12	TURB	Turbidity	7/5/2022 12:33	3.58	NTU
APCO-GS-CCB-MW-12	COND	Conductivity	7/5/2022 12:38	4121.59	uS/cm
APCO-GS-CCB-MW-12	DO	DO	7/5/2022 12:38	0.85	mg/L
APCO-GS-CCB-MW-12	DTW	Depth to Water Detail	7/5/2022 12:38	155.16	ft
APCO-GS-CCB-MW-12	ORP	Oxidation Reduction Potention	7/5/2022 12:38	43.45	mv
APCO-GS-CCB-MW-12	PH	pH	7/5/2022 12:38	5.82	SU
APCO-GS-CCB-MW-12	SULFIDE	Sulfide	7/5/2022 12:38	0	mg/L
APCO-GS-CCB-MW-12	TEMP	Temperature	7/5/2022 12:38	23.84	C
APCO-GS-CCB-MW-12	TURB	Turbidity	7/5/2022 12:38	3.75	NTU

**Field Parameters Summary
Plant Gorgas Landfills**

WELL ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
APCO-GS-CCB-MW-12V	COND	Conductivity	7/5/2022 11:03	2600.95	uS/cm
APCO-GS-CCB-MW-12V	DO	DO	7/5/2022 11:03	0.94	mg/L
APCO-GS-CCB-MW-12V	DTW	Depth to Water Detail	7/5/2022 11:03	158.11	ft
APCO-GS-CCB-MW-12V	ORP	Oxidation Reduction Potention	7/5/2022 11:03	-62.23	mv
APCO-GS-CCB-MW-12V	PH	pH	7/5/2022 11:03	6.91	SU
APCO-GS-CCB-MW-12V	TEMP	Temperature	7/5/2022 11:03	23.06	C
APCO-GS-CCB-MW-12V	TURB	Turbidity	7/5/2022 11:03	2.28	NTU
APCO-GS-CCB-MW-12V	COND	Conductivity	7/5/2022 11:08	2637.47	uS/cm
APCO-GS-CCB-MW-12V	DO	DO	7/5/2022 11:08	0.56	mg/L
APCO-GS-CCB-MW-12V	DTW	Depth to Water Detail	7/5/2022 11:08	158.56	ft
APCO-GS-CCB-MW-12V	ORP	Oxidation Reduction Potention	7/5/2022 11:08	-40.34	mv
APCO-GS-CCB-MW-12V	PH	pH	7/5/2022 11:08	6.92	SU
APCO-GS-CCB-MW-12V	TEMP	Temperature	7/5/2022 11:08	22.65	C
APCO-GS-CCB-MW-12V	TURB	Turbidity	7/5/2022 11:08	2.24	NTU
APCO-GS-CCB-MW-12V	COND	Conductivity	7/5/2022 11:13	2591.44	uS/cm
APCO-GS-CCB-MW-12V	DO	DO	7/5/2022 11:13	0.48	mg/L
APCO-GS-CCB-MW-12V	DTW	Depth to Water Detail	7/5/2022 11:13	158.81	ft
APCO-GS-CCB-MW-12V	ORP	Oxidation Reduction Potention	7/5/2022 11:13	-39.51	mv
APCO-GS-CCB-MW-12V	PH	pH	7/5/2022 11:13	6.92	SU
APCO-GS-CCB-MW-12V	TEMP	Temperature	7/5/2022 11:13	22.73	C
APCO-GS-CCB-MW-12V	TURB	Turbidity	7/5/2022 11:13	2.12	NTU
APCO-GS-CCB-MW-12V	COND	Conductivity	7/5/2022 11:18	2611.61	uS/cm
APCO-GS-CCB-MW-12V	DO	DO	7/5/2022 11:18	0.5	mg/L
APCO-GS-CCB-MW-12V	DTW	Depth to Water Detail	7/5/2022 11:18	159.11	ft
APCO-GS-CCB-MW-12V	ORP	Oxidation Reduction Potention	7/5/2022 11:18	-39.21	mv
APCO-GS-CCB-MW-12V	PH	pH	7/5/2022 11:18	6.92	SU
APCO-GS-CCB-MW-12V	TEMP	Temperature	7/5/2022 11:18	22.79	C
APCO-GS-CCB-MW-12V	TURB	Turbidity	7/5/2022 11:18	1.78	NTU
APCO-GS-CCB-MW-12V	COND	Conductivity	7/5/2022 11:23	2626.14	uS/cm
APCO-GS-CCB-MW-12V	DO	DO	7/5/2022 11:23	0.54	mg/L
APCO-GS-CCB-MW-12V	DTW	Depth to Water Detail	7/5/2022 11:23	159.23	ft
APCO-GS-CCB-MW-12V	ORP	Oxidation Reduction Potention	7/5/2022 11:23	-36.39	mv
APCO-GS-CCB-MW-12V	PH	pH	7/5/2022 11:23	6.92	SU
APCO-GS-CCB-MW-12V	TEMP	Temperature	7/5/2022 11:23	23.04	C
APCO-GS-CCB-MW-12V	TURB	Turbidity	7/5/2022 11:23	1.86	NTU
APCO-GS-CCB-MW-12V	COND	Conductivity	7/5/2022 11:28	2568.98	uS/cm
APCO-GS-CCB-MW-12V	DO	DO	7/5/2022 11:28	0.56	mg/L
APCO-GS-CCB-MW-12V	DTW	Depth to Water Detail	7/5/2022 11:28	159.37	ft
APCO-GS-CCB-MW-12V	ORP	Oxidation Reduction Potention	7/5/2022 11:28	-39.69	mv
APCO-GS-CCB-MW-12V	PH	pH	7/5/2022 11:28	6.92	SU
APCO-GS-CCB-MW-12V	SULFIDE	Sulfide	7/5/2022 11:28	0	mg/L
APCO-GS-CCB-MW-12V	TEMP	Temperature	7/5/2022 11:28	23.06	C
APCO-GS-CCB-MW-12V	TURB	Turbidity	7/5/2022 11:28	1.69	NTU

**Field Parameters Summary
Plant Gorgas Landfills**

WELL ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
APCO-GS-CCB-MW-13	COND	Conductivity	7/6/2022 7:51	2886.1	uS/cm
APCO-GS-CCB-MW-13	DO	DO	7/6/2022 7:51	2.76	mg/L
APCO-GS-CCB-MW-13	DTW	Depth to Water Detail	7/6/2022 7:51	94.98	ft
APCO-GS-CCB-MW-13	ORP	Oxidation Reduction Potention	7/6/2022 7:51	238.06	mv
APCO-GS-CCB-MW-13	PH	pH	7/6/2022 7:51	6.61	SU
APCO-GS-CCB-MW-13	TEMP	Temperature	7/6/2022 7:51	21.67	C
APCO-GS-CCB-MW-13	TURB	Turbidity	7/6/2022 7:51	1.96	NTU
APCO-GS-CCB-MW-13	COND	Conductivity	7/6/2022 7:56	2919.59	uS/cm
APCO-GS-CCB-MW-13	DO	DO	7/6/2022 7:56	0.85	mg/L
APCO-GS-CCB-MW-13	DTW	Depth to Water Detail	7/6/2022 7:56	95.11	ft
APCO-GS-CCB-MW-13	ORP	Oxidation Reduction Potention	7/6/2022 7:56	232.42	mv
APCO-GS-CCB-MW-13	PH	pH	7/6/2022 7:56	6.52	SU
APCO-GS-CCB-MW-13	TEMP	Temperature	7/6/2022 7:56	21.34	C
APCO-GS-CCB-MW-13	TURB	Turbidity	7/6/2022 7:56	1.9	NTU
APCO-GS-CCB-MW-13	COND	Conductivity	7/6/2022 8:01	2891.94	uS/cm
APCO-GS-CCB-MW-13	DO	DO	7/6/2022 8:01	0.61	mg/L
APCO-GS-CCB-MW-13	DTW	Depth to Water Detail	7/6/2022 8:01	95.22	ft
APCO-GS-CCB-MW-13	ORP	Oxidation Reduction Potention	7/6/2022 8:01	222.57	mv
APCO-GS-CCB-MW-13	PH	pH	7/6/2022 8:01	6.53	SU
APCO-GS-CCB-MW-13	TEMP	Temperature	7/6/2022 8:01	21.39	C
APCO-GS-CCB-MW-13	TURB	Turbidity	7/6/2022 8:01	1.91	NTU
APCO-GS-CCB-MW-13	COND	Conductivity	7/6/2022 8:06	2904.33	uS/cm
APCO-GS-CCB-MW-13	DO	DO	7/6/2022 8:06	0.55	mg/L
APCO-GS-CCB-MW-13	DTW	Depth to Water Detail	7/6/2022 8:06	95.34	ft
APCO-GS-CCB-MW-13	ORP	Oxidation Reduction Potention	7/6/2022 8:06	205	mv
APCO-GS-CCB-MW-13	PH	pH	7/6/2022 8:06	6.53	SU
APCO-GS-CCB-MW-13	TEMP	Temperature	7/6/2022 8:06	21.43	C
APCO-GS-CCB-MW-13	TURB	Turbidity	7/6/2022 8:06	1.83	NTU
APCO-GS-CCB-MW-13	COND	Conductivity	7/6/2022 8:11	2908.19	uS/cm
APCO-GS-CCB-MW-13	DO	DO	7/6/2022 8:11	0.54	mg/L
APCO-GS-CCB-MW-13	DTW	Depth to Water Detail	7/6/2022 8:11	95.4	ft
APCO-GS-CCB-MW-13	ORP	Oxidation Reduction Potention	7/6/2022 8:11	181.51	mv
APCO-GS-CCB-MW-13	PH	pH	7/6/2022 8:11	6.54	SU
APCO-GS-CCB-MW-13	SULFIDE	Sulfide	7/6/2022 8:11	0	mg/L
APCO-GS-CCB-MW-13	TEMP	Temperature	7/6/2022 8:11	21.44	C
APCO-GS-CCB-MW-13	TURB	Turbidity	7/6/2022 8:11	1.95	NTU

**Field Parameters Summary
Plant Gorgas Landfills**

WELL ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
APCO-GS-CCB-MW-14	COND	Conductivity	7/6/2022 8:59	3585.21	uS/cm
APCO-GS-CCB-MW-14	DO	DO	7/6/2022 8:59	0.27	mg/L
APCO-GS-CCB-MW-14	DTW	Depth to Water Detail	7/6/2022 8:59	89.42	ft
APCO-GS-CCB-MW-14	ORP	Oxidation Reduction Potention	7/6/2022 8:59	76.46	mv
APCO-GS-CCB-MW-14	PH	pH	7/6/2022 8:59	6.42	SU
APCO-GS-CCB-MW-14	TEMP	Temperature	7/6/2022 8:59	20.41	C
APCO-GS-CCB-MW-14	TURB	Turbidity	7/6/2022 8:59	11.76	NTU
APCO-GS-CCB-MW-14	COND	Conductivity	7/6/2022 9:04	3683.7	uS/cm
APCO-GS-CCB-MW-14	DO	DO	7/6/2022 9:04	0.21	mg/L
APCO-GS-CCB-MW-14	DTW	Depth to Water Detail	7/6/2022 9:04	89.42	ft
APCO-GS-CCB-MW-14	ORP	Oxidation Reduction Potention	7/6/2022 9:04	62.04	mv
APCO-GS-CCB-MW-14	PH	pH	7/6/2022 9:04	6.43	SU
APCO-GS-CCB-MW-14	TEMP	Temperature	7/6/2022 9:04	20.23	C
APCO-GS-CCB-MW-14	TURB	Turbidity	7/6/2022 9:04	4.96	NTU
APCO-GS-CCB-MW-14	COND	Conductivity	7/6/2022 9:09	3657.35	uS/cm
APCO-GS-CCB-MW-14	DO	DO	7/6/2022 9:09	0.19	mg/L
APCO-GS-CCB-MW-14	DTW	Depth to Water Detail	7/6/2022 9:09	89.42	ft
APCO-GS-CCB-MW-14	ORP	Oxidation Reduction Potention	7/6/2022 9:09	55.2	mv
APCO-GS-CCB-MW-14	PH	pH	7/6/2022 9:09	6.43	SU
APCO-GS-CCB-MW-14	TEMP	Temperature	7/6/2022 9:09	20.23	C
APCO-GS-CCB-MW-14	TURB	Turbidity	7/6/2022 9:09	3.8	NTU
APCO-GS-CCB-MW-14	COND	Conductivity	7/6/2022 9:14	3654.57	uS/cm
APCO-GS-CCB-MW-14	DO	DO	7/6/2022 9:14	0.2	mg/L
APCO-GS-CCB-MW-14	DTW	Depth to Water Detail	7/6/2022 9:14	89.42	ft
APCO-GS-CCB-MW-14	ORP	Oxidation Reduction Potention	7/6/2022 9:14	52.08	mv
APCO-GS-CCB-MW-14	PH	pH	7/6/2022 9:14	6.43	SU
APCO-GS-CCB-MW-14	SULFIDE	Sulfide	7/6/2022 9:14	0	mg/L
APCO-GS-CCB-MW-14	TEMP	Temperature	7/6/2022 9:14	20.21	C
APCO-GS-CCB-MW-14	TURB	Turbidity	7/6/2022 9:14	4.03	NTU

**Field Parameters Summary
Plant Gorgas Landfills**

WELL ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
APCO-GS-CCB-MW-15	COND	Conductivity	7/6/2022 10:09	3031.28	uS/cm
APCO-GS-CCB-MW-15	DO	DO	7/6/2022 10:09	0.62	mg/L
APCO-GS-CCB-MW-15	DTW	Depth to Water Detail	7/6/2022 10:09	68.38	ft
APCO-GS-CCB-MW-15	ORP	Oxidation Reduction Potention	7/6/2022 10:09	49.15	mv
APCO-GS-CCB-MW-15	PH	pH	7/6/2022 10:09	6.09	SU
APCO-GS-CCB-MW-15	TEMP	Temperature	7/6/2022 10:09	20.53	C
APCO-GS-CCB-MW-15	TURB	Turbidity	7/6/2022 10:09	17.6	NTU
APCO-GS-CCB-MW-15	COND	Conductivity	7/6/2022 10:14	3036.16	uS/cm
APCO-GS-CCB-MW-15	DO	DO	7/6/2022 10:14	0.86	mg/L
APCO-GS-CCB-MW-15	DTW	Depth to Water Detail	7/6/2022 10:14	68.38	ft
APCO-GS-CCB-MW-15	ORP	Oxidation Reduction Potention	7/6/2022 10:14	54.41	mv
APCO-GS-CCB-MW-15	PH	pH	7/6/2022 10:14	6.07	SU
APCO-GS-CCB-MW-15	TEMP	Temperature	7/6/2022 10:14	20.5	C
APCO-GS-CCB-MW-15	TURB	Turbidity	7/6/2022 10:14	10.17	NTU
APCO-GS-CCB-MW-15	COND	Conductivity	7/6/2022 10:19	3052.32	uS/cm
APCO-GS-CCB-MW-15	DO	DO	7/6/2022 10:19	0.51	mg/L
APCO-GS-CCB-MW-15	DTW	Depth to Water Detail	7/6/2022 10:19	68.38	ft
APCO-GS-CCB-MW-15	ORP	Oxidation Reduction Potention	7/6/2022 10:19	48.5	mv
APCO-GS-CCB-MW-15	PH	pH	7/6/2022 10:19	6.09	SU
APCO-GS-CCB-MW-15	TEMP	Temperature	7/6/2022 10:19	20.48	C
APCO-GS-CCB-MW-15	TURB	Turbidity	7/6/2022 10:19	5.98	NTU
APCO-GS-CCB-MW-15	COND	Conductivity	7/6/2022 10:24	3005.49	uS/cm
APCO-GS-CCB-MW-15	DO	DO	7/6/2022 10:24	0.33	mg/L
APCO-GS-CCB-MW-15	DTW	Depth to Water Detail	7/6/2022 10:24	68.38	ft
APCO-GS-CCB-MW-15	ORP	Oxidation Reduction Potention	7/6/2022 10:24	44.52	mv
APCO-GS-CCB-MW-15	PH	pH	7/6/2022 10:24	6.09	SU
APCO-GS-CCB-MW-15	SULFIDE	Sulfide	7/6/2022 10:24	0	mg/L
APCO-GS-CCB-MW-15	TEMP	Temperature	7/6/2022 10:24	20.51	C
APCO-GS-CCB-MW-15	TURB	Turbidity	7/6/2022 10:24	4.73	NTU

**Field Parameters Summary
Plant Gorgas Landfills**

WELL ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
APCO-GS-CCB-MW-16	COND	Conductivity	7/6/2022 11:22	3356.24	uS/cm
APCO-GS-CCB-MW-16	DO	DO	7/6/2022 11:22	0.31	mg/L
APCO-GS-CCB-MW-16	DTW	Depth to Water Detail	7/6/2022 11:22	91.36	ft
APCO-GS-CCB-MW-16	ORP	Oxidation Reduction Potention	7/6/2022 11:22	2	mv
APCO-GS-CCB-MW-16	PH	pH	7/6/2022 11:22	6.55	SU
APCO-GS-CCB-MW-16	TEMP	Temperature	7/6/2022 11:22	20.67	C
APCO-GS-CCB-MW-16	TURB	Turbidity	7/6/2022 11:22	1.49	NTU
APCO-GS-CCB-MW-16	COND	Conductivity	7/6/2022 11:27	3305.86	uS/cm
APCO-GS-CCB-MW-16	DO	DO	7/6/2022 11:27	0.22	mg/L
APCO-GS-CCB-MW-16	DTW	Depth to Water Detail	7/6/2022 11:27	91.36	ft
APCO-GS-CCB-MW-16	ORP	Oxidation Reduction Potention	7/6/2022 11:27	14.66	mv
APCO-GS-CCB-MW-16	PH	pH	7/6/2022 11:27	6.52	SU
APCO-GS-CCB-MW-16	TEMP	Temperature	7/6/2022 11:27	20.65	C
APCO-GS-CCB-MW-16	TURB	Turbidity	7/6/2022 11:27	1.47	NTU
APCO-GS-CCB-MW-16	COND	Conductivity	7/6/2022 11:32	3268.22	uS/cm
APCO-GS-CCB-MW-16	DO	DO	7/6/2022 11:32	0.2	mg/L
APCO-GS-CCB-MW-16	DTW	Depth to Water Detail	7/6/2022 11:32	91.36	ft
APCO-GS-CCB-MW-16	ORP	Oxidation Reduction Potention	7/6/2022 11:32	15.21	mv
APCO-GS-CCB-MW-16	PH	pH	7/6/2022 11:32	6.52	SU
APCO-GS-CCB-MW-16	TEMP	Temperature	7/6/2022 11:32	20.72	C
APCO-GS-CCB-MW-16	TURB	Turbidity	7/6/2022 11:32	1.32	NTU
APCO-GS-CCB-MW-16	COND	Conductivity	7/6/2022 11:37	3268.54	uS/cm
APCO-GS-CCB-MW-16	DO	DO	7/6/2022 11:37	0.18	mg/L
APCO-GS-CCB-MW-16	DTW	Depth to Water Detail	7/6/2022 11:37	91.36	ft
APCO-GS-CCB-MW-16	ORP	Oxidation Reduction Potention	7/6/2022 11:37	15.32	mv
APCO-GS-CCB-MW-16	PH	pH	7/6/2022 11:37	6.51	SU
APCO-GS-CCB-MW-16	SULFIDE	Sulfide	7/6/2022 11:37	0	mg/L
APCO-GS-CCB-MW-16	TEMP	Temperature	7/6/2022 11:37	20.7	C
APCO-GS-CCB-MW-16	TURB	Turbidity	7/6/2022 11:37	1.25	NTU

**Field Parameters Summary
Plant Gorgas Landfills**

WELL ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
APCO-GS-CCB-MW-17R	COND	Conductivity	7/6/2022 12:50	4173.17	uS/cm
APCO-GS-CCB-MW-17R	DO	DO	7/6/2022 12:50	0.69	mg/L
APCO-GS-CCB-MW-17R	DTW	Depth to Water Detail	7/6/2022 12:50	126.6	ft
APCO-GS-CCB-MW-17R	ORP	Oxidation Reduction Potention	7/6/2022 12:50	74.28	mv
APCO-GS-CCB-MW-17R	PH	pH	7/6/2022 12:50	5.58	SU
APCO-GS-CCB-MW-17R	TEMP	Temperature	7/6/2022 12:50	23.84	C
APCO-GS-CCB-MW-17R	TURB	Turbidity	7/6/2022 12:50	1.66	NTU
APCO-GS-CCB-MW-17R	COND	Conductivity	7/6/2022 12:55	4627.57	uS/cm
APCO-GS-CCB-MW-17R	DO	DO	7/6/2022 12:55	0.43	mg/L
APCO-GS-CCB-MW-17R	DTW	Depth to Water Detail	7/6/2022 12:55	126.6	ft
APCO-GS-CCB-MW-17R	ORP	Oxidation Reduction Potention	7/6/2022 12:55	65.4	mv
APCO-GS-CCB-MW-17R	PH	pH	7/6/2022 12:55	5.66	SU
APCO-GS-CCB-MW-17R	TEMP	Temperature	7/6/2022 12:55	23.57	C
APCO-GS-CCB-MW-17R	TURB	Turbidity	7/6/2022 12:55	1.74	NTU
APCO-GS-CCB-MW-17R	COND	Conductivity	7/6/2022 13:00	4540.73	uS/cm
APCO-GS-CCB-MW-17R	DO	DO	7/6/2022 13:00	0.37	mg/L
APCO-GS-CCB-MW-17R	DTW	Depth to Water Detail	7/6/2022 13:00	126.6	ft
APCO-GS-CCB-MW-17R	ORP	Oxidation Reduction Potention	7/6/2022 13:00	52.68	mv
APCO-GS-CCB-MW-17R	PH	pH	7/6/2022 13:00	5.8	SU
APCO-GS-CCB-MW-17R	TEMP	Temperature	7/6/2022 13:00	23.27	C
APCO-GS-CCB-MW-17R	TURB	Turbidity	7/6/2022 13:00	1.53	NTU
APCO-GS-CCB-MW-17R	COND	Conductivity	7/6/2022 13:05	4494.66	uS/cm
APCO-GS-CCB-MW-17R	DO	DO	7/6/2022 13:05	0.35	mg/L
APCO-GS-CCB-MW-17R	DTW	Depth to Water Detail	7/6/2022 13:05	126.6	ft
APCO-GS-CCB-MW-17R	ORP	Oxidation Reduction Potention	7/6/2022 13:05	45.37	mv
APCO-GS-CCB-MW-17R	PH	pH	7/6/2022 13:05	5.88	SU
APCO-GS-CCB-MW-17R	TEMP	Temperature	7/6/2022 13:05	23.51	C
APCO-GS-CCB-MW-17R	TURB	Turbidity	7/6/2022 13:05	1.49	NTU
APCO-GS-CCB-MW-17R	COND	Conductivity	7/6/2022 13:10	4461.72	uS/cm
APCO-GS-CCB-MW-17R	DO	DO	7/6/2022 13:10	0.34	mg/L
APCO-GS-CCB-MW-17R	DTW	Depth to Water Detail	7/6/2022 13:10	126.6	ft
APCO-GS-CCB-MW-17R	ORP	Oxidation Reduction Potention	7/6/2022 13:10	42.09	mv
APCO-GS-CCB-MW-17R	PH	pH	7/6/2022 13:10	5.93	SU
APCO-GS-CCB-MW-17R	SULFIDE	Sulfide	7/6/2022 13:10	0	mg/L
APCO-GS-CCB-MW-17R	TEMP	Temperature	7/6/2022 13:10	23.36	C
APCO-GS-CCB-MW-17R	TURB	Turbidity	7/6/2022 13:10	1.47	NTU

**Field Parameters Summary
Plant Gorgas Landfills**

WELL ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
APCO-GS-CCB-MW-18	COND	Conductivity	7/6/2022 14:17	3152.96	uS/cm
APCO-GS-CCB-MW-18	DO	DO	7/6/2022 14:17	4.08	mg/L
APCO-GS-CCB-MW-18	DTW	Depth to Water Detail	7/6/2022 14:17	111.56	ft
APCO-GS-CCB-MW-18	ORP	Oxidation Reduction Potention	7/6/2022 14:17	97.94	mv
APCO-GS-CCB-MW-18	PH	pH	7/6/2022 14:17	6.63	SU
APCO-GS-CCB-MW-18	TEMP	Temperature	7/6/2022 14:17	23.87	C
APCO-GS-CCB-MW-18	TURB	Turbidity	7/6/2022 14:17	1.14	NTU
APCO-GS-CCB-MW-18	COND	Conductivity	7/6/2022 14:22	3513.16	uS/cm
APCO-GS-CCB-MW-18	DO	DO	7/6/2022 14:22	3.56	mg/L
APCO-GS-CCB-MW-18	DTW	Depth to Water Detail	7/6/2022 14:22	111.56	ft
APCO-GS-CCB-MW-18	ORP	Oxidation Reduction Potention	7/6/2022 14:22	119.28	mv
APCO-GS-CCB-MW-18	PH	pH	7/6/2022 14:22	6.61	SU
APCO-GS-CCB-MW-18	TEMP	Temperature	7/6/2022 14:22	23.67	C
APCO-GS-CCB-MW-18	TURB	Turbidity	7/6/2022 14:22	1.1	NTU
APCO-GS-CCB-MW-18	COND	Conductivity	7/6/2022 14:27	3428.81	uS/cm
APCO-GS-CCB-MW-18	DO	DO	7/6/2022 14:27	3.48	mg/L
APCO-GS-CCB-MW-18	DTW	Depth to Water Detail	7/6/2022 14:27	111.56	ft
APCO-GS-CCB-MW-18	ORP	Oxidation Reduction Potention	7/6/2022 14:27	130.92	mv
APCO-GS-CCB-MW-18	PH	pH	7/6/2022 14:27	6.62	SU
APCO-GS-CCB-MW-18	TEMP	Temperature	7/6/2022 14:27	23.05	C
APCO-GS-CCB-MW-18	TURB	Turbidity	7/6/2022 14:27	1.03	NTU
APCO-GS-CCB-MW-18	COND	Conductivity	7/6/2022 14:32	3392.3	uS/cm
APCO-GS-CCB-MW-18	DO	DO	7/6/2022 14:32	3.44	mg/L
APCO-GS-CCB-MW-18	DTW	Depth to Water Detail	7/6/2022 14:32	111.56	ft
APCO-GS-CCB-MW-18	ORP	Oxidation Reduction Potention	7/6/2022 14:32	138.87	mv
APCO-GS-CCB-MW-18	PH	pH	7/6/2022 14:32	6.62	SU
APCO-GS-CCB-MW-18	SULFIDE	Sulfide	7/6/2022 14:32	0	mg/L
APCO-GS-CCB-MW-18	TEMP	Temperature	7/6/2022 14:32	22.86	C
APCO-GS-CCB-MW-18	TURB	Turbidity	7/6/2022 14:32	0.97	NTU

**Field Parameters Summary
Plant Gorgas Landfills**

WELL ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
APCO-GS-CCB-MW-19	COND	Conductivity	7/6/2022 15:18	3777.27	uS/cm
APCO-GS-CCB-MW-19	DO	DO	7/6/2022 15:18	0.39	mg/L
APCO-GS-CCB-MW-19	DTW	Depth to Water Detail	7/6/2022 15:18	79.68	ft
APCO-GS-CCB-MW-19	ORP	Oxidation Reduction Potention	7/6/2022 15:18	49.81	mv
APCO-GS-CCB-MW-19	PH	pH	7/6/2022 15:18	6.35	SU
APCO-GS-CCB-MW-19	TEMP	Temperature	7/6/2022 15:18	21.24	C
APCO-GS-CCB-MW-19	TURB	Turbidity	7/6/2022 15:18	20.6	NTU
APCO-GS-CCB-MW-19	COND	Conductivity	7/6/2022 15:23	3798.57	uS/cm
APCO-GS-CCB-MW-19	DO	DO	7/6/2022 15:23	0.38	mg/L
APCO-GS-CCB-MW-19	DTW	Depth to Water Detail	7/6/2022 15:23	79.68	ft
APCO-GS-CCB-MW-19	ORP	Oxidation Reduction Potention	7/6/2022 15:23	46.2	mv
APCO-GS-CCB-MW-19	PH	pH	7/6/2022 15:23	6.35	SU
APCO-GS-CCB-MW-19	TEMP	Temperature	7/6/2022 15:23	21.24	C
APCO-GS-CCB-MW-19	TURB	Turbidity	7/6/2022 15:23	11.15	NTU
APCO-GS-CCB-MW-19	COND	Conductivity	7/6/2022 15:28	3738	uS/cm
APCO-GS-CCB-MW-19	DO	DO	7/6/2022 15:28	0.36	mg/L
APCO-GS-CCB-MW-19	DTW	Depth to Water Detail	7/6/2022 15:28	79.68	ft
APCO-GS-CCB-MW-19	ORP	Oxidation Reduction Potention	7/6/2022 15:28	45.21	mv
APCO-GS-CCB-MW-19	PH	pH	7/6/2022 15:28	6.35	SU
APCO-GS-CCB-MW-19	TEMP	Temperature	7/6/2022 15:28	21.32	C
APCO-GS-CCB-MW-19	TURB	Turbidity	7/6/2022 15:28	4.96	NTU
APCO-GS-CCB-MW-19	COND	Conductivity	7/6/2022 15:33	3703.52	uS/cm
APCO-GS-CCB-MW-19	DO	DO	7/6/2022 15:33	0.37	mg/L
APCO-GS-CCB-MW-19	DTW	Depth to Water Detail	7/6/2022 15:33	79.68	ft
APCO-GS-CCB-MW-19	ORP	Oxidation Reduction Potention	7/6/2022 15:33	45.48	mv
APCO-GS-CCB-MW-19	PH	pH	7/6/2022 15:33	6.34	SU
APCO-GS-CCB-MW-19	SULFIDE	Sulfide	7/6/2022 15:33	0	mg/L
APCO-GS-CCB-MW-19	TEMP	Temperature	7/6/2022 15:33	21.18	C
APCO-GS-CCB-MW-19	TURB	Turbidity	7/6/2022 15:33	3.66	NTU

**Field Parameters Summary
Plant Gorgas Landfills**

WELL ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
APCO-GS-CCB-MW-5	COND	Conductivity	7/6/2022 9:24	3502.14	uS/cm
APCO-GS-CCB-MW-5	DO	DO	7/6/2022 9:24	2.68	mg/L
APCO-GS-CCB-MW-5	DTW	Depth to Water Detail	7/6/2022 9:24	126.03	ft
APCO-GS-CCB-MW-5	ORP	Oxidation Reduction Potention	7/6/2022 9:24	16.09	mv
APCO-GS-CCB-MW-5	PH	pH	7/6/2022 9:24	6.57	SU
APCO-GS-CCB-MW-5	TEMP	Temperature	7/6/2022 9:24	23.67	C
APCO-GS-CCB-MW-5	TURB	Turbidity	7/6/2022 9:24	9.92	NTU
APCO-GS-CCB-MW-5	COND	Conductivity	7/6/2022 9:29	3483.29	uS/cm
APCO-GS-CCB-MW-5	DO	DO	7/6/2022 9:29	1.33	mg/L
APCO-GS-CCB-MW-5	DTW	Depth to Water Detail	7/6/2022 9:29	126.04	ft
APCO-GS-CCB-MW-5	ORP	Oxidation Reduction Potention	7/6/2022 9:29	6.72	mv
APCO-GS-CCB-MW-5	PH	pH	7/6/2022 9:29	6.5	SU
APCO-GS-CCB-MW-5	TEMP	Temperature	7/6/2022 9:29	23.57	C
APCO-GS-CCB-MW-5	TURB	Turbidity	7/6/2022 9:29	5.84	NTU
APCO-GS-CCB-MW-5	COND	Conductivity	7/6/2022 9:34	3497.38	uS/cm
APCO-GS-CCB-MW-5	DO	DO	7/6/2022 9:34	1	mg/L
APCO-GS-CCB-MW-5	DTW	Depth to Water Detail	7/6/2022 9:34	126.11	ft
APCO-GS-CCB-MW-5	ORP	Oxidation Reduction Potention	7/6/2022 9:34	0.07	mv
APCO-GS-CCB-MW-5	PH	pH	7/6/2022 9:34	6.5	SU
APCO-GS-CCB-MW-5	TEMP	Temperature	7/6/2022 9:34	23.41	C
APCO-GS-CCB-MW-5	TURB	Turbidity	7/6/2022 9:34	3.96	NTU
APCO-GS-CCB-MW-5	COND	Conductivity	7/6/2022 9:39	3511.86	uS/cm
APCO-GS-CCB-MW-5	DO	DO	7/6/2022 9:39	0.91	mg/L
APCO-GS-CCB-MW-5	DTW	Depth to Water Detail	7/6/2022 9:39	126.14	ft
APCO-GS-CCB-MW-5	ORP	Oxidation Reduction Potention	7/6/2022 9:39	-0.32	mv
APCO-GS-CCB-MW-5	PH	pH	7/6/2022 9:39	6.5	SU
APCO-GS-CCB-MW-5	TEMP	Temperature	7/6/2022 9:39	23.47	C
APCO-GS-CCB-MW-5	TURB	Turbidity	7/6/2022 9:39	2.19	NTU
APCO-GS-CCB-MW-5	COND	Conductivity	7/6/2022 9:44	3505.71	uS/cm
APCO-GS-CCB-MW-5	DO	DO	7/6/2022 9:44	0.83	mg/L
APCO-GS-CCB-MW-5	DTW	Depth to Water Detail	7/6/2022 9:44	126.15	ft
APCO-GS-CCB-MW-5	ORP	Oxidation Reduction Potention	7/6/2022 9:44	1.29	mv
APCO-GS-CCB-MW-5	PH	pH	7/6/2022 9:44	6.51	SU
APCO-GS-CCB-MW-5	SULFIDE	Sulfide	7/6/2022 9:44	0	mg/L
APCO-GS-CCB-MW-5	TEMP	Temperature	7/6/2022 9:44	23.5	C
APCO-GS-CCB-MW-5	TURB	Turbidity	7/6/2022 9:44	1.45	NTU

**Field Parameters Summary
Plant Gorgas Landfills**

WELL ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
APCO-GS-CCB-MW-6	COND	Conductivity	7/6/2022 11:40	3036.93	uS/cm
APCO-GS-CCB-MW-6	DO	DO	7/6/2022 11:40	2.94	mg/L
APCO-GS-CCB-MW-6	DTW	Depth to Water Detail	7/6/2022 11:40	102.71	ft
APCO-GS-CCB-MW-6	ORP	Oxidation Reduction Potention	7/6/2022 11:40	32.93	mv
APCO-GS-CCB-MW-6	PH	pH	7/6/2022 11:40	6.1	SU
APCO-GS-CCB-MW-6	TEMP	Temperature	7/6/2022 11:40	24.15	C
APCO-GS-CCB-MW-6	TURB	Turbidity	7/6/2022 11:40	78.2	NTU
APCO-GS-CCB-MW-6	COND	Conductivity	7/6/2022 11:45	3053.93	uS/cm
APCO-GS-CCB-MW-6	DO	DO	7/6/2022 11:45	2.4	mg/L
APCO-GS-CCB-MW-6	DTW	Depth to Water Detail	7/6/2022 11:45	102.76	ft
APCO-GS-CCB-MW-6	ORP	Oxidation Reduction Potention	7/6/2022 11:45	30.81	mv
APCO-GS-CCB-MW-6	PH	pH	7/6/2022 11:45	6.11	SU
APCO-GS-CCB-MW-6	TEMP	Temperature	7/6/2022 11:45	23.55	C
APCO-GS-CCB-MW-6	TURB	Turbidity	7/6/2022 11:45	73.8	NTU
APCO-GS-CCB-MW-6	COND	Conductivity	7/6/2022 11:50	3065.93	uS/cm
APCO-GS-CCB-MW-6	DO	DO	7/6/2022 11:50	1.96	mg/L
APCO-GS-CCB-MW-6	DTW	Depth to Water Detail	7/6/2022 11:50	102.79	ft
APCO-GS-CCB-MW-6	ORP	Oxidation Reduction Potention	7/6/2022 11:50	28.96	mv
APCO-GS-CCB-MW-6	PH	pH	7/6/2022 11:50	6.12	SU
APCO-GS-CCB-MW-6	TEMP	Temperature	7/6/2022 11:50	23.63	C
APCO-GS-CCB-MW-6	TURB	Turbidity	7/6/2022 11:50	94.4	NTU
APCO-GS-CCB-MW-6	COND	Conductivity	7/6/2022 11:55	3058.1	uS/cm
APCO-GS-CCB-MW-6	DO	DO	7/6/2022 11:55	0.65	mg/L
APCO-GS-CCB-MW-6	DTW	Depth to Water Detail	7/6/2022 11:55	102.8	ft
APCO-GS-CCB-MW-6	ORP	Oxidation Reduction Potention	7/6/2022 11:55	24.6	mv
APCO-GS-CCB-MW-6	PH	pH	7/6/2022 11:55	6.13	SU
APCO-GS-CCB-MW-6	TEMP	Temperature	7/6/2022 11:55	23.65	C
APCO-GS-CCB-MW-6	TURB	Turbidity	7/6/2022 11:55	91.8	NTU
APCO-GS-CCB-MW-6	COND	Conductivity	7/6/2022 12:00	3104.27	uS/cm
APCO-GS-CCB-MW-6	DO	DO	7/6/2022 12:00	0.81	mg/L
APCO-GS-CCB-MW-6	DTW	Depth to Water Detail	7/6/2022 12:00	102.8	ft
APCO-GS-CCB-MW-6	ORP	Oxidation Reduction Potention	7/6/2022 12:00	24.42	mv
APCO-GS-CCB-MW-6	PH	pH	7/6/2022 12:00	6.1	SU
APCO-GS-CCB-MW-6	TEMP	Temperature	7/6/2022 12:00	23.39	C
APCO-GS-CCB-MW-6	TURB	Turbidity	7/6/2022 12:00	65	NTU
APCO-GS-CCB-MW-6	COND	Conductivity	7/6/2022 12:05	3100.05	uS/cm
APCO-GS-CCB-MW-6	DO	DO	7/6/2022 12:05	0.36	mg/L
APCO-GS-CCB-MW-6	DTW	Depth to Water Detail	7/6/2022 12:05	102.8	ft
APCO-GS-CCB-MW-6	ORP	Oxidation Reduction Potention	7/6/2022 12:05	23.92	mv
APCO-GS-CCB-MW-6	PH	pH	7/6/2022 12:05	6.09	SU
APCO-GS-CCB-MW-6	TEMP	Temperature	7/6/2022 12:05	22.75	C
APCO-GS-CCB-MW-6	TURB	Turbidity	7/6/2022 12:05	79.4	NTU
APCO-GS-CCB-MW-6	COND	Conductivity	7/6/2022 12:10	3114.82	uS/cm
APCO-GS-CCB-MW-6	DO	DO	7/6/2022 12:10	0.34	mg/L
APCO-GS-CCB-MW-6	DTW	Depth to Water Detail	7/6/2022 12:10	102.8	ft
APCO-GS-CCB-MW-6	ORP	Oxidation Reduction Potention	7/6/2022 12:10	23.27	mv
APCO-GS-CCB-MW-6	PH	pH	7/6/2022 12:10	6.08	SU
APCO-GS-CCB-MW-6	TEMP	Temperature	7/6/2022 12:10	22.76	C
APCO-GS-CCB-MW-6	TURB	Turbidity	7/6/2022 12:10	43.4	NTU
APCO-GS-CCB-MW-6	COND	Conductivity	7/6/2022 12:15	3106.71	uS/cm
APCO-GS-CCB-MW-6	DO	DO	7/6/2022 12:15	0.32	mg/L
APCO-GS-CCB-MW-6	DTW	Depth to Water Detail	7/6/2022 12:15	102.8	ft
APCO-GS-CCB-MW-6	ORP	Oxidation Reduction Potention	7/6/2022 12:15	21.56	mv
APCO-GS-CCB-MW-6	PH	pH	7/6/2022 12:15	6.09	SU
APCO-GS-CCB-MW-6	TEMP	Temperature	7/6/2022 12:15	23.01	C
APCO-GS-CCB-MW-6	TURB	Turbidity	7/6/2022 12:15	50.9	NTU
APCO-GS-CCB-MW-6	COND	Conductivity	7/6/2022 12:20	3106.24	uS/cm

**Field Parameters Summary
Plant Gorgas Landfills**

WELL ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
APCO-GS-CCB-MW-6	DO	DO	7/6/2022 12:20	0.3	mg/L
APCO-GS-CCB-MW-6	DTW	Depth to Water Detail	7/6/2022 12:20	102.8	ft
APCO-GS-CCB-MW-6	ORP	Oxidation Reduction Potention	7/6/2022 12:20	20.03	mv
APCO-GS-CCB-MW-6	PH	pH	7/6/2022 12:20	6.11	SU
APCO-GS-CCB-MW-6	TEMP	Temperature	7/6/2022 12:20	22.91	C
APCO-GS-CCB-MW-6	TURB	Turbidity	7/6/2022 12:20	29.1	NTU
APCO-GS-CCB-MW-6	COND	Conductivity	7/6/2022 12:25	3106.05	uS/cm
APCO-GS-CCB-MW-6	DO	DO	7/6/2022 12:25	0.32	mg/L
APCO-GS-CCB-MW-6	DTW	Depth to Water Detail	7/6/2022 12:25	102.8	ft
APCO-GS-CCB-MW-6	ORP	Oxidation Reduction Potention	7/6/2022 12:25	19.27	mv
APCO-GS-CCB-MW-6	PH	pH	7/6/2022 12:25	6.11	SU
APCO-GS-CCB-MW-6	TEMP	Temperature	7/6/2022 12:25	23.27	C
APCO-GS-CCB-MW-6	TURB	Turbidity	7/6/2022 12:25	19.7	NTU
APCO-GS-CCB-MW-6	COND	Conductivity	7/6/2022 12:30	3105.57	uS/cm
APCO-GS-CCB-MW-6	DO	DO	7/6/2022 12:30	0.33	mg/L
APCO-GS-CCB-MW-6	DTW	Depth to Water Detail	7/6/2022 12:30	102.8	ft
APCO-GS-CCB-MW-6	ORP	Oxidation Reduction Potention	7/6/2022 12:30	18.52	mv
APCO-GS-CCB-MW-6	PH	pH	7/6/2022 12:30	6.12	SU
APCO-GS-CCB-MW-6	TEMP	Temperature	7/6/2022 12:30	23.02	C
APCO-GS-CCB-MW-6	TURB	Turbidity	7/6/2022 12:30	17.4	NTU
APCO-GS-CCB-MW-6	COND	Conductivity	7/6/2022 12:35	3117.69	uS/cm
APCO-GS-CCB-MW-6	DO	DO	7/6/2022 12:35	0.38	mg/L
APCO-GS-CCB-MW-6	DTW	Depth to Water Detail	7/6/2022 12:35	102.8	ft
APCO-GS-CCB-MW-6	ORP	Oxidation Reduction Potention	7/6/2022 12:35	18.06	mv
APCO-GS-CCB-MW-6	PH	pH	7/6/2022 12:35	6.12	SU
APCO-GS-CCB-MW-6	TEMP	Temperature	7/6/2022 12:35	23.03	C
APCO-GS-CCB-MW-6	TURB	Turbidity	7/6/2022 12:35	14.6	NTU
APCO-GS-CCB-MW-6	COND	Conductivity	7/6/2022 12:40	3111.34	uS/cm
APCO-GS-CCB-MW-6	DO	DO	7/6/2022 12:40	0.38	mg/L
APCO-GS-CCB-MW-6	DTW	Depth to Water Detail	7/6/2022 12:40	102.8	ft
APCO-GS-CCB-MW-6	ORP	Oxidation Reduction Potention	7/6/2022 12:40	17.28	mv
APCO-GS-CCB-MW-6	PH	pH	7/6/2022 12:40	6.13	SU
APCO-GS-CCB-MW-6	TEMP	Temperature	7/6/2022 12:40	23.06	C
APCO-GS-CCB-MW-6	TURB	Turbidity	7/6/2022 12:40	11.8	NTU
APCO-GS-CCB-MW-6	COND	Conductivity	7/6/2022 12:45	3108.71	uS/cm
APCO-GS-CCB-MW-6	DO	DO	7/6/2022 12:45	0.46	mg/L
APCO-GS-CCB-MW-6	DTW	Depth to Water Detail	7/6/2022 12:45	102.8	ft
APCO-GS-CCB-MW-6	ORP	Oxidation Reduction Potention	7/6/2022 12:45	17.6	mv
APCO-GS-CCB-MW-6	PH	pH	7/6/2022 12:45	6.14	SU
APCO-GS-CCB-MW-6	SULFIDE	Sulfide	7/6/2022 12:45	0	mg/L
APCO-GS-CCB-MW-6	TEMP	Temperature	7/6/2022 12:45	22.61	C
APCO-GS-CCB-MW-6	TURB	Turbidity	7/6/2022 12:45	9.9	NTU

**Field Parameters Summary
Plant Gorgas Landfills**

WELL ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
APCO-GS-CCB-MW-7	COND	Conductivity	7/6/2022 13:27	2602.82	uS/cm
APCO-GS-CCB-MW-7	DO	DO	7/6/2022 13:27	0.87	mg/L
APCO-GS-CCB-MW-7	DTW	Depth to Water Detail	7/6/2022 13:27	60.52	ft
APCO-GS-CCB-MW-7	ORP	Oxidation Reduction Potention	7/6/2022 13:27	4.92	mv
APCO-GS-CCB-MW-7	PH	pH	7/6/2022 13:27	6.49	SU
APCO-GS-CCB-MW-7	TEMP	Temperature	7/6/2022 13:27	21.31	C
APCO-GS-CCB-MW-7	TURB	Turbidity	7/6/2022 13:27	3.1	NTU
APCO-GS-CCB-MW-7	COND	Conductivity	7/6/2022 13:32	2535.55	uS/cm
APCO-GS-CCB-MW-7	DO	DO	7/6/2022 13:32	0.79	mg/L
APCO-GS-CCB-MW-7	DTW	Depth to Water Detail	7/6/2022 13:32	60.52	ft
APCO-GS-CCB-MW-7	ORP	Oxidation Reduction Potention	7/6/2022 13:32	7.89	mv
APCO-GS-CCB-MW-7	PH	pH	7/6/2022 13:32	6.45	SU
APCO-GS-CCB-MW-7	TEMP	Temperature	7/6/2022 13:32	21.32	C
APCO-GS-CCB-MW-7	TURB	Turbidity	7/6/2022 13:32	0.48	NTU
APCO-GS-CCB-MW-7	COND	Conductivity	7/6/2022 13:37	2496.93	uS/cm
APCO-GS-CCB-MW-7	DO	DO	7/6/2022 13:37	0.74	mg/L
APCO-GS-CCB-MW-7	DTW	Depth to Water Detail	7/6/2022 13:37	60.52	ft
APCO-GS-CCB-MW-7	ORP	Oxidation Reduction Potention	7/6/2022 13:37	8.06	mv
APCO-GS-CCB-MW-7	PH	pH	7/6/2022 13:37	6.45	SU
APCO-GS-CCB-MW-7	TEMP	Temperature	7/6/2022 13:37	21.42	C
APCO-GS-CCB-MW-7	TURB	Turbidity	7/6/2022 13:37	0.8	NTU
APCO-GS-CCB-MW-7	COND	Conductivity	7/6/2022 13:42	2455.37	uS/cm
APCO-GS-CCB-MW-7	DO	DO	7/6/2022 13:42	0.85	mg/L
APCO-GS-CCB-MW-7	DTW	Depth to Water Detail	7/6/2022 13:42	60.52	ft
APCO-GS-CCB-MW-7	ORP	Oxidation Reduction Potention	7/6/2022 13:42	8.14	mv
APCO-GS-CCB-MW-7	PH	pH	7/6/2022 13:42	6.46	SU
APCO-GS-CCB-MW-7	SULFIDE	Sulfide	7/6/2022 13:42	0	mg/L
APCO-GS-CCB-MW-7	TEMP	Temperature	7/6/2022 13:42	21.45	C
APCO-GS-CCB-MW-7	TURB	Turbidity	7/6/2022 13:42	0.67	NTU

**Field Parameters Summary
Plant Gorgas Landfills**

WELL ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
APCO-GS-CCB-MW-8	COND	Conductivity	7/6/2022 14:44	2600.8	uS/cm
APCO-GS-CCB-MW-8	DO	DO	7/6/2022 14:44	2.85	mg/L
APCO-GS-CCB-MW-8	DTW	Depth to Water Detail	7/6/2022 14:44	65.52	ft
APCO-GS-CCB-MW-8	ORP	Oxidation Reduction Potention	7/6/2022 14:44	2.88	mv
APCO-GS-CCB-MW-8	PH	pH	7/6/2022 14:44	6.77	SU
APCO-GS-CCB-MW-8	TEMP	Temperature	7/6/2022 14:44	29.11	C
APCO-GS-CCB-MW-8	TURB	Turbidity	7/6/2022 14:44	6.06	NTU
APCO-GS-CCB-MW-8	COND	Conductivity	7/6/2022 14:49	2595.98	uS/cm
APCO-GS-CCB-MW-8	DO	DO	7/6/2022 14:49	1.48	mg/L
APCO-GS-CCB-MW-8	DTW	Depth to Water Detail	7/6/2022 14:49	65.86	ft
APCO-GS-CCB-MW-8	ORP	Oxidation Reduction Potention	7/6/2022 14:49	-1.43	mv
APCO-GS-CCB-MW-8	PH	pH	7/6/2022 14:49	6.74	SU
APCO-GS-CCB-MW-8	TEMP	Temperature	7/6/2022 14:49	28.97	C
APCO-GS-CCB-MW-8	TURB	Turbidity	7/6/2022 14:49	7.52	NTU
APCO-GS-CCB-MW-8	COND	Conductivity	7/6/2022 14:54	2597.43	uS/cm
APCO-GS-CCB-MW-8	DO	DO	7/6/2022 14:54	1.16	mg/L
APCO-GS-CCB-MW-8	DTW	Depth to Water Detail	7/6/2022 14:54	66.04	ft
APCO-GS-CCB-MW-8	ORP	Oxidation Reduction Potention	7/6/2022 14:54	-2.09	mv
APCO-GS-CCB-MW-8	PH	pH	7/6/2022 14:54	6.73	SU
APCO-GS-CCB-MW-8	TEMP	Temperature	7/6/2022 14:54	29.06	C
APCO-GS-CCB-MW-8	TURB	Turbidity	7/6/2022 14:54	6.66	NTU
APCO-GS-CCB-MW-8	COND	Conductivity	7/6/2022 14:59	2576.82	uS/cm
APCO-GS-CCB-MW-8	DO	DO	7/6/2022 14:59	1	mg/L
APCO-GS-CCB-MW-8	DTW	Depth to Water Detail	7/6/2022 14:59	66.19	ft
APCO-GS-CCB-MW-8	ORP	Oxidation Reduction Potention	7/6/2022 14:59	-2.43	mv
APCO-GS-CCB-MW-8	PH	pH	7/6/2022 14:59	6.72	SU
APCO-GS-CCB-MW-8	TEMP	Temperature	7/6/2022 14:59	29.45	C
APCO-GS-CCB-MW-8	TURB	Turbidity	7/6/2022 14:59	7.2	NTU
APCO-GS-CCB-MW-8	COND	Conductivity	7/6/2022 15:04	2579.92	uS/cm
APCO-GS-CCB-MW-8	DO	DO	7/6/2022 15:04	0.94	mg/L
APCO-GS-CCB-MW-8	DTW	Depth to Water Detail	7/6/2022 15:04	66.23	ft
APCO-GS-CCB-MW-8	ORP	Oxidation Reduction Potention	7/6/2022 15:04	-3.03	mv
APCO-GS-CCB-MW-8	PH	pH	7/6/2022 15:04	6.72	SU
APCO-GS-CCB-MW-8	TEMP	Temperature	7/6/2022 15:04	29.74	C
APCO-GS-CCB-MW-8	TURB	Turbidity	7/6/2022 15:04	7.93	NTU
APCO-GS-CCB-MW-8	COND	Conductivity	7/6/2022 15:09	2581.62	uS/cm
APCO-GS-CCB-MW-8	DO	DO	7/6/2022 15:09	0.92	mg/L
APCO-GS-CCB-MW-8	DTW	Depth to Water Detail	7/6/2022 15:09	66.28	ft
APCO-GS-CCB-MW-8	ORP	Oxidation Reduction Potention	7/6/2022 15:09	-3.58	mv
APCO-GS-CCB-MW-8	PH	pH	7/6/2022 15:09	6.72	SU
APCO-GS-CCB-MW-8	TEMP	Temperature	7/6/2022 15:09	29.6	C
APCO-GS-CCB-MW-8	TURB	Turbidity	7/6/2022 15:09	6.7	NTU
APCO-GS-CCB-MW-8	COND	Conductivity	7/6/2022 15:14	2581.88	uS/cm
APCO-GS-CCB-MW-8	DO	DO	7/6/2022 15:14	0.87	mg/L
APCO-GS-CCB-MW-8	DTW	Depth to Water Detail	7/6/2022 15:14	66.33	ft
APCO-GS-CCB-MW-8	ORP	Oxidation Reduction Potention	7/6/2022 15:14	-4.79	mv
APCO-GS-CCB-MW-8	PH	pH	7/6/2022 15:14	6.72	SU
APCO-GS-CCB-MW-8	SULFIDE	Sulfide	7/6/2022 15:14	0	mg/L
APCO-GS-CCB-MW-8	TEMP	Temperature	7/6/2022 15:14	29.9	C
APCO-GS-CCB-MW-8	TURB	Turbidity	7/6/2022 15:14	6.9	NTU

**Field Parameters Summary
Plant Gorgas Landfills**

WELL ID	PARAMETER	DESCRIPTION	TIME OF READING	VALUE	UNIT
APCO-GS-CCB-MW-20	COND	Conductivity	7/6/2022 16:38	2639.19	uS/cm
APCO-GS-CCB-MW-20	DO	DO	7/6/2022 16:38	0.66	mg/L
APCO-GS-CCB-MW-20	DTW	Depth to Water Detail	7/6/2022 16:38	21.77	ft
APCO-GS-CCB-MW-20	ORP	Oxidation Reduction Potention	7/6/2022 16:38	-42.17	mv
APCO-GS-CCB-MW-20	PH	pH	7/6/2022 16:38	6.77	SU
APCO-GS-CCB-MW-20	TEMP	Temperature	7/6/2022 16:38	21.49	C
APCO-GS-CCB-MW-20	TURB	Turbidity	7/6/2022 16:38	0.99	NTU
APCO-GS-CCB-MW-20	COND	Conductivity	7/6/2022 16:43	2638.74	uS/cm
APCO-GS-CCB-MW-20	DO	DO	7/6/2022 16:43	0.57	mg/L
APCO-GS-CCB-MW-20	DTW	Depth to Water Detail	7/6/2022 16:43	21.84	ft
APCO-GS-CCB-MW-20	ORP	Oxidation Reduction Potention	7/6/2022 16:43	-44.01	mv
APCO-GS-CCB-MW-20	PH	pH	7/6/2022 16:43	6.77	SU
APCO-GS-CCB-MW-20	TEMP	Temperature	7/6/2022 16:43	21.4	C
APCO-GS-CCB-MW-20	TURB	Turbidity	7/6/2022 16:43	0.66	NTU
APCO-GS-CCB-MW-20	COND	Conductivity	7/6/2022 16:48	2633.08	uS/cm
APCO-GS-CCB-MW-20	DO	DO	7/6/2022 16:48	0.46	mg/L
APCO-GS-CCB-MW-20	DTW	Depth to Water Detail	7/6/2022 16:48	21.98	ft
APCO-GS-CCB-MW-20	ORP	Oxidation Reduction Potention	7/6/2022 16:48	-44.89	mv
APCO-GS-CCB-MW-20	PH	pH	7/6/2022 16:48	6.76	SU
APCO-GS-CCB-MW-20	TEMP	Temperature	7/6/2022 16:48	21.15	C
APCO-GS-CCB-MW-20	TURB	Turbidity	7/6/2022 16:48	0.78	NTU
APCO-GS-CCB-MW-20	COND	Conductivity	7/6/2022 16:53	2637.48	uS/cm
APCO-GS-CCB-MW-20	DO	DO	7/6/2022 16:53	0.46	mg/L
APCO-GS-CCB-MW-20	DTW	Depth to Water Detail	7/6/2022 16:53	21.94	ft
APCO-GS-CCB-MW-20	ORP	Oxidation Reduction Potention	7/6/2022 16:53	-45.81	mv
APCO-GS-CCB-MW-20	PH	pH	7/6/2022 16:53	6.75	SU
APCO-GS-CCB-MW-20	SULFIDE	Sulfide	7/6/2022 16:53	0	mg/L
APCO-GS-CCB-MW-20	TEMP	Temperature	7/6/2022 16:53	21.07	C
APCO-GS-CCB-MW-20	TURB	Turbidity	7/6/2022 16:53	0.7	NTU

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

General Quality Control Procedures:

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

EPA 353.2 Specific QC:

- Prior to sample analysis, Cadmium coil reduction efficiency check met criteria.
- Matrix Specific QC:
 - A sample duplicate was run and criteria for precision was met.
 - A matrix spike was run and criteria for accuracy was met.
- 7. All samples were analyzed without a dilution factor.
- 8. The raw data results are shown with dilution factors included.

Total Organic Carbon

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	
Analytical Method: EPA 200.7		Analyst: ABB			Preparation Method: EPA 1638					
* 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		
Analytical Method: EPA 200.7		Analyst: ABB			Preparation Method: EPA 1638					
* 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		
Analytical Method: EPA 200.8		Analyst: DLJ			Preparation Method: EPA 1638					
* 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
Analytical Method: EPA 200.8		Analyst: DLJ							
* 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
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	7/7/22 16:18	7/7/22 21:00		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: CES							
* Nitrogen, Nitrate/Nitrite	7/13/22 12:12	7/13/22 12:12		1	1.57	mg/L as N	0.20	0.3	
Analytical Method: SM 2320 B		Analyst: ALH							
Alkalinity, Total as CaCO3	7/8/22 13:04	7/8/22 14:52		1	25.7	mg/L		0.1	
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	7/7/22 13:38	7/11/22 10:04		1	2100	mg/L		100	
Analytical Method: SM 4500CO2 D		Analyst: ALH							
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
Analytical Method: SM 5310 B		Analyst: ELH							
* 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
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	7/12/22 15:09	7/12/22 15:09		1	2.07	mg/L	0.50	1	
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	7/13/22 12:07	7/13/22 12:07		1	0.110	mg/L	0.06	0.125	J
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	7/19/22 11:37	7/19/22 11:37		50	1600	mg/L	30.0	100	
Analytical Method: Field Measurements		Analyst: TJD							
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
Analytical Method: EPA 200.7		Analyst: ABB			Preparation Method: EPA 1638				
* 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	
Analytical Method: EPA 200.7		Analyst: ABB			Preparation Method: EPA 1638				
* 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	
Analytical Method: EPA 200.8		Analyst: DLJ			Preparation Method: EPA 1638				
* 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
Analytical Method: EPA 200.8		Analyst: DLJ							
* 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
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	7/7/22 16:18	7/7/22 21:04		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: CES							
* 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
Analytical Method: SM 2320 B		Analyst: ALH							
Alkalinity, Total as CaCO3	7/8/22 13:04	7/8/22 14:52		1	360	mg/L		0.1	
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	7/7/22 13:38	7/11/22 10:04		1	1250	mg/L		100	
Analytical Method: SM 4500CO2 D		Analyst: ALH							
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
Analytical Method: SM 5310 B		Analyst: ELH							
* 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
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	7/12/22 15:10	7/12/22 15:10		1	2.53	mg/L	0.50	1	
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	7/13/22 12:08	7/13/22 12:08		1	0.200	mg/L	0.06	0.125	
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	7/19/22 11:38	7/19/22 11:38		40	819	mg/L	24.0	80	
Analytical Method: Field Measurements		Analyst: TJD							
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
Analytical Method: EPA 200.7			Analyst: ABB		Preparation Method: EPA 1638				
* 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	
Analytical Method: EPA 200.7			Analyst: ABB		Preparation Method: EPA 1638				
* 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	
Analytical Method: EPA 200.8			Analyst: DLJ		Preparation Method: EPA 1638				
* 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
Analytical Method: EPA 200.8		Analyst: DLJ							
* 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
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	7/7/22 16:18	7/7/22 21:08		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: CES							
* 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
Analytical Method: SM 2320 B		Analyst: ALH							
Alkalinity, Total as CaCO3	7/8/22 13:04	7/8/22 14:52		1	321	mg/L		0.1	
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	7/7/22 13:38	7/11/22 10:04		1	1260	mg/L		100	
Analytical Method: SM 4500CO2 D		Analyst: ALH							
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
Analytical Method: SM 5310 B		Analyst: ELH							
* 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
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	7/12/22 15:12	7/12/22 15:12		1	2.62	mg/L	0.50	1	
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	7/13/22 12:10	7/13/22 12:10		1	0.183	mg/L	0.06	0.125	
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	7/19/22 11:39	7/19/22 11:39		40	844	mg/L	24.0	80	
Analytical Method: Field Measurements		Analyst: TJD							
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	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
Analytical Method: EPA 200.7			Analyst: ABB		Preparation Method: EPA 1638				
* 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	
Analytical Method: EPA 200.7			Analyst: ABB		Preparation Method: EPA 1638				
* 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	
Analytical Method: EPA 200.8			Analyst: DLJ		Preparation Method: EPA 1638				
* 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
Analytical Method: EPA 200.8		Analyst: DLJ							
* 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	
* 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
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	7/7/22 16:18	7/7/22 21:12		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: CES							
* Nitrogen, Nitrate/Nitrite	7/13/22 12:16	7/13/22 12:16		1	0.582	mg/L as N	0.20	0.3	
Analytical Method: SM 2320 B		Analyst: ALH							
Alkalinity, Total as CaCO3	7/8/22 13:04	7/8/22 14:52		1	11.3	mg/L		0.1	
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	7/7/22 13:38	7/11/22 10:04		1	4220	mg/L		208.3	
Analytical Method: SM 4500CO2 D		Analyst: ALH							
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
Analytical Method: SM 5310 B		Analyst: ELH							
* 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
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	7/12/22 15:13	7/12/22 15:13		1	1.59	mg/L	0.50	1	
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	7/13/22 12:11	7/13/22 12:11		1	0.386	mg/L	0.06	0.125	
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	7/19/22 11:40	7/19/22 11:40		100	3110	mg/L	60.0	200	
Analytical Method: Field Measurements		Analyst: TJD							
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				Standard		Rec			Prec Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit	Prec	
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
Analytical Method: EPA 200.7			Analyst: ABB		Preparation Method: EPA 1638				
* 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
Analytical Method: EPA 200.8			Analyst: DLJ		Preparation Method: EPA 1638				
* 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
Analytical Method: EPA 245.1			Analyst: CRB						
* Mercury, Total by CVAA	7/7/22 16:18	7/7/22 21:16		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2			Analyst: CES						
* 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
Analytical Method: SM 2540C			Analyst: CNJ						
* 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
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	7/13/22 06:55	7/13/22 06:55		1	Not Detected	mg/L	1.00	2	U
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	7/12/22 15:14	7/12/22 15:14		1	Not Detected	mg/L	0.50	1	U
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	7/13/22 12:12	7/13/22 12:12		1	Not Detected	mg/L	0.06	0.125	U
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	7/19/22 11:42	7/19/22 11:42		1	1.16	mg/L	0.6	2	J

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

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		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: 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

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

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
Analytical Method: EPA 200.7		Analyst: ABB			Preparation Method: EPA 1638				
* 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	
Analytical Method: EPA 200.7		Analyst: ABB			Preparation Method: EPA 1638				
* 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
Analytical Method: EPA 200.8		Analyst: DLJ			Preparation Method: EPA 1638				
* 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
Analytical Method: EPA 200.8		Analyst: DLJ							
* 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
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	7/7/22 16:18	7/7/22 21:20		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: CES							
* 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
Analytical Method: SM 2320 B		Analyst: ALH							
Alkalinity, Total as CaCO3	7/8/22 13:04	7/8/22 14:52		1	191	mg/L		0.1	
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	7/7/22 13:38	7/11/22 10:04		1	3240	mg/L		147.1	
Analytical Method: SM 4500CO2 D		Analyst: ALH							
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
Analytical Method: SM 5310 B		Analyst: ELH							
* 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
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	7/12/22 15:15	7/12/22 15:15		1	1.63	mg/L	0.50	1	
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	7/13/22 12:13	7/13/22 12:13		1	0.362	mg/L	0.06	0.125	
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	7/19/22 11:43	7/19/22 11:43		100	2380	mg/L	60.0	200	
Analytical Method: Field Measurements		Analyst: TJD							
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	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 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
Analytical Method: EPA 200.7			Analyst: ABB			Preparation Method: EPA 1638			
* 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
Analytical Method: EPA 200.8			Analyst: DLJ			Preparation Method: EPA 1638			
* 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
Analytical Method: EPA 245.1			Analyst: CRB						
* Mercury, Total by CVAA	7/7/22 16:18	7/7/22 21:24		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2			Analyst: CES						
* 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
Analytical Method: SM 2540C			Analyst: CNJ						
* 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
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	7/13/22 07:42	7/13/22 07:42		1	Not Detected	mg/L	1.00	2	U
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	7/12/22 15:16	7/12/22 15:16		1	Not Detected	mg/L	0.50	1	U
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	7/13/22 12:15	7/13/22 12:15		1	Not Detected	mg/L	0.06	0.125	U
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	7/19/22 11:44	7/19/22 11:44		1	0.634	mg/L	0.6	2	J

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

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

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
		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	Cooler Temp	0.5 °C
Sample Event	1374	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
		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

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

Analytical Report



Sample Group : WMWGORLF_1375

Project/Site : Gorgas Landfill
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 04, 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: 2022.08.05 08:02:47 -05'00'

Supervision: **T Durant Maske**  Digitally signed by T Durant Maske
DN: gn=T Durant Maske, gn=T Durant Maske, o=US United States, ou=US United States, email=tdmaske@southernco.com
Reason: I am the author of this document
Location:
Date: 2022-08-05 12:40:05.00



REPORT OF LABORATORY ANALYSIS

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



Total Metals ICP

Gorgas Landfill

WMWGORLF_1375

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>
BC12333	730823	WMWGORLF_1375
BC12334	730823	WMWGORLF_1375
BC12335	730823	WMWGORLF_1375
BC12336	730823	WMWGORLF_1375
BC12337	730823	WMWGORLF_1375
BC12338	730823	WMWGORLF_1375
BC12339	730823	WMWGORLF_1375
BC12340	730823	WMWGORLF_1375
BC12341	730823	WMWGORLF_1375
BC12342	730823	WMWGORLF_1375
BC12343	730824	WMWGORLF_1375
BC12344	730824	WMWGORLF_1375
BC12345	730824	WMWGORLF_1375
BC12346	730824	WMWGORLF_1375
BC12347	730824	WMWGORLF_1375
BC12348	730824	WMWGORLF_1375
BC12349	730824	WMWGORLF_1375
BC12350	730824	WMWGORLF_1375
BC12351	730824	WMWGORLF_1375
BC12352	730824	WMWGORLF_1375
BC12353	730825	WMWGORLF_1375

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:
 - BC12342, BC12352 and BC12353 Calcium, Iron, Magnesium and Sodium MS/MSD spike levels were less than 30% of the sample concentrations.
 - A matrix spike and matrix spike duplicate were digested and analyzed with each ICP batch. All acceptance criteria for precision were met.
7. The following sample was diluted due to the analyzed sample concentration being greater than the high standard of the calibration curve:

<u>Sample ID</u>	<u>Analyte</u>	<u>Dilution Factor</u>
BC12333	Calcium, Magnesium, Sodium	10.15
BC12334	Calcium, Iron, Magnesium, Sodium	101.5
BC12335	Calcium, Magnesium, Sodium	10.15
BC12337	Calcium, Magnesium	10.15
BC12338	Calcium, Magnesium	101.5
BC12339	Calcium, Iron, Magnesium	10.15
BC12340	Calcium, Magnesium	10.15
BC12342	Calcium, Iron, Magnesium, Sodium	101.5
BC12343	Calcium, Magnesium	10.15
BC12344	Calcium, Magnesium	101.5

BC12345	Calcium, Iron, Magnesium, Sodium	10.15
BC12346	Calcium, Magnesium, Sodium	101.5
BC12347	Calcium, Iron, Magnesium, Sodium	101.5
BC12348	Calcium, Magnesium, Sodium	10.15
BC12349	Calcium, Magnesium, Sodium	10.15
BC12350	Calcium, Magnesium, Sodium	10.15
BC12352	Calcium, Iron, Magnesium, Sodium	10.15
BC12353	Calcium, Iron, Magnesium, Sodium	10.15

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

Dissolved Metals ICP

Gorgas Landfill

WMWGORLF_1375

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>
BC12333	730608	WMWGORLF_1375
BC12334	730608	WMWGORLF_1375
BC12335	730608	WMWGORLF_1375
BC12337	730608	WMWGORLF_1375
BC12338	730608	WMWGORLF_1375
BC12339	730608	WMWGORLF_1375
BC12340	730608	WMWGORLF_1375
BC12342	730608	WMWGORLF_1375
BC12343	730608	WMWGORLF_1375
BC12344	730608	WMWGORLF_1375
BC12345	730609	WMWGORLF_1375
BC12346	730609	WMWGORLF_1375
BC12347	730609	WMWGORLF_1375
BC12348	730609	WMWGORLF_1375
BC12349	730609	WMWGORLF_1375
BC12350	730609	WMWGORLF_1375
BC12352	730609	WMWGORLF_1375
BC12353	730609	WMWGORLF_1375

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.

Revision 5

- 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:
 - BC12344 Calcium and Magnesium MS/MSD spike levels were less than 30% of the sample concentrations.
 - BC12353 Calcium, Iron, Magnesium and Sodium MS/MSD spike levels were less than 30% of the sample concentrations.
 - A matrix spike and matrix spike duplicate were analyzed with each ICP batch. All acceptance criteria for precision were met.
7. The following samples were diluted due to the analyzed sample concentration being greater than the high standard of the calibration curve:

<u>Sample ID</u>	<u>Analyte</u>	<u>Dilution Factor</u>
BC12333	Calcium, Magnesium, Sodium	10.15
BC12334	Calcium, Iron, Magnesium, Sodium	101.5
BC12335	Calcium, Magnesium, Sodium	10.15
BC12337	Calcium, Magnesium	10.15
BC12338	Calcium, Magnesium	10.15
BC12339	Calcium, Iron, Magnesium	10.15
BC12340	Calcium, Magnesium	10.15
BC12342	Calcium, Iron, Magnesium	101.5
BC12343	Calcium, Magnesium	10.15
BC12344	Calcium, Magnesium	10.15
BC12345	Calcium, Iron, Magnesium, Sodium	10.15
BC12346	Calcium, Magnesium, Sodium	101.5
BC12347	Calcium, Iron, Magnesium, Sodium	101.5
BC12348	Calcium, Magnesium	10.15

Case Narrative

BC12349	Calcium, Magnesium	10.15
BC12350	Calcium, Magnesium	10.15
BC12352	Calcium, Iron, Magnesium, Sodium	10.15
BC12353	Calcium, Iron, Magnesium, Sodium	10.15

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

Total Metals ICPMS

Gorgas Landfill

WMWGORLF_1375

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>
BC12333	730929	WMWGORLF_1375
BC12334	730929	WMWGORLF_1375
BC12335	730929	WMWGORLF_1375
BC12336	730929	WMWGORLF_1375
BC12337	730929	WMWGORLF_1375
BC12338	730929	WMWGORLF_1375
BC12339	730929	WMWGORLF_1375
BC12340	730929	WMWGORLF_1375
BC12341	730929	WMWGORLF_1375
BC12342	730929	WMWGORLF_1375
BC12343	730930	WMWGORLF_1375
BC12344	730930	WMWGORLF_1375
BC12345	730930	WMWGORLF_1375
BC12346	730930	WMWGORLF_1375
BC12347	730930	WMWGORLF_1375
BC12348	730930	WMWGORLF_1375
BC12349	730930	WMWGORLF_1375
BC12350	730930	WMWGORLF_1375
BC12351	730930	WMWGORLF_1375
BC12352	730930	WMWGORLF_1375
BC12353	730931	WMWGORLF_1375

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:
 - BC12342 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>
BC12334	Manganese	92.365
BC12335	Manganese	5.075
BC12337	Manganese	5.075
BC12338	Manganese	5.075
BC12339	Manganese	10.15
BC12340	Manganese	5.075
BC12342	Manganese	92.365
BC12344	Manganese	5.075
BC12347	Manganese	10.15

Case Narrative

BC12348	Manganese	5.075
BC12349	Manganese	5.075

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

Dissolved Metals ICPMS

Gorgas Landfill

WMWGORLF_1375

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>
BC12333	730941	WMWGORLF_1375
BC12334	730941	WMWGORLF_1375
BC12335	730941	WMWGORLF_1375
BC12337	730941	WMWGORLF_1375
BC12338	730941	WMWGORLF_1375
BC12339	730941	WMWGORLF_1375
BC12340	730941	WMWGORLF_1375
BC12342	730941	WMWGORLF_1375
BC12343	730941	WMWGORLF_1375
BC12344	730941	WMWGORLF_1375
BC12345	730942	WMWGORLF_1375
BC12346	730942	WMWGORLF_1375
BC12347	730942	WMWGORLF_1375
BC12348	730942	WMWGORLF_1375
BC12349	730942	WMWGORLF_1375
BC12350	730942	WMWGORLF_1375
BC12352	730942	WMWGORLF_1375
BC12353	730942	WMWGORLF_1375

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:
 - BC12344 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>
BC12334	Manganese	92.365
BC12335	Manganese	5.075
BC12337	Manganese	5.075
BC12338	Manganese	5.075
BC12339	Manganese	10.15
BC12340	Manganese	5.075
BC12342	Manganese	92.365
BC12344	Manganese	5.075
BC12347	Manganese	10.15
BC12348	Manganese	5.075
BC12349	Manganese	5.075

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

Mercury

Gorgas Landfill

WMWGORLF_1375

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>
BC12333	730306	WMWGORLF_1375
BC12334	730306	WMWGORLF_1375
BC12335	730306	WMWGORLF_1375
BC12336	730306	WMWGORLF_1375
BC12337	730306	WMWGORLF_1375
BC12338	730306	WMWGORLF_1375
BC12339	730306	WMWGORLF_1375
BC12340	730306	WMWGORLF_1375
BC12341	730306	WMWGORLF_1375
BC12342	730306	WMWGORLF_1375
BC12343	730307	WMWGORLF_1375
BC12344	730307	WMWGORLF_1375
BC12345	730307	WMWGORLF_1375
BC12346	730307	WMWGORLF_1375
BC12347	730307	WMWGORLF_1375
BC12348	730307	WMWGORLF_1375
BC12349	730307	WMWGORLF_1375
BC12350	730307	WMWGORLF_1375
BC12351	730307	WMWGORLF_1375
BC12352	730307	WMWGORLF_1375
BC12353	730308	WMWGORLF_1375

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

General Quality Control Procedures:

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

Revision 5

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

Matrix Specific Quality Control Procedures:

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

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

Total Dissolved Solids

Gorgas Landfill

WMWGORLF_1375

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>
BC12333	730172	WMWGORLF_1375
BC12334	730172	WMWGORLF_1375
BC12335	730172	WMWGORLF_1375
BC12336	730172	WMWGORLF_1375
BC12337	730172	WMWGORLF_1375
BC12338	730172	WMWGORLF_1375
BC12339	730172	WMWGORLF_1375
BC12340	730172	WMWGORLF_1375
BC12341	730172	WMWGORLF_1375
BC12342	730246	WMWGORLF_1375
BC12343	730246	WMWGORLF_1375
BC12344	730246	WMWGORLF_1375
BC12345	730246	WMWGORLF_1375
BC12346	730172	WMWGORLF_1375
BC12347	730246	WMWGORLF_1375
BC12348	730246	WMWGORLF_1375
BC12349	730246	WMWGORLF_1375
BC12350	730246	WMWGORLF_1375
BC12351	730246	WMWGORLF_1375
BC12352	730246	WMWGORLF_1375
BC12353	730247	WMWGORLF_1375

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

General Quality Control Procedures:

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

Revision 5

Case Narrative

- A laboratory control sample was analyzed with each batch. All criteria were met.
- Samples were between 2.5mg and 200mg residue.
- All samples with residue <2.5mg had the maximum volume of 150mL filtered. Affected samples are as follows:
 - BC12336
 - BC12341
 - BC12351

Anions

Gorgas Landfill

WMWGORLF_1375

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>
BC12333	730362,730406,731016	WMWGORLF_1375
BC12334	730362,730406,731016	WMWGORLF_1375
BC12335	730362,730406,731016	WMWGORLF_1375
BC12336	730362,730406,731016	WMWGORLF_1375
BC12337	730362,730406,731016	WMWGORLF_1375
BC12338	730362,730406,731016	WMWGORLF_1375
BC12339	730362,730406,731016	WMWGORLF_1375
BC12340	730362,730406,731016	WMWGORLF_1375
BC12341	730362,730406,731016	WMWGORLF_1375
BC12342	730363,730407,731017	WMWGORLF_1375
BC12343	730363,730407,731017	WMWGORLF_1375
BC12344	730363,730407,731017	WMWGORLF_1375
BC12345	730363,730407,731017	WMWGORLF_1375
BC12346	730363,730407,731017	WMWGORLF_1375
BC12347	730363,730407,731017	WMWGORLF_1375
BC12348	730363,730407,731017	WMWGORLF_1375
BC12349	730363,730407,731017	WMWGORLF_1375
BC12350	730363,730407,731017	WMWGORLF_1375
BC12351	730363,730407,731017	WMWGORLF_1375
BC12352	730364,730408,731018	WMWGORLF_1375
BC12353	730364,730408,731018	WMWGORLF_1375

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>
BC12333	Chloride & Sulfate	4 & 80
BC12334	Sulfate	160
BC12335	Chloride & Sulfate	4 & 80
BC12337	Sulfate	100
BC12338	Sulfate	100
BC12339	Sulfate	100
BC12340	Sulfate	80
BC12342	Sulfate	200
BC12343	Sulfate	160
BC12344	Sulfate	160
BC12345	Sulfate	40
BC12346	Sulfate	160
BC12347	Sulfate	160
BC12348	Sulfate	100
BC12349	Sulfate	100
BC12350	Sulfate	100
BC12352	Chloride & Sulfate	5 & 100
BC12353	Chloride & Sulfate	8 & 100

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

Alkalinity

Gorgas Landfill

WMWGORLF_1375

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>
BC12333	730746; 730754	WMWGORLF_1375
BC12334	730746; 730754	WMWGORLF_1375
BC12335	730746; 730754	WMWGORLF_1375
BC12337	730746; 730754	WMWGORLF_1375
BC12338	730746; 730754	WMWGORLF_1375
BC12339	730724;730725	WMWGORLF_1375
BC12340	730724;730725	WMWGORLF_1375
BC12342	730724;730725	WMWGORLF_1375
BC12343	730724;730725	WMWGORLF_1375
BC12344	730724;730725	WMWGORLF_1375
BC12345	730724;730725	WMWGORLF_1375
BC12346	730724;730725	WMWGORLF_1375
BC12347	730724;730725	WMWGORLF_1375
BC12348	730724;730725	WMWGORLF_1375
BC12349	730724;730725	WMWGORLF_1375
BC12350	731003;731004	WMWGORLF_1375
BC12352	731003;731004	WMWGORLF_1375
BC12353	731003;731004	WMWGORLF_1375

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:

- BC12333
- BC12334
- BC12335
- BC12337
- BC12338
- BC12339
- BC12340
- BC12342
- BC12343
- BC12344
- BC12345
- BC12346
- BC12347
- BC12348
- BC12349
- BC12350
- BC12352
- BC12353

Nitrate-Nitrite

Gorgas Landfill

WMWGORLF_1375

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>
BC12333	730138	WMWGORLF_1375
BC12334	730138	WMWGORLF_1375
BC12335	730138	WMWGORLF_1375
BC12336	730138	WMWGORLF_1375
BC12337	730138	WMWGORLF_1375
BC12338	730138	WMWGORLF_1375
BC12339	730138	WMWGORLF_1375
BC12340	730138	WMWGORLF_1375
BC12341	730138	WMWGORLF_1375
BC12342	730138	WMWGORLF_1375
BC12343	730139	WMWGORLF_1375
BC12344	730139	WMWGORLF_1375
BC12345	730139	WMWGORLF_1375
BC12346	730139	WMWGORLF_1375
BC12347	730139	WMWGORLF_1375
BC12348	730139	WMWGORLF_1375
BC12349	730139	WMWGORLF_1375
BC12350	730139	WMWGORLF_1375
BC12351	730139	WMWGORLF_1375
BC12352	730139	WMWGORLF_1375
BC12353	730140	WMWGORLF_1375

4. All of the above samples were prepared and analyzed for NO_x by EPA 353.2.
5. All samples were prepared and analyzed within the established hold times.
6. All in house quality control procedures were followed, as described below.

General Quality Control Procedures:

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

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- 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:
 - BC12342 matrix spike recovery is outside of the specification limit.
7. All samples were analyzed without a dilution factor.
 8. The raw data results are shown with dilution factors included.

Total Organic Carbon

Gorgas Landfill

WMWGORLF_1375

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>
BC12333	730352	WMWGORLF_1375
BC12334	730352	WMWGORLF_1375
BC12335	730352	WMWGORLF_1375
BC12336	730352	WMWGORLF_1375
BC12337	730352	WMWGORLF_1375
BC12338	730352	WMWGORLF_1375
BC12339	730352	WMWGORLF_1375
BC12340	730352	WMWGORLF_1375
BC12341	730352	WMWGORLF_1375
BC12342	730352	WMWGORLF_1375
BC12343	730353	WMWGORLF_1375
BC12344	730353	WMWGORLF_1375
BC12345	730353	WMWGORLF_1375
BC12346	730353	WMWGORLF_1375
BC12347	730353	WMWGORLF_1375
BC12348	730353	WMWGORLF_1375
BC12349	730353	WMWGORLF_1375
BC12350	730353	WMWGORLF_1375
BC12351	730353	WMWGORLF_1375
BC12352	730353	WMWGORLF_1375
BC12353	730354	WMWGORLF_1375

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

General Quality Control Procedures:

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

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

Matrix Specific Quality Control Procedures:

- A matrix spike and matrix spike duplicate were analyzed with each batch. All acceptance criteria for accuracy were met, except for the following:
 - BC12342 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 Landfill - MW-12V

Location Code: WMWGORLF
Collected: 7/5/22 11:31
Customer ID:
Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12333

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: EPA 200.7		Analyst: ABB			Preparation Method: EPA 1638				
* Boron, Total	7/12/22 13:23	7/18/22 13:33		1.015	0.157	mg/L	0.030000	0.1015	
* Calcium, Total	7/12/22 13:23	7/18/22 15:22		10.15	295	mg/L	0.70035	4.06	
* Iron, Total	7/12/22 13:23	7/18/22 13:33		1.015	3.58	mg/L	0.008120	0.0406	
* Lithium, Total	7/12/22 13:23	7/18/22 14:24		1.015	0.310	mg/L	0.007105	0.01999956	
* Magnesium, Total	7/12/22 13:23	7/18/22 15:22		10.15	205	mg/L	0.21315	4.06	
Silica, Total (calc.)	7/12/22 13:23	7/18/22 13:33		1	15.3	mg/L			
Silicon, Total	7/12/22 13:23	7/18/22 13:33		1.015	7.17	mg/L	0.02030	0.25375	
* Sodium, Total	7/12/22 13:23	7/18/22 15:22		10.15	156	mg/L	0.3045	4.06	
Analytical Method: EPA 200.7		Analyst: ABB			Preparation Method: EPA 1638				
* Boron, Dissolved	7/12/22 12:30	7/13/22 14:15		1.015	0.153	mg/L	0.030000	0.1015	
* Calcium, Dissolved	7/12/22 12:30	7/14/22 11:04		10.15	302	mg/L	0.70035	4.06	
* Iron, Dissolved	7/12/22 12:30	7/13/22 14:15		1.015	3.51	mg/L	0.008120	0.0406	
* Lithium, Dissolved	7/12/22 12:30	7/13/22 14:15		1.015	0.276	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	7/12/22 12:30	7/14/22 11:04		10.15	187	mg/L	0.21315	4.06	
Silica, Dissolved (calc.)	7/12/22 12:30	7/13/22 14:15		1	15.1	mg/L			
Silicon, Dissolved	7/12/22 12:30	7/13/22 14:15		1.015	7.06	mg/L	0.02030	0.25375	
* Sodium, Dissolved	7/12/22 12:30	7/14/22 11:04		10.15	138	mg/L	0.3045	4.06	
Analytical Method: EPA 200.8		Analyst: DLJ			Preparation Method: EPA 1638				
* Antimony, Total	7/7/22 16:27	7/8/22 15:12		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/7/22 16:27	7/8/22 15:12		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Total	7/7/22 16:27	7/8/22 15:12		1.015	0.00520	mg/L	0.000081	0.000203	
* Barium, Total	7/7/22 16:27	7/8/22 15:12		1.015	0.0189	mg/L	0.000508	0.001015	
* Beryllium, Total	7/7/22 16:27	7/8/22 15:12		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	7/7/22 16:27	7/8/22 15:12		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	7/7/22 16:27	7/8/22 15:12		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Total	7/7/22 16:27	7/8/22 15:12		1.015	0.0000683	mg/L	0.000068	0.000203	J
* Lead, Total	7/7/22 16:27	7/8/22 15:12		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	7/7/22 16:27	7/8/22 15:12		1.015	0.479	mg/L	0.000152	0.000203	
* Molybdenum, Total	7/7/22 16:27	7/8/22 15:12		1.015	0.00234	mg/L	0.000102	0.000203	
* Potassium, Total	7/7/22 16:27	7/8/22 15:12		1.015	7.40	mg/L	0.169505	0.5075	

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-12V

Location Code: WMWGORLF
Collected: 7/5/22 11:31
Customer ID:
Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12333

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	7/7/22 16:27	7/8/22 15:12		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	7/7/22 16:27	7/8/22 15:12		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 200.8		Analyst: DLJ							
* Antimony, Dissolved	7/7/22 13:50	7/8/22 10:52		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	7/7/22 13:50	7/8/22 10:52		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Dissolved	7/7/22 13:50	7/8/22 10:52		1.015	0.00491	mg/L	0.000081	0.000203	
* Barium, Dissolved	7/7/22 13:50	7/8/22 10:52		1.015	0.0190	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	7/7/22 13:50	7/8/22 10:52		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	7/7/22 13:50	7/8/22 10:52		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	7/7/22 13:50	7/8/22 10:52		1.015	0.000250	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	7/7/22 13:50	7/8/22 10:52		1.015	0.000144	mg/L	0.000068	0.000203	J
* Lead, Dissolved	7/7/22 13:50	7/8/22 10:52		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	7/7/22 13:50	7/13/22 13:40		1.015	0.469	mg/L	0.000152	0.000203	
* Molybdenum, Dissolved	7/7/22 13:50	7/8/22 10:52		1.015	0.00247	mg/L	0.000102	0.000203	
* Potassium, Dissolved	7/7/22 13:50	7/8/22 10:52		1.015	7.14	mg/L	0.169505	0.5075	
* Selenium, Dissolved	7/7/22 13:50	7/8/22 10:52		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	7/7/22 13:50	7/8/22 10:52		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	7/12/22 16:01	7/12/22 20:03		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: CES							
* Nitrogen, Nitrate/Nitrite	7/7/22 16:04	7/7/22 16:04		1	Not Detected	mg/L as N	0.20	0.3	U
Analytical Method: SM 2320 B		Analyst: JS							
Alkalinity, Total as CaCO3	7/11/22 11:30	7/11/22 14:25		1	306	mg/L		0.1	
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	7/7/22 13:38	7/11/22 10:04		1	2100	mg/L		125	
Analytical Method: SM 4500CO2 D		Analyst: JS							
Bicarbonate Alkalinity, (calc.)	7/11/22 11:30	7/11/22 14:25		1	304	mg/L		1	A
Carbonate Alkalinity, (calc.)	7/11/22 11:30	7/11/22 14:25		1	2.22	mg/L		0.5	A
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	7/12/22 18:55	7/12/22 18:55		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 Landfill - MW-12V

Location Code: WMWGORLF

Collected: 7/5/22 11:31

Customer ID:

Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12333

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	7/12/22 13:37	7/12/22 13:37		4	62.0	mg/L	2.00	4	
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	7/13/22 11:08	7/13/22 11:08		1	0.212	mg/L	0.06	0.125	
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	7/19/22 09:30	7/19/22 09:30		80	1300	mg/L	48.0	160	
Analytical Method: Field Measurements		Analyst: DKG							
Conductivity	7/5/22 11:28	7/5/22 11:28			2568.98	uS/cm			FA
pH	7/5/22 11:28	7/5/22 11:28			6.92	SU			FA
Temperature	7/5/22 11:28	7/5/22 11:28			23.06	C			FA
Turbidity	7/5/22 11:28	7/5/22 11:28			1.69	NTU			FA
Sulfide	7/5/22 11:28	7/5/22 11:28			0	mg/L			FA

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 7/5/22 11:31

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill - MW-12V

Laboratory ID Number: BC12333

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BC12344	Aluminum, Dissolved	mg/L	-0.000847	0.010	0.100	0.0983	0.0998	0.0993	0.0850 to 0.115	98.3	70.0 to 130	1.51	20.0
BC12342	Aluminum, Total	mg/L	0.000611	0.010	0.100	0.123	0.122	0.108	0.0850 to 0.115	104	70.0 to 130	0.816	20.0
BC12344	Antimony, Dissolved	mg/L	0.000408	0.00100	0.100	0.0956	0.0932	0.0889	0.0850 to 0.115	95.6	70.0 to 130	2.54	20.0
BC12342	Antimony, Total	mg/L	0.000282	0.00100	0.100	0.103	0.102	0.0935	0.0850 to 0.115	103	70.0 to 130	0.976	20.0
BC12344	Arsenic, Dissolved	mg/L	-0.0000044	0.000176	0.100	0.100	0.102	0.0983	0.0850 to 0.115	99.9	70.0 to 130	1.98	20.0
BC12342	Arsenic, Total	mg/L	0.0000184	0.000176	0.100	0.107	0.104	0.103	0.0850 to 0.115	105	70.0 to 130	2.84	20.0
BC12344	Barium, Dissolved	mg/L	-0.0000026	0.00100	0.100	0.115	0.113	0.0992	0.0850 to 0.115	105	70.0 to 130	1.75	20.0
BC12342	Barium, Total	mg/L	-0.0000541	0.00100	0.100	0.115	0.116	0.0994	0.0850 to 0.115	102	70.0 to 130	0.866	20.0
BC12344	Beryllium, Dissolved	mg/L	0.000265	0.000880	0.100	0.0904	0.0931	0.0948	0.0850 to 0.115	90.4	70.0 to 130	2.94	20.0
BC12342	Beryllium, Total	mg/L	0.0000185	0.000880	0.100	0.0974	0.0979	0.107	0.0850 to 0.115	97.4	70.0 to 130	0.512	20.0
BC12344	Boron, Dissolved	mg/L	-0.000346	0.0650	1.00	1.05	1.06	1.01	0.850 to 1.15	101	70.0 to 130	0.948	20.0
BC12342	Boron, Total	mg/L	-0.000586	0.0650	1.00	1.11	1.10	1.00	0.850 to 1.15	106	70.0 to 130	0.905	20.0
BC12344	Cadmium, Dissolved	mg/L	0.0000076	0.000147	0.100	0.0969	0.0975	0.0983	0.0850 to 0.115	96.9	70.0 to 130	0.617	20.0
BC12342	Cadmium, Total	mg/L	0.0000051	0.000147	0.100	0.0952	0.0928	0.0989	0.0850 to 0.115	95.2	70.0 to 130	2.55	20.0
BC12344	Calcium, Dissolved	mg/L	-0.0181	0.152	5.00	341	351	4.92	4.25 to 5.75	-40.0	70.0 to 130	2.89	20.0
BC12342	Calcium, Total	mg/L	-0.0361	0.152	5.00	365	402	4.65	4.25 to 5.75	-740	70.0 to 130	9.65	20.0
BC12341	Chloride	mg/L	-0.0105	1.00	10.0	10.4	10.7	10.4	9.00 to 11.0	104	80.0 to 120	2.84	20.0
BC12344	Chromium, Dissolved	mg/L	0.0000644	0.000440	0.100	0.0972	0.0994	0.0986	0.0850 to 0.115	96.9	70.0 to 130	2.24	20.0
BC12342	Chromium, Total	mg/L	-0.000140	0.000440	0.100	0.0954	0.0971	0.100	0.0850 to 0.115	95.4	70.0 to 130	1.77	20.0
BC12344	Cobalt, Dissolved	mg/L	0.0000072	0.000147	0.100	0.129	0.133	0.102	0.0850 to 0.115	96.1	70.0 to 130	3.05	20.0
BC12342	Cobalt, Total	mg/L	-0.0000765	0.000147	0.100	0.540	0.543	0.104	0.0850 to 0.115	113	70.0 to 130	0.554	20.0
BC12341	Fluoride	mg/L	0.0281	0.125	2.50	2.73	2.75	2.67	2.25 to 2.75	109	80.0 to 120	0.730	20.0
BC12344	Iron, Dissolved	mg/L	-0.000164	0.0176	0.2	1.91	1.92	0.205	0.170 to 0.230	100	70.0 to 130	0.522	20.0
BC12342	Iron, Total	mg/L	0.000346	0.0176	0.2	25.5	26.5	0.206	0.170 to 0.230	-550	70.0 to 130	3.85	20.0

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 7/5/22 11:31

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill - MW-12V

Laboratory ID Number: BC12333

Sample	Analysis	Units	MB	MB		MS	MSD	Standard		Rec		Prec	Limit
				Limit	Spike			Standard	Limit	Rec	Limit		
BC12344	Lead, Dissolved	mg/L	0.0000142	0.000147	0.100	0.0975	0.0994	0.0991	0.0850 to 0.115	97.5	70.0 to 130	1.93	20.0
BC12342	Lead, Total	mg/L	0.0000044	0.000147	0.100	0.103	0.0983	0.100	0.0850 to 0.115	103	70.0 to 130	4.67	20.0
BC12344	Lithium, Dissolved	mg/L	-0.000049	0.0154	0.200	0.279	0.270	0.206	0.170 to 0.230	112	70.0 to 130	3.28	20.0
BC12342	Lithium, Total	mg/L	-0.000392	0.0154	0.200	0.283	0.283	0.221	0.170 to 0.230	119	70.0 to 130	0.00	20.0
BC12344	Magnesium, Dissolved	mg/L	-0.00581	0.0462	5.00	361	372	5.12	4.25 to 5.75	-60.0	70.0 to 130	3.00	20.0
BC12342	Magnesium, Total	mg/L	-0.00637	0.0462	5.00	454	491	5.26	4.25 to 5.75	-720	70.0 to 130	7.83	20.0
BC12344	Manganese, Dissolved	mg/L	-0.0000599	0.0002	0.100	1.87	1.88	0.0972	0.0850 to 0.115	50.0	70.0 to 130	0.533	20.0
BC12342	Manganese, Total	mg/L	0.0000060	0.0002	0.100	24.9	24.7	0.102	0.0850 to 0.115	-100	70.0 to 130	0.806	20.0
BC12342	Mercury, Total by CVAA	mg/L	3.000E-05	0.000500	0.004	0.00408	0.00413	0.00408	0.00340 to 0.00460	102	70.0 to 130	1.22	20.0
BC12344	Molybdenum, Dissolved	mg/L	0.0000032	0.0002	0.100	0.0976	0.0975	0.0982	0.0850 to 0.115	97.4	70.0 to 130	0.103	20.0
BC12342	Molybdenum, Total	mg/L	-0.0000008	0.0002	0.100	0.0930	0.0923	0.0950	0.0850 to 0.115	92.8	70.0 to 130	0.756	20.0
BC12344	Potassium, Dissolved	mg/L	0.0319	0.367	10.0	15.8	16.2	10.3	8.50 to 11.5	97.1	70.0 to 130	2.50	20.0
BC12342	Potassium, Total	mg/L	-0.00723	0.367	10.0	17.6	17.8	10.9	8.50 to 11.5	103	70.0 to 130	1.13	20.0
BC12344	Selenium, Dissolved	mg/L	-0.0000305	0.00100	0.100	0.0994	0.101	0.0999	0.0850 to 0.115	99.4	70.0 to 130	1.60	20.0
BC12342	Selenium, Total	mg/L	0.0000396	0.00100	0.100	0.103	0.104	0.104	0.0850 to 0.115	102	70.0 to 130	0.966	20.0
BC12344	Silicon, Dissolved	mg/L	0.000035	0.0440	1.00	8.18	8.16	1.03	0.850 to 1.15	98.0	70.0 to 130	0.245	20.0
BC12342	Silicon, Total	mg/L	0.000635	0.0440	1.00	9.13	9.13	1.01	0.850 to 1.15	96.0	70.0 to 130	0.00	20.0
BC12344	Sodium, Dissolved	mg/L	-0.0247	0.0660	5.00	36.1	34.9	4.91	4.25 to 5.75	116	70.0 to 130	3.38	20.0
BC12342	Sodium, Total	mg/L	0.0017	0.0660	5.00	45.6	50.6	5.43	4.25 to 5.75	22.0	70.0 to 130	10.4	20.0
BC12341	Sulfate	mg/L	0.0536	2.0	20.0	20.2	19.8	19.3	18.0 to 22.0	95.2	80.0 to 120	2.00	20.0
BC12344	Thallium, Dissolved	mg/L	0.0000183	0.000147	0.100	0.0937	0.0969	0.0966	0.0850 to 0.115	93.7	70.0 to 130	3.36	20.0
BC12342	Thallium, Total	mg/L	-0.0000823	0.000147	0.100	0.110	0.105	0.108	0.0850 to 0.115	110	70.0 to 130	4.65	20.0
BC12342	Total Organic Carbon	mg/L	0.204	1.00	10.0	11.6	11.6	9.20		67.5	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: WMWGORLF

Sample Date: 7/5/22 11:31

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill - MW-12V

Laboratory ID Number: BC12333

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC12338	Alkalinity, Total as CaCO3	mg/L					289	50.5	45.0 to 55.0			4.96	10.0
BC12342	Nitrogen, Nitrate/Nitrite	mg/L as N	0.02	0.200	2.00	2.00	0.223	2.09	1.80 to 2.20	89.0	90.0 to 110	1.81	15.0
BC12346	Solids, Dissolved	mg/L	2.00	25.0			3360	42.0	40.0 to 60.0			0.889	10.0

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-12

Location Code: WMWGORLF
Collected: 7/5/22 12:41
Customer ID:
Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12334

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: EPA 200.7			Analyst: ABB		Preparation Method: EPA 1638				
* Boron, Total	7/12/22 13:23	7/18/22 13:36		1.015	0.172	mg/L	0.030000	0.1015	
* Calcium, Total	7/12/22 13:23	7/18/22 15:25		101.5	330	mg/L	7.0035	40.6	
* Iron, Total	7/12/22 13:23	7/18/22 15:25		101.5	168	mg/L	0.8120	4.06	
* Lithium, Total	7/12/22 13:23	7/18/22 14:27		1.015	0.0659	mg/L	0.007105	0.01999956	
* Magnesium, Total	7/12/22 13:23	7/18/22 15:25		101.5	408	mg/L	2.1315	40.6	
Silica, Total (calc.)	7/12/22 13:23	7/18/22 13:36		1	30.4	mg/L			
Silicon, Total	7/12/22 13:23	7/18/22 13:36		1.015	14.2	mg/L	0.02030	0.25375	
* Sodium, Total	7/12/22 13:23	7/18/22 15:25		101.5	50.4	mg/L	3.045	40.6	
Analytical Method: EPA 200.7			Analyst: ABB		Preparation Method: EPA 1638				
* Boron, Dissolved	7/12/22 12:30	7/13/22 14:18		1.015	0.175	mg/L	0.030000	0.1015	
* Calcium, Dissolved	7/12/22 12:30	7/14/22 11:07		101.5	341	mg/L	7.0035	40.6	
* Iron, Dissolved	7/12/22 12:30	7/14/22 11:07		101.5	159	mg/L	0.8120	4.06	
* Lithium, Dissolved	7/12/22 12:30	7/13/22 14:18		1.015	0.0601	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	7/12/22 12:30	7/14/22 11:07		101.5	392	mg/L	2.1315	40.6	
Silica, Dissolved (calc.)	7/12/22 12:30	7/13/22 14:18		1	30.2	mg/L			
Silicon, Dissolved	7/12/22 12:30	7/13/22 14:18		1.015	14.1	mg/L	0.02030	0.25375	
* Sodium, Dissolved	7/12/22 12:30	7/14/22 11:07		101.5	47.1	mg/L	3.045	40.6	
Analytical Method: EPA 200.8			Analyst: DLJ		Preparation Method: EPA 1638				
* Antimony, Total	7/7/22 16:27	7/8/22 15:15		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/7/22 16:27	7/8/22 15:15		1.015	0.00632	mg/L	0.006090	0.01015	J
* Arsenic, Total	7/7/22 16:27	7/8/22 15:15		1.015	0.0679	mg/L	0.000081	0.000203	
* Barium, Total	7/7/22 16:27	7/8/22 15:15		1.015	0.0110	mg/L	0.000508	0.001015	
* Beryllium, Total	7/7/22 16:27	7/8/22 15:15		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	7/7/22 16:27	7/8/22 15:15		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	7/7/22 16:27	7/8/22 15:15		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Total	7/7/22 16:27	7/8/22 15:15		1.015	0.0512	mg/L	0.000068	0.000203	
* Lead, Total	7/7/22 16:27	7/8/22 15:15		1.015	0.000185	mg/L	0.000068	0.000203	J
* Manganese, Total	7/7/22 16:27	7/18/22 12:14		92.365	21.2	mg/L	0.013855	0.018473	
* Molybdenum, Total	7/7/22 16:27	7/8/22 15:15		1.015	0.000402	mg/L	0.000102	0.000203	
* Potassium, Total	7/7/22 16:27	7/8/22 15:15		1.015	23.7	mg/L	0.169505	0.5075	

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-12

Location Code: WMWGORLF
Collected: 7/5/22 12:41
Customer ID:
Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12334

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	7/7/22 16:27	7/8/22 15:15		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	7/7/22 16:27	7/8/22 15:15		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 200.8		Analyst: DLJ							
* Antimony, Dissolved	7/7/22 13:50	7/8/22 10:55		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	7/7/22 13:50	7/8/22 10:55		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Dissolved	7/7/22 13:50	7/8/22 10:55		1.015	0.0678	mg/L	0.000081	0.000203	
* Barium, Dissolved	7/7/22 13:50	7/8/22 10:55		1.015	0.0119	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	7/7/22 13:50	7/8/22 10:55		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	7/7/22 13:50	7/8/22 10:55		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	7/7/22 13:50	7/8/22 10:55		1.015	0.000253	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	7/7/22 13:50	7/8/22 10:55		1.015	0.0513	mg/L	0.000068	0.000203	
* Lead, Dissolved	7/7/22 13:50	7/8/22 10:55		1.015	0.000102	mg/L	0.000068	0.000203	J
* Manganese, Dissolved	7/7/22 13:50	7/13/22 13:44		92.35	21.1	mg/L	0.013852	0.01847	
* Molybdenum, Dissolved	7/7/22 13:50	7/8/22 10:55		1.015	0.000183	mg/L	0.000102	0.000203	J
* Potassium, Dissolved	7/7/22 13:50	7/8/22 10:55		1.015	23.0	mg/L	0.169505	0.5075	
* Selenium, Dissolved	7/7/22 13:50	7/8/22 10:55		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	7/7/22 13:50	7/8/22 10:55		1.015	0.000106	mg/L	0.000068	0.000203	J
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	7/12/22 16:01	7/12/22 20:07		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: CES							
* Nitrogen, Nitrate/Nitrite	7/7/22 16:06	7/7/22 16:06		1	0.364	mg/L as N	0.20	0.3	
Analytical Method: SM 2320 B		Analyst: JS							
Alkalinity, Total as CaCO3	7/11/22 11:30	7/11/22 14:25		1	278	mg/L		0.1	
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	7/7/22 13:38	7/11/22 10:04		1	3690	mg/L		178.6	
Analytical Method: SM 4500CO2 D		Analyst: JS							
Bicarbonate Alkalinity, (calc.)	7/11/22 11:30	7/11/22 14:25		1	278	mg/L		1	A
Carbonate Alkalinity, (calc.)	7/11/22 11:30	7/11/22 14:25		1	Not Detected	mg/L		0.5	A
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	7/12/22 19:13	7/12/22 19:13		1	4.78	mg/L	1.00	2	

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-12

Location Code: WMWGORLF

Collected: 7/5/22 12:41

Customer ID:

Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12334

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	7/12/22 13:25	7/12/22 13:25		1	10.5	mg/L	0.50	1	
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	7/13/22 11:09	7/13/22 11:09		1	0.275	mg/L	0.06	0.125	
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	7/19/22 09:38	7/19/22 09:38		160	2430	mg/L	96.0	320	
Analytical Method: Field Measurements		Analyst: DKG							
Conductivity	7/5/22 12:38	7/5/22 12:38			4121.59	uS/cm			FA
pH	7/5/22 12:38	7/5/22 12:38			5.82	SU			FA
Temperature	7/5/22 12:38	7/5/22 12:38			23.84	C			FA
Turbidity	7/5/22 12:38	7/5/22 12:38			3.75	NTU			FA
Sulfide	7/5/22 12:38	7/5/22 12:38			0	mg/L			FA

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 7/5/22 12:41

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill - MW-12

Laboratory ID Number: BC12334

Sample	Analysis	Units	MB	MB				Standard		Rec			Prec Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit	Prec	
BC12344	Aluminum, Dissolved	mg/L	-0.000847	0.010	0.100	0.0983	0.0998	0.0993	0.0850 to 0.115	98.3	70.0 to 130	1.51	20.0
BC12342	Aluminum, Total	mg/L	0.000611	0.010	0.100	0.123	0.122	0.108	0.0850 to 0.115	104	70.0 to 130	0.816	20.0
BC12344	Antimony, Dissolved	mg/L	0.000408	0.00100	0.100	0.0956	0.0932	0.0889	0.0850 to 0.115	95.6	70.0 to 130	2.54	20.0
BC12342	Antimony, Total	mg/L	0.000282	0.00100	0.100	0.103	0.102	0.0935	0.0850 to 0.115	103	70.0 to 130	0.976	20.0
BC12344	Arsenic, Dissolved	mg/L	-0.0000044	0.000176	0.100	0.100	0.102	0.0983	0.0850 to 0.115	99.9	70.0 to 130	1.98	20.0
BC12342	Arsenic, Total	mg/L	0.0000184	0.000176	0.100	0.107	0.104	0.103	0.0850 to 0.115	105	70.0 to 130	2.84	20.0
BC12344	Barium, Dissolved	mg/L	-0.0000026	0.00100	0.100	0.115	0.113	0.0992	0.0850 to 0.115	105	70.0 to 130	1.75	20.0
BC12342	Barium, Total	mg/L	-0.0000541	0.00100	0.100	0.115	0.116	0.0994	0.0850 to 0.115	102	70.0 to 130	0.866	20.0
BC12344	Beryllium, Dissolved	mg/L	0.000265	0.000880	0.100	0.0904	0.0931	0.0948	0.0850 to 0.115	90.4	70.0 to 130	2.94	20.0
BC12342	Beryllium, Total	mg/L	0.0000185	0.000880	0.100	0.0974	0.0979	0.107	0.0850 to 0.115	97.4	70.0 to 130	0.512	20.0
BC12344	Boron, Dissolved	mg/L	-0.000346	0.0650	1.00	1.05	1.06	1.01	0.850 to 1.15	101	70.0 to 130	0.948	20.0
BC12342	Boron, Total	mg/L	-0.000586	0.0650	1.00	1.11	1.10	1.00	0.850 to 1.15	106	70.0 to 130	0.905	20.0
BC12344	Cadmium, Dissolved	mg/L	0.0000076	0.000147	0.100	0.0969	0.0975	0.0983	0.0850 to 0.115	96.9	70.0 to 130	0.617	20.0
BC12342	Cadmium, Total	mg/L	0.0000051	0.000147	0.100	0.0952	0.0928	0.0989	0.0850 to 0.115	95.2	70.0 to 130	2.55	20.0
BC12344	Calcium, Dissolved	mg/L	-0.0181	0.152	5.00	341	351	4.92	4.25 to 5.75	-40.0	70.0 to 130	2.89	20.0
BC12342	Calcium, Total	mg/L	-0.0361	0.152	5.00	365	402	4.65	4.25 to 5.75	-740	70.0 to 130	9.65	20.0
BC12341	Chloride	mg/L	-0.0105	1.00	10.0	10.4	10.7	10.4	9.00 to 11.0	104	80.0 to 120	2.84	20.0
BC12344	Chromium, Dissolved	mg/L	0.0000644	0.000440	0.100	0.0972	0.0994	0.0986	0.0850 to 0.115	96.9	70.0 to 130	2.24	20.0
BC12342	Chromium, Total	mg/L	-0.000140	0.000440	0.100	0.0954	0.0971	0.100	0.0850 to 0.115	95.4	70.0 to 130	1.77	20.0
BC12344	Cobalt, Dissolved	mg/L	0.0000072	0.000147	0.100	0.129	0.133	0.102	0.0850 to 0.115	96.1	70.0 to 130	3.05	20.0
BC12342	Cobalt, Total	mg/L	-0.0000765	0.000147	0.100	0.540	0.543	0.104	0.0850 to 0.115	113	70.0 to 130	0.554	20.0
BC12341	Fluoride	mg/L	0.0281	0.125	2.50	2.73	2.75	2.67	2.25 to 2.75	109	80.0 to 120	0.730	20.0
BC12344	Iron, Dissolved	mg/L	-0.000164	0.0176	0.2	1.91	1.92	0.205	0.170 to 0.230	100	70.0 to 130	0.522	20.0
BC12342	Iron, Total	mg/L	0.000346	0.0176	0.2	25.5	26.5	0.206	0.170 to 0.230	-550	70.0 to 130	3.85	20.0

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 7/5/22 12:41

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill - MW-12

Laboratory ID Number: BC12334

Sample	Analysis	Units	MB	MB		MS	MSD	Standard		Rec		Prec	Limit
				Limit	Spike			Standard	Limit	Rec	Limit		
BC12344	Lead, Dissolved	mg/L	0.0000142	0.000147	0.100	0.0975	0.0994	0.0991	0.0850 to 0.115	97.5	70.0 to 130	1.93	20.0
BC12342	Lead, Total	mg/L	0.0000044	0.000147	0.100	0.103	0.0983	0.100	0.0850 to 0.115	103	70.0 to 130	4.67	20.0
BC12344	Lithium, Dissolved	mg/L	-0.000049	0.0154	0.200	0.279	0.270	0.206	0.170 to 0.230	112	70.0 to 130	3.28	20.0
BC12342	Lithium, Total	mg/L	-0.000392	0.0154	0.200	0.283	0.283	0.221	0.170 to 0.230	119	70.0 to 130	0.00	20.0
BC12344	Magnesium, Dissolved	mg/L	-0.00581	0.0462	5.00	361	372	5.12	4.25 to 5.75	-60.0	70.0 to 130	3.00	20.0
BC12342	Magnesium, Total	mg/L	-0.00637	0.0462	5.00	454	491	5.26	4.25 to 5.75	-720	70.0 to 130	7.83	20.0
BC12344	Manganese, Dissolved	mg/L	-0.0000599	0.0002	0.100	1.87	1.88	0.0972	0.0850 to 0.115	50.0	70.0 to 130	0.533	20.0
BC12342	Manganese, Total	mg/L	0.0000060	0.0002	0.100	24.9	24.7	0.102	0.0850 to 0.115	-100	70.0 to 130	0.806	20.0
BC12342	Mercury, Total by CVAA	mg/L	3.000E-05	0.000500	0.004	0.00408	0.00413	0.00408	0.00340 to 0.00460	102	70.0 to 130	1.22	20.0
BC12344	Molybdenum, Dissolved	mg/L	0.0000032	0.0002	0.100	0.0976	0.0975	0.0982	0.0850 to 0.115	97.4	70.0 to 130	0.103	20.0
BC12342	Molybdenum, Total	mg/L	-0.0000008	0.0002	0.100	0.0930	0.0923	0.0950	0.0850 to 0.115	92.8	70.0 to 130	0.756	20.0
BC12344	Potassium, Dissolved	mg/L	0.0319	0.367	10.0	15.8	16.2	10.3	8.50 to 11.5	97.1	70.0 to 130	2.50	20.0
BC12342	Potassium, Total	mg/L	-0.00723	0.367	10.0	17.6	17.8	10.9	8.50 to 11.5	103	70.0 to 130	1.13	20.0
BC12344	Selenium, Dissolved	mg/L	-0.0000305	0.00100	0.100	0.0994	0.101	0.0999	0.0850 to 0.115	99.4	70.0 to 130	1.60	20.0
BC12342	Selenium, Total	mg/L	0.0000396	0.00100	0.100	0.103	0.104	0.104	0.0850 to 0.115	102	70.0 to 130	0.966	20.0
BC12344	Silicon, Dissolved	mg/L	0.000035	0.0440	1.00	8.18	8.16	1.03	0.850 to 1.15	98.0	70.0 to 130	0.245	20.0
BC12342	Silicon, Total	mg/L	0.000635	0.0440	1.00	9.13	9.13	1.01	0.850 to 1.15	96.0	70.0 to 130	0.00	20.0
BC12344	Sodium, Dissolved	mg/L	-0.0247	0.0660	5.00	36.1	34.9	4.91	4.25 to 5.75	116	70.0 to 130	3.38	20.0
BC12342	Sodium, Total	mg/L	0.0017	0.0660	5.00	45.6	50.6	5.43	4.25 to 5.75	22.0	70.0 to 130	10.4	20.0
BC12341	Sulfate	mg/L	0.0536	2.0	20.0	20.2	19.8	19.3	18.0 to 22.0	95.2	80.0 to 120	2.00	20.0
BC12344	Thallium, Dissolved	mg/L	0.0000183	0.000147	0.100	0.0937	0.0969	0.0966	0.0850 to 0.115	93.7	70.0 to 130	3.36	20.0
BC12342	Thallium, Total	mg/L	-0.0000823	0.000147	0.100	0.110	0.105	0.108	0.0850 to 0.115	110	70.0 to 130	4.65	20.0
BC12342	Total Organic Carbon	mg/L	0.204	1.00	10.0	11.6	11.6	9.20		67.5	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: WMWGORLF

Sample Date: 7/5/22 12:41

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill - MW-12

Laboratory ID Number: BC12334

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard Standard	Standard Limit	Rec Rec	Rec Limit	Prec	Prec Limit
BC12338	Alkalinity, Total as CaCO3	mg/L					289	50.5	45.0 to 55.0			4.96	10.0
BC12342	Nitrogen, Nitrate/Nitrite	mg/L as N	0.02	0.200	2.00	2.00	0.223	2.09	1.80 to 2.20	89.0	90.0 to 110	1.81	15.0
BC12346	Solids, Dissolved	mg/L	2.00	25.0			3360	42.0	40.0 to 60.0			0.889	10.0

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-11

Location Code: WMWGORLF
Collected: 7/5/22 14:05
Customer ID:
Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12335

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: EPA 200.7		Analyst: ABB			Preparation Method: EPA 1638				
* Boron, Total	7/12/22 13:23	7/18/22 13:39		1.015	0.105	mg/L	0.030000	0.1015	
* Calcium, Total	7/12/22 13:23	7/18/22 15:28		10.15	333	mg/L	0.70035	4.06	
* Iron, Total	7/12/22 13:23	7/18/22 13:39		1.015	3.92	mg/L	0.008120	0.0406	
* Lithium, Total	7/12/22 13:23	7/18/22 14:29		1.015	0.233	mg/L	0.007105	0.01999956	
* Magnesium, Total	7/12/22 13:23	7/18/22 15:28		10.15	185	mg/L	0.21315	4.06	
Silica, Total (calc.)	7/12/22 13:23	7/18/22 13:39		1	21.4	mg/L			
Silicon, Total	7/12/22 13:23	7/18/22 13:39		1.015	10.0	mg/L	0.02030	0.25375	
* Sodium, Total	7/12/22 13:23	7/18/22 15:28		10.15	155	mg/L	0.3045	4.06	
Analytical Method: EPA 200.7		Analyst: ABB			Preparation Method: EPA 1638				
* Boron, Dissolved	7/12/22 12:30	7/13/22 14:21		1.015	0.103	mg/L	0.030000	0.1015	
* Calcium, Dissolved	7/12/22 12:30	7/14/22 11:10		10.15	334	mg/L	0.70035	4.06	
* Iron, Dissolved	7/12/22 12:30	7/13/22 14:21		1.015	3.87	mg/L	0.008120	0.0406	
* Lithium, Dissolved	7/12/22 12:30	7/13/22 14:21		1.015	0.204	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	7/12/22 12:30	7/14/22 11:10		10.15	172	mg/L	0.21315	4.06	
Silica, Dissolved (calc.)	7/12/22 12:30	7/13/22 14:21		1	21.3	mg/L			
Silicon, Dissolved	7/12/22 12:30	7/13/22 14:21		1.015	9.93	mg/L	0.02030	0.25375	
* Sodium, Dissolved	7/12/22 12:30	7/14/22 11:10		10.15	142	mg/L	0.3045	4.06	
Analytical Method: EPA 200.8		Analyst: DLJ			Preparation Method: EPA 1638				
* Antimony, Total	7/7/22 16:27	7/8/22 15:19		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/7/22 16:27	7/8/22 15:19		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Total	7/7/22 16:27	7/8/22 15:19		1.015	0.000881	mg/L	0.000081	0.000203	
* Barium, Total	7/7/22 16:27	7/8/22 15:19		1.015	0.0148	mg/L	0.000508	0.001015	
* Beryllium, Total	7/7/22 16:27	7/8/22 15:19		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	7/7/22 16:27	7/8/22 15:19		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	7/7/22 16:27	7/8/22 15:19		1.015	0.000269	mg/L	0.000203	0.001015	J
* Cobalt, Total	7/7/22 16:27	7/8/22 15:19		1.015	0.000443	mg/L	0.000068	0.000203	
* Lead, Total	7/7/22 16:27	7/8/22 15:19		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	7/7/22 16:27	7/18/22 12:18		5.075	1.23	mg/L	0.000761	0.001015	
* Molybdenum, Total	7/7/22 16:27	7/8/22 15:19		1.015	0.00151	mg/L	0.000102	0.000203	
* Potassium, Total	7/7/22 16:27	7/8/22 15:19		1.015	6.56	mg/L	0.169505	0.5075	

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-11

Location Code: WMWGORLF
Collected: 7/5/22 14:05
Customer ID:
Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12335

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	7/7/22 16:27	7/8/22 15:19		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	7/7/22 16:27	7/8/22 15:19		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 200.8		Analyst: DLJ							
* Antimony, Dissolved	7/7/22 13:50	7/8/22 10:59		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	7/7/22 13:50	7/8/22 10:59		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Dissolved	7/7/22 13:50	7/8/22 10:59		1.015	0.000813	mg/L	0.000081	0.000203	
* Barium, Dissolved	7/7/22 13:50	7/8/22 10:59		1.015	0.0158	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	7/7/22 13:50	7/8/22 10:59		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	7/7/22 13:50	7/8/22 10:59		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	7/7/22 13:50	7/8/22 10:59		1.015	0.000453	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	7/7/22 13:50	7/8/22 10:59		1.015	0.000544	mg/L	0.000068	0.000203	
* Lead, Dissolved	7/7/22 13:50	7/8/22 10:59		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	7/7/22 13:50	7/13/22 13:47		5.075	1.30	mg/L	0.000761	0.001015	
* Molybdenum, Dissolved	7/7/22 13:50	7/8/22 10:59		1.015	0.00141	mg/L	0.000102	0.000203	
* Potassium, Dissolved	7/7/22 13:50	7/8/22 10:59		1.015	6.20	mg/L	0.169505	0.5075	
* Selenium, Dissolved	7/7/22 13:50	7/8/22 10:59		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	7/7/22 13:50	7/8/22 10:59		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	7/12/22 16:01	7/12/22 20:11		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: CES							
* Nitrogen, Nitrate/Nitrite	7/7/22 16:08	7/7/22 16:08		1	Not Detected	mg/L as N	0.20	0.3	U
Analytical Method: SM 2320 B		Analyst: JS							
Alkalinity, Total as CaCO3	7/11/22 11:30	7/11/22 14:25		1	303	mg/L		0.1	
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	7/7/22 13:38	7/11/22 10:04		1	2020	mg/L		125	
Analytical Method: SM 4500CO2 D		Analyst: JS							
Bicarbonate Alkalinity, (calc.)	7/11/22 11:30	7/11/22 14:25		1	303	mg/L		1	A
Carbonate Alkalinity, (calc.)	7/11/22 11:30	7/11/22 14:25		1	Not Detected	mg/L		0.5	A
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	7/12/22 19:34	7/12/22 19:34		1	1.27	mg/L	1.00	2	J

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-11

Location Code: WMWGORLF

Collected: 7/5/22 14:05

Customer ID:

Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12335

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	7/12/22 13:38	7/12/22 13:38		4	55.2	mg/L	2.00	4	
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	7/13/22 11:10	7/13/22 11:10		1	0.124	mg/L	0.06	0.125	J
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	7/19/22 09:32	7/19/22 09:32		80	1250	mg/L	48.0	160	
Analytical Method: Field Measurements		Analyst: DKG							
Conductivity	7/5/22 14:02	7/5/22 14:02			3296.73	uS/cm			FA
pH	7/5/22 14:02	7/5/22 14:02			6.75	SU			FA
Temperature	7/5/22 14:02	7/5/22 14:02			25.84	C			FA
Turbidity	7/5/22 14:02	7/5/22 14:02			0.98	NTU			FA
Sulfide	7/5/22 14:02	7/5/22 14:02			0	mg/L			FA

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

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

Batch QC Summary

Customer Account: WMWGORLF
Sample Date: 7/5/22 14:05
Customer ID:
Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill - MW-11

Laboratory ID Number: BC12335

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12344	Aluminum, Dissolved	mg/L	-0.000847	0.010	0.100	0.0983	0.0998	0.0993	0.0850 to 0.115	98.3	70.0 to 130	1.51	20.0
BC12342	Aluminum, Total	mg/L	0.000611	0.010	0.100	0.123	0.122	0.108	0.0850 to 0.115	104	70.0 to 130	0.816	20.0
BC12344	Antimony, Dissolved	mg/L	0.000408	0.00100	0.100	0.0956	0.0932	0.0889	0.0850 to 0.115	95.6	70.0 to 130	2.54	20.0
BC12342	Antimony, Total	mg/L	0.000282	0.00100	0.100	0.103	0.102	0.0935	0.0850 to 0.115	103	70.0 to 130	0.976	20.0
BC12344	Arsenic, Dissolved	mg/L	-0.0000044	0.000176	0.100	0.100	0.102	0.0983	0.0850 to 0.115	99.9	70.0 to 130	1.98	20.0
BC12342	Arsenic, Total	mg/L	0.0000184	0.000176	0.100	0.107	0.104	0.103	0.0850 to 0.115	105	70.0 to 130	2.84	20.0
BC12344	Barium, Dissolved	mg/L	-0.0000026	0.00100	0.100	0.115	0.113	0.0992	0.0850 to 0.115	105	70.0 to 130	1.75	20.0
BC12342	Barium, Total	mg/L	-0.0000541	0.00100	0.100	0.115	0.116	0.0994	0.0850 to 0.115	102	70.0 to 130	0.866	20.0
BC12344	Beryllium, Dissolved	mg/L	0.000265	0.000880	0.100	0.0904	0.0931	0.0948	0.0850 to 0.115	90.4	70.0 to 130	2.94	20.0
BC12342	Beryllium, Total	mg/L	0.0000185	0.000880	0.100	0.0974	0.0979	0.107	0.0850 to 0.115	97.4	70.0 to 130	0.512	20.0
BC12344	Boron, Dissolved	mg/L	-0.000346	0.0650	1.00	1.05	1.06	1.01	0.850 to 1.15	101	70.0 to 130	0.948	20.0
BC12342	Boron, Total	mg/L	-0.000586	0.0650	1.00	1.11	1.10	1.00	0.850 to 1.15	106	70.0 to 130	0.905	20.0
BC12344	Cadmium, Dissolved	mg/L	0.0000076	0.000147	0.100	0.0969	0.0975	0.0983	0.0850 to 0.115	96.9	70.0 to 130	0.617	20.0
BC12342	Cadmium, Total	mg/L	0.0000051	0.000147	0.100	0.0952	0.0928	0.0989	0.0850 to 0.115	95.2	70.0 to 130	2.55	20.0
BC12344	Calcium, Dissolved	mg/L	-0.0181	0.152	5.00	341	351	4.92	4.25 to 5.75	-40.0	70.0 to 130	2.89	20.0
BC12342	Calcium, Total	mg/L	-0.0361	0.152	5.00	365	402	4.65	4.25 to 5.75	-740	70.0 to 130	9.65	20.0
BC12341	Chloride	mg/L	-0.0105	1.00	10.0	10.4	10.7	10.4	9.00 to 11.0	104	80.0 to 120	2.84	20.0
BC12344	Chromium, Dissolved	mg/L	0.0000644	0.000440	0.100	0.0972	0.0994	0.0986	0.0850 to 0.115	96.9	70.0 to 130	2.24	20.0
BC12342	Chromium, Total	mg/L	-0.000140	0.000440	0.100	0.0954	0.0971	0.100	0.0850 to 0.115	95.4	70.0 to 130	1.77	20.0
BC12344	Cobalt, Dissolved	mg/L	0.0000072	0.000147	0.100	0.129	0.133	0.102	0.0850 to 0.115	96.1	70.0 to 130	3.05	20.0
BC12342	Cobalt, Total	mg/L	-0.0000765	0.000147	0.100	0.540	0.543	0.104	0.0850 to 0.115	113	70.0 to 130	0.554	20.0
BC12341	Fluoride	mg/L	0.0281	0.125	2.50	2.73	2.75	2.67	2.25 to 2.75	109	80.0 to 120	0.730	20.0
BC12344	Iron, Dissolved	mg/L	-0.000164	0.0176	0.2	1.91	1.92	0.205	0.170 to 0.230	100	70.0 to 130	0.522	20.0
BC12342	Iron, Total	mg/L	0.000346	0.0176	0.2	25.5	26.5	0.206	0.170 to 0.230	-550	70.0 to 130	3.85	20.0

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 7/5/22 14:05

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill - MW-11

Laboratory ID Number: BC12335

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BC12344	Lead, Dissolved	mg/L	0.0000142	0.000147	0.100	0.0975	0.0994	0.0991	0.0850 to 0.115	97.5	70.0 to 130	1.93	20.0
BC12342	Lead, Total	mg/L	0.0000044	0.000147	0.100	0.103	0.0983	0.100	0.0850 to 0.115	103	70.0 to 130	4.67	20.0
BC12344	Lithium, Dissolved	mg/L	-0.000049	0.0154	0.200	0.279	0.270	0.206	0.170 to 0.230	112	70.0 to 130	3.28	20.0
BC12342	Lithium, Total	mg/L	-0.000392	0.0154	0.200	0.283	0.283	0.221	0.170 to 0.230	119	70.0 to 130	0.00	20.0
BC12344	Magnesium, Dissolved	mg/L	-0.00581	0.0462	5.00	361	372	5.12	4.25 to 5.75	-60.0	70.0 to 130	3.00	20.0
BC12342	Magnesium, Total	mg/L	-0.00637	0.0462	5.00	454	491	5.26	4.25 to 5.75	-720	70.0 to 130	7.83	20.0
BC12344	Manganese, Dissolved	mg/L	-0.0000599	0.0002	0.100	1.87	1.88	0.0972	0.0850 to 0.115	50.0	70.0 to 130	0.533	20.0
BC12342	Manganese, Total	mg/L	0.0000060	0.0002	0.100	24.9	24.7	0.102	0.0850 to 0.115	-100	70.0 to 130	0.806	20.0
BC12342	Mercury, Total by CVAA	mg/L	3.000E-05	0.000500	0.004	0.00408	0.00413	0.00408	0.00340 to 0.00460	102	70.0 to 130	1.22	20.0
BC12344	Molybdenum, Dissolved	mg/L	0.0000032	0.0002	0.100	0.0976	0.0975	0.0982	0.0850 to 0.115	97.4	70.0 to 130	0.103	20.0
BC12342	Molybdenum, Total	mg/L	-0.0000008	0.0002	0.100	0.0930	0.0923	0.0950	0.0850 to 0.115	92.8	70.0 to 130	0.756	20.0
BC12344	Potassium, Dissolved	mg/L	0.0319	0.367	10.0	15.8	16.2	10.3	8.50 to 11.5	97.1	70.0 to 130	2.50	20.0
BC12342	Potassium, Total	mg/L	-0.00723	0.367	10.0	17.6	17.8	10.9	8.50 to 11.5	103	70.0 to 130	1.13	20.0
BC12344	Selenium, Dissolved	mg/L	-0.0000305	0.00100	0.100	0.0994	0.101	0.0999	0.0850 to 0.115	99.4	70.0 to 130	1.60	20.0
BC12342	Selenium, Total	mg/L	0.0000396	0.00100	0.100	0.103	0.104	0.104	0.0850 to 0.115	102	70.0 to 130	0.966	20.0
BC12344	Silicon, Dissolved	mg/L	0.000035	0.0440	1.00	8.18	8.16	1.03	0.850 to 1.15	98.0	70.0 to 130	0.245	20.0
BC12342	Silicon, Total	mg/L	0.000635	0.0440	1.00	9.13	9.13	1.01	0.850 to 1.15	96.0	70.0 to 130	0.00	20.0
BC12344	Sodium, Dissolved	mg/L	-0.0247	0.0660	5.00	36.1	34.9	4.91	4.25 to 5.75	116	70.0 to 130	3.38	20.0
BC12342	Sodium, Total	mg/L	0.0017	0.0660	5.00	45.6	50.6	5.43	4.25 to 5.75	22.0	70.0 to 130	10.4	20.0
BC12341	Sulfate	mg/L	0.0536	2.0	20.0	20.2	19.8	19.3	18.0 to 22.0	95.2	80.0 to 120	2.00	20.0
BC12344	Thallium, Dissolved	mg/L	0.0000183	0.000147	0.100	0.0937	0.0969	0.0966	0.0850 to 0.115	93.7	70.0 to 130	3.36	20.0
BC12342	Thallium, Total	mg/L	-0.0000823	0.000147	0.100	0.110	0.105	0.108	0.0850 to 0.115	110	70.0 to 130	4.65	20.0
BC12342	Total Organic Carbon	mg/L	0.204	1.00	10.0	11.6	11.6	9.20		67.5	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: WMWGORLF

Sample Date: 7/5/22 14:05

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill - MW-11

Laboratory ID Number: BC12335

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard Standard	Standard Limit	Rec Rec	Rec Limit	Prec	Prec Limit
BC12338	Alkalinity, Total as CaCO3	mg/L					289	50.5	45.0 to 55.0			4.96	10.0
BC12342	Nitrogen, Nitrate/Nitrite	mg/L as N	0.02	0.200	2.00	2.00	0.223	2.09	1.80 to 2.20	89.0	90.0 to 110	1.81	15.0
BC12346	Solids, Dissolved	mg/L	2.00	25.0			3360	42.0	40.0 to 60.0			0.889	10.0

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

Certificate Of Analysis

Description: Gorgas Landfill Field Blank-2

Location Code: WMWGORLFFB
Collected: 7/5/22 14:55
Customer ID:
Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12336

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: EPA 200.7			Analyst: ABB		Preparation Method: EPA 1638				
* Boron, Total	7/12/22 13:23	7/18/22 13:42		1.015	Not Detected	mg/L	0.030000	0.1015	U
* Calcium, Total	7/12/22 13:23	7/18/22 13:42		1.015	Not Detected	mg/L	0.070035	0.406	U
* Iron, Total	7/12/22 13:23	7/18/22 13:42		1.015	Not Detected	mg/L	0.008120	0.0406	U
* Lithium, Total	7/12/22 13:23	7/18/22 14:32		1.015	Not Detected	mg/L	0.007105	0.01999956	U
* Magnesium, Total	7/12/22 13:23	7/18/22 13:42		1.015	Not Detected	mg/L	0.021315	0.406	U
Silica, Total (calc.)	7/12/22 13:23	7/18/22 13:42		1	Not Detected	mg/L			
Silicon, Total	7/12/22 13:23	7/18/22 13:42		1.015	Not Detected	mg/L	0.02030	0.25375	U
* Sodium, Total	7/12/22 13:23	7/18/22 13:42		1.015	Not Detected	mg/L	0.03045	0.406	U
Analytical Method: EPA 200.8			Analyst: DLJ		Preparation Method: EPA 1638				
* Antimony, Total	7/7/22 16:27	7/8/22 15:23		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/7/22 16:27	7/8/22 15:23		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Total	7/7/22 16:27	7/8/22 15:23		1.015	Not Detected	mg/L	0.000081	0.000203	U
* Barium, Total	7/7/22 16:27	7/8/22 15:23		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Beryllium, Total	7/7/22 16:27	7/8/22 15:23		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	7/7/22 16:27	7/8/22 15:23		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	7/7/22 16:27	7/8/22 15:23		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Total	7/7/22 16:27	7/8/22 15:23		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Lead, Total	7/7/22 16:27	7/8/22 15:23		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	7/7/22 16:27	7/8/22 15:23		1.015	0.000222	mg/L	0.000152	0.000203	
* Molybdenum, Total	7/7/22 16:27	7/8/22 15:23		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Potassium, Total	7/7/22 16:27	7/8/22 15:23		1.015	Not Detected	mg/L	0.169505	0.5075	U
* Selenium, Total	7/7/22 16:27	7/8/22 15:23		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	7/7/22 16:27	7/8/22 15:23		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 245.1			Analyst: CRB						
* Mercury, Total by CVAA	7/12/22 16:01	7/12/22 20:15		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2			Analyst: CES						
* Nitrogen, Nitrate/Nitrite	7/7/22 16:10	7/7/22 16:10		1	Not Detected	mg/L as N	0.20	0.3	U
Analytical Method: SM 2540C			Analyst: CNJ						
* 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 Landfill Field Blank-2

Location Code: WMWGORLFFB

Collected: 7/5/22 14:55

Customer ID:

Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12336

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	7/12/22 19:56	7/12/22 19:56		1	Not Detected	mg/L	1.00	2	U
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	7/12/22 13:28	7/12/22 13:28		1	Not Detected	mg/L	0.50	1	U
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	7/13/22 11:12	7/13/22 11:12		1	Not Detected	mg/L	0.06	0.125	U
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	7/19/22 09:20	7/19/22 09:20		1	1.19	mg/L	0.6	2	J

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

Comments:

Batch QC Summary

Customer Account: WMWGORLFFB

Sample Date: 7/5/22 14:55

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill Field Blank-2

Laboratory ID Number: BC12336

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12342	Aluminum, Total	mg/L	0.000611	0.010	0.100	0.123	0.122	0.108	0.0850 to 0.115	104	70.0 to 130	0.816	20.0
BC12342	Antimony, Total	mg/L	0.000282	0.00100	0.100	0.103	0.102	0.0935	0.0850 to 0.115	103	70.0 to 130	0.976	20.0
BC12342	Arsenic, Total	mg/L	0.0000184	0.000176	0.100	0.107	0.104	0.103	0.0850 to 0.115	105	70.0 to 130	2.84	20.0
BC12342	Barium, Total	mg/L	-0.0000541	0.00100	0.100	0.115	0.116	0.0994	0.0850 to 0.115	102	70.0 to 130	0.866	20.0
BC12342	Beryllium, Total	mg/L	0.0000185	0.000880	0.100	0.0974	0.0979	0.107	0.0850 to 0.115	97.4	70.0 to 130	0.512	20.0
BC12342	Boron, Total	mg/L	-0.000586	0.0650	1.00	1.11	1.10	1.00	0.850 to 1.15	106	70.0 to 130	0.905	20.0
BC12342	Cadmium, Total	mg/L	0.0000051	0.000147	0.100	0.0952	0.0928	0.0989	0.0850 to 0.115	95.2	70.0 to 130	2.55	20.0
BC12342	Calcium, Total	mg/L	-0.0361	0.152	5.00	365	402	4.65	4.25 to 5.75	-740	70.0 to 130	9.65	20.0
BC12341	Chloride	mg/L	-0.0105	1.00	10.0	10.4	10.7	10.4	9.00 to 11.0	104	80.0 to 120	2.84	20.0
BC12342	Chromium, Total	mg/L	-0.000140	0.000440	0.100	0.0954	0.0971	0.100	0.0850 to 0.115	95.4	70.0 to 130	1.77	20.0
BC12342	Cobalt, Total	mg/L	-0.0000765	0.000147	0.100	0.540	0.543	0.104	0.0850 to 0.115	113	70.0 to 130	0.554	20.0
BC12341	Fluoride	mg/L	0.0281	0.125	2.50	2.73	2.75	2.67	2.25 to 2.75	109	80.0 to 120	0.730	20.0
BC12342	Iron, Total	mg/L	0.000346	0.0176	0.2	25.5	26.5	0.206	0.170 to 0.230	-550	70.0 to 130	3.85	20.0
BC12342	Lead, Total	mg/L	0.0000044	0.000147	0.100	0.103	0.0983	0.100	0.0850 to 0.115	103	70.0 to 130	4.67	20.0
BC12342	Lithium, Total	mg/L	-0.000392	0.0154	0.200	0.283	0.283	0.221	0.170 to 0.230	119	70.0 to 130	0.00	20.0
BC12342	Magnesium, Total	mg/L	-0.00637	0.0462	5.00	454	491	5.26	4.25 to 5.75	-720	70.0 to 130	7.83	20.0
BC12342	Manganese, Total	mg/L	0.0000060	0.0002	0.100	24.9	24.7	0.102	0.0850 to 0.115	-100	70.0 to 130	0.806	20.0
BC12342	Mercury, Total by CVAA	mg/L	3.000E-05	0.000500	0.004	0.00408	0.00413	0.00408	0.00340 to 0.00460	102	70.0 to 130	1.22	20.0
BC12342	Molybdenum, Total	mg/L	-0.0000008	0.0002	0.100	0.0930	0.0923	0.0950	0.0850 to 0.115	92.8	70.0 to 130	0.756	20.0
BC12342	Potassium, Total	mg/L	-0.00723	0.367	10.0	17.6	17.8	10.9	8.50 to 11.5	103	70.0 to 130	1.13	20.0
BC12342	Selenium, Total	mg/L	0.0000396	0.00100	0.100	0.103	0.104	0.104	0.0850 to 0.115	102	70.0 to 130	0.966	20.0
BC12342	Silicon, Total	mg/L	0.000635	0.0440	1.00	9.13	9.13	1.01	0.850 to 1.15	96.0	70.0 to 130	0.00	20.0
BC12342	Sodium, Total	mg/L	0.0017	0.0660	5.00	45.6	50.6	5.43	4.25 to 5.75	22.0	70.0 to 130	10.4	20.0
BC12341	Sulfate	mg/L	0.0536	2.0	20.0	20.2	19.8	19.3	18.0 to 22.0	95.2	80.0 to 120	2.00	20.0

Comments:

Batch QC Summary

Customer Account: WMWGORLFFB

Sample Date: 7/5/22 14:55

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill Field Blank-2

Laboratory ID Number: BC12336

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit	Prec	Limit
BC12342	Thallium, Total	mg/L	-0.0000823	0.000147	0.100	0.110	0.105	0.108	0.0850 to 0.115	110	70.0 to 130	4.65	20.0
BC12342	Total Organic Carbon	mg/L	0.204	1.00	10.0	11.6	11.6	9.20		67.5	80.0 to 120	0.00	20.0

Comments:

Batch QC Summary

Customer Account: WMWGORLFFB

Sample Date: 7/5/22 14:55

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill Field Blank-2

Laboratory ID Number: BC12336

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC12342	Nitrogen, Nitrate/Nitrite	mg/L as N	0.02	0.200	2.00	2.00	0.223	2.09	1.80 to 2.20	89.0	90.0 to 110	1.81	15.0
BC12346	Solids, Dissolved	mg/L	2.00	25.0			3360	42.0	40.0 to 60.0			0.889	10.0

Comments:

Certificate Of Analysis

Description: Gorgas Landfill - MW-13

Location Code: WMWGORLF
Collected: 7/6/22 08:14
Customer ID:
Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12337

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: EPA 200.7			Analyst: ABB		Preparation Method: EPA 1638				
* Boron, Total	7/12/22 13:23	7/18/22 13:45		1.015	0.0583	mg/L	0.030000	0.1015	J
* Calcium, Total	7/12/22 13:23	7/18/22 15:31		10.15	290	mg/L	0.70035	4.06	
* Iron, Total	7/12/22 13:23	7/18/22 13:45		1.015	0.0518	mg/L	0.008120	0.0406	
* Lithium, Total	7/12/22 13:23	7/18/22 14:35		1.015	0.0220	mg/L	0.007105	0.01999956	
* Magnesium, Total	7/12/22 13:23	7/18/22 15:31		10.15	365	mg/L	0.21315	4.06	
Silica, Total (calc.)	7/12/22 13:23	7/18/22 13:45		1	8.73	mg/L			
Silicon, Total	7/12/22 13:23	7/18/22 13:45		1.015	4.08	mg/L	0.02030	0.25375	
* Sodium, Total	7/12/22 13:23	7/18/22 13:45		1.015	29.1	mg/L	0.03045	0.406	
Analytical Method: EPA 200.7			Analyst: ABB		Preparation Method: EPA 1638				
* Boron, Dissolved	7/12/22 12:30	7/13/22 14:24		1.015	0.0577	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	7/12/22 12:30	7/14/22 11:13		10.15	278	mg/L	0.70035	4.06	
* Iron, Dissolved	7/12/22 12:30	7/13/22 14:24		1.015	0.0500	mg/L	0.008120	0.0406	
* Lithium, Dissolved	7/12/22 12:30	7/13/22 14:24		1.015	0.0204	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	7/12/22 12:30	7/14/22 11:13		10.15	328	mg/L	0.21315	4.06	
Silica, Dissolved (calc.)	7/12/22 12:30	7/13/22 14:24		1	8.58	mg/L			
Silicon, Dissolved	7/12/22 12:30	7/13/22 14:24		1.015	4.01	mg/L	0.02030	0.25375	
* Sodium, Dissolved	7/12/22 12:30	7/13/22 14:24		1.015	25.7	mg/L	0.03045	0.406	
Analytical Method: EPA 200.8			Analyst: DLJ		Preparation Method: EPA 1638				
* Antimony, Total	7/7/22 16:27	7/8/22 15:26		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/7/22 16:27	7/8/22 15:26		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Total	7/7/22 16:27	7/8/22 15:26		1.015	0.000139	mg/L	0.000081	0.000203	J
* Barium, Total	7/7/22 16:27	7/8/22 15:26		1.015	0.0128	mg/L	0.000508	0.001015	
* Beryllium, Total	7/7/22 16:27	7/8/22 15:26		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	7/7/22 16:27	7/8/22 15:26		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	7/7/22 16:27	7/8/22 15:26		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Total	7/7/22 16:27	7/8/22 15:26		1.015	0.00599	mg/L	0.000068	0.000203	
* Lead, Total	7/7/22 16:27	7/8/22 15:26		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	7/7/22 16:27	7/18/22 12:21		5.075	2.30	mg/L	0.000761	0.001015	
* Molybdenum, Total	7/7/22 16:27	7/8/22 15:26		1.015	0.000372	mg/L	0.000102	0.000203	
* Potassium, Total	7/7/22 16:27	7/8/22 15:26		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 Landfill - MW-13

Location Code: WMWGORLF

Collected: 7/6/22 08:14

Customer ID:

Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12337

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	7/7/22 16:27	7/8/22 15:26		1.015	0.00177	mg/L	0.000508	0.001015	
* Thallium, Total	7/7/22 16:27	7/8/22 15:26		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 200.8		Analyst: DLJ							
* Antimony, Dissolved	7/7/22 13:50	7/8/22 11:03		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	7/7/22 13:50	7/8/22 11:03		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Dissolved	7/7/22 13:50	7/8/22 11:03		1.015	0.0000826	mg/L	0.000081	0.000203	J
* Barium, Dissolved	7/7/22 13:50	7/8/22 11:03		1.015	0.0119	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	7/7/22 13:50	7/8/22 11:03		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	7/7/22 13:50	7/8/22 11:03		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	7/7/22 13:50	7/8/22 11:03		1.015	0.000351	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	7/7/22 13:50	7/8/22 11:03		1.015	0.00623	mg/L	0.000068	0.000203	
* Lead, Dissolved	7/7/22 13:50	7/8/22 11:03		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	7/7/22 13:50	7/13/22 13:51		5.075	2.35	mg/L	0.000761	0.001015	
* Molybdenum, Dissolved	7/7/22 13:50	7/8/22 11:03		1.015	0.000442	mg/L	0.000102	0.000203	
* Potassium, Dissolved	7/7/22 13:50	7/8/22 11:03		1.015	8.45	mg/L	0.169505	0.5075	
* Selenium, Dissolved	7/7/22 13:50	7/8/22 11:03		1.015	0.00140	mg/L	0.000508	0.001015	
* Thallium, Dissolved	7/7/22 13:50	7/8/22 11:03		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	7/12/22 16:01	7/12/22 20:19		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: CES							
* Nitrogen, Nitrate/Nitrite	7/7/22 16:11	7/7/22 16:11		1	Not Detected	mg/L as N	0.20	0.3	U
Analytical Method: SM 2320 B		Analyst: JS							
Alkalinity, Total as CaCO3	7/11/22 11:30	7/11/22 14:25		1	263	mg/L		0.1	
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	7/7/22 13:38	7/11/22 10:04		1	2520	mg/L		125	
Analytical Method: SM 4500CO2 D		Analyst: JS							
Bicarbonate Alkalinity, (calc.)	7/11/22 11:30	7/11/22 14:25		1	262	mg/L		1	A
Carbonate Alkalinity, (calc.)	7/11/22 11:30	7/11/22 14:25		1	1.45	mg/L		0.5	A
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	7/12/22 20:13	7/12/22 20:13		1	1.42	mg/L	1.00	2	J

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-13

Location Code: WMWGORLF

Collected: 7/6/22 08:14

Customer ID:

Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12337

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	7/12/22 13:29	7/12/22 13:29		1	1.61	mg/L	0.50	1	
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	7/13/22 11:13	7/13/22 11:13		1	0.240	mg/L	0.06	0.125	
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	7/19/22 09:33	7/19/22 09:33		100	1620	mg/L	60.0	200	
Analytical Method: Field Measurements		Analyst: DKG							
Conductivity	7/6/22 08:11	7/6/22 08:11			2908.19	uS/cm			FA
pH	7/6/22 08:11	7/6/22 08:11			6.54	SU			FA
Temperature	7/6/22 08:11	7/6/22 08:11			21.44	C			FA
Turbidity	7/6/22 08:11	7/6/22 08:11			1.95	NTU			FA
Sulfide	7/6/22 08:11	7/6/22 08:11			0	mg/L			FA

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 7/6/22 08:14

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill - MW-13

Laboratory ID Number: BC12337

Sample	Analysis	Units	MB	MB		MS	MSD	Standard		Rec		Prec	Limit
				Limit	Spike			Standard	Limit	Rec	Limit		
BC12344	Aluminum, Dissolved	mg/L	-0.000847	0.010	0.100	0.0983	0.0998	0.0993	0.0850 to 0.115	98.3	70.0 to 130	1.51	20.0
BC12342	Aluminum, Total	mg/L	0.000611	0.010	0.100	0.123	0.122	0.108	0.0850 to 0.115	104	70.0 to 130	0.816	20.0
BC12344	Antimony, Dissolved	mg/L	0.000408	0.00100	0.100	0.0956	0.0932	0.0889	0.0850 to 0.115	95.6	70.0 to 130	2.54	20.0
BC12342	Antimony, Total	mg/L	0.000282	0.00100	0.100	0.103	0.102	0.0935	0.0850 to 0.115	103	70.0 to 130	0.976	20.0
BC12344	Arsenic, Dissolved	mg/L	-0.0000044	0.000176	0.100	0.100	0.102	0.0983	0.0850 to 0.115	99.9	70.0 to 130	1.98	20.0
BC12342	Arsenic, Total	mg/L	0.0000184	0.000176	0.100	0.107	0.104	0.103	0.0850 to 0.115	105	70.0 to 130	2.84	20.0
BC12344	Barium, Dissolved	mg/L	-0.0000026	0.00100	0.100	0.115	0.113	0.0992	0.0850 to 0.115	105	70.0 to 130	1.75	20.0
BC12342	Barium, Total	mg/L	-0.0000541	0.00100	0.100	0.115	0.116	0.0994	0.0850 to 0.115	102	70.0 to 130	0.866	20.0
BC12344	Beryllium, Dissolved	mg/L	0.000265	0.000880	0.100	0.0904	0.0931	0.0948	0.0850 to 0.115	90.4	70.0 to 130	2.94	20.0
BC12342	Beryllium, Total	mg/L	0.0000185	0.000880	0.100	0.0974	0.0979	0.107	0.0850 to 0.115	97.4	70.0 to 130	0.512	20.0
BC12344	Boron, Dissolved	mg/L	-0.000346	0.0650	1.00	1.05	1.06	1.01	0.850 to 1.15	101	70.0 to 130	0.948	20.0
BC12342	Boron, Total	mg/L	-0.000586	0.0650	1.00	1.11	1.10	1.00	0.850 to 1.15	106	70.0 to 130	0.905	20.0
BC12344	Cadmium, Dissolved	mg/L	0.0000076	0.000147	0.100	0.0969	0.0975	0.0983	0.0850 to 0.115	96.9	70.0 to 130	0.617	20.0
BC12342	Cadmium, Total	mg/L	0.0000051	0.000147	0.100	0.0952	0.0928	0.0989	0.0850 to 0.115	95.2	70.0 to 130	2.55	20.0
BC12344	Calcium, Dissolved	mg/L	-0.0181	0.152	5.00	341	351	4.92	4.25 to 5.75	-40.0	70.0 to 130	2.89	20.0
BC12342	Calcium, Total	mg/L	-0.0361	0.152	5.00	365	402	4.65	4.25 to 5.75	-740	70.0 to 130	9.65	20.0
BC12341	Chloride	mg/L	-0.0105	1.00	10.0	10.4	10.7	10.4	9.00 to 11.0	104	80.0 to 120	2.84	20.0
BC12344	Chromium, Dissolved	mg/L	0.0000644	0.000440	0.100	0.0972	0.0994	0.0986	0.0850 to 0.115	96.9	70.0 to 130	2.24	20.0
BC12342	Chromium, Total	mg/L	-0.000140	0.000440	0.100	0.0954	0.0971	0.100	0.0850 to 0.115	95.4	70.0 to 130	1.77	20.0
BC12344	Cobalt, Dissolved	mg/L	0.0000072	0.000147	0.100	0.129	0.133	0.102	0.0850 to 0.115	96.1	70.0 to 130	3.05	20.0
BC12342	Cobalt, Total	mg/L	-0.0000765	0.000147	0.100	0.540	0.543	0.104	0.0850 to 0.115	113	70.0 to 130	0.554	20.0
BC12341	Fluoride	mg/L	0.0281	0.125	2.50	2.73	2.75	2.67	2.25 to 2.75	109	80.0 to 120	0.730	20.0
BC12344	Iron, Dissolved	mg/L	-0.000164	0.0176	0.2	1.91	1.92	0.205	0.170 to 0.230	100	70.0 to 130	0.522	20.0
BC12342	Iron, Total	mg/L	0.000346	0.0176	0.2	25.5	26.5	0.206	0.170 to 0.230	-550	70.0 to 130	3.85	20.0

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 7/6/22 08:14

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill - MW-13

Laboratory ID Number: BC12337

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BC12344	Lead, Dissolved	mg/L	0.0000142	0.000147	0.100	0.0975	0.0994	0.0991	0.0850 to 0.115	97.5	70.0 to 130	1.93	20.0
BC12342	Lead, Total	mg/L	0.0000044	0.000147	0.100	0.103	0.0983	0.100	0.0850 to 0.115	103	70.0 to 130	4.67	20.0
BC12344	Lithium, Dissolved	mg/L	-0.000049	0.0154	0.200	0.279	0.270	0.206	0.170 to 0.230	112	70.0 to 130	3.28	20.0
BC12342	Lithium, Total	mg/L	-0.000392	0.0154	0.200	0.283	0.283	0.221	0.170 to 0.230	119	70.0 to 130	0.00	20.0
BC12344	Magnesium, Dissolved	mg/L	-0.00581	0.0462	5.00	361	372	5.12	4.25 to 5.75	-60.0	70.0 to 130	3.00	20.0
BC12342	Magnesium, Total	mg/L	-0.00637	0.0462	5.00	454	491	5.26	4.25 to 5.75	-720	70.0 to 130	7.83	20.0
BC12344	Manganese, Dissolved	mg/L	-0.0000599	0.0002	0.100	1.87	1.88	0.0972	0.0850 to 0.115	50.0	70.0 to 130	0.533	20.0
BC12342	Manganese, Total	mg/L	0.0000060	0.0002	0.100	24.9	24.7	0.102	0.0850 to 0.115	-100	70.0 to 130	0.806	20.0
BC12342	Mercury, Total by CVAA	mg/L	3.000E-05	0.000500	0.004	0.00408	0.00413	0.00408	0.00340 to 0.00460	102	70.0 to 130	1.22	20.0
BC12344	Molybdenum, Dissolved	mg/L	0.0000032	0.0002	0.100	0.0976	0.0975	0.0982	0.0850 to 0.115	97.4	70.0 to 130	0.103	20.0
BC12342	Molybdenum, Total	mg/L	-0.0000008	0.0002	0.100	0.0930	0.0923	0.0950	0.0850 to 0.115	92.8	70.0 to 130	0.756	20.0
BC12344	Potassium, Dissolved	mg/L	0.0319	0.367	10.0	15.8	16.2	10.3	8.50 to 11.5	97.1	70.0 to 130	2.50	20.0
BC12342	Potassium, Total	mg/L	-0.00723	0.367	10.0	17.6	17.8	10.9	8.50 to 11.5	103	70.0 to 130	1.13	20.0
BC12344	Selenium, Dissolved	mg/L	-0.0000305	0.00100	0.100	0.0994	0.101	0.0999	0.0850 to 0.115	99.4	70.0 to 130	1.60	20.0
BC12342	Selenium, Total	mg/L	0.0000396	0.00100	0.100	0.103	0.104	0.104	0.0850 to 0.115	102	70.0 to 130	0.966	20.0
BC12344	Silicon, Dissolved	mg/L	0.000035	0.0440	1.00	8.18	8.16	1.03	0.850 to 1.15	98.0	70.0 to 130	0.245	20.0
BC12342	Silicon, Total	mg/L	0.000635	0.0440	1.00	9.13	9.13	1.01	0.850 to 1.15	96.0	70.0 to 130	0.00	20.0
BC12344	Sodium, Dissolved	mg/L	-0.0247	0.0660	5.00	36.1	34.9	4.91	4.25 to 5.75	116	70.0 to 130	3.38	20.0
BC12342	Sodium, Total	mg/L	0.0017	0.0660	5.00	45.6	50.6	5.43	4.25 to 5.75	22.0	70.0 to 130	10.4	20.0
BC12341	Sulfate	mg/L	0.0536	2.0	20.0	20.2	19.8	19.3	18.0 to 22.0	95.2	80.0 to 120	2.00	20.0
BC12344	Thallium, Dissolved	mg/L	0.0000183	0.000147	0.100	0.0937	0.0969	0.0966	0.0850 to 0.115	93.7	70.0 to 130	3.36	20.0
BC12342	Thallium, Total	mg/L	-0.0000823	0.000147	0.100	0.110	0.105	0.108	0.0850 to 0.115	110	70.0 to 130	4.65	20.0
BC12342	Total Organic Carbon	mg/L	0.204	1.00	10.0	11.6	11.6	9.20		67.5	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: WMWGORLF

Sample Date: 7/6/22 08:14

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill - MW-13

Laboratory ID Number: BC12337

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard Standard	Standard Limit	Rec Rec	Rec Limit	Prec	Prec Limit
BC12338	Alkalinity, Total as CaCO3	mg/L					289	50.5	45.0 to 55.0			4.96	10.0
BC12342	Nitrogen, Nitrate/Nitrite	mg/L as N	0.02	0.200	2.00	2.00	0.223	2.09	1.80 to 2.20	89.0	90.0 to 110	1.81	15.0
BC12346	Solids, Dissolved	mg/L	2.00	25.0			3360	42.0	40.0 to 60.0			0.889	10.0

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-14

Location Code: WMWGORLF
Collected: 7/6/22 09:14
Customer ID:
Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12338

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: EPA 200.7			Analyst: ABB		Preparation Method: EPA 1638				
* Boron, Total	7/12/22 13:23	7/18/22 13:48		1.015	0.0484	mg/L	0.030000	0.1015	J
* Calcium, Total	7/12/22 13:23	7/18/22 15:34		101.5	318	mg/L	7.0035	40.6	
* Iron, Total	7/12/22 13:23	7/18/22 13:48		1.015	1.56	mg/L	0.008120	0.0406	
* Lithium, Total	7/12/22 13:23	7/18/22 14:38		1.015	0.0346	mg/L	0.007105	0.01999956	
* Magnesium, Total	7/12/22 13:23	7/18/22 15:34		101.5	403	mg/L	2.1315	40.6	
Silica, Total (calc.)	7/12/22 13:23	7/18/22 13:48		1	11.5	mg/L			
Silicon, Total	7/12/22 13:23	7/18/22 13:48		1.015	5.36	mg/L	0.02030	0.25375	
* Sodium, Total	7/12/22 13:23	7/18/22 13:48		1.015	29.8	mg/L	0.03045	0.406	
Analytical Method: EPA 200.7			Analyst: ABB		Preparation Method: EPA 1638				
* Boron, Dissolved	7/12/22 12:30	7/13/22 14:27		1.015	0.0474	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	7/12/22 12:30	7/14/22 11:16		10.15	331	mg/L	0.70035	4.06	
* Iron, Dissolved	7/12/22 12:30	7/13/22 14:27		1.015	1.40	mg/L	0.008120	0.0406	
* Lithium, Dissolved	7/12/22 12:30	7/13/22 14:27		1.015	0.0325	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	7/12/22 12:30	7/14/22 11:16		10.15	377	mg/L	0.21315	4.06	
Silica, Dissolved (calc.)	7/12/22 12:30	7/13/22 14:27		1	11.4	mg/L			
Silicon, Dissolved	7/12/22 12:30	7/13/22 14:27		1.015	5.32	mg/L	0.02030	0.25375	
* Sodium, Dissolved	7/12/22 12:30	7/13/22 14:27		1.015	26.3	mg/L	0.03045	0.406	
Analytical Method: EPA 200.8			Analyst: DLJ		Preparation Method: EPA 1638				
* Antimony, Total	7/7/22 16:27	7/8/22 15:30		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/7/22 16:27	7/8/22 15:30		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Total	7/7/22 16:27	7/8/22 15:30		1.015	0.000957	mg/L	0.000081	0.000203	
* Barium, Total	7/7/22 16:27	7/8/22 15:30		1.015	0.0117	mg/L	0.000508	0.001015	
* Beryllium, Total	7/7/22 16:27	7/8/22 15:30		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	7/7/22 16:27	7/8/22 15:30		1.015	0.0000838	mg/L	0.000068	0.000203	J
* Chromium, Total	7/7/22 16:27	7/8/22 15:30		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Total	7/7/22 16:27	7/8/22 15:30		1.015	0.00947	mg/L	0.000068	0.000203	
* Lead, Total	7/7/22 16:27	7/8/22 15:30		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	7/7/22 16:27	7/18/22 12:25		5.075	2.25	mg/L	0.000761	0.001015	
* Molybdenum, Total	7/7/22 16:27	7/8/22 15:30		1.015	0.000942	mg/L	0.000102	0.000203	
* Potassium, Total	7/7/22 16:27	7/8/22 15:30		1.015	8.60	mg/L	0.169505	0.5075	

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-14

Location Code: WMWGORLF
Collected: 7/6/22 09:14
Customer ID:
Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12338

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	7/7/22 16:27	7/8/22 15:30		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	7/7/22 16:27	7/8/22 15:30		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 200.8		Analyst: DLJ							
* Antimony, Dissolved	7/7/22 13:50	7/8/22 11:06		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	7/7/22 13:50	7/8/22 11:06		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Dissolved	7/7/22 13:50	7/8/22 11:06		1.015	0.000728	mg/L	0.000081	0.000203	
* Barium, Dissolved	7/7/22 13:50	7/8/22 11:06		1.015	0.0121	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	7/7/22 13:50	7/8/22 11:06		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	7/7/22 13:50	7/8/22 11:06		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	7/7/22 13:50	7/8/22 11:06		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	7/7/22 13:50	7/8/22 11:06		1.015	0.00886	mg/L	0.000068	0.000203	
* Lead, Dissolved	7/7/22 13:50	7/8/22 11:06		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	7/7/22 13:50	7/13/22 13:54		5.075	2.25	mg/L	0.000761	0.001015	
* Molybdenum, Dissolved	7/7/22 13:50	7/8/22 11:06		1.015	0.000996	mg/L	0.000102	0.000203	
* Potassium, Dissolved	7/7/22 13:50	7/8/22 11:06		1.015	8.18	mg/L	0.169505	0.5075	
* Selenium, Dissolved	7/7/22 13:50	7/8/22 11:06		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	7/7/22 13:50	7/8/22 11:06		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	7/12/22 16:01	7/12/22 20:23		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: CES							
* Nitrogen, Nitrate/Nitrite	7/7/22 16:13	7/7/22 16:13		1	Not Detected	mg/L as N	0.20	0.3	U
Analytical Method: SM 2320 B		Analyst: JS							
Alkalinity, Total as CaCO3	7/11/22 11:30	7/11/22 14:25		1	275	mg/L		0.1	
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	7/7/22 13:38	7/11/22 10:04		1	2920	mg/L		147.1	
Analytical Method: SM 4500CO2 D		Analyst: JS							
Bicarbonate Alkalinity, (calc.)	7/11/22 11:30	7/11/22 14:25		1	275	mg/L		1	A
Carbonate Alkalinity, (calc.)	7/11/22 11:30	7/11/22 14:25		1	Not Detected	mg/L		0.5	A
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	7/12/22 20:37	7/12/22 20:37		1	1.02	mg/L	1.00	2	J

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-14

Location Code: WMWGORLF

Collected: 7/6/22 09:14

Customer ID:

Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12338

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	7/12/22 13:30	7/12/22 13:30		1	2.52	mg/L	0.50	1	
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	7/13/22 11:14	7/13/22 11:14		1	0.280	mg/L	0.06	0.125	
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	7/19/22 09:35	7/19/22 09:35		100	2010	mg/L	60.0	200	
Analytical Method: Field Measurements		Analyst: DKG							
Conductivity	7/6/22 09:14	7/6/22 09:14			3654.57	uS/cm			FA
pH	7/6/22 09:14	7/6/22 09:14			6.43	SU			FA
Temperature	7/6/22 09:14	7/6/22 09:14			20.21	C			FA
Turbidity	7/6/22 09:14	7/6/22 09:14			4.03	NTU			FA
Sulfide	7/6/22 09:14	7/6/22 09:14			0	mg/L			FA

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 7/6/22 09:14

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill - MW-14

Laboratory ID Number: BC12338

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12344	Aluminum, Dissolved	mg/L	-0.000847	0.010	0.100	0.0983	0.0998	0.0993	0.0850 to 0.115	98.3	70.0 to 130	1.51	20.0
BC12342	Aluminum, Total	mg/L	0.000611	0.010	0.100	0.123	0.122	0.108	0.0850 to 0.115	104	70.0 to 130	0.816	20.0
BC12344	Antimony, Dissolved	mg/L	0.000408	0.00100	0.100	0.0956	0.0932	0.0889	0.0850 to 0.115	95.6	70.0 to 130	2.54	20.0
BC12342	Antimony, Total	mg/L	0.000282	0.00100	0.100	0.103	0.102	0.0935	0.0850 to 0.115	103	70.0 to 130	0.976	20.0
BC12344	Arsenic, Dissolved	mg/L	-0.0000044	0.000176	0.100	0.100	0.102	0.0983	0.0850 to 0.115	99.9	70.0 to 130	1.98	20.0
BC12342	Arsenic, Total	mg/L	0.0000184	0.000176	0.100	0.107	0.104	0.103	0.0850 to 0.115	105	70.0 to 130	2.84	20.0
BC12344	Barium, Dissolved	mg/L	-0.0000026	0.00100	0.100	0.115	0.113	0.0992	0.0850 to 0.115	105	70.0 to 130	1.75	20.0
BC12342	Barium, Total	mg/L	-0.0000541	0.00100	0.100	0.115	0.116	0.0994	0.0850 to 0.115	102	70.0 to 130	0.866	20.0
BC12344	Beryllium, Dissolved	mg/L	0.000265	0.000880	0.100	0.0904	0.0931	0.0948	0.0850 to 0.115	90.4	70.0 to 130	2.94	20.0
BC12342	Beryllium, Total	mg/L	0.0000185	0.000880	0.100	0.0974	0.0979	0.107	0.0850 to 0.115	97.4	70.0 to 130	0.512	20.0
BC12344	Boron, Dissolved	mg/L	-0.000346	0.0650	1.00	1.05	1.06	1.01	0.850 to 1.15	101	70.0 to 130	0.948	20.0
BC12342	Boron, Total	mg/L	-0.000586	0.0650	1.00	1.11	1.10	1.00	0.850 to 1.15	106	70.0 to 130	0.905	20.0
BC12344	Cadmium, Dissolved	mg/L	0.0000076	0.000147	0.100	0.0969	0.0975	0.0983	0.0850 to 0.115	96.9	70.0 to 130	0.617	20.0
BC12342	Cadmium, Total	mg/L	0.0000051	0.000147	0.100	0.0952	0.0928	0.0989	0.0850 to 0.115	95.2	70.0 to 130	2.55	20.0
BC12344	Calcium, Dissolved	mg/L	-0.0181	0.152	5.00	341	351	4.92	4.25 to 5.75	-40.0	70.0 to 130	2.89	20.0
BC12342	Calcium, Total	mg/L	-0.0361	0.152	5.00	365	402	4.65	4.25 to 5.75	-740	70.0 to 130	9.65	20.0
BC12341	Chloride	mg/L	-0.0105	1.00	10.0	10.4	10.7	10.4	9.00 to 11.0	104	80.0 to 120	2.84	20.0
BC12344	Chromium, Dissolved	mg/L	0.0000644	0.000440	0.100	0.0972	0.0994	0.0986	0.0850 to 0.115	96.9	70.0 to 130	2.24	20.0
BC12342	Chromium, Total	mg/L	-0.000140	0.000440	0.100	0.0954	0.0971	0.100	0.0850 to 0.115	95.4	70.0 to 130	1.77	20.0
BC12344	Cobalt, Dissolved	mg/L	0.0000072	0.000147	0.100	0.129	0.133	0.102	0.0850 to 0.115	96.1	70.0 to 130	3.05	20.0
BC12342	Cobalt, Total	mg/L	-0.0000765	0.000147	0.100	0.540	0.543	0.104	0.0850 to 0.115	113	70.0 to 130	0.554	20.0
BC12341	Fluoride	mg/L	0.0281	0.125	2.50	2.73	2.75	2.67	2.25 to 2.75	109	80.0 to 120	0.730	20.0
BC12344	Iron, Dissolved	mg/L	-0.000164	0.0176	0.2	1.91	1.92	0.205	0.170 to 0.230	100	70.0 to 130	0.522	20.0
BC12342	Iron, Total	mg/L	0.000346	0.0176	0.2	25.5	26.5	0.206	0.170 to 0.230	-550	70.0 to 130	3.85	20.0

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 7/6/22 09:14

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill - MW-14

Laboratory ID Number: BC12338

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BC12344	Lead, Dissolved	mg/L	0.0000142	0.000147	0.100	0.0975	0.0994	0.0991	0.0850 to 0.115	97.5	70.0 to 130	1.93	20.0
BC12342	Lead, Total	mg/L	0.0000044	0.000147	0.100	0.103	0.0983	0.100	0.0850 to 0.115	103	70.0 to 130	4.67	20.0
BC12344	Lithium, Dissolved	mg/L	-0.000049	0.0154	0.200	0.279	0.270	0.206	0.170 to 0.230	112	70.0 to 130	3.28	20.0
BC12342	Lithium, Total	mg/L	-0.000392	0.0154	0.200	0.283	0.283	0.221	0.170 to 0.230	119	70.0 to 130	0.00	20.0
BC12344	Magnesium, Dissolved	mg/L	-0.00581	0.0462	5.00	361	372	5.12	4.25 to 5.75	-60.0	70.0 to 130	3.00	20.0
BC12342	Magnesium, Total	mg/L	-0.00637	0.0462	5.00	454	491	5.26	4.25 to 5.75	-720	70.0 to 130	7.83	20.0
BC12344	Manganese, Dissolved	mg/L	-0.0000599	0.0002	0.100	1.87	1.88	0.0972	0.0850 to 0.115	50.0	70.0 to 130	0.533	20.0
BC12342	Manganese, Total	mg/L	0.0000060	0.0002	0.100	24.9	24.7	0.102	0.0850 to 0.115	-100	70.0 to 130	0.806	20.0
BC12342	Mercury, Total by CVAA	mg/L	3.000E-05	0.000500	0.004	0.00408	0.00413	0.00408	0.00340 to 0.00460	102	70.0 to 130	1.22	20.0
BC12344	Molybdenum, Dissolved	mg/L	0.0000032	0.0002	0.100	0.0976	0.0975	0.0982	0.0850 to 0.115	97.4	70.0 to 130	0.103	20.0
BC12342	Molybdenum, Total	mg/L	-0.0000008	0.0002	0.100	0.0930	0.0923	0.0950	0.0850 to 0.115	92.8	70.0 to 130	0.756	20.0
BC12344	Potassium, Dissolved	mg/L	0.0319	0.367	10.0	15.8	16.2	10.3	8.50 to 11.5	97.1	70.0 to 130	2.50	20.0
BC12342	Potassium, Total	mg/L	-0.00723	0.367	10.0	17.6	17.8	10.9	8.50 to 11.5	103	70.0 to 130	1.13	20.0
BC12344	Selenium, Dissolved	mg/L	-0.0000305	0.00100	0.100	0.0994	0.101	0.0999	0.0850 to 0.115	99.4	70.0 to 130	1.60	20.0
BC12342	Selenium, Total	mg/L	0.0000396	0.00100	0.100	0.103	0.104	0.104	0.0850 to 0.115	102	70.0 to 130	0.966	20.0
BC12344	Silicon, Dissolved	mg/L	0.000035	0.0440	1.00	8.18	8.16	1.03	0.850 to 1.15	98.0	70.0 to 130	0.245	20.0
BC12342	Silicon, Total	mg/L	0.000635	0.0440	1.00	9.13	9.13	1.01	0.850 to 1.15	96.0	70.0 to 130	0.00	20.0
BC12344	Sodium, Dissolved	mg/L	-0.0247	0.0660	5.00	36.1	34.9	4.91	4.25 to 5.75	116	70.0 to 130	3.38	20.0
BC12342	Sodium, Total	mg/L	0.0017	0.0660	5.00	45.6	50.6	5.43	4.25 to 5.75	22.0	70.0 to 130	10.4	20.0
BC12341	Sulfate	mg/L	0.0536	2.0	20.0	20.2	19.8	19.3	18.0 to 22.0	95.2	80.0 to 120	2.00	20.0
BC12344	Thallium, Dissolved	mg/L	0.0000183	0.000147	0.100	0.0937	0.0969	0.0966	0.0850 to 0.115	93.7	70.0 to 130	3.36	20.0
BC12342	Thallium, Total	mg/L	-0.0000823	0.000147	0.100	0.110	0.105	0.108	0.0850 to 0.115	110	70.0 to 130	4.65	20.0
BC12342	Total Organic Carbon	mg/L	0.204	1.00	10.0	11.6	11.6	9.20		67.5	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: WMWGORLF

Sample Date: 7/6/22 09:14

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill - MW-14

Laboratory ID Number: BC12338

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC12338	Alkalinity, Total as CaCO3	mg/L					289	50.5	45.0 to 55.0			4.96	10.0
BC12342	Nitrogen, Nitrate/Nitrite	mg/L as N	0.02	0.200	2.00	2.00	0.223	2.09	1.80 to 2.20	89.0	90.0 to 110	1.81	15.0
BC12346	Solids, Dissolved	mg/L	2.00	25.0			3360	42.0	40.0 to 60.0			0.889	10.0

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-15

Location Code: WMWGORLF
Collected: 7/6/22 10:27
Customer ID:
Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12339

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: EPA 200.7			Analyst: ABB		Preparation Method: EPA 1638				
* Boron, Total	7/12/22 13:23	7/18/22 13:51		1.015	0.0425	mg/L	0.030000	0.1015	J
* Calcium, Total	7/12/22 13:23	7/18/22 15:37		10.15	251	mg/L	0.70035	4.06	
* Iron, Total	7/12/22 13:23	7/18/22 15:37		10.15	17.8	mg/L	0.08120	0.406	
* Lithium, Total	7/12/22 13:23	7/18/22 14:41		1.015	0.0567	mg/L	0.007105	0.01999956	
* Magnesium, Total	7/12/22 13:23	7/18/22 15:37		10.15	279	mg/L	0.21315	4.06	
Silica, Total (calc.)	7/12/22 13:23	7/18/22 13:51		1	20.8	mg/L			
Silicon, Total	7/12/22 13:23	7/18/22 13:51		1.015	9.74	mg/L	0.02030	0.25375	
* Sodium, Total	7/12/22 13:23	7/18/22 13:51		1.015	26.1	mg/L	0.03045	0.406	
Analytical Method: EPA 200.7			Analyst: ABB		Preparation Method: EPA 1638				
* Boron, Dissolved	7/12/22 12:30	7/13/22 14:29		1.015	0.0441	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	7/12/22 12:30	7/14/22 11:19		10.15	252	mg/L	0.70035	4.06	
* Iron, Dissolved	7/12/22 12:30	7/14/22 11:19		10.15	16.6	mg/L	0.08120	0.406	
* Lithium, Dissolved	7/12/22 12:30	7/13/22 14:29		1.015	0.0567	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	7/12/22 12:30	7/14/22 11:19		10.15	263	mg/L	0.21315	4.06	
Silica, Dissolved (calc.)	7/12/22 12:30	7/13/22 14:29		1	20.3	mg/L			
Silicon, Dissolved	7/12/22 12:30	7/13/22 14:29		1.015	9.48	mg/L	0.02030	0.25375	
* Sodium, Dissolved	7/12/22 12:30	7/13/22 14:29		1.015	23.7	mg/L	0.03045	0.406	
Analytical Method: EPA 200.8			Analyst: DLJ		Preparation Method: EPA 1638				
* Antimony, Total	7/7/22 16:27	7/8/22 15:33		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/7/22 16:27	7/8/22 15:33		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Total	7/7/22 16:27	7/8/22 15:33		1.015	0.000238	mg/L	0.000081	0.000203	
* Barium, Total	7/7/22 16:27	7/8/22 15:33		1.015	0.0123	mg/L	0.000508	0.001015	
* Beryllium, Total	7/7/22 16:27	7/8/22 15:33		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	7/7/22 16:27	7/8/22 15:33		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	7/7/22 16:27	7/8/22 15:33		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Total	7/7/22 16:27	7/8/22 15:33		1.015	0.0659	mg/L	0.000068	0.000203	
* Lead, Total	7/7/22 16:27	7/8/22 15:33		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	7/7/22 16:27	7/18/22 12:29		10.15	12.3	mg/L	0.001522	0.00203	
* Molybdenum, Total	7/7/22 16:27	7/8/22 15:33		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Potassium, Total	7/7/22 16:27	7/8/22 15:33		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.

Certificate Of Analysis

Description: Gorgas Landfill - MW-15

Location Code: WMWGORLF

Collected: 7/6/22 10:27

Customer ID:

Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12339

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	7/7/22 16:27	7/8/22 15:33		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	7/7/22 16:27	7/8/22 15:33		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 200.8		Analyst: DLJ							
* Antimony, Dissolved	7/7/22 13:50	7/8/22 11:10		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	7/7/22 13:50	7/8/22 11:10		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Dissolved	7/7/22 13:50	7/8/22 11:10		1.015	0.000225	mg/L	0.000081	0.000203	
* Barium, Dissolved	7/7/22 13:50	7/8/22 11:10		1.015	0.0117	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	7/7/22 13:50	7/8/22 11:10		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	7/7/22 13:50	7/8/22 11:10		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	7/7/22 13:50	7/8/22 11:10		1.015	0.000281	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	7/7/22 13:50	7/8/22 11:10		1.015	0.0665	mg/L	0.000068	0.000203	
* Lead, Dissolved	7/7/22 13:50	7/8/22 11:10		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	7/7/22 13:50	7/13/22 13:58		10.15	12.4	mg/L	0.001522	0.00203	
* Molybdenum, Dissolved	7/7/22 13:50	7/8/22 11:10		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Potassium, Dissolved	7/7/22 13:50	7/8/22 11:10		1.015	5.24	mg/L	0.169505	0.5075	
* Selenium, Dissolved	7/7/22 13:50	7/8/22 11:10		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	7/7/22 13:50	7/8/22 11:10		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	7/12/22 16:01	7/12/22 20:27		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: CES							
* Nitrogen, Nitrate/Nitrite	7/7/22 16:15	7/7/22 16:15		1	Not Detected	mg/L as N	0.20	0.3	U
Analytical Method: SM 2320 B		Analyst: ALH							
Alkalinity, Total as CaCO3	7/14/22 13:50	7/14/22 15:45		1	191	mg/L		0.1	
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	7/7/22 13:38	7/11/22 10:04		1	2190	mg/L		125	
Analytical Method: SM 4500CO2 D		Analyst: ALH							
Bicarbonate Alkalinity, (calc.)	7/14/22 13:50	7/14/22 15:45		1	191	mg/L		1	A
Carbonate Alkalinity, (calc.)	7/14/22 13:50	7/14/22 15:45		1	Not Detected	mg/L		0.5	A
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	7/12/22 20:58	7/12/22 20:58		1	1.89	mg/L	1.00	2	J

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-15

Location Code: WMWGORLF

Collected: 7/6/22 10:27

Customer ID:

Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12339

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	7/12/22 13:31	7/12/22 13:31		1	2.34	mg/L	0.50	1	
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	7/13/22 11:15	7/13/22 11:15		1	0.305	mg/L	0.06	0.125	
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	7/19/22 09:36	7/19/22 09:36		100	1460	mg/L	60.0	200	
Analytical Method: Field Measurements		Analyst: DKG							
Conductivity	7/6/22 10:24	7/6/22 10:24			3005.49	uS/cm			FA
pH	7/6/22 10:24	7/6/22 10:24			6.09	SU			FA
Temperature	7/6/22 10:24	7/6/22 10:24			20.51	C			FA
Turbidity	7/6/22 10:24	7/6/22 10:24			4.73	NTU			FA
Sulfide	7/6/22 10:24	7/6/22 10:24			0	mg/L			FA

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 7/6/22 10:27

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill - MW-15

Laboratory ID Number: BC12339

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BC12344	Aluminum, Dissolved	mg/L	-0.000847	0.010	0.100	0.0983	0.0998	0.0993	0.0850 to 0.115	98.3	70.0 to 130	1.51	20.0
BC12342	Aluminum, Total	mg/L	0.000611	0.010	0.100	0.123	0.122	0.108	0.0850 to 0.115	104	70.0 to 130	0.816	20.0
BC12344	Antimony, Dissolved	mg/L	0.000408	0.00100	0.100	0.0956	0.0932	0.0889	0.0850 to 0.115	95.6	70.0 to 130	2.54	20.0
BC12342	Antimony, Total	mg/L	0.000282	0.00100	0.100	0.103	0.102	0.0935	0.0850 to 0.115	103	70.0 to 130	0.976	20.0
BC12344	Arsenic, Dissolved	mg/L	-0.0000044	0.000176	0.100	0.100	0.102	0.0983	0.0850 to 0.115	99.9	70.0 to 130	1.98	20.0
BC12342	Arsenic, Total	mg/L	0.0000184	0.000176	0.100	0.107	0.104	0.103	0.0850 to 0.115	105	70.0 to 130	2.84	20.0
BC12344	Barium, Dissolved	mg/L	-0.0000026	0.00100	0.100	0.115	0.113	0.0992	0.0850 to 0.115	105	70.0 to 130	1.75	20.0
BC12342	Barium, Total	mg/L	-0.0000541	0.00100	0.100	0.115	0.116	0.0994	0.0850 to 0.115	102	70.0 to 130	0.866	20.0
BC12344	Beryllium, Dissolved	mg/L	0.000265	0.000880	0.100	0.0904	0.0931	0.0948	0.0850 to 0.115	90.4	70.0 to 130	2.94	20.0
BC12342	Beryllium, Total	mg/L	0.0000185	0.000880	0.100	0.0974	0.0979	0.107	0.0850 to 0.115	97.4	70.0 to 130	0.512	20.0
BC12344	Boron, Dissolved	mg/L	-0.000346	0.0650	1.00	1.05	1.06	1.01	0.850 to 1.15	101	70.0 to 130	0.948	20.0
BC12342	Boron, Total	mg/L	-0.000586	0.0650	1.00	1.11	1.10	1.00	0.850 to 1.15	106	70.0 to 130	0.905	20.0
BC12344	Cadmium, Dissolved	mg/L	0.0000076	0.000147	0.100	0.0969	0.0975	0.0983	0.0850 to 0.115	96.9	70.0 to 130	0.617	20.0
BC12342	Cadmium, Total	mg/L	0.0000051	0.000147	0.100	0.0952	0.0928	0.0989	0.0850 to 0.115	95.2	70.0 to 130	2.55	20.0
BC12344	Calcium, Dissolved	mg/L	-0.0181	0.152	5.00	341	351	4.92	4.25 to 5.75	-40.0	70.0 to 130	2.89	20.0
BC12342	Calcium, Total	mg/L	-0.0361	0.152	5.00	365	402	4.65	4.25 to 5.75	-740	70.0 to 130	9.65	20.0
BC12341	Chloride	mg/L	-0.0105	1.00	10.0	10.4	10.7	10.4	9.00 to 11.0	104	80.0 to 120	2.84	20.0
BC12344	Chromium, Dissolved	mg/L	0.0000644	0.000440	0.100	0.0972	0.0994	0.0986	0.0850 to 0.115	96.9	70.0 to 130	2.24	20.0
BC12342	Chromium, Total	mg/L	-0.000140	0.000440	0.100	0.0954	0.0971	0.100	0.0850 to 0.115	95.4	70.0 to 130	1.77	20.0
BC12344	Cobalt, Dissolved	mg/L	0.0000072	0.000147	0.100	0.129	0.133	0.102	0.0850 to 0.115	96.1	70.0 to 130	3.05	20.0
BC12342	Cobalt, Total	mg/L	-0.0000765	0.000147	0.100	0.540	0.543	0.104	0.0850 to 0.115	113	70.0 to 130	0.554	20.0
BC12341	Fluoride	mg/L	0.0281	0.125	2.50	2.73	2.75	2.67	2.25 to 2.75	109	80.0 to 120	0.730	20.0
BC12344	Iron, Dissolved	mg/L	-0.000164	0.0176	0.2	1.91	1.92	0.205	0.170 to 0.230	100	70.0 to 130	0.522	20.0
BC12342	Iron, Total	mg/L	0.000346	0.0176	0.2	25.5	26.5	0.206	0.170 to 0.230	-550	70.0 to 130	3.85	20.0

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 7/6/22 10:27

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill - MW-15

Laboratory ID Number: BC12339

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BC12344	Lead, Dissolved	mg/L	0.0000142	0.000147	0.100	0.0975	0.0994	0.0991	0.0850 to 0.115	97.5	70.0 to 130	1.93	20.0
BC12342	Lead, Total	mg/L	0.0000044	0.000147	0.100	0.103	0.0983	0.100	0.0850 to 0.115	103	70.0 to 130	4.67	20.0
BC12344	Lithium, Dissolved	mg/L	-0.000049	0.0154	0.200	0.279	0.270	0.206	0.170 to 0.230	112	70.0 to 130	3.28	20.0
BC12342	Lithium, Total	mg/L	-0.000392	0.0154	0.200	0.283	0.283	0.221	0.170 to 0.230	119	70.0 to 130	0.00	20.0
BC12344	Magnesium, Dissolved	mg/L	-0.00581	0.0462	5.00	361	372	5.12	4.25 to 5.75	-60.0	70.0 to 130	3.00	20.0
BC12342	Magnesium, Total	mg/L	-0.00637	0.0462	5.00	454	491	5.26	4.25 to 5.75	-720	70.0 to 130	7.83	20.0
BC12344	Manganese, Dissolved	mg/L	-0.0000599	0.0002	0.100	1.87	1.88	0.0972	0.0850 to 0.115	50.0	70.0 to 130	0.533	20.0
BC12342	Manganese, Total	mg/L	0.0000060	0.0002	0.100	24.9	24.7	0.102	0.0850 to 0.115	-100	70.0 to 130	0.806	20.0
BC12342	Mercury, Total by CVAA	mg/L	3.000E-05	0.000500	0.004	0.00408	0.00413	0.00408	0.00340 to 0.00460	102	70.0 to 130	1.22	20.0
BC12344	Molybdenum, Dissolved	mg/L	0.0000032	0.0002	0.100	0.0976	0.0975	0.0982	0.0850 to 0.115	97.4	70.0 to 130	0.103	20.0
BC12342	Molybdenum, Total	mg/L	-0.0000008	0.0002	0.100	0.0930	0.0923	0.0950	0.0850 to 0.115	92.8	70.0 to 130	0.756	20.0
BC12344	Potassium, Dissolved	mg/L	0.0319	0.367	10.0	15.8	16.2	10.3	8.50 to 11.5	97.1	70.0 to 130	2.50	20.0
BC12342	Potassium, Total	mg/L	-0.00723	0.367	10.0	17.6	17.8	10.9	8.50 to 11.5	103	70.0 to 130	1.13	20.0
BC12344	Selenium, Dissolved	mg/L	-0.0000305	0.00100	0.100	0.0994	0.101	0.0999	0.0850 to 0.115	99.4	70.0 to 130	1.60	20.0
BC12342	Selenium, Total	mg/L	0.0000396	0.00100	0.100	0.103	0.104	0.104	0.0850 to 0.115	102	70.0 to 130	0.966	20.0
BC12344	Silicon, Dissolved	mg/L	0.000035	0.0440	1.00	8.18	8.16	1.03	0.850 to 1.15	98.0	70.0 to 130	0.245	20.0
BC12342	Silicon, Total	mg/L	0.000635	0.0440	1.00	9.13	9.13	1.01	0.850 to 1.15	96.0	70.0 to 130	0.00	20.0
BC12344	Sodium, Dissolved	mg/L	-0.0247	0.0660	5.00	36.1	34.9	4.91	4.25 to 5.75	116	70.0 to 130	3.38	20.0
BC12342	Sodium, Total	mg/L	0.0017	0.0660	5.00	45.6	50.6	5.43	4.25 to 5.75	22.0	70.0 to 130	10.4	20.0
BC12341	Sulfate	mg/L	0.0536	2.0	20.0	20.2	19.8	19.3	18.0 to 22.0	95.2	80.0 to 120	2.00	20.0
BC12344	Thallium, Dissolved	mg/L	0.0000183	0.000147	0.100	0.0937	0.0969	0.0966	0.0850 to 0.115	93.7	70.0 to 130	3.36	20.0
BC12342	Thallium, Total	mg/L	-0.0000823	0.000147	0.100	0.110	0.105	0.108	0.0850 to 0.115	110	70.0 to 130	4.65	20.0
BC12342	Total Organic Carbon	mg/L	0.204	1.00	10.0	11.6	11.6	9.20		67.5	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: WMWGORLF

Sample Date: 7/6/22 10:27

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill - MW-15

Laboratory ID Number: BC12339

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard Standard	Standard Limit	Rec Rec	Rec Limit	Prec Prec	Prec Limit
BC12349	Alkalinity, Total as CaCO3	mg/L					359	49.3	45.0 to 55.0			9.02	10.0
BC12342	Nitrogen, Nitrate/Nitrite	mg/L as N	0.02	0.200	2.00	2.00	0.223	2.09	1.80 to 2.20	89.0	90.0 to 110	1.81	15.0
BC12346	Solids, Dissolved	mg/L	2.00	25.0			3360	42.0	40.0 to 60.0			0.889	10.0

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-16

Location Code: WMWGORLF
Collected: 7/6/22 11:40
Customer ID:
Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12340

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: EPA 200.7			Analyst: ABB		Preparation Method: EPA 1638				
* Boron, Total	7/12/22 13:23	7/18/22 13:54		1.015	0.0465	mg/L	0.030000	0.1015	J
* Calcium, Total	7/12/22 13:23	7/18/22 15:40		10.15	343	mg/L	0.70035	4.06	
* Iron, Total	7/12/22 13:23	7/18/22 13:54		1.015	3.09	mg/L	0.008120	0.0406	
* Lithium, Total	7/12/22 13:23	7/18/22 14:44		1.015	0.0160	mg/L	0.007105	0.01999956	J
* Magnesium, Total	7/12/22 13:23	7/18/22 15:40		10.15	304	mg/L	0.21315	4.06	
Silica, Total (calc.)	7/12/22 13:23	7/18/22 13:54		1	13.7	mg/L			
Silicon, Total	7/12/22 13:23	7/18/22 13:54		1.015	6.38	mg/L	0.02030	0.25375	
* Sodium, Total	7/12/22 13:23	7/18/22 13:54		1.015	30.6	mg/L	0.03045	0.406	
Analytical Method: EPA 200.7			Analyst: ABB		Preparation Method: EPA 1638				
* Boron, Dissolved	7/12/22 12:30	7/13/22 14:32		1.015	0.0453	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	7/12/22 12:30	7/14/22 11:22		10.15	317	mg/L	0.70035	4.06	
* Iron, Dissolved	7/12/22 12:30	7/13/22 14:32		1.015	2.93	mg/L	0.008120	0.0406	
* Lithium, Dissolved	7/12/22 12:30	7/13/22 14:32		1.015	0.0154	mg/L	0.007105	0.01999956	J
* Magnesium, Dissolved	7/12/22 12:30	7/14/22 11:22		10.15	260	mg/L	0.21315	4.06	
Silica, Dissolved (calc.)	7/12/22 12:30	7/13/22 14:32		1	13.3	mg/L			
Silicon, Dissolved	7/12/22 12:30	7/13/22 14:32		1.015	6.21	mg/L	0.02030	0.25375	
* Sodium, Dissolved	7/12/22 12:30	7/13/22 14:32		1.015	26.0	mg/L	0.03045	0.406	
Analytical Method: EPA 200.8			Analyst: DLJ		Preparation Method: EPA 1638				
* Antimony, Total	7/7/22 16:27	7/8/22 15:37		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/7/22 16:27	7/8/22 15:37		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Total	7/7/22 16:27	7/8/22 15:37		1.015	0.00304	mg/L	0.000081	0.000203	
* Barium, Total	7/7/22 16:27	7/8/22 15:37		1.015	0.0129	mg/L	0.000508	0.001015	
* Beryllium, Total	7/7/22 16:27	7/8/22 15:37		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	7/7/22 16:27	7/8/22 15:37		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	7/7/22 16:27	7/8/22 15:37		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Total	7/7/22 16:27	7/8/22 15:37		1.015	0.0101	mg/L	0.000068	0.000203	
* Lead, Total	7/7/22 16:27	7/8/22 15:37		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	7/7/22 16:27	7/18/22 12:32		5.075	2.98	mg/L	0.000761	0.001015	
* Molybdenum, Total	7/7/22 16:27	7/8/22 15:37		1.015	0.000523	mg/L	0.000102	0.000203	
* Potassium, Total	7/7/22 16:27	7/8/22 15:37		1.015	8.23	mg/L	0.169505	0.5075	

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-16

Location Code: WMWGORLF
Collected: 7/6/22 11:40
Customer ID:
Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12340

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	7/7/22 16:27	7/8/22 15:37		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	7/7/22 16:27	7/8/22 15:37		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 200.8		Analyst: DLJ							
* Antimony, Dissolved	7/7/22 13:50	7/8/22 11:14		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	7/7/22 13:50	7/8/22 11:14		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Dissolved	7/7/22 13:50	7/8/22 11:14		1.015	0.00294	mg/L	0.000081	0.000203	
* Barium, Dissolved	7/7/22 13:50	7/8/22 11:14		1.015	0.0135	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	7/7/22 13:50	7/8/22 11:14		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	7/7/22 13:50	7/8/22 11:14		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	7/7/22 13:50	7/8/22 11:14		1.015	0.000283	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	7/7/22 13:50	7/8/22 11:14		1.015	0.0100	mg/L	0.000068	0.000203	
* Lead, Dissolved	7/7/22 13:50	7/8/22 11:14		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	7/7/22 13:50	7/13/22 14:02		5.075	2.95	mg/L	0.000761	0.001015	
* Molybdenum, Dissolved	7/7/22 13:50	7/8/22 11:14		1.015	0.000543	mg/L	0.000102	0.000203	
* Potassium, Dissolved	7/7/22 13:50	7/8/22 11:14		1.015	7.91	mg/L	0.169505	0.5075	
* Selenium, Dissolved	7/7/22 13:50	7/8/22 11:14		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	7/7/22 13:50	7/8/22 11:14		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	7/12/22 16:01	7/12/22 20:30		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: CES							
* Nitrogen, Nitrate/Nitrite	7/7/22 16:17	7/7/22 16:17		1	Not Detected	mg/L as N	0.20	0.3	U
Analytical Method: SM 2320 B		Analyst: ALH							
Alkalinity, Total as CaCO3	7/14/22 13:50	7/14/22 15:45		1	431	mg/L		0.1	
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	7/7/22 13:38	7/11/22 10:04		1	2220	mg/L		125	
Analytical Method: SM 4500CO2 D		Analyst: ALH							
Bicarbonate Alkalinity, (calc.)	7/14/22 13:50	7/14/22 15:45		1	430	mg/L		1	A
Carbonate Alkalinity, (calc.)	7/14/22 13:50	7/14/22 15:45		1	0.585	mg/L		0.5	A
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	7/12/22 21:19	7/12/22 21:19		1	8.37	mg/L	1.00	2	

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-16

Location Code: WMWGORLF

Collected: 7/6/22 11:40

Customer ID:

Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12340

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	7/12/22 13:32	7/12/22 13:32		1	3.28	mg/L	0.50	1	
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	7/13/22 11:16	7/13/22 11:16		1	0.187	mg/L	0.06	0.125	
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	7/19/22 09:37	7/19/22 09:37		80	1400	mg/L	48.0	160	
Analytical Method: Field Measurements		Analyst: DKG							
Conductivity	7/6/22 11:37	7/6/22 11:37			3268.54	uS/cm			FA
pH	7/6/22 11:37	7/6/22 11:37			6.51	SU			FA
Temperature	7/6/22 11:37	7/6/22 11:37			20.70	C			FA
Turbidity	7/6/22 11:37	7/6/22 11:37			1.25	NTU			FA
Sulfide	7/6/22 11:37	7/6/22 11:37			0	mg/L			FA

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 7/6/22 11:40

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill - MW-16

Laboratory ID Number: BC12340

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12344	Aluminum, Dissolved	mg/L	-0.000847	0.010	0.100	0.0983	0.0998	0.0993	0.0850 to 0.115	98.3	70.0 to 130	1.51	20.0
BC12342	Aluminum, Total	mg/L	0.000611	0.010	0.100	0.123	0.122	0.108	0.0850 to 0.115	104	70.0 to 130	0.816	20.0
BC12344	Antimony, Dissolved	mg/L	0.000408	0.00100	0.100	0.0956	0.0932	0.0889	0.0850 to 0.115	95.6	70.0 to 130	2.54	20.0
BC12342	Antimony, Total	mg/L	0.000282	0.00100	0.100	0.103	0.102	0.0935	0.0850 to 0.115	103	70.0 to 130	0.976	20.0
BC12344	Arsenic, Dissolved	mg/L	-0.0000044	0.000176	0.100	0.100	0.102	0.0983	0.0850 to 0.115	99.9	70.0 to 130	1.98	20.0
BC12342	Arsenic, Total	mg/L	0.0000184	0.000176	0.100	0.107	0.104	0.103	0.0850 to 0.115	105	70.0 to 130	2.84	20.0
BC12344	Barium, Dissolved	mg/L	-0.0000026	0.00100	0.100	0.115	0.113	0.0992	0.0850 to 0.115	105	70.0 to 130	1.75	20.0
BC12342	Barium, Total	mg/L	-0.0000541	0.00100	0.100	0.115	0.116	0.0994	0.0850 to 0.115	102	70.0 to 130	0.866	20.0
BC12344	Beryllium, Dissolved	mg/L	0.000265	0.000880	0.100	0.0904	0.0931	0.0948	0.0850 to 0.115	90.4	70.0 to 130	2.94	20.0
BC12342	Beryllium, Total	mg/L	0.0000185	0.000880	0.100	0.0974	0.0979	0.107	0.0850 to 0.115	97.4	70.0 to 130	0.512	20.0
BC12344	Boron, Dissolved	mg/L	-0.000346	0.0650	1.00	1.05	1.06	1.01	0.850 to 1.15	101	70.0 to 130	0.948	20.0
BC12342	Boron, Total	mg/L	-0.000586	0.0650	1.00	1.11	1.10	1.00	0.850 to 1.15	106	70.0 to 130	0.905	20.0
BC12344	Cadmium, Dissolved	mg/L	0.0000076	0.000147	0.100	0.0969	0.0975	0.0983	0.0850 to 0.115	96.9	70.0 to 130	0.617	20.0
BC12342	Cadmium, Total	mg/L	0.0000051	0.000147	0.100	0.0952	0.0928	0.0989	0.0850 to 0.115	95.2	70.0 to 130	2.55	20.0
BC12344	Calcium, Dissolved	mg/L	-0.0181	0.152	5.00	341	351	4.92	4.25 to 5.75	-40.0	70.0 to 130	2.89	20.0
BC12342	Calcium, Total	mg/L	-0.0361	0.152	5.00	365	402	4.65	4.25 to 5.75	-740	70.0 to 130	9.65	20.0
BC12341	Chloride	mg/L	-0.0105	1.00	10.0	10.4	10.7	10.4	9.00 to 11.0	104	80.0 to 120	2.84	20.0
BC12344	Chromium, Dissolved	mg/L	0.0000644	0.000440	0.100	0.0972	0.0994	0.0986	0.0850 to 0.115	96.9	70.0 to 130	2.24	20.0
BC12342	Chromium, Total	mg/L	-0.000140	0.000440	0.100	0.0954	0.0971	0.100	0.0850 to 0.115	95.4	70.0 to 130	1.77	20.0
BC12344	Cobalt, Dissolved	mg/L	0.0000072	0.000147	0.100	0.129	0.133	0.102	0.0850 to 0.115	96.1	70.0 to 130	3.05	20.0
BC12342	Cobalt, Total	mg/L	-0.0000765	0.000147	0.100	0.540	0.543	0.104	0.0850 to 0.115	113	70.0 to 130	0.554	20.0
BC12341	Fluoride	mg/L	0.0281	0.125	2.50	2.73	2.75	2.67	2.25 to 2.75	109	80.0 to 120	0.730	20.0
BC12344	Iron, Dissolved	mg/L	-0.000164	0.0176	0.2	1.91	1.92	0.205	0.170 to 0.230	100	70.0 to 130	0.522	20.0
BC12342	Iron, Total	mg/L	0.000346	0.0176	0.2	25.5	26.5	0.206	0.170 to 0.230	-550	70.0 to 130	3.85	20.0

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 7/6/22 11:40

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill - MW-16

Laboratory ID Number: BC12340

Sample	Analysis	Units	MB	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
				Limit					Standard	Limit	Rec	Limit		
BC12344	Lead, Dissolved	mg/L	0.0000142	0.000147	0.100	0.0975	0.0994	0.0991	0.0850 to 0.115	97.5	70.0 to 130	1.93	20.0	
BC12342	Lead, Total	mg/L	0.0000044	0.000147	0.100	0.103	0.0983	0.100	0.0850 to 0.115	103	70.0 to 130	4.67	20.0	
BC12344	Lithium, Dissolved	mg/L	-0.000049	0.0154	0.200	0.279	0.270	0.206	0.170 to 0.230	112	70.0 to 130	3.28	20.0	
BC12342	Lithium, Total	mg/L	-0.000392	0.0154	0.200	0.283	0.283	0.221	0.170 to 0.230	119	70.0 to 130	0.00	20.0	
BC12344	Magnesium, Dissolved	mg/L	-0.00581	0.0462	5.00	361	372	5.12	4.25 to 5.75	-60.0	70.0 to 130	3.00	20.0	
BC12342	Magnesium, Total	mg/L	-0.00637	0.0462	5.00	454	491	5.26	4.25 to 5.75	-720	70.0 to 130	7.83	20.0	
BC12344	Manganese, Dissolved	mg/L	-0.0000599	0.0002	0.100	1.87	1.88	0.0972	0.0850 to 0.115	50.0	70.0 to 130	0.533	20.0	
BC12342	Manganese, Total	mg/L	0.0000060	0.0002	0.100	24.9	24.7	0.102	0.0850 to 0.115	-100	70.0 to 130	0.806	20.0	
BC12342	Mercury, Total by CVAA	mg/L	3.000E-05	0.000500	0.004	0.00408	0.00413	0.00408	0.00340 to 0.00460	102	70.0 to 130	1.22	20.0	
BC12344	Molybdenum, Dissolved	mg/L	0.0000032	0.0002	0.100	0.0976	0.0975	0.0982	0.0850 to 0.115	97.4	70.0 to 130	0.103	20.0	
BC12342	Molybdenum, Total	mg/L	-0.0000008	0.0002	0.100	0.0930	0.0923	0.0950	0.0850 to 0.115	92.8	70.0 to 130	0.756	20.0	
BC12344	Potassium, Dissolved	mg/L	0.0319	0.367	10.0	15.8	16.2	10.3	8.50 to 11.5	97.1	70.0 to 130	2.50	20.0	
BC12342	Potassium, Total	mg/L	-0.00723	0.367	10.0	17.6	17.8	10.9	8.50 to 11.5	103	70.0 to 130	1.13	20.0	
BC12344	Selenium, Dissolved	mg/L	-0.0000305	0.00100	0.100	0.0994	0.101	0.0999	0.0850 to 0.115	99.4	70.0 to 130	1.60	20.0	
BC12342	Selenium, Total	mg/L	0.0000396	0.00100	0.100	0.103	0.104	0.104	0.0850 to 0.115	102	70.0 to 130	0.966	20.0	
BC12344	Silicon, Dissolved	mg/L	0.000035	0.0440	1.00	8.18	8.16	1.03	0.850 to 1.15	98.0	70.0 to 130	0.245	20.0	
BC12342	Silicon, Total	mg/L	0.000635	0.0440	1.00	9.13	9.13	1.01	0.850 to 1.15	96.0	70.0 to 130	0.00	20.0	
BC12344	Sodium, Dissolved	mg/L	-0.0247	0.0660	5.00	36.1	34.9	4.91	4.25 to 5.75	116	70.0 to 130	3.38	20.0	
BC12342	Sodium, Total	mg/L	0.0017	0.0660	5.00	45.6	50.6	5.43	4.25 to 5.75	22.0	70.0 to 130	10.4	20.0	
BC12341	Sulfate	mg/L	0.0536	2.0	20.0	20.2	19.8	19.3	18.0 to 22.0	95.2	80.0 to 120	2.00	20.0	
BC12344	Thallium, Dissolved	mg/L	0.0000183	0.000147	0.100	0.0937	0.0969	0.0966	0.0850 to 0.115	93.7	70.0 to 130	3.36	20.0	
BC12342	Thallium, Total	mg/L	-0.0000823	0.000147	0.100	0.110	0.105	0.108	0.0850 to 0.115	110	70.0 to 130	4.65	20.0	
BC12342	Total Organic Carbon	mg/L	0.204	1.00	10.0	11.6	11.6	9.20		67.5	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: WMWGORLF

Sample Date: 7/6/22 11:40

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill - MW-16

Laboratory ID Number: BC12340

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard Standard	Standard Limit	Rec Rec	Rec Limit	Prec	Prec Limit
BC12349	Alkalinity, Total as CaCO3	mg/L					359	49.3	45.0 to 55.0			9.02	10.0
BC12342	Nitrogen, Nitrate/Nitrite	mg/L as N	0.02	0.200	2.00	2.00	0.223	2.09	1.80 to 2.20	89.0	90.0 to 110	1.81	15.0
BC12346	Solids, Dissolved	mg/L	2.00	25.0			3360	42.0	40.0 to 60.0			0.889	10.0

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

Certificate Of Analysis

Description: Gorgas Landfill Equipment Blank-1

Location Code: WMWGORLFEB
Collected: 7/6/22 12:20
Customer ID:
Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12341

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: EPA 200.7			Analyst: ABB		Preparation Method: EPA 1638				
* Boron, Total	7/12/22 13:23	7/18/22 13:57		1.015	Not Detected	mg/L	0.030000	0.1015	U
* Calcium, Total	7/12/22 13:23	7/18/22 13:57		1.015	Not Detected	mg/L	0.070035	0.406	U
* Iron, Total	7/12/22 13:23	7/18/22 13:57		1.015	Not Detected	mg/L	0.008120	0.0406	U
* Lithium, Total	7/12/22 13:23	7/18/22 14:47		1.015	Not Detected	mg/L	0.007105	0.01999956	U
* Magnesium, Total	7/12/22 13:23	7/18/22 13:57		1.015	Not Detected	mg/L	0.021315	0.406	U
Silica, Total (calc.)	7/12/22 13:23	7/18/22 13:57		1	Not Detected	mg/L			
Silicon, Total	7/12/22 13:23	7/18/22 13:57		1.015	Not Detected	mg/L	0.02030	0.25375	U
* Sodium, Total	7/12/22 13:23	7/18/22 13:57		1.015	Not Detected	mg/L	0.03045	0.406	U
Analytical Method: EPA 200.8			Analyst: DLJ		Preparation Method: EPA 1638				
* Antimony, Total	7/7/22 16:27	7/8/22 15:40		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/7/22 16:27	7/8/22 15:40		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Total	7/7/22 16:27	7/8/22 15:40		1.015	Not Detected	mg/L	0.000081	0.000203	U
* Barium, Total	7/7/22 16:27	7/8/22 15:40		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Beryllium, Total	7/7/22 16:27	7/8/22 15:40		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	7/7/22 16:27	7/8/22 15:40		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	7/7/22 16:27	7/8/22 15:40		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Total	7/7/22 16:27	7/8/22 15:40		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Lead, Total	7/7/22 16:27	7/8/22 15:40		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	7/7/22 16:27	7/8/22 15:40		1.015	0.000247	mg/L	0.000152	0.000203	
* Molybdenum, Total	7/7/22 16:27	7/8/22 15:40		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Potassium, Total	7/7/22 16:27	7/8/22 15:40		1.015	Not Detected	mg/L	0.169505	0.5075	U
* Selenium, Total	7/7/22 16:27	7/8/22 15:40		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	7/7/22 16:27	7/8/22 15:40		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 245.1			Analyst: CRB						
* Mercury, Total by CVAA	7/12/22 16:01	7/12/22 20:34		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2			Analyst: CES						
* Nitrogen, Nitrate/Nitrite	7/7/22 16:19	7/7/22 16:19		1	Not Detected	mg/L as N	0.20	0.3	U
Analytical Method: SM 2540C			Analyst: CNJ						
* 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 Landfill Equipment Blank-1

Location Code: WMWGORLFEB

Collected: 7/6/22 12:20

Customer ID:

Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12341

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	7/12/22 21:41	7/12/22 21:41		1	Not Detected	mg/L	1.00	2	U
Analytical Method: SM4500CI E		Analyst: JCC							
* Chloride	7/12/22 13:34	7/12/22 13:34		1	Not Detected	mg/L	0.50	1	U
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	7/13/22 11:18	7/13/22 11:18		1	Not Detected	mg/L	0.06	0.125	U
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	7/19/22 09:26	7/19/22 09:26		1	1.16	mg/L	0.6	2	J

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

Comments:

Batch QC Summary

Customer Account: WMWGORLFEB

Sample Date: 7/6/22 12:20

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill Equipment Blank-1

Laboratory ID Number: BC12341

Sample	Analysis	Units	MB					Standard		Rec		Prec	Limit
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12342	Aluminum, Total	mg/L	0.000611	0.010	0.100	0.123	0.122	0.108	0.0850 to 0.115	104	70.0 to 130	0.816	20.0
BC12342	Antimony, Total	mg/L	0.000282	0.00100	0.100	0.103	0.102	0.0935	0.0850 to 0.115	103	70.0 to 130	0.976	20.0
BC12342	Arsenic, Total	mg/L	0.0000184	0.000176	0.100	0.107	0.104	0.103	0.0850 to 0.115	105	70.0 to 130	2.84	20.0
BC12342	Barium, Total	mg/L	-0.0000541	0.00100	0.100	0.115	0.116	0.0994	0.0850 to 0.115	102	70.0 to 130	0.866	20.0
BC12342	Beryllium, Total	mg/L	0.0000185	0.000880	0.100	0.0974	0.0979	0.107	0.0850 to 0.115	97.4	70.0 to 130	0.512	20.0
BC12342	Boron, Total	mg/L	-0.000586	0.0650	1.00	1.11	1.10	1.00	0.850 to 1.15	106	70.0 to 130	0.905	20.0
BC12342	Cadmium, Total	mg/L	0.0000051	0.000147	0.100	0.0952	0.0928	0.0989	0.0850 to 0.115	95.2	70.0 to 130	2.55	20.0
BC12342	Calcium, Total	mg/L	-0.0361	0.152	5.00	365	402	4.65	4.25 to 5.75	-740	70.0 to 130	9.65	20.0
BC12341	Chloride	mg/L	-0.0105	1.00	10.0	10.4	10.7	10.4	9.00 to 11.0	104	80.0 to 120	2.84	20.0
BC12342	Chromium, Total	mg/L	-0.000140	0.000440	0.100	0.0954	0.0971	0.100	0.0850 to 0.115	95.4	70.0 to 130	1.77	20.0
BC12342	Cobalt, Total	mg/L	-0.0000765	0.000147	0.100	0.540	0.543	0.104	0.0850 to 0.115	113	70.0 to 130	0.554	20.0
BC12341	Fluoride	mg/L	0.0281	0.125	2.50	2.73	2.75	2.67	2.25 to 2.75	109	80.0 to 120	0.730	20.0
BC12342	Iron, Total	mg/L	0.000346	0.0176	0.2	25.5	26.5	0.206	0.170 to 0.230	-550	70.0 to 130	3.85	20.0
BC12342	Lead, Total	mg/L	0.0000044	0.000147	0.100	0.103	0.0983	0.100	0.0850 to 0.115	103	70.0 to 130	4.67	20.0
BC12342	Lithium, Total	mg/L	-0.000392	0.0154	0.200	0.283	0.283	0.221	0.170 to 0.230	119	70.0 to 130	0.00	20.0
BC12342	Magnesium, Total	mg/L	-0.00637	0.0462	5.00	454	491	5.26	4.25 to 5.75	-720	70.0 to 130	7.83	20.0
BC12342	Manganese, Total	mg/L	0.0000060	0.0002	0.100	24.9	24.7	0.102	0.0850 to 0.115	-100	70.0 to 130	0.806	20.0
BC12342	Mercury, Total by CVAA	mg/L	3.000E-05	0.000500	0.004	0.00408	0.00413	0.00408	0.00340 to 0.00460	102	70.0 to 130	1.22	20.0
BC12342	Molybdenum, Total	mg/L	-0.0000008	0.0002	0.100	0.0930	0.0923	0.0950	0.0850 to 0.115	92.8	70.0 to 130	0.756	20.0
BC12342	Potassium, Total	mg/L	-0.00723	0.367	10.0	17.6	17.8	10.9	8.50 to 11.5	103	70.0 to 130	1.13	20.0
BC12342	Selenium, Total	mg/L	0.0000396	0.00100	0.100	0.103	0.104	0.104	0.0850 to 0.115	102	70.0 to 130	0.966	20.0
BC12342	Silicon, Total	mg/L	0.000635	0.0440	1.00	9.13	9.13	1.01	0.850 to 1.15	96.0	70.0 to 130	0.00	20.0
BC12342	Sodium, Total	mg/L	0.0017	0.0660	5.00	45.6	50.6	5.43	4.25 to 5.75	22.0	70.0 to 130	10.4	20.0
BC12341	Sulfate	mg/L	0.0536	2.0	20.0	20.2	19.8	19.3	18.0 to 22.0	95.2	80.0 to 120	2.00	20.0

Comments:

Batch QC Summary

Customer Account: WMWGORLFEB

Sample Date: 7/6/22 12:20

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill Equipment Blank-1

Laboratory ID Number: BC12341

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit	Prec	Limit
BC12342	Thallium, Total	mg/L	-0.0000823	0.000147	0.100	0.110	0.105	0.108	0.0850 to 0.115	110	70.0 to 130	4.65	20.0
BC12342	Total Organic Carbon	mg/L	0.204	1.00	10.0	11.6	11.6	9.20		67.5	80.0 to 120	0.00	20.0

Comments:

Batch QC Summary

Customer Account: WMWGORLFEB

Sample Date: 7/6/22 12:20

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill Equipment Blank-1

Laboratory ID Number: BC12341

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC12342	Nitrogen, Nitrate/Nitrite	mg/L as N	0.02	0.200	2.00	2.00	0.223	2.09	1.80 to 2.20	89.0	90.0 to 110	1.81	15.0
BC12346	Solids, Dissolved	mg/L	2.00	25.0			3360	42.0	40.0 to 60.0			0.889	10.0

Comments:

Certificate Of Analysis

Description: Gorgas Landfill - MW-17R

Location Code: WMWGORLF
Collected: 7/6/22 13:13
Customer ID:
Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12342

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: EPA 200.7			Analyst: ABB		Preparation Method: EPA 1638				
* Boron, Total	7/12/22 13:23	7/18/22 14:00		1.015	0.0546	mg/L	0.030000	0.1015	J
* Calcium, Total	7/12/22 13:23	7/18/22 15:42		101.5	402	mg/L	7.0035	40.6	RA
* Iron, Total	7/12/22 13:23	7/18/22 15:42		101.5	26.6	mg/L	0.8120	4.06	RA
* Lithium, Total	7/12/22 13:23	7/18/22 14:50		1.015	0.0442	mg/L	0.007105	0.01999956	
* Magnesium, Total	7/12/22 13:23	7/18/22 15:42		101.5	490	mg/L	2.1315	40.6	RA
Silica, Total (calc.)	7/12/22 13:23	7/18/22 14:00		1	17.5	mg/L			
Silicon, Total	7/12/22 13:23	7/18/22 14:00		1.015	8.17	mg/L	0.02030	0.25375	
* Sodium, Total	7/12/22 13:23	7/18/22 15:42		101.5	44.5	mg/L	3.045	40.6	RA
Analytical Method: EPA 200.7			Analyst: ABB		Preparation Method: EPA 1638				
* Boron, Dissolved	7/12/22 12:30	7/13/22 14:35		1.015	0.0549	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	7/12/22 12:30	7/14/22 11:25		101.5	384	mg/L	7.0035	40.6	
* Iron, Dissolved	7/12/22 12:30	7/14/22 11:25		101.5	23.9	mg/L	0.8120	4.06	
* Lithium, Dissolved	7/12/22 12:30	7/13/22 14:35		1.015	0.0417	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	7/12/22 12:30	7/14/22 11:25		101.5	436	mg/L	2.1315	40.6	
Silica, Dissolved (calc.)	7/12/22 12:30	7/13/22 14:35		1	17.5	mg/L			
Silicon, Dissolved	7/12/22 12:30	7/13/22 14:35		1.015	8.16	mg/L	0.02030	0.25375	
* Sodium, Dissolved	7/12/22 12:30	7/13/22 14:35		1.015	37.6	mg/L	0.03045	0.406	
Analytical Method: EPA 200.8			Analyst: DLJ		Preparation Method: EPA 1638				
* Antimony, Total	7/7/22 16:27	7/8/22 15:44		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/7/22 16:27	7/8/22 15:44		1.015	0.0186	mg/L	0.006090	0.01015	
* Arsenic, Total	7/7/22 16:27	7/8/22 15:44		1.015	0.00176	mg/L	0.000081	0.000203	
* Barium, Total	7/7/22 16:27	7/8/22 15:44		1.015	0.0128	mg/L	0.000508	0.001015	
* Beryllium, Total	7/7/22 16:27	7/8/22 15:44		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	7/7/22 16:27	7/8/22 15:44		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	7/7/22 16:27	7/8/22 15:44		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Total	7/7/22 16:27	7/8/22 15:44		1.015	0.427	mg/L	0.000068	0.000203	
* Lead, Total	7/7/22 16:27	7/8/22 15:44		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	7/7/22 16:27	7/18/22 12:36		92.365	25.0	mg/L	0.013855	0.018473	RA
* Molybdenum, Total	7/7/22 16:27	7/8/22 15:44		1.015	0.000171	mg/L	0.000102	0.000203	J
* Potassium, Total	7/7/22 16:27	7/8/22 15:44		1.015	7.32	mg/L	0.169505	0.5075	

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

Comments: Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.
 Nitrate/Nitrite MS recovery was outside the specification limit.

Certificate Of Analysis

Description: Gorgas Landfill - MW-17R

Location Code: WMWGORLF
Collected: 7/6/22 13:13
Customer ID:
Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12342

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	7/7/22 16:27	7/8/22 15:44		1.015	0.000588	mg/L	0.000508	0.001015	J
* Thallium, Total	7/7/22 16:27	7/8/22 15:44		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 200.8		Analyst: DLJ							
* Antimony, Dissolved	7/7/22 13:50	7/8/22 11:17		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	7/7/22 13:50	7/8/22 11:17		1.015	0.0161	mg/L	0.006090	0.01015	
* Arsenic, Dissolved	7/7/22 13:50	7/8/22 11:17		1.015	0.00173	mg/L	0.000081	0.000203	
* Barium, Dissolved	7/7/22 13:50	7/8/22 11:17		1.015	0.0127	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	7/7/22 13:50	7/8/22 11:17		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	7/7/22 13:50	7/8/22 11:17		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	7/7/22 13:50	7/8/22 11:17		1.015	0.000296	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	7/7/22 13:50	7/8/22 11:17		1.015	0.417	mg/L	0.000068	0.000203	
* Lead, Dissolved	7/7/22 13:50	7/8/22 11:17		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	7/7/22 13:50	7/13/22 14:05		92.365	25.3	mg/L	0.013855	0.018473	
* Molybdenum, Dissolved	7/7/22 13:50	7/8/22 11:17		1.015	0.000136	mg/L	0.000102	0.000203	J
* Potassium, Dissolved	7/7/22 13:50	7/8/22 11:17		1.015	7.29	mg/L	0.169505	0.5075	
* Selenium, Dissolved	7/7/22 13:50	7/8/22 11:17		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	7/7/22 13:50	7/8/22 11:17		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	7/12/22 16:01	7/12/22 20:38		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: CES							
* Nitrogen, Nitrate/Nitrite	7/7/22 16:21	7/7/22 16:21		1	0.219	mg/L as N	0.20	0.3	J
Analytical Method: SM 2320 B		Analyst: ALH							
Alkalinity, Total as CaCO3	7/14/22 13:50	7/14/22 15:45		1	188	mg/L		0.1	
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	7/8/22 11:30	7/11/22 13:39		1	3670	mg/L		178.6	
Analytical Method: SM 4500CO2 D		Analyst: ALH							
Bicarbonate Alkalinity, (calc.)	7/14/22 13:50	7/14/22 15:45		1	188	mg/L		1	A
Carbonate Alkalinity, (calc.)	7/14/22 13:50	7/14/22 15:45		1	Not Detected	mg/L		0.5	A
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	7/12/22 21:59	7/12/22 21:59		1	4.85	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.
 Nitrate/Nitrite MS recovery was outside the specification limit.

Certificate Of Analysis

Description: Gorgas Landfill - MW-17R

Location Code: WMWGORLF
Collected: 7/6/22 13:13
Customer ID:
Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12342

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	7/12/22 14:03	7/12/22 14:03		1	2.58	mg/L	0.50	1	
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	7/13/22 11:29	7/13/22 11:29		1	0.172	mg/L	0.06	0.125	
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	7/19/22 10:19	7/19/22 10:19		200	2630	mg/L	120.0	400	
Analytical Method: Field Measurements		Analyst: DKG							
Conductivity	7/6/22 13:10	7/6/22 13:10			4461.72	uS/cm			FA
pH	7/6/22 13:10	7/6/22 13:10			5.93	SU			FA
Temperature	7/6/22 13:10	7/6/22 13:10			23.36	C			FA
Turbidity	7/6/22 13:10	7/6/22 13:10			1.47	NTU			FA
Sulfide	7/6/22 13:10	7/6/22 13:10			0	mg/L			FA

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

Comments: Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.
 Nitrate/Nitrite MS recovery was outside the specification limit.

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 7/6/22 13:13

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill - MW-17R

Laboratory ID Number: BC12342

Sample	Analysis	Units	MB	MB		MS	MSD	Standard		Rec		Prec	Limit
				Limit	Spike			Standard	Limit	Rec	Limit		
BC12344	Aluminum, Dissolved	mg/L	-0.000847	0.010	0.100	0.0983	0.0998	0.0993	0.0850 to 0.115	98.3	70.0 to 130	1.51	20.0
BC12342	Aluminum, Total	mg/L	0.000611	0.010	0.100	0.123	0.122	0.108	0.0850 to 0.115	104	70.0 to 130	0.816	20.0
BC12344	Antimony, Dissolved	mg/L	0.000408	0.00100	0.100	0.0956	0.0932	0.0889	0.0850 to 0.115	95.6	70.0 to 130	2.54	20.0
BC12342	Antimony, Total	mg/L	0.000282	0.00100	0.100	0.103	0.102	0.0935	0.0850 to 0.115	103	70.0 to 130	0.976	20.0
BC12344	Arsenic, Dissolved	mg/L	-0.0000044	0.000176	0.100	0.100	0.102	0.0983	0.0850 to 0.115	99.9	70.0 to 130	1.98	20.0
BC12342	Arsenic, Total	mg/L	0.0000184	0.000176	0.100	0.107	0.104	0.103	0.0850 to 0.115	105	70.0 to 130	2.84	20.0
BC12344	Barium, Dissolved	mg/L	-0.0000026	0.00100	0.100	0.115	0.113	0.0992	0.0850 to 0.115	105	70.0 to 130	1.75	20.0
BC12342	Barium, Total	mg/L	-0.0000541	0.00100	0.100	0.115	0.116	0.0994	0.0850 to 0.115	102	70.0 to 130	0.866	20.0
BC12344	Beryllium, Dissolved	mg/L	0.000265	0.000880	0.100	0.0904	0.0931	0.0948	0.0850 to 0.115	90.4	70.0 to 130	2.94	20.0
BC12342	Beryllium, Total	mg/L	0.0000185	0.000880	0.100	0.0974	0.0979	0.107	0.0850 to 0.115	97.4	70.0 to 130	0.512	20.0
BC12344	Boron, Dissolved	mg/L	-0.000346	0.0650	1.00	1.05	1.06	1.01	0.850 to 1.15	101	70.0 to 130	0.948	20.0
BC12342	Boron, Total	mg/L	-0.000586	0.0650	1.00	1.11	1.10	1.00	0.850 to 1.15	106	70.0 to 130	0.905	20.0
BC12344	Cadmium, Dissolved	mg/L	0.0000076	0.000147	0.100	0.0969	0.0975	0.0983	0.0850 to 0.115	96.9	70.0 to 130	0.617	20.0
BC12342	Cadmium, Total	mg/L	0.0000051	0.000147	0.100	0.0952	0.0928	0.0989	0.0850 to 0.115	95.2	70.0 to 130	2.55	20.0
BC12344	Calcium, Dissolved	mg/L	-0.0181	0.152	5.00	341	351	4.92	4.25 to 5.75	-40.0	70.0 to 130	2.89	20.0
BC12342	Calcium, Total	mg/L	-0.0361	0.152	5.00	365	402	4.65	4.25 to 5.75	-740	70.0 to 130	9.65	20.0
BC12351	Chloride	mg/L	0.0285	1.00	10.0	10.7	11.0	10.6	9.00 to 11.0	107	80.0 to 120	2.76	20.0
BC12344	Chromium, Dissolved	mg/L	0.0000644	0.000440	0.100	0.0972	0.0994	0.0986	0.0850 to 0.115	96.9	70.0 to 130	2.24	20.0
BC12342	Chromium, Total	mg/L	-0.000140	0.000440	0.100	0.0954	0.0971	0.100	0.0850 to 0.115	95.4	70.0 to 130	1.77	20.0
BC12344	Cobalt, Dissolved	mg/L	0.0000072	0.000147	0.100	0.129	0.133	0.102	0.0850 to 0.115	96.1	70.0 to 130	3.05	20.0
BC12342	Cobalt, Total	mg/L	-0.0000765	0.000147	0.100	0.540	0.543	0.104	0.0850 to 0.115	113	70.0 to 130	0.554	20.0
BC12351	Fluoride	mg/L	0.00846	0.125	2.50	2.69	2.76	2.67	2.25 to 2.75	108	80.0 to 120	2.57	20.0
BC12344	Iron, Dissolved	mg/L	-0.000164	0.0176	0.2	1.91	1.92	0.205	0.170 to 0.230	100	70.0 to 130	0.522	20.0
BC12342	Iron, Total	mg/L	0.000346	0.0176	0.2	25.5	26.5	0.206	0.170 to 0.230	-550	70.0 to 130	3.85	20.0

Comments: Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.
 Nitrate/Nitrite MS recovery was outside the specification limit.

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 7/6/22 13:13

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill - MW-17R

Laboratory ID Number: BC12342

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BC12344	Lead, Dissolved	mg/L	0.0000142	0.000147	0.100	0.0975	0.0994	0.0991	0.0850 to 0.115	97.5	70.0 to 130	1.93	20.0
BC12342	Lead, Total	mg/L	0.0000044	0.000147	0.100	0.103	0.0983	0.100	0.0850 to 0.115	103	70.0 to 130	4.67	20.0
BC12344	Lithium, Dissolved	mg/L	-0.000049	0.0154	0.200	0.279	0.270	0.206	0.170 to 0.230	112	70.0 to 130	3.28	20.0
BC12342	Lithium, Total	mg/L	-0.000392	0.0154	0.200	0.283	0.283	0.221	0.170 to 0.230	119	70.0 to 130	0.00	20.0
BC12344	Magnesium, Dissolved	mg/L	-0.00581	0.0462	5.00	361	372	5.12	4.25 to 5.75	-60.0	70.0 to 130	3.00	20.0
BC12342	Magnesium, Total	mg/L	-0.00637	0.0462	5.00	454	491	5.26	4.25 to 5.75	-720	70.0 to 130	7.83	20.0
BC12344	Manganese, Dissolved	mg/L	-0.0000599	0.0002	0.100	1.87	1.88	0.0972	0.0850 to 0.115	50.0	70.0 to 130	0.533	20.0
BC12342	Manganese, Total	mg/L	0.0000060	0.0002	0.100	24.9	24.7	0.102	0.0850 to 0.115	-100	70.0 to 130	0.806	20.0
BC12342	Mercury, Total by CVAA	mg/L	3.000E-05	0.000500	0.004	0.00408	0.00413	0.00408	0.00340 to 0.00460	102	70.0 to 130	1.22	20.0
BC12344	Molybdenum, Dissolved	mg/L	0.0000032	0.0002	0.100	0.0976	0.0975	0.0982	0.0850 to 0.115	97.4	70.0 to 130	0.103	20.0
BC12342	Molybdenum, Total	mg/L	-0.0000008	0.0002	0.100	0.0930	0.0923	0.0950	0.0850 to 0.115	92.8	70.0 to 130	0.756	20.0
BC12344	Potassium, Dissolved	mg/L	0.0319	0.367	10.0	15.8	16.2	10.3	8.50 to 11.5	97.1	70.0 to 130	2.50	20.0
BC12342	Potassium, Total	mg/L	-0.00723	0.367	10.0	17.6	17.8	10.9	8.50 to 11.5	103	70.0 to 130	1.13	20.0
BC12344	Selenium, Dissolved	mg/L	-0.0000305	0.00100	0.100	0.0994	0.101	0.0999	0.0850 to 0.115	99.4	70.0 to 130	1.60	20.0
BC12342	Selenium, Total	mg/L	0.0000396	0.00100	0.100	0.103	0.104	0.104	0.0850 to 0.115	102	70.0 to 130	0.966	20.0
BC12344	Silicon, Dissolved	mg/L	0.000035	0.0440	1.00	8.18	8.16	1.03	0.850 to 1.15	98.0	70.0 to 130	0.245	20.0
BC12342	Silicon, Total	mg/L	0.000635	0.0440	1.00	9.13	9.13	1.01	0.850 to 1.15	96.0	70.0 to 130	0.00	20.0
BC12344	Sodium, Dissolved	mg/L	-0.0247	0.0660	5.00	36.1	34.9	4.91	4.25 to 5.75	116	70.0 to 130	3.38	20.0
BC12342	Sodium, Total	mg/L	0.0017	0.0660	5.00	45.6	50.6	5.43	4.25 to 5.75	22.0	70.0 to 130	10.4	20.0
BC12351	Sulfate	mg/L	0.309	2.0	20.0	21.1	20.4	20.0	18.0 to 22.0	97.0	80.0 to 120	3.37	20.0
BC12344	Thallium, Dissolved	mg/L	0.0000183	0.000147	0.100	0.0937	0.0969	0.0966	0.0850 to 0.115	93.7	70.0 to 130	3.36	20.0
BC12342	Thallium, Total	mg/L	-0.0000823	0.000147	0.100	0.110	0.105	0.108	0.0850 to 0.115	110	70.0 to 130	4.65	20.0
BC12342	Total Organic Carbon	mg/L	0.204	1.00	10.0	11.6	11.6	9.20		67.5	80.0 to 120	0.00	20.0

Comments: Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.
 Nitrate/Nitrite MS recovery was outside the specification limit.

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 7/6/22 13:13

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill - MW-17R

Laboratory ID Number: BC12342

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC12349	Alkalinity, Total as CaCO3	mg/L					359	49.3	45.0 to 55.0			9.02	10.0
BC12342	Nitrogen, Nitrate/Nitrite	mg/L as N	0.02	0.200	2.00	2.00	0.223	2.09	1.80 to 2.20	89.0	90.0 to 110	1.81	15.0
BC12352	Solids, Dissolved	mg/L	1.00	25.0			2280	49.0	40.0 to 60.0			0.00	10.0

Comments: Filtered LCS and MB were not submitted or analyzed with Dissolved Metals.
 Nitrate/Nitrite MS recovery was outside the specification limit.

Certificate Of Analysis

Description: Gorgas Landfill - MW-18

Location Code: WMWGORLF
Collected: 7/6/22 14:35
Customer ID:
Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12343

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: EPA 200.7			Analyst: ABB		Preparation Method: EPA 1638				
* Boron, Total	7/12/22 13:23	7/18/22 10:53		1.015	0.0363	mg/L	0.030000	0.1015	J
* Calcium, Total	7/12/22 13:23	7/18/22 15:28		10.15	325	mg/L	0.70035	4.06	
* Iron, Total	7/12/22 13:23	7/18/22 10:53		1.015	0.0395	mg/L	0.008120	0.0406	J
* Lithium, Total	7/12/22 13:23	7/18/22 10:53		1.015	0.0540	mg/L	0.007105	0.01999956	
* Magnesium, Total	7/12/22 13:23	7/18/22 15:28		10.15	322	mg/L	0.21315	4.06	
Silica, Total (calc.)	7/12/22 13:23	7/18/22 10:53		1	14.2	mg/L			
Silicon, Total	7/12/22 13:23	7/18/22 10:53		1.015	6.63	mg/L	0.02030	0.25375	
* Sodium, Total	7/12/22 13:23	7/18/22 10:53		1.015	32.6	mg/L	0.03045	0.406	
Analytical Method: EPA 200.7			Analyst: ABB		Preparation Method: EPA 1638				
* Boron, Dissolved	7/12/22 12:30	7/13/22 14:38		1.015	0.0342	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	7/12/22 12:30	7/14/22 11:28		10.15	319	mg/L	0.70035	4.06	
* Iron, Dissolved	7/12/22 12:30	7/13/22 14:38		1.015	Not Detected	mg/L	0.008120	0.0406	U
* Lithium, Dissolved	7/12/22 12:30	7/13/22 14:38		1.015	0.0499	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	7/12/22 12:30	7/14/22 11:28		10.15	325	mg/L	0.21315	4.06	
Silica, Dissolved (calc.)	7/12/22 12:30	7/13/22 14:38		1	13.3	mg/L			
Silicon, Dissolved	7/12/22 12:30	7/13/22 14:38		1.015	6.22	mg/L	0.02030	0.25375	
* Sodium, Dissolved	7/12/22 12:30	7/13/22 14:38		1.015	27.0	mg/L	0.03045	0.406	
Analytical Method: EPA 200.8			Analyst: DLJ		Preparation Method: EPA 1638				
* Antimony, Total	7/7/22 16:27	7/8/22 16:05		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/7/22 16:27	7/8/22 16:05		1.015	0.0148	mg/L	0.006090	0.01015	
* Arsenic, Total	7/7/22 16:27	7/8/22 16:05		1.015	Not Detected	mg/L	0.000081	0.000203	U
* Barium, Total	7/7/22 16:27	7/8/22 16:05		1.015	0.0105	mg/L	0.000508	0.001015	
* Beryllium, Total	7/7/22 16:27	7/8/22 16:05		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	7/7/22 16:27	7/8/22 16:05		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	7/7/22 16:27	7/8/22 16:05		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Total	7/7/22 16:27	7/8/22 16:05		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Lead, Total	7/7/22 16:27	7/8/22 16:05		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	7/7/22 16:27	7/8/22 16:05		1.015	0.00123	mg/L	0.000152	0.000203	
* Molybdenum, Total	7/7/22 16:27	7/8/22 16:05		1.015	0.000133	mg/L	0.000102	0.000203	J
* Potassium, Total	7/7/22 16:27	7/8/22 16:05		1.015	7.32	mg/L	0.169505	0.5075	

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-18

Location Code: WMWGORLF
Collected: 7/6/22 14:35
Customer ID:
Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12343

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	7/7/22 16:27	7/8/22 16:05		1.015	0.00282	mg/L	0.000508	0.001015	
* Thallium, Total	7/7/22 16:27	7/8/22 16:05		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 200.8		Analyst: DLJ							
* Antimony, Dissolved	7/7/22 13:50	7/8/22 11:21		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	7/7/22 13:50	7/8/22 11:21		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Dissolved	7/7/22 13:50	7/8/22 11:21		1.015	Not Detected	mg/L	0.000081	0.000203	U
* Barium, Dissolved	7/7/22 13:50	7/8/22 11:21		1.015	0.0115	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	7/7/22 13:50	7/8/22 11:21		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	7/7/22 13:50	7/8/22 11:21		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	7/7/22 13:50	7/8/22 11:21		1.015	0.000312	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	7/7/22 13:50	7/8/22 11:21		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Lead, Dissolved	7/7/22 13:50	7/8/22 11:21		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	7/7/22 13:50	7/13/22 14:09		1.015	0.000164	mg/L	0.000152	0.000203	J
* Molybdenum, Dissolved	7/7/22 13:50	7/8/22 11:21		1.015	0.000131	mg/L	0.000102	0.000203	J
* Potassium, Dissolved	7/7/22 13:50	7/8/22 11:21		1.015	7.07	mg/L	0.169505	0.5075	
* Selenium, Dissolved	7/7/22 13:50	7/8/22 11:21		1.015	0.00247	mg/L	0.000508	0.001015	
* Thallium, Dissolved	7/7/22 13:50	7/8/22 11:21		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	7/12/22 16:01	7/12/22 20:58		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: CES							
* Nitrogen, Nitrate/Nitrite	7/7/22 16:30	7/7/22 16:30		1	0.483	mg/L as N	0.20	0.3	
Analytical Method: SM 2320 B		Analyst: ALH							
Alkalinity, Total as CaCO3	7/14/22 13:50	7/14/22 15:45		1	178	mg/L		0.1	
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	7/8/22 11:30	7/11/22 13:39		1	2620	mg/L		147.1	
Analytical Method: SM 4500CO2 D		Analyst: ALH							
Bicarbonate Alkalinity, (calc.)	7/14/22 13:50	7/14/22 15:45		1	178	mg/L		1	A
Carbonate Alkalinity, (calc.)	7/14/22 13:50	7/14/22 15:45		1	Not Detected	mg/L		0.5	A
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	7/12/22 23:36	7/12/22 23:36		1	1.13	mg/L	1.00	2	J

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-18

Location Code: WMWGORLF

Collected: 7/6/22 14:35

Customer ID:

Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12343

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	7/12/22 14:04	7/12/22 14:04		1	1.51	mg/L	0.50	1	
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	7/13/22 11:31	7/13/22 11:31		1	0.308	mg/L	0.06	0.125	
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	7/19/22 10:20	7/19/22 10:20		160	1890	mg/L	96.0	320	
Analytical Method: Field Measurements		Analyst: DKG							
Conductivity	7/6/22 14:32	7/6/22 14:32			3392.30	uS/cm			FA
pH	7/6/22 14:32	7/6/22 14:32			6.62	SU			FA
Temperature	7/6/22 14:32	7/6/22 14:32			22.86	C			FA
Turbidity	7/6/22 14:32	7/6/22 14:32			0.97	NTU			FA
Sulfide	7/6/22 14:32	7/6/22 14:32			0	mg/L			FA

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 7/6/22 14:35

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill - MW-18

Laboratory ID Number: BC12343

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12344	Aluminum, Dissolved	mg/L	-0.000847	0.010	0.100	0.0983	0.0998	0.0993	0.0850 to 0.115	98.3	70.0 to 130	1.51	20.0
BC12352	Aluminum, Total	mg/L	0.000611	0.010	0.100	0.129	0.127	0.108	0.0850 to 0.115	112	70.0 to 130	1.56	20.0
BC12344	Antimony, Dissolved	mg/L	0.000408	0.00100	0.100	0.0956	0.0932	0.0889	0.0850 to 0.115	95.6	70.0 to 130	2.54	20.0
BC12352	Antimony, Total	mg/L	0.000282	0.00100	0.100	0.104	0.103	0.0935	0.0850 to 0.115	104	70.0 to 130	0.966	20.0
BC12344	Arsenic, Dissolved	mg/L	-0.0000044	0.000176	0.100	0.100	0.102	0.0983	0.0850 to 0.115	99.9	70.0 to 130	1.98	20.0
BC12352	Arsenic, Total	mg/L	0.0000184	0.000176	0.100	0.104	0.103	0.103	0.0850 to 0.115	103	70.0 to 130	0.966	20.0
BC12344	Barium, Dissolved	mg/L	-0.0000026	0.00100	0.100	0.115	0.113	0.0992	0.0850 to 0.115	105	70.0 to 130	1.75	20.0
BC12352	Barium, Total	mg/L	-0.0000541	0.00100	0.100	0.119	0.118	0.0994	0.0850 to 0.115	103	70.0 to 130	0.844	20.0
BC12344	Beryllium, Dissolved	mg/L	0.000265	0.000880	0.100	0.0904	0.0931	0.0948	0.0850 to 0.115	90.4	70.0 to 130	2.94	20.0
BC12352	Beryllium, Total	mg/L	0.0000185	0.000880	0.100	0.0995	0.0964	0.107	0.0850 to 0.115	99.5	70.0 to 130	3.16	20.0
BC12344	Boron, Dissolved	mg/L	-0.000346	0.0650	1.00	1.05	1.06	1.01	0.850 to 1.15	101	70.0 to 130	0.948	20.0
BC12352	Boron, Total	mg/L	-0.000586	0.0650	1.00	1.22	1.20	1.00	0.850 to 1.15	111	70.0 to 130	1.65	20.0
BC12344	Cadmium, Dissolved	mg/L	0.0000076	0.000147	0.100	0.0969	0.0975	0.0983	0.0850 to 0.115	96.9	70.0 to 130	0.617	20.0
BC12352	Cadmium, Total	mg/L	0.0000051	0.000147	0.100	0.0946	0.0924	0.0989	0.0850 to 0.115	94.6	70.0 to 130	2.35	20.0
BC12344	Calcium, Dissolved	mg/L	-0.0181	0.152	5.00	341	351	4.92	4.25 to 5.75	-40.0	70.0 to 130	2.89	20.0
BC12352	Calcium, Total	mg/L	-0.0361	0.152	5.00	356	342	4.65	4.25 to 5.75	220	70.0 to 130	4.01	20.0
BC12351	Chloride	mg/L	0.0285	1.00	10.0	10.7	11.0	10.6	9.00 to 11.0	107	80.0 to 120	2.76	20.0
BC12344	Chromium, Dissolved	mg/L	0.0000644	0.000440	0.100	0.0972	0.0994	0.0986	0.0850 to 0.115	96.9	70.0 to 130	2.24	20.0
BC12352	Chromium, Total	mg/L	-0.000140	0.000440	0.100	0.0968	0.0968	0.100	0.0850 to 0.115	96.8	70.0 to 130	0.00	20.0
BC12344	Cobalt, Dissolved	mg/L	0.0000072	0.000147	0.100	0.129	0.133	0.102	0.0850 to 0.115	96.1	70.0 to 130	3.05	20.0
BC12352	Cobalt, Total	mg/L	-0.0000765	0.000147	0.100	0.0992	0.100	0.104	0.0850 to 0.115	99.0	70.0 to 130	0.803	20.0
BC12351	Fluoride	mg/L	0.00846	0.125	2.50	2.69	2.76	2.67	2.25 to 2.75	108	80.0 to 120	2.57	20.0
BC12344	Iron, Dissolved	mg/L	-0.000164	0.0176	0.2	1.91	1.92	0.205	0.170 to 0.230	100	70.0 to 130	0.522	20.0
BC12352	Iron, Total	mg/L	0.000346	0.0176	0.2	6.96	6.72	0.206	0.170 to 0.230	170	70.0 to 130	3.51	20.0

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 7/6/22 14:35

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill - MW-18

Laboratory ID Number: BC12343

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BC12344	Lead, Dissolved	mg/L	0.0000142	0.000147	0.100	0.0975	0.0994	0.0991	0.0850 to 0.115	97.5	70.0 to 130	1.93	20.0
BC12352	Lead, Total	mg/L	0.0000044	0.000147	0.100	0.104	0.103	0.100	0.0850 to 0.115	104	70.0 to 130	0.966	20.0
BC12344	Lithium, Dissolved	mg/L	-0.000049	0.0154	0.200	0.279	0.270	0.206	0.170 to 0.230	112	70.0 to 130	3.28	20.0
BC12352	Lithium, Total	mg/L	-0.000392	0.0154	0.200	0.456	0.456	0.221	0.170 to 0.230	116	70.0 to 130	0.00	20.0
BC12344	Magnesium, Dissolved	mg/L	-0.00581	0.0462	5.00	361	372	5.12	4.25 to 5.75	-60.0	70.0 to 130	3.00	20.0
BC12352	Magnesium, Total	mg/L	-0.00637	0.0462	5.00	184	177	5.26	4.25 to 5.75	160	70.0 to 130	3.88	20.0
BC12344	Manganese, Dissolved	mg/L	-0.0000599	0.0002	0.100	1.87	1.88	0.0972	0.0850 to 0.115	50.0	70.0 to 130	0.533	20.0
BC12352	Manganese, Total	mg/L	0.0000060	0.0002	0.100	1.15	1.16	0.102	0.0850 to 0.115	80.0	70.0 to 130	0.866	20.0
BC12352	Mercury, Total by CVAA	mg/L	3.000E-05	0.000500	0.004	0.00407	0.00401	0.00408	0.00340 to 0.00460	102	70.0 to 130	1.49	20.0
BC12344	Molybdenum, Dissolved	mg/L	0.0000032	0.0002	0.100	0.0976	0.0975	0.0982	0.0850 to 0.115	97.4	70.0 to 130	0.103	20.0
BC12352	Molybdenum, Total	mg/L	-0.0000008	0.0002	0.100	0.0960	0.0957	0.0950	0.0850 to 0.115	95.1	70.0 to 130	0.313	20.0
BC12344	Potassium, Dissolved	mg/L	0.0319	0.367	10.0	15.8	16.2	10.3	8.50 to 11.5	97.1	70.0 to 130	2.50	20.0
BC12352	Potassium, Total	mg/L	-0.00723	0.367	10.0	16.7	16.8	10.9	8.50 to 11.5	105	70.0 to 130	0.597	20.0
BC12344	Selenium, Dissolved	mg/L	-0.0000305	0.00100	0.100	0.0994	0.101	0.0999	0.0850 to 0.115	99.4	70.0 to 130	1.60	20.0
BC12352	Selenium, Total	mg/L	0.0000396	0.00100	0.100	0.105	0.104	0.104	0.0850 to 0.115	105	70.0 to 130	0.957	20.0
BC12344	Silicon, Dissolved	mg/L	0.000035	0.0440	1.00	8.18	8.16	1.03	0.850 to 1.15	98.0	70.0 to 130	0.245	20.0
BC12352	Silicon, Total	mg/L	0.000635	0.0440	1.00	11.3	11.3	1.01	0.850 to 1.15	110	70.0 to 130	0.00	20.0
BC12344	Sodium, Dissolved	mg/L	-0.0247	0.0660	5.00	36.1	34.9	4.91	4.25 to 5.75	116	70.0 to 130	3.38	20.0
BC12352	Sodium, Total	mg/L	0.0017	0.0660	5.00	148	143	5.43	4.25 to 5.75	180	70.0 to 130	3.44	20.0
BC12351	Sulfate	mg/L	0.309	2.0	20.0	21.1	20.4	20.0	18.0 to 22.0	97.0	80.0 to 120	3.37	20.0
BC12344	Thallium, Dissolved	mg/L	0.0000183	0.000147	0.100	0.0937	0.0969	0.0966	0.0850 to 0.115	93.7	70.0 to 130	3.36	20.0
BC12352	Thallium, Total	mg/L	-0.0000823	0.000147	0.100	0.112	0.107	0.108	0.0850 to 0.115	112	70.0 to 130	4.57	20.0
BC12352	Total Organic Carbon	mg/L	0.231	1.00	10.0	10.4	11.1	10.1		104	80.0 to 120	6.51	20.0

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 7/6/22 14:35

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill - MW-18

Laboratory ID Number: BC12343

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC12349	Alkalinity, Total as CaCO3	mg/L					359	49.3	45.0 to 55.0			9.02	10.0
BC12352	Nitrogen, Nitrate/Nitrite	mg/L as N	0.03	0.200	2.00	2.05	0.093	1.92	1.80 to 2.20	102	90.0 to 110	0.00	15.0
BC12352	Solids, Dissolved	mg/L	1.00	25.0			2280	49.0	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 Landfill - MW-19

Location Code: WMWGORLF
Collected: 7/6/22 15:36
Customer ID:
Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12344

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: EPA 200.7			Analyst: ABB		Preparation Method: EPA 1638				
* Boron, Total	7/12/22 13:23	7/18/22 10:56		1.015	0.0391	mg/L	0.030000	0.1015	J
* Calcium, Total	7/12/22 13:23	7/18/22 15:31		101.5	361	mg/L	7.0035	40.6	
* Iron, Total	7/12/22 13:23	7/18/22 10:56		1.015	2.62	mg/L	0.008120	0.0406	
* Lithium, Total	7/12/22 13:23	7/18/22 10:56		1.015	0.0583	mg/L	0.007105	0.01999956	
* Magnesium, Total	7/12/22 13:23	7/18/22 15:31		101.5	363	mg/L	2.1315	40.6	
Silica, Total (calc.)	7/12/22 13:23	7/18/22 10:56		1	16.4	mg/L			
Silicon, Total	7/12/22 13:23	7/18/22 10:56		1.015	7.66	mg/L	0.02030	0.25375	
* Sodium, Total	7/12/22 13:23	7/18/22 10:56		1.015	35.9	mg/L	0.03045	0.406	
Analytical Method: EPA 200.7			Analyst: ABB		Preparation Method: EPA 1638				
* Boron, Dissolved	7/12/22 12:30	7/13/22 14:41		1.015	0.0365	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	7/12/22 12:30	7/14/22 11:31		10.15	343	mg/L	0.70035	4.06	RA
* Iron, Dissolved	7/12/22 12:30	7/13/22 14:41		1.015	1.71	mg/L	0.008120	0.0406	
* Lithium, Dissolved	7/12/22 12:30	7/13/22 14:41		1.015	0.0546	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	7/12/22 12:30	7/14/22 11:31		10.15	364	mg/L	0.21315	4.06	RA
Silica, Dissolved (calc.)	7/12/22 12:30	7/13/22 14:41		1	15.4	mg/L			
Silicon, Dissolved	7/12/22 12:30	7/13/22 14:41		1.015	7.20	mg/L	0.02030	0.25375	
* Sodium, Dissolved	7/12/22 12:30	7/13/22 14:41		1.015	30.3	mg/L	0.03045	0.406	
Analytical Method: EPA 200.8			Analyst: DLJ		Preparation Method: EPA 1638				
* Antimony, Total	7/7/22 16:27	7/8/22 16:09		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/7/22 16:27	7/8/22 16:09		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Total	7/7/22 16:27	7/8/22 16:09		1.015	0.000158	mg/L	0.000081	0.000203	J
* Barium, Total	7/7/22 16:27	7/8/22 16:09		1.015	0.00977	mg/L	0.000508	0.001015	
* Beryllium, Total	7/7/22 16:27	7/8/22 16:09		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	7/7/22 16:27	7/8/22 16:09		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	7/7/22 16:27	7/8/22 16:09		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Total	7/7/22 16:27	7/8/22 16:09		1.015	0.0340	mg/L	0.000068	0.000203	
* Lead, Total	7/7/22 16:27	7/8/22 16:09		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	7/7/22 16:27	7/18/22 12:46		5.075	1.83	mg/L	0.000761	0.001015	
* Molybdenum, Total	7/7/22 16:27	7/8/22 16:09		1.015	0.000183	mg/L	0.000102	0.000203	J
* Potassium, Total	7/7/22 16:27	7/8/22 16:09		1.015	6.24	mg/L	0.169505	0.5075	

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-19

Location Code: WMWGORLF

Collected: 7/6/22 15:36

Customer ID:

Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12344

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	7/7/22 16:27	7/8/22 16:09		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	7/7/22 16:27	7/8/22 16:09		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 200.8		Analyst: DLJ							
* Antimony, Dissolved	7/7/22 13:50	7/8/22 11:25		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	7/7/22 13:50	7/8/22 11:25		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Dissolved	7/7/22 13:50	7/8/22 11:25		1.015	0.0000996	mg/L	0.000081	0.000203	J
* Barium, Dissolved	7/7/22 13:50	7/8/22 11:25		1.015	0.0101	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	7/7/22 13:50	7/8/22 11:25		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	7/7/22 13:50	7/8/22 11:25		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	7/7/22 13:50	7/8/22 11:25		1.015	0.000268	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	7/7/22 13:50	7/8/22 11:25		1.015	0.0329	mg/L	0.000068	0.000203	
* Lead, Dissolved	7/7/22 13:50	7/8/22 11:25		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	7/7/22 13:50	7/13/22 14:12		5.075	1.82	mg/L	0.000761	0.001015	RA
* Molybdenum, Dissolved	7/7/22 13:50	7/8/22 11:25		1.015	0.000158	mg/L	0.000102	0.000203	J
* Potassium, Dissolved	7/7/22 13:50	7/8/22 11:25		1.015	6.09	mg/L	0.169505	0.5075	
* Selenium, Dissolved	7/7/22 13:50	7/8/22 11:25		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	7/7/22 13:50	7/8/22 11:25		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	7/12/22 16:01	7/12/22 21:02		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: CES							
* Nitrogen, Nitrate/Nitrite	7/7/22 16:32	7/7/22 16:32		1	Not Detected	mg/L as N	0.20	0.3	U
Analytical Method: SM 2320 B		Analyst: ALH							
Alkalinity, Total as CaCO3	7/14/22 13:50	7/14/22 15:45		1	208	mg/L		0.1	
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	7/8/22 11:30	7/11/22 13:39		1	3040	mg/L		147.1	
Analytical Method: SM 4500CO2 D		Analyst: ALH							
Bicarbonate Alkalinity, (calc.)	7/14/22 13:50	7/14/22 15:45		1	208	mg/L		1	A
Carbonate Alkalinity, (calc.)	7/14/22 13:50	7/14/22 15:45		1	Not Detected	mg/L		0.5	A
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	7/12/22 23:53	7/12/22 23:53		1	3.96	mg/L	1.00	2	

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-19

Location Code: WMWGORLF
Collected: 7/6/22 15:36
Customer ID:
Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12344

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	7/12/22 14:05	7/12/22 14:05		1	1.87	mg/L	0.50	1	
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	7/13/22 11:32	7/13/22 11:32		1	0.403	mg/L	0.06	0.125	
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	7/19/22 10:22	7/19/22 10:22		160	2100	mg/L	96.0	320	
Analytical Method: Field Measurements		Analyst: DKG							
Conductivity	7/6/22 15:33	7/6/22 15:33			3703.52	uS/cm			FA
pH	7/6/22 15:33	7/6/22 15:33			6.34	SU			FA
Temperature	7/6/22 15:33	7/6/22 15:33			21.18	C			FA
Turbidity	7/6/22 15:33	7/6/22 15:33			3.66	NTU			FA
Sulfide	7/6/22 15:33	7/6/22 15:33			0	mg/L			FA

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 7/6/22 15:36

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill - MW-19

Laboratory ID Number: BC12344

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12344	Aluminum, Dissolved	mg/L	-0.000847	0.010	0.100	0.0983	0.0998	0.0993	0.0850 to 0.115	98.3	70.0 to 130	1.51	20.0
BC12352	Aluminum, Total	mg/L	0.000611	0.010	0.100	0.129	0.127	0.108	0.0850 to 0.115	112	70.0 to 130	1.56	20.0
BC12344	Antimony, Dissolved	mg/L	0.000408	0.00100	0.100	0.0956	0.0932	0.0889	0.0850 to 0.115	95.6	70.0 to 130	2.54	20.0
BC12352	Antimony, Total	mg/L	0.000282	0.00100	0.100	0.104	0.103	0.0935	0.0850 to 0.115	104	70.0 to 130	0.966	20.0
BC12344	Arsenic, Dissolved	mg/L	-0.0000044	0.000176	0.100	0.100	0.102	0.0983	0.0850 to 0.115	99.9	70.0 to 130	1.98	20.0
BC12352	Arsenic, Total	mg/L	0.0000184	0.000176	0.100	0.104	0.103	0.103	0.0850 to 0.115	103	70.0 to 130	0.966	20.0
BC12344	Barium, Dissolved	mg/L	-0.0000026	0.00100	0.100	0.115	0.113	0.0992	0.0850 to 0.115	105	70.0 to 130	1.75	20.0
BC12352	Barium, Total	mg/L	-0.0000541	0.00100	0.100	0.119	0.118	0.0994	0.0850 to 0.115	103	70.0 to 130	0.844	20.0
BC12344	Beryllium, Dissolved	mg/L	0.000265	0.000880	0.100	0.0904	0.0931	0.0948	0.0850 to 0.115	90.4	70.0 to 130	2.94	20.0
BC12352	Beryllium, Total	mg/L	0.0000185	0.000880	0.100	0.0995	0.0964	0.107	0.0850 to 0.115	99.5	70.0 to 130	3.16	20.0
BC12344	Boron, Dissolved	mg/L	-0.000346	0.0650	1.00	1.05	1.06	1.01	0.850 to 1.15	101	70.0 to 130	0.948	20.0
BC12352	Boron, Total	mg/L	-0.000586	0.0650	1.00	1.22	1.20	1.00	0.850 to 1.15	111	70.0 to 130	1.65	20.0
BC12344	Cadmium, Dissolved	mg/L	0.0000076	0.000147	0.100	0.0969	0.0975	0.0983	0.0850 to 0.115	96.9	70.0 to 130	0.617	20.0
BC12352	Cadmium, Total	mg/L	0.0000051	0.000147	0.100	0.0946	0.0924	0.0989	0.0850 to 0.115	94.6	70.0 to 130	2.35	20.0
BC12344	Calcium, Dissolved	mg/L	-0.0181	0.152	5.00	341	351	4.92	4.25 to 5.75	-40.0	70.0 to 130	2.89	20.0
BC12352	Calcium, Total	mg/L	-0.0361	0.152	5.00	356	342	4.65	4.25 to 5.75	220	70.0 to 130	4.01	20.0
BC12351	Chloride	mg/L	0.0285	1.00	10.0	10.7	11.0	10.6	9.00 to 11.0	107	80.0 to 120	2.76	20.0
BC12344	Chromium, Dissolved	mg/L	0.0000644	0.000440	0.100	0.0972	0.0994	0.0986	0.0850 to 0.115	96.9	70.0 to 130	2.24	20.0
BC12352	Chromium, Total	mg/L	-0.000140	0.000440	0.100	0.0968	0.0968	0.100	0.0850 to 0.115	96.8	70.0 to 130	0.00	20.0
BC12344	Cobalt, Dissolved	mg/L	0.0000072	0.000147	0.100	0.129	0.133	0.102	0.0850 to 0.115	96.1	70.0 to 130	3.05	20.0
BC12352	Cobalt, Total	mg/L	-0.0000765	0.000147	0.100	0.0992	0.100	0.104	0.0850 to 0.115	99.0	70.0 to 130	0.803	20.0
BC12351	Fluoride	mg/L	0.00846	0.125	2.50	2.69	2.76	2.67	2.25 to 2.75	108	80.0 to 120	2.57	20.0
BC12344	Iron, Dissolved	mg/L	-0.000164	0.0176	0.2	1.91	1.92	0.205	0.170 to 0.230	100	70.0 to 130	0.522	20.0
BC12352	Iron, Total	mg/L	0.000346	0.0176	0.2	6.96	6.72	0.206	0.170 to 0.230	170	70.0 to 130	3.51	20.0

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 7/6/22 15:36

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill - MW-19

Laboratory ID Number: BC12344

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BC12344	Lead, Dissolved	mg/L	0.0000142	0.000147	0.100	0.0975	0.0994	0.0991	0.0850 to 0.115	97.5	70.0 to 130	1.93	20.0
BC12352	Lead, Total	mg/L	0.0000044	0.000147	0.100	0.104	0.103	0.100	0.0850 to 0.115	104	70.0 to 130	0.966	20.0
BC12344	Lithium, Dissolved	mg/L	-0.000049	0.0154	0.200	0.279	0.270	0.206	0.170 to 0.230	112	70.0 to 130	3.28	20.0
BC12352	Lithium, Total	mg/L	-0.000392	0.0154	0.200	0.456	0.456	0.221	0.170 to 0.230	116	70.0 to 130	0.00	20.0
BC12344	Magnesium, Dissolved	mg/L	-0.00581	0.0462	5.00	361	372	5.12	4.25 to 5.75	-60.0	70.0 to 130	3.00	20.0
BC12352	Magnesium, Total	mg/L	-0.00637	0.0462	5.00	184	177	5.26	4.25 to 5.75	160	70.0 to 130	3.88	20.0
BC12344	Manganese, Dissolved	mg/L	-0.0000599	0.0002	0.100	1.87	1.88	0.0972	0.0850 to 0.115	50.0	70.0 to 130	0.533	20.0
BC12352	Manganese, Total	mg/L	0.0000060	0.0002	0.100	1.15	1.16	0.102	0.0850 to 0.115	80.0	70.0 to 130	0.866	20.0
BC12352	Mercury, Total by CVAA	mg/L	3.000E-05	0.000500	0.004	0.00407	0.00401	0.00408	0.00340 to 0.00460	102	70.0 to 130	1.49	20.0
BC12344	Molybdenum, Dissolved	mg/L	0.0000032	0.0002	0.100	0.0976	0.0975	0.0982	0.0850 to 0.115	97.4	70.0 to 130	0.103	20.0
BC12352	Molybdenum, Total	mg/L	-0.0000008	0.0002	0.100	0.0960	0.0957	0.0950	0.0850 to 0.115	95.1	70.0 to 130	0.313	20.0
BC12344	Potassium, Dissolved	mg/L	0.0319	0.367	10.0	15.8	16.2	10.3	8.50 to 11.5	97.1	70.0 to 130	2.50	20.0
BC12352	Potassium, Total	mg/L	-0.00723	0.367	10.0	16.7	16.8	10.9	8.50 to 11.5	105	70.0 to 130	0.597	20.0
BC12344	Selenium, Dissolved	mg/L	-0.0000305	0.00100	0.100	0.0994	0.101	0.0999	0.0850 to 0.115	99.4	70.0 to 130	1.60	20.0
BC12352	Selenium, Total	mg/L	0.0000396	0.00100	0.100	0.105	0.104	0.104	0.0850 to 0.115	105	70.0 to 130	0.957	20.0
BC12344	Silicon, Dissolved	mg/L	0.000035	0.0440	1.00	8.18	8.16	1.03	0.850 to 1.15	98.0	70.0 to 130	0.245	20.0
BC12352	Silicon, Total	mg/L	0.000635	0.0440	1.00	11.3	11.3	1.01	0.850 to 1.15	110	70.0 to 130	0.00	20.0
BC12344	Sodium, Dissolved	mg/L	-0.0247	0.0660	5.00	36.1	34.9	4.91	4.25 to 5.75	116	70.0 to 130	3.38	20.0
BC12352	Sodium, Total	mg/L	0.0017	0.0660	5.00	148	143	5.43	4.25 to 5.75	180	70.0 to 130	3.44	20.0
BC12351	Sulfate	mg/L	0.309	2.0	20.0	21.1	20.4	20.0	18.0 to 22.0	97.0	80.0 to 120	3.37	20.0
BC12344	Thallium, Dissolved	mg/L	0.0000183	0.000147	0.100	0.0937	0.0969	0.0966	0.0850 to 0.115	93.7	70.0 to 130	3.36	20.0
BC12352	Thallium, Total	mg/L	-0.0000823	0.000147	0.100	0.112	0.107	0.108	0.0850 to 0.115	112	70.0 to 130	4.57	20.0
BC12352	Total Organic Carbon	mg/L	0.231	1.00	10.0	10.4	11.1	10.1		104	80.0 to 120	6.51	20.0

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 7/6/22 15:36

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill - MW-19

Laboratory ID Number: BC12344

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard Standard	Standard Limit	Rec Rec	Rec Limit	Prec Prec	Prec Limit
BC12349	Alkalinity, Total as CaCO3	mg/L					359	49.3	45.0 to 55.0			9.02	10.0
BC12352	Nitrogen, Nitrate/Nitrite	mg/L as N	0.03	0.200	2.00	2.05	0.093	1.92	1.80 to 2.20	102	90.0 to 110	0.00	15.0
BC12352	Solids, Dissolved	mg/L	1.00	25.0			2280	49.0	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 Landfill - MW-10

Location Code: WMWGORLF
Collected: 7/6/22 16:44
Customer ID:
Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12345

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: EPA 200.7		Analyst: ABB			Preparation Method: EPA 1638				
* Boron, Total	7/12/22 13:23	7/18/22 10:59		1.015	0.144	mg/L	0.030000	0.1015	
* Calcium, Total	7/12/22 13:23	7/18/22 15:35		10.15	150	mg/L	0.70035	4.06	
* Iron, Total	7/12/22 13:23	7/18/22 15:35		10.15	4.86	mg/L	0.08120	0.406	
* Lithium, Total	7/12/22 13:23	7/18/22 10:59		1.015	0.172	mg/L	0.007105	0.01999956	
* Magnesium, Total	7/12/22 13:23	7/18/22 15:35		10.15	75.8	mg/L	0.21315	4.06	
Silica, Total (calc.)	7/12/22 13:23	7/18/22 10:59		1	11.8	mg/L			
Silicon, Total	7/12/22 13:23	7/18/22 10:59		1.015	5.51	mg/L	0.02030	0.25375	
* Sodium, Total	7/12/22 13:23	7/18/22 15:35		10.15	82.4	mg/L	0.3045	4.06	
Analytical Method: EPA 200.7		Analyst: ABB			Preparation Method: EPA 1638				
* Boron, Dissolved	7/12/22 12:30	7/13/22 14:56		1.015	0.146	mg/L	0.030000	0.1015	
* Calcium, Dissolved	7/12/22 12:30	7/14/22 12:00		10.15	149	mg/L	0.70035	4.06	
* Iron, Dissolved	7/12/22 12:30	7/14/22 12:00		10.15	5.90	mg/L	0.08120	0.406	
* Lithium, Dissolved	7/12/22 12:30	7/13/22 14:56		1.015	0.160	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	7/12/22 12:30	7/14/22 12:00		10.15	80.0	mg/L	0.21315	4.06	
Silica, Dissolved (calc.)	7/12/22 12:30	7/13/22 14:56		1	11.4	mg/L			
Silicon, Dissolved	7/12/22 12:30	7/13/22 14:56		1.015	5.32	mg/L	0.02030	0.25375	
* Sodium, Dissolved	7/12/22 12:30	7/14/22 12:00		10.15	84.7	mg/L	0.3045	4.06	
Analytical Method: EPA 200.8		Analyst: DLJ			Preparation Method: EPA 1638				
* Antimony, Total	7/7/22 16:27	7/8/22 16:12		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/7/22 16:27	7/8/22 16:12		1.015	0.0988	mg/L	0.006090	0.01015	
* Arsenic, Total	7/7/22 16:27	7/8/22 16:12		1.015	0.000348	mg/L	0.000081	0.000203	
* Barium, Total	7/7/22 16:27	7/8/22 16:12		1.015	0.0209	mg/L	0.000508	0.001015	
* Beryllium, Total	7/7/22 16:27	7/8/22 16:12		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	7/7/22 16:27	7/8/22 16:12		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	7/7/22 16:27	7/8/22 16:12		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Total	7/7/22 16:27	7/8/22 16:12		1.015	0.00285	mg/L	0.000068	0.000203	
* Lead, Total	7/7/22 16:27	7/8/22 16:12		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	7/7/22 16:27	7/8/22 16:12		1.015	0.796	mg/L	0.000152	0.000203	
* Molybdenum, Total	7/7/22 16:27	7/8/22 16:12		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Potassium, Total	7/7/22 16:27	7/8/22 16:12		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.

Certificate Of Analysis

Description: Gorgas Landfill - MW-10

Location Code: WMWGORLF
Collected: 7/6/22 16:44
Customer ID:
Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12345

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	7/7/22 16:27	7/8/22 16:12		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	7/7/22 16:27	7/8/22 16:12		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 200.8		Analyst: DLJ							
* Antimony, Dissolved	7/7/22 13:50	7/8/22 11:46		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	7/7/22 13:50	7/8/22 11:46		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Dissolved	7/7/22 13:50	7/8/22 11:46		1.015	0.000241	mg/L	0.000081	0.000203	
* Barium, Dissolved	7/7/22 13:50	7/8/22 11:46		1.015	0.0226	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	7/7/22 13:50	7/8/22 11:46		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	7/7/22 13:50	7/8/22 11:46		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	7/7/22 13:50	7/8/22 11:46		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	7/7/22 13:50	7/8/22 11:46		1.015	0.00370	mg/L	0.000068	0.000203	
* Lead, Dissolved	7/7/22 13:50	7/8/22 11:46		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	7/7/22 13:50	7/18/22 09:02		1.015	0.928	mg/L	0.000152	0.000203	
* Molybdenum, Dissolved	7/7/22 13:50	7/8/22 11:46		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Potassium, Dissolved	7/7/22 13:50	7/8/22 11:46		1.015	4.90	mg/L	0.169505	0.5075	
* Selenium, Dissolved	7/7/22 13:50	7/8/22 11:46		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	7/7/22 13:50	7/8/22 11:46		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	7/12/22 16:01	7/12/22 21:06		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: CES							
* Nitrogen, Nitrate/Nitrite	7/7/22 16:33	7/7/22 16:33		1	Not Detected	mg/L as N	0.20	0.3	U
Analytical Method: SM 2320 B		Analyst: ALH							
Alkalinity, Total as CaCO3	7/14/22 13:50	7/14/22 15:45		1	208	mg/L		0.1	
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	7/8/22 11:30	7/11/22 13:39		1	967	mg/L		75.8	
Analytical Method: SM 4500CO2 D		Analyst: ALH							
Bicarbonate Alkalinity, (calc.)	7/14/22 13:50	7/14/22 15:45		1	208	mg/L		1	A
Carbonate Alkalinity, (calc.)	7/14/22 13:50	7/14/22 15:45		1	Not Detected	mg/L		0.5	A
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	7/13/22 00:18	7/13/22 00:18		1	2.93	mg/L	1.00	2	

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-10

Location Code: WMWGORLF

Collected: 7/6/22 16:44

Customer ID:

Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12345

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	7/12/22 14:07	7/12/22 14:07		1	2.79	mg/L	0.50	1	
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	7/13/22 11:33	7/13/22 11:33		1	0.145	mg/L	0.06	0.125	
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	7/19/22 10:23	7/19/22 10:23		40	635	mg/L	24.0	80	
Analytical Method: Field Measurements		Analyst: DKG							
Conductivity	7/6/22 16:41	7/6/22 16:41			1079.16	uS/cm			FA
pH	7/6/22 16:41	7/6/22 16:41			6.64	SU			FA
Temperature	7/6/22 16:41	7/6/22 16:41			24.82	C			FA
Turbidity	7/6/22 16:41	7/6/22 16:41			4.72	NTU			FA
Sulfide	7/6/22 16:41	7/6/22 16:41			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: WMWGORLF

Sample Date: 7/6/22 16:44

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill - MW-10

Laboratory ID Number: BC12345

Sample	Analysis	Units	MB	MB				Standard		Rec			Prec Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit	Prec	
BC12353	Aluminum, Dissolved	mg/L	-0.000847	0.010	0.100	0.0990	0.104	0.0993	0.0850 to 0.115	99.0	70.0 to 130	4.93	20.0
BC12352	Aluminum, Total	mg/L	0.000611	0.010	0.100	0.129	0.127	0.108	0.0850 to 0.115	112	70.0 to 130	1.56	20.0
BC12353	Antimony, Dissolved	mg/L	0.000408	0.00100	0.100	0.105	0.105	0.0889	0.0850 to 0.115	105	70.0 to 130	0.00	20.0
BC12352	Antimony, Total	mg/L	0.000282	0.00100	0.100	0.104	0.103	0.0935	0.0850 to 0.115	104	70.0 to 130	0.966	20.0
BC12353	Arsenic, Dissolved	mg/L	-0.0000044	0.000176	0.100	0.100	0.101	0.0983	0.0850 to 0.115	99.3	70.0 to 130	0.995	20.0
BC12352	Arsenic, Total	mg/L	0.0000184	0.000176	0.100	0.104	0.103	0.103	0.0850 to 0.115	103	70.0 to 130	0.966	20.0
BC12353	Barium, Dissolved	mg/L	-0.0000026	0.00100	0.100	0.121	0.123	0.0992	0.0850 to 0.115	105	70.0 to 130	1.64	20.0
BC12352	Barium, Total	mg/L	-0.0000541	0.00100	0.100	0.119	0.118	0.0994	0.0850 to 0.115	103	70.0 to 130	0.844	20.0
BC12353	Beryllium, Dissolved	mg/L	0.000265	0.000880	0.100	0.0992	0.0963	0.0948	0.0850 to 0.115	99.2	70.0 to 130	2.97	20.0
BC12352	Beryllium, Total	mg/L	0.0000185	0.000880	0.100	0.0995	0.0964	0.107	0.0850 to 0.115	99.5	70.0 to 130	3.16	20.0
BC12353	Boron, Dissolved	mg/L	-0.000346	0.0650	1.00	1.14	1.14	1.01	0.850 to 1.15	103	70.0 to 130	0.00	20.0
BC12352	Boron, Total	mg/L	-0.000586	0.0650	1.00	1.22	1.20	1.00	0.850 to 1.15	111	70.0 to 130	1.65	20.0
BC12353	Cadmium, Dissolved	mg/L	0.0000076	0.000147	0.100	0.0942	0.0960	0.0983	0.0850 to 0.115	94.2	70.0 to 130	1.89	20.0
BC12352	Cadmium, Total	mg/L	0.0000051	0.000147	0.100	0.0946	0.0924	0.0989	0.0850 to 0.115	94.6	70.0 to 130	2.35	20.0
BC12353	Calcium, Dissolved	mg/L	-0.0181	0.152	5.00	373	359	4.92	4.25 to 5.75	80.0	70.0 to 130	3.83	20.0
BC12352	Calcium, Total	mg/L	-0.0361	0.152	5.00	356	342	4.65	4.25 to 5.75	220	70.0 to 130	4.01	20.0
BC12351	Chloride	mg/L	0.0285	1.00	10.0	10.7	11.0	10.6	9.00 to 11.0	107	80.0 to 120	2.76	20.0
BC12353	Chromium, Dissolved	mg/L	0.0000644	0.000440	0.100	0.0960	0.0992	0.0986	0.0850 to 0.115	96.0	70.0 to 130	3.28	20.0
BC12352	Chromium, Total	mg/L	-0.000140	0.000440	0.100	0.0968	0.0968	0.100	0.0850 to 0.115	96.8	70.0 to 130	0.00	20.0
BC12353	Cobalt, Dissolved	mg/L	0.0000072	0.000147	0.100	0.0962	0.0995	0.102	0.0850 to 0.115	96.0	70.0 to 130	3.37	20.0
BC12352	Cobalt, Total	mg/L	-0.0000765	0.000147	0.100	0.0992	0.100	0.104	0.0850 to 0.115	99.0	70.0 to 130	0.803	20.0
BC12351	Fluoride	mg/L	0.00846	0.125	2.50	2.69	2.76	2.67	2.25 to 2.75	108	80.0 to 120	2.57	20.0
BC12353	Iron, Dissolved	mg/L	-0.000164	0.0176	0.2	6.87	6.59	0.205	0.170 to 0.230	120	70.0 to 130	4.16	20.0
BC12352	Iron, Total	mg/L	0.000346	0.0176	0.2	6.96	6.72	0.206	0.170 to 0.230	170	70.0 to 130	3.51	20.0

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 7/6/22 16:44

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill - MW-10

Laboratory ID Number: BC12345

Sample	Analysis	Units	MB					Standard		Rec		Prec	Limit
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12353	Lead, Dissolved	mg/L	0.0000142	0.000147	0.100	0.103	0.0991	0.0991	0.0850 to 0.115	103	70.0 to 130	3.86	20.0
BC12352	Lead, Total	mg/L	0.0000044	0.000147	0.100	0.104	0.103	0.100	0.0850 to 0.115	104	70.0 to 130	0.966	20.0
BC12353	Lithium, Dissolved	mg/L	-0.000049	0.0154	0.200	0.427	0.433	0.206	0.170 to 0.230	113	70.0 to 130	1.40	20.0
BC12352	Lithium, Total	mg/L	-0.000392	0.0154	0.200	0.456	0.456	0.221	0.170 to 0.230	116	70.0 to 130	0.00	20.0
BC12353	Magnesium, Dissolved	mg/L	-0.00581	0.0462	5.00	209	198	5.12	4.25 to 5.75	180	70.0 to 130	5.41	20.0
BC12352	Magnesium, Total	mg/L	-0.00637	0.0462	5.00	184	177	5.26	4.25 to 5.75	160	70.0 to 130	3.88	20.0
BC12353	Manganese, Dissolved	mg/L	-0.0000599	0.0002	0.100	1.10	1.09	0.0972	0.0850 to 0.115	80.0	70.0 to 130	0.913	20.0
BC12352	Manganese, Total	mg/L	0.0000060	0.0002	0.100	1.15	1.16	0.102	0.0850 to 0.115	80.0	70.0 to 130	0.866	20.0
BC12352	Mercury, Total by CVAA	mg/L	3.000E-05	0.000500	0.004	0.00407	0.00401	0.00408	0.00340 to 0.00460	102	70.0 to 130	1.49	20.0
BC12353	Molybdenum, Dissolved	mg/L	0.0000032	0.0002	0.100	0.0986	0.100	0.0982	0.0850 to 0.115	97.7	70.0 to 130	1.41	20.0
BC12352	Molybdenum, Total	mg/L	-0.0000008	0.0002	0.100	0.0960	0.0957	0.0950	0.0850 to 0.115	95.1	70.0 to 130	0.313	20.0
BC12353	Potassium, Dissolved	mg/L	0.0319	0.367	10.0	15.9	16.3	10.3	8.50 to 11.5	98.1	70.0 to 130	2.48	20.0
BC12352	Potassium, Total	mg/L	-0.00723	0.367	10.0	16.7	16.8	10.9	8.50 to 11.5	105	70.0 to 130	0.597	20.0
BC12353	Selenium, Dissolved	mg/L	-0.0000305	0.00100	0.100	0.0992	0.101	0.0999	0.0850 to 0.115	99.2	70.0 to 130	1.80	20.0
BC12352	Selenium, Total	mg/L	0.0000396	0.00100	0.100	0.105	0.104	0.104	0.0850 to 0.115	105	70.0 to 130	0.957	20.0
BC12353	Silicon, Dissolved	mg/L	0.000035	0.0440	1.00	10.5	10.5	1.03	0.850 to 1.15	80.0	70.0 to 130	0.00	20.0
BC12352	Silicon, Total	mg/L	0.000635	0.0440	1.00	11.3	11.3	1.01	0.850 to 1.15	110	70.0 to 130	0.00	20.0
BC12353	Sodium, Dissolved	mg/L	-0.0247	0.0660	5.00	163	155	4.91	4.25 to 5.75	180	70.0 to 130	5.03	20.0
BC12352	Sodium, Total	mg/L	0.0017	0.0660	5.00	148	143	5.43	4.25 to 5.75	180	70.0 to 130	3.44	20.0
BC12351	Sulfate	mg/L	0.309	2.0	20.0	21.1	20.4	20.0	18.0 to 22.0	97.0	80.0 to 120	3.37	20.0
BC12353	Thallium, Dissolved	mg/L	0.0000183	0.000147	0.100	0.0985	0.0956	0.0966	0.0850 to 0.115	98.5	70.0 to 130	2.99	20.0
BC12352	Thallium, Total	mg/L	-0.0000823	0.000147	0.100	0.112	0.107	0.108	0.0850 to 0.115	112	70.0 to 130	4.57	20.0
BC12352	Total Organic Carbon	mg/L	0.231	1.00	10.0	10.4	11.1	10.1		104	80.0 to 120	6.51	20.0

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 7/6/22 16:44

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill - MW-10

Laboratory ID Number: BC12345

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC12349	Alkalinity, Total as CaCO3	mg/L					359	49.3	45.0 to 55.0			9.02	10.0
BC12352	Nitrogen, Nitrate/Nitrite	mg/L as N	0.03	0.200	2.00	2.05	0.093	1.92	1.80 to 2.20	102	90.0 to 110	0.00	15.0
BC12352	Solids, Dissolved	mg/L	1.00	25.0			2280	49.0	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 Landfill - MW-5

Location Code: WMWGORLF
Collected: 7/6/22 09:47
Customer ID:
Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12346

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: EPA 200.7			Analyst: ABB		Preparation Method: EPA 1638				
* Boron, Total	7/12/22 13:23	7/18/22 11:02		1.015	0.0355	mg/L	0.030000	0.1015	J
* Calcium, Total	7/12/22 13:23	7/18/22 15:38		101.5	414	mg/L	7.0035	40.6	
* Iron, Total	7/12/22 13:23	7/18/22 11:02		1.015	1.66	mg/L	0.008120	0.0406	
* Lithium, Total	7/12/22 13:23	7/18/22 11:02		1.015	0.101	mg/L	0.007105	0.01999956	
* Magnesium, Total	7/12/22 13:23	7/18/22 15:38		101.5	422	mg/L	2.1315	40.6	
Silica, Total (calc.)	7/12/22 13:23	7/18/22 11:02		1	16.6	mg/L			
Silicon, Total	7/12/22 13:23	7/18/22 11:02		1.015	7.77	mg/L	0.02030	0.25375	
* Sodium, Total	7/12/22 13:23	7/18/22 15:38		101.5	53.7	mg/L	3.045	40.6	
Analytical Method: EPA 200.7			Analyst: ABB		Preparation Method: EPA 1638				
* Boron, Dissolved	7/12/22 12:30	7/13/22 14:59		1.015	0.0315	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	7/12/22 12:30	7/14/22 12:03		101.5	379	mg/L	7.0035	40.6	
* Iron, Dissolved	7/12/22 12:30	7/13/22 14:59		1.015	0.938	mg/L	0.008120	0.0406	
* Lithium, Dissolved	7/12/22 12:30	7/13/22 14:59		1.015	0.0907	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	7/12/22 12:30	7/14/22 12:03		101.5	434	mg/L	2.1315	40.6	
Silica, Dissolved (calc.)	7/12/22 12:30	7/13/22 14:59		1	15.6	mg/L			
Silicon, Dissolved	7/12/22 12:30	7/13/22 14:59		1.015	7.27	mg/L	0.02030	0.25375	
* Sodium, Dissolved	7/12/22 12:30	7/14/22 12:03		101.5	57.8	mg/L	3.045	40.6	
Analytical Method: EPA 200.8			Analyst: DLJ		Preparation Method: EPA 1638				
* Antimony, Total	7/7/22 16:27	7/8/22 16:16		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/7/22 16:27	7/8/22 16:16		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Total	7/7/22 16:27	7/8/22 16:16		1.015	0.000225	mg/L	0.000081	0.000203	
* Barium, Total	7/7/22 16:27	7/8/22 16:16		1.015	0.0117	mg/L	0.000508	0.001015	
* Beryllium, Total	7/7/22 16:27	7/8/22 16:16		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	7/7/22 16:27	7/8/22 16:16		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	7/7/22 16:27	7/8/22 16:16		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Total	7/7/22 16:27	7/8/22 16:16		1.015	0.000538	mg/L	0.000068	0.000203	
* Lead, Total	7/7/22 16:27	7/8/22 16:16		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	7/7/22 16:27	7/8/22 16:16		1.015	0.218	mg/L	0.000152	0.000203	
* Molybdenum, Total	7/7/22 16:27	7/8/22 16:16		1.015	0.00104	mg/L	0.000102	0.000203	
* Potassium, Total	7/7/22 16:27	7/8/22 16:16		1.015	6.50	mg/L	0.169505	0.5075	

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-5

Location Code: WMWGORLF

Collected: 7/6/22 09:47

Customer ID:

Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12346

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	7/7/22 16:27	7/8/22 16:16		1.015	0.00170	mg/L	0.000508	0.001015	
* Thallium, Total	7/7/22 16:27	7/8/22 16:16		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 200.8		Analyst: DLJ							
* Antimony, Dissolved	7/7/22 13:50	7/8/22 11:50		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	7/7/22 13:50	7/8/22 11:50		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Dissolved	7/7/22 13:50	7/8/22 11:50		1.015	0.000171	mg/L	0.000081	0.000203	J
* Barium, Dissolved	7/7/22 13:50	7/8/22 11:50		1.015	0.0120	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	7/7/22 13:50	7/8/22 11:50		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	7/7/22 13:50	7/8/22 11:50		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	7/7/22 13:50	7/8/22 11:50		1.015	0.000319	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	7/7/22 13:50	7/8/22 11:50		1.015	0.000792	mg/L	0.000068	0.000203	
* Lead, Dissolved	7/7/22 13:50	7/8/22 11:50		1.015	0.0000800	mg/L	0.000068	0.000203	J
* Manganese, Dissolved	7/7/22 13:50	7/18/22 09:05		1.015	0.241	mg/L	0.000152	0.000203	
* Molybdenum, Dissolved	7/7/22 13:50	7/8/22 11:50		1.015	0.00115	mg/L	0.000102	0.000203	
* Potassium, Dissolved	7/7/22 13:50	7/8/22 11:50		1.015	6.71	mg/L	0.169505	0.5075	
* Selenium, Dissolved	7/7/22 13:50	7/8/22 11:50		1.015	0.00239	mg/L	0.000508	0.001015	
* Thallium, Dissolved	7/7/22 13:50	7/8/22 11:50		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	7/12/22 16:01	7/12/22 21:10		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: CES							
* Nitrogen, Nitrate/Nitrite	7/7/22 16:35	7/7/22 16:35		1	0.221	mg/L as N	0.20	0.3	J
Analytical Method: SM 2320 B		Analyst: ALH							
Alkalinity, Total as CaCO3	7/14/22 13:50	7/14/22 15:45		1	325	mg/L		0.1	
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	7/7/22 13:38	7/11/22 10:04		1	3390	mg/L		178.6	
Analytical Method: SM 4500CO2 D		Analyst: ALH							
Bicarbonate Alkalinity, (calc.)	7/14/22 13:50	7/14/22 15:45		1	325	mg/L		1	A
Carbonate Alkalinity, (calc.)	7/14/22 13:50	7/14/22 15:45		1	Not Detected	mg/L		0.5	A
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	7/13/22 00:39	7/13/22 00:39		1	1.38	mg/L	1.00	2	J

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-5

Location Code: WMWGORLF

Collected: 7/6/22 09:47

Customer ID:

Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12346

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	7/12/22 14:08	7/12/22 14:08		1	7.51	mg/L	0.50	1	
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	7/13/22 11:34	7/13/22 11:34		1	0.306	mg/L	0.06	0.125	
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	7/19/22 10:24	7/19/22 10:24		160	2320	mg/L	96.0	320	
Analytical Method: Field Measurements		Analyst: TJD							
Conductivity	7/6/22 09:44	7/6/22 09:44			3505.71	uS/cm			FA
pH	7/6/22 09:44	7/6/22 09:44			6.51	SU			FA
Temperature	7/6/22 09:44	7/6/22 09:44			23.50	C			FA
Turbidity	7/6/22 09:44	7/6/22 09:44			1.45	NTU			FA
Sulfide	7/6/22 09:44	7/6/22 09:44			0	mg/L			FA

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 7/6/22 09:47

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill - MW-5

Laboratory ID Number: BC12346

Sample	Analysis	Units	MB	MB				Standard		Rec			Prec Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit	Prec	
BC12353	Aluminum, Dissolved	mg/L	-0.000847	0.010	0.100	0.0990	0.104	0.0993	0.0850 to 0.115	99.0	70.0 to 130	4.93	20.0
BC12352	Aluminum, Total	mg/L	0.000611	0.010	0.100	0.129	0.127	0.108	0.0850 to 0.115	112	70.0 to 130	1.56	20.0
BC12353	Antimony, Dissolved	mg/L	0.000408	0.00100	0.100	0.105	0.105	0.0889	0.0850 to 0.115	105	70.0 to 130	0.00	20.0
BC12352	Antimony, Total	mg/L	0.000282	0.00100	0.100	0.104	0.103	0.0935	0.0850 to 0.115	104	70.0 to 130	0.966	20.0
BC12353	Arsenic, Dissolved	mg/L	-0.0000044	0.000176	0.100	0.100	0.101	0.0983	0.0850 to 0.115	99.3	70.0 to 130	0.995	20.0
BC12352	Arsenic, Total	mg/L	0.0000184	0.000176	0.100	0.104	0.103	0.103	0.0850 to 0.115	103	70.0 to 130	0.966	20.0
BC12353	Barium, Dissolved	mg/L	-0.0000026	0.00100	0.100	0.121	0.123	0.0992	0.0850 to 0.115	105	70.0 to 130	1.64	20.0
BC12352	Barium, Total	mg/L	-0.0000541	0.00100	0.100	0.119	0.118	0.0994	0.0850 to 0.115	103	70.0 to 130	0.844	20.0
BC12353	Beryllium, Dissolved	mg/L	0.000265	0.000880	0.100	0.0992	0.0963	0.0948	0.0850 to 0.115	99.2	70.0 to 130	2.97	20.0
BC12352	Beryllium, Total	mg/L	0.0000185	0.000880	0.100	0.0995	0.0964	0.107	0.0850 to 0.115	99.5	70.0 to 130	3.16	20.0
BC12353	Boron, Dissolved	mg/L	-0.000346	0.0650	1.00	1.14	1.14	1.01	0.850 to 1.15	103	70.0 to 130	0.00	20.0
BC12352	Boron, Total	mg/L	-0.000586	0.0650	1.00	1.22	1.20	1.00	0.850 to 1.15	111	70.0 to 130	1.65	20.0
BC12353	Cadmium, Dissolved	mg/L	0.0000076	0.000147	0.100	0.0942	0.0960	0.0983	0.0850 to 0.115	94.2	70.0 to 130	1.89	20.0
BC12352	Cadmium, Total	mg/L	0.0000051	0.000147	0.100	0.0946	0.0924	0.0989	0.0850 to 0.115	94.6	70.0 to 130	2.35	20.0
BC12353	Calcium, Dissolved	mg/L	-0.0181	0.152	5.00	373	359	4.92	4.25 to 5.75	80.0	70.0 to 130	3.83	20.0
BC12352	Calcium, Total	mg/L	-0.0361	0.152	5.00	356	342	4.65	4.25 to 5.75	220	70.0 to 130	4.01	20.0
BC12351	Chloride	mg/L	0.0285	1.00	10.0	10.7	11.0	10.6	9.00 to 11.0	107	80.0 to 120	2.76	20.0
BC12353	Chromium, Dissolved	mg/L	0.0000644	0.000440	0.100	0.0960	0.0992	0.0986	0.0850 to 0.115	96.0	70.0 to 130	3.28	20.0
BC12352	Chromium, Total	mg/L	-0.000140	0.000440	0.100	0.0968	0.0968	0.100	0.0850 to 0.115	96.8	70.0 to 130	0.00	20.0
BC12353	Cobalt, Dissolved	mg/L	0.0000072	0.000147	0.100	0.0962	0.0995	0.102	0.0850 to 0.115	96.0	70.0 to 130	3.37	20.0
BC12352	Cobalt, Total	mg/L	-0.0000765	0.000147	0.100	0.0992	0.100	0.104	0.0850 to 0.115	99.0	70.0 to 130	0.803	20.0
BC12351	Fluoride	mg/L	0.00846	0.125	2.50	2.69	2.76	2.67	2.25 to 2.75	108	80.0 to 120	2.57	20.0
BC12353	Iron, Dissolved	mg/L	-0.000164	0.0176	0.2	6.87	6.59	0.205	0.170 to 0.230	120	70.0 to 130	4.16	20.0
BC12352	Iron, Total	mg/L	0.000346	0.0176	0.2	6.96	6.72	0.206	0.170 to 0.230	170	70.0 to 130	3.51	20.0

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 7/6/22 09:47

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill - MW-5

Laboratory ID Number: BC12346

Sample	Analysis	Units	MB	MB		Spike	MS	MSD	Standard		Rec		Prec
				Limit					Standard	Limit	Rec	Limit	
BC12353	Lead, Dissolved	mg/L	0.0000142	0.000147	0.100	0.103	0.0991	0.0991	0.0850 to 0.115	103	70.0 to 130	3.86	20.0
BC12352	Lead, Total	mg/L	0.0000044	0.000147	0.100	0.104	0.103	0.100	0.0850 to 0.115	104	70.0 to 130	0.966	20.0
BC12353	Lithium, Dissolved	mg/L	-0.000049	0.0154	0.200	0.427	0.433	0.206	0.170 to 0.230	113	70.0 to 130	1.40	20.0
BC12352	Lithium, Total	mg/L	-0.000392	0.0154	0.200	0.456	0.456	0.221	0.170 to 0.230	116	70.0 to 130	0.00	20.0
BC12353	Magnesium, Dissolved	mg/L	-0.00581	0.0462	5.00	209	198	5.12	4.25 to 5.75	180	70.0 to 130	5.41	20.0
BC12352	Magnesium, Total	mg/L	-0.00637	0.0462	5.00	184	177	5.26	4.25 to 5.75	160	70.0 to 130	3.88	20.0
BC12353	Manganese, Dissolved	mg/L	-0.0000599	0.0002	0.100	1.10	1.09	0.0972	0.0850 to 0.115	80.0	70.0 to 130	0.913	20.0
BC12352	Manganese, Total	mg/L	0.0000060	0.0002	0.100	1.15	1.16	0.102	0.0850 to 0.115	80.0	70.0 to 130	0.866	20.0
BC12352	Mercury, Total by CVAA	mg/L	3.000E-05	0.000500	0.004	0.00407	0.00401	0.00408	0.00340 to 0.00460	102	70.0 to 130	1.49	20.0
BC12353	Molybdenum, Dissolved	mg/L	0.0000032	0.0002	0.100	0.0986	0.100	0.0982	0.0850 to 0.115	97.7	70.0 to 130	1.41	20.0
BC12352	Molybdenum, Total	mg/L	-0.0000008	0.0002	0.100	0.0960	0.0957	0.0950	0.0850 to 0.115	95.1	70.0 to 130	0.313	20.0
BC12353	Potassium, Dissolved	mg/L	0.0319	0.367	10.0	15.9	16.3	10.3	8.50 to 11.5	98.1	70.0 to 130	2.48	20.0
BC12352	Potassium, Total	mg/L	-0.00723	0.367	10.0	16.7	16.8	10.9	8.50 to 11.5	105	70.0 to 130	0.597	20.0
BC12353	Selenium, Dissolved	mg/L	-0.0000305	0.00100	0.100	0.0992	0.101	0.0999	0.0850 to 0.115	99.2	70.0 to 130	1.80	20.0
BC12352	Selenium, Total	mg/L	0.0000396	0.00100	0.100	0.105	0.104	0.104	0.0850 to 0.115	105	70.0 to 130	0.957	20.0
BC12353	Silicon, Dissolved	mg/L	0.000035	0.0440	1.00	10.5	10.5	1.03	0.850 to 1.15	80.0	70.0 to 130	0.00	20.0
BC12352	Silicon, Total	mg/L	0.000635	0.0440	1.00	11.3	11.3	1.01	0.850 to 1.15	110	70.0 to 130	0.00	20.0
BC12353	Sodium, Dissolved	mg/L	-0.0247	0.0660	5.00	163	155	4.91	4.25 to 5.75	180	70.0 to 130	5.03	20.0
BC12352	Sodium, Total	mg/L	0.0017	0.0660	5.00	148	143	5.43	4.25 to 5.75	180	70.0 to 130	3.44	20.0
BC12351	Sulfate	mg/L	0.309	2.0	20.0	21.1	20.4	20.0	18.0 to 22.0	97.0	80.0 to 120	3.37	20.0
BC12353	Thallium, Dissolved	mg/L	0.0000183	0.000147	0.100	0.0985	0.0956	0.0966	0.0850 to 0.115	98.5	70.0 to 130	2.99	20.0
BC12352	Thallium, Total	mg/L	-0.0000823	0.000147	0.100	0.112	0.107	0.108	0.0850 to 0.115	112	70.0 to 130	4.57	20.0
BC12352	Total Organic Carbon	mg/L	0.231	1.00	10.0	10.4	11.1	10.1		104	80.0 to 120	6.51	20.0

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 7/6/22 09:47

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill - MW-5

Laboratory ID Number: BC12346

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC12349	Alkalinity, Total as CaCO3	mg/L					359	49.3	45.0 to 55.0			9.02	10.0
BC12352	Nitrogen, Nitrate/Nitrite	mg/L as N	0.03	0.200	2.00	2.05	0.093	1.92	1.80 to 2.20	102	90.0 to 110	0.00	15.0
BC12346	Solids, Dissolved	mg/L	2.00	25.0			3360	42.0	40.0 to 60.0			0.889	10.0

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-6

Location Code: WMWGORLF
Collected: 7/6/22 12:48
Customer ID:
Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12347

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: EPA 200.7			Analyst: ABB		Preparation Method: EPA 1638				
* Boron, Total	7/12/22 13:23	7/18/22 11:04		1.015	0.0690	mg/L	0.030000	0.1015	J
* Calcium, Total	7/12/22 13:23	7/18/22 15:42		101.5	430	mg/L	7.0035	40.6	
* Iron, Total	7/12/22 13:23	7/18/22 15:42		101.5	34.5	mg/L	0.8120	4.06	
* Lithium, Total	7/12/22 13:23	7/18/22 11:04		1.015	0.216	mg/L	0.007105	0.01999956	
* Magnesium, Total	7/12/22 13:23	7/18/22 15:42		101.5	285	mg/L	2.1315	40.6	
Silica, Total (calc.)	7/12/22 13:23	7/18/22 11:04		1	28.5	mg/L			
Silicon, Total	7/12/22 13:23	7/18/22 11:04		1.015	13.3	mg/L	0.02030	0.25375	
* Sodium, Total	7/12/22 13:23	7/18/22 15:42		101.5	61.1	mg/L	3.045	40.6	
Analytical Method: EPA 200.7			Analyst: ABB		Preparation Method: EPA 1638				
* Boron, Dissolved	7/12/22 12:30	7/13/22 15:01		1.015	0.0638	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	7/12/22 12:30	7/14/22 12:06		101.5	403	mg/L	7.0035	40.6	
* Iron, Dissolved	7/12/22 12:30	7/14/22 12:06		101.5	32.4	mg/L	0.8120	4.06	
* Lithium, Dissolved	7/12/22 12:30	7/13/22 15:01		1.015	0.196	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	7/12/22 12:30	7/14/22 12:06		101.5	298	mg/L	2.1315	40.6	
Silica, Dissolved (calc.)	7/12/22 12:30	7/13/22 15:01		1	27.0	mg/L			
Silicon, Dissolved	7/12/22 12:30	7/13/22 15:01		1.015	12.6	mg/L	0.02030	0.25375	
* Sodium, Dissolved	7/12/22 12:30	7/14/22 12:06		101.5	67.1	mg/L	3.045	40.6	
Analytical Method: EPA 200.8			Analyst: DLJ		Preparation Method: EPA 1638				
* Antimony, Total	7/7/22 16:27	7/8/22 16:20		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/7/22 16:27	7/8/22 16:20		1.015	0.130	mg/L	0.006090	0.01015	
* Arsenic, Total	7/7/22 16:27	7/8/22 16:20		1.015	0.00554	mg/L	0.000081	0.000203	
* Barium, Total	7/7/22 16:27	7/8/22 16:20		1.015	0.0144	mg/L	0.000508	0.001015	
* Beryllium, Total	7/7/22 16:27	7/8/22 16:20		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	7/7/22 16:27	7/8/22 16:20		1.015	0.0000719	mg/L	0.000068	0.000203	J
* Chromium, Total	7/7/22 16:27	7/8/22 16:20		1.015	0.000284	mg/L	0.000203	0.001015	J
* Cobalt, Total	7/7/22 16:27	7/8/22 16:20		1.015	0.0675	mg/L	0.000068	0.000203	
* Lead, Total	7/7/22 16:27	7/8/22 16:20		1.015	0.000232	mg/L	0.000068	0.000203	
* Manganese, Total	7/7/22 16:27	7/18/22 12:50		10.15	9.11	mg/L	0.001522	0.00203	
* Molybdenum, Total	7/7/22 16:27	7/8/22 16:20		1.015	0.000316	mg/L	0.000102	0.000203	
* Potassium, Total	7/7/22 16:27	7/8/22 16:20		1.015	6.52	mg/L	0.169505	0.5075	

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-6

Location Code: WMWGORLF
Collected: 7/6/22 12:48
Customer ID:
Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12347

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	7/7/22 16:27	7/8/22 16:20		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	7/7/22 16:27	7/8/22 16:20		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 200.8		Analyst: DLJ							
* Antimony, Dissolved	7/7/22 13:50	7/8/22 11:54		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	7/7/22 13:50	7/8/22 11:54		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Dissolved	7/7/22 13:50	7/8/22 11:54		1.015	0.00481	mg/L	0.000081	0.000203	
* Barium, Dissolved	7/7/22 13:50	7/8/22 11:54		1.015	0.0149	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	7/7/22 13:50	7/8/22 11:54		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	7/7/22 13:50	7/8/22 11:54		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	7/7/22 13:50	7/8/22 11:54		1.015	0.000245	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	7/7/22 13:50	7/8/22 11:54		1.015	0.0674	mg/L	0.000068	0.000203	
* Lead, Dissolved	7/7/22 13:50	7/8/22 11:54		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	7/7/22 13:50	7/18/22 09:09		10.15	9.18	mg/L	0.001522	0.00203	
* Molybdenum, Dissolved	7/7/22 13:50	7/8/22 11:54		1.015	0.000288	mg/L	0.000102	0.000203	
* Potassium, Dissolved	7/7/22 13:50	7/8/22 11:54		1.015	6.30	mg/L	0.169505	0.5075	
* Selenium, Dissolved	7/7/22 13:50	7/8/22 11:54		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	7/7/22 13:50	7/8/22 11:54		1.015	0.0000843	mg/L	0.000068	0.000203	J
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	7/12/22 16:01	7/12/22 21:14		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: CES							
* Nitrogen, Nitrate/Nitrite	7/7/22 16:37	7/7/22 16:37		1	0.249	mg/L as N	0.20	0.3	J
Analytical Method: SM 2320 B		Analyst: ALH							
Alkalinity, Total as CaCO3	7/14/22 13:50	7/14/22 15:45		1	177	mg/L		0.1	
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	7/8/22 11:30	7/11/22 13:39		1	3110	mg/L		147.1	
Analytical Method: SM 4500CO2 D		Analyst: ALH							
Bicarbonate Alkalinity, (calc.)	7/14/22 13:50	7/14/22 15:45		1	177	mg/L		1	A
Carbonate Alkalinity, (calc.)	7/14/22 13:50	7/14/22 15:45		1	Not Detected	mg/L		0.5	A
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	7/13/22 00:59	7/13/22 00:59		1	1.00	mg/L	1.00	2	J

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-6

Location Code: WMWGORLF

Collected: 7/6/22 12:48

Customer ID:

Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12347

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	7/12/22 14:09	7/12/22 14:09		1	3.36	mg/L	0.50	1	
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	7/13/22 11:35	7/13/22 11:35		1	0.147	mg/L	0.06	0.125	
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	7/19/22 10:25	7/19/22 10:25		160	2100	mg/L	96.0	320	
Analytical Method: Field Measurements		Analyst: TJD							
Conductivity	7/6/22 12:45	7/6/22 12:45			3108.71	uS/cm			FA
pH	7/6/22 12:45	7/6/22 12:45			6.14	SU			FA
Temperature	7/6/22 12:45	7/6/22 12:45			22.61	C			FA
Turbidity	7/6/22 12:45	7/6/22 12:45			9.9	NTU			FA
Sulfide	7/6/22 12:45	7/6/22 12:45			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: WMWGORLF

Sample Date: 7/6/22 12:48

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill - MW-6

Laboratory ID Number: BC12347

Sample	Analysis	Units	MB	MB				Standard		Rec			Prec Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit	Prec	
BC12353	Aluminum, Dissolved	mg/L	-0.000847	0.010	0.100	0.0990	0.104	0.0993	0.0850 to 0.115	99.0	70.0 to 130	4.93	20.0
BC12352	Aluminum, Total	mg/L	0.000611	0.010	0.100	0.129	0.127	0.108	0.0850 to 0.115	112	70.0 to 130	1.56	20.0
BC12353	Antimony, Dissolved	mg/L	0.000408	0.00100	0.100	0.105	0.105	0.0889	0.0850 to 0.115	105	70.0 to 130	0.00	20.0
BC12352	Antimony, Total	mg/L	0.000282	0.00100	0.100	0.104	0.103	0.0935	0.0850 to 0.115	104	70.0 to 130	0.966	20.0
BC12353	Arsenic, Dissolved	mg/L	-0.0000044	0.000176	0.100	0.100	0.101	0.0983	0.0850 to 0.115	99.3	70.0 to 130	0.995	20.0
BC12352	Arsenic, Total	mg/L	0.0000184	0.000176	0.100	0.104	0.103	0.103	0.0850 to 0.115	103	70.0 to 130	0.966	20.0
BC12353	Barium, Dissolved	mg/L	-0.0000026	0.00100	0.100	0.121	0.123	0.0992	0.0850 to 0.115	105	70.0 to 130	1.64	20.0
BC12352	Barium, Total	mg/L	-0.0000541	0.00100	0.100	0.119	0.118	0.0994	0.0850 to 0.115	103	70.0 to 130	0.844	20.0
BC12353	Beryllium, Dissolved	mg/L	0.000265	0.000880	0.100	0.0992	0.0963	0.0948	0.0850 to 0.115	99.2	70.0 to 130	2.97	20.0
BC12352	Beryllium, Total	mg/L	0.0000185	0.000880	0.100	0.0995	0.0964	0.107	0.0850 to 0.115	99.5	70.0 to 130	3.16	20.0
BC12353	Boron, Dissolved	mg/L	-0.000346	0.0650	1.00	1.14	1.14	1.01	0.850 to 1.15	103	70.0 to 130	0.00	20.0
BC12352	Boron, Total	mg/L	-0.000586	0.0650	1.00	1.22	1.20	1.00	0.850 to 1.15	111	70.0 to 130	1.65	20.0
BC12353	Cadmium, Dissolved	mg/L	0.0000076	0.000147	0.100	0.0942	0.0960	0.0983	0.0850 to 0.115	94.2	70.0 to 130	1.89	20.0
BC12352	Cadmium, Total	mg/L	0.0000051	0.000147	0.100	0.0946	0.0924	0.0989	0.0850 to 0.115	94.6	70.0 to 130	2.35	20.0
BC12353	Calcium, Dissolved	mg/L	-0.0181	0.152	5.00	373	359	4.92	4.25 to 5.75	80.0	70.0 to 130	3.83	20.0
BC12352	Calcium, Total	mg/L	-0.0361	0.152	5.00	356	342	4.65	4.25 to 5.75	220	70.0 to 130	4.01	20.0
BC12351	Chloride	mg/L	0.0285	1.00	10.0	10.7	11.0	10.6	9.00 to 11.0	107	80.0 to 120	2.76	20.0
BC12353	Chromium, Dissolved	mg/L	0.0000644	0.000440	0.100	0.0960	0.0992	0.0986	0.0850 to 0.115	96.0	70.0 to 130	3.28	20.0
BC12352	Chromium, Total	mg/L	-0.000140	0.000440	0.100	0.0968	0.0968	0.100	0.0850 to 0.115	96.8	70.0 to 130	0.00	20.0
BC12353	Cobalt, Dissolved	mg/L	0.0000072	0.000147	0.100	0.0962	0.0995	0.102	0.0850 to 0.115	96.0	70.0 to 130	3.37	20.0
BC12352	Cobalt, Total	mg/L	-0.0000765	0.000147	0.100	0.0992	0.100	0.104	0.0850 to 0.115	99.0	70.0 to 130	0.803	20.0
BC12351	Fluoride	mg/L	0.00846	0.125	2.50	2.69	2.76	2.67	2.25 to 2.75	108	80.0 to 120	2.57	20.0
BC12353	Iron, Dissolved	mg/L	-0.000164	0.0176	0.2	6.87	6.59	0.205	0.170 to 0.230	120	70.0 to 130	4.16	20.0
BC12352	Iron, Total	mg/L	0.000346	0.0176	0.2	6.96	6.72	0.206	0.170 to 0.230	170	70.0 to 130	3.51	20.0

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 7/6/22 12:48

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill - MW-6

Laboratory ID Number: BC12347

Sample	Analysis	Units	MB					Standard		Rec		Prec	Limit
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12353	Lead, Dissolved	mg/L	0.0000142	0.000147	0.100	0.103	0.0991	0.0991	0.0850 to 0.115	103	70.0 to 130	3.86	20.0
BC12352	Lead, Total	mg/L	0.0000044	0.000147	0.100	0.104	0.103	0.100	0.0850 to 0.115	104	70.0 to 130	0.966	20.0
BC12353	Lithium, Dissolved	mg/L	-0.000049	0.0154	0.200	0.427	0.433	0.206	0.170 to 0.230	113	70.0 to 130	1.40	20.0
BC12352	Lithium, Total	mg/L	-0.000392	0.0154	0.200	0.456	0.456	0.221	0.170 to 0.230	116	70.0 to 130	0.00	20.0
BC12353	Magnesium, Dissolved	mg/L	-0.00581	0.0462	5.00	209	198	5.12	4.25 to 5.75	180	70.0 to 130	5.41	20.0
BC12352	Magnesium, Total	mg/L	-0.00637	0.0462	5.00	184	177	5.26	4.25 to 5.75	160	70.0 to 130	3.88	20.0
BC12353	Manganese, Dissolved	mg/L	-0.0000599	0.0002	0.100	1.10	1.09	0.0972	0.0850 to 0.115	80.0	70.0 to 130	0.913	20.0
BC12352	Manganese, Total	mg/L	0.0000060	0.0002	0.100	1.15	1.16	0.102	0.0850 to 0.115	80.0	70.0 to 130	0.866	20.0
BC12352	Mercury, Total by CVAA	mg/L	3.000E-05	0.000500	0.004	0.00407	0.00401	0.00408	0.00340 to 0.00460	102	70.0 to 130	1.49	20.0
BC12353	Molybdenum, Dissolved	mg/L	0.0000032	0.0002	0.100	0.0986	0.100	0.0982	0.0850 to 0.115	97.7	70.0 to 130	1.41	20.0
BC12352	Molybdenum, Total	mg/L	-0.0000008	0.0002	0.100	0.0960	0.0957	0.0950	0.0850 to 0.115	95.1	70.0 to 130	0.313	20.0
BC12353	Potassium, Dissolved	mg/L	0.0319	0.367	10.0	15.9	16.3	10.3	8.50 to 11.5	98.1	70.0 to 130	2.48	20.0
BC12352	Potassium, Total	mg/L	-0.00723	0.367	10.0	16.7	16.8	10.9	8.50 to 11.5	105	70.0 to 130	0.597	20.0
BC12353	Selenium, Dissolved	mg/L	-0.0000305	0.00100	0.100	0.0992	0.101	0.0999	0.0850 to 0.115	99.2	70.0 to 130	1.80	20.0
BC12352	Selenium, Total	mg/L	0.0000396	0.00100	0.100	0.105	0.104	0.104	0.0850 to 0.115	105	70.0 to 130	0.957	20.0
BC12353	Silicon, Dissolved	mg/L	0.000035	0.0440	1.00	10.5	10.5	1.03	0.850 to 1.15	80.0	70.0 to 130	0.00	20.0
BC12352	Silicon, Total	mg/L	0.000635	0.0440	1.00	11.3	11.3	1.01	0.850 to 1.15	110	70.0 to 130	0.00	20.0
BC12353	Sodium, Dissolved	mg/L	-0.0247	0.0660	5.00	163	155	4.91	4.25 to 5.75	180	70.0 to 130	5.03	20.0
BC12352	Sodium, Total	mg/L	0.0017	0.0660	5.00	148	143	5.43	4.25 to 5.75	180	70.0 to 130	3.44	20.0
BC12351	Sulfate	mg/L	0.309	2.0	20.0	21.1	20.4	20.0	18.0 to 22.0	97.0	80.0 to 120	3.37	20.0
BC12353	Thallium, Dissolved	mg/L	0.0000183	0.000147	0.100	0.0985	0.0956	0.0966	0.0850 to 0.115	98.5	70.0 to 130	2.99	20.0
BC12352	Thallium, Total	mg/L	-0.0000823	0.000147	0.100	0.112	0.107	0.108	0.0850 to 0.115	112	70.0 to 130	4.57	20.0
BC12352	Total Organic Carbon	mg/L	0.231	1.00	10.0	10.4	11.1	10.1		104	80.0 to 120	6.51	20.0

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 7/6/22 12:48

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill - MW-6

Laboratory ID Number: BC12347

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC12349	Alkalinity, Total as CaCO3	mg/L					359	49.3	45.0 to 55.0			9.02	10.0
BC12352	Nitrogen, Nitrate/Nitrite	mg/L as N	0.03	0.200	2.00	2.05	0.093	1.92	1.80 to 2.20	102	90.0 to 110	0.00	15.0
BC12352	Solids, Dissolved	mg/L	1.00	25.0			2280	49.0	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 Landfill - MW-7

Location Code: WMWGORLF
Collected: 7/6/22 13:45
Customer ID:
Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12348

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: EPA 200.7			Analyst: ABB		Preparation Method: EPA 1638				
* Boron, Total	7/12/22 13:23	7/18/22 11:07		1.015	0.0752	mg/L	0.030000	0.1015	J
* Calcium, Total	7/12/22 13:23	7/18/22 15:45		10.15	280	mg/L	0.70035	4.06	
* Iron, Total	7/12/22 13:23	7/18/22 11:07		1.015	2.22	mg/L	0.008120	0.0406	
* Lithium, Total	7/12/22 13:23	7/18/22 11:07		1.015	0.0926	mg/L	0.007105	0.01999956	
* Magnesium, Total	7/12/22 13:23	7/18/22 15:45		10.15	243	mg/L	0.21315	4.06	
Silica, Total (calc.)	7/12/22 13:23	7/18/22 11:07		1	12.8	mg/L			
Silicon, Total	7/12/22 13:23	7/18/22 11:07		1.015	6.00	mg/L	0.02030	0.25375	
* Sodium, Total	7/12/22 13:23	7/18/22 15:45		10.15	35.3	mg/L	0.3045	4.06	
Analytical Method: EPA 200.7			Analyst: ABB		Preparation Method: EPA 1638				
* Boron, Dissolved	7/12/22 12:30	7/13/22 15:04		1.015	0.0711	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	7/12/22 12:30	7/14/22 12:08		10.15	295	mg/L	0.70035	4.06	
* Iron, Dissolved	7/12/22 12:30	7/13/22 15:04		1.015	1.98	mg/L	0.008120	0.0406	
* Lithium, Dissolved	7/12/22 12:30	7/13/22 15:04		1.015	0.0806	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	7/12/22 12:30	7/14/22 12:08		10.15	275	mg/L	0.21315	4.06	
Silica, Dissolved (calc.)	7/12/22 12:30	7/13/22 15:04		1	12.7	mg/L			
Silicon, Dissolved	7/12/22 12:30	7/13/22 15:04		1.015	5.93	mg/L	0.02030	0.25375	
* Sodium, Dissolved	7/12/22 12:30	7/14/22 11:45		1.015	36.4	mg/L	0.03045	0.406	
Analytical Method: EPA 200.8			Analyst: DLJ		Preparation Method: EPA 1638				
* Antimony, Total	7/7/22 16:27	7/8/22 16:23		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/7/22 16:27	7/8/22 16:23		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Total	7/7/22 16:27	7/8/22 16:23		1.015	0.00164	mg/L	0.000081	0.000203	
* Barium, Total	7/7/22 16:27	7/8/22 16:23		1.015	0.0142	mg/L	0.000508	0.001015	
* Beryllium, Total	7/7/22 16:27	7/8/22 16:23		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	7/7/22 16:27	7/8/22 16:23		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	7/7/22 16:27	7/8/22 16:23		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Total	7/7/22 16:27	7/8/22 16:23		1.015	0.00590	mg/L	0.000068	0.000203	
* Lead, Total	7/7/22 16:27	7/8/22 16:23		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	7/7/22 16:27	7/18/22 12:53		5.075	2.78	mg/L	0.000761	0.001015	
* Molybdenum, Total	7/7/22 16:27	7/8/22 16:23		1.015	0.000846	mg/L	0.000102	0.000203	
* Potassium, Total	7/7/22 16:27	7/8/22 16:23		1.015	7.21	mg/L	0.169505	0.5075	

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-7

Location Code: WMWGORLF
Collected: 7/6/22 13:45
Customer ID:
Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12348

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	7/7/22 16:27	7/8/22 16:23		1.015	0.000677	mg/L	0.000508	0.001015	J
* Thallium, Total	7/7/22 16:27	7/8/22 16:23		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 200.8		Analyst: DLJ							
* Antimony, Dissolved	7/7/22 13:50	7/8/22 11:57		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	7/7/22 13:50	7/8/22 11:57		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Dissolved	7/7/22 13:50	7/8/22 11:57		1.015	0.00158	mg/L	0.000081	0.000203	
* Barium, Dissolved	7/7/22 13:50	7/8/22 11:57		1.015	0.0142	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	7/7/22 13:50	7/8/22 11:57		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	7/7/22 13:50	7/8/22 11:57		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	7/7/22 13:50	7/8/22 11:57		1.015	0.000273	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	7/7/22 13:50	7/8/22 11:57		1.015	0.00571	mg/L	0.000068	0.000203	
* Lead, Dissolved	7/7/22 13:50	7/8/22 11:57		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	7/7/22 13:50	7/18/22 09:12		5.075	2.77	mg/L	0.000761	0.001015	
* Molybdenum, Dissolved	7/7/22 13:50	7/8/22 11:57		1.015	0.000979	mg/L	0.000102	0.000203	
* Potassium, Dissolved	7/7/22 13:50	7/8/22 11:57		1.015	7.03	mg/L	0.169505	0.5075	
* Selenium, Dissolved	7/7/22 13:50	7/8/22 11:57		1.015	0.00107	mg/L	0.000508	0.001015	
* Thallium, Dissolved	7/7/22 13:50	7/8/22 11:57		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	7/12/22 16:01	7/12/22 21:18		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: CES							
* Nitrogen, Nitrate/Nitrite	7/7/22 16:39	7/7/22 16:39		1	Not Detected	mg/L as N	0.20	0.3	U
Analytical Method: SM 2320 B		Analyst: ALH							
Alkalinity, Total as CaCO3	7/14/22 13:50	7/14/22 15:45		1	326	mg/L		0.1	
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	7/8/22 11:30	7/11/22 13:39		1	2110	mg/L		125	
Analytical Method: SM 4500CO2 D		Analyst: ALH							
Bicarbonate Alkalinity, (calc.)	7/14/22 13:50	7/14/22 15:45		1	326	mg/L		1	A
Carbonate Alkalinity, (calc.)	7/14/22 13:50	7/14/22 15:45		1	Not Detected	mg/L		0.5	A
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	7/13/22 01:20	7/13/22 01:20		1	1.09	mg/L	1.00	2	J

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-7

Location Code: WMWGORLF

Collected: 7/6/22 13:45

Customer ID:

Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12348

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	7/12/22 14:10	7/12/22 14:10		1	6.25	mg/L	0.50	1	
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	7/13/22 11:37	7/13/22 11:37		1	0.208	mg/L	0.06	0.125	
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	7/19/22 10:27	7/19/22 10:27		100	1330	mg/L	60.0	200	
Analytical Method: Field Measurements		Analyst: TJD							
Conductivity	7/6/22 13:42	7/6/22 13:42			2455.37	uS/cm			FA
pH	7/6/22 13:42	7/6/22 13:42			6.46	SU			FA
Temperature	7/6/22 13:42	7/6/22 13:42			21.45	C			FA
Turbidity	7/6/22 13:42	7/6/22 13:42			0.67	NTU			FA
Sulfide	7/6/22 13:42	7/6/22 13:42			0	mg/L			FA

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 7/6/22 13:45

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill - MW-7

Laboratory ID Number: BC12348

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12353	Aluminum, Dissolved	mg/L	-0.000847	0.010	0.100	0.0990	0.104	0.0993	0.0850 to 0.115	99.0	70.0 to 130	4.93	20.0
BC12352	Aluminum, Total	mg/L	0.000611	0.010	0.100	0.129	0.127	0.108	0.0850 to 0.115	112	70.0 to 130	1.56	20.0
BC12353	Antimony, Dissolved	mg/L	0.000408	0.00100	0.100	0.105	0.105	0.0889	0.0850 to 0.115	105	70.0 to 130	0.00	20.0
BC12352	Antimony, Total	mg/L	0.000282	0.00100	0.100	0.104	0.103	0.0935	0.0850 to 0.115	104	70.0 to 130	0.966	20.0
BC12353	Arsenic, Dissolved	mg/L	-0.0000044	0.000176	0.100	0.100	0.101	0.0983	0.0850 to 0.115	99.3	70.0 to 130	0.995	20.0
BC12352	Arsenic, Total	mg/L	0.0000184	0.000176	0.100	0.104	0.103	0.103	0.0850 to 0.115	103	70.0 to 130	0.966	20.0
BC12353	Barium, Dissolved	mg/L	-0.0000026	0.00100	0.100	0.121	0.123	0.0992	0.0850 to 0.115	105	70.0 to 130	1.64	20.0
BC12352	Barium, Total	mg/L	-0.0000541	0.00100	0.100	0.119	0.118	0.0994	0.0850 to 0.115	103	70.0 to 130	0.844	20.0
BC12353	Beryllium, Dissolved	mg/L	0.000265	0.000880	0.100	0.0992	0.0963	0.0948	0.0850 to 0.115	99.2	70.0 to 130	2.97	20.0
BC12352	Beryllium, Total	mg/L	0.0000185	0.000880	0.100	0.0995	0.0964	0.107	0.0850 to 0.115	99.5	70.0 to 130	3.16	20.0
BC12353	Boron, Dissolved	mg/L	-0.000346	0.0650	1.00	1.14	1.14	1.01	0.850 to 1.15	103	70.0 to 130	0.00	20.0
BC12352	Boron, Total	mg/L	-0.000586	0.0650	1.00	1.22	1.20	1.00	0.850 to 1.15	111	70.0 to 130	1.65	20.0
BC12353	Cadmium, Dissolved	mg/L	0.0000076	0.000147	0.100	0.0942	0.0960	0.0983	0.0850 to 0.115	94.2	70.0 to 130	1.89	20.0
BC12352	Cadmium, Total	mg/L	0.0000051	0.000147	0.100	0.0946	0.0924	0.0989	0.0850 to 0.115	94.6	70.0 to 130	2.35	20.0
BC12353	Calcium, Dissolved	mg/L	-0.0181	0.152	5.00	373	359	4.92	4.25 to 5.75	80.0	70.0 to 130	3.83	20.0
BC12352	Calcium, Total	mg/L	-0.0361	0.152	5.00	356	342	4.65	4.25 to 5.75	220	70.0 to 130	4.01	20.0
BC12351	Chloride	mg/L	0.0285	1.00	10.0	10.7	11.0	10.6	9.00 to 11.0	107	80.0 to 120	2.76	20.0
BC12353	Chromium, Dissolved	mg/L	0.0000644	0.000440	0.100	0.0960	0.0992	0.0986	0.0850 to 0.115	96.0	70.0 to 130	3.28	20.0
BC12352	Chromium, Total	mg/L	-0.000140	0.000440	0.100	0.0968	0.0968	0.100	0.0850 to 0.115	96.8	70.0 to 130	0.00	20.0
BC12353	Cobalt, Dissolved	mg/L	0.0000072	0.000147	0.100	0.0962	0.0995	0.102	0.0850 to 0.115	96.0	70.0 to 130	3.37	20.0
BC12352	Cobalt, Total	mg/L	-0.0000765	0.000147	0.100	0.0992	0.100	0.104	0.0850 to 0.115	99.0	70.0 to 130	0.803	20.0
BC12351	Fluoride	mg/L	0.00846	0.125	2.50	2.69	2.76	2.67	2.25 to 2.75	108	80.0 to 120	2.57	20.0
BC12353	Iron, Dissolved	mg/L	-0.000164	0.0176	0.2	6.87	6.59	0.205	0.170 to 0.230	120	70.0 to 130	4.16	20.0
BC12352	Iron, Total	mg/L	0.000346	0.0176	0.2	6.96	6.72	0.206	0.170 to 0.230	170	70.0 to 130	3.51	20.0

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 7/6/22 13:45

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill - MW-7

Laboratory ID Number: BC12348

Sample	Analysis	Units	MB	MB		Spike	MS	MSD	Standard		Rec		Prec
				Limit					Standard	Limit	Rec	Limit	
BC12353	Lead, Dissolved	mg/L	0.0000142	0.000147	0.100	0.103	0.0991	0.0991	0.0850 to 0.115	103	70.0 to 130	3.86	20.0
BC12352	Lead, Total	mg/L	0.0000044	0.000147	0.100	0.104	0.103	0.100	0.0850 to 0.115	104	70.0 to 130	0.966	20.0
BC12353	Lithium, Dissolved	mg/L	-0.000049	0.0154	0.200	0.427	0.433	0.206	0.170 to 0.230	113	70.0 to 130	1.40	20.0
BC12352	Lithium, Total	mg/L	-0.000392	0.0154	0.200	0.456	0.456	0.221	0.170 to 0.230	116	70.0 to 130	0.00	20.0
BC12353	Magnesium, Dissolved	mg/L	-0.00581	0.0462	5.00	209	198	5.12	4.25 to 5.75	180	70.0 to 130	5.41	20.0
BC12352	Magnesium, Total	mg/L	-0.00637	0.0462	5.00	184	177	5.26	4.25 to 5.75	160	70.0 to 130	3.88	20.0
BC12353	Manganese, Dissolved	mg/L	-0.0000599	0.0002	0.100	1.10	1.09	0.0972	0.0850 to 0.115	80.0	70.0 to 130	0.913	20.0
BC12352	Manganese, Total	mg/L	0.0000060	0.0002	0.100	1.15	1.16	0.102	0.0850 to 0.115	80.0	70.0 to 130	0.866	20.0
BC12352	Mercury, Total by CVAA	mg/L	3.000E-05	0.000500	0.004	0.00407	0.00401	0.00408	0.00340 to 0.00460	102	70.0 to 130	1.49	20.0
BC12353	Molybdenum, Dissolved	mg/L	0.0000032	0.0002	0.100	0.0986	0.100	0.0982	0.0850 to 0.115	97.7	70.0 to 130	1.41	20.0
BC12352	Molybdenum, Total	mg/L	-0.0000008	0.0002	0.100	0.0960	0.0957	0.0950	0.0850 to 0.115	95.1	70.0 to 130	0.313	20.0
BC12353	Potassium, Dissolved	mg/L	0.0319	0.367	10.0	15.9	16.3	10.3	8.50 to 11.5	98.1	70.0 to 130	2.48	20.0
BC12352	Potassium, Total	mg/L	-0.00723	0.367	10.0	16.7	16.8	10.9	8.50 to 11.5	105	70.0 to 130	0.597	20.0
BC12353	Selenium, Dissolved	mg/L	-0.0000305	0.00100	0.100	0.0992	0.101	0.0999	0.0850 to 0.115	99.2	70.0 to 130	1.80	20.0
BC12352	Selenium, Total	mg/L	0.0000396	0.00100	0.100	0.105	0.104	0.104	0.0850 to 0.115	105	70.0 to 130	0.957	20.0
BC12353	Silicon, Dissolved	mg/L	0.000035	0.0440	1.00	10.5	10.5	1.03	0.850 to 1.15	80.0	70.0 to 130	0.00	20.0
BC12352	Silicon, Total	mg/L	0.000635	0.0440	1.00	11.3	11.3	1.01	0.850 to 1.15	110	70.0 to 130	0.00	20.0
BC12353	Sodium, Dissolved	mg/L	-0.0247	0.0660	5.00	163	155	4.91	4.25 to 5.75	180	70.0 to 130	5.03	20.0
BC12352	Sodium, Total	mg/L	0.0017	0.0660	5.00	148	143	5.43	4.25 to 5.75	180	70.0 to 130	3.44	20.0
BC12351	Sulfate	mg/L	0.309	2.0	20.0	21.1	20.4	20.0	18.0 to 22.0	97.0	80.0 to 120	3.37	20.0
BC12353	Thallium, Dissolved	mg/L	0.0000183	0.000147	0.100	0.0985	0.0956	0.0966	0.0850 to 0.115	98.5	70.0 to 130	2.99	20.0
BC12352	Thallium, Total	mg/L	-0.0000823	0.000147	0.100	0.112	0.107	0.108	0.0850 to 0.115	112	70.0 to 130	4.57	20.0
BC12352	Total Organic Carbon	mg/L	0.231	1.00	10.0	10.4	11.1	10.1		104	80.0 to 120	6.51	20.0

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 7/6/22 13:45

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill - MW-7

Laboratory ID Number: BC12348

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC12349	Alkalinity, Total as CaCO3	mg/L					359	49.3	45.0 to 55.0			9.02	10.0
BC12352	Nitrogen, Nitrate/Nitrite	mg/L as N	0.03	0.200	2.00	2.05	0.093	1.92	1.80 to 2.20	102	90.0 to 110	0.00	15.0
BC12352	Solids, Dissolved	mg/L	1.00	25.0			2280	49.0	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 Landfill - MW-7 Dup

Location Code: WMWGORLF
Collected: 7/6/22 13:45
Customer ID:
Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12349

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: EPA 200.7			Analyst: ABB		Preparation Method: EPA 1638				
* Boron, Total	7/12/22 13:23	7/18/22 11:10		1.015	0.0748	mg/L	0.030000	0.1015	J
* Calcium, Total	7/12/22 13:23	7/18/22 15:48		10.15	307	mg/L	0.70035	4.06	
* Iron, Total	7/12/22 13:23	7/18/22 11:10		1.015	2.20	mg/L	0.008120	0.0406	
* Lithium, Total	7/12/22 13:23	7/18/22 11:10		1.015	0.0918	mg/L	0.007105	0.01999956	
* Magnesium, Total	7/12/22 13:23	7/18/22 15:48		10.15	268	mg/L	0.21315	4.06	
Silica, Total (calc.)	7/12/22 13:23	7/18/22 11:10		1	12.8	mg/L			
Silicon, Total	7/12/22 13:23	7/18/22 11:10		1.015	5.98	mg/L	0.02030	0.25375	
* Sodium, Total	7/12/22 13:23	7/18/22 15:48		10.15	39.4	mg/L	0.3045	4.06	
Analytical Method: EPA 200.7			Analyst: ABB		Preparation Method: EPA 1638				
* Boron, Dissolved	7/12/22 12:30	7/13/22 15:07		1.015	0.0705	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	7/12/22 12:30	7/14/22 12:11		10.15	294	mg/L	0.70035	4.06	
* Iron, Dissolved	7/12/22 12:30	7/13/22 15:07		1.015	1.97	mg/L	0.008120	0.0406	
* Lithium, Dissolved	7/12/22 12:30	7/13/22 15:07		1.015	0.0826	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	7/12/22 12:30	7/14/22 12:11		10.15	277	mg/L	0.21315	4.06	
Silica, Dissolved (calc.)	7/12/22 12:30	7/13/22 15:07		1	12.4	mg/L			
Silicon, Dissolved	7/12/22 12:30	7/13/22 15:07		1.015	5.81	mg/L	0.02030	0.25375	
* Sodium, Dissolved	7/12/22 12:30	7/14/22 11:48		1.015	36.6	mg/L	0.03045	0.406	
Analytical Method: EPA 200.8			Analyst: DLJ		Preparation Method: EPA 1638				
* Antimony, Total	7/7/22 16:27	7/8/22 16:27		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/7/22 16:27	7/8/22 16:27		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Total	7/7/22 16:27	7/8/22 16:27		1.015	0.00157	mg/L	0.000081	0.000203	
* Barium, Total	7/7/22 16:27	7/8/22 16:27		1.015	0.0148	mg/L	0.000508	0.001015	
* Beryllium, Total	7/7/22 16:27	7/8/22 16:27		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	7/7/22 16:27	7/8/22 16:27		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	7/7/22 16:27	7/8/22 16:27		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Total	7/7/22 16:27	7/8/22 16:27		1.015	0.00581	mg/L	0.000068	0.000203	
* Lead, Total	7/7/22 16:27	7/8/22 16:27		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	7/7/22 16:27	7/18/22 13:08		5.075	2.78	mg/L	0.000761	0.001015	
* Molybdenum, Total	7/7/22 16:27	7/8/22 16:27		1.015	0.000911	mg/L	0.000102	0.000203	
* Potassium, Total	7/7/22 16:27	7/8/22 16:27		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 Landfill - MW-7 Dup

Location Code: WMWGORLF

Collected: 7/6/22 13:45

Customer ID:

Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12349

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	7/7/22 16:27	7/8/22 16:27		1.015	0.000717	mg/L	0.000508	0.001015	J
* Thallium, Total	7/7/22 16:27	7/8/22 16:27		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 200.8		Analyst: DLJ							
* Antimony, Dissolved	7/7/22 13:50	7/8/22 12:01		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	7/7/22 13:50	7/8/22 12:01		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Dissolved	7/7/22 13:50	7/8/22 12:01		1.015	0.00155	mg/L	0.000081	0.000203	
* Barium, Dissolved	7/7/22 13:50	7/8/22 12:01		1.015	0.0143	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	7/7/22 13:50	7/8/22 12:01		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	7/7/22 13:50	7/8/22 12:01		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	7/7/22 13:50	7/8/22 12:01		1.015	0.000278	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	7/7/22 13:50	7/8/22 12:01		1.015	0.00571	mg/L	0.000068	0.000203	
* Lead, Dissolved	7/7/22 13:50	7/8/22 12:01		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	7/7/22 13:50	7/18/22 09:16		5.075	2.74	mg/L	0.000761	0.001015	
* Molybdenum, Dissolved	7/7/22 13:50	7/8/22 12:01		1.015	0.000840	mg/L	0.000102	0.000203	
* Potassium, Dissolved	7/7/22 13:50	7/8/22 12:01		1.015	6.98	mg/L	0.169505	0.5075	
* Selenium, Dissolved	7/7/22 13:50	7/8/22 12:01		1.015	0.000720	mg/L	0.000508	0.001015	J
* Thallium, Dissolved	7/7/22 13:50	7/8/22 12:01		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	7/12/22 16:01	7/12/22 21:21		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: CES							
* Nitrogen, Nitrate/Nitrite	7/7/22 16:41	7/7/22 16:41		1	Not Detected	mg/L as N	0.20	0.3	U
Analytical Method: SM 2320 B		Analyst: ALH							
Alkalinity, Total as CaCO3	7/14/22 13:50	7/14/22 15:45		1	328	mg/L		0.1	
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	7/8/22 11:30	7/11/22 13:39		1	2080	mg/L		125	
Analytical Method: SM 4500CO2 D		Analyst: ALH							
Bicarbonate Alkalinity, (calc.)	7/14/22 13:50	7/14/22 15:45		1	328	mg/L		1	A
Carbonate Alkalinity, (calc.)	7/14/22 13:50	7/14/22 15:45		1	Not Detected	mg/L		0.5	A
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	7/13/22 01:40	7/13/22 01:40		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 Landfill - MW-7 Dup

Location Code: WMWGORLF

Collected: 7/6/22 13:45

Customer ID:

Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12349

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	7/12/22 14:11	7/12/22 14:11		1	6.24	mg/L	0.50	1	
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	7/13/22 11:38	7/13/22 11:38		1	0.198	mg/L	0.06	0.125	
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	7/19/22 10:28	7/19/22 10:28		100	1390	mg/L	60.0	200	
Analytical Method: Field Measurements		Analyst: TJD							
Conductivity	7/6/22 13:42	7/6/22 13:42			2455.37	uS/cm			FA
pH	7/6/22 13:42	7/6/22 13:42			6.46	SU			FA
Temperature	7/6/22 13:42	7/6/22 13:42			21.45	C			FA
Turbidity	7/6/22 13:42	7/6/22 13:42			0.67	NTU			FA
Sulfide	7/6/22 13:42	7/6/22 13:42			0	mg/L			FA

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 7/6/22 13:45

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill - MW-7 Dup

Laboratory ID Number: BC12349

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12353	Aluminum, Dissolved	mg/L	-0.000847	0.010	0.100	0.0990	0.104	0.0993	0.0850 to 0.115	99.0	70.0 to 130	4.93	20.0
BC12352	Aluminum, Total	mg/L	0.000611	0.010	0.100	0.129	0.127	0.108	0.0850 to 0.115	112	70.0 to 130	1.56	20.0
BC12353	Antimony, Dissolved	mg/L	0.000408	0.00100	0.100	0.105	0.105	0.0889	0.0850 to 0.115	105	70.0 to 130	0.00	20.0
BC12352	Antimony, Total	mg/L	0.000282	0.00100	0.100	0.104	0.103	0.0935	0.0850 to 0.115	104	70.0 to 130	0.966	20.0
BC12353	Arsenic, Dissolved	mg/L	-0.0000044	0.000176	0.100	0.100	0.101	0.0983	0.0850 to 0.115	99.3	70.0 to 130	0.995	20.0
BC12352	Arsenic, Total	mg/L	0.0000184	0.000176	0.100	0.104	0.103	0.103	0.0850 to 0.115	103	70.0 to 130	0.966	20.0
BC12353	Barium, Dissolved	mg/L	-0.0000026	0.00100	0.100	0.121	0.123	0.0992	0.0850 to 0.115	105	70.0 to 130	1.64	20.0
BC12352	Barium, Total	mg/L	-0.0000541	0.00100	0.100	0.119	0.118	0.0994	0.0850 to 0.115	103	70.0 to 130	0.844	20.0
BC12353	Beryllium, Dissolved	mg/L	0.000265	0.000880	0.100	0.0992	0.0963	0.0948	0.0850 to 0.115	99.2	70.0 to 130	2.97	20.0
BC12352	Beryllium, Total	mg/L	0.0000185	0.000880	0.100	0.0995	0.0964	0.107	0.0850 to 0.115	99.5	70.0 to 130	3.16	20.0
BC12353	Boron, Dissolved	mg/L	-0.000346	0.0650	1.00	1.14	1.14	1.01	0.850 to 1.15	103	70.0 to 130	0.00	20.0
BC12352	Boron, Total	mg/L	-0.000586	0.0650	1.00	1.22	1.20	1.00	0.850 to 1.15	111	70.0 to 130	1.65	20.0
BC12353	Cadmium, Dissolved	mg/L	0.0000076	0.000147	0.100	0.0942	0.0960	0.0983	0.0850 to 0.115	94.2	70.0 to 130	1.89	20.0
BC12352	Cadmium, Total	mg/L	0.0000051	0.000147	0.100	0.0946	0.0924	0.0989	0.0850 to 0.115	94.6	70.0 to 130	2.35	20.0
BC12353	Calcium, Dissolved	mg/L	-0.0181	0.152	5.00	373	359	4.92	4.25 to 5.75	80.0	70.0 to 130	3.83	20.0
BC12352	Calcium, Total	mg/L	-0.0361	0.152	5.00	356	342	4.65	4.25 to 5.75	220	70.0 to 130	4.01	20.0
BC12351	Chloride	mg/L	0.0285	1.00	10.0	10.7	11.0	10.6	9.00 to 11.0	107	80.0 to 120	2.76	20.0
BC12353	Chromium, Dissolved	mg/L	0.0000644	0.000440	0.100	0.0960	0.0992	0.0986	0.0850 to 0.115	96.0	70.0 to 130	3.28	20.0
BC12352	Chromium, Total	mg/L	-0.000140	0.000440	0.100	0.0968	0.0968	0.100	0.0850 to 0.115	96.8	70.0 to 130	0.00	20.0
BC12353	Cobalt, Dissolved	mg/L	0.0000072	0.000147	0.100	0.0962	0.0995	0.102	0.0850 to 0.115	96.0	70.0 to 130	3.37	20.0
BC12352	Cobalt, Total	mg/L	-0.0000765	0.000147	0.100	0.0992	0.100	0.104	0.0850 to 0.115	99.0	70.0 to 130	0.803	20.0
BC12351	Fluoride	mg/L	0.00846	0.125	2.50	2.69	2.76	2.67	2.25 to 2.75	108	80.0 to 120	2.57	20.0
BC12353	Iron, Dissolved	mg/L	-0.000164	0.0176	0.2	6.87	6.59	0.205	0.170 to 0.230	120	70.0 to 130	4.16	20.0
BC12352	Iron, Total	mg/L	0.000346	0.0176	0.2	6.96	6.72	0.206	0.170 to 0.230	170	70.0 to 130	3.51	20.0

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 7/6/22 13:45

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill - MW-7 Dup

Laboratory ID Number: BC12349

Sample	Analysis	Units	MB					Standard		Rec		Prec	Limit
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12353	Lead, Dissolved	mg/L	0.0000142	0.000147	0.100	0.103	0.0991	0.0991	0.0850 to 0.115	103	70.0 to 130	3.86	20.0
BC12352	Lead, Total	mg/L	0.0000044	0.000147	0.100	0.104	0.103	0.100	0.0850 to 0.115	104	70.0 to 130	0.966	20.0
BC12353	Lithium, Dissolved	mg/L	-0.000049	0.0154	0.200	0.427	0.433	0.206	0.170 to 0.230	113	70.0 to 130	1.40	20.0
BC12352	Lithium, Total	mg/L	-0.000392	0.0154	0.200	0.456	0.456	0.221	0.170 to 0.230	116	70.0 to 130	0.00	20.0
BC12353	Magnesium, Dissolved	mg/L	-0.00581	0.0462	5.00	209	198	5.12	4.25 to 5.75	180	70.0 to 130	5.41	20.0
BC12352	Magnesium, Total	mg/L	-0.00637	0.0462	5.00	184	177	5.26	4.25 to 5.75	160	70.0 to 130	3.88	20.0
BC12353	Manganese, Dissolved	mg/L	-0.0000599	0.0002	0.100	1.10	1.09	0.0972	0.0850 to 0.115	80.0	70.0 to 130	0.913	20.0
BC12352	Manganese, Total	mg/L	0.0000060	0.0002	0.100	1.15	1.16	0.102	0.0850 to 0.115	80.0	70.0 to 130	0.866	20.0
BC12352	Mercury, Total by CVAA	mg/L	3.000E-05	0.000500	0.004	0.00407	0.00401	0.00408	0.00340 to 0.00460	102	70.0 to 130	1.49	20.0
BC12353	Molybdenum, Dissolved	mg/L	0.0000032	0.0002	0.100	0.0986	0.100	0.0982	0.0850 to 0.115	97.7	70.0 to 130	1.41	20.0
BC12352	Molybdenum, Total	mg/L	-0.0000008	0.0002	0.100	0.0960	0.0957	0.0950	0.0850 to 0.115	95.1	70.0 to 130	0.313	20.0
BC12353	Potassium, Dissolved	mg/L	0.0319	0.367	10.0	15.9	16.3	10.3	8.50 to 11.5	98.1	70.0 to 130	2.48	20.0
BC12352	Potassium, Total	mg/L	-0.00723	0.367	10.0	16.7	16.8	10.9	8.50 to 11.5	105	70.0 to 130	0.597	20.0
BC12353	Selenium, Dissolved	mg/L	-0.0000305	0.00100	0.100	0.0992	0.101	0.0999	0.0850 to 0.115	99.2	70.0 to 130	1.80	20.0
BC12352	Selenium, Total	mg/L	0.0000396	0.00100	0.100	0.105	0.104	0.104	0.0850 to 0.115	105	70.0 to 130	0.957	20.0
BC12353	Silicon, Dissolved	mg/L	0.000035	0.0440	1.00	10.5	10.5	1.03	0.850 to 1.15	80.0	70.0 to 130	0.00	20.0
BC12352	Silicon, Total	mg/L	0.000635	0.0440	1.00	11.3	11.3	1.01	0.850 to 1.15	110	70.0 to 130	0.00	20.0
BC12353	Sodium, Dissolved	mg/L	-0.0247	0.0660	5.00	163	155	4.91	4.25 to 5.75	180	70.0 to 130	5.03	20.0
BC12352	Sodium, Total	mg/L	0.0017	0.0660	5.00	148	143	5.43	4.25 to 5.75	180	70.0 to 130	3.44	20.0
BC12351	Sulfate	mg/L	0.309	2.0	20.0	21.1	20.4	20.0	18.0 to 22.0	97.0	80.0 to 120	3.37	20.0
BC12353	Thallium, Dissolved	mg/L	0.0000183	0.000147	0.100	0.0985	0.0956	0.0966	0.0850 to 0.115	98.5	70.0 to 130	2.99	20.0
BC12352	Thallium, Total	mg/L	-0.0000823	0.000147	0.100	0.112	0.107	0.108	0.0850 to 0.115	112	70.0 to 130	4.57	20.0
BC12352	Total Organic Carbon	mg/L	0.231	1.00	10.0	10.4	11.1	10.1		104	80.0 to 120	6.51	20.0

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 7/6/22 13:45

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill - MW-7 Dup

Laboratory ID Number: BC12349

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Limit	Prec	Limit
BC12349	Alkalinity, Total as CaCO3	mg/L					359	49.3	45.0 to 55.0			9.02	10.0
BC12352	Nitrogen, Nitrate/Nitrite	mg/L as N	0.03	0.200	2.00	2.05	0.093	1.92	1.80 to 2.20	102	90.0 to 110	0.00	15.0
BC12352	Solids, Dissolved	mg/L	1.00	25.0			2280	49.0	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 Landfill - MW-8

Location Code: WMWGORLF
Collected: 7/6/22 15:18
Customer ID:
Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12350

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: EPA 200.7			Analyst: ABB		Preparation Method: EPA 1638				
* Boron, Total	7/12/22 13:23	7/18/22 11:13		1.015	0.0686	mg/L	0.030000	0.1015	J
* Calcium, Total	7/12/22 13:23	7/18/22 15:52		10.15	306	mg/L	0.70035	4.06	
* Iron, Total	7/12/22 13:23	7/18/22 11:13		1.015	2.06	mg/L	0.008120	0.0406	
* Lithium, Total	7/12/22 13:23	7/18/22 11:13		1.015	0.132	mg/L	0.007105	0.01999956	
* Magnesium, Total	7/12/22 13:23	7/18/22 15:52		10.15	290	mg/L	0.21315	4.06	
Silica, Total (calc.)	7/12/22 13:23	7/18/22 11:13		1	11.6	mg/L			
Silicon, Total	7/12/22 13:23	7/18/22 11:13		1.015	5.42	mg/L	0.02030	0.25375	
* Sodium, Total	7/12/22 13:23	7/18/22 15:52		10.15	38.1	mg/L	0.3045	4.06	
Analytical Method: EPA 200.7			Analyst: ABB		Preparation Method: EPA 1638				
* Boron, Dissolved	7/12/22 12:30	7/13/22 15:10		1.015	0.0643	mg/L	0.030000	0.1015	J
* Calcium, Dissolved	7/12/22 12:30	7/14/22 12:14		10.15	299	mg/L	0.70035	4.06	
* Iron, Dissolved	7/12/22 12:30	7/13/22 15:10		1.015	1.11	mg/L	0.008120	0.0406	
* Lithium, Dissolved	7/12/22 12:30	7/13/22 15:10		1.015	0.124	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	7/12/22 12:30	7/14/22 12:14		10.15	300	mg/L	0.21315	4.06	
Silica, Dissolved (calc.)	7/12/22 12:30	7/13/22 15:10		1	10.8	mg/L			
Silicon, Dissolved	7/12/22 12:30	7/13/22 15:10		1.015	5.04	mg/L	0.02030	0.25375	
* Sodium, Dissolved	7/12/22 12:30	7/14/22 11:51		1.015	38.4	mg/L	0.03045	0.406	
Analytical Method: EPA 200.8			Analyst: DLJ		Preparation Method: EPA 1638				
* Antimony, Total	7/7/22 16:27	7/8/22 16:30		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/7/22 16:27	7/8/22 16:30		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Total	7/7/22 16:27	7/8/22 16:30		1.015	0.00136	mg/L	0.000081	0.000203	
* Barium, Total	7/7/22 16:27	7/8/22 16:30		1.015	0.0146	mg/L	0.000508	0.001015	
* Beryllium, Total	7/7/22 16:27	7/8/22 16:30		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	7/7/22 16:27	7/8/22 16:30		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	7/7/22 16:27	7/8/22 16:30		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Total	7/7/22 16:27	7/8/22 16:30		1.015	0.00701	mg/L	0.000068	0.000203	
* Lead, Total	7/7/22 16:27	7/8/22 16:30		1.015	0.000109	mg/L	0.000068	0.000203	J
* Manganese, Total	7/7/22 16:27	7/8/22 16:30		1.015	0.928	mg/L	0.000152	0.000203	
* Molybdenum, Total	7/7/22 16:27	7/8/22 16:30		1.015	0.000351	mg/L	0.000102	0.000203	
* Potassium, Total	7/7/22 16:27	7/8/22 16:30		1.015	8.27	mg/L	0.169505	0.5075	

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-8

Location Code: WMWGORLF

Collected: 7/6/22 15:18

Customer ID:

Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12350

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	7/7/22 16:27	7/8/22 16:30		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	7/7/22 16:27	7/8/22 16:30		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 200.8		Analyst: DLJ							
* Antimony, Dissolved	7/7/22 13:50	7/8/22 12:04		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	7/7/22 13:50	7/8/22 12:04		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Dissolved	7/7/22 13:50	7/8/22 12:04		1.015	0.000356	mg/L	0.000081	0.000203	
* Barium, Dissolved	7/7/22 13:50	7/8/22 12:04		1.015	0.0132	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	7/7/22 13:50	7/8/22 12:04		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	7/7/22 13:50	7/8/22 12:04		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	7/7/22 13:50	7/8/22 12:04		1.015	0.000368	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	7/7/22 13:50	7/8/22 12:04		1.015	0.00673	mg/L	0.000068	0.000203	
* Lead, Dissolved	7/7/22 13:50	7/8/22 12:04		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	7/7/22 13:50	7/18/22 09:20		1.015	0.863	mg/L	0.000152	0.000203	
* Molybdenum, Dissolved	7/7/22 13:50	7/8/22 12:04		1.015	0.000336	mg/L	0.000102	0.000203	
* Potassium, Dissolved	7/7/22 13:50	7/8/22 12:04		1.015	7.98	mg/L	0.169505	0.5075	
* Selenium, Dissolved	7/7/22 13:50	7/8/22 12:04		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	7/7/22 13:50	7/8/22 12:04		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	7/12/22 16:01	7/12/22 21:25		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: CES							
* Nitrogen, Nitrate/Nitrite	7/7/22 16:43	7/7/22 16:43		1	Not Detected	mg/L as N	0.20	0.3	U
Analytical Method: SM 2320 B		Analyst: ALH							
Alkalinity, Total as CaCO3	7/19/22 10:00	7/19/22 11:25		1	410	mg/L		0.1	
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	7/8/22 11:30	7/11/22 13:39		1	2320	mg/L		125	
Analytical Method: SM 4500CO2 D		Analyst: ALH							
Bicarbonate Alkalinity, (calc.)	7/19/22 10:00	7/19/22 11:25		1	409	mg/L		1	A
Carbonate Alkalinity, (calc.)	7/19/22 10:00	7/19/22 11:25		1	0.750	mg/L		0.5	A
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	7/13/22 02:04	7/13/22 02:04		1	1.03	mg/L	1.00	2	J

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-8

Location Code: WMWGORLF

Collected: 7/6/22 15:18

Customer ID:

Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12350

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	7/12/22 14:13	7/12/22 14:13		1	6.50	mg/L	0.50	1	
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	7/13/22 11:39	7/13/22 11:39		1	0.173	mg/L	0.06	0.125	
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	7/19/22 10:29	7/19/22 10:29		100	1460	mg/L	60.0	200	
Analytical Method: Field Measurements		Analyst: TJD							
Conductivity	7/6/22 15:14	7/6/22 15:14			2581.88	uS/cm			FA
pH	7/6/22 15:14	7/6/22 15:14			6.72	SU			FA
Temperature	7/6/22 15:14	7/6/22 15:14			29.90	C			FA
Turbidity	7/6/22 15:14	7/6/22 15:14			6.9	NTU			FA
Sulfide	7/6/22 15:14	7/6/22 15:14			0	mg/L			FA

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 7/6/22 15:18

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill - MW-8

Laboratory ID Number: BC12350

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12353	Aluminum, Dissolved	mg/L	-0.000847	0.010	0.100	0.0990	0.104	0.0993	0.0850 to 0.115	99.0	70.0 to 130	4.93	20.0
BC12352	Aluminum, Total	mg/L	0.000611	0.010	0.100	0.129	0.127	0.108	0.0850 to 0.115	112	70.0 to 130	1.56	20.0
BC12353	Antimony, Dissolved	mg/L	0.000408	0.00100	0.100	0.105	0.105	0.0889	0.0850 to 0.115	105	70.0 to 130	0.00	20.0
BC12352	Antimony, Total	mg/L	0.000282	0.00100	0.100	0.104	0.103	0.0935	0.0850 to 0.115	104	70.0 to 130	0.966	20.0
BC12353	Arsenic, Dissolved	mg/L	-0.0000044	0.000176	0.100	0.100	0.101	0.0983	0.0850 to 0.115	99.3	70.0 to 130	0.995	20.0
BC12352	Arsenic, Total	mg/L	0.0000184	0.000176	0.100	0.104	0.103	0.103	0.0850 to 0.115	103	70.0 to 130	0.966	20.0
BC12353	Barium, Dissolved	mg/L	-0.0000026	0.00100	0.100	0.121	0.123	0.0992	0.0850 to 0.115	105	70.0 to 130	1.64	20.0
BC12352	Barium, Total	mg/L	-0.0000541	0.00100	0.100	0.119	0.118	0.0994	0.0850 to 0.115	103	70.0 to 130	0.844	20.0
BC12353	Beryllium, Dissolved	mg/L	0.000265	0.000880	0.100	0.0992	0.0963	0.0948	0.0850 to 0.115	99.2	70.0 to 130	2.97	20.0
BC12352	Beryllium, Total	mg/L	0.0000185	0.000880	0.100	0.0995	0.0964	0.107	0.0850 to 0.115	99.5	70.0 to 130	3.16	20.0
BC12353	Boron, Dissolved	mg/L	-0.000346	0.0650	1.00	1.14	1.14	1.01	0.850 to 1.15	103	70.0 to 130	0.00	20.0
BC12352	Boron, Total	mg/L	-0.000586	0.0650	1.00	1.22	1.20	1.00	0.850 to 1.15	111	70.0 to 130	1.65	20.0
BC12353	Cadmium, Dissolved	mg/L	0.0000076	0.000147	0.100	0.0942	0.0960	0.0983	0.0850 to 0.115	94.2	70.0 to 130	1.89	20.0
BC12352	Cadmium, Total	mg/L	0.0000051	0.000147	0.100	0.0946	0.0924	0.0989	0.0850 to 0.115	94.6	70.0 to 130	2.35	20.0
BC12353	Calcium, Dissolved	mg/L	-0.0181	0.152	5.00	373	359	4.92	4.25 to 5.75	80.0	70.0 to 130	3.83	20.0
BC12352	Calcium, Total	mg/L	-0.0361	0.152	5.00	356	342	4.65	4.25 to 5.75	220	70.0 to 130	4.01	20.0
BC12351	Chloride	mg/L	0.0285	1.00	10.0	10.7	11.0	10.6	9.00 to 11.0	107	80.0 to 120	2.76	20.0
BC12353	Chromium, Dissolved	mg/L	0.0000644	0.000440	0.100	0.0960	0.0992	0.0986	0.0850 to 0.115	96.0	70.0 to 130	3.28	20.0
BC12352	Chromium, Total	mg/L	-0.000140	0.000440	0.100	0.0968	0.0968	0.100	0.0850 to 0.115	96.8	70.0 to 130	0.00	20.0
BC12353	Cobalt, Dissolved	mg/L	0.0000072	0.000147	0.100	0.0962	0.0995	0.102	0.0850 to 0.115	96.0	70.0 to 130	3.37	20.0
BC12352	Cobalt, Total	mg/L	-0.0000765	0.000147	0.100	0.0992	0.100	0.104	0.0850 to 0.115	99.0	70.0 to 130	0.803	20.0
BC12351	Fluoride	mg/L	0.00846	0.125	2.50	2.69	2.76	2.67	2.25 to 2.75	108	80.0 to 120	2.57	20.0
BC12353	Iron, Dissolved	mg/L	-0.000164	0.0176	0.2	6.87	6.59	0.205	0.170 to 0.230	120	70.0 to 130	4.16	20.0
BC12352	Iron, Total	mg/L	0.000346	0.0176	0.2	6.96	6.72	0.206	0.170 to 0.230	170	70.0 to 130	3.51	20.0

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 7/6/22 15:18

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill - MW-8

Laboratory ID Number: BC12350

Sample	Analysis	Units	MB					Standard		Rec		Prec	Limit
			MB	Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12353	Lead, Dissolved	mg/L	0.0000142	0.000147	0.100	0.103	0.0991	0.0991	0.0850 to 0.115	103	70.0 to 130	3.86	20.0
BC12352	Lead, Total	mg/L	0.0000044	0.000147	0.100	0.104	0.103	0.100	0.0850 to 0.115	104	70.0 to 130	0.966	20.0
BC12353	Lithium, Dissolved	mg/L	-0.000049	0.0154	0.200	0.427	0.433	0.206	0.170 to 0.230	113	70.0 to 130	1.40	20.0
BC12352	Lithium, Total	mg/L	-0.000392	0.0154	0.200	0.456	0.456	0.221	0.170 to 0.230	116	70.0 to 130	0.00	20.0
BC12353	Magnesium, Dissolved	mg/L	-0.00581	0.0462	5.00	209	198	5.12	4.25 to 5.75	180	70.0 to 130	5.41	20.0
BC12352	Magnesium, Total	mg/L	-0.00637	0.0462	5.00	184	177	5.26	4.25 to 5.75	160	70.0 to 130	3.88	20.0
BC12353	Manganese, Dissolved	mg/L	-0.0000599	0.0002	0.100	1.10	1.09	0.0972	0.0850 to 0.115	80.0	70.0 to 130	0.913	20.0
BC12352	Manganese, Total	mg/L	0.0000060	0.0002	0.100	1.15	1.16	0.102	0.0850 to 0.115	80.0	70.0 to 130	0.866	20.0
BC12352	Mercury, Total by CVAA	mg/L	3.000E-05	0.000500	0.004	0.00407	0.00401	0.00408	0.00340 to 0.00460	102	70.0 to 130	1.49	20.0
BC12353	Molybdenum, Dissolved	mg/L	0.0000032	0.0002	0.100	0.0986	0.100	0.0982	0.0850 to 0.115	97.7	70.0 to 130	1.41	20.0
BC12352	Molybdenum, Total	mg/L	-0.0000008	0.0002	0.100	0.0960	0.0957	0.0950	0.0850 to 0.115	95.1	70.0 to 130	0.313	20.0
BC12353	Potassium, Dissolved	mg/L	0.0319	0.367	10.0	15.9	16.3	10.3	8.50 to 11.5	98.1	70.0 to 130	2.48	20.0
BC12352	Potassium, Total	mg/L	-0.00723	0.367	10.0	16.7	16.8	10.9	8.50 to 11.5	105	70.0 to 130	0.597	20.0
BC12353	Selenium, Dissolved	mg/L	-0.0000305	0.00100	0.100	0.0992	0.101	0.0999	0.0850 to 0.115	99.2	70.0 to 130	1.80	20.0
BC12352	Selenium, Total	mg/L	0.0000396	0.00100	0.100	0.105	0.104	0.104	0.0850 to 0.115	105	70.0 to 130	0.957	20.0
BC12353	Silicon, Dissolved	mg/L	0.000035	0.0440	1.00	10.5	10.5	1.03	0.850 to 1.15	80.0	70.0 to 130	0.00	20.0
BC12352	Silicon, Total	mg/L	0.000635	0.0440	1.00	11.3	11.3	1.01	0.850 to 1.15	110	70.0 to 130	0.00	20.0
BC12353	Sodium, Dissolved	mg/L	-0.0247	0.0660	5.00	163	155	4.91	4.25 to 5.75	180	70.0 to 130	5.03	20.0
BC12352	Sodium, Total	mg/L	0.0017	0.0660	5.00	148	143	5.43	4.25 to 5.75	180	70.0 to 130	3.44	20.0
BC12351	Sulfate	mg/L	0.309	2.0	20.0	21.1	20.4	20.0	18.0 to 22.0	97.0	80.0 to 120	3.37	20.0
BC12353	Thallium, Dissolved	mg/L	0.0000183	0.000147	0.100	0.0985	0.0956	0.0966	0.0850 to 0.115	98.5	70.0 to 130	2.99	20.0
BC12352	Thallium, Total	mg/L	-0.0000823	0.000147	0.100	0.112	0.107	0.108	0.0850 to 0.115	112	70.0 to 130	4.57	20.0
BC12352	Total Organic Carbon	mg/L	0.231	1.00	10.0	10.4	11.1	10.1		104	80.0 to 120	6.51	20.0

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 7/6/22 15:18

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill - MW-8

Laboratory ID Number: BC12350

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard Standard	Standard Limit	Rec Rec	Rec Limit	Prec	Prec Limit
BC12353	Alkalinity, Total as CaCO3	mg/L					303	50.2	45.0 to 55.0			0.995	10.0
BC12352	Nitrogen, Nitrate/Nitrite	mg/L as N	0.03	0.200	2.00	2.05	0.093	1.92	1.80 to 2.20	102	90.0 to 110	0.00	15.0
BC12352	Solids, Dissolved	mg/L	1.00	25.0			2280	49.0	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 Landfill Field Blank-1

Location Code: WMWGORLFFB
Collected: 7/6/22 15:30
Customer ID:
Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12351

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: EPA 200.7			Analyst: ABB		Preparation Method: EPA 1638				
* Boron, Total	7/12/22 13:23	7/18/22 11:16		1.015	Not Detected	mg/L	0.030000	0.1015	U
* Calcium, Total	7/12/22 13:23	7/18/22 11:16		1.015	Not Detected	mg/L	0.070035	0.406	U
* Iron, Total	7/12/22 13:23	7/18/22 11:16		1.015	Not Detected	mg/L	0.008120	0.0406	U
* Lithium, Total	7/12/22 13:23	7/18/22 11:16		1.015	Not Detected	mg/L	0.007105	0.01999956	U
* Magnesium, Total	7/12/22 13:23	7/18/22 11:16		1.015	Not Detected	mg/L	0.021315	0.406	U
Silica, Total (calc.)	7/12/22 13:23	7/18/22 11:16		1	Not Detected	mg/L			
Silicon, Total	7/12/22 13:23	7/18/22 11:16		1.015	Not Detected	mg/L	0.02030	0.25375	U
* Sodium, Total	7/12/22 13:23	7/18/22 11:16		1.015	Not Detected	mg/L	0.03045	0.406	U
Analytical Method: EPA 200.8			Analyst: DLJ		Preparation Method: EPA 1638				
* Antimony, Total	7/7/22 16:27	7/8/22 16:34		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/7/22 16:27	7/8/22 16:34		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Total	7/7/22 16:27	7/8/22 16:34		1.015	Not Detected	mg/L	0.000081	0.000203	U
* Barium, Total	7/7/22 16:27	7/8/22 16:34		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Beryllium, Total	7/7/22 16:27	7/8/22 16:34		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	7/7/22 16:27	7/8/22 16:34		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	7/7/22 16:27	7/8/22 16:34		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Total	7/7/22 16:27	7/8/22 16:34		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Lead, Total	7/7/22 16:27	7/8/22 16:34		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	7/7/22 16:27	7/8/22 16:34		1.015	0.000153	mg/L	0.000152	0.000203	J
* Molybdenum, Total	7/7/22 16:27	7/8/22 16:34		1.015	Not Detected	mg/L	0.000102	0.000203	U
* Potassium, Total	7/7/22 16:27	7/8/22 16:34		1.015	Not Detected	mg/L	0.169505	0.5075	U
* Selenium, Total	7/7/22 16:27	7/8/22 16:34		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	7/7/22 16:27	7/8/22 16:34		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 245.1			Analyst: CRB						
* Mercury, Total by CVAA	7/12/22 16:01	7/12/22 21:29		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2			Analyst: CES						
* Nitrogen, Nitrate/Nitrite	7/7/22 16:45	7/7/22 16:45		1	Not Detected	mg/L as N	0.20	0.3	U
Analytical Method: SM 2540C			Analyst: CNJ						
* Solids, Dissolved	7/8/22 11:30	7/11/22 13:39		1	Not Detected	mg/L		25	U

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

Comments:

Certificate Of Analysis

Description: Gorgas Landfill Field Blank-1

Location Code: WMWGORLFFB

Collected: 7/6/22 15:30

Customer ID:

Submittal Date: 7/7/22 10:14

Laboratory ID Number: BC12351

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	7/13/22 02:26	7/13/22 02:26		1	Not Detected	mg/L	1.00	2	U
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	7/12/22 14:14	7/12/22 14:14		1	Not Detected	mg/L	0.50	1	U
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	7/13/22 11:40	7/13/22 11:40		1	Not Detected	mg/L	0.06	0.125	U
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	7/19/22 10:16	7/19/22 10:16		1	1.69	mg/L	0.6	2	J

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

Comments:

Batch QC Summary

Customer Account: WMWGORLFFB

Sample Date: 7/6/22 15:30

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill Field Blank-1

Laboratory ID Number: BC12351

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12352	Aluminum, Total	mg/L	0.000611	0.010	0.100	0.129	0.127	0.108	0.0850 to 0.115	112	70.0 to 130	1.56	20.0
BC12352	Antimony, Total	mg/L	0.000282	0.00100	0.100	0.104	0.103	0.0935	0.0850 to 0.115	104	70.0 to 130	0.966	20.0
BC12352	Arsenic, Total	mg/L	0.0000184	0.000176	0.100	0.104	0.103	0.103	0.0850 to 0.115	103	70.0 to 130	0.966	20.0
BC12352	Barium, Total	mg/L	-0.0000541	0.00100	0.100	0.119	0.118	0.0994	0.0850 to 0.115	103	70.0 to 130	0.844	20.0
BC12352	Beryllium, Total	mg/L	0.0000185	0.000880	0.100	0.0995	0.0964	0.107	0.0850 to 0.115	99.5	70.0 to 130	3.16	20.0
BC12352	Boron, Total	mg/L	-0.000586	0.0650	1.00	1.22	1.20	1.00	0.850 to 1.15	111	70.0 to 130	1.65	20.0
BC12352	Cadmium, Total	mg/L	0.0000051	0.000147	0.100	0.0946	0.0924	0.0989	0.0850 to 0.115	94.6	70.0 to 130	2.35	20.0
BC12352	Calcium, Total	mg/L	-0.0361	0.152	5.00	356	342	4.65	4.25 to 5.75	220	70.0 to 130	4.01	20.0
BC12351	Chloride	mg/L	0.0285	1.00	10.0	10.7	11.0	10.6	9.00 to 11.0	107	80.0 to 120	2.76	20.0
BC12352	Chromium, Total	mg/L	-0.000140	0.000440	0.100	0.0968	0.0968	0.100	0.0850 to 0.115	96.8	70.0 to 130	0.00	20.0
BC12352	Cobalt, Total	mg/L	-0.0000765	0.000147	0.100	0.0992	0.100	0.104	0.0850 to 0.115	99.0	70.0 to 130	0.803	20.0
BC12351	Fluoride	mg/L	0.00846	0.125	2.50	2.69	2.76	2.67	2.25 to 2.75	108	80.0 to 120	2.57	20.0
BC12352	Iron, Total	mg/L	0.000346	0.0176	0.2	6.96	6.72	0.206	0.170 to 0.230	170	70.0 to 130	3.51	20.0
BC12352	Lead, Total	mg/L	0.0000044	0.000147	0.100	0.104	0.103	0.100	0.0850 to 0.115	104	70.0 to 130	0.966	20.0
BC12352	Lithium, Total	mg/L	-0.000392	0.0154	0.200	0.456	0.456	0.221	0.170 to 0.230	116	70.0 to 130	0.00	20.0
BC12352	Magnesium, Total	mg/L	-0.00637	0.0462	5.00	184	177	5.26	4.25 to 5.75	160	70.0 to 130	3.88	20.0
BC12352	Manganese, Total	mg/L	0.0000060	0.0002	0.100	1.15	1.16	0.102	0.0850 to 0.115	80.0	70.0 to 130	0.866	20.0
BC12352	Mercury, Total by CVAA	mg/L	3.000E-05	0.000500	0.004	0.00407	0.00401	0.00408	0.00340 to 0.00460	102	70.0 to 130	1.49	20.0
BC12352	Molybdenum, Total	mg/L	-0.0000008	0.0002	0.100	0.0960	0.0957	0.0950	0.0850 to 0.115	95.1	70.0 to 130	0.313	20.0
BC12352	Potassium, Total	mg/L	-0.00723	0.367	10.0	16.7	16.8	10.9	8.50 to 11.5	105	70.0 to 130	0.597	20.0
BC12352	Selenium, Total	mg/L	0.0000396	0.00100	0.100	0.105	0.104	0.104	0.0850 to 0.115	105	70.0 to 130	0.957	20.0
BC12352	Silicon, Total	mg/L	0.000635	0.0440	1.00	11.3	11.3	1.01	0.850 to 1.15	110	70.0 to 130	0.00	20.0
BC12352	Sodium, Total	mg/L	0.0017	0.0660	5.00	148	143	5.43	4.25 to 5.75	180	70.0 to 130	3.44	20.0
BC12351	Sulfate	mg/L	0.309	2.0	20.0	21.1	20.4	20.0	18.0 to 22.0	97.0	80.0 to 120	3.37	20.0

Comments:

Batch QC Summary

Customer Account: WMWGORLFFB

Sample Date: 7/6/22 15:30

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill Field Blank-1

Laboratory ID Number: BC12351

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit	Prec	Limit
BC12352	Thallium, Total	mg/L	-0.0000823	0.000147	0.100	0.112	0.107	0.108	0.0850 to 0.115	112	70.0 to 130	4.57	20.0
BC12352	Total Organic Carbon	mg/L	0.231	1.00	10.0	10.4	11.1	10.1		104	80.0 to 120	6.51	20.0

Comments:

Batch QC Summary

Customer Account: WMWGORLFFB

Sample Date: 7/6/22 15:30

Customer ID:

Delivery Date: 7/7/22 10:14

Description: Gorgas Landfill Field Blank-1

Laboratory ID Number: BC12351

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard Standard	Standard Limit	Rec Rec	Limit	Prec	Prec Limit
BC12352	Nitrogen, Nitrate/Nitrite	mg/L as N	0.03	0.200	2.00	2.05	0.093	1.92	1.80 to 2.20	102	90.0 to 110	0.00	15.0
BC12352	Solids, Dissolved	mg/L	1.00	25.0			2280	49.0	40.0 to 60.0			0.00	10.0

Comments:

Certificate Of Analysis

Description: Gorgas Landfill - MW-20

Location Code: WMWGORLF
Collected: 7/6/22 16:55
Customer ID:
Submittal Date: 7/7/22 10:15

Laboratory ID Number: BC12352

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q	
Analytical Method: EPA 200.7		Analyst: ABB			Preparation Method: EPA 1638					
* Boron, Total	7/12/22 13:23	7/18/22 11:19		1.015	0.112	mg/L	0.030000	0.1015		
* Calcium, Total	7/12/22 13:23	7/18/22 15:55		10.15	345	mg/L	0.70035	4.06	RA	
* Iron, Total	7/12/22 13:23	7/18/22 15:55		10.15	6.62	mg/L	0.08120	0.406	RA	
* Lithium, Total	7/12/22 13:23	7/18/22 11:19		1.015	0.223	mg/L	0.007105	0.01999956		
* Magnesium, Total	7/12/22 13:23	7/18/22 15:55		10.15	176	mg/L	0.21315	4.06	RA	
Silica, Total (calc.)	7/12/22 13:23	7/18/22 11:19		1	21.8	mg/L				
Silicon, Total	7/12/22 13:23	7/18/22 11:19		1.015	10.2	mg/L	0.02030	0.25375		
* Sodium, Total	7/12/22 13:23	7/18/22 15:55		10.15	139	mg/L	0.3045	4.06	RA	
Analytical Method: EPA 200.7		Analyst: ABB			Preparation Method: EPA 1638					
* Boron, Dissolved	7/12/22 12:30	7/13/22 15:13		1.015	0.105	mg/L	0.030000	0.1015		
* Calcium, Dissolved	7/12/22 12:30	7/14/22 12:17		10.15	343	mg/L	0.70035	4.06		
* Iron, Dissolved	7/12/22 12:30	7/14/22 12:17		10.15	6.42	mg/L	0.08120	0.406		
* Lithium, Dissolved	7/12/22 12:30	7/13/22 15:13		1.015	0.211	mg/L	0.007105	0.01999956		
* Magnesium, Dissolved	7/12/22 12:30	7/14/22 12:17		10.15	189	mg/L	0.21315	4.06		
Silica, Dissolved (calc.)	7/12/22 12:30	7/13/22 15:13		1	20.5	mg/L				
Silicon, Dissolved	7/12/22 12:30	7/13/22 15:13		1.015	9.58	mg/L	0.02030	0.25375		
* Sodium, Dissolved	7/12/22 12:30	7/14/22 12:17		10.15	146	mg/L	0.3045	4.06		
Analytical Method: EPA 200.8		Analyst: DLJ			Preparation Method: EPA 1638					
* Antimony, Total	7/7/22 16:27	7/8/22 16:37		1.015	Not Detected	mg/L	0.000508	0.001015	U	
* Aluminum, Total	7/7/22 16:27	7/8/22 16:37		1.015	0.0171	mg/L	0.006090	0.01015		
* Arsenic, Total	7/7/22 16:27	7/8/22 16:37		1.015	0.000788	mg/L	0.000081	0.000203		
* Barium, Total	7/7/22 16:27	7/8/22 16:37		1.015	0.0164	mg/L	0.000508	0.001015		
* Beryllium, Total	7/7/22 16:27	7/8/22 16:37		1.015	Not Detected	mg/L	0.000406	0.001015	U	
* Cadmium, Total	7/7/22 16:27	7/8/22 16:37		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Chromium, Total	7/7/22 16:27	7/8/22 16:37		1.015	Not Detected	mg/L	0.000203	0.001015	U	
* Cobalt, Total	7/7/22 16:27	7/8/22 16:37		1.015	0.000184	mg/L	0.000068	0.000203	J	
* Lead, Total	7/7/22 16:27	7/8/22 16:37		1.015	Not Detected	mg/L	0.000068	0.000203	U	
* Manganese, Total	7/7/22 16:27	7/8/22 16:37		1.015	1.07	mg/L	0.000152	0.000203		
* Molybdenum, Total	7/7/22 16:27	7/8/22 16:37		1.015	0.000928	mg/L	0.000102	0.000203		
* Potassium, Total	7/7/22 16:27	7/8/22 16:37		1.015	6.24	mg/L	0.169505	0.5075		

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-20

Location Code: WMWGORLF
Collected: 7/6/22 16:55
Customer ID:
Submittal Date: 7/7/22 10:15

Laboratory ID Number: BC12352

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	7/7/22 16:27	7/8/22 16:37		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	7/7/22 16:27	7/8/22 16:37		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 200.8		Analyst: DLJ							
* Antimony, Dissolved	7/7/22 13:50	7/8/22 12:08		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	7/7/22 13:50	7/8/22 12:08		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Dissolved	7/7/22 13:50	7/8/22 12:08		1.015	0.000812	mg/L	0.000081	0.000203	
* Barium, Dissolved	7/7/22 13:50	7/8/22 12:08		1.015	0.0163	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	7/7/22 13:50	7/8/22 12:08		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	7/7/22 13:50	7/8/22 12:08		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	7/7/22 13:50	7/8/22 12:08		1.015	0.000242	mg/L	0.000203	0.001015	J
* Cobalt, Dissolved	7/7/22 13:50	7/8/22 12:08		1.015	0.000241	mg/L	0.000068	0.000203	
* Lead, Dissolved	7/7/22 13:50	7/8/22 12:08		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	7/7/22 13:50	7/18/22 09:23		1.015	1.01	mg/L	0.000152	0.000203	
* Molybdenum, Dissolved	7/7/22 13:50	7/8/22 12:08		1.015	0.000953	mg/L	0.000102	0.000203	
* Potassium, Dissolved	7/7/22 13:50	7/8/22 12:08		1.015	6.10	mg/L	0.169505	0.5075	
* Selenium, Dissolved	7/7/22 13:50	7/8/22 12:08		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	7/7/22 13:50	7/8/22 12:08		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	7/12/22 16:01	7/12/22 21:33		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: CES							
* Nitrogen, Nitrate/Nitrite	7/7/22 16:46	7/7/22 16:46		1	Not Detected	mg/L as N	0.20	0.3	U
Analytical Method: SM 2320 B		Analyst: ALH							
Alkalinity, Total as CaCO3	7/19/22 10:00	7/19/22 11:25		1	271	mg/L		0.1	
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	7/8/22 11:30	7/11/22 13:39		1	2280	mg/L		125	
Analytical Method: SM 4500CO2 D		Analyst: ALH							
Bicarbonate Alkalinity, (calc.)	7/19/22 10:00	7/19/22 11:25		1	269	mg/L		1	A
Carbonate Alkalinity, (calc.)	7/19/22 10:00	7/19/22 11:25		1	1.63	mg/L		0.5	A
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	7/13/22 02:43	7/13/22 02:43		1	Not Detected	mg/L	1.00	2	U

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-20

Location Code: WMWGORLF

Collected: 7/6/22 16:55

Customer ID:

Submittal Date: 7/7/22 10:15

Laboratory ID Number: BC12352

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	7/12/22 14:54	7/12/22 14:54		5	78.5	mg/L	2.50	5	
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	7/13/22 11:53	7/13/22 11:53		1	0.164	mg/L	0.06	0.125	
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	7/19/22 10:55	7/19/22 10:55		100	1440	mg/L	60.0	200	
Analytical Method: Field Measurements		Analyst: TJD							
Conductivity	7/6/22 16:53	7/6/22 16:53			2637.48	uS/cm			FA
pH	7/6/22 16:53	7/6/22 16:53			6.75	SU			FA
Temperature	7/6/22 16:53	7/6/22 16:53			21.07	C			FA
Turbidity	7/6/22 16:53	7/6/22 16:53			0.7	NTU			FA
Sulfide	7/6/22 16:53	7/6/22 16:53			0	mg/L			FA

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 7/6/22 16:55

Customer ID:

Delivery Date: 7/7/22 10:15

Description: Gorgas Landfill - MW-20

Laboratory ID Number: BC12352

Sample	Analysis	Units	MB	MB				Standard		Rec			Prec Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit	Prec	
BC12353	Aluminum, Dissolved	mg/L	-0.000847	0.010	0.100	0.0990	0.104	0.0993	0.0850 to 0.115	99.0	70.0 to 130	4.93	20.0
BC12352	Aluminum, Total	mg/L	0.000611	0.010	0.100	0.129	0.127	0.108	0.0850 to 0.115	112	70.0 to 130	1.56	20.0
BC12353	Antimony, Dissolved	mg/L	0.000408	0.00100	0.100	0.105	0.105	0.0889	0.0850 to 0.115	105	70.0 to 130	0.00	20.0
BC12352	Antimony, Total	mg/L	0.000282	0.00100	0.100	0.104	0.103	0.0935	0.0850 to 0.115	104	70.0 to 130	0.966	20.0
BC12353	Arsenic, Dissolved	mg/L	-0.0000044	0.000176	0.100	0.100	0.101	0.0983	0.0850 to 0.115	99.3	70.0 to 130	0.995	20.0
BC12352	Arsenic, Total	mg/L	0.0000184	0.000176	0.100	0.104	0.103	0.103	0.0850 to 0.115	103	70.0 to 130	0.966	20.0
BC12353	Barium, Dissolved	mg/L	-0.0000026	0.00100	0.100	0.121	0.123	0.0992	0.0850 to 0.115	105	70.0 to 130	1.64	20.0
BC12352	Barium, Total	mg/L	-0.0000541	0.00100	0.100	0.119	0.118	0.0994	0.0850 to 0.115	103	70.0 to 130	0.844	20.0
BC12353	Beryllium, Dissolved	mg/L	0.000265	0.000880	0.100	0.0992	0.0963	0.0948	0.0850 to 0.115	99.2	70.0 to 130	2.97	20.0
BC12352	Beryllium, Total	mg/L	0.0000185	0.000880	0.100	0.0995	0.0964	0.107	0.0850 to 0.115	99.5	70.0 to 130	3.16	20.0
BC12353	Boron, Dissolved	mg/L	-0.000346	0.0650	1.00	1.14	1.14	1.01	0.850 to 1.15	103	70.0 to 130	0.00	20.0
BC12352	Boron, Total	mg/L	-0.000586	0.0650	1.00	1.22	1.20	1.00	0.850 to 1.15	111	70.0 to 130	1.65	20.0
BC12353	Cadmium, Dissolved	mg/L	0.0000076	0.000147	0.100	0.0942	0.0960	0.0983	0.0850 to 0.115	94.2	70.0 to 130	1.89	20.0
BC12352	Cadmium, Total	mg/L	0.0000051	0.000147	0.100	0.0946	0.0924	0.0989	0.0850 to 0.115	94.6	70.0 to 130	2.35	20.0
BC12353	Calcium, Dissolved	mg/L	-0.0181	0.152	5.00	373	359	4.92	4.25 to 5.75	80.0	70.0 to 130	3.83	20.0
BC12352	Calcium, Total	mg/L	-0.0361	0.152	5.00	356	342	4.65	4.25 to 5.75	220	70.0 to 130	4.01	20.0
BC12353	Chloride	mg/L	0.00107	1.00	80.0	149	150	10.4	9.00 to 11.0	102	80.0 to 120	0.669	20.0
BC12353	Chromium, Dissolved	mg/L	0.0000644	0.000440	0.100	0.0960	0.0992	0.0986	0.0850 to 0.115	96.0	70.0 to 130	3.28	20.0
BC12352	Chromium, Total	mg/L	-0.000140	0.000440	0.100	0.0968	0.0968	0.100	0.0850 to 0.115	96.8	70.0 to 130	0.00	20.0
BC12353	Cobalt, Dissolved	mg/L	0.0000072	0.000147	0.100	0.0962	0.0995	0.102	0.0850 to 0.115	96.0	70.0 to 130	3.37	20.0
BC12352	Cobalt, Total	mg/L	-0.0000765	0.000147	0.100	0.0992	0.100	0.104	0.0850 to 0.115	99.0	70.0 to 130	0.803	20.0
BC12353	Fluoride	mg/L	0.0254	0.125	2.50	2.84	2.84	2.69	2.25 to 2.75	108	80.0 to 120	0.00	20.0
BC12353	Iron, Dissolved	mg/L	-0.000164	0.0176	0.2	6.87	6.59	0.205	0.170 to 0.230	120	70.0 to 130	4.16	20.0
BC12352	Iron, Total	mg/L	0.000346	0.0176	0.2	6.96	6.72	0.206	0.170 to 0.230	170	70.0 to 130	3.51	20.0

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 7/6/22 16:55

Customer ID:

Delivery Date: 7/7/22 10:15

Description: Gorgas Landfill - MW-20

Laboratory ID Number: BC12352

Sample	Analysis	Units	MB		Spike	MS	MSD	Standard		Rec		Prec	Limit
			MB	Limit				Standard	Limit	Rec	Limit		
BC12353	Lead, Dissolved	mg/L	0.0000142	0.000147	0.100	0.103	0.0991	0.0991	0.0850 to 0.115	103	70.0 to 130	3.86	20.0
BC12352	Lead, Total	mg/L	0.0000044	0.000147	0.100	0.104	0.103	0.100	0.0850 to 0.115	104	70.0 to 130	0.966	20.0
BC12353	Lithium, Dissolved	mg/L	-0.000049	0.0154	0.200	0.427	0.433	0.206	0.170 to 0.230	113	70.0 to 130	1.40	20.0
BC12352	Lithium, Total	mg/L	-0.000392	0.0154	0.200	0.456	0.456	0.221	0.170 to 0.230	116	70.0 to 130	0.00	20.0
BC12353	Magnesium, Dissolved	mg/L	-0.00581	0.0462	5.00	209	198	5.12	4.25 to 5.75	180	70.0 to 130	5.41	20.0
BC12352	Magnesium, Total	mg/L	-0.00637	0.0462	5.00	184	177	5.26	4.25 to 5.75	160	70.0 to 130	3.88	20.0
BC12353	Manganese, Dissolved	mg/L	-0.0000599	0.0002	0.100	1.10	1.09	0.0972	0.0850 to 0.115	80.0	70.0 to 130	0.913	20.0
BC12352	Manganese, Total	mg/L	0.0000060	0.0002	0.100	1.15	1.16	0.102	0.0850 to 0.115	80.0	70.0 to 130	0.866	20.0
BC12352	Mercury, Total by CVAA	mg/L	3.000E-05	0.000500	0.004	0.00407	0.00401	0.00408	0.00340 to 0.00460	102	70.0 to 130	1.49	20.0
BC12353	Molybdenum, Dissolved	mg/L	0.0000032	0.0002	0.100	0.0986	0.100	0.0982	0.0850 to 0.115	97.7	70.0 to 130	1.41	20.0
BC12352	Molybdenum, Total	mg/L	-0.0000008	0.0002	0.100	0.0960	0.0957	0.0950	0.0850 to 0.115	95.1	70.0 to 130	0.313	20.0
BC12353	Potassium, Dissolved	mg/L	0.0319	0.367	10.0	15.9	16.3	10.3	8.50 to 11.5	98.1	70.0 to 130	2.48	20.0
BC12352	Potassium, Total	mg/L	-0.00723	0.367	10.0	16.7	16.8	10.9	8.50 to 11.5	105	70.0 to 130	0.597	20.0
BC12353	Selenium, Dissolved	mg/L	-0.0000305	0.00100	0.100	0.0992	0.101	0.0999	0.0850 to 0.115	99.2	70.0 to 130	1.80	20.0
BC12352	Selenium, Total	mg/L	0.0000396	0.00100	0.100	0.105	0.104	0.104	0.0850 to 0.115	105	70.0 to 130	0.957	20.0
BC12353	Silicon, Dissolved	mg/L	0.000035	0.0440	1.00	10.5	10.5	1.03	0.850 to 1.15	80.0	70.0 to 130	0.00	20.0
BC12352	Silicon, Total	mg/L	0.000635	0.0440	1.00	11.3	11.3	1.01	0.850 to 1.15	110	70.0 to 130	0.00	20.0
BC12353	Sodium, Dissolved	mg/L	-0.0247	0.0660	5.00	163	155	4.91	4.25 to 5.75	180	70.0 to 130	5.03	20.0
BC12352	Sodium, Total	mg/L	0.0017	0.0660	5.00	148	143	5.43	4.25 to 5.75	180	70.0 to 130	3.44	20.0
BC12353	Sulfate	mg/L	0.626	2.0	2000	3620	3610	20.1	18.0 to 22.0	107	80.0 to 120	0.277	20.0
BC12353	Thallium, Dissolved	mg/L	0.0000183	0.000147	0.100	0.0985	0.0956	0.0966	0.0850 to 0.115	98.5	70.0 to 130	2.99	20.0
BC12352	Thallium, Total	mg/L	-0.0000823	0.000147	0.100	0.112	0.107	0.108	0.0850 to 0.115	112	70.0 to 130	4.57	20.0
BC12352	Total Organic Carbon	mg/L	0.231	1.00	10.0	10.4	11.1	10.1		104	80.0 to 120	6.51	20.0

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 7/6/22 16:55

Customer ID:

Delivery Date: 7/7/22 10:15

Description: Gorgas Landfill - MW-20

Laboratory ID Number: BC12352

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC12353	Alkalinity, Total as CaCO3	mg/L					303	50.2	45.0 to 55.0			0.995	10.0
BC12352	Nitrogen, Nitrate/Nitrite	mg/L as N	0.03	0.200	2.00	2.05	0.093	1.92	1.80 to 2.20	102	90.0 to 110	0.00	15.0
BC12352	Solids, Dissolved	mg/L	1.00	25.0			2280	49.0	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 Landfill - MW-20 Dup

Location Code: WMWGORLF
Collected: 7/6/22 16:55
Customer ID:
Submittal Date: 7/7/22 10:15

Laboratory ID Number: BC12353

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: EPA 200.7			Analyst: ABB		Preparation Method: EPA 1638				
* Boron, Total	7/12/22 13:23	7/18/22 11:42		1.015	0.112	mg/L	0.030000	0.1015	
* Calcium, Total	7/12/22 13:23	7/18/22 16:12		10.15	349	mg/L	0.70035	4.06	RA
* Iron, Total	7/12/22 13:23	7/18/22 16:12		10.15	6.77	mg/L	0.08120	0.406	RA
* Lithium, Total	7/12/22 13:23	7/18/22 11:42		1.015	0.228	mg/L	0.007105	0.01999956	
* Magnesium, Total	7/12/22 13:23	7/18/22 16:12		10.15	178	mg/L	0.21315	4.06	RA
Silica, Total (calc.)	7/12/22 13:23	7/18/22 11:42		1	22.0	mg/L			
Silicon, Total	7/12/22 13:23	7/18/22 11:42		1.015	10.3	mg/L	0.02030	0.25375	
* Sodium, Total	7/12/22 13:23	7/18/22 16:12		10.15	140	mg/L	0.3045	4.06	RA
Analytical Method: EPA 200.7			Analyst: ABB		Preparation Method: EPA 1638				
* Boron, Dissolved	7/12/22 12:30	7/13/22 15:16		1.015	0.106	mg/L	0.030000	0.1015	
* Calcium, Dissolved	7/12/22 12:30	7/14/22 12:20		10.15	369	mg/L	0.70035	4.06	RA
* Iron, Dissolved	7/12/22 12:30	7/14/22 12:20		10.15	6.63	mg/L	0.08120	0.406	RA
* Lithium, Dissolved	7/12/22 12:30	7/13/22 15:16		1.015	0.201	mg/L	0.007105	0.01999956	
* Magnesium, Dissolved	7/12/22 12:30	7/14/22 12:20		10.15	200	mg/L	0.21315	4.06	RA
Silica, Dissolved (calc.)	7/12/22 12:30	7/13/22 15:16		1	20.8	mg/L			
Silicon, Dissolved	7/12/22 12:30	7/13/22 15:16		1.015	9.70	mg/L	0.02030	0.25375	
* Sodium, Dissolved	7/12/22 12:30	7/14/22 12:20		10.15	154	mg/L	0.3045	4.06	RA
Analytical Method: EPA 200.8			Analyst: DLJ		Preparation Method: EPA 1638				
* Antimony, Total	7/7/22 16:27	7/8/22 17:06		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Total	7/7/22 16:27	7/8/22 17:06		1.015	0.0191	mg/L	0.006090	0.01015	
* Arsenic, Total	7/7/22 16:27	7/8/22 17:06		1.015	0.000792	mg/L	0.000081	0.000203	
* Barium, Total	7/7/22 16:27	7/8/22 17:06		1.015	0.0160	mg/L	0.000508	0.001015	
* Beryllium, Total	7/7/22 16:27	7/8/22 17:06		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Total	7/7/22 16:27	7/8/22 17:06		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Total	7/7/22 16:27	7/8/22 17:06		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Total	7/7/22 16:27	7/8/22 17:06		1.015	0.000217	mg/L	0.000068	0.000203	
* Lead, Total	7/7/22 16:27	7/8/22 17:06		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Total	7/7/22 16:27	7/8/22 17:06		1.015	1.07	mg/L	0.000152	0.000203	
* Molybdenum, Total	7/7/22 16:27	7/8/22 17:06		1.015	0.00100	mg/L	0.000102	0.000203	
* Potassium, Total	7/7/22 16:27	7/8/22 17:06		1.015	6.17	mg/L	0.169505	0.5075	

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-20 Dup

Location Code: WMWGORLF
Collected: 7/6/22 16:55
Customer ID:
Submittal Date: 7/7/22 10:15

Laboratory ID Number: BC12353

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
* Selenium, Total	7/7/22 16:27	7/8/22 17:06		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Total	7/7/22 16:27	7/8/22 17:06		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 200.8		Analyst: DLJ							
* Antimony, Dissolved	7/7/22 13:50	7/8/22 12:12		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Aluminum, Dissolved	7/7/22 13:50	7/8/22 12:12		1.015	Not Detected	mg/L	0.006090	0.01015	U
* Arsenic, Dissolved	7/7/22 13:50	7/8/22 12:12		1.015	0.000739	mg/L	0.000081	0.000203	
* Barium, Dissolved	7/7/22 13:50	7/8/22 12:12		1.015	0.0161	mg/L	0.000508	0.001015	
* Beryllium, Dissolved	7/7/22 13:50	7/8/22 12:12		1.015	Not Detected	mg/L	0.000406	0.001015	U
* Cadmium, Dissolved	7/7/22 13:50	7/8/22 12:12		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Chromium, Dissolved	7/7/22 13:50	7/8/22 12:12		1.015	Not Detected	mg/L	0.000203	0.001015	U
* Cobalt, Dissolved	7/7/22 13:50	7/8/22 12:12		1.015	0.000247	mg/L	0.000068	0.000203	
* Lead, Dissolved	7/7/22 13:50	7/8/22 12:12		1.015	Not Detected	mg/L	0.000068	0.000203	U
* Manganese, Dissolved	7/7/22 13:50	7/18/22 09:27		1.015	1.02	mg/L	0.000152	0.000203	
* Molybdenum, Dissolved	7/7/22 13:50	7/8/22 12:12		1.015	0.000938	mg/L	0.000102	0.000203	
* Potassium, Dissolved	7/7/22 13:50	7/8/22 12:12		1.015	6.09	mg/L	0.169505	0.5075	
* Selenium, Dissolved	7/7/22 13:50	7/8/22 12:12		1.015	Not Detected	mg/L	0.000508	0.001015	U
* Thallium, Dissolved	7/7/22 13:50	7/8/22 12:12		1.015	Not Detected	mg/L	0.000068	0.000203	U
Analytical Method: EPA 245.1		Analyst: CRB							
* Mercury, Total by CVAA	7/12/22 16:01	7/12/22 22:01		1	Not Detected	mg/L	0.0003	0.0005	U
Analytical Method: EPA 353.2		Analyst: CES							
* Nitrogen, Nitrate/Nitrite	7/7/22 16:52	7/7/22 16:52		1	Not Detected	mg/L as N	0.20	0.3	U
Analytical Method: SM 2320 B		Analyst: ALH							
Alkalinity, Total as CaCO3	7/19/22 10:00	7/19/22 11:25		1	300	mg/L		0.1	
Analytical Method: SM 2540C		Analyst: CNJ							
* Solids, Dissolved	7/8/22 11:30	7/11/22 13:39		1	2300	mg/L		125	
Analytical Method: SM 4500CO2 D		Analyst: ALH							
Bicarbonate Alkalinity, (calc.)	7/19/22 10:00	7/19/22 11:25		1	300	mg/L		1	A
Carbonate Alkalinity, (calc.)	7/19/22 10:00	7/19/22 11:25		1	Not Detected	mg/L		0.5	A
Analytical Method: SM 5310 B		Analyst: ELH							
* Total Organic Carbon	7/13/22 04:10	7/13/22 04:10		1	Not Detected	mg/L	1.00	2	U

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

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

Certificate Of Analysis

Description: Gorgas Landfill - MW-20 Dup

Location Code: WMWGORLF

Collected: 7/6/22 16:55

Customer ID:

Submittal Date: 7/7/22 10:15

Laboratory ID Number: BC12353

Name	Prepared	Analyzed	Vio Spec	DF	Results	Units	MDL	RL	Q
Analytical Method: SM4500Cl E		Analyst: JCC							
* Chloride	7/12/22 14:56	7/12/22 14:56		8	67.7	mg/L	4.00	8	
Analytical Method: SM4500F G 2017		Analyst: JCC							
* Fluoride	7/13/22 11:54	7/13/22 11:54		1	0.135	mg/L	0.06	0.125	
Analytical Method: SM4500SO4 E 2011		Analyst: JCC							
* Sulfate	7/19/22 10:56	7/19/22 10:56		100	1480	mg/L	60.0	200	
Analytical Method: Field Measurements		Analyst: TJD							
Conductivity	7/6/22 16:53	7/6/22 16:53			2637.48	uS/cm			FA
pH	7/6/22 16:53	7/6/22 16:53			6.75	SU			FA
Temperature	7/6/22 16:53	7/6/22 16:53			21.07	C			FA
Turbidity	7/6/22 16:53	7/6/22 16:53			0.7	NTU			FA
Sulfide	7/6/22 16:53	7/6/22 16:53			0	mg/L			FA

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

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 7/6/22 16:55

Customer ID:

Delivery Date: 7/7/22 10:15

Description: Gorgas Landfill - MW-20 Dup

Laboratory ID Number: BC12353

Sample	Analysis	Units	MB	MB		MS	MSD	Standard		Rec		Prec	Limit
				Limit	Spike			Standard	Limit	Rec	Limit		
BC12353	Aluminum, Dissolved	mg/L	-0.000847	0.010	0.100	0.0990	0.104	0.0993	0.0850 to 0.115	99.0	70.0 to 130	4.93	20.0
BC12353	Aluminum, Total	mg/L	0.000911	0.010	0.100	0.125	0.126	0.109	0.0850 to 0.115	106	70.0 to 130	0.797	20.0
BC12353	Antimony, Dissolved	mg/L	0.000408	0.00100	0.100	0.105	0.105	0.0889	0.0850 to 0.115	105	70.0 to 130	0.00	20.0
BC12353	Antimony, Total	mg/L	0.000244	0.00100	0.100	0.102	0.102	0.0941	0.0850 to 0.115	102	70.0 to 130	0.00	20.0
BC12353	Arsenic, Dissolved	mg/L	-0.0000044	0.000176	0.100	0.100	0.101	0.0983	0.0850 to 0.115	99.3	70.0 to 130	0.995	20.0
BC12353	Arsenic, Total	mg/L	0.0000116	0.000176	0.100	0.105	0.103	0.101	0.0850 to 0.115	104	70.0 to 130	1.92	20.0
BC12353	Barium, Dissolved	mg/L	-0.0000026	0.00100	0.100	0.121	0.123	0.0992	0.0850 to 0.115	105	70.0 to 130	1.64	20.0
BC12353	Barium, Total	mg/L	0.0000337	0.00100	0.100	0.116	0.117	0.101	0.0850 to 0.115	100	70.0 to 130	0.858	20.0
BC12353	Beryllium, Dissolved	mg/L	0.000265	0.000880	0.100	0.0992	0.0963	0.0948	0.0850 to 0.115	99.2	70.0 to 130	2.97	20.0
BC12353	Beryllium, Total	mg/L	0.0000199	0.000880	0.100	0.0975	0.0987	0.105	0.0850 to 0.115	97.5	70.0 to 130	1.22	20.0
BC12353	Boron, Dissolved	mg/L	-0.000346	0.0650	1.00	1.14	1.14	1.01	0.850 to 1.15	103	70.0 to 130	0.00	20.0
BC12353	Boron, Total	mg/L	-0.000231	0.0650	1.00	1.22	1.21	0.886	0.850 to 1.15	111	70.0 to 130	0.823	20.0
BC12353	Cadmium, Dissolved	mg/L	0.0000076	0.000147	0.100	0.0942	0.0960	0.0983	0.0850 to 0.115	94.2	70.0 to 130	1.89	20.0
BC12353	Cadmium, Total	mg/L	0.0000098	0.000147	0.100	0.0922	0.0941	0.0981	0.0850 to 0.115	92.2	70.0 to 130	2.04	20.0
BC12353	Calcium, Dissolved	mg/L	-0.0181	0.152	5.00	373	359	4.92	4.25 to 5.75	80.0	70.0 to 130	3.83	20.0
BC12353	Calcium, Total	mg/L	-0.0164	0.152	5.00	359	359	4.77	4.25 to 5.75	200	70.0 to 130	0.00	20.0
BC12353	Chloride	mg/L	0.00107	1.00	80.0	149	150	10.4	9.00 to 11.0	102	80.0 to 120	0.669	20.0
BC12353	Chromium, Dissolved	mg/L	0.0000644	0.000440	0.100	0.0960	0.0992	0.0986	0.0850 to 0.115	96.0	70.0 to 130	3.28	20.0
BC12353	Chromium, Total	mg/L	-0.000150	0.000440	0.100	0.0953	0.0942	0.0972	0.0850 to 0.115	95.3	70.0 to 130	1.16	20.0
BC12353	Cobalt, Dissolved	mg/L	0.0000072	0.000147	0.100	0.0962	0.0995	0.102	0.0850 to 0.115	96.0	70.0 to 130	3.37	20.0
BC12353	Cobalt, Total	mg/L	-0.0000767	0.000147	0.100	0.0978	0.0981	0.103	0.0850 to 0.115	97.6	70.0 to 130	0.306	20.0
BC12353	Fluoride	mg/L	0.0254	0.125	2.50	2.84	2.84	2.69	2.25 to 2.75	108	80.0 to 120	0.00	20.0
BC12353	Iron, Dissolved	mg/L	-0.000164	0.0176	0.2	6.87	6.59	0.205	0.170 to 0.230	120	70.0 to 130	4.16	20.0
BC12353	Iron, Total	mg/L	0.00102	0.0176	0.2	7.05	7.00	0.208	0.170 to 0.230	140	70.0 to 130	0.712	20.0

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 7/6/22 16:55

Customer ID:

Delivery Date: 7/7/22 10:15

Description: Gorgas Landfill - MW-20 Dup

Laboratory ID Number: BC12353

Sample	Analysis	Units	MB	MB				Standard		Rec		Prec	Limit
				Limit	Spike	MS	MSD	Standard	Limit	Rec	Limit		
BC12353	Lead, Dissolved	mg/L	0.0000142	0.000147	0.100	0.103	0.0991	0.0991	0.0850 to 0.115	103	70.0 to 130	3.86	20.0
BC12353	Lead, Total	mg/L	0.0000064	0.000147	0.100	0.103	0.104	0.106	0.0850 to 0.115	103	70.0 to 130	0.966	20.0
BC12353	Lithium, Dissolved	mg/L	-0.000049	0.0154	0.200	0.427	0.433	0.206	0.170 to 0.230	113	70.0 to 130	1.40	20.0
BC12353	Lithium, Total	mg/L	-0.000288	0.0154	0.200	0.464	0.468	0.222	0.170 to 0.230	118	70.0 to 130	0.858	20.0
BC12353	Magnesium, Dissolved	mg/L	-0.00581	0.0462	5.00	209	198	5.12	4.25 to 5.75	180	70.0 to 130	5.41	20.0
BC12353	Magnesium, Total	mg/L	-0.00608	0.0462	5.00	186	186	5.34	4.25 to 5.75	160	70.0 to 130	0.00	20.0
BC12353	Manganese, Dissolved	mg/L	-0.0000599	0.0002	0.100	1.10	1.09	0.0972	0.0850 to 0.115	80.0	70.0 to 130	0.913	20.0
BC12353	Manganese, Total	mg/L	0.0000937	0.0002	0.100	1.14	1.14	0.101	0.0850 to 0.115	70.0	70.0 to 130	0.00	20.0
BC12353	Mercury, Total by CVAA	mg/L	3.000E-05	0.000500	0.004	0.004	0.00408	0.00408	0.00340 to 0.00460	100	70.0 to 130	1.98	20.0
BC12353	Molybdenum, Dissolved	mg/L	0.0000032	0.0002	0.100	0.0986	0.100	0.0982	0.0850 to 0.115	97.7	70.0 to 130	1.41	20.0
BC12353	Molybdenum, Total	mg/L	0.0000120	0.0002	0.100	0.0955	0.0949	0.0938	0.0850 to 0.115	94.5	70.0 to 130	0.630	20.0
BC12353	Potassium, Dissolved	mg/L	0.0319	0.367	10.0	15.9	16.3	10.3	8.50 to 11.5	98.1	70.0 to 130	2.48	20.0
BC12353	Potassium, Total	mg/L	0.0132	0.367	10.0	16.2	16.5	10.7	8.50 to 11.5	100	70.0 to 130	1.83	20.0
BC12353	Selenium, Dissolved	mg/L	-0.0000305	0.00100	0.100	0.0992	0.101	0.0999	0.0850 to 0.115	99.2	70.0 to 130	1.80	20.0
BC12353	Selenium, Total	mg/L	0.0000479	0.00100	0.100	0.103	0.103	0.105	0.0850 to 0.115	103	70.0 to 130	0.00	20.0
BC12353	Silicon, Dissolved	mg/L	0.000035	0.0440	1.00	10.5	10.5	1.03	0.850 to 1.15	80.0	70.0 to 130	0.00	20.0
BC12353	Silicon, Total	mg/L	0.000448	0.0440	1.00	11.4	11.3	1.05	0.850 to 1.15	110	70.0 to 130	0.881	20.0
BC12353	Sodium, Dissolved	mg/L	-0.0247	0.0660	5.00	163	155	4.91	4.25 to 5.75	180	70.0 to 130	5.03	20.0
BC12353	Sodium, Total	mg/L	0.000586	0.0660	5.00	149	148	5.58	4.25 to 5.75	180	70.0 to 130	0.673	20.0
BC12353	Sulfate	mg/L	0.626	2.0	2000	3620	3610	20.1	18.0 to 22.0	107	80.0 to 120	0.277	20.0
BC12353	Thallium, Dissolved	mg/L	0.0000183	0.000147	0.100	0.0985	0.0956	0.0966	0.0850 to 0.115	98.5	70.0 to 130	2.99	20.0
BC12353	Thallium, Total	mg/L	-0.0000816	0.000147	0.100	0.110	0.105	0.112	0.0850 to 0.115	110	70.0 to 130	4.65	20.0
BC12353	Total Organic Carbon	mg/L	0.156	1.00	10.0	11.0	11.2	10.2		110	80.0 to 120	1.80	20.0

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

Batch QC Summary

Customer Account: WMWGORLF

Sample Date: 7/6/22 16:55

Customer ID:

Delivery Date: 7/7/22 10:15

Description: Gorgas Landfill - MW-20 Dup

Laboratory ID Number: BC12353

Sample	Analysis	Units	MB	MB Limit	Spike	MS	Sample Duplicate	Standard	Standard Limit	Rec	Rec Limit	Prec	Prec Limit
BC12353	Alkalinity, Total as CaCO3	mg/L					303	50.2	45.0 to 55.0			0.995	10.0
BC12353	Nitrogen, Nitrate/Nitrite	mg/L as N	0.04	0.200	2.00	1.97	0.070	1.99	1.80 to 2.20	98.5	90.0 to 110	0.00	15.0
BC12353	Solids, Dissolved	mg/L	1.00	25.0			2290	49.0	40.0 to 60.0			0.436	10.0

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

Definitions

Project Number: WMWGORLF_1375

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: Dallas Gentry		Requested By: Greg Dyer
		Location	Gorgas Landfill

Bottles	1	Metals	500 mL	3	Hg	250 mL	5	TDS/Alkalinity	500 mL	7	N/A	N/A
	2	Dissolved Metals	500 mL	4	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-12V	07/05/2022	11:31	6	Groundwater		BC12333
MW-12	07/05/2022	12:41	6	Groundwater		BC12334
MW-11	07/05/2022	14:05	6	Groundwater		BC12335
FB-2	07/05/2022	14:55	5	Field Blank		BC12336
MW-13	07/06/2022	08:14	6	Groundwater		BC12337
MW-14	07/06/2022	09:14	6	Groundwater		BC12338
MW-15	07/06/2022	10:27	6	Groundwater		BC12339
MW-16	07/06/2022	11:40	6	Groundwater		BC12340
EB-1	07/06/2022	12:20	5	Equipment Blank		BC12341
MW-17R	07/06/2022	13:13	6	Groundwater		BC12342
MW-18	07/06/2022	14:35	6	Groundwater		BC12343
MW-19	07/06/2022	15:36	6	Groundwater		BC12344
MW-10	07/06/2022	16:44	6	Groundwater		BC12345

Relinquished By	Received By	Date/Time
<i>M. Gentry</i>	<i>Kevin Jun</i>	07/07/2022 08:45

SmarTroll ID	7586-41444-5-3	All pH requirements have been met <input checked="" type="checkbox"/>
Turbidity ID	3901-20010-2-2	
Sample Event	1375	
Cooler Temp	0.7 °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


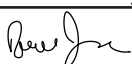
 Lab ETA

Requested Complete Date	Routine	Results To	Dustin Brooks, Greg Dyer
	Collector: TJ Daugherty		Requested By: Greg Dyer
		Location	Gorgas Landfill

Bottles	1	Metals	500 mL	3	Hg	250 mL	5	TDS/Alkalinity	500 mL	7	N/A	N/A
	2	Dissolved Metals	500 mL	4	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-5	07/06/2022	09:47	6	Groundwater		BC12346
MW-6	07/06/2022	12:48	6	Groundwater		BC12347
MW-7	07/06/2022	13:45	6	Groundwater		BC12348
MW-7 Dup	07/06/2022	13:45	6	Sample Duplicate		BC12349
MW-8	07/06/2022	15:18	6	Groundwater		BC12350
FB-1	07/06/2022	15:30	5	Field Blank		BC12351
MW-20	07/06/2022	16:55	6	Groundwater		BC12352
MW-20 Dup	07/06/2022	16:55	6	Sample Duplicate		BC12353

Relinquished By	Received By	Date/Time
		07/07/2022 08:47

SmarTroll ID	7586-41446-5-5	All pH requirements have been met <input checked="" type="checkbox"/>
Turbidity ID	4677-23342-4-1	
Sample Event	1375	
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: Dallas Gentry		Requested By: Greg Dyer
		Location	Gorgas Landfill

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

Comments	Radium MS/MSD collected at MW-14 and MW-16
----------	--

Sample #	Date	Time	Bottle Count	Description	Lab Filter	Lab Id
MW-12V	07/05/2022	11:31	1	Groundwater		BC12354
MW-12	07/05/2022	12:41	1	Groundwater		BC12355
MW-11	07/05/2022	14:05	1	Groundwater		BC12356
FB-2	07/05/2022	14:55	1	Field Blank		BC12357
MW-13	07/06/2022	08:14	1	Groundwater		BC12358
MW-14	07/06/2022	09:14	3	Groundwater		BC12359
MW-15	07/06/2022	10:27	1	Groundwater		BC12360
MW-16	07/06/2022	11:40	3	Groundwater		BC12361
EB-1	07/06/2022	12:20	1	Equipment Blank		BC12362
MW-17R	07/06/2022	13:13	1	Groundwater		BC12363
MW-18	07/06/2022	14:35	1	Groundwater		BC12364
MW-19	07/06/2022	15:36	1	Groundwater		BC12365
MW-10	07/06/2022	16:44	1	Groundwater		BC12366

Relinquished By	Received By	Date/Time
<i>M. Gentry</i>	<i>R. Dyer</i>	07/07/2022 08:45

SmarTroll ID	7586-41444-5-3	All pH requirements have been met <input checked="" type="checkbox"/>
Turbidity ID	3901-20010-2-2	
Sample Event	1375	
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
		Location	Gorgas Landfill

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

Comments

Sample #	Date	Time	Bottle Count	Description	Lab Filter	Lab Id
MW-5	07/06/2022	09:47	1	Groundwater		BC12367
MW-6	07/06/2022	12:48	1	Groundwater		BC12368
MW-7	07/06/2022	13:45	1	Groundwater		BC12369
MW-7 Dup	07/06/2022	13:45	1	Sample Duplicate		BC12370
MW-8	07/06/2022	15:18	1	Groundwater		BC12371
FB-1	07/06/2022	15:30	1	Field Blank		BC12372
MW-20	07/06/2022	16:55	1	Groundwater		BC12373
MW-20 Dup	07/06/2022	16:55	1	Sample Duplicate		BC12374

Relinquished By	Received By	Date/Time
		07/07/2022 08:47

SmarTroll ID	7586-41446-5-5	All pH requirements have been met <input checked="" type="checkbox"/>	
Turbidity ID	4677-23342-4-1		
Sample Event	1375		
		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: 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

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991

Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

REPORT OF LABORATORY ANALYSIS

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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

REPORT OF LABORATORY ANALYSIS

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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

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: WMWGORPU_1374
Pace Project No.: 30505103

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

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

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	0.166U ± 0.186 (0.355) C:93% T:NA	pCi/L	08/09/22 09:33	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	1.32 ± 0.463 (0.606) C:71% T:86%	pCi/L	08/03/22 11:53	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	1.49 ± 0.649 (0.961)	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	0.0108U ± 0.171 (0.467) C:95% T:NA	pCi/L	08/09/22 09:33	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	119.94 %REC ± NA (NA) C:NA T:NA%	pCi/L	08/03/22 11:53	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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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	0.184U ± 0.230 (0.475) C:94% T:NA	pCi/L	08/09/22 09:33	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	96.49 %REC 21.67 RPD ± NA (NA) C:NA T:NA%	pCi/L	08/03/22 11:53	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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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	0.261U ± 0.233 (0.415) C:92% T:NA	pCi/L	08/09/22 09:33	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	1.05 ± 0.430 (0.670) C:73% T:91%	pCi/L	08/03/22 11:53	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.31 ± 0.663 (1.09)	pCi/L	08/09/22 17:11	7440-14-4	

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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	0.117U ± 0.182 (0.395) C:85% T:NA	pCi/L	08/09/22 09:31	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	1.17 ± 0.424 (0.591) C:76% T:89%	pCi/L	08/03/22 11:53	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.29 ± 0.606 (0.986)	pCi/L	08/09/22 17:11	7440-14-4	

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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	-0.0418U ± 0.147 (0.453) C:86% T:NA	pCi/L	08/09/22 10:24	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	1.33 ± 0.448 (0.580) C:70% T:97%	pCi/L	08/03/22 11:54	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.33 ± 0.595 (1.03)	pCi/L	08/09/22 17:11	7440-14-4	

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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	0.00285U ± 0.159 (0.445) C:84% T:NA	pCi/L	08/09/22 10:24	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	1.16 ± 0.447 (0.664) C:69% T:92%	pCi/L	08/03/22 11:54	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	1.16 ± 0.606 (1.11)	pCi/L	08/09/22 17:11	7440-14-4	

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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	0.0836U ± 0.195 (0.464) C:85% T:NA	pCi/L	08/09/22 10:24	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	1.02 ± 0.406 (0.606) C:75% T:89%	pCi/L	08/03/22 11:54	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.10 ± 0.601 (1.07)	pCi/L	08/09/22 17:11	7440-14-4	

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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	0.233U ± 0.215 (0.382) C:85% T:NA	pCi/L	08/09/22 10:24	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.600U ± 0.378 (0.686) C:64% T:88%	pCi/L	08/03/22 15:06	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.833U ± 0.593 (1.07)	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.

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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		

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A		Section B		Section C	
Required Client Information:		Required Project Information:		Invoice Information:	
Company: Alabama Power Company	Report To: Renee Jernigan	Company Name: Alabama Power Co.	Attention: Renee Jernigan		
Address: 744 Highway 87 GSC Bldg #8	Copy To: Brooke Caton & Blaine Denton	Address: 744 Highway 87 GSC Bldg #8	Company Address: Alabama Power Co.		
City: Calera, AL 35040		State: AL			
Email To: igamer@southernco.com	Purchase Order #: APC10755638	Project Name: Plant Gargas Pooled Upgradient	Project Manager: Skylar Richmond		
Phone: 205-664-6247 Fax	Project Number: WMMGORPU_1374	Matrix Profile #: 16788			
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		# OF CONTAINERS	Preservatives	Y/N	Request Analytes Filtered (Y/N)				Residual Chlorine (Y/N)
										START DATE	TIME				EPA 9315	EPA 9320	Total Radium Sum	Total Sulfide	
1	BC12382	MW-1	APCO-GS-UP-MW-1	APCO_Gargas_Pooled_Upgradient		X		GW	G	7/5/2022	11:40	3	NaOH+ZnAcetate		X	X	X	X	
2	BC12383	MW-2	APCO-GS-UP-MW-2	APCO_Gargas_Pooled_Upgradient				GW	G	7/5/2022	12:40	1	Unpreserved		X	X	X	X	
3	BC12384	MW-2 DUP	APCO-GS-UP-MW-2	APCO_Gargas_Pooled_Upgradient	X			GW	G	7/5/2022	12:40	1			X	X	X	X	
4	BC12385	MW-3	APCO-GS-UP-MW-3	APCO_Gargas_Pooled_Upgradient				GW	G	7/5/2022	13:57	1			X	X	X	X	
5	BC12386	FB-1	APCO-GS-UP-FB-01	APCO_Gargas_Pooled_Upgradient				GW	G	7/5/2022	14:55	1			X	X	X	X	
6	BC12387	MW-4	APCO-GS-UP-MW-4	APCO_Gargas_Pooled_Upgradient				GW	G	7/5/2022	15:30	1			X	X	X	X	
7	BC12388	EB-1	APCO-GS-UP-EB-01	APCO_Gargas_Pooled_Upgradient				GW	G	7/5/2022	16:00	1			X	X	X	X	
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	<i>Renee Jernigan</i>	7/11/22	10:45	Received on Ice (Y/N) Custody Sealed (Y/N) Cooler (Y/N) Samples Intact (Y/N)

WO#: 30505103



30505103

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER:
 SIGNATURE of SAMPLER:

TJ Daugherty
 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 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	
Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>1004611</p> <p>PS 7/11/22</p>
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Chain of Custody Relinquished:	<input type="checkbox"/>	<input checked="" 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 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>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"/>	
Trip Blank Present:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
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 (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):	4.784		
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 ##

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: 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): 0.807
 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: 1.463
 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
 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%

Handwritten signatures and initials

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%

Duplicate Sample Assessment	Matrix Spike/Matrix Spike Duplicate Sample Assessment
Sample I.D.:	Sample I.D.:
Duplicate Sample I.D.:	Sample MS I.D.:
Sample Result (pCi/L, g, F):	Sample MSD I.D.:
Sample Duplicate Result (pCi/L, g, F):	Sample Matrix Spike Result:
Sample Duplicate Counting Uncertainty (pCi/L, g, F):	Sample Matrix Spike Duplicate Result:
Are sample and/or duplicate results below RL?	Sample Matrix Spike Duplicate Counting Uncertainty (pCi/L, g, F):
Duplicate Numerical Performance Indicator:	Sample Matrix Spike Duplicate Result:
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	Sample Matrix Spike Duplicate Counting Uncertainty (pCi/L, g, F):
Duplicate Status vs Numerical Indicator:	Duplicate Numerical Performance Indicator:
Duplicate Status vs RPD:	(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:
% RPD Limit:	MS/ MSD Duplicate Status vs Numerical Indicator:
	% 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

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.:		
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 Counting Uncertainty (pCi/L, g, F):		
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:		

Matrix Spike/Matrix Spike Duplicate Sample Assessment
Sample I.D.:
Sample MS I.D.:
Sample MSD I.D.:
Sample Matrix Spike Result:
Sample Matrix Spike Duplicate Result:
Sample Matrix Spike Duplicate Counting Uncertainty (pCi/L, g, F):
Sample Matrix Spike Duplicate Result:
Sample Matrix Spike Duplicate Counting Uncertainty (pCi/L, g, F):
Duplicate Numerical Performance Indicator:
(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:
MS/ MSD Duplicate Status vs Numerical Indicator:
% RPD Limit:

August 11, 2022

Brooke Caton
Alabama Power
744 Highway 87
Calera, AL 35040

RE: Project: WMWGORLF_1375
Pace Project No.: 30507705

Dear Brooke Caton:

Enclosed are the analytical results for sample(s) received by the laboratory on July 20, 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: WMWGORLF_1375
Pace Project No.: 30507705

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991

Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: WMWGORLF_1375

Pace Project No.: 30507705

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30507705001	BC12354 MW-12V	Water	07/05/22 11:31	07/20/22 10:45
30507705002	BC12355 MW-12	Water	07/05/22 12:41	07/20/22 10:45
30507705003	BC12356 MW-11	Water	07/05/22 14:05	07/20/22 10:45
30507705004	BC12357 FB-2	Water	07/05/22 14:55	07/20/22 10:45
30507705005	BC12358 MW-13	Water	07/06/22 08:14	07/20/22 10:45
30507705006	BC12359 MW-14	Water	07/06/22 09:14	07/20/22 10:45
30507705007	BC12359 MW-14 MS	Water	07/06/22 09:14	07/20/22 10:45
30507705008	BC12359 MW-14 MSD	Water	07/06/22 09:14	07/20/22 10:45
30507705009	BC12360 MW-15	Water	07/06/22 10:27	07/20/22 10:45
30507705010	BC12361 MW-16	Water	07/06/22 11:40	07/20/22 10:45
30507705011	BC12361 MW-16 MS	Water	07/06/22 11:40	07/20/22 10:45
30507705012	BC12361 MW-16 MSD	Water	07/06/22 11:40	07/20/22 10:45
30507705013	BC12362 EB-1	Water	07/06/22 12:20	07/20/22 10:45
30507705014	BC12363 MW-17R	Water	07/06/22 13:13	07/20/22 10:45
30507705015	BC12364 MW-18	Water	07/06/22 14:35	07/20/22 10:45
30507705016	BC12365 MW-19	Water	07/06/22 15:36	07/20/22 10:45
30507705017	BC12366 MW-10	Water	07/06/22 16:44	07/20/22 10:45
30507705018	BC12367 MW-5	Water	07/06/22 09:47	07/20/22 10:45
30507705019	BC12368 MW-6	Water	07/06/22 12:48	07/20/22 10:45
30507705020	BC12369 MW-7	Water	07/06/22 13:45	07/20/22 10:45
30507705021	BC12370 MW-7 DUP	Water	07/06/22 13:45	07/20/22 10:45
30507705022	BC12371 MW-8	Water	07/06/22 15:18	07/20/22 10:45
30507705023	BC12372 FB-1	Water	07/06/22 15:30	07/20/22 10:45
30507705024	BC12373 MW-20	Water	07/06/22 16:55	07/20/22 10:45
30507705025	BC12374 MW-20 DUP	Water	07/06/22 16:55	07/20/22 10:45

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: WMWGORLF_1375
Pace Project No.: 30507705

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30507705001	BC12354 MW-12V	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30507705002	BC12355 MW-12	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30507705003	BC12356 MW-11	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30507705004	BC12357 FB-2	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30507705005	BC12358 MW-13	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30507705006	BC12359 MW-14	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30507705007	BC12359 MW-14 MS	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
30507705008	BC12359 MW-14 MSD	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
30507705009	BC12360 MW-15	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30507705010	BC12361 MW-16	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30507705011	BC12361 MW-16 MS	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
30507705012	BC12361 MW-16 MSD	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
30507705013	BC12362 EB-1	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30507705014	BC12363 MW-17R	EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: WMWGORLF_1375
Pace Project No.: 30507705

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30507705015	BC12364 MW-18	Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
30507705016	BC12365 MW-19	Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
30507705017	BC12366 MW-10	Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
30507705018	BC12367 MW-5	Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
30507705019	BC12368 MW-6	Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
30507705020	BC12369 MW-7	Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
30507705021	BC12370 MW-7 DUP	Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
30507705022	BC12371 MW-8	Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
30507705023	BC12372 FB-1	Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
30507705024	BC12373 MW-20	Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	RMS	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
30507705025	BC12374 MW-20 DUP	Total Radium Calculation	JAL	1	PASI-PA
		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

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: WMWGORLF_1375

Pace Project No.: 30507705

Method: EPA 9315

Description: 9315 Total Radium

Client: Alabama Power

Date: August 11, 2022

General Information:

25 samples were analyzed for EPA 9315 by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: WMWGORLF_1375

Pace Project No.: 30507705

Method: EPA 9320

Description: 9320 Radium 228

Client: Alabama Power

Date: August 11, 2022

General Information:

25 samples were analyzed for EPA 9320 by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: WMWGORLF_1375
Pace Project No.: 30507705

Method: Total Radium Calculation
Description: Total Radium 228+226
Client: Alabama Power
Date: August 11, 2022

General Information:

21 samples were analyzed for Total Radium Calculation by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1375

Pace Project No.: 30507705

Sample: BC12354 MW-12V **Lab ID: 30507705001** Collected: 07/05/22 11:31 Received: 07/20/22 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	0.426U ± 0.330 (0.523) C:92% T:NA	pCi/L	08/09/22 12:34	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.667U ± 0.402 (0.737) C:69% T:90%	pCi/L	08/04/22 15:11	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	1.09U ± 0.732 (1.26)	pCi/L	08/09/22 17:13	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1375

Pace Project No.: 30507705

Sample: BC12355 MW-12 **Lab ID: 30507705002** Collected: 07/05/22 12:41 Received: 07/20/22 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	0.213U ± 0.330 (0.723) C:94% T:NA	pCi/L	08/09/22 12:34	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	1.51 ± 0.494 (0.624) C:69% T:97%	pCi/L	08/04/22 15:11	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	1.72 ± 0.824 (1.35)	pCi/L	08/09/22 17:13	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1375

Pace Project No.: 30507705

Sample: BC12356 MW-11 **Lab ID: 30507705003** Collected: 07/05/22 14:05 Received: 07/20/22 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	0.117U ± 0.248 (0.582) C:97% T:NA	pCi/L	08/09/22 13:47	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.580U ± 0.347 (0.634) C:72% T:97%	pCi/L	08/04/22 15:11	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.697U ± 0.595 (1.22)	pCi/L	08/09/22 17:13	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1375

Pace Project No.: 30507705

Sample: BC12357 FB-2 **Lab ID: 30507705004** Collected: 07/05/22 14:55 Received: 07/20/22 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	0.127U ± 0.295 (0.701) C:94% T:NA	pCi/L	08/09/22 12:34	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.354U ± 0.404 (0.846) C:73% T:77%	pCi/L	08/04/22 15:11	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.481U ± 0.699 (1.55)	pCi/L	08/09/22 17:13	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1375

Pace Project No.: 30507705

Sample: BC12358 MW-13 **Lab ID: 30507705005** Collected: 07/06/22 08:14 Received: 07/20/22 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	-0.118U ± 0.194 (0.673) C:97% T:NA	pCi/L	08/09/22 12:34	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	0.643U ± 0.367 (0.652) C:66% T:96%	pCi/L	08/04/22 15:11	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.643U ± 0.561 (1.33)	pCi/L	08/09/22 17:13	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1375

Pace Project No.: 30507705

Sample: BC12359 MW-14 **Lab ID: 30507705006** Collected: 07/06/22 09:14 Received: 07/20/22 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	0.00700U ± 0.228 (0.648) C:94% T:NA	pCi/L	08/09/22 12:34	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	-0.00231U ± 0.341 (0.798) C:67% T:88%	pCi/L	08/05/22 12:40	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.00700U ± 0.569 (1.45)	pCi/L	08/09/22 17:13	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1375
Pace Project No.: 30507705

Sample: BC12359 MW-14 MS **Lab ID: 30507705007** Collected: 07/06/22 09:14 Received: 07/20/22 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	93.58 %REC ± NA (NA) C:NA T:NA	pCi/L	08/09/22 13:47	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	116.81 %REC ± NA (NA) C:NA T:NA%	pCi/L	08/05/22 12:43	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1375

Pace Project No.: 30507705

Sample: BC12359 MW-14 MSD **Lab ID: 30507705008** Collected: 07/06/22 09:14 Received: 07/20/22 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	88.00 %REC 6.14RPD ± NA (NA) C:NA T:NA	pCi/L	08/09/22 13:47	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	93.17 %REC 22.51 RPD ± NA (NA) C:NA T:NA%	pCi/L	08/05/22 12:41	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1375

Pace Project No.: 30507705

Sample: BC12360 MW-15 **Lab ID: 30507705009** Collected: 07/06/22 10:27 Received: 07/20/22 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	0.287U ± 0.331 (0.668) C:94% T:NA	pCi/L	08/09/22 13:47	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.764 ± 0.419 (0.736) C:66% T:87%	pCi/L	08/04/22 15:11	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	1.05U ± 0.750 (1.40)	pCi/L	08/09/22 17:13	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1375
Pace Project No.: 30507705

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	0.459U ± 0.403 (0.760) C:95% T:NA	pCi/L	08/10/22 09:53	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.565U ± 0.422 (0.825) C:74% T:82%	pCi/L	08/04/22 16:03	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	1.02U ± 0.825 (1.59)	pCi/L	08/10/22 14:59	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1375

Pace Project No.: 30507705

Sample: BC12361 MW-16 MS **Lab ID: 30507705011** Collected: 07/06/22 11:40 Received: 07/20/22 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	97.37 %REC ± NA (NA) C:NA T:NA	pCi/L	08/10/22 09:53	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	120.33 %REC ± NA (NA) C:NA T:NA	pCi/L	08/04/22 16:03	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1375

Pace Project No.: 30507705

Sample: BC12361 MW-16 MSD **Lab ID: 30507705012** Collected: 07/06/22 11:40 Received: 07/20/22 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	100.84 %REC 3.50RPD ± NA (NA) C:NA T:NA	pCi/L	08/10/22 09:53	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	88.50 %REC 30.48 RPD ± NA (NA) C:NA T:NA	pCi/L	08/04/22 16:04	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1375

Pace Project No.: 30507705

Sample: BC12362 EB-1 **Lab ID: 30507705013** Collected: 07/06/22 12:20 Received: 07/20/22 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	-0.144U ± 0.104 (0.546) C:96% T:NA	pCi/L	08/09/22 13:47	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	0.143U ± 0.323 (0.717) C:65% T:94%	pCi/L	08/05/22 12:41	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.143U ± 0.427 (1.26)	pCi/L	08/09/22 17:13	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1375

Pace Project No.: 30507705

Sample: BC12363 MW-17R **Lab ID: 30507705014** Collected: 07/06/22 13:13 Received: 07/20/22 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	0.399U ± 0.333 (0.579) C:100% T:NA	pCi/L	08/09/22 13:47	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	0.805 ± 0.447 (0.801) C:65% T:87%	pCi/L	08/05/22 12:41	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.20U ± 0.780 (1.38)	pCi/L	08/09/22 17:13	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1375

Pace Project No.: 30507705

Sample: BC12364 MW-18 **Lab ID: 30507705015** Collected: 07/06/22 14:35 Received: 07/20/22 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	0.203U ± 0.359 (0.813) C:93% T:NA	pCi/L	08/09/22 13:47	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.581U ± 0.402 (0.771) C:66% T:88%	pCi/L	08/05/22 12:42	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.784U ± 0.761 (1.58)	pCi/L	08/09/22 17:13	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1375

Pace Project No.: 30507705

Sample: BC12365 MW-19 **Lab ID: 30507705016** Collected: 07/06/22 15:36 Received: 07/20/22 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	0.337U ± 0.338 (0.646) C:92% T:NA	pCi/L	08/10/22 09:53	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.630U ± 0.399 (0.738) C:61% T:92%	pCi/L	08/05/22 12:42	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.967U ± 0.737 (1.38)	pCi/L	08/10/22 14:59	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1375

Pace Project No.: 30507705

Sample: BC12366 MW-10 **Lab ID: 30507705017** Collected: 07/06/22 16:44 Received: 07/20/22 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	0.279U ± 0.325 (0.653) C:102% T:NA	pCi/L	08/10/22 09:53	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.222U ± 0.329 (0.708) C:61% T:91%	pCi/L	08/05/22 12:42	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.501U ± 0.654 (1.36)	pCi/L	08/10/22 14:59	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1375

Pace Project No.: 30507705

Sample: BC12367 MW-5 **Lab ID: 30507705018** Collected: 07/06/22 09:47 Received: 07/20/22 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	0.140U ± 0.412 (0.947) C:95% T:NA	pCi/L	08/10/22 09:53	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.607U ± 0.438 (0.840) C:60% T:81%	pCi/L	08/05/22 12:42	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.747U ± 0.850 (1.79)	pCi/L	08/10/22 14:59	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1375

Pace Project No.: 30507705

Sample: BC12368 MW-6 **Lab ID: 30507705019** Collected: 07/06/22 12:48 Received: 07/20/22 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	0.827 ± 0.452 (0.678) C:104% T:NA	pCi/L	08/10/22 09:53	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.732U ± 0.424 (0.776) C:70% T:87%	pCi/L	08/05/22 12:42	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	1.56 ± 0.876 (1.45)	pCi/L	08/10/22 14:59	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1375

Pace Project No.: 30507705

Sample: BC12369 MW-7 **Lab ID: 30507705020** Collected: 07/06/22 13:45 Received: 07/20/22 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	0.500U ± 0.392 (0.699) C:94% T:NA	pCi/L	08/10/22 09:53	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.216U ± 0.311 (0.666) C:61% T:96%	pCi/L	08/05/22 12:43	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.716U ± 0.703 (1.37)	pCi/L	08/10/22 14:59	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1375
Pace Project No.: 30507705

Sample: BC12370 MW-7 DUP **Lab ID: 30507705021** Collected: 07/06/22 13:45 Received: 07/20/22 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	0.0202U ± 0.276 (0.692) C:94% T:NA	pCi/L	08/10/22 09:53	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.709 ± 0.374 (0.654) C:71% T:92%	pCi/L	08/05/22 12:42	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.729U ± 0.650 (1.35)	pCi/L	08/10/22 14:59	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1375

Pace Project No.: 30507705

Sample: BC12371 MW-8 **Lab ID: 30507705022** Collected: 07/06/22 15:18 Received: 07/20/22 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	-0.0464U ± 0.347 (0.886) C:91% T:NA	pCi/L	08/10/22 09:44	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	0.415U ± 0.361 (0.724) C:71% T:86%	pCi/L	08/05/22 12:43	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.415U ± 0.708 (1.61)	pCi/L	08/10/22 14:59	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1375

Pace Project No.: 30507705

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: BC12372 FB-1 Lab ID: 30507705023 Collected: 07/06/22 15:30 Received: 07/20/22 10:45 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	-0.518U ± 0.304 (0.897) C:90% T:NA	pCi/L	08/10/22 09:44	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	0.120U ± 0.284 (0.637) C:59% T:89%	pCi/L	08/05/22 12:43	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.120U ± 0.588 (1.53)	pCi/L	08/10/22 14:59	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1375

Pace Project No.: 30507705

Sample: BC12373 MW-20 **Lab ID: 30507705024** Collected: 07/06/22 16:55 Received: 07/20/22 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	0.731 ± 0.457 (0.727) C:92% T:NA	pCi/L	08/10/22 09:41	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	0.393U ± 0.405 (0.839) C:65% T:89%	pCi/L	08/05/22 12:43	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.12U ± 0.862 (1.57)	pCi/L	08/10/22 14:59	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: WMWGORLF_1375

Pace Project No.: 30507705

Sample: BC12374 MW-20 DUP **Lab ID: 30507705025** Collected: 07/06/22 16:55 Received: 07/20/22 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	0.519U ± 0.377 (0.636) C:98% T:NA	pCi/L	08/10/22 09:41	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.734U ± 0.418 (0.748) C:60% T:93%	pCi/L	08/05/22 12:40	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	1.25U ± 0.795 (1.38)	pCi/L	08/10/22 14:59	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: WMWGORLF_1375

Pace Project No.: 30507705

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: 30507705006, 30507705007, 30507705008, 30507705013, 30507705014, 30507705015, 30507705016, 30507705017, 30507705018, 30507705019, 30507705020, 30507705021, 30507705022, 30507705023, 30507705024, 30507705025

METHOD BLANK: 2525771

Matrix: Water

Associated Lab Samples: 30507705006, 30507705007, 30507705008, 30507705013, 30507705014, 30507705015, 30507705016, 30507705017, 30507705018, 30507705019, 30507705020, 30507705021, 30507705022, 30507705023, 30507705024, 30507705025

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	

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: WMWGORLF_1375

Pace Project No.: 30507705

QC Batch: 520952

Analysis Method: EPA 9320

QC Batch Method: EPA 9320

Analysis Description: 9320 Radium 228

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 30507705010, 30507705011, 30507705012

METHOD BLANK: 2525792

Matrix: Water

Associated Lab Samples: 30507705010, 30507705011, 30507705012

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.261 ± 0.393 (0.842) C:69% T:88%	pCi/L	08/04/22 16:04	

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: WMWGORLF_1375

Pace Project No.: 30507705

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: 30507705001, 30507705002, 30507705003, 30507705004, 30507705005, 30507705009

METHOD BLANK: 2525770

Matrix: Water

Associated Lab Samples: 30507705001, 30507705002, 30507705003, 30507705004, 30507705005, 30507705009

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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QUALITY CONTROL - RADIOCHEMISTRY

Project: WMWGORLF_1375

Pace Project No.: 30507705

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: 30507705001, 30507705002, 30507705003, 30507705004, 30507705005, 30507705006, 30507705007, 30507705008, 30507705009, 30507705013, 30507705014, 30507705015

METHOD BLANK: 2526237

Matrix: Water

Associated Lab Samples: 30507705001, 30507705002, 30507705003, 30507705004, 30507705005, 30507705006, 30507705007, 30507705008, 30507705009, 30507705013, 30507705014, 30507705015

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: WMWGORLF_1375
Pace Project No.: 30507705

QC Batch:	521068	Analysis Method:	EPA 9315
QC Batch Method:	EPA 9315	Analysis Description:	9315 Total Radium
		Laboratory:	Pace Analytical Services - Greensburg

Associated Lab Samples: 30507705010, 30507705011, 30507705012, 30507705016, 30507705017, 30507705018, 30507705019, 30507705020, 30507705021, 30507705022, 30507705023, 30507705024, 30507705025

METHOD BLANK: 2526239 Matrix: Water

Associated Lab Samples: 30507705010, 30507705011, 30507705012, 30507705016, 30507705017, 30507705018, 30507705019, 30507705020, 30507705021, 30507705022, 30507705023, 30507705024, 30507705025

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.366 ± 0.335 (0.625) C:98% T:NA	pCi/L	08/10/22 09:53	

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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QUALIFIERS

Project: WMWGORLF_1375
Pace Project No.: 30507705

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: WMWGORLF_1375
Pace Project No.: 30507705

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30507705001	BC12354 MW-12V	EPA 9315	521067		
30507705002	BC12355 MW-12	EPA 9315	521067		
30507705003	BC12356 MW-11	EPA 9315	521067		
30507705004	BC12357 FB-2	EPA 9315	521067		
30507705005	BC12358 MW-13	EPA 9315	521067		
30507705006	BC12359 MW-14	EPA 9315	521067		
30507705007	BC12359 MW-14 MS	EPA 9315	521067		
30507705008	BC12359 MW-14 MSD	EPA 9315	521067		
30507705009	BC12360 MW-15	EPA 9315	521067		
30507705010	BC12361 MW-16	EPA 9315	521068		
30507705011	BC12361 MW-16 MS	EPA 9315	521068		
30507705012	BC12361 MW-16 MSD	EPA 9315	521068		
30507705013	BC12362 EB-1	EPA 9315	521067		
30507705014	BC12363 MW-17R	EPA 9315	521067		
30507705015	BC12364 MW-18	EPA 9315	521067		
30507705016	BC12365 MW-19	EPA 9315	521068		
30507705017	BC12366 MW-10	EPA 9315	521068		
30507705018	BC12367 MW-5	EPA 9315	521068		
30507705019	BC12368 MW-6	EPA 9315	521068		
30507705020	BC12369 MW-7	EPA 9315	521068		
30507705021	BC12370 MW-7 DUP	EPA 9315	521068		
30507705022	BC12371 MW-8	EPA 9315	521068		
30507705023	BC12372 FB-1	EPA 9315	521068		
30507705024	BC12373 MW-20	EPA 9315	521068		
30507705025	BC12374 MW-20 DUP	EPA 9315	521068		
30507705001	BC12354 MW-12V	EPA 9320	520945		
30507705002	BC12355 MW-12	EPA 9320	520945		
30507705003	BC12356 MW-11	EPA 9320	520945		
30507705004	BC12357 FB-2	EPA 9320	520945		
30507705005	BC12358 MW-13	EPA 9320	520945		
30507705006	BC12359 MW-14	EPA 9320	520946		
30507705007	BC12359 MW-14 MS	EPA 9320	520946		
30507705008	BC12359 MW-14 MSD	EPA 9320	520946		
30507705009	BC12360 MW-15	EPA 9320	520945		
30507705010	BC12361 MW-16	EPA 9320	520952		
30507705011	BC12361 MW-16 MS	EPA 9320	520952		
30507705012	BC12361 MW-16 MSD	EPA 9320	520952		
30507705013	BC12362 EB-1	EPA 9320	520946		
30507705014	BC12363 MW-17R	EPA 9320	520946		
30507705015	BC12364 MW-18	EPA 9320	520946		
30507705016	BC12365 MW-19	EPA 9320	520946		
30507705017	BC12366 MW-10	EPA 9320	520946		
30507705018	BC12367 MW-5	EPA 9320	520946		
30507705019	BC12368 MW-6	EPA 9320	520946		
30507705020	BC12369 MW-7	EPA 9320	520946		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WMWGORLF_1375
Pace Project No.: 30507705

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30507705021	BC12370 MW-7 DUP	EPA 9320	520946		
30507705022	BC12371 MW-8	EPA 9320	520946		
30507705023	BC12372 FB-1	EPA 9320	520946		
30507705024	BC12373 MW-20	EPA 9320	520946		
30507705025	BC12374 MW-20 DUP	EPA 9320	520946		
30507705001	BC12354 MW-12V	Total Radium Calculation	524705		
30507705002	BC12355 MW-12	Total Radium Calculation	524705		
30507705003	BC12356 MW-11	Total Radium Calculation	524705		
30507705004	BC12357 FB-2	Total Radium Calculation	524705		
30507705005	BC12358 MW-13	Total Radium Calculation	524705		
30507705006	BC12359 MW-14	Total Radium Calculation	524705		
30507705009	BC12360 MW-15	Total Radium Calculation	524705		
30507705010	BC12361 MW-16	Total Radium Calculation	524974		
30507705013	BC12362 EB-1	Total Radium Calculation	524705		
30507705014	BC12363 MW-17R	Total Radium Calculation	524705		
30507705015	BC12364 MW-18	Total Radium Calculation	524705		
30507705016	BC12365 MW-19	Total Radium Calculation	524974		
30507705017	BC12366 MW-10	Total Radium Calculation	524974		
30507705018	BC12367 MW-5	Total Radium Calculation	524974		
30507705019	BC12368 MW-6	Total Radium Calculation	524974		
30507705020	BC12369 MW-7	Total Radium Calculation	524974		
30507705021	BC12370 MW-7 DUP	Total Radium Calculation	524974		
30507705022	BC12371 MW-8	Total Radium Calculation	524974		
30507705023	BC12372 FB-1	Total Radium Calculation	524974		
30507705024	BC12373 MW-20	Total Radium Calculation	524974		
30507705025	BC12374 MW-20 DUP	Total Radium Calculation	524974		

REPORT OF LABORATORY ANALYSIS

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WO#: 30507705

CHA
The Cl



Section B

Required Project Information:

Company: Alabama Power Company
 Address: 744 Highway 87 GSC Bldg #8
 Calera, AL 35040
 Email To: rgamer@southernco.com
 Phone: 205-664-6247 Fax
 Requested Due Date: Normal

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
 Purchase Order #: APC10755638
 Project Name: Plant Gorgas/CCB Landfills
 Pace Project Manager: Skyler Richmond
 Project Number: WNWGORUF-1375
 Pace Profile #: 16788

Document
it be completed accurately.

ITEM #	Description	Station Name Location_Code	Site Name Facility_ID	Sample Duplicate	Matrix Spike/Matrix Spike Duplicate	Field Filtered	MATRIX CODE	SAMPLE TYPE (G-GRAB C-COMP)	COLLECTED		# OF CONTAINERS	PRESERVATIVES		ANALYSES TEST	EPA 9315	EPA 9320	Total Radium Sum	Total Sulfide	Residual Chlorine (Y/N)	Received on	Ice (Y/N)	Custody Sealed (Y/N)	Cooler (Y/N)	Samples (Y/N)	Inflat (Y/N)	
									DATE	TIME		NaOH+ZnAcetate	HNO3													DATE
1	BC12354	APCO-GS-CCB-MW-12V	APCO_Gorgas_CCB_Landfills				GW G	G	7/5/2022	11:31	1		X	X	X	X										
2	BC12355	APCO-GS-CCB-MW-12	APCO_Gorgas_CCB_Landfills				GW G	G	7/5/2022	12:41	1		X	X	X	X										
3	BC12356	APCO-GS-CCB-MW-11	APCO_Gorgas_CCB_Landfills				GW G	G	7/5/2022	14:05	1		X	X	X	X										
4	BC12357	APCO-GS-CCB-MW-FB-2	APCO_Gorgas_CCB_Landfills				GW G	G	7/5/2022	14:55	1		X	X	X	X										
5	BC12358	APCO-GS-CCB-MW-13	APCO_Gorgas_CCB_Landfills				GW G	G	7/6/2022	8:14	1		X	X	X	X										
6	BC12359	APCO-GS-CCB-MW-14	APCO_Gorgas_CCB_Landfills		X		GW G	G	7/6/2022	9:14	3		X	X	X	X										
7	BC12360	APCO-GS-CCB-MW-15	APCO_Gorgas_CCB_Landfills				GW G	G	7/6/2022	10:27	1		X	X	X	X										
8	BC12361	APCO-GS-CCB-MW-16	APCO_Gorgas_CCB_Landfills		X		GW G	G	7/6/2022	11:40	3		X	X	X	X										
9	BC12362	APCO-GS-CCB-MW-EB-1	APCO_Gorgas_CCB_Landfills				GW G	G	7/6/2022	12:20	1		X	X	X	X										
10																										
11																										
12																										
ADDITIONAL COMMENTS										RELINQUISHED BY / AFFILIATION		DATE		TIME		ACCEPTED BY / AFFILIATION		DATE		TIME		SAMPLE CONDITIONS				
										Renee Jernigan/APC GTL		7/7/2022		13:15		Z. Anderson		7-2022-1014		-		N Y Y				

SAMPLER NAME AND SIGNATURE
 PRINT NAME of SAMPLER: Dallas Gentry
 SIGNATURE of SAMPLER: [Signature]
 DATE Signed: [Date]

WO#: 30507705

PM: SCR Due Date: 08/10/22
 CLIENT: ALABAMA PWR

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

Section A		Section B		Section C	
Required Client Information:		Required Project Information:		Invoice Information:	
Company: Alabama Power Company	Report To: Renee Jernigan	Company Name: Alabama Power Co.	Attention: Renee Jernigan	Pace Profile #: 16788	
Address: 744 Highway 87 GSC Bldg #8	Copy To: Brooke Caton & Blaine Denton	Address: 744 Highway 87 GSC Bldg #8	Pace Quote:CCR	Regulatory Agency: AL	
Calera, AL 35040	Purchase Order #: APC10755638	Pace Project Manager: Skyler Richmond			
Email To: rgamer@southernco.com	Project Name: Plant Gorgas CCB Landfills				
Phone: 205-664-6247 Fax	Project Number: WMMG0R1F-1375				
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		# OF CONTAINERS	Unpreserved	NaOH/ZnAcetate	HNO3	Preservatives	Y/N	Requested Analytes Filtered (Y/N)	Residual Chlorine (Y/N)	Total Sulfide	Total Redum Sum	EPA 9320	EPA 9315	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
									START DATE	TIME																					
1	BC12363	MW-17R	APCO-GS-CCB-MW-17R	APCO_Gorgas_CCB_Landfills			GW G	G	7/6/2022	13:13	1										X	X	X	7/20/22	10:15	Renee Jernigan/APC GTL	7/20/22	13:15	N Y Y		
2	BC12364	MW-18	APCO-GS-CCB-MW-18	APCO_Gorgas_CCB_Landfills			GW G	G	7/6/2022	14:35	1										X	X	X								
3	BC12365	MW-19	APCO-GS-CCB-MW-19	APCO_Gorgas_CCB_Landfills			GW G	G	7/6/2022	15:36	1										X	X	X								
4	BC12366	MW-10	APCO-GS-CCB-MW-10	APCO_Gorgas_CCB_Landfills			GW G	G	7/6/2022	16:44	1										X	X	X								
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Renee Jernigan/APC GTL	7/7/2022	13:15	Renee Jernigan	7/20/22	10:15	N Y Y

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: Dallas Gentry
 SIGNATURE of SAMPLER: [Signature]
 DATE Signed: [Date]

WO#: 30507705

PM: SCR Due Date: 08/10/22
CLIENT: ALABAMA PWR

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

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			Copy To: Brooke Caton & Blaine Denton			Company Name: Alabama Power Co.		
City: Calera, AL 35040			Purchase Order #: APC10755838			Address: 744 Highway 87 GSC Bldg #8		
Email To: rgamer@southemco.com			Project Name: Plant Gorgas CCB Landfills			CCR		
Phone: 205-664-6247 Fax			Project Number: WNWGORLF 1375			Pace Project Manager: Skyler Richmond		
Requested Due Date: Normal			Project Profile #: 16788			State / Location: AL		
			Regulatory Agency:			Page: 3 Of 3		

ITEM #	Description	Station Name Location Code	Site Name Facility ID	Sample Duplicate	Matrix Spike/Matrix Spike Duplicate	Field Filtered	Matrix Code	SAMPLER TYPE (G-GRAB O-COMP)	COLLECTED	# OF CONTAINERS	PRESERVATIVES		ANALYTES TEST	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	TEMP IN C	Received on	Ice (Y/N)	Custody Sealed (Y/N)	Cooler (Y/N)	Infect Samples (Y/N)		
											Unpreserved	NaOH+ZnAcetate													HNO3	EPA 9315
1	BC12367	MW-5	APCO-GS-CCB-MW-5	APCO_Gorgas_CCBLandfills			GW	G	7/6/2022	9:47		X	X	7/20/22	10:45	3 Daughery	7-20-22	10:45	-	N	Y	Y	Y			
2	BC12368	MW-6	APCO-GS-CCB-MW-6	APCO_Gorgas_CCBLandfills			GW	G	7/6/2022	12:48		X	X													
3	BC12369	MW-7	APCO-GS-CCB-MW-7	APCO_Gorgas_CCBLandfills			GW	G	7/6/2022	13:45		X	X													
4	BC12370	MW-7 DUP	APCO-GS-CCB-MW-7	APCO_Gorgas_CCBLandfills	X		GW	G	7/6/2022	13:45		X	X													
5	BC12371	MW-8	APCO-GS-CCB-MW-8	APCO_Gorgas_CCBLandfills			GW	G	7/6/2022	15:18		X	X													
6	BC12372	FB-1	APCO-GS-CCB-MW-FB-1	APCO_Gorgas_CCBLandfills			GW	G	7/6/2022	15:30		X	X													
7	BC12373	MW-20	APCO-GS-CCB-MW-20	APCO_Gorgas_CCBLandfills			GW	G	7/6/2022	16:55		X	X													
8	BC12374	MW-20 DUP	APCO-GS-CCB-MW-20	APCO_Gorgas_CCBLandfills	X		GW	G	7/6/2022	16:55		X	X													
9																										
10																										
11																										
12																										

ADDITIONAL COMMENTS		REQUISITIONED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	TEMP IN C	Received on	Ice (Y/N)	Custody Sealed (Y/N)	Cooler (Y/N)	Infect Samples (Y/N)
		Renee Jernigan/APC GTL	7/7/2022	13:15	3 Daughery	7-20-22	10:45	-	N	Y	Y	Y	Y

SAMPLER NAME AND SIGNATURE: _____
 PRINT Name of SAMPLER: TJ Daughery
 SIGNATURE of SAMPLER: _____
 DATE Signed: _____

Pittsburgh Lab Sample Condition Upon Receipt



Client Name: Alabama Power Company

Project # 30507705

Courier: Fed Ex UPS USPS Client Commercial Pace Other

Tracking #: 5870 1897 3637

Label Ja
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: <u>7-20-22 Ja</u>
	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 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>pH 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"/>	17.
Trip Blank Present:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	18.
Trip Blank Custody Seals Present	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Rad Samples Screened < 0.5 mrem/hr	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Initial when completed: <u>Ja</u> Date: <u>7-20-22</u> Survey Meter SN: <u>1563</u>

IO#: 30507705
 PM: SCR
 CLIENT: ALABAMA PMR
 Due Date: 08/10/22

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution:

Samples BC12354 - BC12363 received 7-11-22 10:25 FedEx 5870 1897 3394

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-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	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		7/16/2022
Sample I.D.:	30507347026		30507705006
Sample MS I.D.:	30507347027		30507705007
Sample MSD I.D.:	30507347028		30507705008
Spike I.D.:	19-033		19-033
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	24.025		24.025
Spike Volume Used in MS (mL):	0.20		0.20
MS Aliquot (L, g, F):	0.200		0.193
MS Target Conc. (pCi/L, g, F):	24.076		24.898
MSD Aliquot (L, g, F):	0.194		0.198
MSD Target Conc. (pCi/L, g, F):	24.766		24.261
MS Spike Uncertainty (calculated):	0.289		0.299
MSD Spike Uncertainty (calculated):	0.297		0.291
Sample Result Counting Uncertainty (pCi/L, g, F):	0.063		0.007
Sample Matrix Spike Result:	22.440		23.307
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	1.988		2.034
Sample Matrix Spike Duplicate Result:	23.814		21.357
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	1.993		1.925
MS Numerical Performance Indicator:	-1.649		-1.514
MSD Numerical Performance Indicator:	-0.982		-2.910
MS Percent Recovery:	92.95%		93.58%
MSD Percent Recovery:	95.90%		88.00%
MS Status vs Numerical Indicator:	N/A		N/A
MSD Status vs Numerical Indicator:	N/A		N/A
MS Status vs Recovery:	Pass		Pass
MSD Status vs Recovery:	Pass		Pass
MS/MSD Upper % Recovery Limits:	125%		125%
MS/MSD Lower % Recovery Limits:	75%		75%

Matrix Spike/Matrix Spike Duplicate Sample Assessment	
Sample I.D.:	30507347026
Sample MS I.D.:	30507347027
Sample MSD I.D.:	30507347028
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	1.988
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	23.814
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	1.993
Duplicate Numerical Performance Indicator:	-0.957
(Based on the Percent Recoveries) MS/MSD Duplicate RPD:	3.13%
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: 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	
LCSID (Y or N)?	N
LCS67900	LCS67900
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
Duplicate Sample I.D.:	sample IDs if
Sample Result (pCi/L, g, F):	other than
Sample Result 2 Sigma CSU (pCi/L, g, F):	LCS/LCSD in
Sample Duplicate Result (pCi/L, g, F):	the space below.
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:	

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%

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

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
 M/B 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
 Sample Matrix Spike Duplicate Result: 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 Numerical Performance Indicator: 6.13%
 (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:

*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: 8/9/2022
Worklist: 67953
Matrix: DW

Method Blank Assessment	
MB Sample ID	2526239
MB Concentration:	0.366
M/B Counting Uncertainty:	0.330
MB MDC:	0.625
MB Numerical Performance Indicator:	2.17
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	
	LCSD67953	LCSD67953
Count Date:	8/10/2022	8/10/2022
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):	0.205	0.203
Target Conc. (pCi/L, g, F):	11.737	11.842
Uncertainty (Calculated):	0.141	0.142
Result (pCi/L, g, F):	12.681	11.696
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	2.013	1.931
Numerical Performance Indicator:	0.92	-0.15
Percent Recovery:	108.05%	98.76%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	125%	125%
Lower % Recovery Limits:	75%	75%

Duplicate Sample Assessment	Matrix Spike/Matrix Spike Duplicate Sample Assessment
Sample I.D.:	Sample I.D.
Duplicate Sample I.D.:	Sample MS I.D.
Sample Result (pCi/L, g, F):	Sample MSD I.D.
Sample Result Counting Uncertainty (pCi/L, g, F):	Sample Matrix Spike Result:
Sample Duplicate Result (pCi/L, g, F):	Sample Matrix Spike Duplicate Result:
Sample Duplicate Counting Uncertainty (pCi/L, g, F):	Sample Matrix Spike Duplicate Counting Uncertainty (pCi/L, g, F):
Are sample and/or duplicate results below RL?	Sample Matrix Spike Duplicate Counting Uncertainty (pCi/L, g, F):
Duplicate Numerical Performance Indicator:	Duplicate Numerical Performance Indicator:
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:
Duplicate Status vs Numerical Indicator:	MS/ MSD Duplicate Status vs Numerical Indicator:
Duplicate Status vs RPD:	MS/ MSD Duplicate Status vs RPD:
% RPD Limit:	% RPD Limit:

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Sample Collection Date:	7/6/2022	
Sample I.D.:	30507705010	
Sample MS I.D.:	30507705011	
Sample MSD I.D.:	30507705012	
Spike I.D.:	19-033	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	24.026	
Spike Volume Used in MS (mL):	0.20	
Spike Volume Used in MSD (mL):	0.20	
MS Aliquot (L, g, F):	0.197	
MS Target Conc. (pCi/L, g, F):	24.398	
MSD Aliquot (L, g, F):	0.203	
MSD Target Conc. (pCi/L, g, F):	23.680	
MS Spike Uncertainty (calculated):	0.293	
MSD Spike Uncertainty (calculated):	0.284	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.459	
Sample Matrix Spike Result:	24.216	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	1.919	
Sample Matrix Spike Duplicate Result:	24.338	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	1.927	
MS Numerical Performance Indicator:	-0.634	
MSD Numerical Performance Indicator:	0.197	
MS Percent Recovery:	97.37%	
MSD Percent Recovery:	100.84%	
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%	

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

WMS8/10/22

Quality Control Sample Performance Assessment



Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test: Ra-228
Analyst: VAL
Date: 7/28/2022
Worklist: 67901
Matrix: WT

Method Blank Assessment	MB Sample ID	2525792
MB concentration:	0.261	
M/B 2 Sigma CSU:	0.393	
MB MDC:	0.842	
MB Numerical Performance Indicator:	1.30	
MB Status vs Numerical Indicator:	Pass	
MB Status vs. MDC:	Pass	

Laboratory Control Sample Assessment	LCS/D (Y or N)?		N
	LCS67901	LCSD67901	
Count Date:	8/4/2022		
Spike I.D.:	22-016		
Decay Corrected Spike Concentration (pCi/mL):	34.799		
Volume Used (mL):	0.10		
Aliquot Volume (L, g, F):	0.819		
Target Conc. (pCi/L, g, F):	4.250		
Uncertainty (Calculated):	0.208		
Result (pCi/L, g, F):	5.223		
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	1.171		
Numerical Performance Indicator:	1.60		
Percent Recovery:	122.87%		
Status vs Numerical Indicator:	N/A		
Status vs Recovery:	Pass		
Upper % Recovery Limits:	135%		
Lower % Recovery Limits:	60%		

Duplicate Sample Assessment	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Sample I.D.:	
Duplicate Sample I.D.:	
Sample Result (pCi/L, g, F):	
Sample Result 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:	

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

Handwritten signature: Mads/22

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Sample Collection Date:	7/16/2022	
Sample I.D.:	30507705010	
Sample MS I.D.:	30507705011	
Sample MSD I.D.:	30507705012	
Spike I.D.:	22-016	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	35.135	
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):	8.737	
MSD Aliquot (L, g, F):	0.807	
MSD Target Conc. (pCi/L, g, F):	8.710	
MS Spike Uncertainty (calculated):	0.428	
MSD Spike Uncertainty (calculated):	0.427	
Sample Result:	0.565	
Sample Result 2 Sigma CSU (pCi/L, g, F):	0.422	
Sample Matrix Spike Result:	11.078	
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):	2.223	
Sample Matrix Spike Duplicate Result:	8.273	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.690	
MS Numerical Performance Indicator:	1.512	
MSD Numerical Performance Indicator:	-1.095	
MS Percent Recovery:	120.33%	
MSD Percent Recovery:	88.50%	
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.:	30507705010
Sample MS I.D.:	30507705011	
Sample MSD I.D.:	30507705012	
Sample Matrix Spike Result:	11.078	
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):	2.223	
Sample Matrix Spike Duplicate Result:	8.273	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.690	
Duplicate Numerical Performance Indicator:	1.969	
Duplicate Status vs Numerical Indicator:	30.48%	
Duplicate Status vs RPD:	Pass	
MS/MSD Duplicate Status vs RPD:	Pass	
% RPD Limit:	36%	

Handwritten initials: JJJ 8-5-8

Appendix D



**Appendix D. Horizontal Groundwater Flow Velocity Calculations
Plant Gorgas Landfills**

2022 1st Semi-Annual Monitoring Event								
Date of Measurement	MW-2	MW-20	Distance	Hydraulic Gradient	Hydraulic Conductivity	Effective Porosity	Calculated Groundwater Flow Velocity	Calculated Groundwater Flow Velocity
	h₁ (ft)	h₂ (ft)	Δl (ft)	Δh/Δl (ft/ft)	K	n	(ft/d)	(ft/yr)
1/24/2022	418.40	313.47	3507.0	0.030	8.01	0.15	1.60	583.17
Date of Measurement	MW-3	MW-6	Distance	Hydraulic Gradient	Hydraulic Conductivity	Effective Porosity	Calculated Groundwater Flow Velocity	Calculated Groundwater Flow Velocity
	h₁ (ft)	h₂ (ft)	Δl (ft)	Δh/Δl (ft/ft)	K	n	(ft/d)	(ft/yr)
1/24/2022	418.99	312.53	2970.0	0.036	8.01	0.15	1.91	698.66
Date of Measurement	MW-14	MW-19	Distance	Hydraulic Gradient	Hydraulic Conductivity	Effective Porosity	Calculated Groundwater Flow Velocity	Calculated Groundwater Flow Velocity
	h₁ (ft)	h₂ (ft)	Δl (ft)	Δh/Δl (ft/ft)	K	n	(ft/d)	(ft/yr)
1/24/2022	340.81	298.40	1890.0	0.022	8.01	0.15	1.20	437.36
2022 2nd Semi-Annual Monitoring Event								
Date of Measurement	MW-2	MW-20	Distance	Hydraulic Gradient	Hydraulic Conductivity	Effective Porosity	Calculated Groundwater Flow Velocity	Calculated Groundwater Flow Velocity
	h₁ (ft)	h₂ (ft)	Δl (ft)	Δh/Δl (ft/ft)	K	n	(ft/d)	(ft/yr)
7/5/2022	417.74	312.16	3507.0	0.030	8.01	0.15	1.61	586.79
Date of Measurement	MW-3	MW-6	Distance	Hydraulic Gradient	Hydraulic Conductivity	Effective Porosity	Calculated Groundwater Flow Velocity	Calculated Groundwater Flow Velocity
	h₁ (ft)	h₂ (ft)	Δl (ft)	Δh/Δl (ft/ft)	K	n	(ft/d)	(ft/yr)
7/5/2022	416.02	310.54	2970.0	0.036	8.01	0.15	1.90	692.23
Date of Measurement	MW-14	MW-19	Distance	Hydraulic Gradient	Hydraulic Conductivity	Effective Porosity	Calculated Groundwater Flow Velocity	Calculated Groundwater Flow Velocity
	h₁ (ft)	h₂ (ft)	Δl (ft)	Δh/Δl (ft/ft)	K	n	(ft/d)	(ft/yr)
7/5/2022	340.64	297.72	1890.0	0.023	8.01	0.15	1.21	442.62

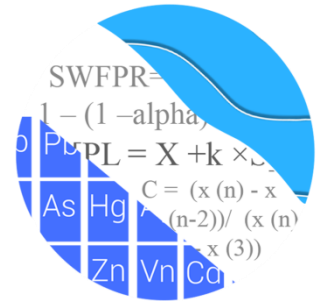
Notes:
 ft = feet
 ft/d = feet/day
 ft/ft = feet per foot
 ft/yr = feet per year

Appendix E

GROUNDWATER STATS CONSULTING

April 26, 2022

Southern Company Services
Attn: Mr. Greg Dyer
3535 Colonnade Parkway
Birmingham, AL 35243



Re: Plant Gorgas Bottom Ash Landfill
1st Semi-Annual Statistical Analysis – January/February 2022

Dear Mr. Dyer,

Groundwater Stats Consulting, formerly the statistical consulting division of Sanitas Technologies, is pleased to provide the statistical analysis of groundwater data for the January/February 2022 1st semi-annual sample event for Alabama Power Company's Plant Gorgas Bottom Ash Landfill. The analysis complies with the federal rule for the Disposal of Coal Combustion Residuals (CCR) from Electric Utilities (CCR Rule, 2015) as well as with the United States Environmental Protection Agency (USEPA) Unified Guidance (2009).

Sampling began at site for the CCR program in 2016. The monitoring well network, as provided by Southern Company Services, consists of the following:

- **Upgradient wells:** MW-1, MW-2, MW-3, and MW-4
- **Downgradient wells:** MW-7, MW-8, MW-10, MW-11, and MW-12
- **Delineation well:** MW-12V

Note that delineation well MW-12V did not require statistics; therefore, data for this well were plotted only on time series and box plots.

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 summary 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): 13
- # Background Samples (Interwell): 99
- # Constituents: 7
- # Downgradient wells: 5

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 calcium, fluoride, sulfate, and TDS
- Interwell prediction limits, combined with a 1-of-2 resample plan for boron, chloride, and pH

Parametric prediction limits are utilized when the screened historical data follow a normal or transformed-normal distribution. When data cannot be normalized or the majority of data are non-detects, a nonparametric test is utilized. While the annual false positive rate associated with parametric limits is fixed at 10% as recommended by the EPA Unified Guidance (2009), the false positive rate associated with nonparametric limits is not fixed and depends upon the available background sample size, number of future comparisons, and verification resample plan. The distribution of data is tested using the Shapiro-Wilk/Shapiro-Francia test for normality. After testing for normality and performing any adjustments as discussed below (US EPA, 2009), data are analyzed using either parametric or non-parametric prediction limits as appropriate.

- No statistical analyses are required on wells and analytes containing 100% non-detects (USEPA Unified Guidance, 2009, Chapter 6).
- When data contain <15% non-detects in background, simple substitution of one-half the reporting limit is utilized in the statistical analysis. The reporting limit utilized for non-detects is the most recent practical quantification limit (PQL) as reported by the laboratory.
- When data contain between 15-50% non-detects, the Kaplan-Meier non-detect adjustment is applied to the background data. This technique adjusts the mean and standard deviation of the historical concentrations to account for concentrations below the reporting limit.
- Nonparametric prediction limits are used on data containing greater than 50% non-detects.

Natural systems continuously evolve due to physical changes made to the environment. Examples include capping a landfill, paving areas near a well, or lining a drainage channel to prevent erosion. Periodic updating of background statistical limits is necessary to accommodate these types of changes. In the intrawell case, data for all wells and constituents may be re-evaluated when a minimum of 4 new data points are available to determine whether earlier concentrations are representative of present-day groundwater

quality. In the interwell case, prediction limits are updated with upgradient well data following each sampling event after careful screening for any new outliers. While not required for this report, in some cases, deselecting the earlier portion of data may be necessary prior to construction of limits so that resulting statistical limits are conservative (lower) from a regulatory perspective and capable of rapidly detecting changes in groundwater quality. Even though the data are excluded from the calculation, the values will continue to be reported and shown in tables and graphs.

Background Update Summaries

Fall 2019

Intrawell prediction limits, which compare the most recent compliance sample from a given well to historical data from the same well, are updated by testing for the appropriateness of consolidating new sampling observations with the screened background data and were last updated in September 2019. As discussed in the Statistical Analysis Plan (August 2020), intrawell prediction limits are used to evaluate calcium, fluoride, sulfate, and TDS at all wells due to natural spatial variation for these parameters. Historical data were evaluated for updating with newer data through May 2019 through the use of time series graphs and Tukey's outlier test to identify potential outliers when necessary, as well as the Mann Whitney test for equality of medians. This process is described below for the 2021 update and requires a minimum of four new data points. During the 2019 screening, all background data sets for constituents using intrawell prediction limits were updated through May 2019 and a summary of these results was included with the Mann Whitney test section in that report.

Interwell prediction limits are used to compare the most recent sample from each downgradient well to statistical limits constructed from pooled upgradient well data for boron, chloride, and pH. As mentioned above, these limits are updated following each sampling event after careful screening for new outliers. Data from upgradient wells are also periodically re-screened for newly developing trends, which may require adjustment of the background period to eliminate the trend. No adjustments were required in upgradient wells for constituents evaluated using interwell prediction limits.

Fall 2021

Outlier Analysis

Prior to constructing prediction limits, proposed background data--through February 2021 for constituents evaluated with intrawell prediction limits and through July 2021 for

constituents evaluated with interwell constituents--were reviewed through the use of time series graphs to identify any newly suspected outliers at all wells for calcium, fluoride, sulfate, and TDS, and at upgradient wells for boron, chloride, and pH. 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 (i.e., lower) from a regulatory perspective.

A high non-detect value was flagged as an outlier for boron in upgradient well MW-4. Additionally, high detected values for boron in downgradient well MW-7, sulfate at upgradient well MW-1 and downgradient wells MW-7 and MW-8, and TDS in upgradient well MW-1 were flagged as outliers since these values were not representative of remaining concentrations within their respective wells. As mentioned above, flagged data are displayed in a lighter font and as a disconnected symbol on the time series reports, as well as in a lighter font on the accompanying data pages. A summary 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 February 2021. When no statistically significant difference in medians between the two groups is found at a 99% confidence level, background data may be updated with newer compliance data. Statistically significant differences (either an increase or decrease in median concentrations) were found between the two groups for the following well/constituent pairs:

Increase

- Fluoride: MW-12
- TDS: MW-12

Decrease

- Fluoride: MW-8
- Sulfate: MW-11
- TDS: MW-11

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.

For well/constituent pairs with statistically significant decreases in medians, the background datasets were updated with new measurements at lower concentrations in order to construct statistical limits that are conservative (i.e., lower) from a regulatory perspective and be representative of present-day groundwater quality.

Regarding well/constituent pairs with statistically significant increases in medians, the group of new measurements for TDS in downgradient MW-12 were similar to those observed historically in upgradient wells and are relatively stable. Therefore, these records were updated with more recent data. For fluoride in well MW-12, however, some of the compliance samples are elevated compared to historical concentrations within this well. In order to maintain statistical limits that are conservative (i.e., lower) from a regulatory perspective, this record was not updated with more recent measurements and will be re-evaluated during the next background update. The Mann-Whitney results were submitted with the report. All records will be re-evaluated during the next background update when a minimum of 4 compliance samples are available. A list of well/constituent pairs with a truncated portion of their record follows this letter. All other records were updated with compliance data through February 2021.

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 an increasing trend for boron in upgradient well MW-2. The increasing trend, however, is a result of historic trace values earlier in the record followed by non-detect values. Therefore, no adjustments were required.

Evaluation of Appendix III Parameters – January/February 2022

Prediction Limits

Intrawell prediction limits, combined with a 1-of-2 resample plan, were constructed for calcium, fluoride, sulfate, and TDS using screened background data through February 2021 at each well. (Figure D). Intrawell limits constructed from carefully screened background data from within each well serve to provide statistical limits that are representative of the background data population, and that will rapidly identify a change in more recent compliance data from within a given well. This statistical method removes the element of variation across wells and eliminates the chance of mistaking natural spatial variation for a release from the facility. The January/February 2022 observation is compared to its respective background from the same well to determine whether initial exceedances are present.

Interwell prediction limits combined with a 1-of-2 verification strategy were constructed for boron, chloride, and pH (Figure E). Interwell prediction limits pool upgradient well data through February 2022 to establish a background limit for an individual constituent. The January/February 2022 sample from each downgradient well is compared to the background limit to determine whether initial exceedances are present.

In the event of an initial exceedance of compliance well data, the 1-of-2 resample plan allows for collection of one additional sample to determine whether the initial exceedance is confirmed. When the resample confirms the initial exceedance, a statistically significant increase (SSI) is identified, and further research is required to identify the cause of the exceedance (i.e., impact from the site, natural variation, or an off-site source). If a resample falls within the statistical limit, the initial exceedance is considered to be a false positive result; therefore, no further action is necessary.

Complete prediction limits results and a summary of exceedances follow this letter. Exceedances were identified for the following well/constituent pairs:

Intrawell:

- No Exceedances

Interwell:

- Boron: MW-10, MW-11, and MW-12
- Chloride: MW-7, MW-8, MW-10, MW-11, and MW-12
- pH: MW-7, MW-8, MW-10, and MW-11

Trend Test Evaluation – Appendix III

When prediction limit exceedances are identified in downgradient wells, data are further evaluated using the Sen's Slope/Mann Kendall trend test to determine whether concentrations are statistically increasing, decreasing, or stable (Figure F). Upgradient wells are included in the trend analyses for all parameters found to exceed their prediction limit in downgradient wells to identify whether similar patterns exist upgradient of the site. The existence of similar trends in both upgradient and downgradient wells is an indication of natural variability in groundwater that is unrelated to practices at the site. A summary of the trend test results follows this letter. No statistically significant decreasing trends were identified. Statistically significant increasing trends were identified for the following well/constituent pairs:

Increasing

- Boron: MW-2 (upgradient) and MW-11
- Chloride: MW-10, MW-11, and MW-12
- Fluoride: MW-2 (upgradient)
- pH: MW-2 (upgradient), MW-8, and MW-11

Decreasing

- Chloride: MW-8

Evaluation of Appendix IV Parameters – January/February 2022

Data from upgradient wells for Appendix IV parameters were assessed for outliers during previous analyses. No new outliers were flagged during this analysis.

During the previous analysis, high values for cobalt and lead in upgradient well MW-3 were flagged in order to construct statistical limits that are conservative (i.e., lower) from a regulatory perspective. A previously flagged value of selenium (0.0209 mg/L) was unflagged in well MW-3. A summary of flagged outliers follows this report (Figure C).

In accordance with Alabama Department of Environmental Management (ADEM), the Groundwater Protections Standards (GWPS) were updated during the 2021 2nd semi-annual statistical analysis. The GWPS will be updated again during the 2023 2nd semi-annual statistical analysis. The methodology used to create these GWPS is described below.

Interwell Upper Tolerance Limits

First, background limits were determined using tolerance limits constructed from pooled upgradient well data through July 2021 (Figure G). The tolerance limits contain a known fraction (coverage) of the background population with a known level of confidence. The confidence and coverage levels for nonparametric tolerance limits are dependent upon the number of background samples. As requested by ADEM to eliminate variation among upgradient well data, nonparametric tolerance limits, which use the highest value in background as the statistical limit, were constructed.

Groundwater Protection Standards

These background limits were then compared to the Maximum Contaminant Levels (MCLs) for each parameter, and the higher of the two was used as the GWPS (Figure H) in the confidence interval comparisons described below. Exceptions are noted in Figure H for beryllium and cadmium. For these two parameters, the MCL's were used as the GWPS rather than the higher background UTLs to maintain the more conservative standard.

Confidence Intervals

Confidence intervals were then constructed on downgradient wells using a maximum of the most recent 8 samples through February 2022 for each of the Appendix IV parameters (Figure I). These intervals were constructed as either parametric or nonparametric confidence intervals depending on the data distribution and percentage of non-detects. When data followed a normal or transformed-normal distribution, parametric confidence intervals were used for Appendix IV parameters. Nonparametric confidence intervals, which use the highest and lowest values in background as interval limits, were constructed when data did not follow a normal or transformed-normal distribution or when there were greater than 50% non-detects.

As mentioned above, well/constituent pairs containing 100% non-detects for the most recent 8 samples did not require statistics; therefore, they were deselected prior to construction of confidence intervals. A list of deselected well/constituent pairs follows this report. Each confidence interval was compared with the corresponding GWPS. Only when the entire confidence interval is above the GWPS is the well/constituent pair considered to exceed its respective standard. Both a tabular summary and graphical presentation of the confidence interval results follow this letter. No confidence interval exceedances were noted except for arsenic in well MW-12.

Thank you for the opportunity to assist you in the statistical analysis of groundwater quality for Gorgas Bottom Ash Landfill. If you have any questions or comments, please feel free to contact us.

For Groundwater Stats Consulting,

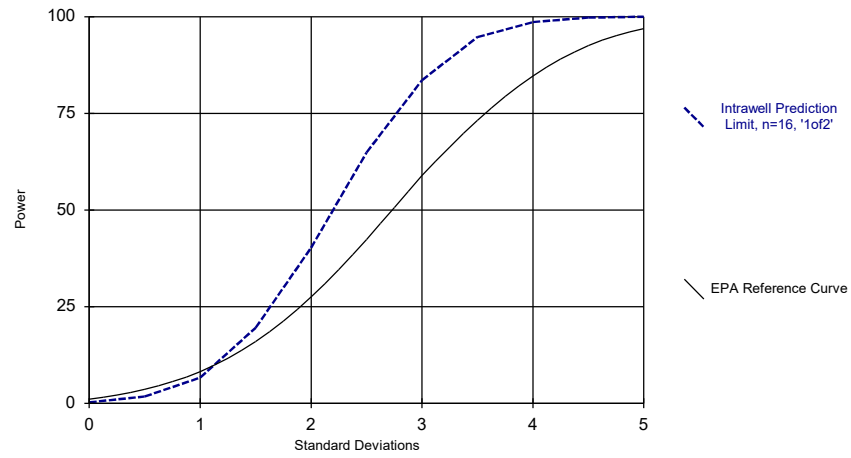


Andrew Collins
Project Manager



Kristina Rayner
Senior Statistician

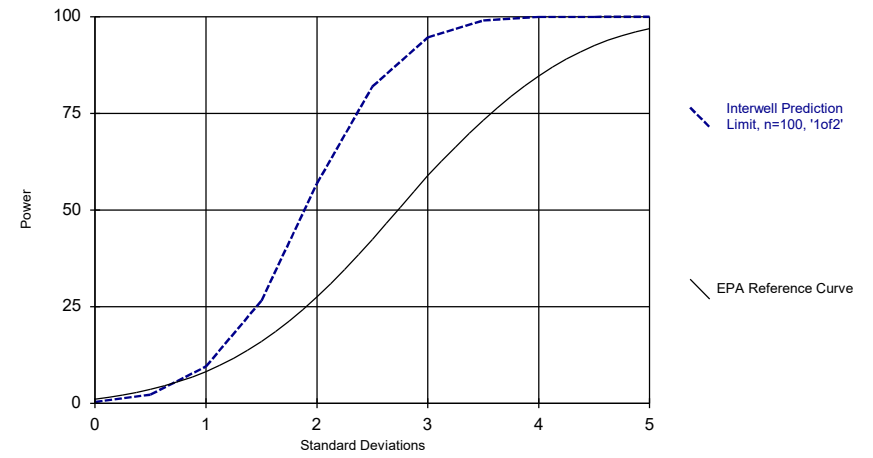
Intrawell Power Curve



Kappa = 2.15, based on 5 compliance wells and 7 constituents, evaluated semi-annually (this report reflects annual total).

Analysis Run 4/12/2022 10:35 PM View: Appendix III - Interwell PL
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Interwell Power Curve



Kappa = 1.808, based on 5 compliance wells and 7 constituents, evaluated semi-annually (this report reflects annual total).

Analysis Run 4/12/2022 10:35 PM View: Appendix III - Interwell PL
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

100% Non-Detects: Appendix IV Downgradient

Analysis Run 4/24/2022 7:15 PM View: UTLS
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Antimony (mg/L)
MW-11, MW-7, MW-8

Beryllium (mg/L)
MW-11, MW-12, MW-7, MW-8

Cadmium (mg/L)
MW-11, MW-12, MW-7, MW-8

Lead (mg/L)
MW-7

Mercury (mg/L)
MW-10, MW-11, MW-12, MW-7, MW-8

Selenium (mg/L)
MW-11, MW-7, MW-8

Thallium (mg/L)
MW-10, MW-11, MW-7, MW-8

Appendix III Intrawell Prediction Limits - All Results (No Significant)

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR Printed 4/12/2022, 10:21 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Calcium (mg/L)	MW-1	243	n/a	1/25/2022	150	No	23	n/a	n/a	0	n/a	n/a	0.003415	NP Intra (normality) 1 of 2
Calcium (mg/L)	MW-10	280.7	n/a	2/1/2022	155	No	16	184.7	44.65	0	None	No	0.001504	Param Intra 1 of 2
Calcium (mg/L)	MW-11	423.3	n/a	2/1/2022	335	No	16	372.6	23.56	0	None	No	0.001504	Param Intra 1 of 2
Calcium (mg/L)	MW-12	402.8	n/a	2/1/2022	334	No	16	355.6	21.98	0	None	No	0.001504	Param Intra 1 of 2
Calcium (mg/L)	MW-2	216.2	n/a	1/25/2022	179	No	23	174.2	20.8	0	None	No	0.001504	Param Intra 1 of 2
Calcium (mg/L)	MW-3	420.1	n/a	1/25/2022	285	No	23	300	59.54	0	None	No	0.001504	Param Intra 1 of 2
Calcium (mg/L)	MW-4	388.9	n/a	1/25/2022	259	No	23	304.8	41.68	0	None	No	0.001504	Param Intra 1 of 2
Calcium (mg/L)	MW-7	345.2	n/a	1/31/2022	278	No	16	85434	15683	0	None	x^2	0.001504	Param Intra 1 of 2
Calcium (mg/L)	MW-8	341.3	n/a	2/1/2022	284	No	16	303.1	17.76	0	None	No	0.001504	Param Intra 1 of 2
Fluoride (mg/L)	MW-1	0.1903	n/a	1/25/2022	0.101	No	24	0.1172	0.03644	0	None	No	0.001504	Param Intra 1 of 2
Fluoride (mg/L)	MW-10	0.3437	n/a	2/1/2022	0.157	No	17	0.1839	0.0751	0	None	No	0.001504	Param Intra 1 of 2
Fluoride (mg/L)	MW-11	0.1477	n/a	2/1/2022	0.0848J	No	17	0.09621	0.0242	5.882	None	No	0.001504	Param Intra 1 of 2
Fluoride (mg/L)	MW-12	0.2219	n/a	2/1/2022	0.174	No	13	0.1188	0.04526	0	None	No	0.001504	Param Intra 1 of 2
Fluoride (mg/L)	MW-2	0.2565	n/a	1/25/2022	0.204	No	24	0.1456	0.05538	0	None	No	0.001504	Param Intra 1 of 2
Fluoride (mg/L)	MW-3	0.5975	n/a	1/25/2022	0.325	No	24	0.3299	0.1336	0	None	No	0.001504	Param Intra 1 of 2
Fluoride (mg/L)	MW-4	0.4243	n/a	1/25/2022	0.364	No	24	0.1114	0.03425	0	None	x^2	0.001504	Param Intra 1 of 2
Fluoride (mg/L)	MW-7	0.2155	n/a	1/31/2022	0.173	No	17	0.1848	0.01443	0	None	No	0.001504	Param Intra 1 of 2
Fluoride (mg/L)	MW-8	0.2349	n/a	2/1/2022	0.177	No	17	0.21	0.01171	0	None	No	0.001504	Param Intra 1 of 2
Sulfate (mg/L)	MW-1	1672	n/a	1/25/2022	1430	No	22	1461	104.1	0	None	No	0.001504	Param Intra 1 of 2
Sulfate (mg/L)	MW-10	1188	n/a	2/1/2022	707	No	16	807.1	176.9	0	None	No	0.001504	Param Intra 1 of 2
Sulfate (mg/L)	MW-11	2292	n/a	2/1/2022	1350	No	16	1592	325.4	0	None	No	0.001504	Param Intra 1 of 2
Sulfate (mg/L)	MW-12	2822	n/a	2/1/2022	2230	No	16	2315	235.6	0	None	No	0.001504	Param Intra 1 of 2
Sulfate (mg/L)	MW-2	1284	n/a	1/25/2022	842	No	23	997.8	141.7	0	None	No	0.001504	Param Intra 1 of 2
Sulfate (mg/L)	MW-3	3300	n/a	1/25/2022	2550	No	23	2451	421.1	0	None	No	0.001504	Param Intra 1 of 2
Sulfate (mg/L)	MW-4	3165	n/a	1/25/2022	1930	No	23	2511	324	0	None	No	0.001504	Param Intra 1 of 2
Sulfate (mg/L)	MW-7	1614	n/a	1/31/2022	1370	No	15	1324	132.3	0	None	No	0.001504	Param Intra 1 of 2
Sulfate (mg/L)	MW-8	1640	n/a	2/1/2022	1500	No	15	n/a	n/a	0	n/a	n/a	0.007533	NP Intra (normality) 1 of 2
Total Dissolved Solids (mg/L)	MW-1	2530	n/a	1/25/2022	2150	No	22	2197	164	0	None	No	0.001504	Param Intra 1 of 2
Total Dissolved Solids (mg/L)	MW-10	1925	n/a	2/1/2022	1050	No	16	7.179	0.1783	0	None	ln(x)	0.001504	Param Intra 1 of 2
Total Dissolved Solids (mg/L)	MW-11	3052	n/a	2/1/2022	2200	No	16	2649	187.2	0	None	No	0.001504	Param Intra 1 of 2
Total Dissolved Solids (mg/L)	MW-12	4477	n/a	2/1/2022	3610	No	16	3598	408.9	0	None	No	0.001504	Param Intra 1 of 2
Total Dissolved Solids (mg/L)	MW-2	2034	n/a	1/25/2022	1500	No	23	1643	193.7	0	None	No	0.001504	Param Intra 1 of 2
Total Dissolved Solids (mg/L)	MW-3	5097	n/a	1/25/2022	3950	No	23	3729	678.1	0	None	No	0.001504	Param Intra 1 of 2
Total Dissolved Solids (mg/L)	MW-4	4623	n/a	1/25/2022	3180	No	23	1.5e7	3201096	0	None	x^2	0.001504	Param Intra 1 of 2
Total Dissolved Solids (mg/L)	MW-7	2598	n/a	1/31/2022	2140	No	16	6.3e16	2.6e16	0	None	x^5	0.001504	Param Intra 1 of 2
Total Dissolved Solids (mg/L)	MW-8	2817	n/a	2/1/2022	2420	No	16	2573	113.3	0	None	No	0.001504	Param Intra 1 of 2

Appendix III Interwell Prediction Limits - Significant Results

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR Printed 4/12/2022, 10:23 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)	MW-10	0.0596	n/a	2/1/2022	0.177	Yes	99	n/a	n/a	22.22	n/a	n/a	0.0001978	NP Inter (normality) 1 of 2
Boron (mg/L)	MW-11	0.0596	n/a	2/1/2022	0.105	Yes	99	n/a	n/a	22.22	n/a	n/a	0.0001978	NP Inter (normality) 1 of 2
Boron (mg/L)	MW-12	0.0596	n/a	2/1/2022	0.208	Yes	99	n/a	n/a	22.22	n/a	n/a	0.0001978	NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-10	3.899	n/a	2/1/2022	3.97	Yes	100	0.744	0.3411	3	None	ln(x)	0.001504	Param Inter 1 of 2
Chloride (mg/L)	MW-11	3.899	n/a	2/1/2022	68.3	Yes	100	0.744	0.3411	3	None	ln(x)	0.001504	Param Inter 1 of 2
Chloride (mg/L)	MW-12	3.899	n/a	2/1/2022	11.5	Yes	100	0.744	0.3411	3	None	ln(x)	0.001504	Param Inter 1 of 2
Chloride (mg/L)	MW-7	3.899	n/a	1/31/2022	6.4	Yes	100	0.744	0.3411	3	None	ln(x)	0.001504	Param Inter 1 of 2
Chloride (mg/L)	MW-8	3.899	n/a	2/1/2022	8.56	Yes	100	0.744	0.3411	3	None	ln(x)	0.001504	Param Inter 1 of 2
pH (SU)	MW-10	6.35	3.77	2/1/2022	6.62	Yes	102	n/a	n/a	0	n/a	n/a	0.0003751	NP Inter (normality) 1 of 2
pH (SU)	MW-11	6.35	3.77	2/1/2022	6.83	Yes	102	n/a	n/a	0	n/a	n/a	0.0003751	NP Inter (normality) 1 of 2
pH (SU)	MW-7	6.35	3.77	1/31/2022	6.48	Yes	102	n/a	n/a	0	n/a	n/a	0.0003751	NP Inter (normality) 1 of 2
pH (SU)	MW-8	6.35	3.77	2/1/2022	6.77	Yes	102	n/a	n/a	0	n/a	n/a	0.0003751	NP Inter (normality) 1 of 2

Appendix III Interwell Prediction Limits - All Results

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR Printed 4/12/2022, 10:23 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)	MW-10	0.0596	n/a	2/1/2022	0.177	Yes	99	n/a	n/a	22.22	n/a	n/a	0.0001978	NP Inter (normality) 1 of 2
Boron (mg/L)	MW-11	0.0596	n/a	2/1/2022	0.105	Yes	99	n/a	n/a	22.22	n/a	n/a	0.0001978	NP Inter (normality) 1 of 2
Boron (mg/L)	MW-12	0.0596	n/a	2/1/2022	0.208	Yes	99	n/a	n/a	22.22	n/a	n/a	0.0001978	NP Inter (normality) 1 of 2
Boron (mg/L)	MW-7	0.0596	n/a	1/31/2022	0.0689J	No	99	n/a	n/a	22.22	n/a	n/a	0.0001978	NP Inter (normality) 1 of 2
Boron (mg/L)	MW-8	0.0596	n/a	2/1/2022	0.0639J	No	99	n/a	n/a	22.22	n/a	n/a	0.0001978	NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-10	3.899	n/a	2/1/2022	3.97	Yes	100	0.744	0.3411	3	None	ln(x)	0.001504	Param Inter 1 of 2
Chloride (mg/L)	MW-11	3.899	n/a	2/1/2022	68.3	Yes	100	0.744	0.3411	3	None	ln(x)	0.001504	Param Inter 1 of 2
Chloride (mg/L)	MW-12	3.899	n/a	2/1/2022	11.5	Yes	100	0.744	0.3411	3	None	ln(x)	0.001504	Param Inter 1 of 2
Chloride (mg/L)	MW-7	3.899	n/a	1/31/2022	6.4	Yes	100	0.744	0.3411	3	None	ln(x)	0.001504	Param Inter 1 of 2
Chloride (mg/L)	MW-8	3.899	n/a	2/1/2022	8.56	Yes	100	0.744	0.3411	3	None	ln(x)	0.001504	Param Inter 1 of 2
pH (SU)	MW-10	6.35	3.77	2/1/2022	6.62	Yes	102	n/a	n/a	0	n/a	n/a	0.0003751	NP Inter (normality) 1 of 2
pH (SU)	MW-11	6.35	3.77	2/1/2022	6.83	Yes	102	n/a	n/a	0	n/a	n/a	0.0003751	NP Inter (normality) 1 of 2
pH (SU)	MW-12	6.35	3.77	2/1/2022	5.64	No	102	n/a	n/a	0	n/a	n/a	0.0003751	NP Inter (normality) 1 of 2
pH (SU)	MW-7	6.35	3.77	1/31/2022	6.48	Yes	102	n/a	n/a	0	n/a	n/a	0.0003751	NP Inter (normality) 1 of 2
pH (SU)	MW-8	6.35	3.77	2/1/2022	6.77	Yes	102	n/a	n/a	0	n/a	n/a	0.0003751	NP Inter (normality) 1 of 2

Appendix III Trend Test Summary - Significant Results

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR Printed 4/12/2022, 10:25 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)	MW-11	0.003037	90	68	Yes	18	0	n/a	n/a	0.01	NP
Boron (mg/L)	MW-2 (bg)	0.004648	145	111	Yes	25	28	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-10	0.435	81	68	Yes	18	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-11	16.22	122	68	Yes	18	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-12	1.364	105	68	Yes	18	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-8	-28.2	-71	-68	Yes	18	0	n/a	n/a	0.01	NP
pH (SU)	MW-11	0.05538	110	74	Yes	19	0	n/a	n/a	0.01	NP
pH (SU)	MW-2 (bg)	0.04513	126	111	Yes	25	0	n/a	n/a	0.01	NP
pH (SU)	MW-8	0.05546	123	74	Yes	19	0	n/a	n/a	0.01	NP

Appendix III Trend Test Summary - All Results

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR Printed 4/12/2022, 10:25 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	MW-1 (bg)	0.003819	110	111	No	25	32	n/a	n/a	0.01	NP
Boron (mg/L)	MW-10	-0.002648	-28	-68	No	18	0	n/a	n/a	0.01	NP
Boron (mg/L)	MW-11	0.003037	90	68	Yes	18	0	n/a	n/a	0.01	NP
Boron (mg/L)	MW-12	0.01002	67	68	No	18	0	n/a	n/a	0.01	NP
Boron (mg/L)	MW-2 (bg)	0.004648	145	111	Yes	25	28	n/a	n/a	0.01	NP
Boron (mg/L)	MW-3 (bg)	0.002118	79	111	No	25	28	n/a	n/a	0.01	NP
Boron (mg/L)	MW-4 (bg)	-0.000403	-36	-105	No	24	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-1 (bg)	-0.02361	-32	-111	No	25	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-10	0.435	81	68	Yes	18	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-11	16.22	122	68	Yes	18	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-12	1.364	105	68	Yes	18	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-2 (bg)	-0.09448	-33	-111	No	25	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-3 (bg)	0.08238	73	111	No	25	8	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-4 (bg)	-0.0711	-82	-111	No	25	4	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-7	-5.844	-44	-68	No	18	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-8	-28.2	-71	-68	Yes	18	0	n/a	n/a	0.01	NP
pH (SU)	MW-1 (bg)	-0.01456	-107	-111	No	25	0	n/a	n/a	0.01	NP
pH (SU)	MW-10	0.02135	48	74	No	19	0	n/a	n/a	0.01	NP
pH (SU)	MW-11	0.05538	110	74	Yes	19	0	n/a	n/a	0.01	NP
pH (SU)	MW-2 (bg)	0.04513	126	111	Yes	25	0	n/a	n/a	0.01	NP
pH (SU)	MW-3 (bg)	0.006207	7	118	No	26	0	n/a	n/a	0.01	NP
pH (SU)	MW-4 (bg)	0.01606	80	118	No	26	0	n/a	n/a	0.01	NP
pH (SU)	MW-7	-0.01581	-39	-74	No	19	0	n/a	n/a	0.01	NP
pH (SU)	MW-8	0.05546	123	74	Yes	19	0	n/a	n/a	0.01	NP

Upper Tolerance Limits Summary Table

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR Printed 12/6/2021, 10:45 AM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Date</u>	<u>Observ.</u>	<u>Sig.</u>	<u>Bg N</u>	<u>Bg Mean</u>	<u>Std. Dev.</u>	<u>%NDs</u>	<u>ND Adj.</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Antimony (mg/L)	n/a	0.00143	n/a	n/a	n/a	96	n/a	n/a	93.75	n/a	n/a	0.007269	NP Inter
Arsenic (mg/L)	n/a	0.005	n/a	n/a	n/a	96	n/a	n/a	83.33	n/a	n/a	0.007269	NP Inter
Barium (mg/L)	n/a	0.0165	n/a	n/a	n/a	96	n/a	n/a	0	n/a	n/a	0.007269	NP Inter
Beryllium (mg/L)	n/a	0.0121	n/a	n/a	n/a	94	n/a	n/a	84.04	n/a	n/a	0.008054	NP Inter
Cadmium (mg/L)	n/a	0.00598	n/a	n/a	n/a	94	n/a	n/a	45.74	n/a	n/a	0.008054	NP Inter
Chromium (mg/L)	n/a	0.0105	n/a	n/a	n/a	96	n/a	n/a	89.58	n/a	n/a	0.007269	NP Inter
Cobalt (mg/L)	n/a	0.49	n/a	n/a	n/a	94	n/a	n/a	26.6	n/a	n/a	0.008054	NP Inter
Combined Radium 226 + 228 (pCi/L)	n/a	1.47	n/a	n/a	n/a	92	n/a	n/a	0	n/a	n/a	0.008924	NP Inter
Fluoride (mg/L)	n/a	0.63	n/a	n/a	n/a	100	n/a	n/a	0	n/a	n/a	0.005921	NP Inter
Lead (mg/L)	n/a	0.00108	n/a	n/a	n/a	95	n/a	n/a	95.79	n/a	n/a	0.007651	NP Inter
Lithium (mg/L)	n/a	0.419	n/a	n/a	n/a	96	n/a	n/a	0	n/a	n/a	0.007269	NP Inter
Mercury (mg/L)	n/a	0.0005	n/a	n/a	n/a	96	n/a	n/a	100	n/a	n/a	0.007269	NP Inter
Molybdenum (mg/L)	n/a	0.0002	n/a	n/a	n/a	96	n/a	n/a	97.92	n/a	n/a	0.007269	NP Inter
Selenium (mg/L)	n/a	0.0209	n/a	n/a	n/a	96	n/a	n/a	60.42	n/a	n/a	0.007269	NP Inter
Thallium (mg/L)	n/a	0.000226	n/a	n/a	n/a	96	n/a	n/a	96.88	n/a	n/a	0.007269	NP Inter

GORGAS BALF GWPS			
Analyte	Units	Background	GWPS
Antimony	mg/L	0.00143	0.006
Arsenic	mg/L	0.005	0.01
Barium	mg/L	0.0165	2
Beryllium	mg/L	0.0121	0.004
Cadmium	mg/L	0.00598	0.005
Chromium	mg/L	0.0105	0.1
Cobalt	mg/L	0.49	0.49
Combined Radium-226/228	pCi/L	1.47	5
Fluoride	mg/L	0.63	4
Lead	mg/L	0.00108	0.015
Lithium	mg/L	0.419	0.419
Mercury	mg/L	0.0005	0.002
Molybdenum	mg/L	0.0002	0.1
Selenium	mg/L	0.0209	0.05
Thallium	mg/L	0.000226	0.002

Notes:

1. mg/L - Milligrams per liter
2. pCi/L - Picocuries per liter
3. The background limits were used as the groundwater protection standard (GWPS) when appropriate under 40 CFR §257.95(h), ADEM Rule 335-13-15-.06(h), and the ADEM Variance.
4. GWPS established during second semi-annual sampling event in 2021.

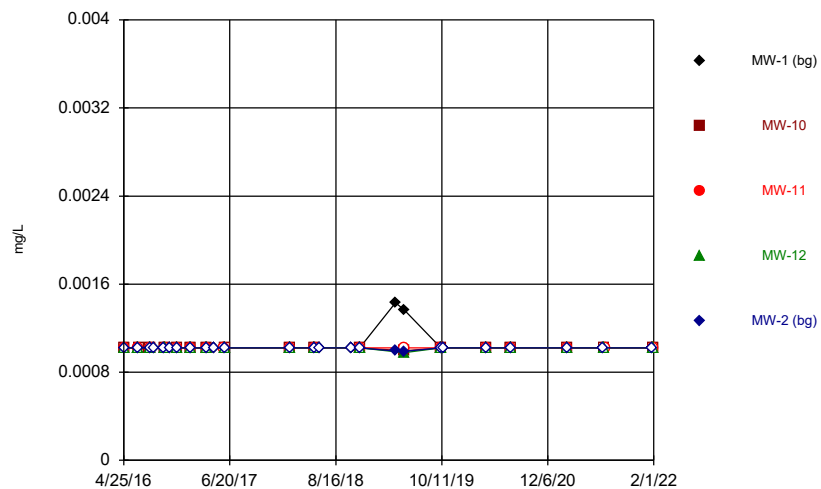
Confidence Interval Summary Table - Significant Results

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR Printed 4/24/2022, 7:18 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Std. Dev.	%NDs	Transform	Alpha	Method
Arsenic (mg/L)	MW- 12	0.06611	0.04829	0.00906	0.00906	60			Yes	0.01	Param.

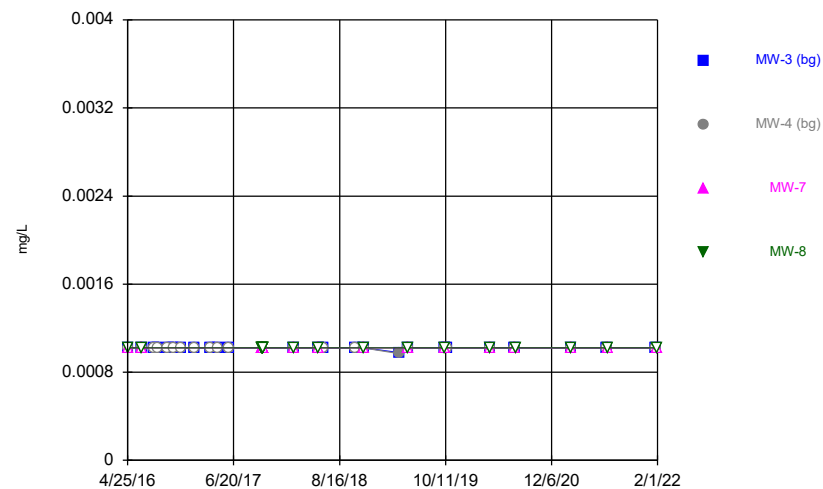
F I G U R E A .

Time Series



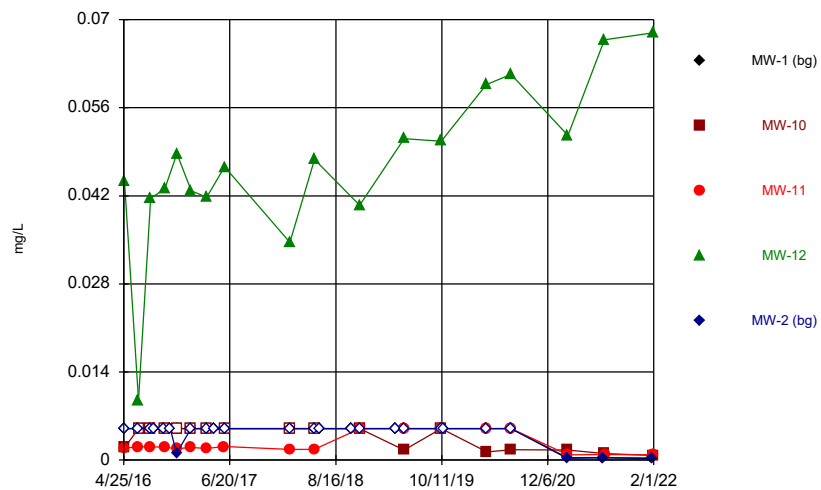
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Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Time Series



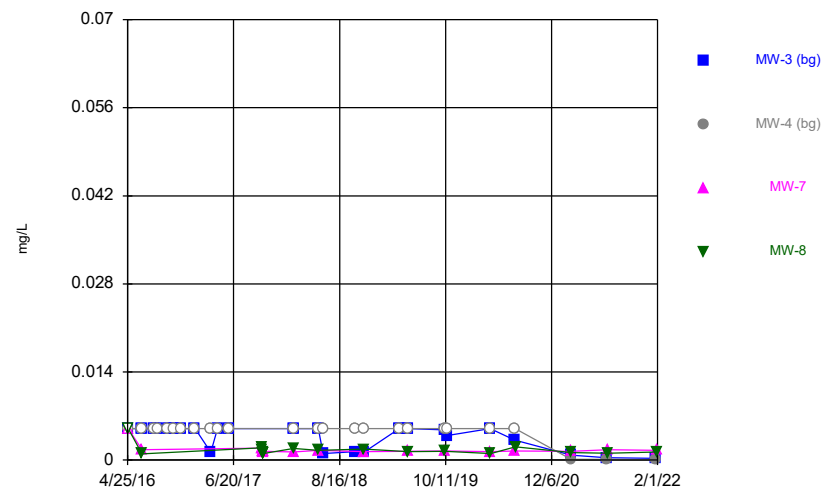
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Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Time Series



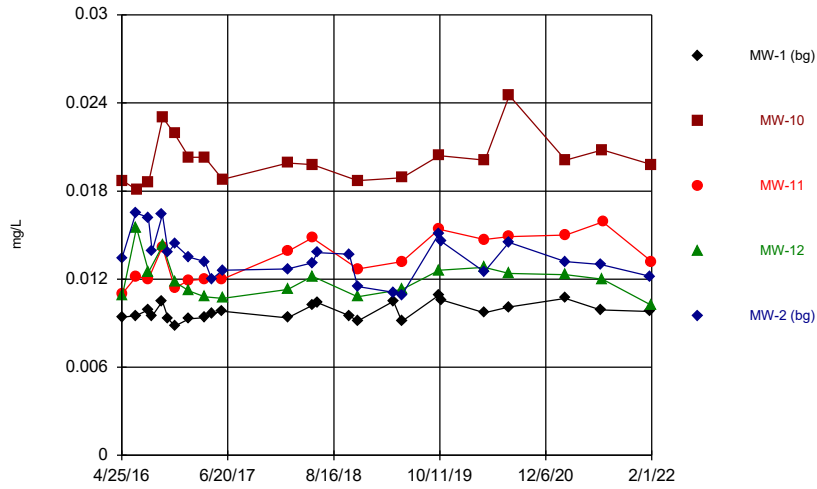
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Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Time Series



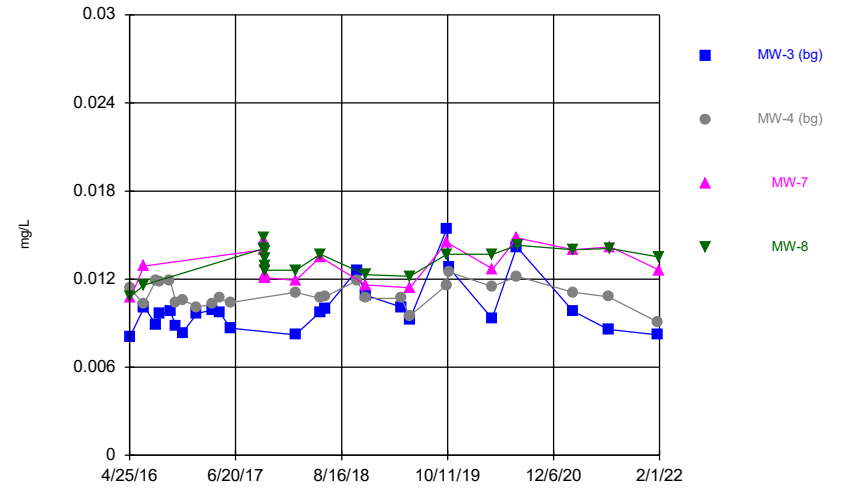
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Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Time Series



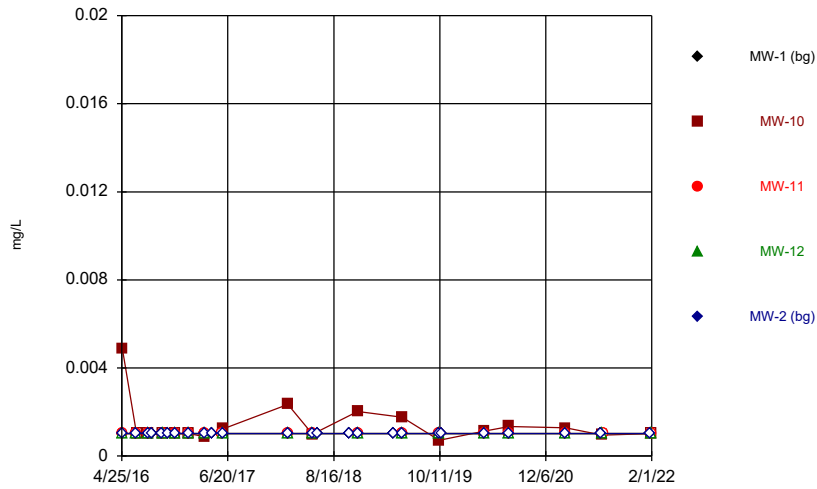
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Time Series



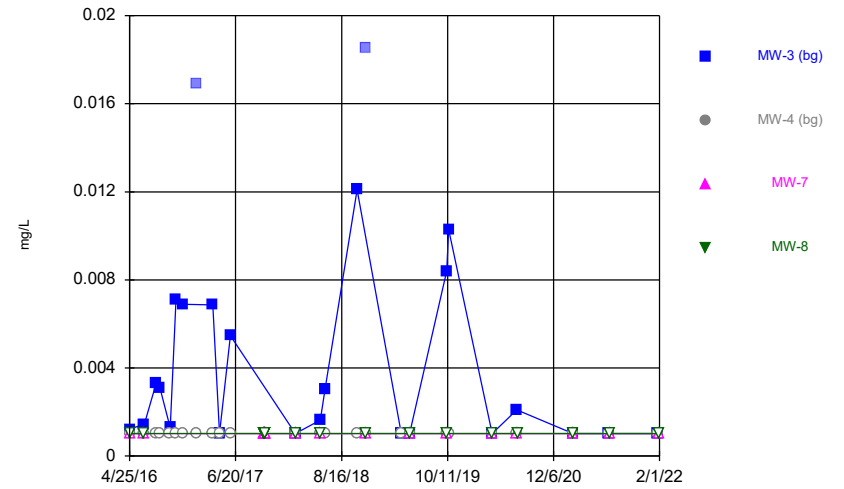
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 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Time Series



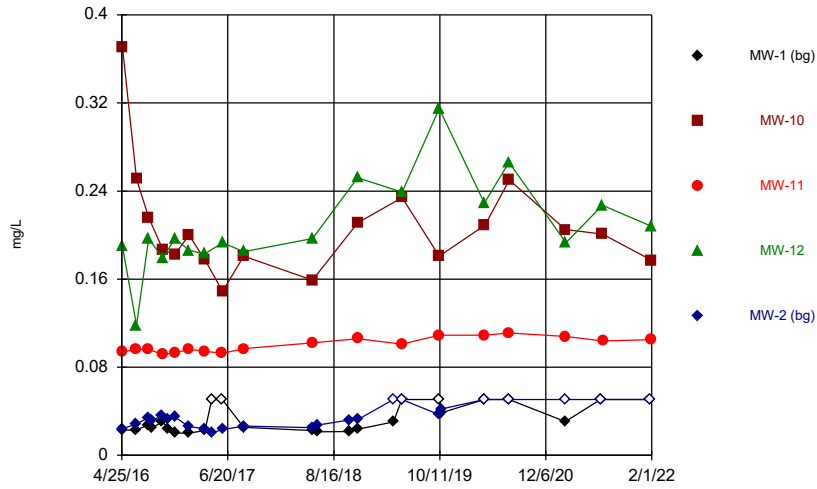
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 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Time Series



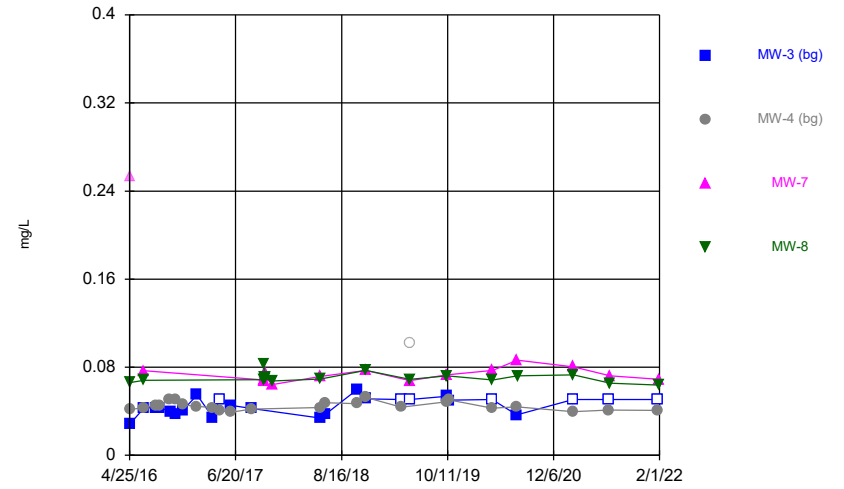
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 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Time Series



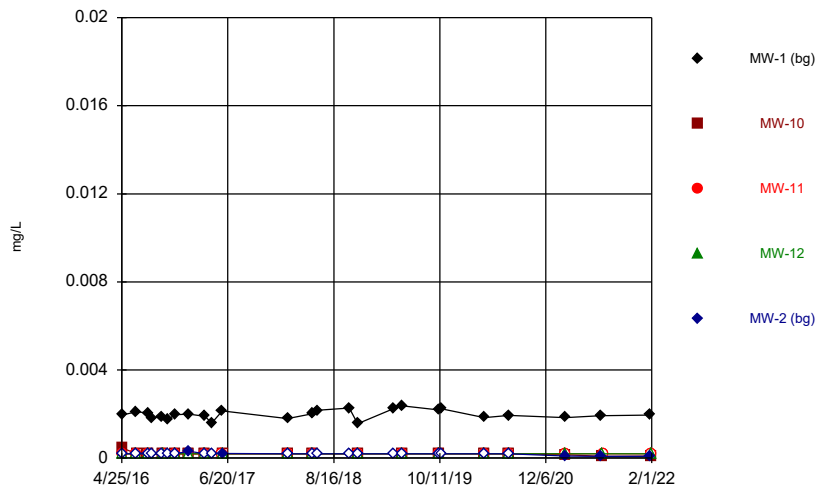
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Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Time Series



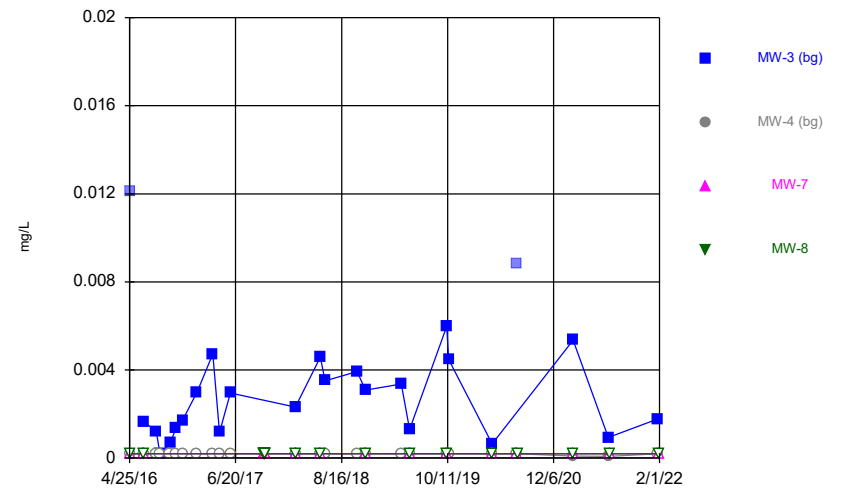
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Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Time Series



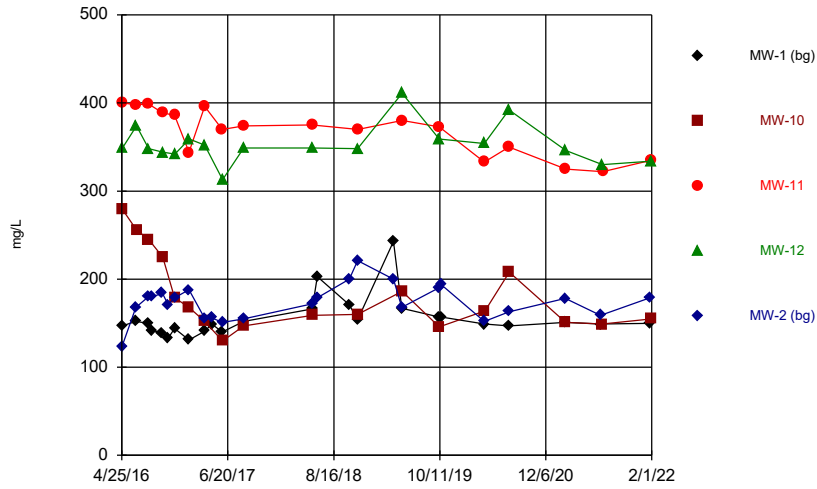
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Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Time Series



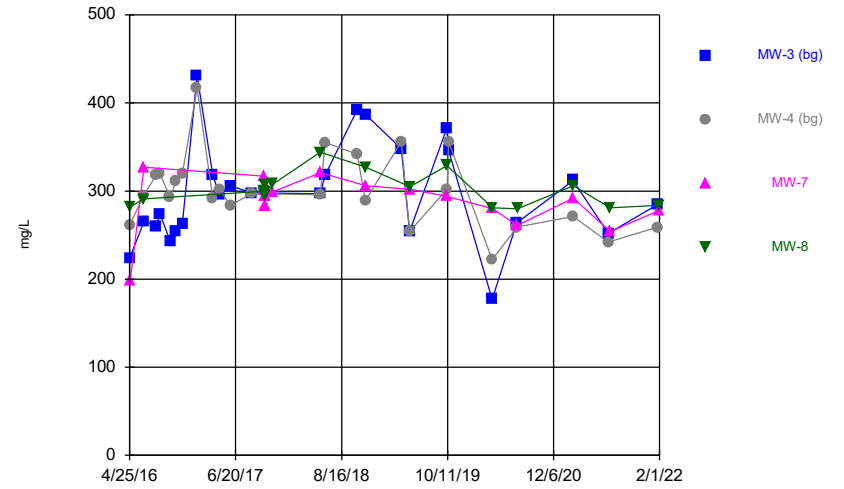
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Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Time Series



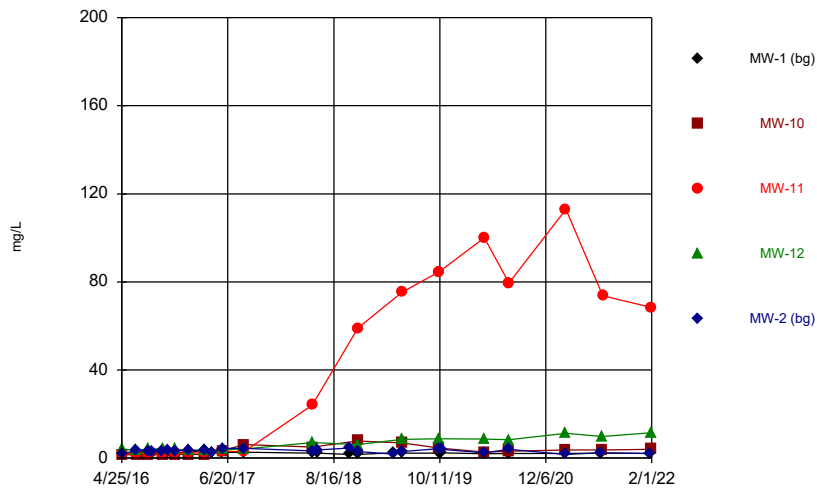
Constituent: Calcium Analysis Run 4/24/2022 6:59 PM View: Constituents View
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Time Series



Constituent: Calcium Analysis Run 4/24/2022 6:59 PM View: Constituents View
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

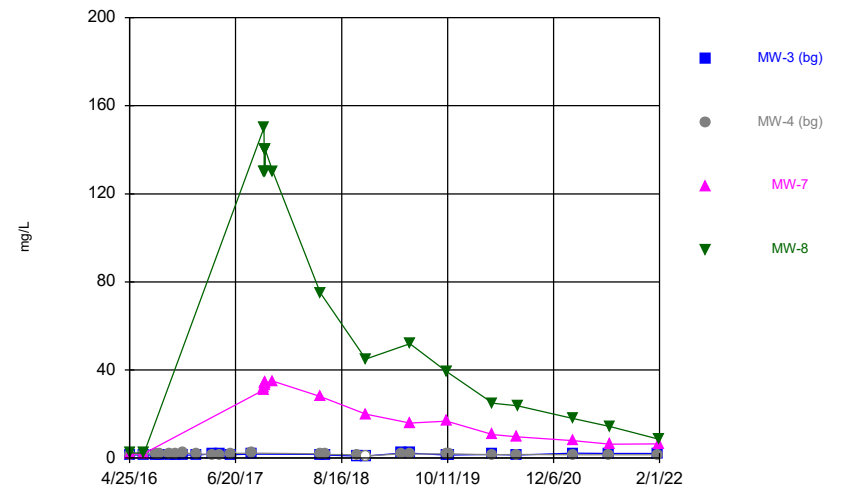
Time Series



Constituent: Chloride Analysis Run 4/24/2022 6:59 PM View: Constituents View
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

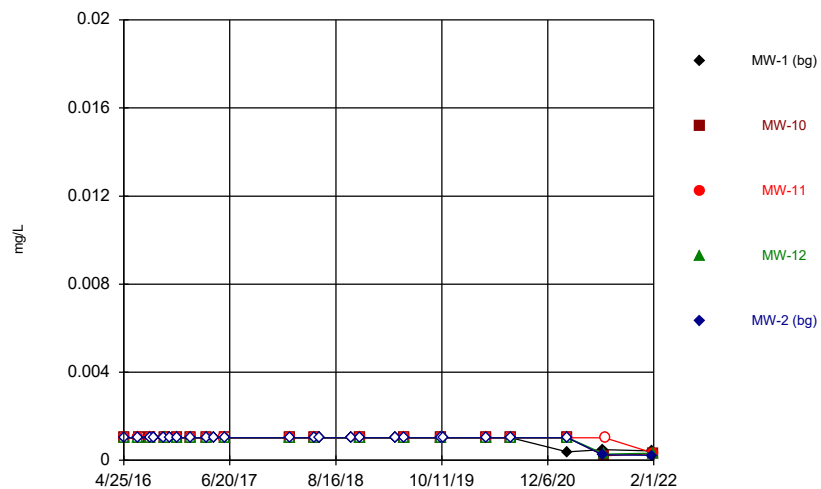
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Time Series



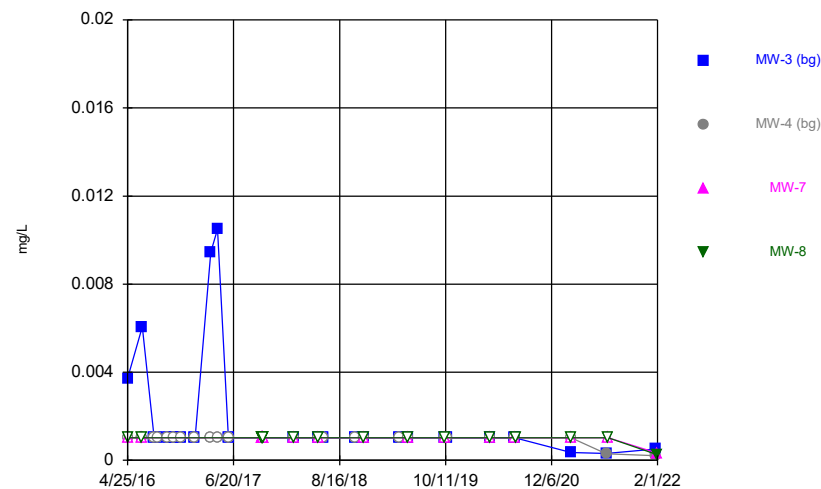
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Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Time Series



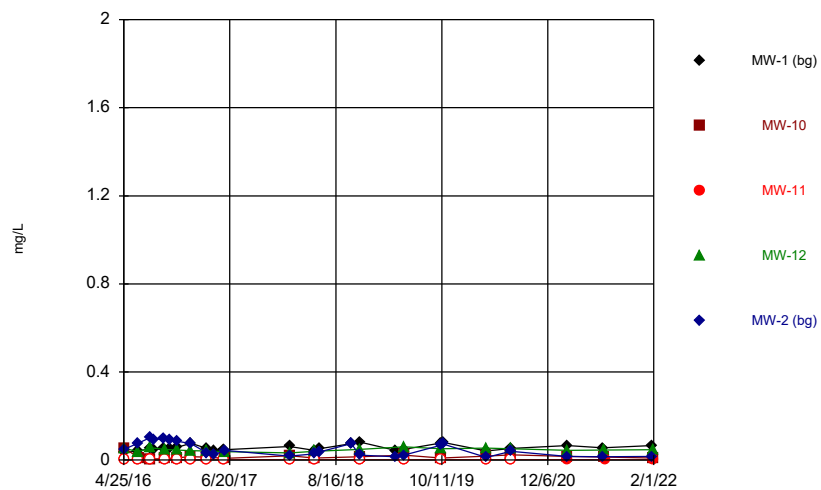
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Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Time Series



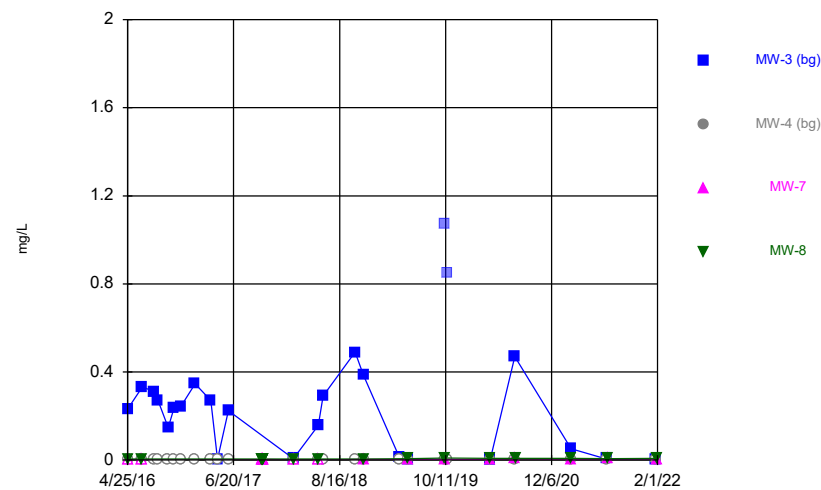
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Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Time Series



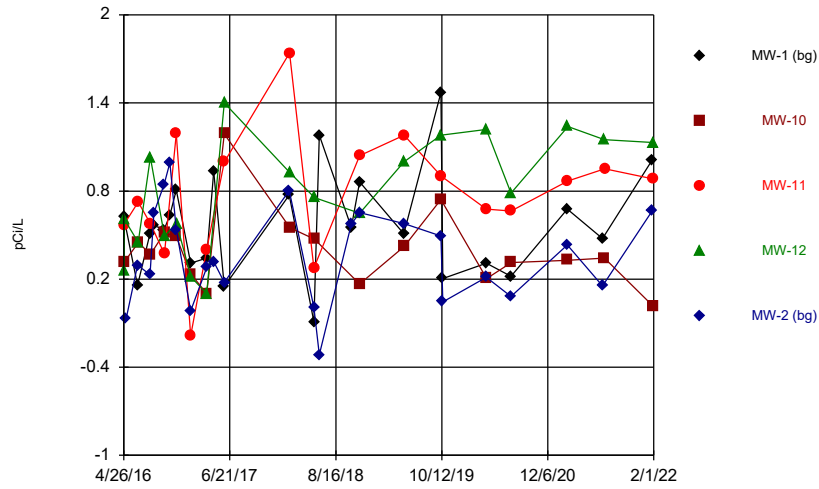
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Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Time Series



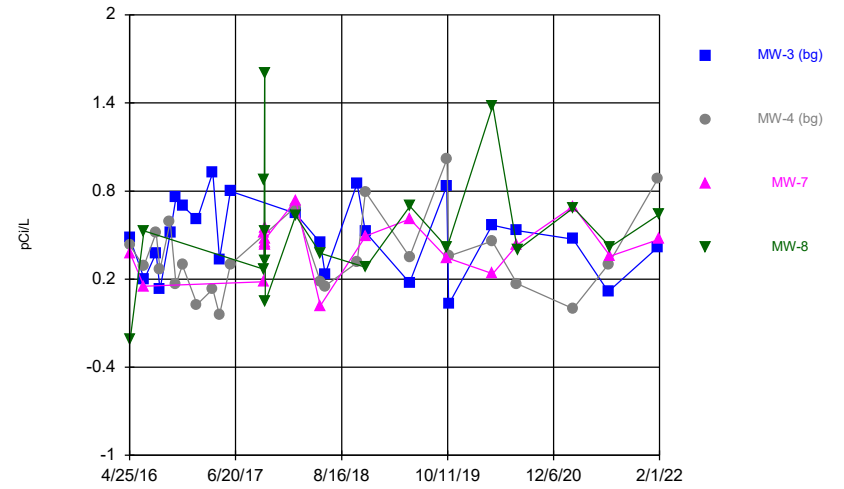
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Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Time Series



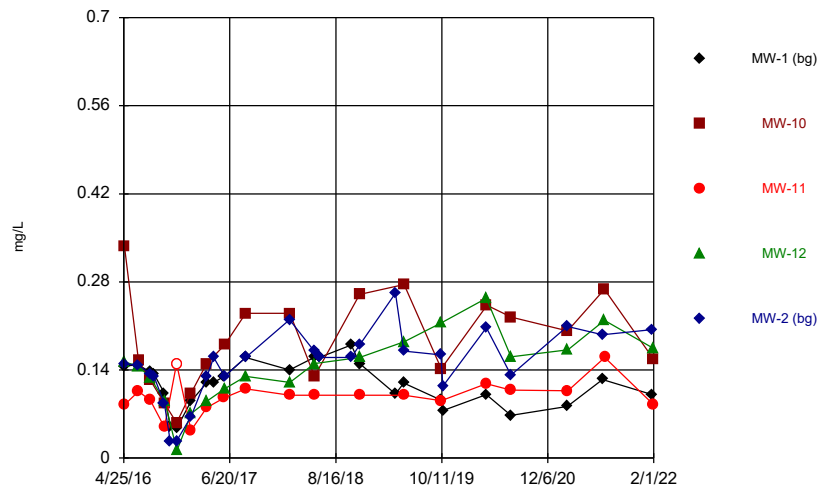
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Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Time Series



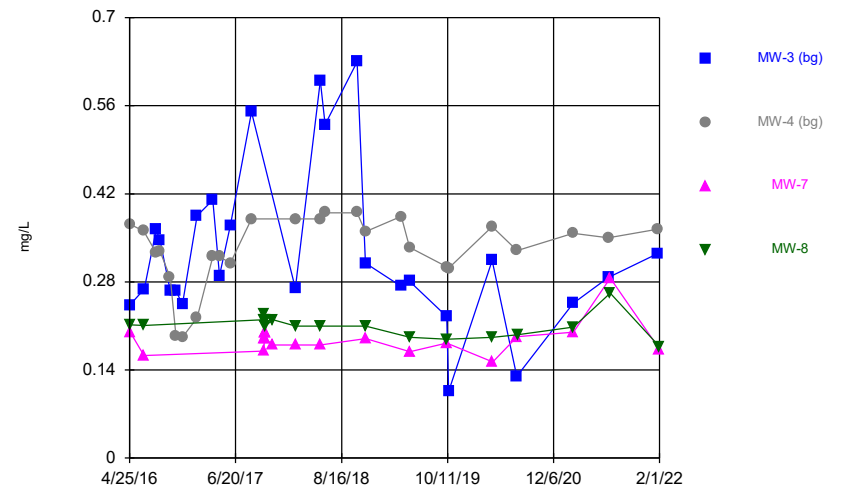
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Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Time Series



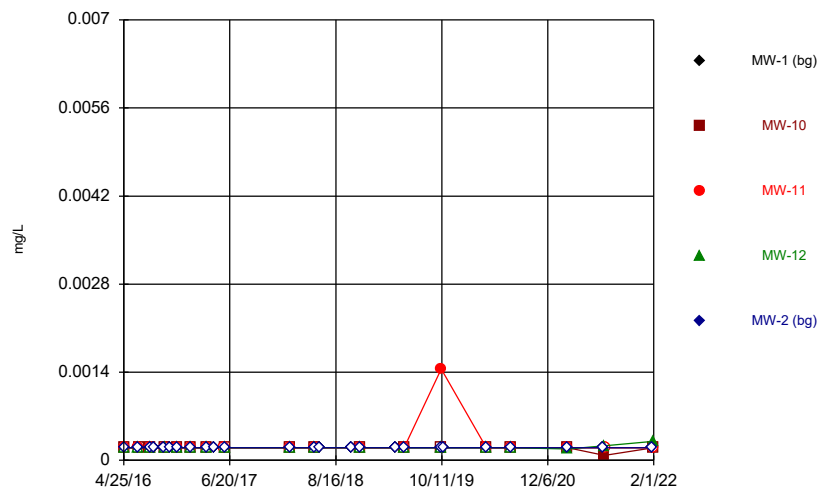
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Time Series



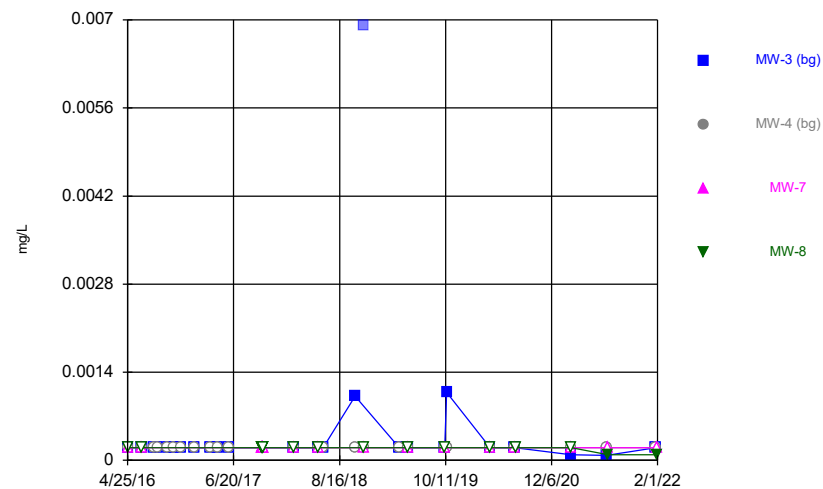
Constituent: Fluoride Analysis Run 4/24/2022 6:59 PM View: Constituents View
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Time Series



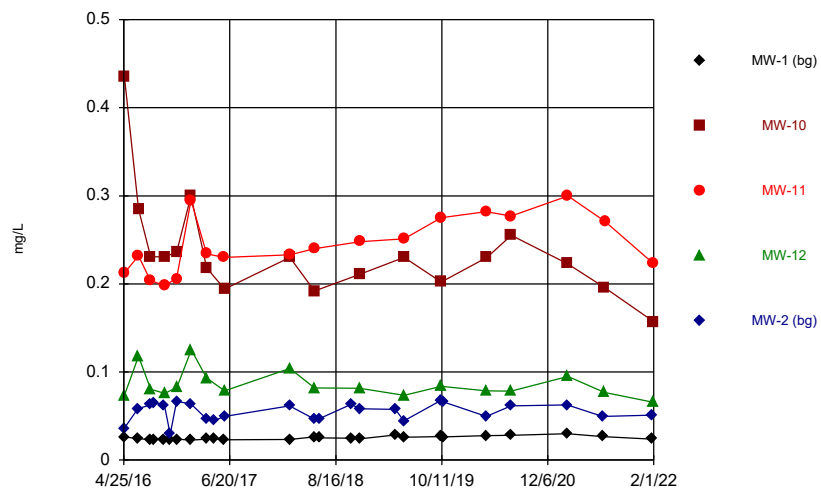
Constituent: Lead Analysis Run 4/24/2022 6:59 PM View: Constituents View
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Time Series



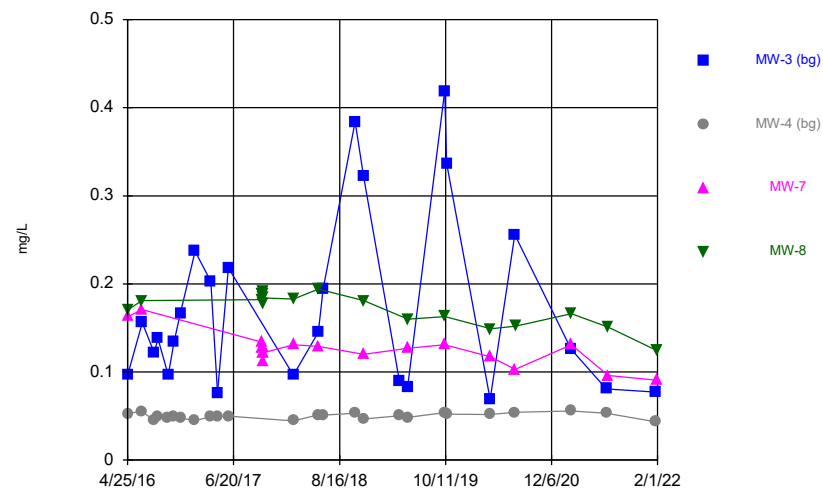
Constituent: Lead Analysis Run 4/24/2022 6:59 PM View: Constituents View
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Time Series



Constituent: Lithium Analysis Run 4/24/2022 6:59 PM View: Constituents View
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

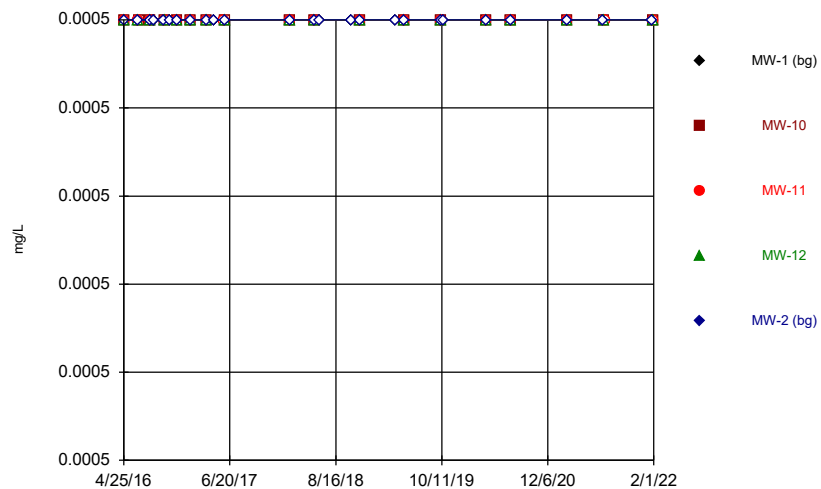
Time Series



Constituent: Lithium Analysis Run 4/24/2022 6:59 PM View: Constituents View
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sanitas™ v.9.6.32g . UG
Hollow symbols indicate censored values.

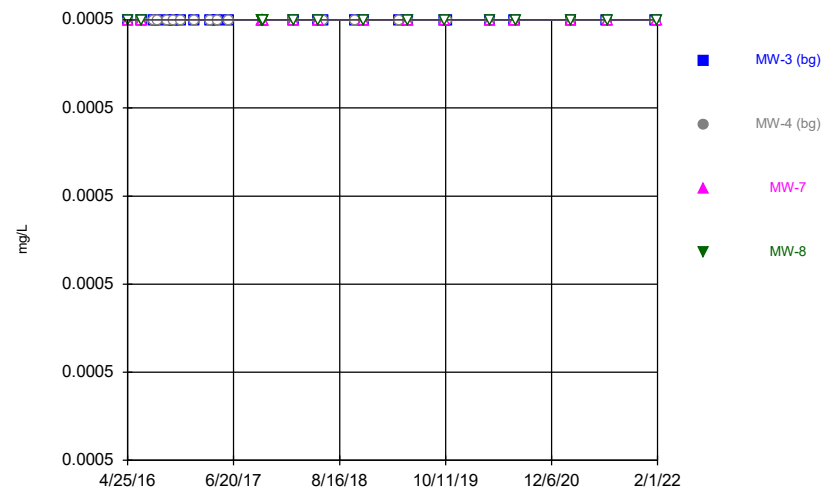
Time Series



Constituent: Mercury Analysis Run 4/24/2022 6:59 PM View: Constituents View
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sanitas™ v.9.6.32g . UG
Hollow symbols indicate censored values.

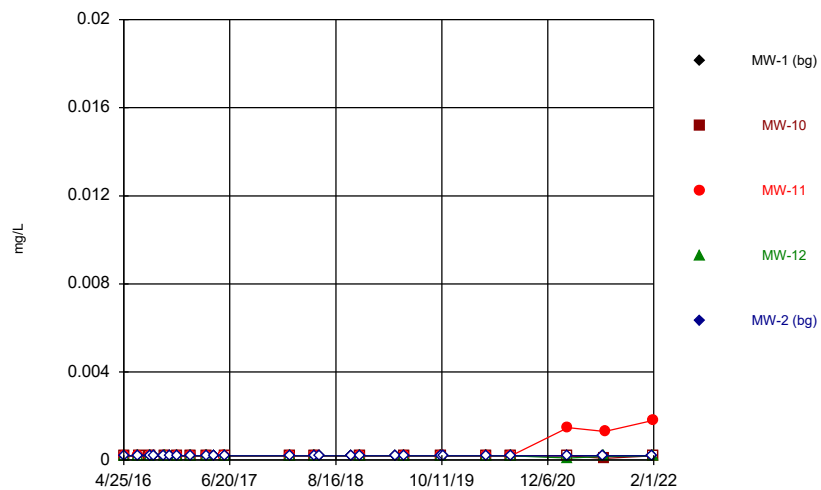
Time Series



Constituent: Mercury Analysis Run 4/24/2022 6:59 PM View: Constituents View
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sanitas™ v.9.6.32g . UG
Hollow symbols indicate censored values.

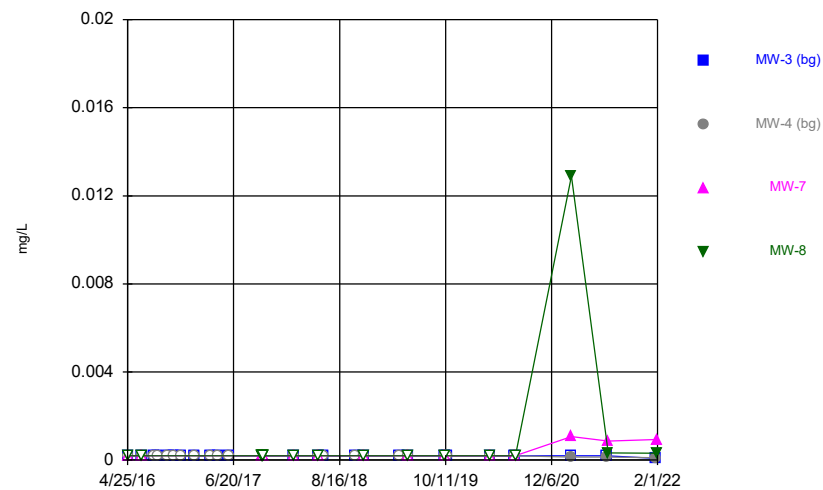
Time Series



Constituent: Molybdenum Analysis Run 4/24/2022 6:59 PM View: Constituents View
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

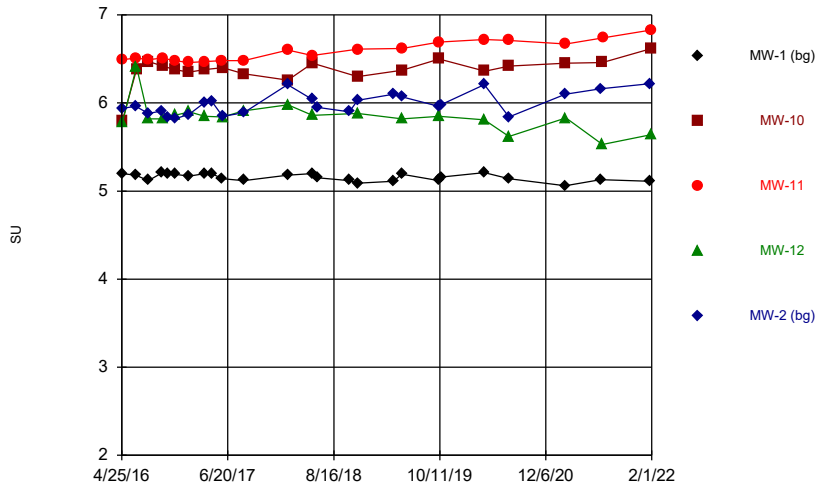
Sanitas™ v.9.6.32g . UG
Hollow symbols indicate censored values.

Time Series



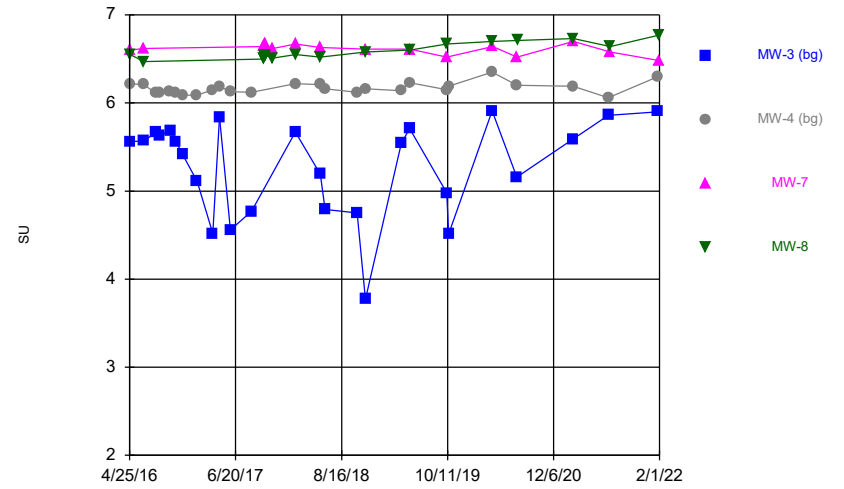
Constituent: Molybdenum Analysis Run 4/24/2022 6:59 PM View: Constituents View
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Time Series



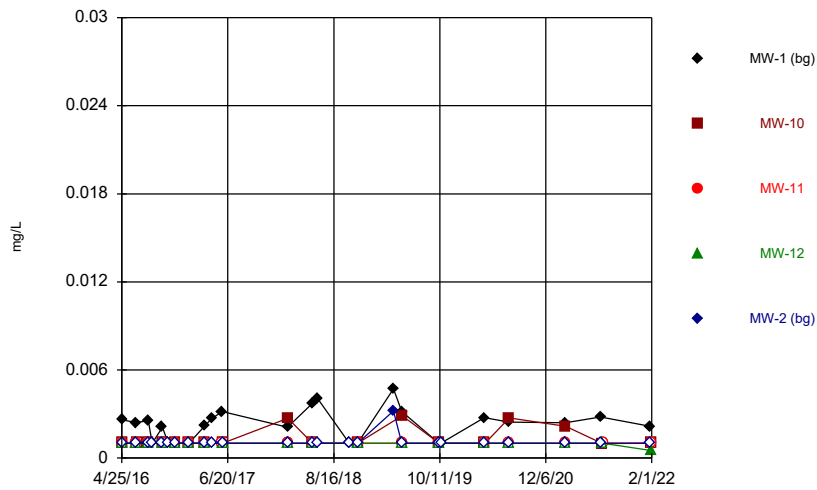
Constituent: pH Analysis Run 4/24/2022 6:59 PM View: Constituents View
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Time Series



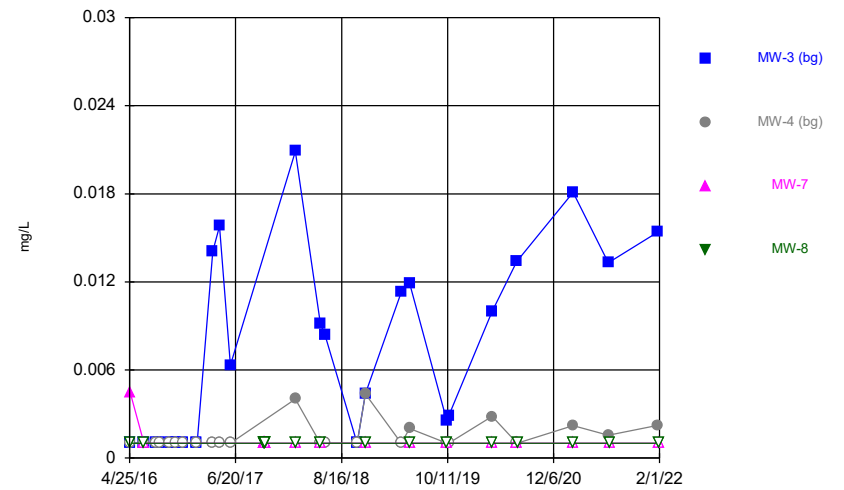
Constituent: pH Analysis Run 4/24/2022 6:59 PM View: Constituents View
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Time Series



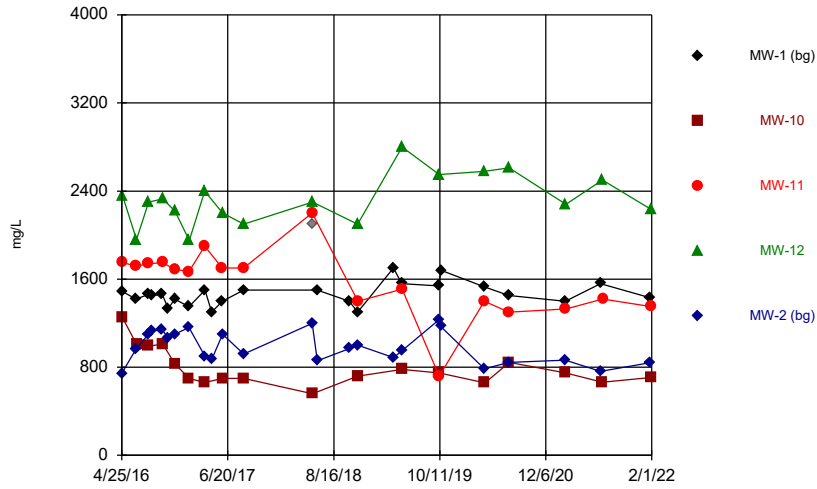
Constituent: Selenium Analysis Run 4/24/2022 7:00 PM View: Constituents View
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Time Series



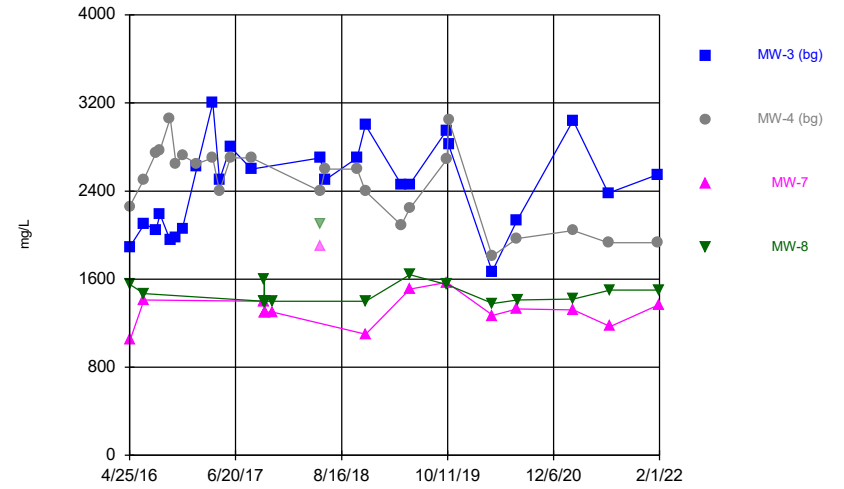
Constituent: Selenium Analysis Run 4/24/2022 7:00 PM View: Constituents View
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Time Series



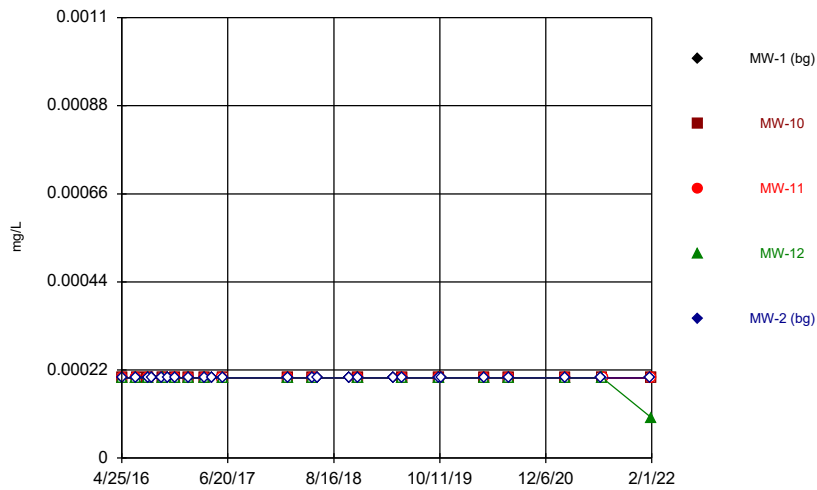
Constituent: Sulfate Analysis Run 4/24/2022 7:00 PM View: Constituents View
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Time Series



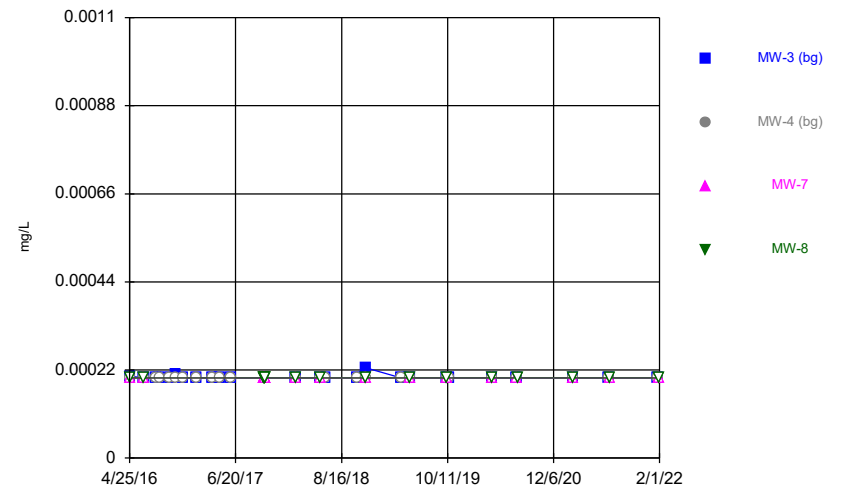
Constituent: Sulfate Analysis Run 4/24/2022 7:00 PM View: Constituents View
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Time Series



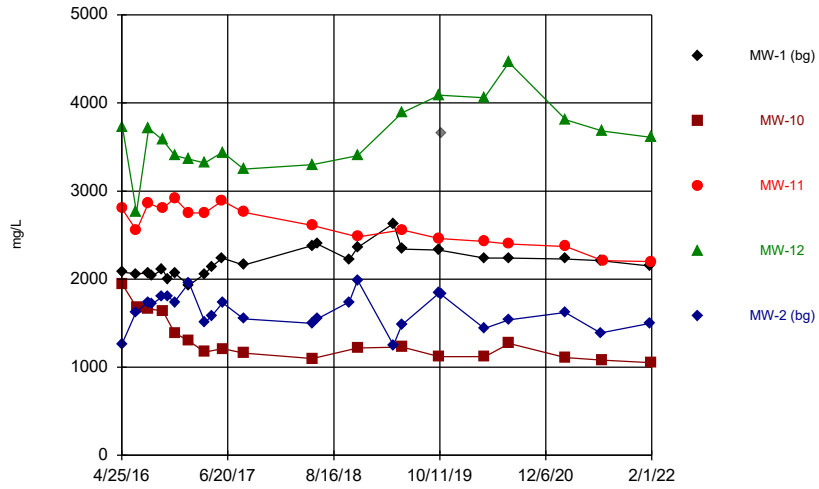
Constituent: Thallium Analysis Run 4/24/2022 7:00 PM View: Constituents View
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Time Series



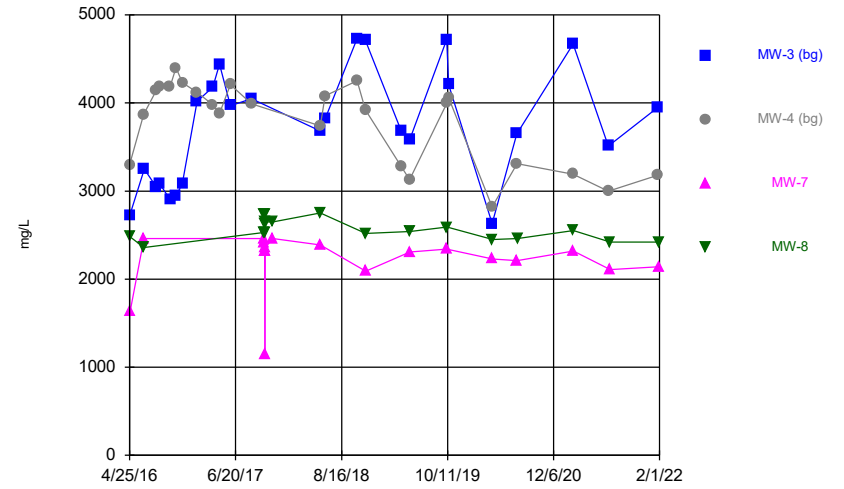
Constituent: Thallium Analysis Run 4/24/2022 7:00 PM View: Constituents View
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Time Series



Constituent: Total Dissolved Solids Analysis Run 4/24/2022 7:00 PM View: Constituents View
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Time Series



Constituent: Total Dissolved Solids Analysis Run 4/24/2022 7:00 PM View: Constituents View
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Time Series

Constituent: Antimony (mg/L) Analysis Run 4/24/2022 7:00 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-1 (bg)	MW-10	MW-11	MW-12	MW-2 (bg)
4/25/2016					<0.00102
4/26/2016	<0.00102		<0.00102		
4/27/2016		<0.00102			
4/28/2016				<0.00102	
6/20/2016	<0.00102				<0.00102
6/22/2016			<0.00102	<0.00102	
6/23/2016		<0.00102			
8/8/2016	<0.00102				<0.00102
8/9/2016			<0.00102		
8/10/2016		<0.00102		<0.00102	
8/24/2016	<0.00102				<0.00102
10/3/2016	<0.00102				<0.00102
10/4/2016			<0.00102		
10/5/2016		<0.00102		<0.00102	
10/26/2016	<0.00102				<0.00102
11/21/2016	<0.00102	<0.00102	<0.00102		<0.00102
11/22/2016				<0.00102	
1/17/2017	<0.00102	<0.00102	<0.00102		<0.00102
1/18/2017				<0.00102	
3/21/2017		<0.00102	<0.00102	<0.00102	
3/22/2017	<0.00102				<0.00102
4/18/2017	<0.00102				<0.00102
5/30/2017	<0.00102		<0.00102		
5/31/2017		<0.00102		<0.00102	<0.00102
2/13/2018	<0.00102				<0.00102
2/14/2018			<0.00102		
2/15/2018		<0.00102		<0.00102	
5/22/2018	<0.00102		<0.00102		<0.00102
5/24/2018		<0.00102		<0.00102	
6/12/2018	<0.00102				<0.00102
10/17/2018	<0.00102				<0.00102
11/19/2018	<0.00102	<0.00102		<0.00102	<0.00102
11/20/2018			<0.00102		
4/10/2019	0.00143 (J)				0.000993 (J)
5/14/2019	0.00137 (J)				0.000989 (J)
5/15/2019		0.000996 (J)	<0.00102	0.000977 (J)	
10/8/2019	<0.00102				<0.00102
10/9/2019		<0.00102		<0.00102	
10/10/2019			<0.00102		
10/16/2019	<0.00102				<0.00102
4/6/2020	<0.00102		<0.00102	<0.00102	<0.00102
4/8/2020		<0.00102			
7/13/2020	<0.00102		<0.00102	<0.00102	<0.00102
7/14/2020		<0.00102			
2/22/2021	<0.00102				<0.00102
2/23/2021		<0.00102			
2/24/2021			<0.00102	<0.00102	
7/12/2021	<0.00102				<0.00102
7/20/2021		<0.00102		<0.00102	
7/21/2021			<0.00102		
1/25/2022	<0.00102				<0.00102
2/1/2022		<0.00102	<0.00102	<0.00102	

Time Series

Constituent: Antimony (mg/L) Analysis Run 4/24/2022 7:00 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-3 (bg)	MW-4 (bg)	MW-7	MW-8
4/25/2016	<0.00102	<0.00102		
4/27/2016			<0.00102	<0.00102
6/20/2016		<0.00102		
6/21/2016			<0.00102	<0.00102
6/22/2016	<0.00102			
8/9/2016	<0.00102	<0.00102		
8/24/2016	<0.00102	<0.00102		
10/3/2016		<0.00102		
10/4/2016	<0.00102			
10/26/2016	<0.00102	<0.00102		
11/21/2016	<0.00102	<0.00102		
1/18/2017	<0.00102	<0.00102		
3/22/2017	<0.00102	<0.00102		
4/18/2017	<0.00102	<0.00102		
5/31/2017	<0.00102	<0.00102		
10/12/2017			<0.00102	<0.00102
10/13/2017			<0.00102	<0.00102
10/14/2017			<0.00102	<0.00102
10/15/2017			<0.00102	<0.00102
10/16/2017			<0.00102	<0.00102
10/17/2017			<0.00102	<0.00102
2/13/2018	<0.00102	<0.00102		
2/14/2018			<0.00102	<0.00102
5/23/2018		<0.00102	<0.00102	<0.00102
5/24/2018	<0.00102			
6/12/2018	<0.00102	<0.00102		
10/17/2018	<0.00102	<0.00102		
11/19/2018	<0.00102	<0.00102		
11/20/2018			<0.00102	<0.00102
4/10/2019	0.000978 (J)	0.00097 (J)		
5/14/2019	<0.00102	<0.00102		
5/15/2019			<0.00102	<0.00102
10/8/2019	<0.00102		<0.00102	
10/9/2019				<0.00102
10/10/2019		<0.00102		
10/16/2019	<0.00102	<0.00102		
4/6/2020	<0.00102	<0.00102		
4/8/2020			<0.00102	<0.00102
7/13/2020	<0.00102			
7/14/2020		<0.00102	<0.00102	
7/15/2020				<0.00102
2/22/2021	<0.00102	<0.00102		
2/23/2021			<0.00102	<0.00102
7/12/2021	<0.00102	<0.00102		
7/20/2021			<0.00102	<0.00102
1/25/2022	<0.00102	<0.00102		
1/31/2022			<0.00102	
2/1/2022				<0.00102

Time Series

Constituent: Arsenic (mg/L) Analysis Run 4/24/2022 7:00 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-1 (bg)	MW-10	MW-11	MW-12	MW-2 (bg)
4/25/2016					<0.005
4/26/2016	<0.005		0.00189 (J)		
4/27/2016		0.00196 (J)			
4/28/2016				0.0444	
6/20/2016	<0.005				<0.005
6/22/2016			0.00213 (J)	0.00953	
6/23/2016		<0.005			
8/8/2016	<0.005				<0.005
8/9/2016			0.0021 (J)		
8/10/2016		<0.005		0.0416	
8/24/2016	<0.005				<0.005
10/3/2016	<0.005				<0.005
10/4/2016			0.00206 (J)		
10/5/2016		<0.005		0.0431	
10/26/2016	<0.005				<0.005
11/21/2016	<0.005	<0.005	0.00182 (J)		0.00111 (J)
11/22/2016				0.0487	
1/17/2017	<0.005	<0.005	0.00201 (J)		<0.005
1/18/2017				0.0428	
3/21/2017		<0.005	0.00183 (J)	0.0418	
3/22/2017	<0.005				<0.005
4/18/2017	<0.005				<0.005
5/30/2017	<0.005		0.00214 (J)		
5/31/2017		<0.005		0.0466	<0.005
2/13/2018	<0.005				<0.005
2/14/2018			0.00171 (J)		
2/15/2018		<0.005		0.0346	
5/22/2018	<0.005		0.00168 (J)		<0.005
5/24/2018		<0.005		0.0478	
6/12/2018	<0.005				<0.005
10/17/2018	<0.005				<0.005
11/19/2018	<0.005	<0.005		0.0405	<0.005
11/20/2018			<0.005		
4/10/2019	<0.005				<0.005
5/14/2019	<0.005				<0.005
5/15/2019		0.00162 (J)	<0.005	0.0511	
10/8/2019	<0.005				<0.005
10/9/2019		<0.005		0.0507	
10/10/2019			<0.005		
10/16/2019	<0.005				<0.005
4/6/2020	<0.005		<0.005	0.0597	<0.005
4/8/2020		0.0013 (J)			
7/13/2020	<0.005		<0.005	0.0613	<0.005
7/14/2020		0.00164 (J)			
2/22/2021	0.000403				0.000295
2/23/2021		0.0016			
2/24/2021			0.000834	0.0516	
7/12/2021	0.00036				0.00036
7/20/2021		0.00102		0.0668	
7/21/2021			0.0009		
1/25/2022	0.00025				0.00033
2/1/2022		0.00073	0.00085	0.0679	

Time Series

Constituent: Arsenic (mg/L) Analysis Run 4/24/2022 7:00 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-3 (bg)	MW-4 (bg)	MW-7	MW-8
4/25/2016	<0.005	<0.005		
4/27/2016			<0.005	<0.005
6/20/2016		<0.005		
6/21/2016			0.00165 (J)	0.00101 (J)
6/22/2016	<0.005			
8/9/2016	<0.005	<0.005		
8/24/2016	<0.005	<0.005		
10/3/2016		<0.005		
10/4/2016	<0.005			
10/26/2016	<0.005	<0.005		
11/21/2016	<0.005	<0.005		
1/18/2017	<0.005	<0.005		
3/22/2017	0.00122 (J)	<0.005		
4/18/2017	<0.005	<0.005		
5/31/2017	<0.005	<0.005		
10/12/2017			0.00188 (J)	0.00197 (J)
10/13/2017			0.00181 (J)	0.00159 (J)
10/14/2017			0.00127 (J)	0.00126 (J)
10/15/2017			0.00144 (J)	0.00106 (J)
10/16/2017			0.00139 (J)	0.00106 (J)
10/17/2017			0.00138 (J)	0.00103 (J)
2/13/2018	<0.005	<0.005		
2/14/2018			0.00131 (J)	0.00185 (J)
5/23/2018		<0.005	0.00155 (J)	0.00157 (J)
5/24/2018	<0.005			
6/12/2018	0.00103 (J)	<0.005		
10/17/2018	0.00133 (J)	<0.005		
11/19/2018	0.0012 (J)	<0.005		
11/20/2018			0.00133 (J)	0.00173 (J)
4/10/2019	<0.005	<0.005		
5/14/2019	<0.005	<0.005		
5/15/2019			0.00138 (J)	0.00136 (J)
10/8/2019	0.0048 (J)		0.00145 (J)	
10/9/2019				0.00142 (J)
10/10/2019		<0.005		
10/16/2019	0.00389 (J)	<0.005		
4/6/2020	<0.005	<0.005		
4/8/2020			0.00136 (J)	0.00102 (J)
7/13/2020	0.00316 (J)			
7/14/2020		<0.005	0.00147 (J)	
7/15/2020				0.00212 (J)
2/22/2021	0.000789	0.000125 (J)		
2/23/2021			0.00141	0.00117
7/12/2021	0.00038	0.00012 (J)		
7/20/2021			0.00164	0.00111
1/25/2022	0.00027	9E-05 (J)		
1/31/2022			0.00156	
2/1/2022				0.00131

Time Series

Constituent: Barium (mg/L) Analysis Run 4/24/2022 7:00 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-1 (bg)	MW-10	MW-11	MW-12	MW-2 (bg)
4/25/2016					0.0134
4/26/2016	0.00941 (J)		0.011		
4/27/2016		0.0187			
4/28/2016				0.0109	
6/20/2016	0.00951 (J)				0.0165
6/22/2016			0.0122	0.0155	
6/23/2016		0.0181			
8/8/2016	0.00991 (J)				0.0162
8/9/2016			0.012		
8/10/2016		0.0186		0.0125	
8/24/2016	0.00949 (J)				0.0139
10/3/2016	0.0105				0.0164
10/4/2016			0.0142		
10/5/2016		0.023		0.0143	
10/26/2016	0.00931 (J)				0.0138
11/21/2016	0.00879 (J)	0.0219	0.0114		0.0144
11/22/2016				0.0118	
1/17/2017	0.00929 (J)	0.0203	0.0119		0.0135
1/18/2017				0.0112	
3/21/2017		0.0203	0.012	0.0108	
3/22/2017	0.00938 (J)				0.0132
4/18/2017	0.00964 (J)				0.012
5/30/2017	0.00982 (J)		0.012		
5/31/2017		0.0188		0.0107	0.0126
2/13/2018	0.00937 (J)				0.0127
2/14/2018			0.0139		
2/15/2018		0.0199		0.0113	
5/22/2018	0.0102		0.0148		0.0131
5/24/2018		0.0198		0.0122	
6/12/2018	0.0104				0.0138
10/17/2018	0.00952 (J)				0.0137
11/19/2018	0.00915 (J)	0.0187		0.0108	0.0115
11/20/2018			0.0127		
4/10/2019	0.0105				0.0111
5/14/2019	0.00913 (J)				0.0109
5/15/2019		0.0189	0.0132	0.0113	
10/8/2019	0.0109				0.0151
10/9/2019		0.0204		0.0126	
10/10/2019			0.0154		
10/16/2019	0.0106				0.0146
4/6/2020	0.00971 (J)		0.0147	0.0128	0.0125
4/8/2020		0.0201			
7/13/2020	0.0101		0.0149	0.0124	0.0145
7/14/2020		0.0245			
2/22/2021	0.0107				0.0132
2/23/2021		0.0201			
2/24/2021			0.015	0.0123	
7/12/2021	0.00991				0.013
7/20/2021		0.0208		0.012	
7/21/2021			0.0159		
1/25/2022	0.0098				0.0122
2/1/2022		0.0198	0.0132	0.0102	

Time Series

Constituent: Barium (mg/L) Analysis Run 4/24/2022 7:00 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-3 (bg)	MW-4 (bg)	MW-7	MW-8
4/25/2016	0.00803 (J)	0.0114		
4/27/2016			0.0107	0.0108
6/20/2016		0.0103		
6/21/2016			0.0129	0.0116
6/22/2016	0.0101			
8/9/2016	0.00889 (J)	0.0119		
8/24/2016	0.00962 (J)	0.0118		
10/3/2016		0.0119		
10/4/2016	0.00984 (J)			
10/26/2016	0.00878 (J)	0.0104		
11/21/2016	0.00833 (J)	0.0106		
1/18/2017	0.00966 (J)	0.0101		
3/22/2017	0.00991 (J)	0.0103		
4/18/2017	0.00976 (J)	0.0107		
5/31/2017	0.00866 (J)	0.0104		
10/12/2017			0.014	0.0141
10/13/2017			0.0147	0.0148
10/14/2017			0.0123	0.0134
10/15/2017			0.0132	0.0139
10/16/2017			0.0122	0.0129
10/17/2017			0.0121	0.0126
2/13/2018	0.00821 (J)	0.0111		
2/14/2018			0.0119	0.0126
5/23/2018		0.0107	0.0135	0.0137
5/24/2018	0.00977 (J)			
6/12/2018	0.00997 (J)	0.0108		
10/17/2018	0.0126	0.0119		
11/19/2018	0.0109	0.0107		
11/20/2018			0.0116	0.0123
4/10/2019	0.0101	0.0107		
5/14/2019	0.00922 (J)	0.00949 (J)		
5/15/2019			0.0114	0.0122
10/8/2019	0.0154		0.0145	
10/9/2019				0.0137
10/10/2019		0.0116		
10/16/2019	0.0128	0.0125		
4/6/2020	0.00931 (J)	0.0115		
4/8/2020			0.0127	0.0137
7/13/2020	0.0142			
7/14/2020		0.0122	0.0148	
7/15/2020				0.0143
2/22/2021	0.00981	0.0111		
2/23/2021			0.014	0.014
7/12/2021	0.00857	0.0108		
7/20/2021			0.0142	0.0141
1/25/2022	0.00821	0.00908		
1/31/2022			0.0126	
2/1/2022				0.0135

Time Series

Constituent: Beryllium (mg/L) Analysis Run 4/24/2022 7:00 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-1 (bg)	MW-10	MW-11	MW-12	MW-2 (bg)
4/25/2016					<0.00102
4/26/2016	<0.00102		<0.00102		
4/27/2016		0.00486			
4/28/2016				<0.00102	
6/20/2016	<0.00102				<0.00102
6/22/2016			<0.00102	<0.00102	
6/23/2016		<0.00102			
8/8/2016	<0.00102				<0.00102
8/9/2016			<0.00102		
8/10/2016		<0.00102		<0.00102	
8/24/2016	<0.00102				<0.00102
10/3/2016	<0.00102				<0.00102
10/4/2016			<0.00102		
10/5/2016		<0.00102		<0.00102	
10/26/2016	<0.00102				<0.00102
11/21/2016	<0.00102	<0.00102	<0.00102		<0.00102
11/22/2016				<0.00102	
1/17/2017	<0.00102	<0.00102	<0.00102		<0.00102
1/18/2017				<0.00102	
3/21/2017		0.000883 (J)	<0.00102	<0.00102	
3/22/2017	<0.00102				<0.00102
4/18/2017	<0.00102				<0.00102
5/30/2017	<0.00102		<0.00102		
5/31/2017		0.00123 (J)		<0.00102	<0.00102
2/13/2018	<0.00102				<0.00102
2/14/2018			<0.00102		
2/15/2018		0.00235 (J)		<0.00102	
5/22/2018	<0.00102		<0.00102		<0.00102
5/24/2018		0.001 (J)		<0.00102	
6/12/2018	<0.00102				<0.00102
10/17/2018	<0.00102				<0.00102
11/19/2018	<0.00102	0.00203 (J)		<0.00102	<0.00102
11/20/2018			<0.00102		
4/10/2019	<0.00102				<0.00102
5/14/2019	<0.00102				<0.00102
5/15/2019		0.00177 (J)	<0.00102	<0.00102	
10/8/2019	<0.00102				<0.00102
10/9/2019		0.00072 (J)		<0.00102	
10/10/2019			<0.00102		
10/16/2019	<0.00102				<0.00102
4/6/2020	<0.00102		<0.00102	<0.00102	<0.00102
4/8/2020		0.00114 (J)			
7/13/2020	<0.00102		<0.00102	<0.00102	<0.00102
7/14/2020		0.00135 (J)			
2/22/2021	<0.00102				<0.00102
2/23/2021		0.00128			
2/24/2021			<0.00102	<0.00102	
7/12/2021	<0.00102				<0.00102
7/20/2021		0.00095 (J)		<0.00102	
7/21/2021			<0.00102		
1/25/2022	<0.00102				<0.00102
2/1/2022		<0.00102	<0.00102	<0.00102	

Time Series

Constituent: Beryllium (mg/L) Analysis Run 4/24/2022 7:00 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-3 (bg)	MW-4 (bg)	MW-7	MW-8
4/25/2016	0.00122 (J)	<0.00102		
4/27/2016			<0.00102	<0.00102
6/20/2016		<0.00102		
6/21/2016			<0.00102	<0.00102
6/22/2016	0.00144 (J)			
8/9/2016	0.00331	<0.00102		
8/24/2016	0.00308	<0.00102		
10/3/2016		<0.00102		
10/4/2016	0.00129 (J)			
10/26/2016	0.0071	<0.00102		
11/21/2016	0.00689	<0.00102		
1/18/2017	0.0169 (O)	<0.00102		
3/22/2017	0.00686	<0.00102		
4/18/2017	<0.00102	<0.00102		
5/31/2017	0.00547	<0.00102		
10/12/2017			<0.00102	<0.00102
10/13/2017			<0.00102	<0.00102
10/14/2017			<0.00102	<0.00102
10/15/2017			<0.00102	<0.00102
10/16/2017			<0.00102	<0.00102
10/17/2017			<0.00102	<0.00102
2/13/2018	<0.00102	<0.00102		
2/14/2018			<0.00102	<0.00102
5/23/2018		<0.00102	<0.00102	<0.00102
5/24/2018	0.00164 (J)			
6/12/2018	0.00306	<0.00102		
10/17/2018	0.0121	<0.00102		
11/19/2018	0.0185 (O)	<0.00102		
11/20/2018			<0.00102	<0.00102
4/10/2019	<0.00102	<0.00102		
5/14/2019	<0.00102	<0.00102		
5/15/2019			<0.00102	<0.00102
10/8/2019	0.0084		<0.00102	
10/9/2019				<0.00102
10/10/2019		<0.00102		
10/16/2019	0.0103	<0.00102		
4/6/2020	<0.00102	<0.00102		
4/8/2020			<0.00102	<0.00102
7/13/2020	0.0021 (J)			
7/14/2020		<0.00102	<0.00102	
7/15/2020				<0.00102
2/22/2021	<0.00102	<0.00102		
2/23/2021			<0.00102	<0.00102
7/12/2021	<0.00102	<0.00102		
7/20/2021			<0.00102	<0.00102
1/25/2022	<0.00102	<0.00102		
1/31/2022			<0.00102	
2/1/2022				<0.00102

Time Series

Constituent: Boron (mg/L) Analysis Run 4/24/2022 7:00 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-1 (bg)	MW-10	MW-11	MW-12	MW-2 (bg)
4/25/2016					0.0241 (J)
4/26/2016	0.0231 (J)		0.094 (J)		
4/27/2016		0.371			
4/28/2016				0.19	
6/20/2016	0.0227 (J)				0.0284 (J)
6/22/2016			0.0959 (J)	0.118	
6/23/2016		0.251			
8/8/2016	0.0278 (J)				0.034 (J)
8/9/2016			0.0964 (J)		
8/10/2016		0.216		0.197	
8/24/2016	0.0247 (J)				0.0316 (J)
10/3/2016	0.0307 (J)				0.0367 (J)
10/4/2016			0.0916 (J)		
10/5/2016		0.187		0.179	
10/26/2016	0.0241 (J)				0.0331 (J)
11/21/2016	0.0202 (J)	0.182	0.0929 (J)		0.035 (J)
11/22/2016				0.197	
1/17/2017	0.0201 (J)	0.2	0.0963 (J)		0.0259 (J)
1/18/2017				0.186	
3/21/2017		0.178	0.0947 (J)	0.183	
3/22/2017	0.0224 (J)				0.0243 (J)
4/18/2017	<0.1015				0.0206 (J)
5/30/2017	<0.1015		0.0926 (J)		
5/31/2017		0.149		0.193	0.0234 (J)
8/23/2017	0.0253 (J)	0.181	0.0968 (J)	0.185	0.0267 (J)
5/22/2018	0.0224 (J)		0.102		0.0251 (J)
5/24/2018		0.159		0.197	
6/12/2018	0.0214 (J)				0.0275 (J)
10/17/2018	0.0216 (J)				0.0321 (J)
11/19/2018	0.0237 (J)	0.211		0.252	0.0324 (J)
11/20/2018			0.106		
4/10/2019	0.0304 (J)				<0.1015
5/14/2019	<0.1015				<0.1015
5/15/2019		0.234	0.101 (J)	0.239	
10/8/2019	<0.1015				0.0371 (J)
10/9/2019		0.181		0.315	
10/10/2019			0.109		
10/16/2019	0.0385 (J)				0.0419 (J)
4/6/2020	<0.1015		0.109	0.229	<0.1015
4/8/2020		0.209			
7/13/2020	<0.1015		0.111	0.266	<0.1015
7/14/2020		0.25			
2/22/2021	0.0307 (J)				<0.1015
2/23/2021		0.205			
2/24/2021			0.108	0.193	
7/12/2021	<0.1015				<0.1015
7/20/2021		0.201		0.227	
7/21/2021			0.104		
1/25/2022	<0.1015				<0.1015
2/1/2022		0.177	0.105	0.208	

Time Series

Constituent: Boron (mg/L) Analysis Run 4/24/2022 7:00 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-3 (bg)	MW-4 (bg)	MW-7	MW-8
4/25/2016	0.028 (J)	0.0414 (J)		
4/27/2016			0.253 (o)	0.0662 (J)
6/20/2016		0.0434 (J)		
6/21/2016			0.0768 (J)	0.0681 (J)
6/22/2016	0.0433 (J)			
8/9/2016	0.0429 (J)	0.0453 (J)		
8/24/2016	0.0431 (J)	0.0451 (J)		
10/3/2016		0.0511 (J)		
10/4/2016	0.04 (J)			
10/26/2016	0.0375 (J)	0.0507 (J)		
11/21/2016	0.0406 (J)	0.0458 (J)		
1/18/2017	0.0548 (J)	0.0445 (J)		
3/22/2017	0.0344 (J)	0.0432 (J)		
4/18/2017	<0.1015	0.0409 (J)		
5/31/2017	0.0454 (J)	0.0392 (J)		
8/23/2017	0.0425 (J)	0.042 (J)		
10/12/2017			0.0685 (J)	0.0687 (J)
10/13/2017			0.0674 (J)	0.0831 (J)
10/14/2017			0.0756 (J)	0.0702 (J)
10/15/2017			0.0719 (J)	0.0702 (J)
10/16/2017			0.0726 (J)	0.0707 (J)
10/17/2017			0.0716 (J)	0.0695 (J)
11/16/2017			0.0644 (J)	0.0675 (J)
5/23/2018		0.0433 (J)	0.0715 (J)	0.0693 (J)
5/24/2018	0.0339 (J)			
6/12/2018	0.0371 (J)	0.0478 (J)		
10/17/2018	0.0596 (J)	0.0468 (J)		
11/19/2018	0.0514 (J)	0.0526 (J)		
11/20/2018			0.0772 (J)	0.0771 (J)
4/10/2019	<0.1015	0.0438 (J)		
5/14/2019	<0.1015	<0.203 (o)		
5/15/2019			0.0678 (J)	0.0689 (J)
10/8/2019	0.0537 (J)		0.073 (J)	
10/9/2019				0.0723 (J)
10/10/2019		0.0487 (J)		
10/16/2019	0.05 (J)	0.0505 (J)		
4/6/2020	<0.1015	0.0428 (J)		
4/8/2020			0.077 (J)	0.0683 (J)
7/13/2020	0.0366 (J)			
7/14/2020		0.0441 (J)	0.0865 (J)	
7/15/2020				0.0723 (J)
2/22/2021	<0.1015	0.0397 (J)		
2/23/2021			0.0803 (J)	0.0731 (J)
7/12/2021	<0.1015	0.0411 (J)		
7/20/2021			0.0721 (J)	0.0656 (J)
1/25/2022	<0.1015	0.0408 (J)		
1/31/2022			0.0689 (J)	
2/1/2022				0.0639 (J)

Time Series

Constituent: Cadmium (mg/L) Analysis Run 4/24/2022 7:00 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-1 (bg)	MW-10	MW-11	MW-12	MW-2 (bg)
4/25/2016					<0.0002
4/26/2016	0.00196		<0.0002		
4/27/2016		0.000452 (J)			
4/28/2016				<0.0002	
6/20/2016	0.0021				<0.0002
6/22/2016			<0.0002	<0.0002	
6/23/2016		<0.0002			
8/8/2016	0.00206				<0.0002
8/9/2016			<0.0002		
8/10/2016		<0.0002		<0.0002	
8/24/2016	0.00182				<0.0002
10/3/2016	0.00188				<0.0002
10/4/2016			<0.0002		
10/5/2016		<0.0002		<0.0002	
10/26/2016	0.00175				<0.0002
11/21/2016	0.00197	<0.0002	<0.0002		<0.0002
11/22/2016				<0.0002	
1/17/2017	0.002	<0.0002	<0.0002		0.000311 (J)
1/18/2017				<0.0002	
3/21/2017		<0.0002	<0.0002	<0.0002	
3/22/2017	0.0019				<0.0002
4/18/2017	0.00159				<0.0002
5/30/2017	0.00214		<0.0002		
5/31/2017		<0.0002		<0.0002	0.000212 (J)
2/13/2018	0.0018				<0.0002
2/14/2018			<0.0002		
2/15/2018		<0.0002		<0.0002	
5/22/2018	0.00201		<0.0002		<0.0002
5/24/2018		<0.0002		<0.0002	
6/12/2018	0.00217				<0.0002
10/17/2018	0.00228				<0.0002
11/19/2018	0.00156	<0.0002		<0.0002	<0.0002
11/20/2018			<0.0002		
4/10/2019	0.00224				<0.0002
5/14/2019	0.00238				<0.0002
5/15/2019		<0.0002	<0.0002	<0.0002	
10/8/2019	0.00218				<0.0002
10/9/2019		<0.0002		<0.0002	
10/10/2019			<0.0002		
10/16/2019	0.00225				<0.0002
4/6/2020	0.00184		<0.0002	<0.0002	<0.0002
4/8/2020		<0.0002			
7/13/2020	0.00194		<0.0002	<0.0002	<0.0002
7/14/2020		<0.0002			
2/22/2021	0.00184				8.96E-05 (J)
2/23/2021		0.000148 (J)			
2/24/2021			<0.0002	<0.0002	
7/12/2021	0.00193				8E-05 (J)
7/20/2021		8E-05 (J)		<0.0002	
7/21/2021			<0.0002		
1/25/2022	0.00196				8E-05 (J)
2/1/2022		0.0001 (J)	<0.0002	<0.0002	

Time Series

Constituent: Cadmium (mg/L) Analysis Run 4/24/2022 7:00 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-3 (bg)	MW-4 (bg)	MW-7	MW-8
4/25/2016	0.0121 (O)	<0.0002		
4/27/2016			<0.0002	<0.0002
6/20/2016		<0.0002		
6/21/2016			<0.0002	<0.0002
6/22/2016	0.00163			
8/9/2016	0.00122	<0.0002		
8/24/2016	<0.0002	<0.0002		
10/3/2016		<0.0002		
10/4/2016	0.000689 (J)			
10/26/2016	0.00136	<0.0002		
11/21/2016	0.00171	<0.0002		
1/18/2017	0.003	<0.0002		
3/22/2017	0.00473	<0.0002		
4/18/2017	0.00117	<0.0002		
5/31/2017	0.00296	<0.0002		
10/12/2017			<0.0002	<0.0002
10/13/2017			<0.0002	<0.0002
10/14/2017			<0.0002	<0.0002
10/15/2017			<0.0002	<0.0002
10/16/2017			<0.0002	<0.0002
10/17/2017			<0.0002	<0.0002
2/13/2018	0.00232	<0.0002		
2/14/2018			<0.0002	<0.0002
5/23/2018		<0.0002	<0.0002	<0.0002
5/24/2018	0.00459			
6/12/2018	0.00351	<0.0002		
10/17/2018	0.00393	<0.0002		
11/19/2018	0.00309	<0.0002		
11/20/2018			<0.0002	<0.0002
4/10/2019	0.00337	<0.0002		
5/14/2019	0.0013	<0.0002		
5/15/2019			<0.0002	<0.0002
10/8/2019	0.00598		<0.0002	
10/9/2019				<0.0002
10/10/2019		<0.0002		
10/16/2019	0.00448	<0.0002		
4/6/2020	0.000645 (J)	<0.0002		
4/8/2020			<0.0002	<0.0002
7/13/2020	0.00885 (O)			
7/14/2020		<0.0002	<0.0002	
7/15/2020				<0.0002
2/22/2021	0.00536	8.96E-05 (J)		
2/23/2021			<0.0002	<0.0002
7/12/2021	0.00094	8E-05 (J)		
7/20/2021			<0.0002	<0.0002
1/25/2022	0.00178	<0.0002		
1/31/2022			<0.0002	
2/1/2022				<0.0002

Time Series

Constituent: Calcium (mg/L) Analysis Run 4/24/2022 7:00 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-1 (bg)	MW-10	MW-11	MW-12	MW-2 (bg)
4/25/2016					123
4/26/2016	147		400		
4/27/2016		279			
4/28/2016				349	
6/20/2016	152				168
6/22/2016			398	374	
6/23/2016		256			
8/8/2016	150				180
8/9/2016			399		
8/10/2016		245		348	
8/24/2016	142				180
10/3/2016	139				184
10/4/2016			389		
10/5/2016		225		344	
10/26/2016	133				171
11/21/2016	144	179	386		179
11/22/2016				342	
1/17/2017	131	168	344		188
1/18/2017				359	
3/21/2017		152	396	352	
3/22/2017	141				155
4/18/2017	149				156
5/30/2017	140		370		
5/31/2017		130		313	151
8/23/2017	152	147	374	349	155
5/22/2018	166		375		172
5/24/2018		159		349	
6/12/2018	203				179
10/17/2018	171				200
11/19/2018	154	160		348	221
11/20/2018			370		
4/10/2019	243				200
5/14/2019	167				168
5/15/2019		186	380	411	
10/8/2019	157				190
10/9/2019		146		359	
10/10/2019			373		
10/16/2019	157				194
4/6/2020	149		333	354	152
4/8/2020		164			
7/13/2020	147		350	392	163
7/14/2020		208			
2/22/2021	151				178
2/23/2021		151			
2/24/2021			325	346	
7/12/2021	149				159
7/20/2021		149		330	
7/21/2021			322		
1/25/2022	150				179
2/1/2022		155	335	334	

Time Series

Constituent: Calcium (mg/L) Analysis Run 4/24/2022 7:00 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-3 (bg)	MW-4 (bg)	MW-7	MW-8
4/25/2016	224	261		
4/27/2016			198	282
6/20/2016		295		
6/21/2016			327	291
6/22/2016	266			
8/9/2016	260	318		
8/24/2016	274	319		
10/3/2016		293		
10/4/2016	243			
10/26/2016	254	311		
11/21/2016	263	320		
1/18/2017	431	417		
3/22/2017	318	292		
4/18/2017	296	302		
5/31/2017	306	284		
8/23/2017	298	297		
10/12/2017			317	300
10/13/2017			302	298
10/14/2017			283	299
10/15/2017			294	307
10/16/2017			284	299
10/17/2017			294	294
11/16/2017			299	308
5/23/2018		296	321	344
5/24/2018	297			
6/12/2018	318	355		
10/17/2018	392	342		
11/19/2018	387	289		
11/20/2018			306	327
4/10/2019	348	356		
5/14/2019	254	254		
5/15/2019			302	305
10/8/2019	371		294	
10/9/2019				329
10/10/2019		302		
10/16/2019	346	356		
4/6/2020	177	222		
4/8/2020			280	281
7/13/2020	264			
7/14/2020		259	261	
7/15/2020				280
2/22/2021	312	271		
2/23/2021			292	306
7/12/2021	252	242		
7/20/2021			254	281
1/25/2022	285	259		
1/31/2022			278	
2/1/2022				284

Time Series

Constituent: Chloride (mg/L) Analysis Run 4/24/2022 7:00 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-1 (bg)	MW-10	MW-11	MW-12	MW-2 (bg)
4/25/2016					1.9
4/26/2016	1.94		2.16		
4/27/2016		1.46			
4/28/2016				4.12	
6/20/2016	2.09				3.43
6/22/2016			2.16	3.44	
6/23/2016		1.49			
8/8/2016	2.18				3.31
8/9/2016			2.19		
8/10/2016		1.55		4.15	
8/24/2016	2.22				3.23
10/3/2016	2.34				3.21
10/4/2016			2.21		
10/5/2016		1.58		4.12	
10/26/2016	2.34				3.35
11/21/2016	2.5	1.62	2.24		3.34
11/22/2016				3.98	
1/17/2017	2.68	1.61	2.23		3.58
1/18/2017				3.6	
3/21/2017		1.6 (J)	2.5	3.6	
3/22/2017	3.7				3.4
4/18/2017	2.4				2.6
5/30/2017	2.6		3.2		
5/31/2017		3.2		3.9	4.4
8/23/2017	2.7	6.1	2.8	4.2	4.4
5/22/2018	2.3		24		3.2
5/24/2018		5		7.1	
6/12/2018	2.3				3.7
10/17/2018	1.7 (J)				4.6
11/19/2018	1.7 (J)	7.8		6.1	3
11/20/2018			59		
4/10/2019	2.36				1.76
5/14/2019	2.28				2.98
5/15/2019		6.93	75.4	8.51	
10/8/2019	2.31				4.26
10/9/2019		4.51		8.73	
10/10/2019			84.6		
10/16/2019	2.42				4.04
4/6/2020	2.01		100	8.58	2.43
4/8/2020		2.64			
7/13/2020	2.1		79.6	8.35	4.05
7/14/2020		3.09			
2/22/2021	2.16				1.72
2/23/2021		3.63			
2/24/2021			113	11.2	
7/12/2021	2.19				2.36
7/20/2021		3.64		9.85	
7/21/2021			73.8		
1/25/2022	2.09				2.14
2/1/2022		3.97	68.3	11.5	

Time Series

Constituent: Chloride (mg/L) Analysis Run 4/24/2022 7:00 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-3 (bg)	MW-4 (bg)	MW-7	MW-8
4/25/2016	1.32	1.53		
4/27/2016			1.71	2.34
6/20/2016		1.85		
6/21/2016			2.04	2.29
6/22/2016	1.46			
8/9/2016	1.35	1.95		
8/24/2016	1.47	2.07		
10/3/2016		2.02		
10/4/2016	1.59			
10/26/2016	1.27	2.07		
11/21/2016	1.38	2.39		
1/18/2017	1.34	1.9		
3/22/2017	2	1.5 (J)		
4/18/2017	2.2	1.6 (J)		
5/31/2017	1.5 (J)	2.1		
8/23/2017	1.8 (J)	2.3		
10/12/2017			31	150
10/13/2017			32	130
10/14/2017			33	140
10/15/2017			34	130
10/16/2017			34	140
10/17/2017			34	140
11/16/2017			35	130
5/23/2018		2	28	75
5/24/2018	1.6 (J)			
6/12/2018	1.4 (J)	1.7 (J)		
10/17/2018	<2	1.5 (J)		
11/19/2018	<2	<2		
11/20/2018			20	45
4/10/2019	2.25	1.88		
5/14/2019	2.28	1.82		
5/15/2019			15.9	52
10/8/2019	1.36		16.8	
10/9/2019				39.2
10/10/2019		1.93		
10/16/2019	1.4	1.92		
4/6/2020	1.72	1.5		
4/8/2020			10.6	24.9
7/13/2020	1.34			
7/14/2020		1.61	9.68	
7/15/2020				23.8
2/22/2021	2.22	1.52		
2/23/2021			7.85	17.9
7/12/2021	2.13	1.56		
7/20/2021			6.35	14.3
1/25/2022	2.12	1.54		
1/31/2022			6.4	
2/1/2022				8.56

Time Series

Constituent: Chromium (mg/L) Analysis Run 4/24/2022 7:00 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-1 (bg)	MW-10	MW-11	MW-12	MW-2 (bg)
4/25/2016					<0.00102
4/26/2016	<0.00102		<0.00102		
4/27/2016		<0.00102			
4/28/2016				<0.00102	
6/20/2016	<0.00102				<0.00102
6/22/2016			<0.00102	<0.00102	
6/23/2016		<0.00102			
8/8/2016	<0.00102				<0.00102
8/9/2016			<0.00102		
8/10/2016		<0.00102		<0.00102	
8/24/2016	<0.00102				<0.00102
10/3/2016	<0.00102				<0.00102
10/4/2016			<0.00102		
10/5/2016		<0.00102		<0.00102	
10/26/2016	<0.00102				<0.00102
11/21/2016	<0.00102	<0.00102	<0.00102		<0.00102
11/22/2016				<0.00102	
1/17/2017	<0.00102	<0.00102	<0.00102		<0.00102
1/18/2017				<0.00102	
3/21/2017		<0.00102	<0.00102	<0.00102	
3/22/2017	<0.00102				<0.00102
4/18/2017	<0.00102				<0.00102
5/30/2017	<0.00102		<0.00102		
5/31/2017		<0.00102		<0.00102	<0.00102
2/13/2018	<0.00102				<0.00102
2/14/2018			<0.00102		
2/15/2018		<0.00102		<0.00102	
5/22/2018	<0.00102		<0.00102		<0.00102
5/24/2018		<0.00102		<0.00102	
6/12/2018	<0.00102				<0.00102
10/17/2018	<0.00102				<0.00102
11/19/2018	<0.00102	<0.00102		<0.00102	<0.00102
11/20/2018			<0.00102		
4/10/2019	<0.00102				<0.00102
5/14/2019	<0.00102				<0.00102
5/15/2019		<0.00102	<0.00102	<0.00102	
10/8/2019	<0.00102				<0.00102
10/9/2019		<0.00102		<0.00102	
10/10/2019			<0.00102		
10/16/2019	<0.00102				<0.00102
4/6/2020	<0.00102		<0.00102	<0.00102	<0.00102
4/8/2020		<0.00102			
7/13/2020	<0.00102		<0.00102	<0.00102	<0.00102
7/14/2020		<0.00102			
2/22/2021	0.000382 (J)				<0.00102
2/23/2021		<0.00102			
2/24/2021			<0.00102	<0.00102	
7/12/2021	0.00049 (J)				0.00025 (J)
7/20/2021		0.00021 (J)		0.00028 (J)	
7/21/2021			<0.00102		
1/25/2022	0.00043 (J)				0.00022 (J)
2/1/2022		0.00029 (J)	0.00033 (J)	0.00033 (J)	

Time Series

Constituent: Chromium (mg/L) Analysis Run 4/24/2022 7:00 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-3 (bg)	MW-4 (bg)	MW-7	MW-8
4/25/2016	0.00373 (J)	<0.00102		
4/27/2016			<0.00102	<0.00102
6/20/2016		<0.00102		
6/21/2016			<0.00102	<0.00102
6/22/2016	0.00606 (J)			
8/9/2016	<0.00102	<0.00102		
8/24/2016	<0.00102	<0.00102		
10/3/2016		<0.00102		
10/4/2016	<0.00102			
10/26/2016	<0.00102	<0.00102		
11/21/2016	<0.00102	<0.00102		
1/18/2017	<0.00102	<0.00102		
3/22/2017	0.00945 (J)	<0.00102		
4/18/2017	0.0105	<0.00102		
5/31/2017	<0.00102	<0.00102		
10/12/2017			<0.00102	<0.00102
10/13/2017			<0.00102	<0.00102
10/14/2017			<0.00102	<0.00102
10/15/2017			<0.00102	<0.00102
10/16/2017			<0.00102	<0.00102
10/17/2017			<0.00102	<0.00102
2/13/2018	<0.00102	<0.00102		
2/14/2018			<0.00102	<0.00102
5/23/2018		<0.00102	<0.00102	<0.00102
5/24/2018	<0.00102			
6/12/2018	<0.00102	<0.00102		
10/17/2018	<0.00102	<0.00102		
11/19/2018	<0.00102	<0.00102		
11/20/2018			<0.00102	<0.00102
4/10/2019	<0.00102	<0.00102		
5/14/2019	<0.00102	<0.00102		
5/15/2019			<0.00102	<0.00102
10/8/2019	<0.00102		<0.00102	
10/9/2019				<0.00102
10/10/2019		<0.00102		
10/16/2019	<0.00102	<0.00102		
4/6/2020	<0.00102	<0.00102		
4/8/2020			<0.00102	<0.00102
7/13/2020	<0.00102			
7/14/2020		<0.00102	<0.00102	
7/15/2020				<0.00102
2/22/2021	0.00035 (J)	<0.00102		
2/23/2021			<0.00102	<0.00102
7/12/2021	0.00031 (J)	0.0003 (J)		
7/20/2021			<0.00102	<0.00102
1/25/2022	0.00051 (J)	0.00021 (J)		
1/31/2022			0.00032 (J)	
2/1/2022				0.00025 (J)

Time Series

Constituent: Cobalt (mg/L) Analysis Run 4/24/2022 7:00 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-1 (bg)	MW-10	MW-11	MW-12	MW-2 (bg)
4/25/2016					0.0487
4/26/2016	0.0343		<0.0002		
4/27/2016		0.0543			
4/28/2016				0.0531	
6/20/2016	0.0413				0.0767
6/22/2016			<0.0002	0.0388	
6/23/2016		0.0106			
8/8/2016	0.0513				0.103
8/9/2016			<0.0002		
8/10/2016		0.00438 (J)		0.0565	
8/24/2016	0.0471				0.093
10/3/2016	0.0525				0.0964
10/4/2016			<0.0002		
10/5/2016		0.00663 (J)		0.0479	
10/26/2016	0.0527				0.0904
11/21/2016	0.0569	0.0109	<0.0002		0.0857
11/22/2016				0.0453	
1/17/2017	0.0768	0.0146	<0.0002		0.0745
1/18/2017				0.0431	
3/21/2017		0.013	<0.0002	0.0414	
3/22/2017	0.0535				0.0328
4/18/2017	0.0442				0.0242
5/30/2017	0.0465		<0.0002		
5/31/2017		0.0086 (J)		0.0379	0.0441
2/13/2018	0.062				0.0179
2/14/2018			<0.0002		
2/15/2018		0.0199		0.0333	
5/22/2018	0.0443		<0.0002		0.028
5/24/2018		0.00905 (J)		0.0399	
6/12/2018	0.0512				0.0366
10/17/2018	0.0751				0.0745
11/19/2018	0.0825	0.0147		0.0485	0.0225
11/20/2018			<0.0002		
4/10/2019	0.0445				0.0152
5/14/2019	0.0485				0.0222
5/15/2019		0.0226	<0.0002	0.0603	
10/8/2019	0.0778				0.0674
10/9/2019		0.00969		0.0512	
10/10/2019			<0.0002		
10/16/2019	0.08				0.073
4/6/2020	0.0417		<0.0002	0.0537	0.0116
4/8/2020		0.0176			
7/13/2020	0.0532		<0.0002	0.0515	0.0405
7/14/2020		0.0232			
2/22/2021	0.0657				0.0161
2/23/2021		0.0167			
2/24/2021			0.00026	0.0442	
7/12/2021	0.0556				0.0155
7/20/2021		0.0131		0.046	
7/21/2021			0.00025		
1/25/2022	0.0654				0.0166
2/1/2022		0.00978	0.00046	0.0474	

Time Series

Constituent: Cobalt (mg/L) Analysis Run 4/24/2022 7:00 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-3 (bg)	MW-4 (bg)	MW-7	MW-8
4/25/2016	0.232	<0.0002		
4/27/2016			<0.0002	0.00436 (J)
6/20/2016		<0.0002		
6/21/2016			<0.0002	0.00484 (J)
6/22/2016	0.332			
8/9/2016	0.311	<0.0002		
8/24/2016	0.271	<0.0002		
10/3/2016		<0.0002		
10/4/2016	0.148			
10/26/2016	0.236	<0.0002		
11/21/2016	0.241	<0.0002		
1/18/2017	0.347	<0.0002		
3/22/2017	0.271	<0.0002		
4/18/2017	0.00324 (J)	<0.0002		
5/31/2017	0.225	<0.0002		
10/12/2017			0.00269 (J)	0.005 (J)
10/13/2017			0.00341 (J)	0.0052 (J)
10/14/2017			0.00451 (J)	0.00513 (J)
10/15/2017			0.00371 (J)	0.00518 (J)
10/16/2017			0.00371 (J)	0.00453 (J)
10/17/2017			0.0035 (J)	0.00463 (J)
2/13/2018	0.00661 (J)	<0.0002		
2/14/2018			<0.0002	0.00441 (J)
5/23/2018		<0.0002	<0.0002	0.00466 (J)
5/24/2018	0.158			
6/12/2018	0.291	<0.0002		
10/17/2018	0.49	<0.0002		
11/19/2018	0.386	<0.0002		
11/20/2018			0.00306 (J)	0.00551
4/10/2019	0.0144	<0.0002		
5/14/2019	0.00536	<0.0002		
5/15/2019			0.00234 (J)	0.00643
10/8/2019	1.07 (o)		0.00408 (J)	
10/9/2019				0.00864
10/10/2019		<0.0002		
10/16/2019	0.848 (o)	<0.0002		
4/6/2020	<0.0002	<0.0002		
4/8/2020			0.00394 (J)	0.00762
7/13/2020	0.47			
7/14/2020		<0.0002	0.00653	
7/15/2020				0.00821
2/22/2021	0.0515	<0.0002		
2/23/2021			0.00294	0.00796
7/12/2021	0.00567	<0.0002		
7/20/2021			0.00561	0.00714
1/25/2022	0.0051	<0.0002		
1/31/2022			0.00546	
2/1/2022				0.0075

Time Series

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 4/24/2022 7:00 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-1 (bg)	MW-10	MW-11	MW-12	MW-2 (bg)
4/26/2016	0.622		0.57		
4/27/2016		0.316 (U)		0.259 (U)	
4/28/2016				0.608	
5/5/2016					-0.0718 (U)
6/20/2016	0.159 (U)				0.295 (U)
6/22/2016			0.724	0.45 (U)	
6/23/2016		0.451 (U)			
8/8/2016	0.511 (U)				0.231 (U)
8/9/2016			0.579		
8/10/2016		0.368 (U)		1.03	
8/24/2016	0.566 (U)				0.65
10/3/2016	0.537 (U)				0.845
10/4/2016			0.372 (U)		
10/5/2016		0.515		0.494 (U)	
10/26/2016	0.636				0.994
11/21/2016	0.807	0.489 (U)	1.19		0.537 (U)
11/22/2016				0.578	
1/17/2017	0.308 (U)	0.236 (U)	-0.187 (U)		-0.0159 (U)
1/18/2017				0.216 (U)	
3/21/2017		0.101 (U)	0.403 (U)	0.101 (U)	
3/22/2017	0.344 (U)				0.279 (U)
4/18/2017	0.934				0.32 (U)
5/30/2017	0.149 (U)		0.998		
5/31/2017		1.19		1.4	0.178 (U)
2/13/2018	0.774				0.804
2/14/2018			1.74		
2/15/2018		0.55		0.925	
5/22/2018	-0.091 (U)		0.276 (U)		0.0077 (U)
5/24/2018		0.472		0.756	
6/12/2018	1.18				-0.315 (U)
10/17/2018	0.553 (U)				0.574 (U)
11/19/2018	0.862 (D)	0.167 (U)		0.648	0.654 (D)
11/20/2018			1.04		
5/14/2019	0.509				0.579
5/15/2019		0.421 (U)	1.18	1	
10/8/2019	1.47				0.493 (U)
10/9/2019		0.742 (U)		1.18	
10/10/2019			0.902		
10/16/2019	0.204 (U)				0.046 (U)
4/6/2020	0.309 (U)		0.678	1.22	0.212 (U)
4/8/2020		0.205 (U)			
7/13/2020	0.219 (U)		0.665	0.787	0.0814 (U)
7/14/2020		0.314 (U)			
2/22/2021	0.677 (U)				0.434 (U)
2/23/2021		0.329 (U)			
2/24/2021			0.869 (U)	1.24	
7/12/2021	0.476 (U)				0.155 (U)
7/20/2021		0.344 (U)		1.15 (U)	
7/21/2021			0.951 (U)		
1/25/2022	1.01 (U)				0.663 (U)
2/1/2022		0.012 (U)	0.883 (U)	1.13 (U)	

Time Series

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 4/24/2022 7:00 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-3 (bg)	MW-4 (bg)	MW-7	MW-8
4/25/2016	0.484 (U)	0.434 (U)		
4/27/2016			0.374 (U)	-0.207 (U)
6/20/2016		0.287 (U)		
6/21/2016			0.151 (U)	0.529
6/22/2016	0.2 (U)			
8/9/2016	0.378 (U)	0.516 (U)		
8/24/2016	0.131 (U)	0.266 (U)		
10/3/2016		0.59 (U)		
10/4/2016	0.514 (U)			
10/26/2016	0.755	0.164 (U)		
11/21/2016	0.7	0.296 (U)		
1/18/2017	0.606	0.0267 (U)		
3/22/2017	0.927	0.132 (U)		
4/18/2017	0.334 (U)	-0.0439 (U)		
5/31/2017	0.8	0.3 (U)		
10/12/2017			0.182 (U)	0.267 (U)
10/13/2017			0.517 (U)	0.873 (U)
10/14/2017			0.43 (U)	1.6 (U)
10/15/2017			0.45 (U)	0.327 (U)
10/16/2017			0.55 (U)	0.524 (U)
10/17/2017			0.474 (U)	0.0455 (U)
2/13/2018	0.649	0.69		
2/14/2018			0.736	0.633
5/23/2018		0.186 (U)	0.0192 (U)	0.377 (U)
5/24/2018	0.448 (U)			
6/12/2018	0.234 (U)	0.153 (U)		
10/17/2018	0.852	0.313 (U)		
11/19/2018	0.521 (D)	0.794 (D)		
11/20/2018			0.494	0.28 (U)
5/14/2019	0.176 (U)	0.352 (U)		
5/15/2019			0.61	0.697
10/8/2019	0.833 (U)		0.345 (U)	
10/9/2019				0.416 (U)
10/10/2019		1.02 (U)		
10/16/2019	0.0279 (U)	0.356 (U)		
4/6/2020	0.569 (U)	0.459 (U)		
4/8/2020			0.237 (U)	1.38 (U)
7/13/2020	0.53			
7/14/2020		0.169 (U)	0.434	
7/15/2020				0.398 (U)
2/22/2021	0.472 (U)	0 (U)		
2/23/2021			0.696 (U)	0.685 (U)
7/12/2021	0.114 (U)	0.301 (U)		
7/20/2021			0.356 (U)	0.42 (U)
1/25/2022	0.418 (U)	0.884 (U)		
1/31/2022			0.473 (U)	
2/1/2022				0.643 (U)

Time Series

Constituent: Fluoride (mg/L) Analysis Run 4/24/2022 7:00 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-1 (bg)	MW-10	MW-11	MW-12	MW-2 (bg)
4/25/2016					0.149 (J)
4/26/2016	0.146 (J)		0.084 (J)		
4/27/2016		0.337			
4/28/2016				0.153 (J)	
6/20/2016	0.148 (J)				0.148 (J)
6/22/2016			0.106 (J)	0.146 (J)	
6/23/2016		0.155 (J)			
8/8/2016	0.137 (J)				0.134 (J)
8/9/2016			0.092 (J)		
8/10/2016		0.123 (J)		0.127 (J)	
8/24/2016	0.133 (J)				0.129 (J)
10/3/2016	0.103 (J)				0.086 (J)
10/4/2016			0.049 (J)		
10/5/2016		0.086 (J)		0.09 (J)	
10/26/2016	0.05 (J)				0.027 (J)
11/21/2016	0.047 (J)	0.056 (J)	<0.3		0.027 (J)
11/22/2016				0.012 (J)	
1/17/2017	0.09 (J)	0.103 (J)	0.044 (J)		0.066 (J)
1/18/2017				0.071 (J)	
3/21/2017		0.15	0.08 (J)	0.09 (J)	
3/22/2017	0.12				0.13
4/18/2017	0.12				0.16
5/30/2017	0.13		0.096 (J)		
5/31/2017		0.18		0.11	0.13
8/23/2017	0.16	0.23	0.11	0.13	0.16
2/13/2018	0.14				0.22
2/14/2018			0.1		
2/15/2018		0.23		0.12	
5/22/2018	0.16		0.1		0.17
5/24/2018		0.13		0.15	
6/12/2018	0.16				0.16
10/17/2018	0.18				0.16
11/19/2018	0.15	0.26		0.16	0.18
11/20/2018			0.1		
4/10/2019	0.102				0.262
5/14/2019	0.119				0.17
5/15/2019		0.276	0.1	0.185	
10/8/2019	0.0924 (J)				0.164
10/9/2019		0.142		0.215	
10/10/2019			0.0915 (J)		
10/16/2019	0.0756 (J)				0.114
4/6/2020	0.101		0.118	0.254	0.207
4/8/2020		0.243			
7/13/2020	0.0678 (J)		0.108	0.161	0.132
7/14/2020		0.224			
2/22/2021	0.082 (J)				0.209
2/23/2021		0.202			
2/24/2021			0.107	0.172	
7/12/2021	0.125				0.196
7/20/2021		0.268		0.219	
7/21/2021			0.16		
1/25/2022	0.101				0.204

Time Series

Constituent: Fluoride (mg/L) Analysis Run 4/24/2022 7:00 PM View: Constituents View
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-1 (bg)	MW-10	MW-11	MW-12	MW-2 (bg)
2/1/2022		0.157	0.0848 (J)	0.174	

Time Series

Constituent: Fluoride (mg/L) Analysis Run 4/24/2022 7:00 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-3 (bg)	MW-4 (bg)	MW-7	MW-8
4/25/2016	0.243 (J)	0.372		
4/27/2016			0.2 (J)	0.212 (J)
6/20/2016		0.361		
6/21/2016			0.163 (J)	0.211 (J)
6/22/2016	0.269 (J)			
8/9/2016	0.363	0.326		
8/24/2016	0.346	0.329		
10/3/2016		0.287 (J)		
10/4/2016	0.266 (J)			
10/26/2016	0.266 (J)	0.194 (J)		
11/21/2016	0.244 (J)	0.192 (J)		
1/18/2017	0.385	0.223 (J)		
3/22/2017	0.41	0.32		
4/18/2017	0.29	0.32		
5/31/2017	0.37	0.31		
8/23/2017	0.55	0.38		
10/12/2017			0.17	0.22
10/13/2017			0.19	0.23
10/14/2017			0.2	0.22
10/15/2017			0.2	0.22
10/16/2017			0.2	0.22
10/17/2017			0.19	0.21
11/16/2017			0.18	0.22
2/13/2018	0.27	0.38		
2/14/2018			0.18	0.21
5/23/2018		0.38	0.18	0.21
5/24/2018	0.6			
6/12/2018	0.53	0.39		
10/17/2018	0.63	0.39		
11/19/2018	0.31	0.36		
11/20/2018			0.19	0.21
4/10/2019	0.273	0.384		
5/14/2019	0.281	0.335		
5/15/2019			0.169	0.192
10/8/2019	0.225		0.183	
10/9/2019				0.189
10/10/2019		0.304		
10/16/2019	0.106	0.302		
4/6/2020	0.314	0.368		
4/8/2020			0.153	0.192
7/13/2020	0.13			
7/14/2020		0.33	0.193	
7/15/2020				0.196
2/22/2021	0.246	0.357		
2/23/2021			0.2	0.208
7/12/2021	0.287	0.35		
7/20/2021			0.286	0.262
1/25/2022	0.325	0.364		
1/31/2022			0.173	
2/1/2022				0.177

Time Series

Constituent: Lead (mg/L) Analysis Run 4/24/2022 7:00 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-1 (bg)	MW-10	MW-11	MW-12	MW-2 (bg)
4/25/2016					<0.0002
4/26/2016	<0.0002		<0.0002		
4/27/2016		<0.0002			
4/28/2016				<0.0002	
6/20/2016	<0.0002				<0.0002
6/22/2016			<0.0002	<0.0002	
6/23/2016		<0.0002			
8/8/2016	<0.0002				<0.0002
8/9/2016			<0.0002		
8/10/2016		<0.0002		<0.0002	
8/24/2016	<0.0002				<0.0002
10/3/2016	<0.0002				<0.0002
10/4/2016			<0.0002		
10/5/2016		<0.0002		<0.0002	
10/26/2016	<0.0002				<0.0002
11/21/2016	<0.0002	<0.0002	<0.0002		<0.0002
11/22/2016				<0.0002	
1/17/2017	<0.0002	<0.0002	<0.0002		<0.0002
1/18/2017				<0.0002	
3/21/2017		<0.0002	<0.0002	<0.0002	
3/22/2017	<0.0002				<0.0002
4/18/2017	<0.0002				<0.0002
5/30/2017	<0.0002		<0.0002		
5/31/2017		<0.0002		<0.0002	<0.0002
2/13/2018	<0.0002				<0.0002
2/14/2018			<0.0002		
2/15/2018		<0.0002		<0.0002	
5/22/2018	<0.0002		<0.0002		<0.0002
5/24/2018		<0.0002		<0.0002	
6/12/2018	<0.0002				<0.0002
10/17/2018	<0.0002				<0.0002
11/19/2018	<0.0002	<0.0002		<0.0002	<0.0002
11/20/2018			<0.0002		
4/10/2019	<0.0002				<0.0002
5/14/2019	<0.0002				<0.0002
5/15/2019		<0.0002	<0.0002	<0.0002	
10/8/2019	<0.0002				<0.0002
10/9/2019		<0.0002		<0.0002	
10/10/2019			0.00145 (J)		
10/16/2019	<0.0002				<0.0002
4/6/2020	<0.0002		<0.0002	<0.0002	<0.0002
4/8/2020		<0.0002			
7/13/2020	<0.0002		<0.0002	<0.0002	<0.0002
7/14/2020		<0.0002			
2/22/2021	<0.0002				<0.0002
2/23/2021		<0.0002			
2/24/2021			<0.0002	0.000178 (J)	
7/12/2021	<0.0002				<0.0002
7/20/2021		8E-05 (J)		0.00023	
7/21/2021			<0.0002		
1/25/2022	<0.0002				<0.0002
2/1/2022		<0.0002	<0.0002	0.0003	

Time Series

Constituent: Lead (mg/L) Analysis Run 4/24/2022 7:00 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-3 (bg)	MW-4 (bg)	MW-7	MW-8
4/25/2016	<0.0002	<0.0002		
4/27/2016			<0.0002	<0.0002
6/20/2016		<0.0002		
6/21/2016			<0.0002	<0.0002
6/22/2016	<0.0002			
8/9/2016	<0.0002	<0.0002		
8/24/2016	<0.0002	<0.0002		
10/3/2016		<0.0002		
10/4/2016	<0.0002			
10/26/2016	<0.0002	<0.0002		
11/21/2016	<0.0002	<0.0002		
1/18/2017	<0.0002	<0.0002		
3/22/2017	<0.0002	<0.0002		
4/18/2017	<0.0002	<0.0002		
5/31/2017	<0.0002	<0.0002		
10/12/2017			<0.0002	<0.0002
10/13/2017			<0.0002	<0.0002
10/14/2017			<0.0002	<0.0002
10/15/2017			<0.0002	<0.0002
10/16/2017			<0.0002	<0.0002
10/17/2017			<0.0002	<0.0002
2/13/2018	<0.0002	<0.0002		
2/14/2018			<0.0002	<0.0002
5/23/2018		<0.0002	<0.0002	<0.0002
5/24/2018	<0.0002			
6/12/2018	<0.0002	<0.0002		
10/17/2018	0.00102 (J)	<0.0002		
11/19/2018	0.00692 (e)	<0.0002		
11/20/2018			<0.0002	<0.0002
4/10/2019	<0.0002	<0.0002		
5/14/2019	<0.0002	<0.0002		
5/15/2019			<0.0002	<0.0002
10/8/2019	<0.0002		<0.0002	
10/9/2019				<0.0002
10/10/2019		<0.0002		
10/16/2019	0.00108 (J)	<0.0002		
4/6/2020	<0.0002	<0.0002		
4/8/2020			<0.0002	<0.0002
7/13/2020	<0.0002			
7/14/2020		<0.0002	<0.0002	
7/15/2020				<0.0002
2/22/2021	8.8E-05 (J)	<0.0002		
2/23/2021			<0.0002	<0.0002
7/12/2021	8E-05 (J)	<0.0002		
7/20/2021			<0.0002	9E-05 (J)
1/25/2022	<0.0002	<0.0002		
1/31/2022			<0.0002	
2/1/2022				9E-05 (J)

Time Series

Constituent: Lithium (mg/L) Analysis Run 4/24/2022 7:00 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-1 (bg)	MW-10	MW-11	MW-12	MW-2 (bg)
4/25/2016					0.0353 (J)
4/26/2016	0.0264 (J)		0.212		
4/27/2016		0.435			
4/28/2016				0.0735	
6/20/2016	0.0246 (J)				0.0583
6/22/2016			0.232	0.118	
6/23/2016		0.285			
8/8/2016	0.0229 (J)				0.0627
8/9/2016			0.204		
8/10/2016		0.231		0.0805	
8/24/2016	0.0236 (J)				0.0651
10/3/2016	0.0229 (J)				0.0622
10/4/2016			0.198		
10/5/2016		0.231		0.0757	
10/26/2016	0.0227 (J)				0.0293 (J)
11/21/2016	0.0236 (J)	0.236	0.206		0.0667
11/22/2016				0.0828	
1/17/2017	0.0228 (J)	0.3	0.295		0.0636
1/18/2017				0.125	
3/21/2017		0.218	0.234	0.093	
3/22/2017	0.0238 (J)				0.0464 (J)
4/18/2017	0.0242 (J)				0.0446 (J)
5/30/2017	0.0229 (J)		0.23		
5/31/2017		0.194		0.0787	0.0496 (J)
2/13/2018	0.0233 (J)				0.0615
2/14/2018			0.233		
2/15/2018		0.23		0.104	
5/22/2018	0.0263 (J)		0.24		0.0465 (J)
5/24/2018		0.192		0.0819	
6/12/2018	0.0251 (J)				0.0472 (J)
10/17/2018	0.025 (J)				0.0633
11/19/2018	0.0241	0.211		0.0816	0.0584
11/20/2018			0.248		
4/10/2019	0.0285				0.0574
5/14/2019	0.026 (J)				0.0445
5/15/2019		0.23	0.251	0.0736	
10/8/2019	0.0268				0.0677
10/9/2019		0.202		0.0838	
10/10/2019			0.275		
10/16/2019	0.0263				0.0661
4/6/2020	0.0278		0.282	0.0786	0.0496
4/8/2020		0.23			
7/13/2020	0.028		0.277	0.0784	0.0615
7/14/2020		0.255			
2/22/2021	0.0301				0.0625
2/23/2021		0.223			
2/24/2021			0.3	0.0949	
7/12/2021	0.0266				0.0495
7/20/2021		0.196		0.0769	
7/21/2021			0.271		
1/25/2022	0.0239				0.051
2/1/2022		0.157	0.223	0.0656	

Time Series

Constituent: Lithium (mg/L) Analysis Run 4/24/2022 7:00 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-3 (bg)	MW-4 (bg)	MW-7	MW-8
4/25/2016	0.0964	0.0528		
4/27/2016			0.163	0.171
6/20/2016		0.0554		
6/21/2016			0.171	0.181
6/22/2016	0.156			
8/9/2016	0.122	0.0452 (J)		
8/24/2016	0.138	0.0488 (J)		
10/3/2016		0.0476 (J)		
10/4/2016	0.0966			
10/26/2016	0.134	0.049 (J)		
11/21/2016	0.167	0.0477 (J)		
1/18/2017	0.237	0.045 (J)		
3/22/2017	0.203	0.0493 (J)		
4/18/2017	0.0764	0.0494 (J)		
5/31/2017	0.218	0.0501		
10/12/2017			0.134	0.182
10/13/2017			0.127	0.189
10/14/2017			0.112	0.177
10/15/2017			0.129	0.191
10/16/2017			0.122	0.189
10/17/2017			0.122	0.184
2/13/2018	0.0964	0.0446 (J)		
2/14/2018			0.131	0.183
5/23/2018		0.0513	0.129	0.194
5/24/2018	0.145			
6/12/2018	0.194	0.0511		
10/17/2018	0.384	0.0532		
11/19/2018	0.323	0.0467		
11/20/2018			0.12	0.181
4/10/2019	0.0905	0.0504		
5/14/2019	0.0828	0.0485		
5/15/2019			0.127	0.16
10/8/2019	0.419		0.131	
10/9/2019				0.163
10/10/2019		0.054		
10/16/2019	0.337	0.052		
4/6/2020	0.0689	0.0519		
4/8/2020			0.117	0.149
7/13/2020	0.256			
7/14/2020		0.0543	0.103	
7/15/2020				0.152
2/22/2021	0.126	0.0558		
2/23/2021			0.131	0.166
7/12/2021	0.0808	0.0533		
7/20/2021			0.096	0.151
1/25/2022	0.077	0.0433		
1/31/2022			0.0907	
2/1/2022				0.124

Time Series

Constituent: Mercury (mg/L) Analysis Run 4/24/2022 7:00 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-1 (bg)	MW-10	MW-11	MW-12	MW-2 (bg)
4/25/2016					<0.0005
4/26/2016	<0.0005		<0.0005		
4/27/2016		<0.0005			
4/28/2016				<0.0005	
6/20/2016	<0.0005				<0.0005
6/22/2016			<0.0005	<0.0005	
6/23/2016		<0.0005			
8/8/2016	<0.0005				<0.0005
8/9/2016			<0.0005		
8/10/2016		<0.0005		<0.0005	
8/24/2016	<0.0005				<0.0005
10/3/2016	<0.0005				<0.0005
10/4/2016			<0.0005		
10/5/2016		<0.0005		<0.0005	
10/26/2016	<0.0005				<0.0005
11/21/2016	<0.0005	<0.0005	<0.0005		<0.0005
11/22/2016				<0.0005	
1/17/2017	<0.0005	<0.0005	<0.0005		<0.0005
1/18/2017				<0.0005	
3/21/2017		<0.0005	<0.0005	<0.0005	
3/22/2017	<0.0005				<0.0005
4/18/2017	<0.0005				<0.0005
5/30/2017	<0.0005		<0.0005		
5/31/2017		<0.0005		<0.0005	<0.0005
2/13/2018	<0.0005				<0.0005
2/14/2018			<0.0005		
2/15/2018		<0.0005		<0.0005	
5/22/2018	<0.0005		<0.0005		<0.0005
5/24/2018		<0.0005		<0.0005	
6/12/2018	<0.0005				<0.0005
10/17/2018	<0.0005				<0.0005
11/19/2018	<0.0005	<0.0005		<0.0005	<0.0005
11/20/2018			<0.0005		
4/10/2019	<0.0005				<0.0005
5/14/2019	<0.0005				<0.0005
5/15/2019		<0.0005	<0.0005	<0.0005	
10/8/2019	<0.0005				<0.0005
10/9/2019		<0.0005		<0.0005	
10/10/2019			<0.0005		
10/16/2019	<0.0005				<0.0005
4/6/2020	<0.0005		<0.0005	<0.0005	<0.0005
4/8/2020		<0.0005			
7/13/2020	<0.0005		<0.0005	<0.0005	<0.0005
7/14/2020		<0.0005			
2/22/2021	<0.0005				<0.0005
2/23/2021		<0.0005			
2/24/2021			<0.0005	<0.0005	
7/12/2021	<0.0005				<0.0005
7/20/2021		<0.0005		<0.0005	
7/21/2021			<0.0005		
1/25/2022	<0.0005				<0.0005
2/1/2022		<0.0005	<0.0005	<0.0005	

Time Series

Constituent: Mercury (mg/L) Analysis Run 4/24/2022 7:00 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-3 (bg)	MW-4 (bg)	MW-7	MW-8
4/25/2016	<0.0005	<0.0005		
4/27/2016			<0.0005	<0.0005
6/20/2016		<0.0005		
6/21/2016			<0.0005	<0.0005
6/22/2016	<0.0005			
8/9/2016	<0.0005	<0.0005		
8/24/2016	<0.0005	<0.0005		
10/3/2016		<0.0005		
10/4/2016	<0.0005			
10/26/2016	<0.0005	<0.0005		
11/21/2016	<0.0005	<0.0005		
1/18/2017	<0.0005	<0.0005		
3/22/2017	<0.0005	<0.0005		
4/18/2017	<0.0005	<0.0005		
5/31/2017	<0.0005	<0.0005		
10/12/2017			<0.0005	<0.0005
10/13/2017			<0.0005	<0.0005
10/14/2017			<0.0005	<0.0005
10/15/2017			<0.0005	<0.0005
10/16/2017			<0.0005	<0.0005
10/17/2017			<0.0005	<0.0005
2/13/2018	<0.0005	<0.0005		
2/14/2018			<0.0005	<0.0005
5/23/2018		<0.0005	<0.0005	<0.0005
5/24/2018	<0.0005			
6/12/2018	<0.0005	<0.0005		
10/17/2018	<0.0005	<0.0005		
11/19/2018	<0.0005	<0.0005		
11/20/2018			<0.0005	<0.0005
4/10/2019	<0.0005	<0.0005		
5/14/2019	<0.0005	<0.0005		
5/15/2019			<0.0005	<0.0005
10/8/2019	<0.0005		<0.0005	
10/9/2019				<0.0005
10/10/2019		<0.0005		
10/16/2019	<0.0005	<0.0005		
4/6/2020	<0.0005	<0.0005		
4/8/2020			<0.0005	<0.0005
7/13/2020	<0.0005			
7/14/2020		<0.0005	<0.0005	
7/15/2020				<0.0005
2/22/2021	<0.0005	<0.0005		
2/23/2021			<0.0005	<0.0005
7/12/2021	<0.0005	<0.0005		
7/20/2021			<0.0005	<0.0005
1/25/2022	<0.0005	<0.0005		
1/31/2022			<0.0005	
2/1/2022				<0.0005

Time Series

Constituent: Molybdenum (mg/L) Analysis Run 4/24/2022 7:00 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-1 (bg)	MW-10	MW-11	MW-12	MW-2 (bg)
4/25/2016					<0.0002
4/26/2016	<0.0002		<0.0002		
4/27/2016		<0.0002			
4/28/2016				<0.0002	
6/20/2016	<0.0002				<0.0002
6/22/2016			<0.0002	<0.0002	
6/23/2016		<0.0002			
8/8/2016	<0.0002				<0.0002
8/9/2016			<0.0002		
8/10/2016		<0.0002		<0.0002	
8/24/2016	<0.0002				<0.0002
10/3/2016	<0.0002				<0.0002
10/4/2016			<0.0002		
10/5/2016		<0.0002		<0.0002	
10/26/2016	<0.0002				<0.0002
11/21/2016	<0.0002	<0.0002	<0.0002		<0.0002
11/22/2016				<0.0002	
1/17/2017	<0.0002	<0.0002	<0.0002		<0.0002
1/18/2017				<0.0002	
3/21/2017		<0.0002	<0.0002	<0.0002	
3/22/2017	<0.0002				<0.0002
4/18/2017	<0.0002				<0.0002
5/30/2017	<0.0002		<0.0002		
5/31/2017		<0.0002		<0.0002	<0.0002
2/13/2018	<0.0002				<0.0002
2/14/2018			<0.0002		
2/15/2018		<0.0002		<0.0002	
5/22/2018	<0.0002		<0.0002		<0.0002
5/24/2018		<0.0002		<0.0002	
6/12/2018	<0.0002				<0.0002
10/17/2018	<0.0002				<0.0002
11/19/2018	<0.0002	<0.0002		<0.0002	<0.0002
11/20/2018			<0.0002		
4/10/2019	<0.0002				<0.0002
5/14/2019	<0.0002				<0.0002
5/15/2019		<0.0002	<0.0002	<0.0002	
10/8/2019	<0.0002				<0.0002
10/9/2019		<0.0002		<0.0002	
10/10/2019			<0.0002		
10/16/2019	<0.0002				<0.0002
4/6/2020	<0.0002		<0.0002	<0.0002	<0.0002
4/8/2020		<0.0002			
7/13/2020	<0.0002		<0.0002	<0.0002	<0.0002
7/14/2020		<0.0002			
2/22/2021	<0.0002				<0.0002
2/23/2021		<0.0002			
2/24/2021			0.00148	8.8E-05 (J)	
7/12/2021	<0.0002				<0.0002
7/20/2021		8E-05 (J)		0.00017 (J)	
7/21/2021			0.0013		
1/25/2022	<0.0002				<0.0002
2/1/2022		<0.0002	0.00181	0.00019 (J)	

Time Series

Constituent: Molybdenum (mg/L) Analysis Run 4/24/2022 7:00 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-3 (bg)	MW-4 (bg)	MW-7	MW-8
4/25/2016	<0.0002	<0.0002		
4/27/2016			<0.0002	<0.0002
6/20/2016		<0.0002		
6/21/2016			<0.0002	<0.0002
6/22/2016	<0.0002			
8/9/2016	<0.0002	<0.0002		
8/24/2016	<0.0002	<0.0002		
10/3/2016		<0.0002		
10/4/2016	<0.0002			
10/26/2016	<0.0002	<0.0002		
11/21/2016	<0.0002	<0.0002		
1/18/2017	<0.0002	<0.0002		
3/22/2017	<0.0002	<0.0002		
4/18/2017	<0.0002	<0.0002		
5/31/2017	<0.0002	<0.0002		
10/12/2017			<0.0002	<0.0002
10/13/2017			<0.0002	<0.0002
10/14/2017			<0.0002	<0.0002
10/15/2017			<0.0002	<0.0002
10/16/2017			<0.0002	<0.0002
10/17/2017			<0.0002	<0.0002
2/13/2018	<0.0002	<0.0002		
2/14/2018			<0.0002	<0.0002
5/23/2018		<0.0002	<0.0002	<0.0002
5/24/2018	<0.0002			
6/12/2018	<0.0002	<0.0002		
10/17/2018	<0.0002	<0.0002		
11/19/2018	<0.0002	<0.0002		
11/20/2018			<0.0002	<0.0002
4/10/2019	<0.0002	<0.0002		
5/14/2019	<0.0002	<0.0002		
5/15/2019			<0.0002	<0.0002
10/8/2019	<0.0002		<0.0002	
10/9/2019				<0.0002
10/10/2019		<0.0002		
10/16/2019	<0.0002	<0.0002		
4/6/2020	<0.0002	<0.0002		
4/8/2020			<0.0002	<0.0002
7/13/2020	<0.0002			
7/14/2020		<0.0002	<0.0002	
7/15/2020				<0.0002
2/22/2021	<0.0002	0.000131 (J)		
2/23/2021			0.00107	0.0129
7/12/2021	<0.0002	0.00014 (J)		
7/20/2021			0.00086	0.00033
1/25/2022	8E-05 (J)	0.00011 (J)		
1/31/2022			0.00093	
2/1/2022				0.00031

Time Series

Constituent: pH (SU) Analysis Run 4/24/2022 7:00 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-1 (bg)	MW-10	MW-11	MW-12	MW-2 (bg)
4/25/2016					5.94
4/26/2016	5.2		6.49		
4/27/2016		5.8			
4/28/2016				5.78	
6/20/2016	5.18				5.96
6/22/2016			6.51	6.41	
6/23/2016		6.38			
8/8/2016	5.12				5.88
8/9/2016			6.49		
8/10/2016		6.47		5.82	
10/3/2016	5.21 (D)				5.91 (D)
10/4/2016			6.51 (D)		
10/5/2016		6.42 (D)		5.82 (D)	
10/26/2016	5.2				5.84
11/21/2016	5.19 (D)	6.38	6.48		5.82 (D)
11/22/2016				5.86	
1/17/2017	5.17 (D)	6.35	6.46		5.87 (D)
1/18/2017				5.9	
3/21/2017		6.38	6.47	5.85	
3/22/2017	5.2 (D)				6.01 (D)
4/18/2017	5.2				6.02
5/30/2017	5.14 (D)		6.48		
5/31/2017		6.4		5.84	5.85 (D)
8/23/2017	5.12 (D)	6.33	6.48	5.91	5.89 (D)
2/13/2018	5.18				6.21
2/14/2018			6.6		
2/15/2018		6.26		5.98	
5/22/2018	5.2		6.54		6.04
5/24/2018		6.45		5.86	
6/12/2018	5.15				5.95
10/17/2018	5.12				5.9
11/19/2018	5.09	6.3		5.88	6.03
11/20/2018			6.61		
4/10/2019	5.11				6.1
5/14/2019	5.19				6.07
5/15/2019		6.37	6.62	5.82	
10/8/2019	5.12				5.96
10/9/2019		6.5		5.85	
10/10/2019			6.69		
10/16/2019	5.16				5.98
4/6/2020	5.21		6.72	5.81	6.21
4/8/2020		6.36			
7/13/2020	5.14		6.71	5.62	5.84
7/14/2020		6.42			
2/22/2021	5.06				6.1
2/23/2021		6.45			
2/24/2021			6.67	5.83	
7/12/2021	5.13				6.16
7/20/2021		6.46		5.53	
7/21/2021			6.74		
1/25/2022	5.11				6.22
2/1/2022		6.62	6.83	5.64	

Time Series

Constituent: pH (SU) Analysis Run 4/24/2022 7:00 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-3 (bg)	MW-4 (bg)	MW-7	MW-8
4/25/2016	5.56	6.22		
4/27/2016			6.6	6.55
6/20/2016		6.21		
6/21/2016			6.62	6.47
6/22/2016	5.57			
8/9/2016	5.67	6.11		
8/24/2016	5.63	6.11		
10/3/2016		6.13 (D)		
10/4/2016	5.69 (D)			
10/26/2016	5.56	6.12		
11/21/2016	5.42 (D)	6.09 (D)		
1/18/2017	5.11 (D)	6.09 (D)		
3/22/2017	4.52 (D)	6.15 (D)		
4/18/2017	5.84	6.19		
5/31/2017	4.56 (D)	6.13 (D)		
8/23/2017	4.77 (D)	6.12 (D)		
10/12/2017			6.64	6.5
10/13/2017			6.64	6.51
10/14/2017			6.66	6.53
10/15/2017			6.67	6.53
10/16/2017			6.67	6.54
10/17/2017			6.66	6.54
11/16/2017			6.62	6.51
2/13/2018	5.67	6.22		
2/14/2018			6.67	6.55
5/23/2018		6.21	6.63	6.52
5/24/2018	5.19			
6/12/2018	4.79	6.16		
10/17/2018	4.75	6.12		
11/19/2018	3.77 (E)	6.16		
11/20/2018			6.61	6.58
4/10/2019	5.54	6.14		
5/14/2019	5.71	6.23		
5/15/2019			6.61	6.6
10/8/2019	4.98		6.52	
10/9/2019				6.67
10/10/2019		6.15		
10/16/2019	4.51	6.19		
4/6/2020	5.91	6.35		
4/8/2020			6.64	6.7
7/13/2020	5.16			
7/14/2020		6.2	6.52	
7/15/2020				6.71
2/22/2021	5.59	6.19		
2/23/2021			6.7	6.73
7/12/2021	5.86	6.06		
7/20/2021			6.58	6.64
1/25/2022	5.9	6.3		
1/31/2022			6.48	
2/1/2022				6.77

Time Series

Constituent: Selenium (mg/L) Analysis Run 4/24/2022 7:00 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-1 (bg)	MW-10	MW-11	MW-12	MW-2 (bg)
4/25/2016					<0.00102
4/26/2016	0.00261 (J)		<0.00102		
4/27/2016		<0.00102			
4/28/2016				<0.00102	
6/20/2016	0.00242 (J)				<0.00102
6/22/2016			<0.00102	<0.00102	
6/23/2016		<0.00102			
8/8/2016	0.00253 (J)				<0.00102
8/9/2016			<0.00102		
8/10/2016		<0.00102		<0.00102	
8/24/2016	<0.00102				<0.00102
10/3/2016	0.00211 (J)				<0.00102
10/4/2016			<0.00102		
10/5/2016		<0.00102		<0.00102	
10/26/2016	<0.00102				<0.00102
11/21/2016	<0.00102	<0.00102	<0.00102		<0.00102
11/22/2016				<0.00102	
1/17/2017	<0.00102	<0.00102	<0.00102		<0.00102
1/18/2017				<0.00102	
3/21/2017		<0.00102	<0.00102	<0.00102	
3/22/2017	0.0022 (J)				<0.00102
4/18/2017	0.0027 (J)				<0.00102
5/30/2017	0.00316 (J)		<0.00102		
5/31/2017		<0.00102		<0.00102	<0.00102
2/13/2018	0.00211 (J)				<0.00102
2/14/2018			<0.00102		
2/15/2018		0.00272 (J)		<0.00102	
5/22/2018	0.00372 (J)		<0.00102		<0.00102
5/24/2018		<0.00102		<0.00102	
6/12/2018	0.00409 (J)				<0.00102
10/17/2018	<0.00102				<0.00102
11/19/2018	<0.00102	<0.00102		<0.00102	<0.00102
11/20/2018			<0.00102		
4/10/2019	0.00471 (J)				0.00322 (J)
5/14/2019	0.00316 (J)				<0.00102
5/15/2019		0.00289 (J)	<0.00102	<0.00102	
10/8/2019	<0.00102				<0.00102
10/9/2019		<0.00102		<0.00102	
10/10/2019			<0.00102		
10/16/2019	<0.00102				<0.00102
4/6/2020	0.00275 (J)		<0.00102	<0.00102	<0.00102
4/8/2020		<0.00102			
7/13/2020	0.00245 (J)		<0.00102	<0.00102	<0.00102
7/14/2020		0.00273 (J)			
2/22/2021	0.00241				<0.00102
2/23/2021		0.00217			
2/24/2021			<0.00102	<0.00102	
7/12/2021	0.0028				<0.00102
7/20/2021		0.00098 (J)		<0.00102	
7/21/2021			<0.00102		
1/25/2022	0.00216				<0.00102
2/1/2022		<0.00102	<0.00102	0.00051 (J)	

Time Series

Constituent: Selenium (mg/L) Analysis Run 4/24/2022 7:00 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-3 (bg)	MW-4 (bg)	MW-7	MW-8
4/25/2016	<0.00102	<0.00102		
4/27/2016			0.00445 (J)	<0.00102
6/20/2016		<0.00102		
6/21/2016			<0.00102	<0.00102
6/22/2016	<0.00102			
8/9/2016	<0.00102	<0.00102		
8/24/2016	<0.00102	<0.00102		
10/3/2016		<0.00102		
10/4/2016	<0.00102			
10/26/2016	<0.00102	<0.00102		
11/21/2016	<0.00102	<0.00102		
1/18/2017	<0.00102	<0.00102		
3/22/2017	0.0141	<0.00102		
4/18/2017	0.0158	<0.00102		
5/31/2017	0.00632 (J)	<0.00102		
10/12/2017			<0.00102	<0.00102
10/13/2017			<0.00102	<0.00102
10/14/2017			<0.00102	<0.00102
10/15/2017			<0.00102	<0.00102
10/16/2017			<0.00102	<0.00102
10/17/2017			<0.00102	<0.00102
2/13/2018	0.0209	0.00403 (J)		
2/14/2018			<0.00102	<0.00102
5/23/2018		<0.00102	<0.00102	<0.00102
5/24/2018	0.00918 (J)			
6/12/2018	0.00836 (J)	<0.00102		
10/17/2018	<0.00102	<0.00102		
11/19/2018	0.00439 (J)	0.00436 (J)		
11/20/2018			<0.00102	<0.00102
4/10/2019	0.0113	<0.00102		
5/14/2019	0.0119	0.00201 (J)		
5/15/2019			<0.00102	<0.00102
10/8/2019	0.00256 (J)		<0.00102	
10/9/2019				<0.00102
10/10/2019		<0.00102		
10/16/2019	0.00286 (J)	<0.00102		
4/6/2020	0.01	0.00284 (J)		
4/8/2020			<0.00102	<0.00102
7/13/2020	0.0134			
7/14/2020		<0.00102	<0.00102	
7/15/2020				<0.00102
2/22/2021	0.0181	0.00222		
2/23/2021			<0.00102	<0.00102
7/12/2021	0.0133	0.00155		
7/20/2021			<0.00102	<0.00102
1/25/2022	0.0154	0.00224		
1/31/2022			<0.00102	
2/1/2022				<0.00102

Time Series

Constituent: Sulfate (mg/L) Analysis Run 4/24/2022 7:00 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-1 (bg)	MW-10	MW-11	MW-12	MW-2 (bg)
4/25/2016					745
4/26/2016	1490		1750		
4/27/2016		1250			
4/28/2016				2360	
6/20/2016	1420				964
6/22/2016			1720	1960	
6/23/2016		1010			
8/8/2016	1460				1100
8/9/2016			1740		
8/10/2016		992		2300	
8/24/2016	1450				1130
10/3/2016	1460				1140
10/4/2016			1750		
10/5/2016		1010		2330	
10/26/2016	1330				1060
11/21/2016	1420	834	1690		1100
11/22/2016				2220	
1/17/2017	1350	700	1670		1160
1/18/2017				1950	
3/21/2017		660	1900	2400	
3/22/2017	1500				900
4/18/2017	1300				870
5/30/2017	1400		1700		
5/31/2017		700		2200	1100
8/23/2017	1500	700	1700	2100	920
5/22/2018	2100 (o)		2200		1200
5/24/2018		560		2300	
6/12/2018	1500				860
10/17/2018	1400				970
11/19/2018	1300	720		2100	1000
11/20/2018			1400		
4/10/2019	1700				889
5/14/2019	1560				948
5/15/2019		780	1510	2800	
10/8/2019	1540				1230
10/9/2019		748		2550	
10/10/2019			719		
10/16/2019	1680				1170
4/6/2020	1530		1400	2580	786
4/8/2020		658			
7/13/2020	1450		1300	2610	843
7/14/2020		845			
2/22/2021	1400				864
2/23/2021		747			
2/24/2021			1330	2280	
7/12/2021	1560				763
7/20/2021		665		2500	
7/21/2021			1420		
1/25/2022	1430				842
2/1/2022		707	1350	2230	

Time Series

Constituent: Sulfate (mg/L) Analysis Run 4/24/2022 7:00 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-3 (bg)	MW-4 (bg)	MW-7	MW-8
4/25/2016	1890	2260		
4/27/2016			1050	1550
6/20/2016		2500		
6/21/2016			1410	1470
6/22/2016	2100			
8/9/2016	2050	2750		
8/24/2016	2190	2770		
10/3/2016		3060		
10/4/2016	1950			
10/26/2016	1980	2650		
11/21/2016	2060	2720		
1/18/2017	2620	2650		
3/22/2017	3200	2700		
4/18/2017	2500	2400		
5/31/2017	2800	2700		
8/23/2017	2600	2700		
10/12/2017			1400	1400
10/13/2017			1400	1600
10/14/2017			1300	1400
10/15/2017			1300	1400
10/16/2017			1300	1400
10/17/2017			1300	1400
11/16/2017			1300	1400
5/23/2018		2400	1900 (o)	2100 (o)
5/24/2018	2700			
6/12/2018	2500	2600		
10/17/2018	2700	2600		
11/19/2018	3000	2400		
11/20/2018			1100	1400
4/10/2019	2460	2090		
5/14/2019	2460	2240		
5/15/2019			1510	1640
10/8/2019	2950		1570	
10/9/2019				1550
10/10/2019		2690		
10/16/2019	2820	3050		
4/6/2020	1670	1810		
4/8/2020			1270	1380
7/13/2020	2130			
7/14/2020		1970	1330	
7/15/2020				1410
2/22/2021	3040	2040		
2/23/2021			1320	1420
7/12/2021	2380	1930		
7/20/2021			1170	1500
1/25/2022	2550	1930		
1/31/2022			1370	
2/1/2022				1500

Time Series

Constituent: Thallium (mg/L) Analysis Run 4/24/2022 7:00 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-1 (bg)	MW-10	MW-11	MW-12	MW-2 (bg)
4/25/2016					<0.0002
4/26/2016	<0.0002		<0.0002		
4/27/2016		<0.0002			
4/28/2016				<0.0002	
6/20/2016	<0.0002				<0.0002
6/22/2016			<0.0002	<0.0002	
6/23/2016		<0.0002			
8/8/2016	<0.0002				<0.0002
8/9/2016			<0.0002		
8/10/2016		<0.0002		<0.0002	
8/24/2016	<0.0002				<0.0002
10/3/2016	<0.0002				<0.0002
10/4/2016			<0.0002		
10/5/2016		<0.0002		<0.0002	
10/26/2016	<0.0002				<0.0002
11/21/2016	<0.0002	<0.0002	<0.0002		<0.0002
11/22/2016				<0.0002	
1/17/2017	<0.0002	<0.0002	<0.0002		<0.0002
1/18/2017				<0.0002	
3/21/2017		<0.0002	<0.0002	<0.0002	
3/22/2017	<0.0002				<0.0002
4/18/2017	<0.0002				<0.0002
5/30/2017	<0.0002		<0.0002		
5/31/2017		<0.0002		<0.0002	<0.0002
2/13/2018	<0.0002				<0.0002
2/14/2018			<0.0002		
2/15/2018		<0.0002		<0.0002	
5/22/2018	<0.0002		<0.0002		<0.0002
5/24/2018		<0.0002		<0.0002	
6/12/2018	<0.0002				<0.0002
10/17/2018	<0.0002				<0.0002
11/19/2018	<0.0002	<0.0002		<0.0002	<0.0002
11/20/2018			<0.0002		
4/10/2019	<0.0002				<0.0002
5/14/2019	<0.0002				<0.0002
5/15/2019		<0.0002	<0.0002	<0.0002	
10/8/2019	<0.0002				<0.0002
10/9/2019		<0.0002		<0.0002	
10/10/2019			<0.0002		
10/16/2019	<0.0002				<0.0002
4/6/2020	<0.0002		<0.0002	<0.0002	<0.0002
4/8/2020		<0.0002			
7/13/2020	<0.0002		<0.0002	<0.0002	<0.0002
7/14/2020		<0.0002			
2/22/2021	<0.0002				<0.0002
2/23/2021		<0.0002			
2/24/2021			<0.0002	<0.0002	
7/12/2021	<0.0002				<0.0002
7/20/2021		<0.0002		<0.0002	
7/21/2021			<0.0002		
1/25/2022	<0.0002				<0.0002
2/1/2022		<0.0002	<0.0002	0.0001 (J)	

Time Series

Constituent: Thallium (mg/L) Analysis Run 4/24/2022 7:00 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-3 (bg)	MW-4 (bg)	MW-7	MW-8
4/25/2016	0.000205 (J)	<0.0002		
4/27/2016			<0.0002	<0.0002
6/20/2016		<0.0002		
6/21/2016			<0.0002	<0.0002
6/22/2016	<0.0002			
8/9/2016	<0.0002	<0.0002		
8/24/2016	<0.0002	<0.0002		
10/3/2016		<0.0002		
10/4/2016	<0.0002			
10/26/2016	0.000209 (J)	<0.0002		
11/21/2016	<0.0002	<0.0002		
1/18/2017	<0.0002	<0.0002		
3/22/2017	<0.0002	<0.0002		
4/18/2017	<0.0002	<0.0002		
5/31/2017	<0.0002	<0.0002		
10/12/2017			<0.0002	<0.0002
10/13/2017			<0.0002	<0.0002
10/14/2017			<0.0002	<0.0002
10/15/2017			<0.0002	<0.0002
10/16/2017			<0.0002	<0.0002
10/17/2017			<0.0002	<0.0002
2/13/2018	<0.0002	<0.0002		
2/14/2018			<0.0002	<0.0002
5/23/2018		<0.0002	<0.0002	<0.0002
5/24/2018	<0.0002			
6/12/2018	<0.0002	<0.0002		
10/17/2018	<0.0002	<0.0002		
11/19/2018	0.000226 (J)	<0.0002		
11/20/2018			<0.0002	<0.0002
4/10/2019	<0.0002	<0.0002		
5/14/2019	<0.0002	<0.0002		
5/15/2019			<0.0002	<0.0002
10/8/2019	<0.0002		<0.0002	
10/9/2019				<0.0002
10/10/2019		<0.0002		
10/16/2019	<0.0002	<0.0002		
4/6/2020	<0.0002	<0.0002		
4/8/2020			<0.0002	<0.0002
7/13/2020	<0.0002			
7/14/2020		<0.0002	<0.0002	
7/15/2020				<0.0002
2/22/2021	<0.0002	<0.0002		
2/23/2021			<0.0002	<0.0002
7/12/2021	<0.0002	<0.0002		
7/20/2021			<0.0002	<0.0002
1/25/2022	<0.0002	<0.0002		
1/31/2022			<0.0002	
2/1/2022				<0.0002

Time Series

Constituent: Total Dissolved Solids (mg/L) Analysis Run 4/24/2022 7:00 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-1 (bg)	MW-10	MW-11	MW-12	MW-2 (bg)
4/25/2016					1260
4/26/2016	2080		2800		
4/27/2016		1940			
4/28/2016				3730	
6/20/2016	2060				1620
6/22/2016			2550	2760	
6/23/2016		1680			
8/8/2016	2070				1740
8/9/2016			2860		
8/10/2016		1660		3710	
8/24/2016	2040				1720
10/3/2016	2110				1800
10/4/2016			2800		
10/5/2016		1640		3580	
10/26/2016	2000				1800
11/21/2016	2070	1390	2920		1740
11/22/2016				3400	
1/17/2017	1930	1300	2750		1960
1/18/2017				3360	
3/21/2017		1170	2750	3320	
3/22/2017	2060				1510
4/18/2017	2140				1580
5/30/2017	2240		2890		
5/31/2017		1210		3440	1730
8/23/2017	2160	1160	2760	3250	1550
5/22/2018	2380		2610		1500
5/24/2018		1100		3300	
6/12/2018	2400				1550
10/17/2018	2220				1740
11/19/2018	2360	1220		3400	1990
11/20/2018			2480		
4/10/2019	2630				1250
5/14/2019	2340				1480
5/15/2019		1230	2560	3890	
10/8/2019	2330				1840
10/9/2019		1120		4090	
10/10/2019			2460		
10/16/2019	3650 (o)				1830
4/6/2020	2240		2430	4060	1440
4/8/2020		1120			
7/13/2020	2240		2400	4460	1540
7/14/2020		1270			
2/22/2021	2230				1620
2/23/2021		1110			
2/24/2021			2370	3810	
7/12/2021	2210				1390
7/20/2021		1080		3680	
7/21/2021			2210		
1/25/2022	2150				1500
2/1/2022		1050	2200	3610	

Time Series

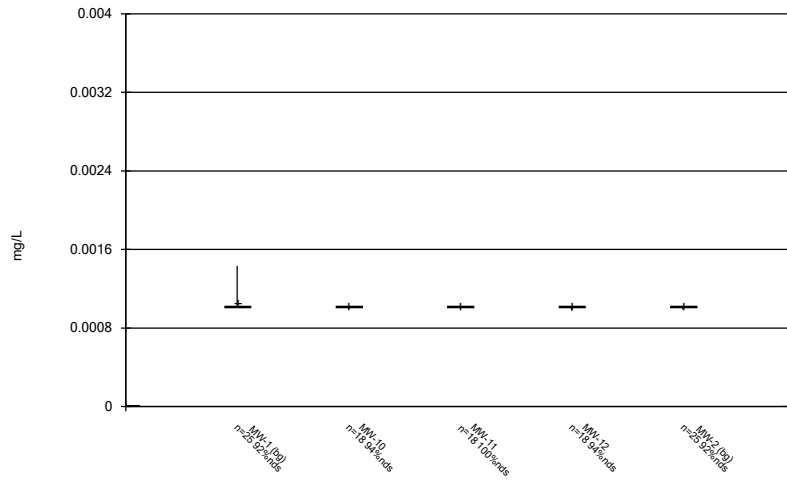
Constituent: Total Dissolved Solids (mg/L) Analysis Run 4/24/2022 7:00 PM View: Constituents View

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-3 (bg)	MW-4 (bg)	MW-7	MW-8
4/25/2016	2720	3300		
4/27/2016			1640	2480
6/20/2016		3870		
6/21/2016			2460	2360
6/22/2016	3250			
8/9/2016	3050	4140		
8/24/2016	3080	4190		
10/3/2016		4190		
10/4/2016	2900			
10/26/2016	2940	4400		
11/21/2016	3090	4230		
1/18/2017	4020	4120		
3/22/2017	4180	3980		
4/18/2017	4440	3880		
5/31/2017	3970	4210		
8/23/2017	4050	3990		
10/12/2017			2460	2530
10/13/2017			2420	2740
10/14/2017			2320	2630
10/15/2017			1150	2530
10/16/2017			2320	2740
10/17/2017			2360	2650
11/16/2017			2460	2650
5/23/2018		3740	2390	2750
5/24/2018	3680			
6/12/2018	3820	4080		
10/17/2018	4730	4250		
11/19/2018	4710	3920		
11/20/2018			2090	2520
4/10/2019	3680	3280		
5/14/2019	3580	3130		
5/15/2019			2310	2540
10/8/2019	4720		2340	
10/9/2019				2590
10/10/2019		4000		
10/16/2019	4210	4060		
4/6/2020	2630	2820		
4/8/2020			2230	2450
7/13/2020	3650			
7/14/2020		3310	2210	
7/15/2020				2460
2/22/2021	4670	3190		
2/23/2021			2320	2550
7/12/2021	3510	3000		
7/20/2021			2110	2420
1/25/2022	3950	3180		
1/31/2022			2140	
2/1/2022				2420

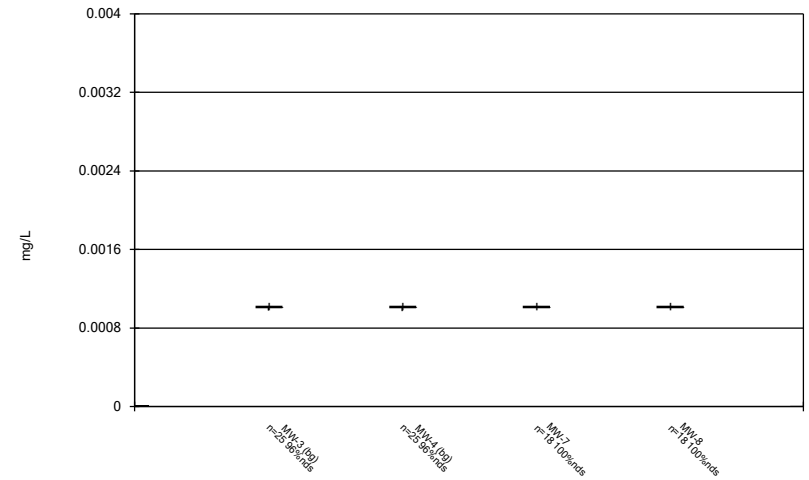
F I G U R E B .

Box & Whiskers Plot



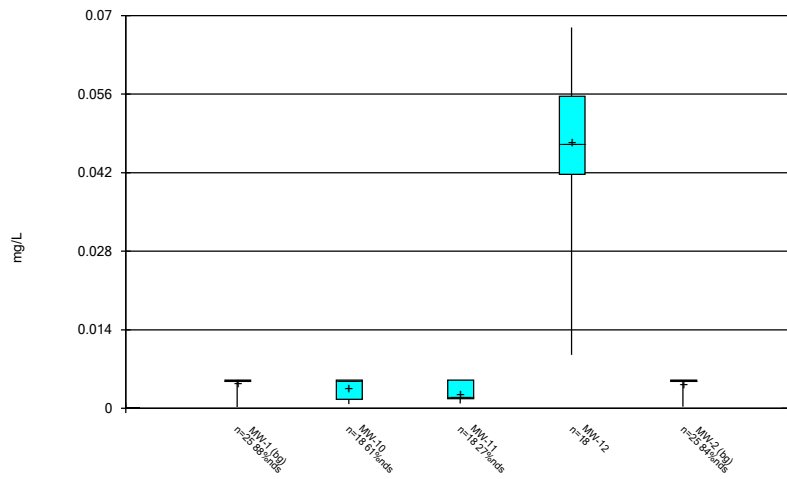
Constituent: Antimony Analysis Run 4/24/2022 7:01 PM View: Constituents View
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



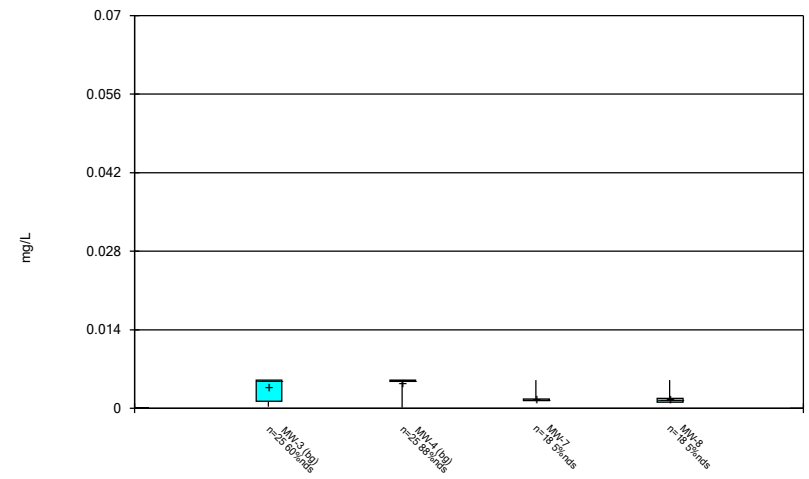
Constituent: Antimony Analysis Run 4/24/2022 7:01 PM View: Constituents View
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



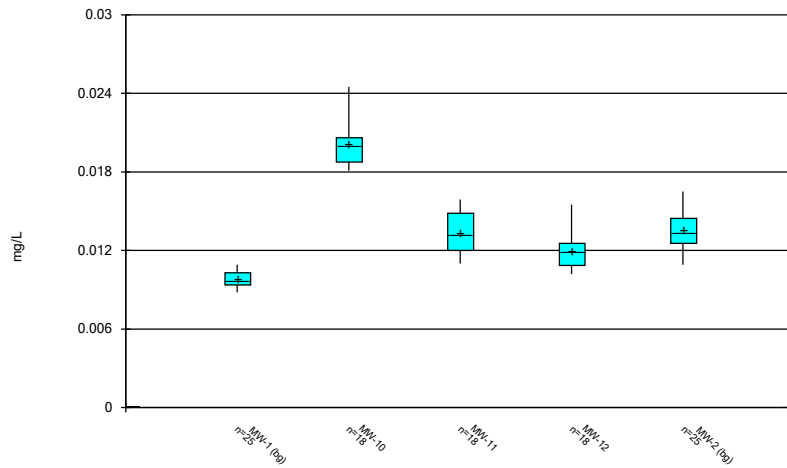
Constituent: Arsenic Analysis Run 4/24/2022 7:01 PM View: Constituents View
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



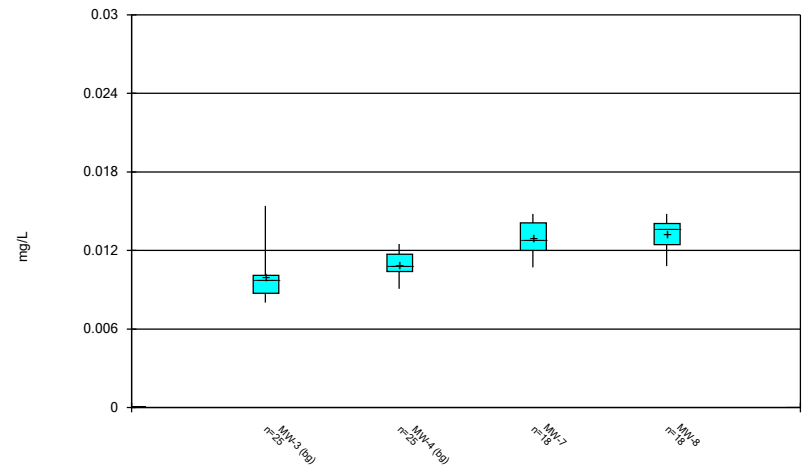
Constituent: Arsenic Analysis Run 4/24/2022 7:01 PM View: Constituents View
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



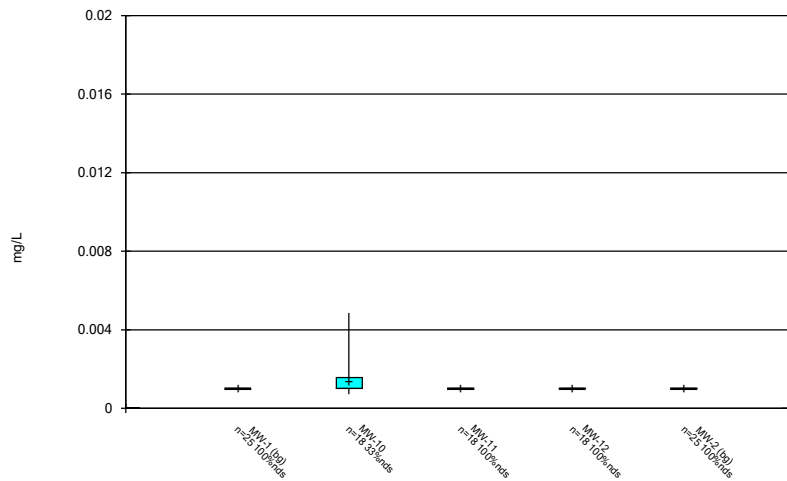
Constituent: Barium Analysis Run 4/24/2022 7:01 PM View: Constituents View
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



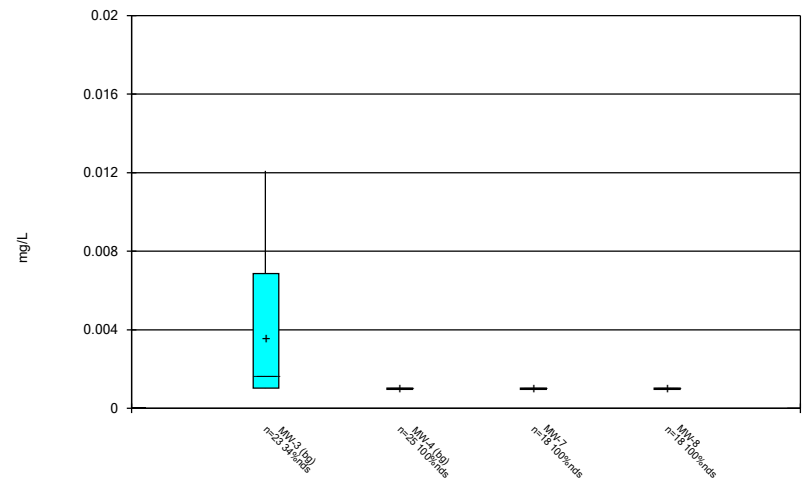
Constituent: Barium Analysis Run 4/24/2022 7:01 PM View: Constituents View
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



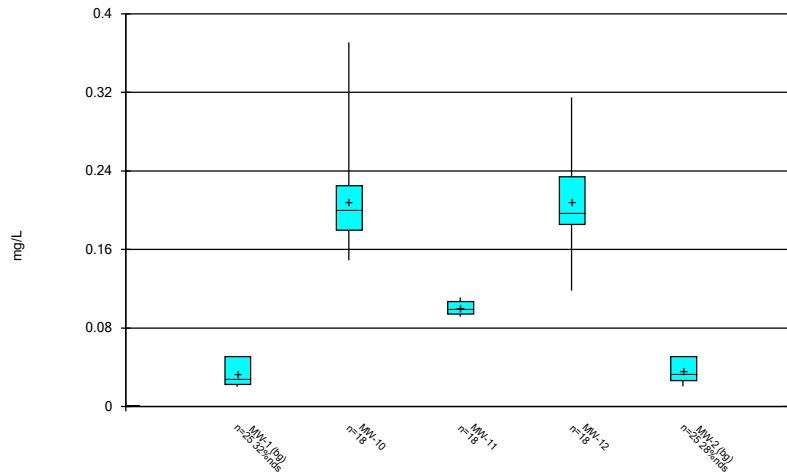
Constituent: Beryllium Analysis Run 4/24/2022 7:01 PM View: Constituents View
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



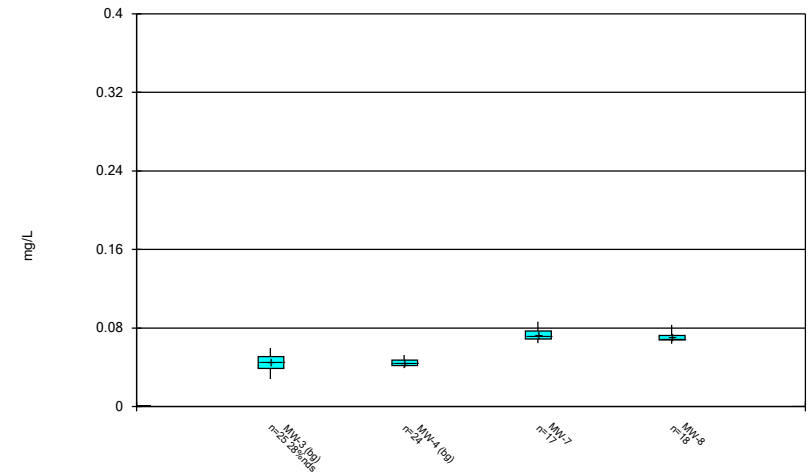
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 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



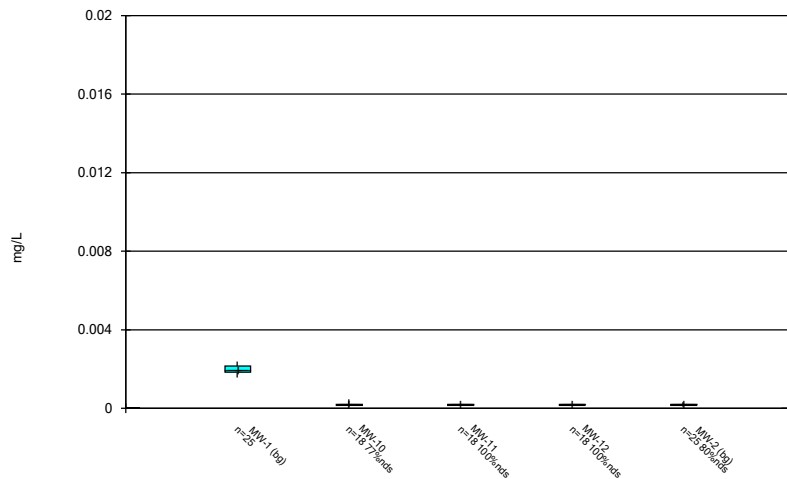
Constituent: Boron Analysis Run 4/24/2022 7:01 PM View: Constituents View
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



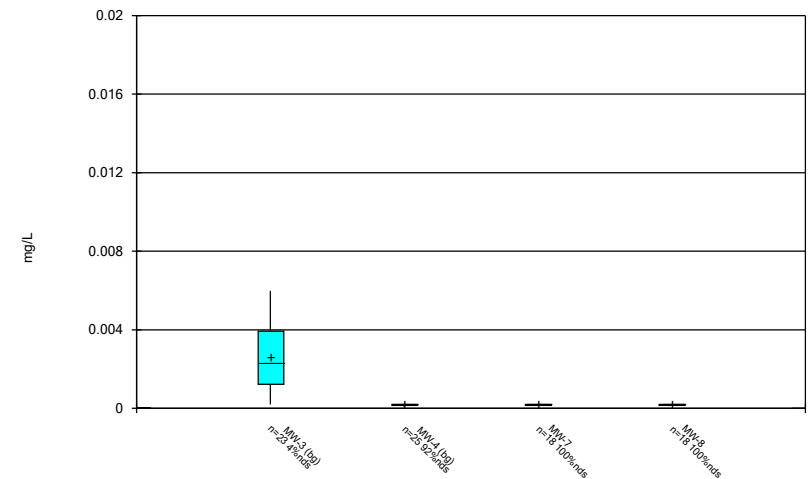
Constituent: Boron Analysis Run 4/24/2022 7:01 PM View: Constituents View
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



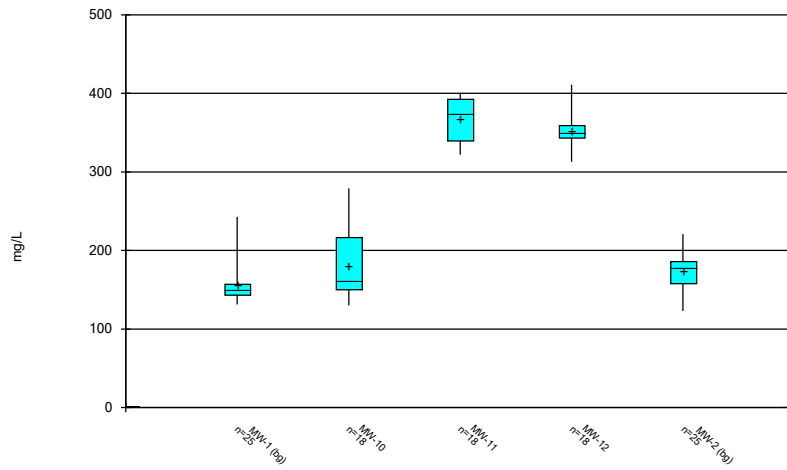
Constituent: Cadmium Analysis Run 4/24/2022 7:01 PM View: Constituents View
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



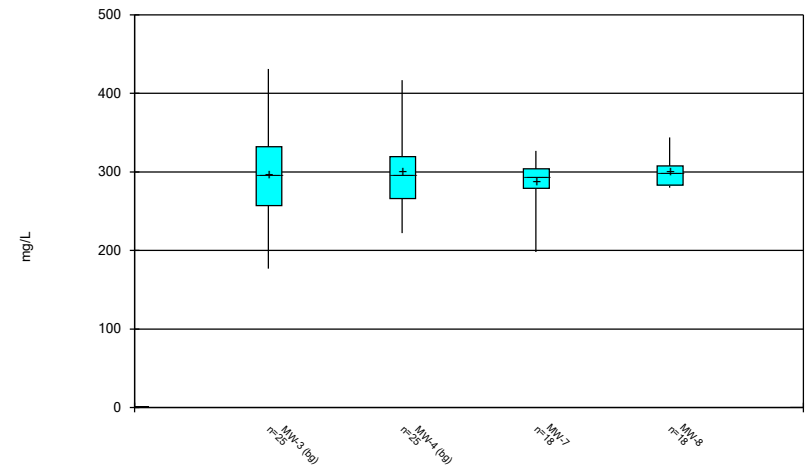
Constituent: Cadmium Analysis Run 4/24/2022 7:01 PM View: Constituents View
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



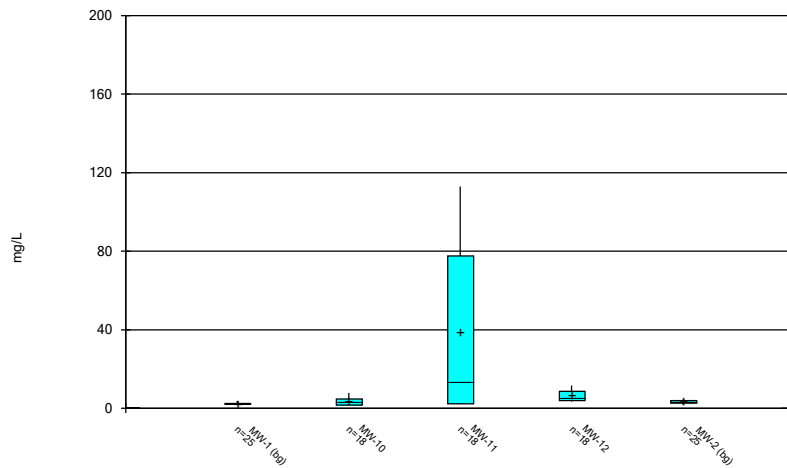
Constituent: Calcium Analysis Run 4/24/2022 7:01 PM View: Constituents View
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



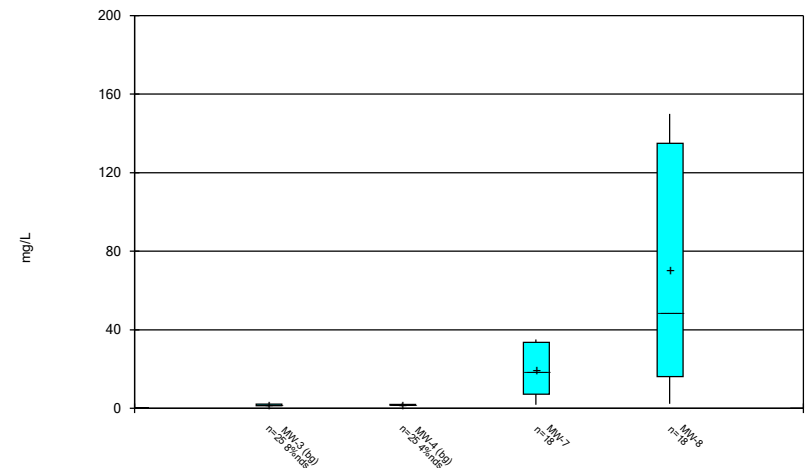
Constituent: Calcium Analysis Run 4/24/2022 7:01 PM View: Constituents View
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



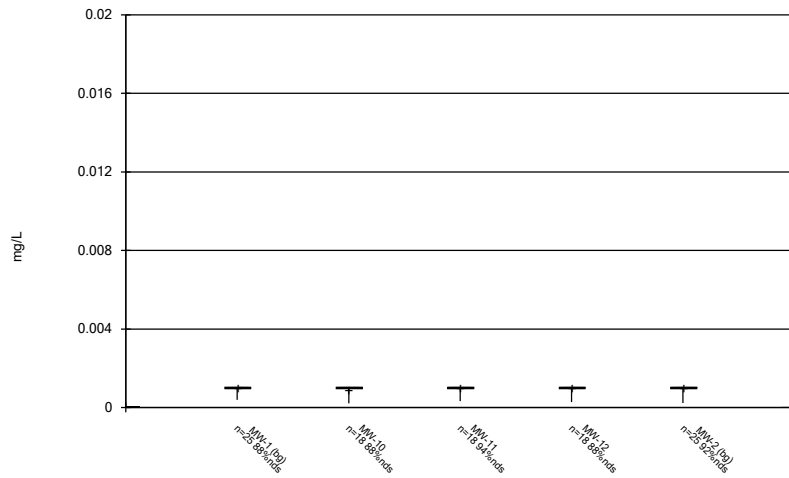
Constituent: Chloride Analysis Run 4/24/2022 7:01 PM View: Constituents View
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



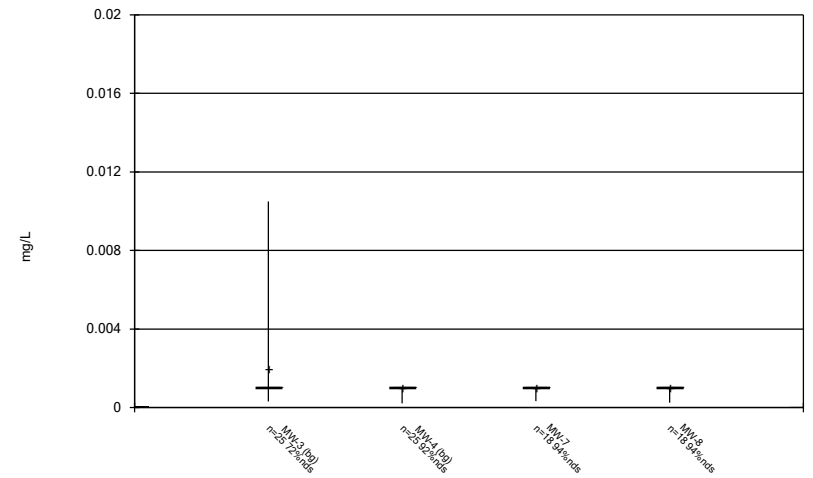
Constituent: Chloride Analysis Run 4/24/2022 7:01 PM View: Constituents View
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



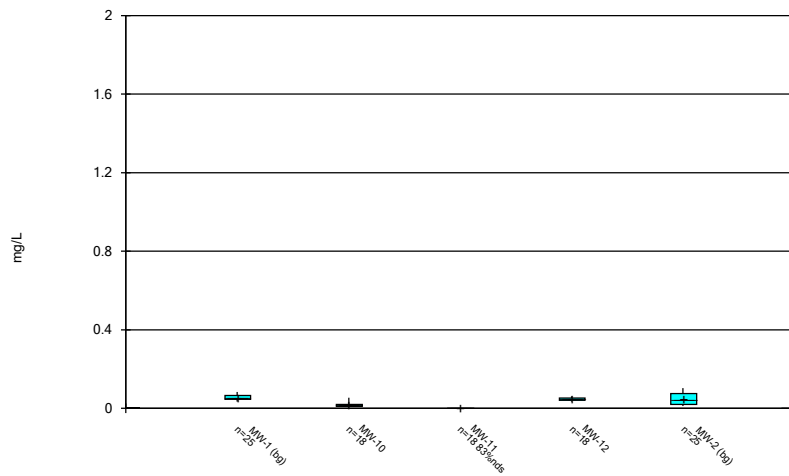
Constituent: Chromium Analysis Run 4/24/2022 7:01 PM View: Constituents View
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



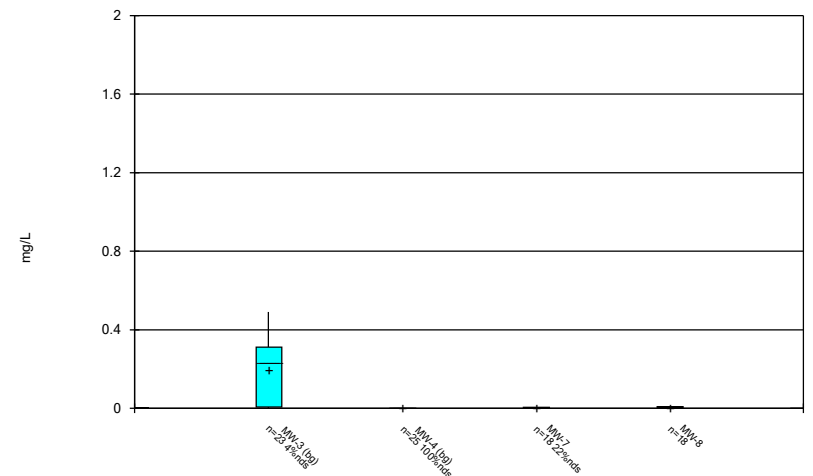
Constituent: Chromium Analysis Run 4/24/2022 7:01 PM View: Constituents View
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



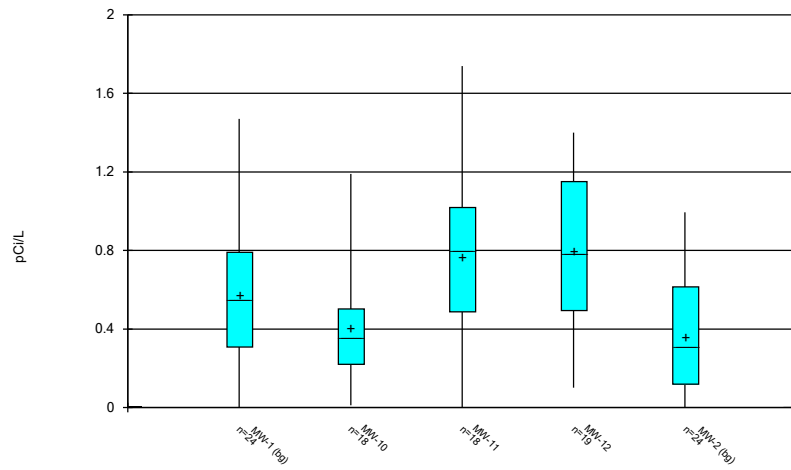
Constituent: Cobalt Analysis Run 4/24/2022 7:01 PM View: Constituents View
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



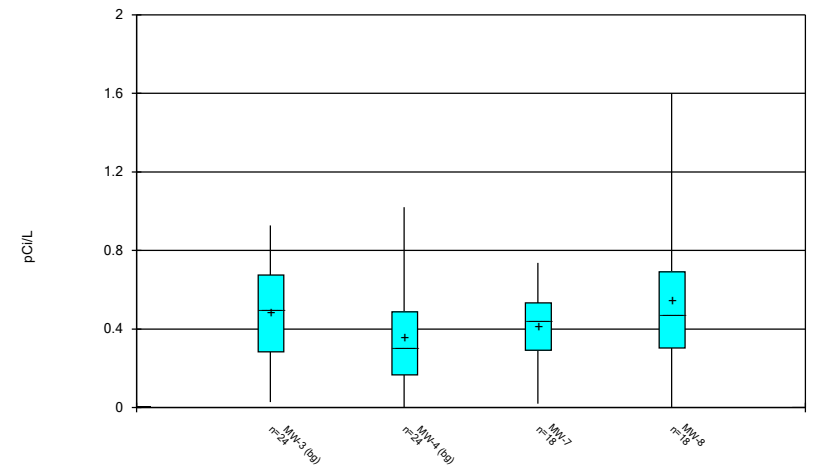
Constituent: Cobalt Analysis Run 4/24/2022 7:01 PM View: Constituents View
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



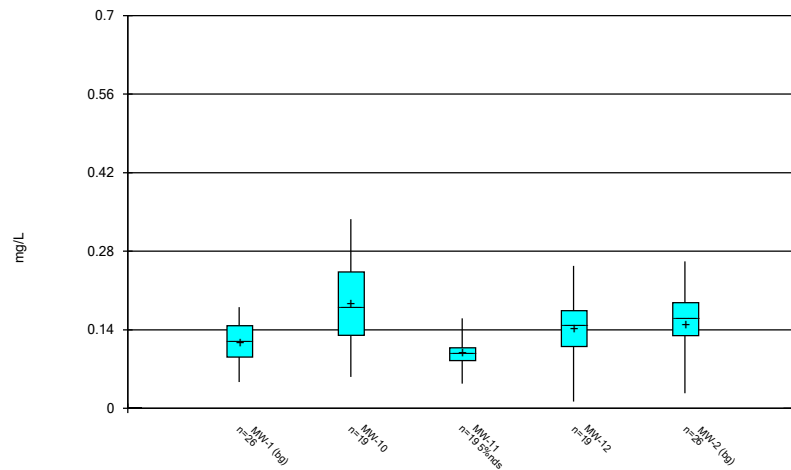
Constituent: Combined Radium 226 + 228 Analysis Run 4/24/2022 7:01 PM View: Constituents View
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



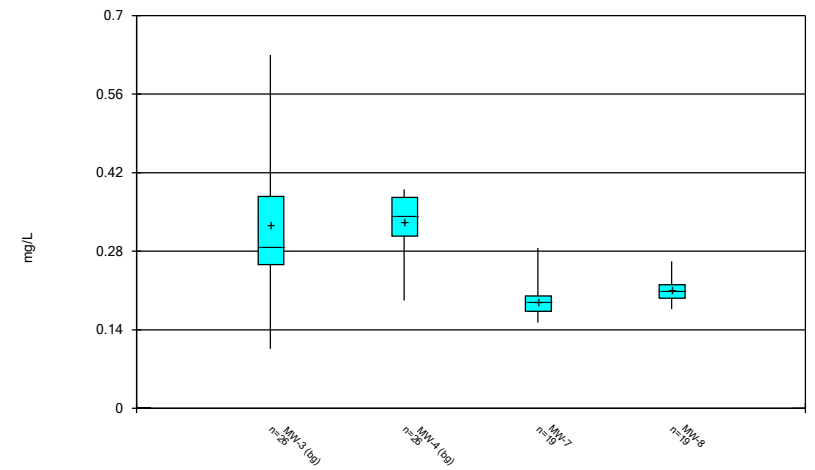
Constituent: Combined Radium 226 + 228 Analysis Run 4/24/2022 7:01 PM View: Constituents View
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



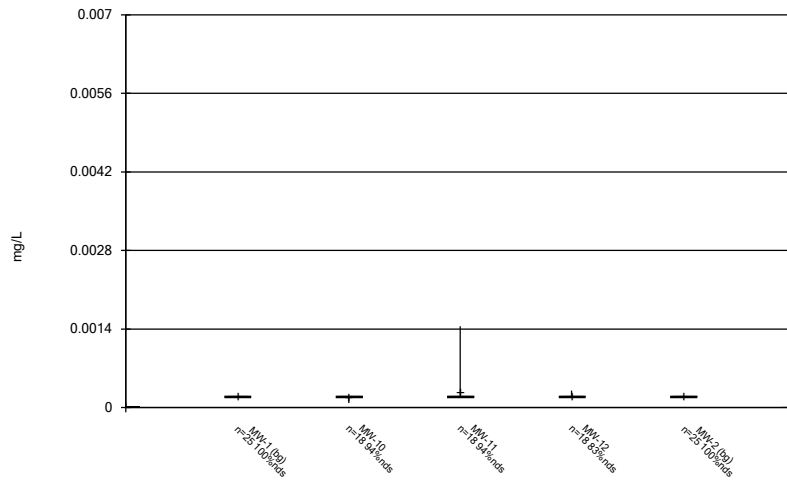
Constituent: Fluoride Analysis Run 4/24/2022 7:01 PM View: Constituents View
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



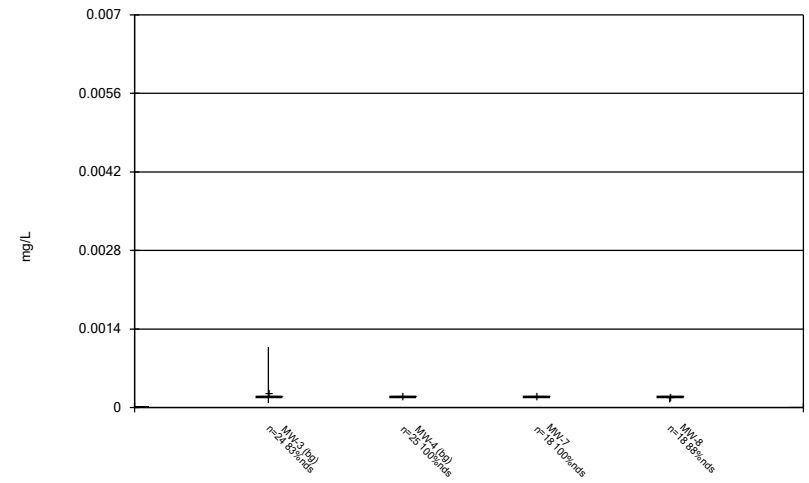
Constituent: Fluoride Analysis Run 4/24/2022 7:01 PM View: Constituents View
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



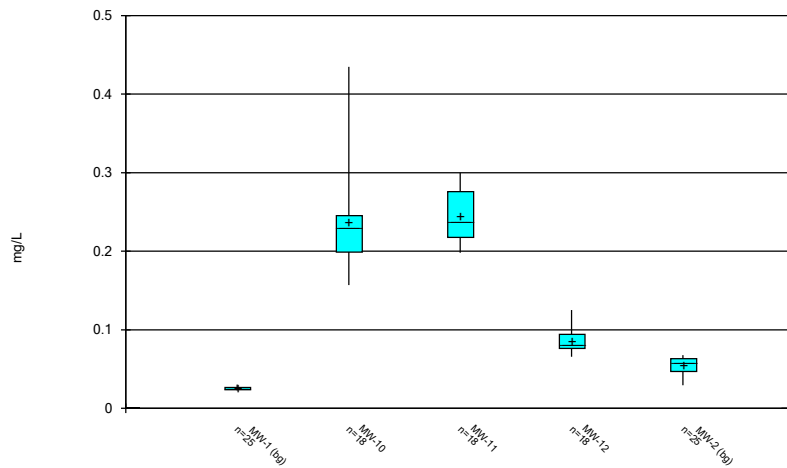
Constituent: Lead Analysis Run 4/24/2022 7:01 PM View: Constituents View
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



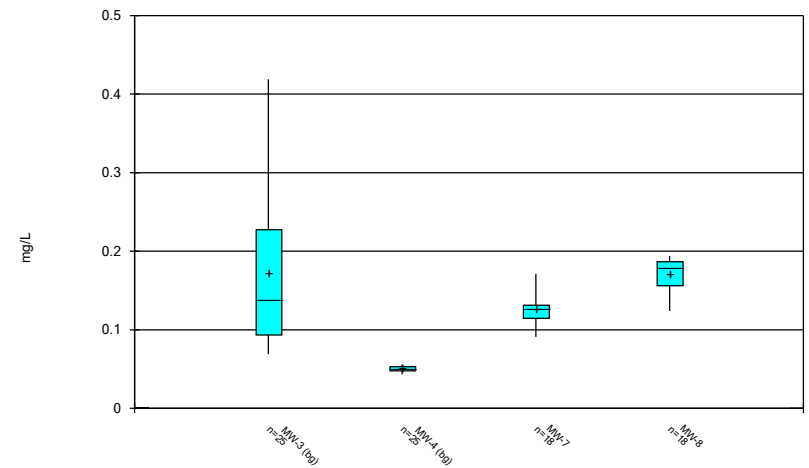
Constituent: Lead Analysis Run 4/24/2022 7:01 PM View: Constituents View
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



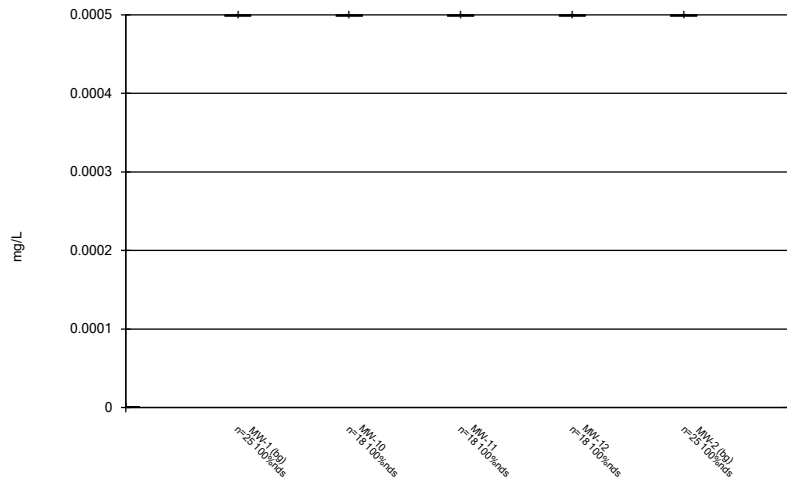
Constituent: Lithium Analysis Run 4/24/2022 7:01 PM View: Constituents View
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



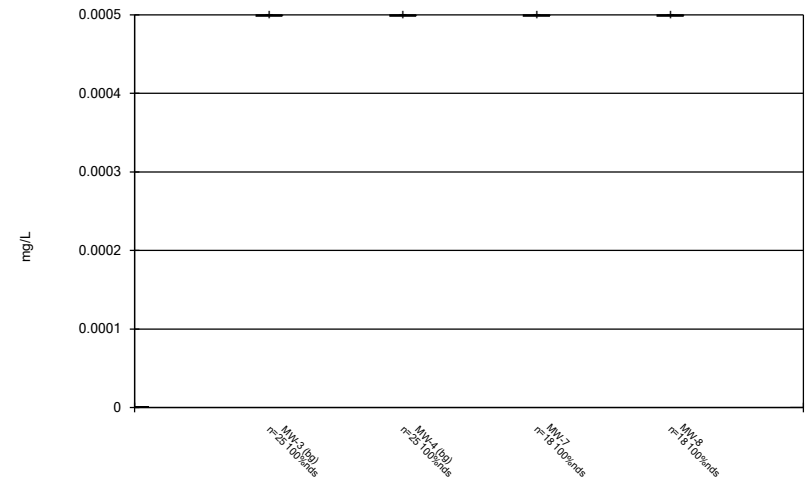
Constituent: Lithium Analysis Run 4/24/2022 7:01 PM View: Constituents View
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



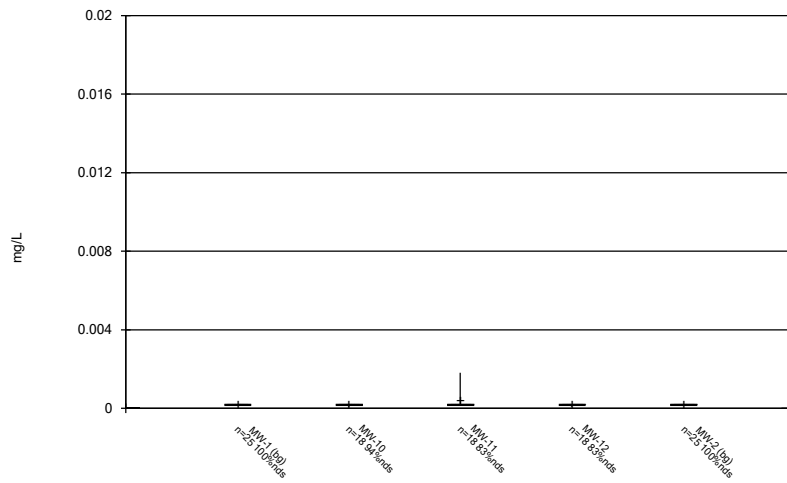
Constituent: Mercury Analysis Run 4/24/2022 7:01 PM View: Constituents View
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



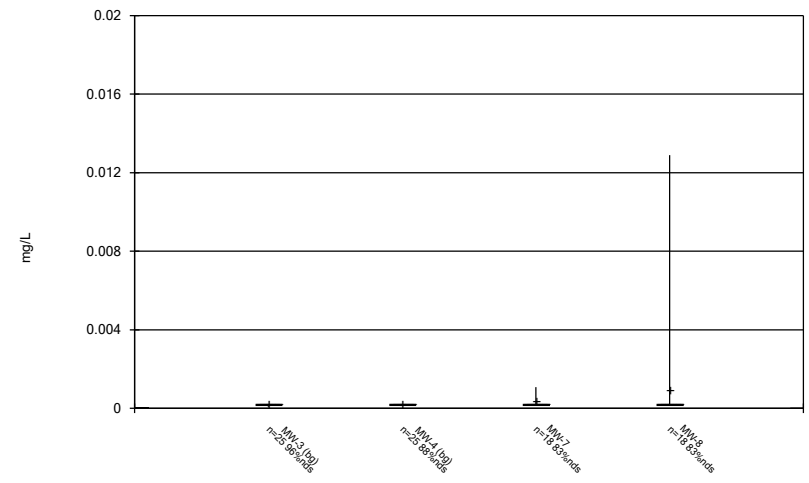
Constituent: Mercury Analysis Run 4/24/2022 7:01 PM View: Constituents View
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



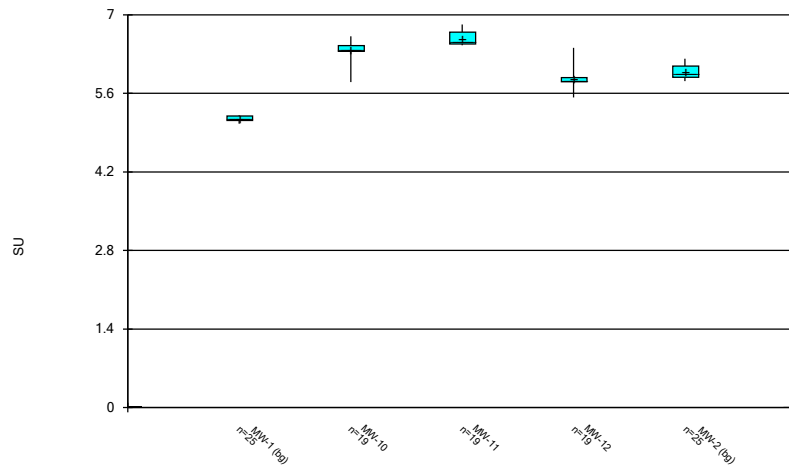
Constituent: Molybdenum Analysis Run 4/24/2022 7:01 PM View: Constituents View
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



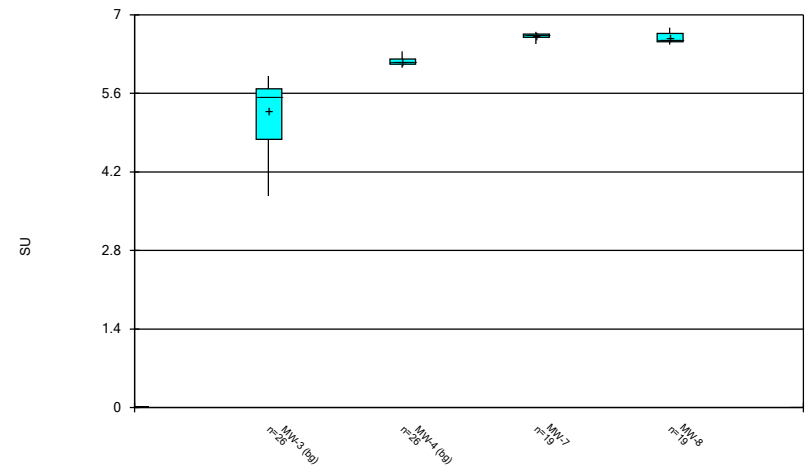
Constituent: Molybdenum Analysis Run 4/24/2022 7:01 PM View: Constituents View
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



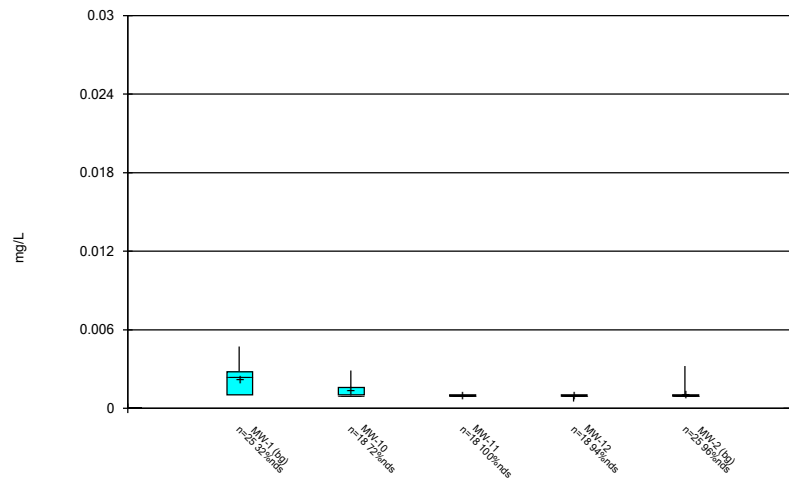
Constituent: pH Analysis Run 4/24/2022 7:01 PM View: Constituents View
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



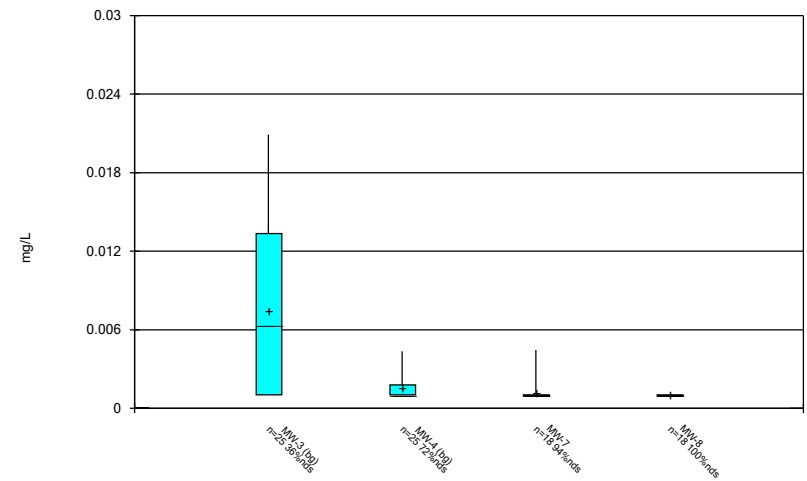
Constituent: pH Analysis Run 4/24/2022 7:01 PM View: Constituents View
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



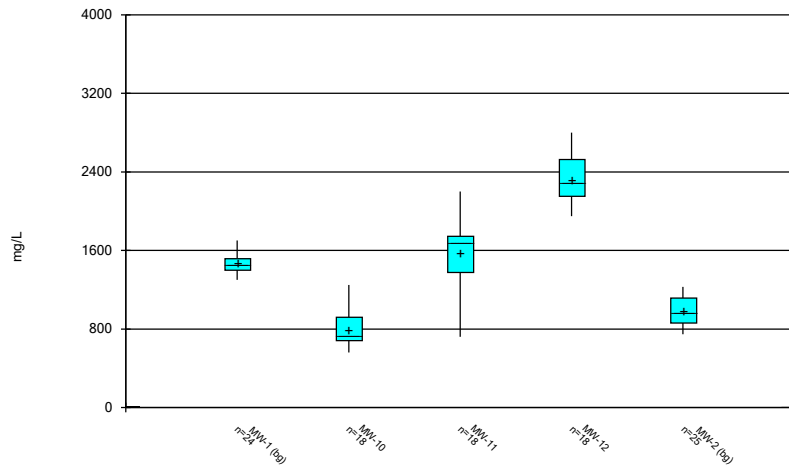
Constituent: Selenium Analysis Run 4/24/2022 7:01 PM View: Constituents View
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



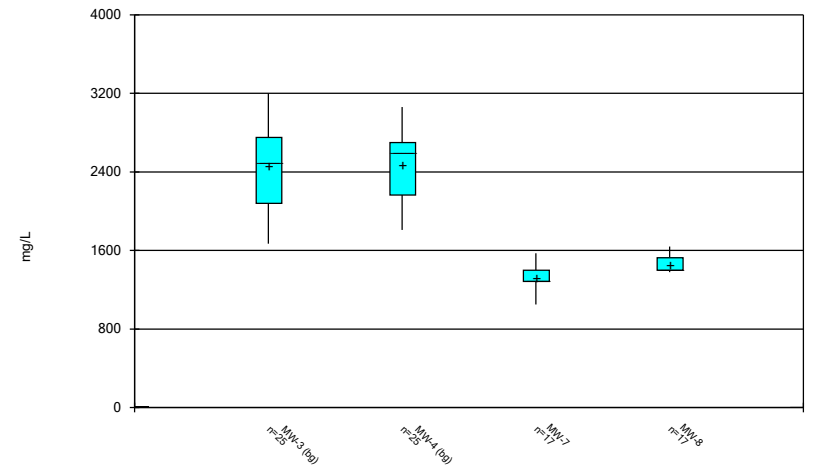
Constituent: Selenium Analysis Run 4/24/2022 7:01 PM View: Constituents View
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



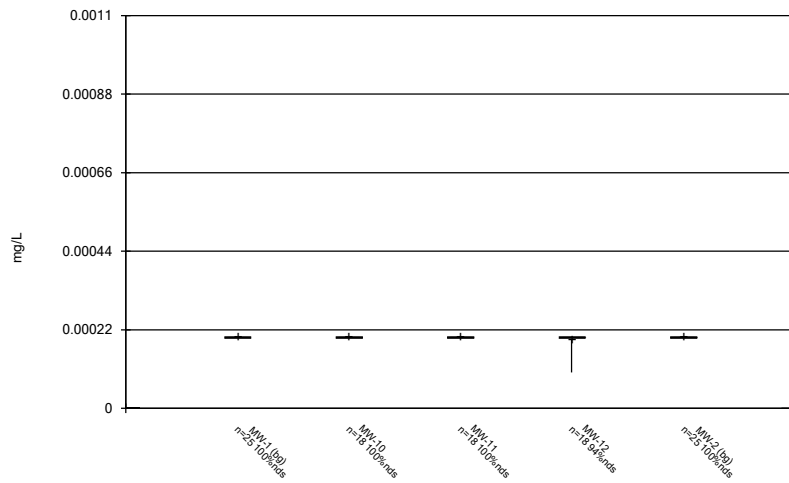
Constituent: Sulfate Analysis Run 4/24/2022 7:01 PM View: Constituents View
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



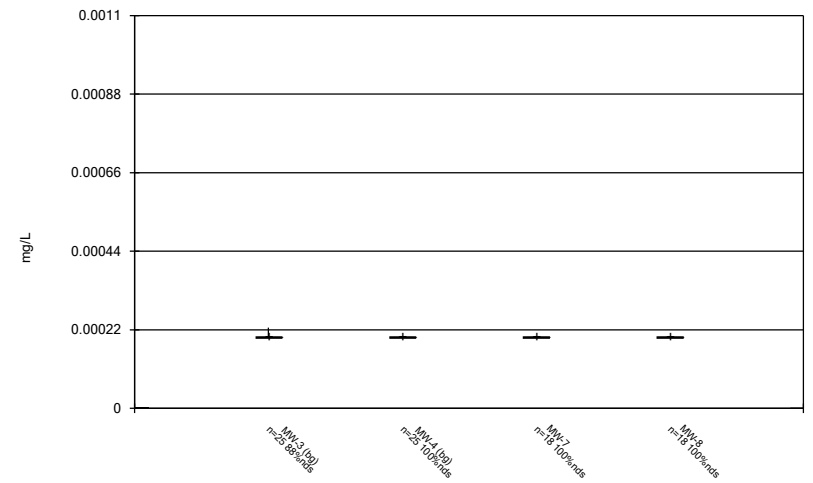
Constituent: Sulfate Analysis Run 4/24/2022 7:01 PM View: Constituents View
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



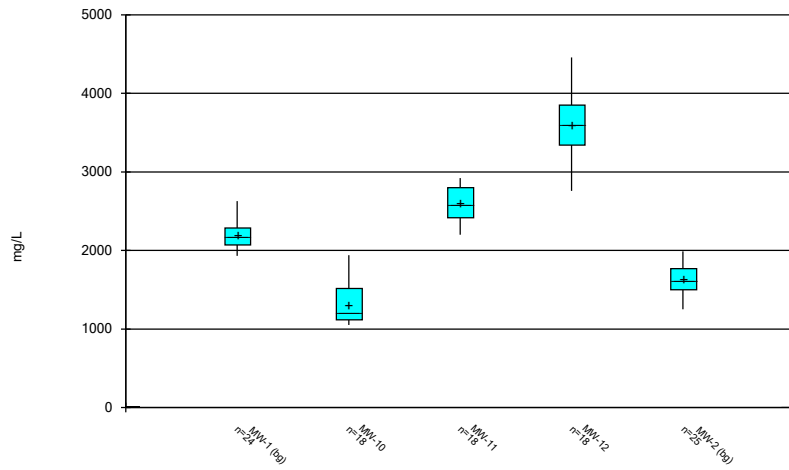
Constituent: Thallium Analysis Run 4/24/2022 7:01 PM View: Constituents View
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



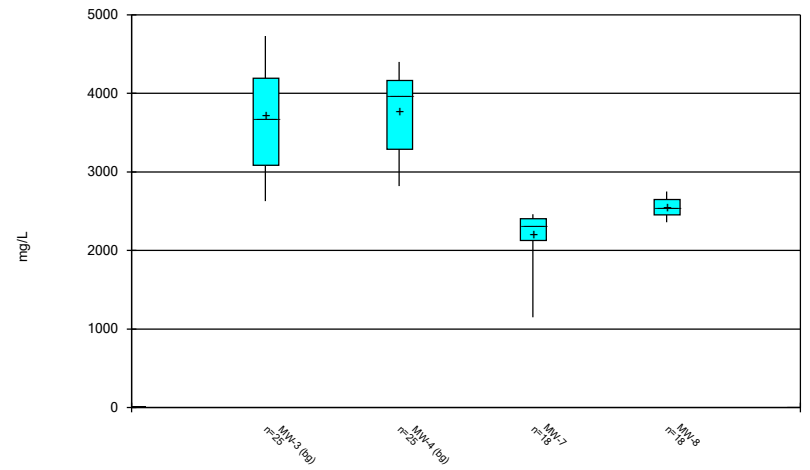
Constituent: Thallium Analysis Run 4/24/2022 7:01 PM View: Constituents View
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



Constituent: Total Dissolved Solids Analysis Run 4/24/2022 7:01 PM View: Constituents View
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



Constituent: Total Dissolved Solids Analysis Run 4/24/2022 7:01 PM View: Constituents View
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

F I G U R E C .

Outlier Summary

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR Printed 4/12/2022, 10:05 PM

Date	MW-3 Beryllium (mg/L)	MW-4 Boron (mg/L)	MW-7 Boron (mg/L)	MW-3 Cadmium (mg/L)	MW-3 Cobalt (mg/L)	MW-3 Lead (mg/L)	MW-1 Sulfate (mg/L)	MW-7 Sulfate (mg/L)	MW-8 Sulfate (mg/L)	MW-1 Total Dissolved Solids (mg/L)
4/25/2016				0.0121 (O)						
4/27/2016			0.253 (o)							
1/18/2017	0.0169 (O)									
5/22/2018						2100 (o)				
5/23/2018								1900 (o)	2100 (o)	
11/19/2018	0.0185 (O)					0.00692 (o)				
5/14/2019		<0.203 (o)								
10/8/2019					1.07 (o)					
10/16/2019					0.848 (o)					3650 (o)
7/13/2020				0.00885 (O)						

F I G U R E D .

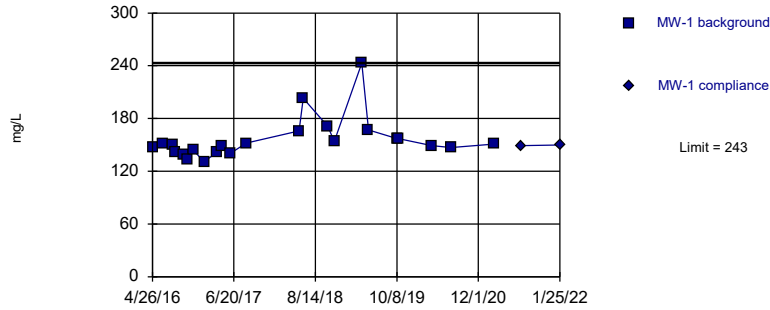
Appendix III Intrawell Prediction Limits - All Results (No Significant)

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR Printed 4/12/2022, 10:21 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Calcium (mg/L)	MW-1	243	n/a	1/25/2022	150	No	23	n/a	n/a	0	n/a	n/a	0.003415	NP Intra (normality) 1 of 2
Calcium (mg/L)	MW-10	280.7	n/a	2/1/2022	155	No	16	184.7	44.65	0	None	No	0.001504	Param Intra 1 of 2
Calcium (mg/L)	MW-11	423.3	n/a	2/1/2022	335	No	16	372.6	23.56	0	None	No	0.001504	Param Intra 1 of 2
Calcium (mg/L)	MW-12	402.8	n/a	2/1/2022	334	No	16	355.6	21.98	0	None	No	0.001504	Param Intra 1 of 2
Calcium (mg/L)	MW-2	216.2	n/a	1/25/2022	179	No	23	174.2	20.8	0	None	No	0.001504	Param Intra 1 of 2
Calcium (mg/L)	MW-3	420.1	n/a	1/25/2022	285	No	23	300	59.54	0	None	No	0.001504	Param Intra 1 of 2
Calcium (mg/L)	MW-4	388.9	n/a	1/25/2022	259	No	23	304.8	41.68	0	None	No	0.001504	Param Intra 1 of 2
Calcium (mg/L)	MW-7	345.2	n/a	1/31/2022	278	No	16	85434	15683	0	None	x^2	0.001504	Param Intra 1 of 2
Calcium (mg/L)	MW-8	341.3	n/a	2/1/2022	284	No	16	303.1	17.76	0	None	No	0.001504	Param Intra 1 of 2
Fluoride (mg/L)	MW-1	0.1903	n/a	1/25/2022	0.101	No	24	0.1172	0.03644	0	None	No	0.001504	Param Intra 1 of 2
Fluoride (mg/L)	MW-10	0.3437	n/a	2/1/2022	0.157	No	17	0.1839	0.0751	0	None	No	0.001504	Param Intra 1 of 2
Fluoride (mg/L)	MW-11	0.1477	n/a	2/1/2022	0.0848J	No	17	0.09621	0.0242	5.882	None	No	0.001504	Param Intra 1 of 2
Fluoride (mg/L)	MW-12	0.2219	n/a	2/1/2022	0.174	No	13	0.1188	0.04526	0	None	No	0.001504	Param Intra 1 of 2
Fluoride (mg/L)	MW-2	0.2565	n/a	1/25/2022	0.204	No	24	0.1456	0.05538	0	None	No	0.001504	Param Intra 1 of 2
Fluoride (mg/L)	MW-3	0.5975	n/a	1/25/2022	0.325	No	24	0.3299	0.1336	0	None	No	0.001504	Param Intra 1 of 2
Fluoride (mg/L)	MW-4	0.4243	n/a	1/25/2022	0.364	No	24	0.1114	0.03425	0	None	x^2	0.001504	Param Intra 1 of 2
Fluoride (mg/L)	MW-7	0.2155	n/a	1/31/2022	0.173	No	17	0.1848	0.01443	0	None	No	0.001504	Param Intra 1 of 2
Fluoride (mg/L)	MW-8	0.2349	n/a	2/1/2022	0.177	No	17	0.21	0.01171	0	None	No	0.001504	Param Intra 1 of 2
Sulfate (mg/L)	MW-1	1672	n/a	1/25/2022	1430	No	22	1461	104.1	0	None	No	0.001504	Param Intra 1 of 2
Sulfate (mg/L)	MW-10	1188	n/a	2/1/2022	707	No	16	807.1	176.9	0	None	No	0.001504	Param Intra 1 of 2
Sulfate (mg/L)	MW-11	2292	n/a	2/1/2022	1350	No	16	1592	325.4	0	None	No	0.001504	Param Intra 1 of 2
Sulfate (mg/L)	MW-12	2822	n/a	2/1/2022	2230	No	16	2315	235.6	0	None	No	0.001504	Param Intra 1 of 2
Sulfate (mg/L)	MW-2	1284	n/a	1/25/2022	842	No	23	997.8	141.7	0	None	No	0.001504	Param Intra 1 of 2
Sulfate (mg/L)	MW-3	3300	n/a	1/25/2022	2550	No	23	2451	421.1	0	None	No	0.001504	Param Intra 1 of 2
Sulfate (mg/L)	MW-4	3165	n/a	1/25/2022	1930	No	23	2511	324	0	None	No	0.001504	Param Intra 1 of 2
Sulfate (mg/L)	MW-7	1614	n/a	1/31/2022	1370	No	15	1324	132.3	0	None	No	0.001504	Param Intra 1 of 2
Sulfate (mg/L)	MW-8	1640	n/a	2/1/2022	1500	No	15	n/a	n/a	0	n/a	n/a	0.007533	NP Intra (normality) 1 of 2
Total Dissolved Solids (mg/L)	MW-1	2530	n/a	1/25/2022	2150	No	22	2197	164	0	None	No	0.001504	Param Intra 1 of 2
Total Dissolved Solids (mg/L)	MW-10	1925	n/a	2/1/2022	1050	No	16	7.179	0.1783	0	None	ln(x)	0.001504	Param Intra 1 of 2
Total Dissolved Solids (mg/L)	MW-11	3052	n/a	2/1/2022	2200	No	16	2649	187.2	0	None	No	0.001504	Param Intra 1 of 2
Total Dissolved Solids (mg/L)	MW-12	4477	n/a	2/1/2022	3610	No	16	3598	408.9	0	None	No	0.001504	Param Intra 1 of 2
Total Dissolved Solids (mg/L)	MW-2	2034	n/a	1/25/2022	1500	No	23	1643	193.7	0	None	No	0.001504	Param Intra 1 of 2
Total Dissolved Solids (mg/L)	MW-3	5097	n/a	1/25/2022	3950	No	23	3729	678.1	0	None	No	0.001504	Param Intra 1 of 2
Total Dissolved Solids (mg/L)	MW-4	4623	n/a	1/25/2022	3180	No	23	1.5e7	3201096	0	None	x^2	0.001504	Param Intra 1 of 2
Total Dissolved Solids (mg/L)	MW-7	2598	n/a	1/31/2022	2140	No	16	6.3e16	2.6e16	0	None	x^5	0.001504	Param Intra 1 of 2
Total Dissolved Solids (mg/L)	MW-8	2817	n/a	2/1/2022	2420	No	16	2573	113.3	0	None	No	0.001504	Param Intra 1 of 2

Within Limit

Prediction Limit
Intrawell Non-parametric

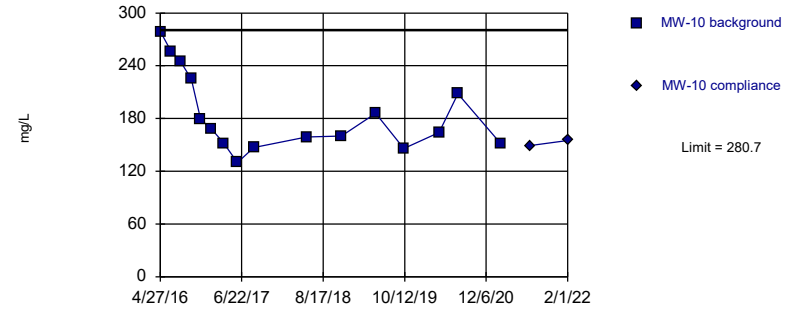


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 23 background values. Well-constituent pair annual alpha = 0.006819. Individual comparison alpha = 0.003415 (1 of 2).

Constituent: Calcium Analysis Run 4/12/2022 10:19 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Within Limit

Prediction Limit
Intrawell Parametric

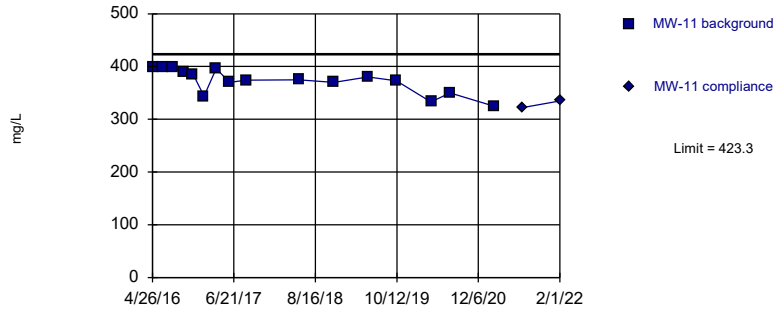


Background Data Summary: Mean=184.7, Std. Dev.=44.65, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.884, critical = 0.844. Kappa = 2.15 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Constituent: Calcium Analysis Run 4/12/2022 10:19 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Within Limit

Prediction Limit
Intrawell Parametric

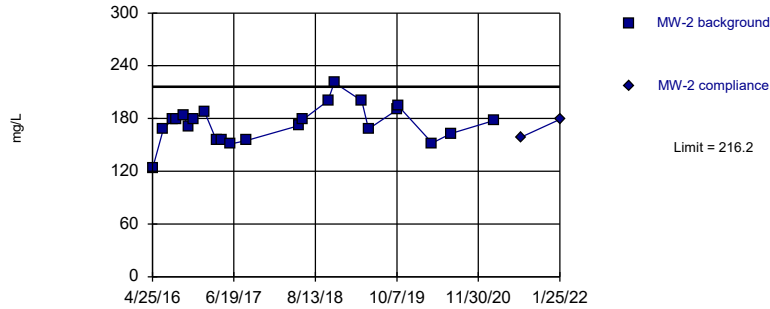


Background Data Summary: Mean=372.6, Std. Dev.=23.56, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.908, critical = 0.844. Kappa = 2.15 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Constituent: Calcium Analysis Run 4/12/2022 10:19 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Within Limit

Prediction Limit
Intrawell Parametric

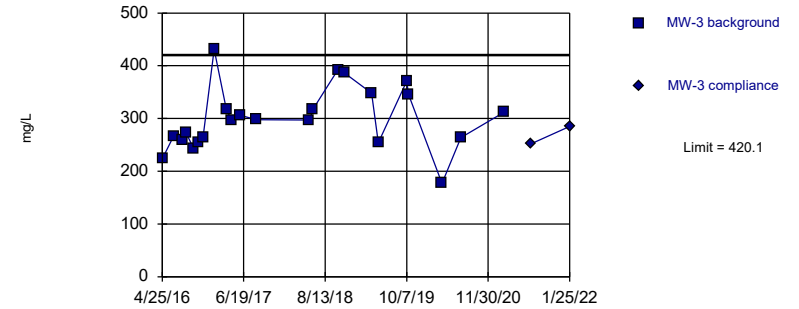


Background Data Summary: Mean=174.2, Std. Dev.=20.8, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9781, critical = 0.881. Kappa = 2.017 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Constituent: Calcium Analysis Run 4/12/2022 10:19 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Within Limit

Prediction Limit
Intrawell Parametric

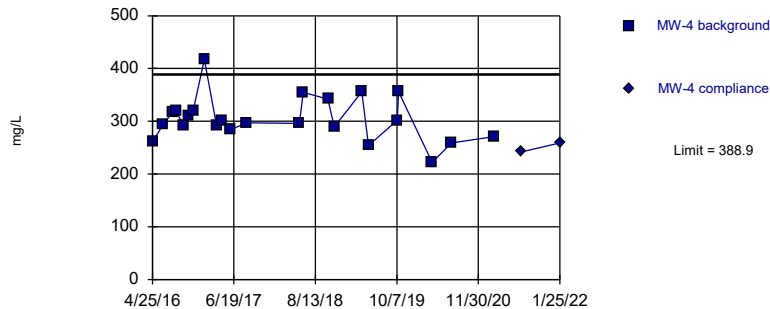


Background Data Summary: Mean=300, Std. Dev.=59.54, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9749, critical = 0.881. Kappa = 2.017 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Constituent: Calcium Analysis Run 4/12/2022 10:19 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Within Limit

Prediction Limit
Intrawell Parametric

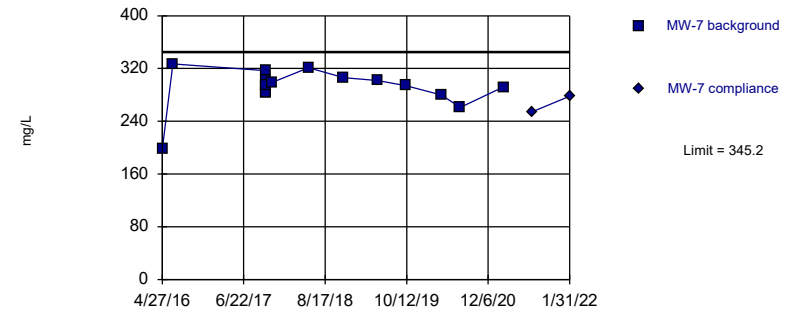


Background Data Summary: Mean=304.8, Std. Dev.=41.68, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9567, critical = 0.881. Kappa = 2.017 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Constituent: Calcium Analysis Run 4/12/2022 10:19 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Within Limit

Prediction Limit
Intrawell Parametric

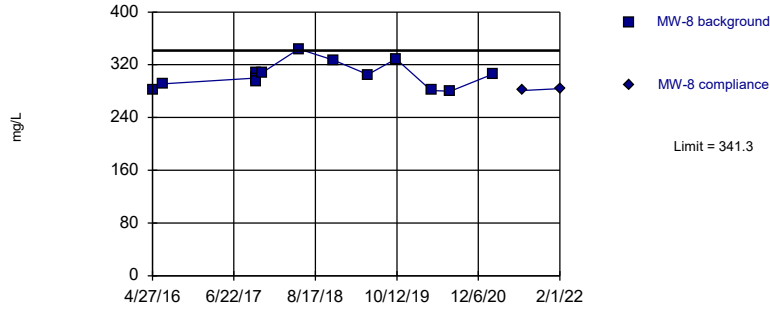


Background Data Summary (based on square transformation): Mean=85434, Std. Dev.=15683, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8569, critical = 0.844. Kappa = 2.15 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Constituent: Calcium Analysis Run 4/12/2022 10:19 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Within Limit

Prediction Limit
Intrawell Parametric

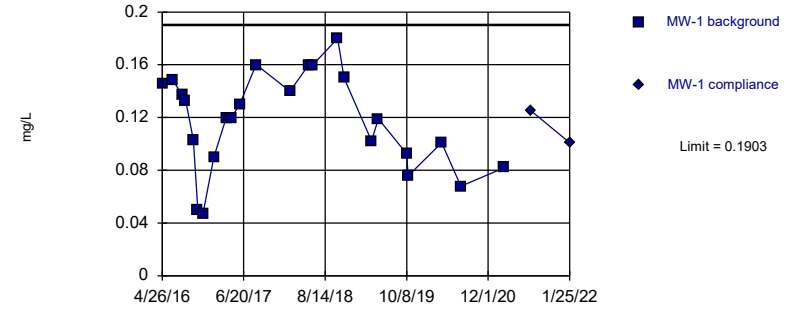


Background Data Summary: Mean=303.1, Std. Dev.=17.76, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9165, critical = 0.844. Kappa = 2.15 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Constituent: Calcium Analysis Run 4/12/2022 10:19 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Within Limit

Prediction Limit
Intrawell Parametric

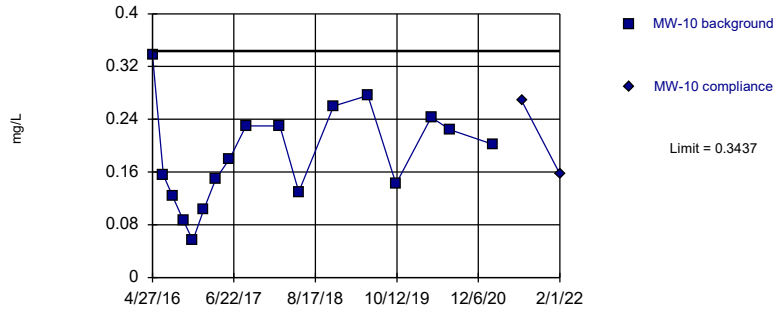


Background Data Summary: Mean=0.1172, Std. Dev.=0.03644, n=24. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9658, critical = 0.884. Kappa = 2.004 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Constituent: Fluoride Analysis Run 4/12/2022 10:19 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Within Limit

Prediction Limit
Intrawell Parametric



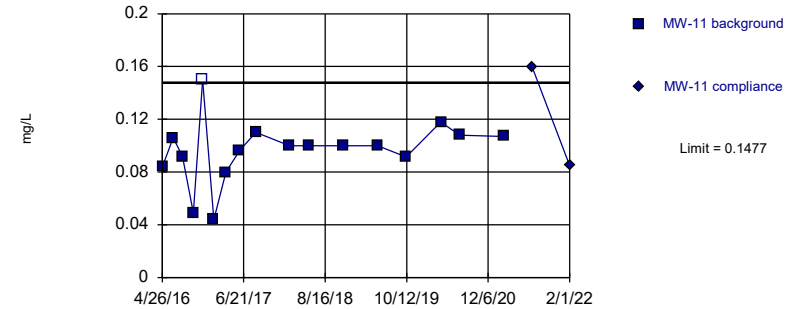
Background Data Summary: Mean=0.1839, Std. Dev.=0.0751, n=17. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9812, critical = 0.851. Kappa = 2.127 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Constituent: Fluoride Analysis Run 4/12/2022 10:19 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Hollow symbols indicate censored values.

Within Limit

Prediction Limit
Intrawell Parametric

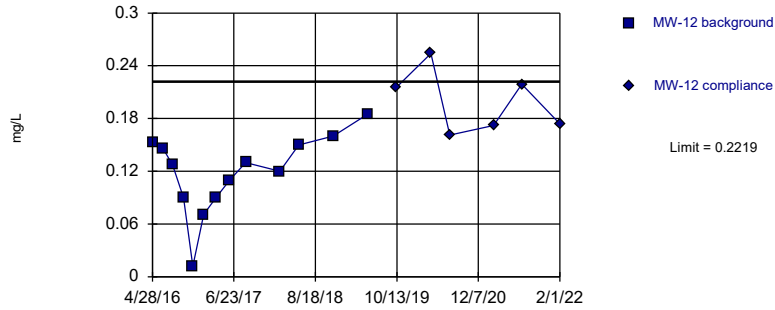


Background Data Summary: Mean=0.09621, Std. Dev.=0.0242, n=17, 5.882% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8998, critical = 0.851. Kappa = 2.127 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Constituent: Fluoride Analysis Run 4/12/2022 10:19 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Within Limit

Prediction Limit Intrawell Parametric

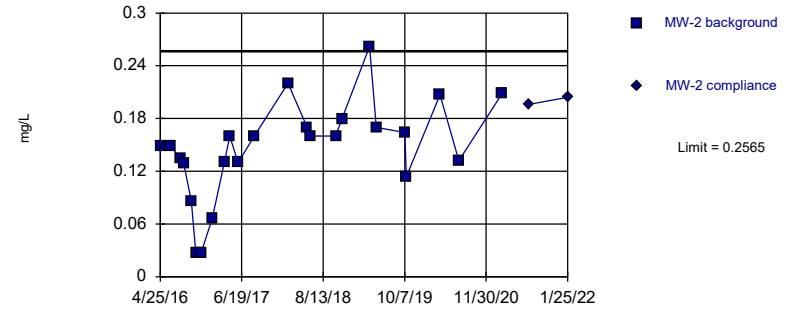


Background Data Summary: Mean=0.1188, Std. Dev.=0.04526, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9427, critical = 0.814. Kappa = 2.279 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Constituent: Fluoride Analysis Run 4/12/2022 10:19 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Within Limit

Prediction Limit Intrawell Parametric

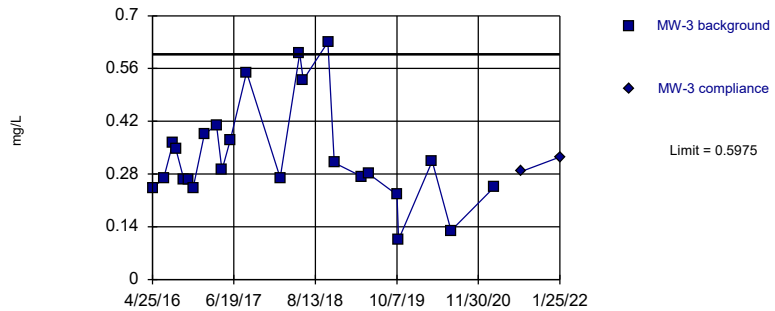


Background Data Summary: Mean=0.1456, Std. Dev.=0.05538, n=24. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9466, critical = 0.884. Kappa = 2.004 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Constituent: Fluoride Analysis Run 4/12/2022 10:19 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Within Limit

Prediction Limit Intrawell Parametric

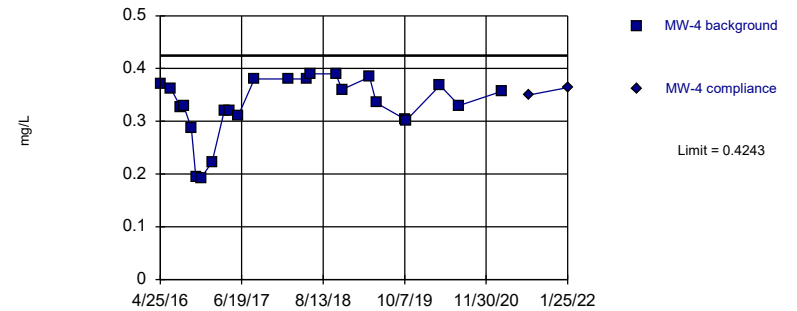


Background Data Summary: Mean=0.3299, Std. Dev.=0.1336, n=24. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9032, critical = 0.884. Kappa = 2.004 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Constituent: Fluoride Analysis Run 4/12/2022 10:19 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Within Limit

Prediction Limit Intrawell Parametric

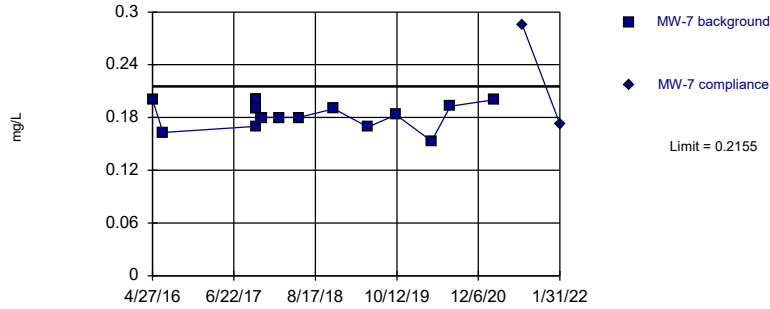


Background Data Summary (based on square transformation): Mean=0.1114, Std. Dev.=0.03425, n=24. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.897, critical = 0.884. Kappa = 2.004 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Constituent: Fluoride Analysis Run 4/12/2022 10:19 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Within Limit

Prediction Limit
Intrawell Parametric

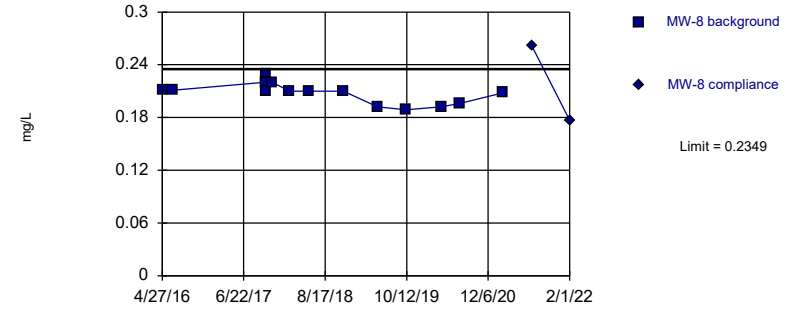


Background Data Summary: Mean=0.1848, Std. Dev.=0.01443, n=17. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9003, critical = 0.851. Kappa = 2.127 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Constituent: Fluoride Analysis Run 4/12/2022 10:19 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Within Limit

Prediction Limit
Intrawell Parametric

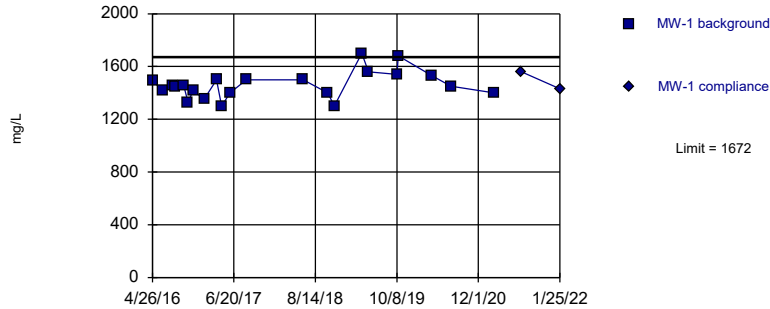


Background Data Summary: Mean=0.21, Std. Dev.=0.01171, n=17. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.904, critical = 0.851. Kappa = 2.127 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Constituent: Fluoride Analysis Run 4/12/2022 10:19 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Within Limit

Prediction Limit
Intrawell Parametric

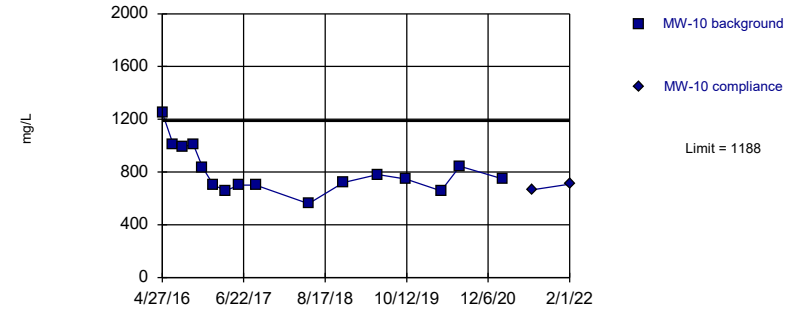


Background Data Summary: Mean=1461, Std. Dev.=104.1, n=22. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9462, critical = 0.878. Kappa = 2.031 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Constituent: Sulfate Analysis Run 4/12/2022 10:19 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Within Limit

Prediction Limit
Intrawell Parametric

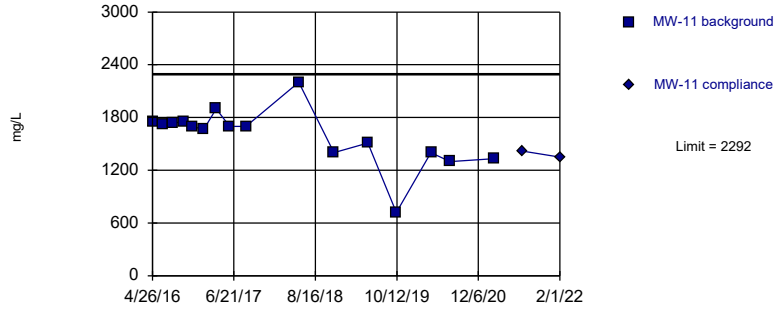


Background Data Summary: Mean=807.1, Std. Dev.=176.9, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8929, critical = 0.844. Kappa = 2.15 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Constituent: Sulfate Analysis Run 4/12/2022 10:19 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Within Limit

Prediction Limit
Intrawell Parametric

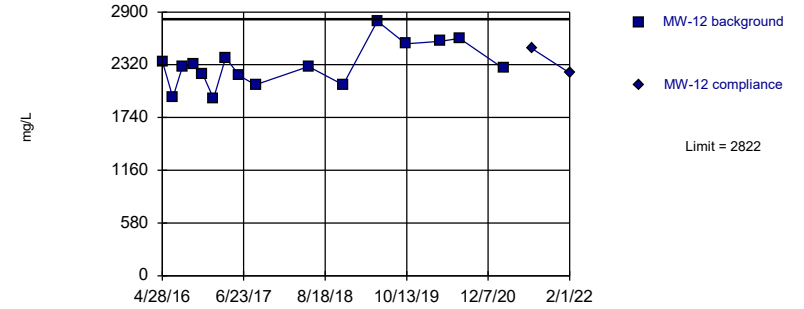


Background Data Summary: Mean=1592, Std. Dev.=325.4, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8949, critical = 0.844. Kappa = 2.15 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Constituent: Sulfate Analysis Run 4/12/2022 10:19 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Within Limit

Prediction Limit
Intrawell Parametric

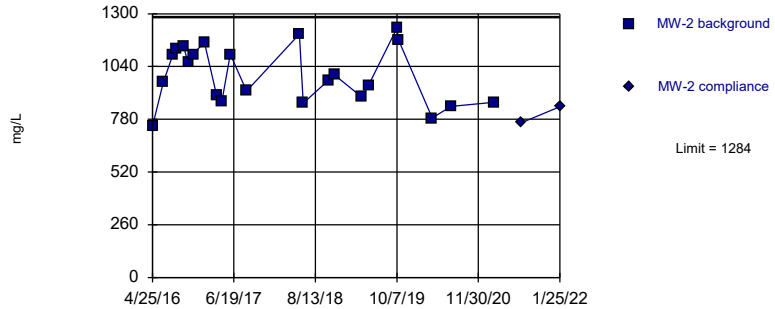


Background Data Summary: Mean=2315, Std. Dev.=235.6, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.968, critical = 0.844. Kappa = 2.15 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Constituent: Sulfate Analysis Run 4/12/2022 10:19 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Within Limit

Prediction Limit
Intrawell Parametric

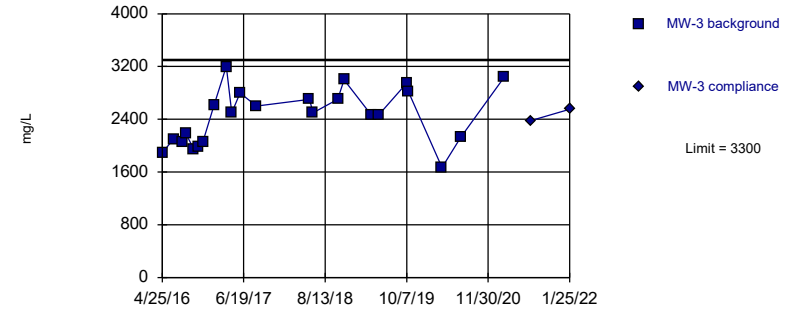


Background Data Summary: Mean=997.8, Std. Dev.=141.7, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9515, critical = 0.881. Kappa = 2.017 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Constituent: Sulfate Analysis Run 4/12/2022 10:19 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Within Limit

Prediction Limit
Intrawell Parametric

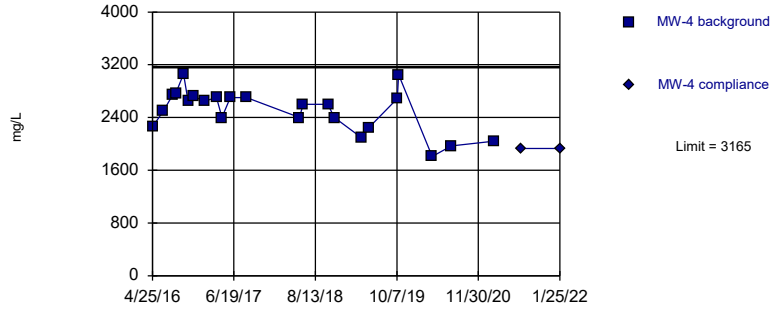


Background Data Summary: Mean=2451, Std. Dev.=421.1, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9657, critical = 0.881. Kappa = 2.017 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Constituent: Sulfate Analysis Run 4/12/2022 10:20 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Within Limit

Prediction Limit
Intrawell Parametric

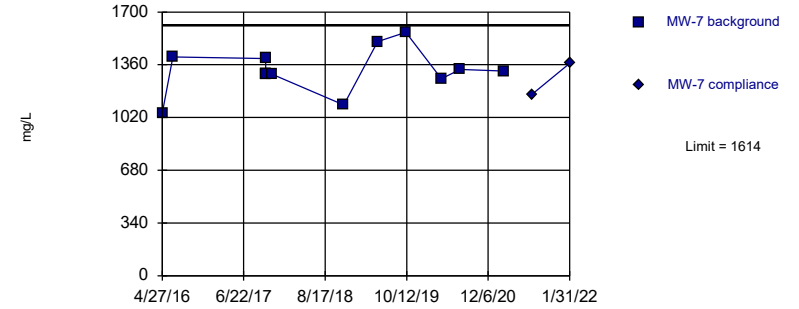


Background Data Summary: Mean=2511, Std. Dev.=324, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9443, critical = 0.881. Kappa = 2.017 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Constituent: Sulfate Analysis Run 4/12/2022 10:20 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

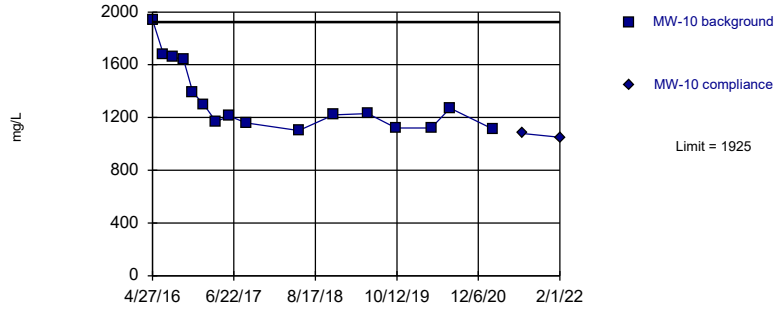
Within Limit

Prediction Limit
Intrawell Parametric



Within Limit

Prediction Limit
Intrawell Parametric

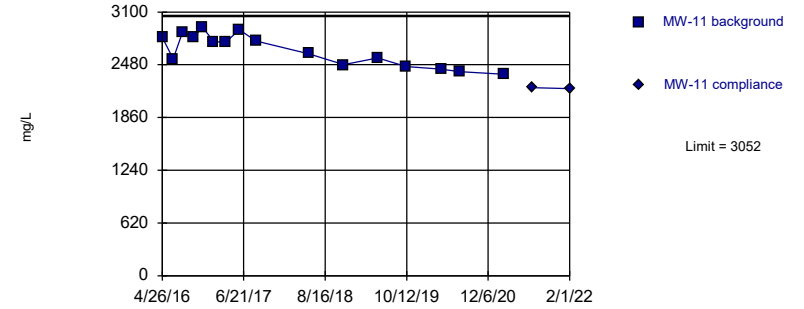


Background Data Summary (based on natural log transformation): Mean=7.179, Std. Dev.=0.1783, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8482, critical = 0.844. Kappa = 2.15 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Constituent: Total Dissolved Solids Analysis Run 4/12/2022 10:20 PM View: Appendix III - Intrawell Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Within Limit

Prediction Limit
Intrawell Parametric

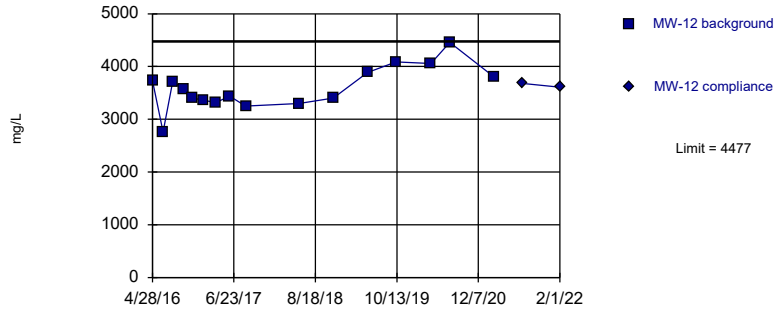


Background Data Summary: Mean=2649, Std. Dev.=187.2, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9189, critical = 0.844. Kappa = 2.15 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Constituent: Total Dissolved Solids Analysis Run 4/12/2022 10:20 PM View: Appendix III - Intrawell Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Within Limit

Prediction Limit
Intrawell Parametric

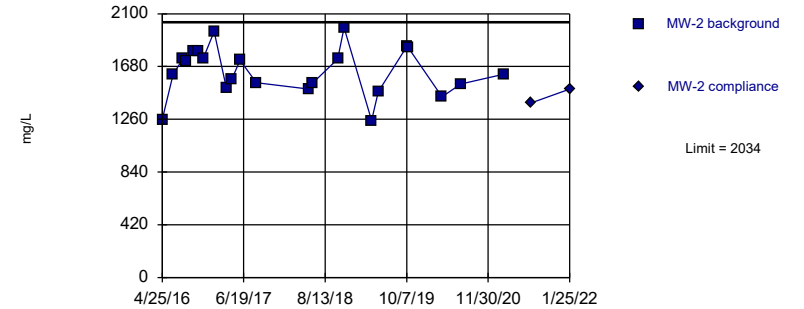


Background Data Summary: Mean=3598, Std. Dev.=408.9, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9669, critical = 0.844. Kappa = 2.15 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Constituent: Total Dissolved Solids Analysis Run 4/12/2022 10:20 PM View: Appendix III - Intrawell Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Within Limit

Prediction Limit
Intrawell Parametric

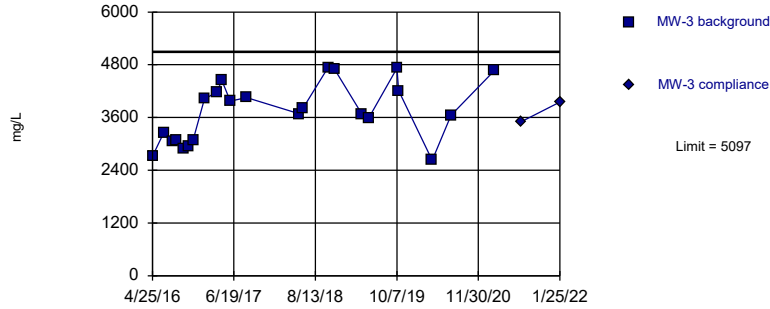


Background Data Summary: Mean=1643, Std. Dev.=193.7, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9661, critical = 0.881. Kappa = 2.017 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Constituent: Total Dissolved Solids Analysis Run 4/12/2022 10:20 PM View: Appendix III - Intrawell Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Within Limit

Prediction Limit
Intrawell Parametric

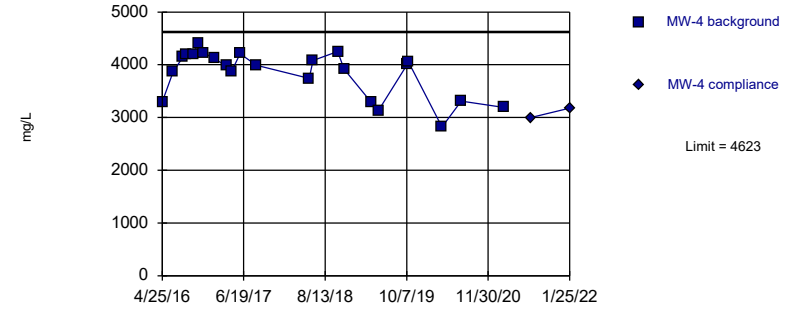


Background Data Summary: Mean=3729, Std. Dev.=678.1, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9398, critical = 0.881. Kappa = 2.017 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Constituent: Total Dissolved Solids Analysis Run 4/12/2022 10:20 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Within Limit

Prediction Limit
Intrawell Parametric

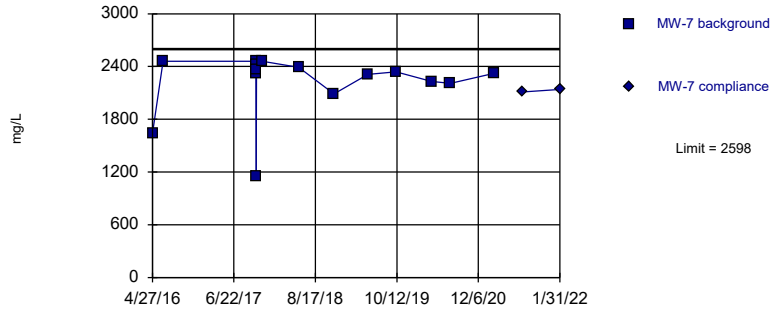


Background Data Summary (based on square transformation): Mean=1.5e7, Std. Dev.=3201096, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8861, critical = 0.881. Kappa = 2.017 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Constituent: Total Dissolved Solids Analysis Run 4/12/2022 10:20 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Within Limit

Prediction Limit
Intrawell Parametric

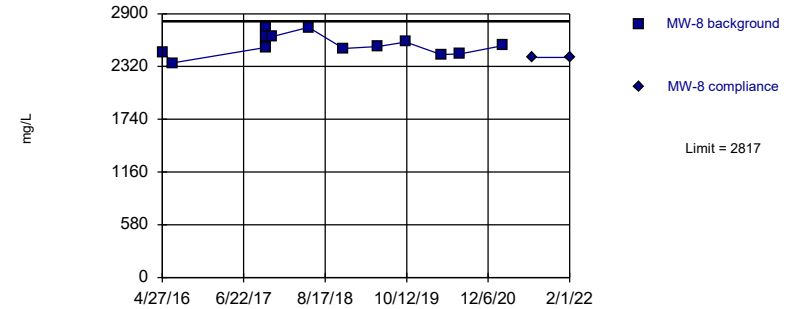


Background Data Summary (based on x^5 transformation): Mean=6.3e16, Std. Dev.=2.6e16, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8587, critical = 0.844. Kappa = 2.15 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Constituent: Total Dissolved Solids Analysis Run 4/12/2022 10:20 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Within Limit

Prediction Limit
Intrawell Parametric



Background Data Summary: Mean=2573, Std. Dev.=113.3, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9548, critical = 0.844. Kappa = 2.15 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Constituent: Total Dissolved Solids Analysis Run 4/12/2022 10:20 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 4/12/2022 10:21 PM View: Appendix III - Intravel
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-1	MW-1
4/26/2016	147	
6/20/2016	152	
8/8/2016	150	
8/24/2016	142	
10/3/2016	139	
10/26/2016	133	
11/21/2016	144	
1/17/2017	131	
3/22/2017	141	
4/18/2017	149	
5/30/2017	140	
8/23/2017	152	
5/22/2018	166	
6/12/2018	203	
10/17/2018	171	
11/19/2018	154	
4/10/2019	243	
5/14/2019	167	
10/8/2019	157	
10/16/2019	157	
4/6/2020	149	
7/13/2020	147	
2/22/2021	151	
7/12/2021		149
1/25/2022		150

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 4/12/2022 10:21 PM View: Appendix III - Intravel
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-10	MW-10
4/27/2016	279	
6/23/2016	256	
8/10/2016	245	
10/5/2016	225	
11/21/2016	179	
1/17/2017	168	
3/21/2017	152	
5/31/2017	130	
8/23/2017	147	
5/24/2018	159	
11/19/2018	160	
5/15/2019	186	
10/9/2019	146	
4/8/2020	164	
7/14/2020	208	
2/23/2021	151	
7/20/2021		149
2/1/2022		155

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 4/12/2022 10:21 PM View: Appendix III - Intravel
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-11	MW-11
4/26/2016	400	
6/22/2016	398	
8/9/2016	399	
10/4/2016	389	
11/21/2016	386	
1/17/2017	344	
3/21/2017	396	
5/30/2017	370	
8/23/2017	374	
5/22/2018	375	
11/20/2018	370	
5/15/2019	380	
10/10/2019	373	
4/6/2020	333	
7/13/2020	350	
2/24/2021	325	
7/21/2021		322
2/1/2022		335

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 4/12/2022 10:21 PM View: Appendix III - IntraWell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-12	MW-12
4/28/2016	349	
6/22/2016	374	
8/10/2016	348	
10/5/2016	344	
11/22/2016	342	
1/18/2017	359	
3/21/2017	352	
5/31/2017	313	
8/23/2017	349	
5/24/2018	349	
11/19/2018	348	
5/15/2019	411	
10/9/2019	359	
4/6/2020	354	
7/13/2020	392	
2/24/2021	346	
7/20/2021		330
2/1/2022		334

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 4/12/2022 10:21 PM View: Appendix III - IntraWell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-2	MW-2
4/25/2016	123	
6/20/2016	168	
8/8/2016	180	
8/24/2016	180	
10/3/2016	184	
10/26/2016	171	
11/21/2016	179	
1/17/2017	188	
3/22/2017	155	
4/18/2017	156	
5/31/2017	151	
8/23/2017	155	
5/22/2018	172	
6/12/2018	179	
10/17/2018	200	
11/19/2018	221	
4/10/2019	200	
5/14/2019	168	
10/8/2019	190	
10/16/2019	194	
4/6/2020	152	
7/13/2020	163	
2/22/2021	178	
7/12/2021		159
1/25/2022		179

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 4/12/2022 10:21 PM View: Appendix III - IntraWell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-3	MW-3
4/25/2016	224	
6/22/2016	266	
8/9/2016	260	
8/24/2016	274	
10/4/2016	243	
10/26/2016	254	
11/21/2016	263	
1/18/2017	431	
3/22/2017	318	
4/18/2017	296	
5/31/2017	306	
8/23/2017	298	
5/24/2018	297	
6/12/2018	318	
10/17/2018	392	
11/19/2018	387	
4/10/2019	348	
5/14/2019	254	
10/8/2019	371	
10/16/2019	346	
4/6/2020	177	
7/13/2020	264	
2/22/2021	312	
7/12/2021		252
1/25/2022		285

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 4/12/2022 10:21 PM View: Appendix III - IntraWell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-4	MW-4
4/25/2016	261	
6/20/2016	295	
8/9/2016	318	
8/24/2016	319	
10/3/2016	293	
10/26/2016	311	
11/21/2016	320	
1/18/2017	417	
3/22/2017	292	
4/18/2017	302	
5/31/2017	284	
8/23/2017	297	
5/23/2018	296	
6/12/2018	355	
10/17/2018	342	
11/19/2018	289	
4/10/2019	356	
5/14/2019	254	
10/10/2019	302	
10/16/2019	356	
4/6/2020	222	
7/14/2020	259	
2/22/2021	271	
7/12/2021		242
1/25/2022		259

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 4/12/2022 10:21 PM View: Appendix III - Intravel
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-7	MW-7
4/27/2016	198	
6/21/2016	327	
10/12/2017	317	
10/13/2017	302	
10/14/2017	283	
10/15/2017	294	
10/16/2017	284	
10/17/2017	294	
11/16/2017	299	
5/23/2018	321	
11/20/2018	306	
5/15/2019	302	
10/8/2019	294	
4/8/2020	280	
7/14/2020	261	
2/23/2021	292	
7/20/2021		254
1/31/2022		278

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 4/12/2022 10:21 PM View: Appendix III - Intravel
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-8	MW-8
4/27/2016	282	
6/21/2016	291	
10/12/2017	300	
10/13/2017	298	
10/14/2017	299	
10/15/2017	307	
10/16/2017	299	
10/17/2017	294	
11/16/2017	308	
5/23/2018	344	
11/20/2018	327	
5/15/2019	305	
10/9/2019	329	
4/8/2020	281	
7/15/2020	280	
2/23/2021	306	
7/20/2021		281
2/1/2022		284

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 4/12/2022 10:21 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-1	MW-1
4/26/2016	0.146 (J)	
6/20/2016	0.148 (J)	
8/8/2016	0.137 (J)	
8/24/2016	0.133 (J)	
10/3/2016	0.103 (J)	
10/26/2016	0.05 (J)	
11/21/2016	0.047 (J)	
1/17/2017	0.09 (J)	
3/22/2017	0.12	
4/18/2017	0.12	
5/30/2017	0.13	
8/23/2017	0.16	
2/13/2018	0.14	
5/22/2018	0.16	
6/12/2018	0.16	
10/17/2018	0.18	
11/19/2018	0.15	
4/10/2019	0.102	
5/14/2019	0.119	
10/8/2019	0.0924 (J)	
10/16/2019	0.0756 (J)	
4/6/2020	0.101	
7/13/2020	0.0678 (J)	
2/22/2021	0.082 (J)	
7/12/2021		0.125
1/25/2022		0.101

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 4/12/2022 10:21 PM View: Appendix III - Intravel
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-10	MW-10
4/27/2016	0.337	
6/23/2016	0.155 (J)	
8/10/2016	0.123 (J)	
10/5/2016	0.086 (J)	
11/21/2016	0.056 (J)	
1/17/2017	0.103 (J)	
3/21/2017	0.15	
5/31/2017	0.18	
8/23/2017	0.23	
2/15/2018	0.23	
5/24/2018	0.13	
11/19/2018	0.26	
5/15/2019	0.276	
10/9/2019	0.142	
4/8/2020	0.243	
7/14/2020	0.224	
2/23/2021	0.202	
7/20/2021		0.268
2/1/2022		0.157

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 4/12/2022 10:21 PM View: Appendix III - Intravel
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-11	MW-11
4/26/2016	0.084 (J)	
6/22/2016	0.106 (J)	
8/9/2016	0.092 (J)	
10/4/2016	0.049 (J)	
11/21/2016	<0.3	
1/17/2017	0.044 (J)	
3/21/2017	0.08 (J)	
5/30/2017	0.096 (J)	
8/23/2017	0.11	
2/14/2018	0.1	
5/22/2018	0.1	
11/20/2018	0.1	
5/15/2019	0.1	
10/10/2019	0.0915 (J)	
4/6/2020	0.118	
7/13/2020	0.108	
2/24/2021	0.107	
7/21/2021		0.16
2/1/2022		0.0848 (J)

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 4/12/2022 10:21 PM View: Appendix III - Intravel
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-12	MW-12
4/28/2016	0.153 (J)	
6/22/2016	0.146 (J)	
8/10/2016	0.127 (J)	
10/5/2016	0.09 (J)	
11/22/2016	0.012 (J)	
1/18/2017	0.071 (J)	
3/21/2017	0.09 (J)	
5/31/2017	0.11	
8/23/2017	0.13	
2/15/2018	0.12	
5/24/2018	0.15	
11/19/2018	0.16	
5/15/2019	0.185	
10/9/2019		0.215
4/6/2020		0.254
7/13/2020		0.161
2/24/2021		0.172
7/20/2021		0.219
2/1/2022		0.174

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 4/12/2022 10:21 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-2	MW-2
4/25/2016	0.149 (J)	
6/20/2016	0.148 (J)	
8/8/2016	0.134 (J)	
8/24/2016	0.129 (J)	
10/3/2016	0.086 (J)	
10/26/2016	0.027 (J)	
11/21/2016	0.027 (J)	
1/17/2017	0.066 (J)	
3/22/2017	0.13	
4/18/2017	0.16	
5/31/2017	0.13	
8/23/2017	0.16	
2/13/2018	0.22	
5/22/2018	0.17	
6/12/2018	0.16	
10/17/2018	0.16	
11/19/2018	0.18	
4/10/2019	0.262	
5/14/2019	0.17	
10/8/2019	0.164	
10/16/2019	0.114	
4/6/2020	0.207	
7/13/2020	0.132	
2/22/2021	0.209	
7/12/2021		0.196
1/25/2022		0.204

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 4/12/2022 10:21 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-3	MW-3
4/25/2016	0.243 (J)	
6/22/2016	0.269 (J)	
8/9/2016	0.363	
8/24/2016	0.346	
10/4/2016	0.266 (J)	
10/26/2016	0.266 (J)	
11/21/2016	0.244 (J)	
1/18/2017	0.385	
3/22/2017	0.41	
4/18/2017	0.29	
5/31/2017	0.37	
8/23/2017	0.55	
2/13/2018	0.27	
5/24/2018	0.6	
6/12/2018	0.53	
10/17/2018	0.63	
11/19/2018	0.31	
4/10/2019	0.273	
5/14/2019	0.281	
10/8/2019	0.225	
10/16/2019	0.106	
4/6/2020	0.314	
7/13/2020	0.13	
2/22/2021	0.246	
7/12/2021		0.287
1/25/2022		0.325

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 4/12/2022 10:21 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-4	MW-4
4/25/2016	0.372	
6/20/2016	0.361	
8/9/2016	0.326	
8/24/2016	0.329	
10/3/2016	0.287 (J)	
10/26/2016	0.194 (J)	
11/21/2016	0.192 (J)	
1/18/2017	0.223 (J)	
3/22/2017	0.32	
4/18/2017	0.32	
5/31/2017	0.31	
8/23/2017	0.38	
2/13/2018	0.38	
5/23/2018	0.38	
6/12/2018	0.39	
10/17/2018	0.39	
11/19/2018	0.36	
4/10/2019	0.384	
5/14/2019	0.335	
10/10/2019	0.304	
10/16/2019	0.302	
4/6/2020	0.368	
7/14/2020	0.33	
2/22/2021	0.357	
7/12/2021		0.35
1/25/2022		0.364

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 4/12/2022 10:21 PM View: Appendix III - Intravel
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-7	MW-7
4/27/2016	0.2 (J)	
6/21/2016	0.163 (J)	
10/12/2017	0.17	
10/13/2017	0.19	
10/14/2017	0.2	
10/15/2017	0.2	
10/16/2017	0.2	
10/17/2017	0.19	
11/16/2017	0.18	
2/14/2018	0.18	
5/23/2018	0.18	
11/20/2018	0.19	
5/15/2019	0.169	
10/8/2019	0.183	
4/8/2020	0.153	
7/14/2020	0.193	
2/23/2021	0.2	
7/20/2021		0.286
1/31/2022		0.173

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 4/12/2022 10:21 PM View: Appendix III - Intravel
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-8	MW-8
4/27/2016	0.212 (J)	
6/21/2016	0.211 (J)	
10/12/2017	0.22	
10/13/2017	0.23	
10/14/2017	0.22	
10/15/2017	0.22	
10/16/2017	0.22	
10/17/2017	0.21	
11/16/2017	0.22	
2/14/2018	0.21	
5/23/2018	0.21	
11/20/2018	0.21	
5/15/2019	0.192	
10/9/2019	0.189	
4/8/2020	0.192	
7/15/2020	0.196	
2/23/2021	0.208	
7/20/2021		0.262
2/1/2022		0.177

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 4/12/2022 10:21 PM View: Appendix III - IntraWell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-1	MW-1
4/26/2016	1490	
6/20/2016	1420	
8/8/2016	1460	
8/24/2016	1450	
10/3/2016	1460	
10/26/2016	1330	
11/21/2016	1420	
1/17/2017	1350	
3/22/2017	1500	
4/18/2017	1300	
5/30/2017	1400	
8/23/2017	1500	
5/22/2018	2100 (o)	
6/12/2018	1500	
10/17/2018	1400	
11/19/2018	1300	
4/10/2019	1700	
5/14/2019	1560	
10/8/2019	1540	
10/16/2019	1680	
4/6/2020	1530	
7/13/2020	1450	
2/22/2021	1400	
7/12/2021		1560
1/25/2022		1430

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 4/12/2022 10:21 PM View: Appendix III - IntraWell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-10	MW-10
4/27/2016	1250	
6/23/2016	1010	
8/10/2016	992	
10/5/2016	1010	
11/21/2016	834	
1/17/2017	700	
3/21/2017	660	
5/31/2017	700	
8/23/2017	700	
5/24/2018	560	
11/19/2018	720	
5/15/2019	780	
10/9/2019	748	
4/8/2020	658	
7/14/2020	845	
2/23/2021	747	
7/20/2021		665
2/1/2022		707

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 4/12/2022 10:21 PM View: Appendix III - IntraWell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-11	MW-11
4/26/2016	1750	
6/22/2016	1720	
8/9/2016	1740	
10/4/2016	1750	
11/21/2016	1690	
1/17/2017	1670	
3/21/2017	1900	
5/30/2017	1700	
8/23/2017	1700	
5/22/2018	2200	
11/20/2018	1400	
5/15/2019	1510	
10/10/2019	719	
4/6/2020	1400	
7/13/2020	1300	
2/24/2021	1330	
7/21/2021		1420
2/1/2022		1350

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 4/12/2022 10:21 PM View: Appendix III - IntraWell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-12	MW-12
4/28/2016	2360	
6/22/2016	1960	
8/10/2016	2300	
10/5/2016	2330	
11/22/2016	2220	
1/18/2017	1950	
3/21/2017	2400	
5/31/2017	2200	
8/23/2017	2100	
5/24/2018	2300	
11/19/2018	2100	
5/15/2019	2800	
10/9/2019	2550	
4/6/2020	2580	
7/13/2020	2610	
2/24/2021	2280	
7/20/2021		2500
2/1/2022		2230

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 4/12/2022 10:21 PM View: Appendix III - Intravel
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-2	MW-2
4/25/2016	745	
6/20/2016	964	
8/8/2016	1100	
8/24/2016	1130	
10/3/2016	1140	
10/26/2016	1060	
11/21/2016	1100	
1/17/2017	1160	
3/22/2017	900	
4/18/2017	870	
5/31/2017	1100	
8/23/2017	920	
5/22/2018	1200	
6/12/2018	860	
10/17/2018	970	
11/19/2018	1000	
4/10/2019	889	
5/14/2019	948	
10/8/2019	1230	
10/16/2019	1170	
4/6/2020	786	
7/13/2020	843	
2/22/2021	864	
7/12/2021		763
1/25/2022		842

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 4/12/2022 10:21 PM View: Appendix III - IntraWell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-3	MW-3
4/25/2016	1890	
6/22/2016	2100	
8/9/2016	2050	
8/24/2016	2190	
10/4/2016	1950	
10/26/2016	1980	
11/21/2016	2060	
1/18/2017	2620	
3/22/2017	3200	
4/18/2017	2500	
5/31/2017	2800	
8/23/2017	2600	
5/24/2018	2700	
6/12/2018	2500	
10/17/2018	2700	
11/19/2018	3000	
4/10/2019	2460	
5/14/2019	2460	
10/8/2019	2950	
10/16/2019	2820	
4/6/2020	1670	
7/13/2020	2130	
2/22/2021	3040	
7/12/2021		2380
1/25/2022		2550

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 4/12/2022 10:21 PM View: Appendix III - Intravel
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-4	MW-4
4/25/2016	2260	
6/20/2016	2500	
8/9/2016	2750	
8/24/2016	2770	
10/3/2016	3060	
10/26/2016	2650	
11/21/2016	2720	
1/18/2017	2650	
3/22/2017	2700	
4/18/2017	2400	
5/31/2017	2700	
8/23/2017	2700	
5/23/2018	2400	
6/12/2018	2600	
10/17/2018	2600	
11/19/2018	2400	
4/10/2019	2090	
5/14/2019	2240	
10/10/2019	2690	
10/16/2019	3050	
4/6/2020	1810	
7/14/2020	1970	
2/22/2021	2040	
7/12/2021		1930
1/25/2022		1930

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 4/12/2022 10:21 PM View: Appendix III - Intravel
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-7	MW-7
4/27/2016	1050	
6/21/2016	1410	
10/12/2017	1400	
10/13/2017	1400	
10/14/2017	1300	
10/15/2017	1300	
10/16/2017	1300	
10/17/2017	1300	
11/16/2017	1300	
5/23/2018	1900 (o)	
11/20/2018	1100	
5/15/2019	1510	
10/8/2019	1570	
4/8/2020	1270	
7/14/2020	1330	
2/23/2021	1320	
7/20/2021		1170
1/31/2022		1370

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 4/12/2022 10:21 PM View: Appendix III - IntraWell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-8	MW-8
4/27/2016	1550	
6/21/2016	1470	
10/12/2017	1400	
10/13/2017	1600	
10/14/2017	1400	
10/15/2017	1400	
10/16/2017	1400	
10/17/2017	1400	
11/16/2017	1400	
5/23/2018	2100 (o)	
11/20/2018	1400	
5/15/2019	1640	
10/9/2019	1550	
4/8/2020	1380	
7/15/2020	1410	
2/23/2021	1420	
7/20/2021		1500
2/1/2022		1500

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 4/12/2022 10:21 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-1	MW-1
4/26/2016	2080	
6/20/2016	2060	
8/8/2016	2070	
8/24/2016	2040	
10/3/2016	2110	
10/26/2016	2000	
11/21/2016	2070	
1/17/2017	1930	
3/22/2017	2060	
4/18/2017	2140	
5/30/2017	2240	
8/23/2017	2160	
5/22/2018	2380	
6/12/2018	2400	
10/17/2018	2220	
11/19/2018	2360	
4/10/2019	2630	
5/14/2019	2340	
10/8/2019	2330	
10/16/2019	3650 (o)	
4/6/2020	2240	
7/13/2020	2240	
2/22/2021	2230	
7/12/2021		2210
1/25/2022		2150

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 4/12/2022 10:21 PM View: Appendix III - Intrawell

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-10	MW-10
4/27/2016	1940	
6/23/2016	1680	
8/10/2016	1660	
10/5/2016	1640	
11/21/2016	1390	
1/17/2017	1300	
3/21/2017	1170	
5/31/2017	1210	
8/23/2017	1160	
5/24/2018	1100	
11/19/2018	1220	
5/15/2019	1230	
10/9/2019	1120	
4/8/2020	1120	
7/14/2020	1270	
2/23/2021	1110	
7/20/2021		1080
2/1/2022		1050

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 4/12/2022 10:21 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-11	MW-11
4/26/2016	2800	
6/22/2016	2550	
8/9/2016	2860	
10/4/2016	2800	
11/21/2016	2920	
1/17/2017	2750	
3/21/2017	2750	
5/30/2017	2890	
8/23/2017	2760	
5/22/2018	2610	
11/20/2018	2480	
5/15/2019	2560	
10/10/2019	2460	
4/6/2020	2430	
7/13/2020	2400	
2/24/2021	2370	
7/21/2021		2210
2/1/2022		2200

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 4/12/2022 10:21 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-12	MW-12
4/28/2016	3730	
6/22/2016	2760	
8/10/2016	3710	
10/5/2016	3580	
11/22/2016	3400	
1/18/2017	3360	
3/21/2017	3320	
5/31/2017	3440	
8/23/2017	3250	
5/24/2018	3300	
11/19/2018	3400	
5/15/2019	3890	
10/9/2019	4090	
4/6/2020	4060	
7/13/2020	4460	
2/24/2021	3810	
7/20/2021		3680
2/1/2022		3610

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 4/12/2022 10:21 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-2	MW-2
4/25/2016	1260	
6/20/2016	1620	
8/8/2016	1740	
8/24/2016	1720	
10/3/2016	1800	
10/26/2016	1800	
11/21/2016	1740	
1/17/2017	1960	
3/22/2017	1510	
4/18/2017	1580	
5/31/2017	1730	
8/23/2017	1550	
5/22/2018	1500	
6/12/2018	1550	
10/17/2018	1740	
11/19/2018	1990	
4/10/2019	1250	
5/14/2019	1480	
10/8/2019	1840	
10/16/2019	1830	
4/6/2020	1440	
7/13/2020	1540	
2/22/2021	1620	
7/12/2021		1390
1/25/2022		1500

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 4/12/2022 10:21 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-3	MW-3
4/25/2016	2720	
6/22/2016	3250	
8/9/2016	3050	
8/24/2016	3080	
10/4/2016	2900	
10/26/2016	2940	
11/21/2016	3090	
1/18/2017	4020	
3/22/2017	4180	
4/18/2017	4440	
5/31/2017	3970	
8/23/2017	4050	
5/24/2018	3680	
6/12/2018	3820	
10/17/2018	4730	
11/19/2018	4710	
4/10/2019	3680	
5/14/2019	3580	
10/8/2019	4720	
10/16/2019	4210	
4/6/2020	2630	
7/13/2020	3650	
2/22/2021	4670	
7/12/2021		3510
1/25/2022		3950

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 4/12/2022 10:21 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-4	MW-4
4/25/2016	3300	
6/20/2016	3870	
8/9/2016	4140	
8/24/2016	4190	
10/3/2016	4190	
10/26/2016	4400	
11/21/2016	4230	
1/18/2017	4120	
3/22/2017	3980	
4/18/2017	3880	
5/31/2017	4210	
8/23/2017	3990	
5/23/2018	3740	
6/12/2018	4080	
10/17/2018	4250	
11/19/2018	3920	
4/10/2019	3280	
5/14/2019	3130	
10/10/2019	4000	
10/16/2019	4060	
4/6/2020	2820	
7/14/2020	3310	
2/22/2021	3190	
7/12/2021		3000
1/25/2022		3180

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 4/12/2022 10:21 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-7	MW-7
4/27/2016	1640	
6/21/2016	2460	
10/12/2017	2460	
10/13/2017	2420	
10/14/2017	2320	
10/15/2017	1150	
10/16/2017	2320	
10/17/2017	2360	
11/16/2017	2460	
5/23/2018	2390	
11/20/2018	2090	
5/15/2019	2310	
10/8/2019	2340	
4/8/2020	2230	
7/14/2020	2210	
2/23/2021	2320	
7/20/2021		2110
1/31/2022		2140

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 4/12/2022 10:21 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-8	MW-8
4/27/2016	2480	
6/21/2016	2360	
10/12/2017	2530	
10/13/2017	2740	
10/14/2017	2630	
10/15/2017	2530	
10/16/2017	2740	
10/17/2017	2650	
11/16/2017	2650	
5/23/2018	2750	
11/20/2018	2520	
5/15/2019	2540	
10/9/2019	2590	
4/8/2020	2450	
7/15/2020	2460	
2/23/2021	2550	
7/20/2021		2420
2/1/2022		2420

F I G U R E E .

Appendix III Interwell Prediction Limits - Significant Results

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR Printed 4/12/2022, 10:23 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)	MW-10	0.0596	n/a	2/1/2022	0.177	Yes	99	n/a	n/a	22.22	n/a	n/a	0.0001978	NP Inter (normality) 1 of 2
Boron (mg/L)	MW-11	0.0596	n/a	2/1/2022	0.105	Yes	99	n/a	n/a	22.22	n/a	n/a	0.0001978	NP Inter (normality) 1 of 2
Boron (mg/L)	MW-12	0.0596	n/a	2/1/2022	0.208	Yes	99	n/a	n/a	22.22	n/a	n/a	0.0001978	NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-10	3.899	n/a	2/1/2022	3.97	Yes	100	0.744	0.3411	3	None	ln(x)	0.001504	Param Inter 1 of 2
Chloride (mg/L)	MW-11	3.899	n/a	2/1/2022	68.3	Yes	100	0.744	0.3411	3	None	ln(x)	0.001504	Param Inter 1 of 2
Chloride (mg/L)	MW-12	3.899	n/a	2/1/2022	11.5	Yes	100	0.744	0.3411	3	None	ln(x)	0.001504	Param Inter 1 of 2
Chloride (mg/L)	MW-7	3.899	n/a	1/31/2022	6.4	Yes	100	0.744	0.3411	3	None	ln(x)	0.001504	Param Inter 1 of 2
Chloride (mg/L)	MW-8	3.899	n/a	2/1/2022	8.56	Yes	100	0.744	0.3411	3	None	ln(x)	0.001504	Param Inter 1 of 2
pH (SU)	MW-10	6.35	3.77	2/1/2022	6.62	Yes	102	n/a	n/a	0	n/a	n/a	0.0003751	NP Inter (normality) 1 of 2
pH (SU)	MW-11	6.35	3.77	2/1/2022	6.83	Yes	102	n/a	n/a	0	n/a	n/a	0.0003751	NP Inter (normality) 1 of 2
pH (SU)	MW-7	6.35	3.77	1/31/2022	6.48	Yes	102	n/a	n/a	0	n/a	n/a	0.0003751	NP Inter (normality) 1 of 2
pH (SU)	MW-8	6.35	3.77	2/1/2022	6.77	Yes	102	n/a	n/a	0	n/a	n/a	0.0003751	NP Inter (normality) 1 of 2

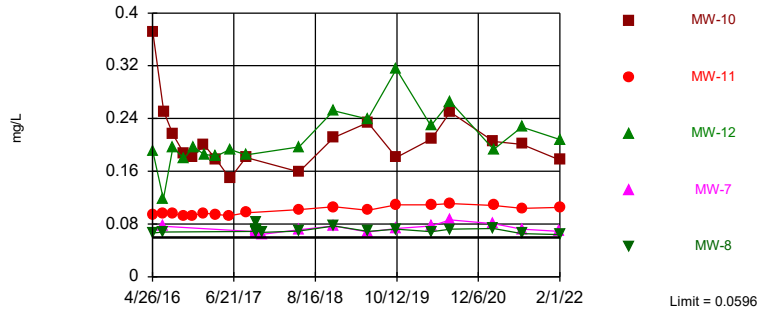
Appendix III Interwell Prediction Limits - All Results

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR Printed 4/12/2022, 10:23 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)	MW-10	0.0596	n/a	2/1/2022	0.177	Yes	99	n/a	n/a	22.22	n/a	n/a	0.0001978	NP Inter (normality) 1 of 2
Boron (mg/L)	MW-11	0.0596	n/a	2/1/2022	0.105	Yes	99	n/a	n/a	22.22	n/a	n/a	0.0001978	NP Inter (normality) 1 of 2
Boron (mg/L)	MW-12	0.0596	n/a	2/1/2022	0.208	Yes	99	n/a	n/a	22.22	n/a	n/a	0.0001978	NP Inter (normality) 1 of 2
Boron (mg/L)	MW-7	0.0596	n/a	1/31/2022	0.0689J	No	99	n/a	n/a	22.22	n/a	n/a	0.0001978	NP Inter (normality) 1 of 2
Boron (mg/L)	MW-8	0.0596	n/a	2/1/2022	0.0639J	No	99	n/a	n/a	22.22	n/a	n/a	0.0001978	NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-10	3.899	n/a	2/1/2022	3.97	Yes	100	0.744	0.3411	3	None	ln(x)	0.001504	Param Inter 1 of 2
Chloride (mg/L)	MW-11	3.899	n/a	2/1/2022	68.3	Yes	100	0.744	0.3411	3	None	ln(x)	0.001504	Param Inter 1 of 2
Chloride (mg/L)	MW-12	3.899	n/a	2/1/2022	11.5	Yes	100	0.744	0.3411	3	None	ln(x)	0.001504	Param Inter 1 of 2
Chloride (mg/L)	MW-7	3.899	n/a	1/31/2022	6.4	Yes	100	0.744	0.3411	3	None	ln(x)	0.001504	Param Inter 1 of 2
Chloride (mg/L)	MW-8	3.899	n/a	2/1/2022	8.56	Yes	100	0.744	0.3411	3	None	ln(x)	0.001504	Param Inter 1 of 2
pH (SU)	MW-10	6.35	3.77	2/1/2022	6.62	Yes	102	n/a	n/a	0	n/a	n/a	0.0003751	NP Inter (normality) 1 of 2
pH (SU)	MW-11	6.35	3.77	2/1/2022	6.83	Yes	102	n/a	n/a	0	n/a	n/a	0.0003751	NP Inter (normality) 1 of 2
pH (SU)	MW-12	6.35	3.77	2/1/2022	5.64	No	102	n/a	n/a	0	n/a	n/a	0.0003751	NP Inter (normality) 1 of 2
pH (SU)	MW-7	6.35	3.77	1/31/2022	6.48	Yes	102	n/a	n/a	0	n/a	n/a	0.0003751	NP Inter (normality) 1 of 2
pH (SU)	MW-8	6.35	3.77	2/1/2022	6.77	Yes	102	n/a	n/a	0	n/a	n/a	0.0003751	NP Inter (normality) 1 of 2

Exceeds Limit: MW-10, MW-11, MW-12

Prediction Limit Interwell Non-parametric

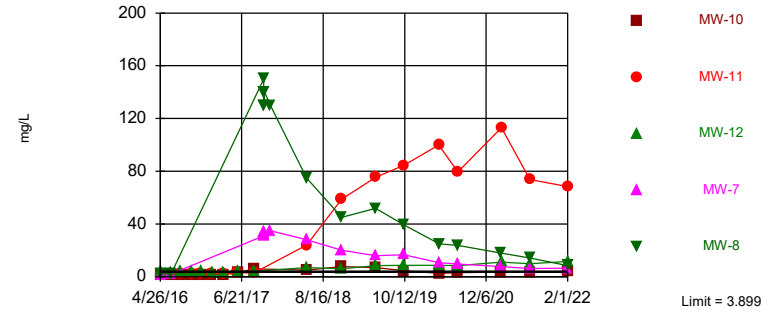


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 99 background values. 22.22% NDs. Annual per-constituent alpha = 0.001976. Individual comparison alpha = 0.0001978 (1 of 2). Comparing 5 points to limit.

Constituent: Boron Analysis Run 4/12/2022 10:21 PM View: Appendix III - Interwell PL
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Exceeds Limit: MW-10, MW-11, MW-12, MW-7, MW-8

Prediction Limit Interwell Parametric

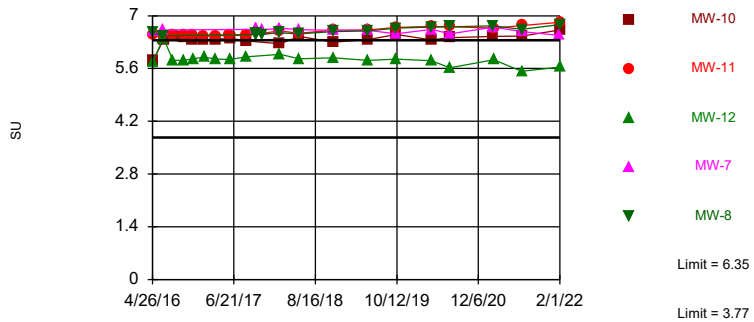


Background Data Summary (based on natural log transformation): Mean=0.744, Std. Dev.=0.3411, n=100, 3% NDs. Normality test: Chi Squared @alpha = 0.01, calculated = 11.8, critical = 14.07. Kappa = 1.808 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.001504. Comparing 5 points to limit.

Constituent: Chloride Analysis Run 4/12/2022 10:21 PM View: Appendix III - Interwell PL
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Exceeds Limits: MW-10, MW-11, MW-7, MW-8

Prediction Limit Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Chi Squared normality test showed the data to be non-normal at the 0.01 alpha level. Limits are highest and lowest of 102 background values. Annual per-constituent alpha = 0.003748. Individual comparison alpha = 0.0003751 (1 of 2). Comparing 5 points to limit.

Constituent: pH Analysis Run 4/12/2022 10:21 PM View: Appendix III - Interwell PL
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Prediction Limit

Constituent: Boron (mg/L) Analysis Run 4/12/2022 10:23 PM View: Appendix III - Interwell PL

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-3 (bg)	MW-2 (bg)	MW-4 (bg)	MW-1 (bg)	MW-11	MW-10	MW-8	MW-12	MW-7
4/25/2016	0.028 (J)	0.0241 (J)	0.0414 (J)						
4/26/2016				0.0231 (J)	0.094 (J)				
4/27/2016						0.371	0.0662 (J)		0.253 (o)
4/28/2016								0.19	
6/20/2016		0.0284 (J)	0.0434 (J)	0.0227 (J)					
6/21/2016							0.0681 (J)		0.0768 (J)
6/22/2016	0.0433 (J)				0.0959 (J)			0.118	
6/23/2016						0.251			
8/8/2016		0.034 (J)		0.0278 (J)					
8/9/2016	0.0429 (J)		0.0453 (J)		0.0964 (J)				
8/10/2016						0.216		0.197	
8/24/2016	0.0431 (J)	0.0316 (J)	0.0451 (J)	0.0247 (J)					
10/3/2016		0.0367 (J)	0.0511 (J)	0.0307 (J)					
10/4/2016	0.04 (J)				0.0916 (J)				
10/5/2016						0.187		0.179	
10/26/2016	0.0375 (J)	0.0331 (J)	0.0507 (J)	0.0241 (J)					
11/21/2016	0.0406 (J)	0.035 (J)	0.0458 (J)	0.0202 (J)	0.0929 (J)	0.182			
11/22/2016								0.197	
1/17/2017		0.0259 (J)		0.0201 (J)	0.0963 (J)	0.2			
1/18/2017	0.0548 (J)		0.0445 (J)					0.186	
3/21/2017					0.0947 (J)	0.178		0.183	
3/22/2017	0.0344 (J)	0.0243 (J)	0.0432 (J)	0.0224 (J)					
4/18/2017	<0.1015	0.0206 (J)	0.0409 (J)	<0.1015					
5/30/2017				<0.1015	0.0926 (J)				
5/31/2017	0.0454 (J)	0.0234 (J)	0.0392 (J)			0.149		0.193	
8/23/2017	0.0425 (J)	0.0267 (J)	0.042 (J)	0.0253 (J)	0.0968 (J)	0.181		0.185	
10/12/2017							0.0687 (J)		0.0685 (J)
10/13/2017							0.0831 (J)		0.0674 (J)
10/14/2017							0.0702 (J)		0.0756 (J)
10/15/2017							0.0702 (J)		0.0719 (J)
10/16/2017							0.0707 (J)		0.0726 (J)
10/17/2017							0.0695 (J)		0.0716 (J)
11/16/2017							0.0675 (J)		0.0644 (J)
5/22/2018		0.0251 (J)		0.0224 (J)	0.102				
5/23/2018			0.0433 (J)				0.0693 (J)		0.0715 (J)
5/24/2018	0.0339 (J)					0.159		0.197	
6/12/2018	0.0371 (J)	0.0275 (J)	0.0478 (J)	0.0214 (J)					
10/17/2018	0.0596 (J)	0.0321 (J)	0.0468 (J)	0.0216 (J)					
11/19/2018	0.0514 (J)	0.0324 (J)	0.0526 (J)	0.0237 (J)		0.211		0.252	
11/20/2018					0.106		0.0771 (J)		0.0772 (J)
4/10/2019	<0.1015	<0.1015	0.0438 (J)	0.0304 (J)					
5/14/2019	<0.1015	<0.1015	<0.203 (o)	<0.1015					
5/15/2019					0.101 (J)	0.234	0.0689 (J)	0.239	0.0678 (J)
10/8/2019	0.0537 (J)	0.0371 (J)		<0.1015					0.073 (J)
10/9/2019						0.181	0.0723 (J)	0.315	
10/10/2019			0.0487 (J)		0.109				
10/16/2019	0.05 (J)	0.0419 (J)	0.0505 (J)	0.0385 (J)					
4/6/2020	<0.1015	<0.1015	0.0428 (J)	<0.1015	0.109			0.229	
4/8/2020						0.209	0.0683 (J)		0.077 (J)
7/13/2020	0.0366 (J)	<0.1015		<0.1015	0.111			0.266	
7/14/2020			0.0441 (J)			0.25			0.0865 (J)
7/15/2020							0.0723 (J)		

Prediction Limit

Constituent: Boron (mg/L) Analysis Run 4/12/2022 10:23 PM View: Appendix III - Interwell PL
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-3 (bg)	MW-2 (bg)	MW-4 (bg)	MW-1 (bg)	MW-11	MW-10	MW-8	MW-12	MW-7
2/22/2021	<0.1015	<0.1015	0.0397 (J)	0.0307 (J)					
2/23/2021						0.205	0.0731 (J)		0.0803 (J)
2/24/2021					0.108			0.193	
7/12/2021	<0.1015	<0.1015	0.0411 (J)	<0.1015					
7/20/2021						0.201	0.0656 (J)	0.227	0.0721 (J)
7/21/2021					0.104				
1/25/2022	<0.1015	<0.1015	0.0408 (J)	<0.1015					
1/31/2022									0.0689 (J)
2/1/2022					0.105	0.177	0.0639 (J)	0.208	

Prediction Limit

Constituent: Chloride (mg/L) Analysis Run 4/12/2022 10:23 PM View: Appendix III - Interwell PL
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-2 (bg)	MW-4 (bg)	MW-3 (bg)	MW-1 (bg)	MW-11	MW-7	MW-10	MW-8	MW-12
2/22/2021	1.72	1.52	2.22	2.16					
2/23/2021						7.85	3.63	17.9	
2/24/2021					113				11.2
7/12/2021	2.36	1.56	2.13	2.19					
7/20/2021						6.35	3.64	14.3	9.85
7/21/2021					73.8				
1/25/2022	2.14	1.54	2.12	2.09					
1/31/2022						6.4			
2/1/2022					68.3		3.97	8.56	11.5

Prediction Limit

Constituent: pH (SU) Analysis Run 4/12/2022 10:23 PM View: Appendix III - Interwell PL

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-4 (bg)	MW-3 (bg)	MW-2 (bg)	MW-11	MW-1 (bg)	MW-10	MW-8	MW-7	MW-12
4/25/2016	6.22	5.56	5.94						
4/26/2016				6.49	5.2				
4/27/2016						5.8	6.55	6.6	
4/28/2016									5.78
6/20/2016	6.21		5.96		5.18				
6/21/2016							6.47	6.62	
6/22/2016		5.57		6.51					6.41
6/23/2016						6.38			
8/8/2016			5.88		5.12				
8/9/2016	6.11	5.67		6.49					
8/10/2016						6.47			5.82
8/24/2016	6.11	5.63							
10/3/2016	6.13 (D)		5.91 (D)		5.21 (D)				
10/4/2016		5.69 (D)		6.51 (D)					
10/5/2016						6.42 (D)			5.82 (D)
10/26/2016	6.12	5.56	5.84		5.2				
11/21/2016	6.09 (D)	5.42 (D)	5.82 (D)	6.48	5.19 (D)	6.38			
11/22/2016									5.86
1/17/2017			5.87 (D)	6.46	5.17 (D)	6.35			
1/18/2017	6.09 (D)	5.11 (D)							5.9
3/21/2017				6.47		6.38			5.85
3/22/2017	6.15 (D)	4.52 (D)	6.01 (D)		5.2 (D)				
4/18/2017	6.19	5.84	6.02		5.2				
5/30/2017				6.48	5.14 (D)				
5/31/2017	6.13 (D)	4.56 (D)	5.85 (D)			6.4			5.84
8/23/2017	6.12 (D)	4.77 (D)	5.89 (D)	6.48	5.12 (D)	6.33			5.91
10/12/2017							6.5	6.64	
10/13/2017							6.51	6.64	
10/14/2017							6.53	6.66	
10/15/2017							6.53	6.67	
10/16/2017							6.54	6.67	
10/17/2017							6.54	6.66	
11/16/2017							6.51	6.62	
2/13/2018	6.22	5.67	6.21		5.18				
2/14/2018				6.6			6.55	6.67	
2/15/2018						6.26			5.98
5/22/2018			6.04	6.54	5.2				
5/23/2018	6.21						6.52	6.63	
5/24/2018		5.19				6.45			5.86
6/12/2018	6.16	4.79	5.95		5.15				
10/17/2018	6.12	4.75	5.9		5.12				
11/19/2018	6.16	3.77 (E)	6.03		5.09	6.3			5.88
11/20/2018				6.61			6.58	6.61	
4/10/2019	6.14	5.54	6.1		5.11				
5/14/2019	6.23	5.71	6.07		5.19				
5/15/2019				6.62		6.37	6.6	6.61	5.82
10/8/2019		4.98	5.96		5.12			6.52	
10/9/2019						6.5	6.67		5.85
10/10/2019	6.15			6.69					
10/16/2019	6.19	4.51	5.98		5.16				
4/6/2020	6.35	5.91	6.21	6.72	5.21				5.81
4/8/2020						6.36	6.7	6.64	

Prediction Limit

Constituent: pH (SU) Analysis Run 4/12/2022 10:23 PM View: Appendix III - Interwell PL
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-4 (bg)	MW-3 (bg)	MW-2 (bg)	MW-11	MW-1 (bg)	MW-10	MW-8	MW-7	MW-12
7/13/2020		5.16	5.84	6.71	5.14				5.62
7/14/2020	6.2					6.42		6.52	
7/15/2020							6.71		
2/22/2021	6.19	5.59	6.1		5.06				
2/23/2021						6.45	6.73	6.7	
2/24/2021				6.67					5.83
7/12/2021	6.06	5.86	6.16		5.13				
7/20/2021						6.46	6.64	6.58	5.53
7/21/2021				6.74					
1/25/2022	6.3	5.9	6.22		5.11				
1/31/2022								6.48	
2/1/2022				6.83		6.62	6.77		5.64

F I G U R E F .

Appendix III Trend Test Summary - Significant Results

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR Printed 4/12/2022, 10:25 PM

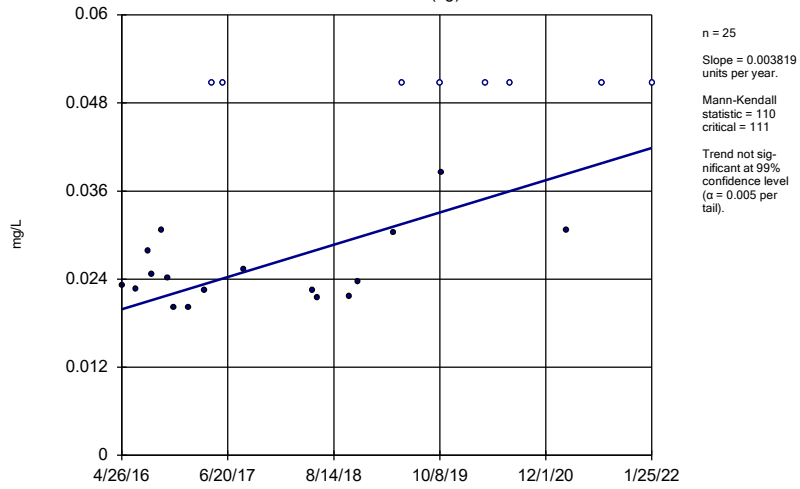
<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
Boron (mg/L)	MW-11	0.003037	90	68	Yes	18	0	n/a	n/a	0.01	NP
Boron (mg/L)	MW-2 (bg)	0.004648	145	111	Yes	25	28	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-10	0.435	81	68	Yes	18	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-11	16.22	122	68	Yes	18	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-12	1.364	105	68	Yes	18	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-8	-28.2	-71	-68	Yes	18	0	n/a	n/a	0.01	NP
pH (SU)	MW-11	0.05538	110	74	Yes	19	0	n/a	n/a	0.01	NP
pH (SU)	MW-2 (bg)	0.04513	126	111	Yes	25	0	n/a	n/a	0.01	NP
pH (SU)	MW-8	0.05546	123	74	Yes	19	0	n/a	n/a	0.01	NP

Appendix III Trend Test Summary - All Results

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR Printed 4/12/2022, 10:25 PM

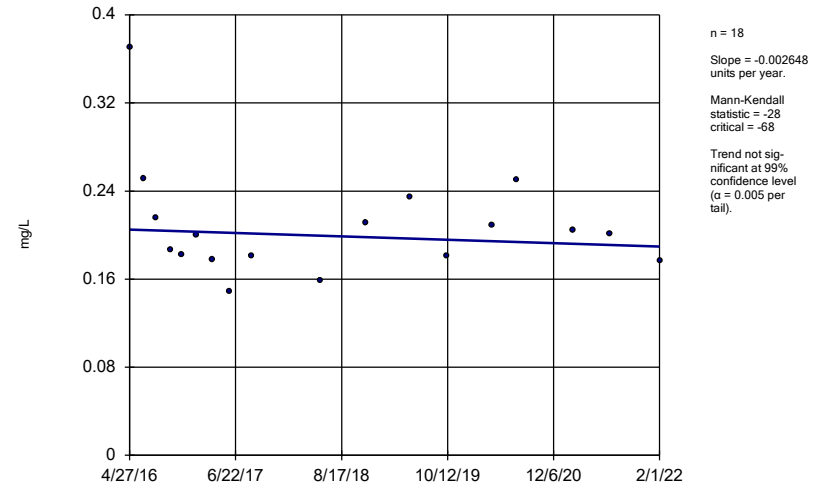
Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	MW-1 (bg)	0.003819	110	111	No	25	32	n/a	n/a	0.01	NP
Boron (mg/L)	MW-10	-0.002648	-28	-68	No	18	0	n/a	n/a	0.01	NP
Boron (mg/L)	MW-11	0.003037	90	68	Yes	18	0	n/a	n/a	0.01	NP
Boron (mg/L)	MW-12	0.01002	67	68	No	18	0	n/a	n/a	0.01	NP
Boron (mg/L)	MW-2 (bg)	0.004648	145	111	Yes	25	28	n/a	n/a	0.01	NP
Boron (mg/L)	MW-3 (bg)	0.002118	79	111	No	25	28	n/a	n/a	0.01	NP
Boron (mg/L)	MW-4 (bg)	-0.000403	-36	-105	No	24	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-1 (bg)	-0.02361	-32	-111	No	25	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-10	0.435	81	68	Yes	18	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-11	16.22	122	68	Yes	18	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-12	1.364	105	68	Yes	18	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-2 (bg)	-0.09448	-33	-111	No	25	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-3 (bg)	0.08238	73	111	No	25	8	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-4 (bg)	-0.0711	-82	-111	No	25	4	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-7	-5.844	-44	-68	No	18	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-8	-28.2	-71	-68	Yes	18	0	n/a	n/a	0.01	NP
pH (SU)	MW-1 (bg)	-0.01456	-107	-111	No	25	0	n/a	n/a	0.01	NP
pH (SU)	MW-10	0.02135	48	74	No	19	0	n/a	n/a	0.01	NP
pH (SU)	MW-11	0.05538	110	74	Yes	19	0	n/a	n/a	0.01	NP
pH (SU)	MW-2 (bg)	0.04513	126	111	Yes	25	0	n/a	n/a	0.01	NP
pH (SU)	MW-3 (bg)	0.006207	7	118	No	26	0	n/a	n/a	0.01	NP
pH (SU)	MW-4 (bg)	0.01606	80	118	No	26	0	n/a	n/a	0.01	NP
pH (SU)	MW-7	-0.01581	-39	-74	No	19	0	n/a	n/a	0.01	NP
pH (SU)	MW-8	0.05546	123	74	Yes	19	0	n/a	n/a	0.01	NP

Sen's Slope Estimator
MW-1 (bg)



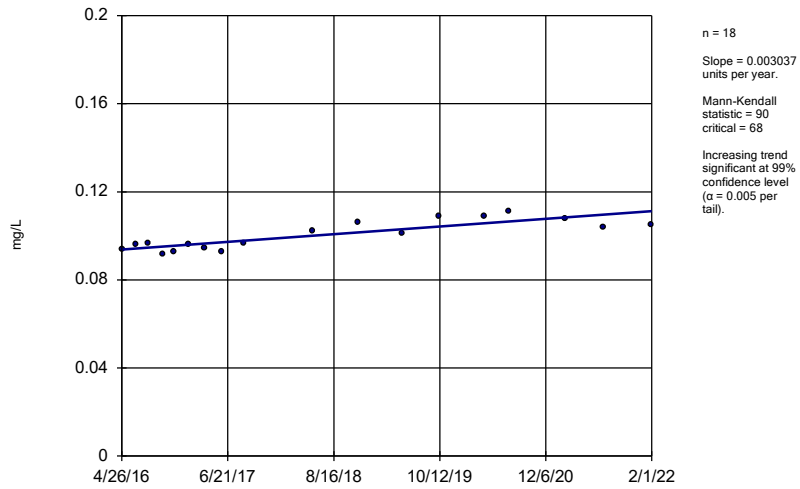
Constituent: Boron Analysis Run 4/12/2022 10:24 PM View: Appendix III - Interwell PL
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sen's Slope Estimator
MW-10



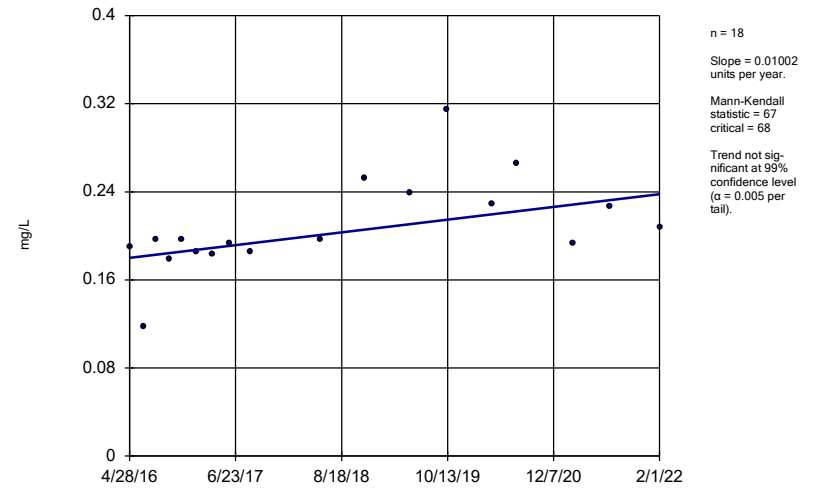
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Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sen's Slope Estimator
MW-11



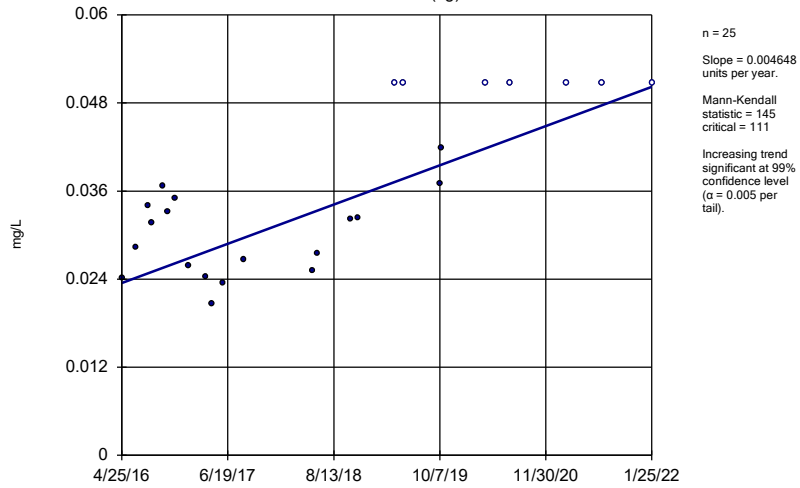
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Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sen's Slope Estimator
MW-12



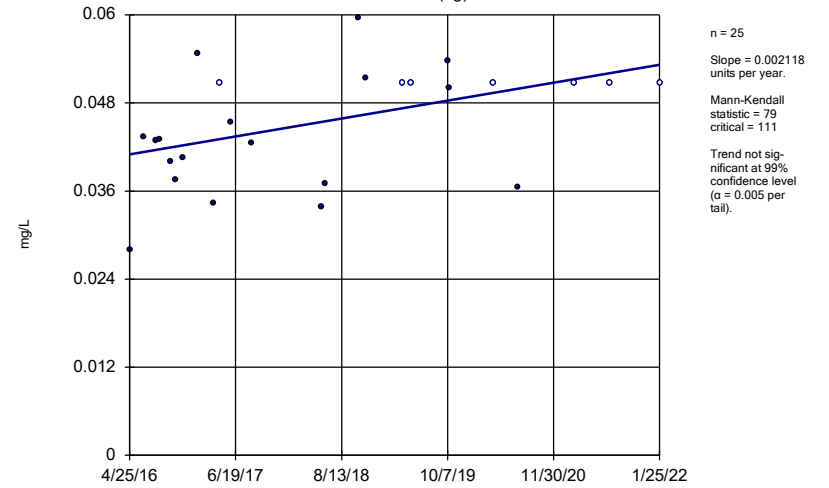
Constituent: Boron Analysis Run 4/12/2022 10:24 PM View: Appendix III - Interwell PL
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sen's Slope Estimator
MW-2 (bg)



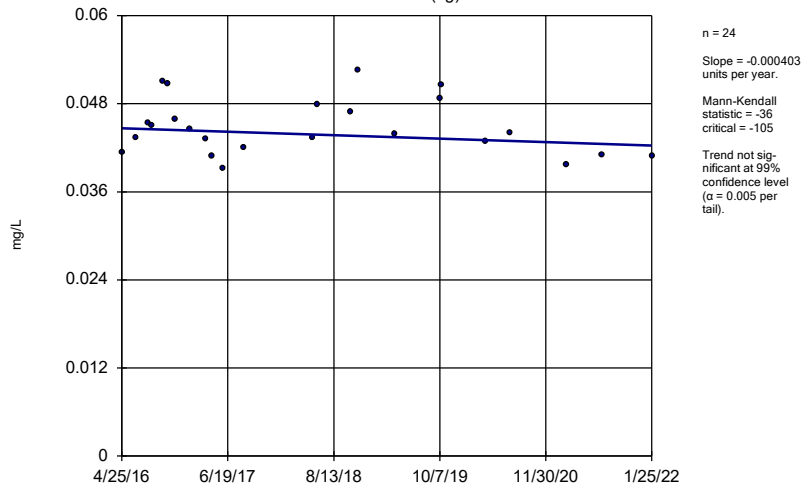
Constituent: Boron Analysis Run 4/12/2022 10:24 PM View: Appendix III - Interwell PL
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sen's Slope Estimator
MW-3 (bg)



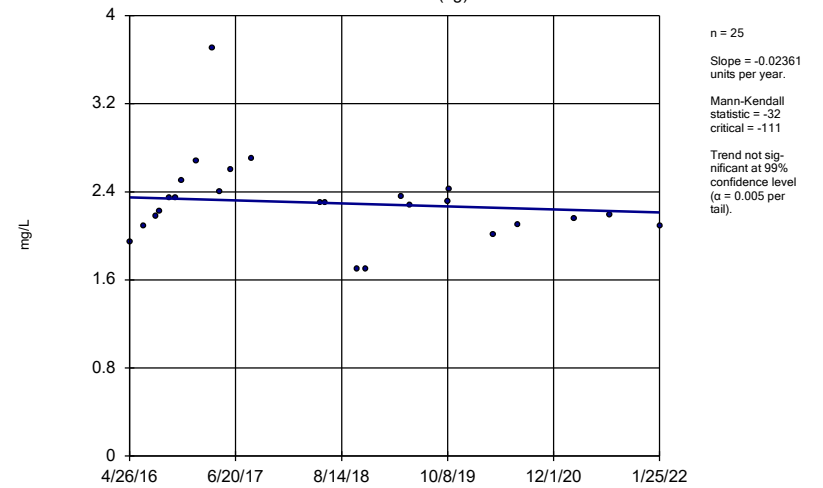
Constituent: Boron Analysis Run 4/12/2022 10:24 PM View: Appendix III - Interwell PL
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sen's Slope Estimator
MW-4 (bg)



Constituent: Boron Analysis Run 4/12/2022 10:24 PM View: Appendix III - Interwell PL
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

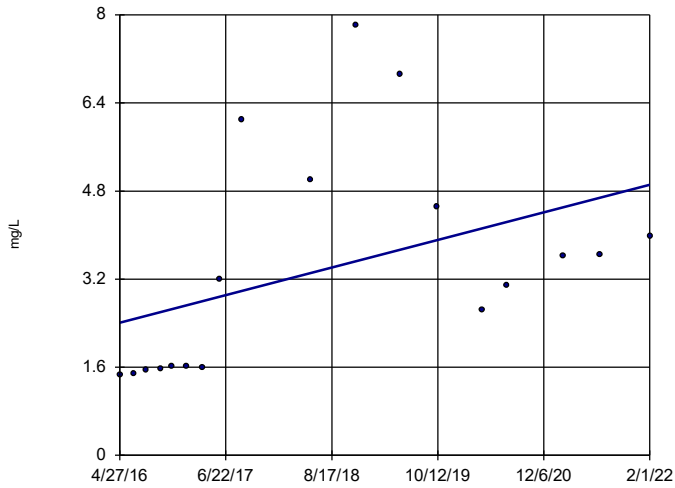
Sen's Slope Estimator
MW-1 (bg)



Constituent: Chloride Analysis Run 4/12/2022 10:24 PM View: Appendix III - Interwell PL
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sen's Slope Estimator

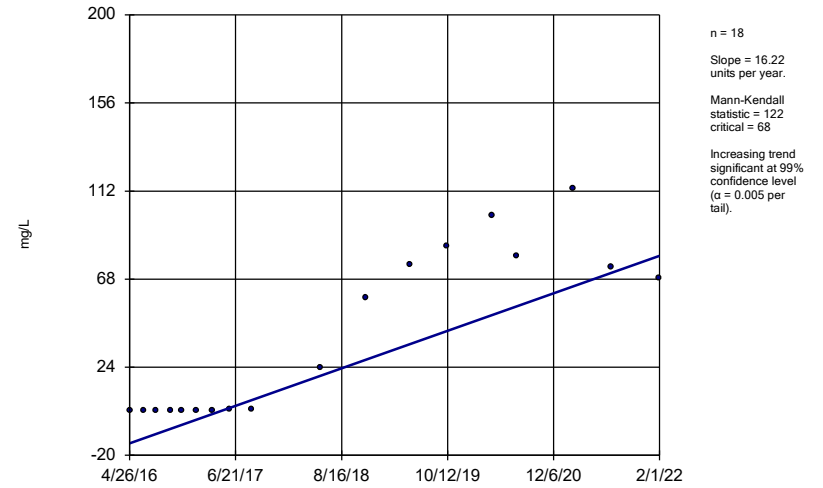
MW-10



Constituent: Chloride Analysis Run 4/12/2022 10:24 PM View: Appendix III - Interwell PL
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sen's Slope Estimator

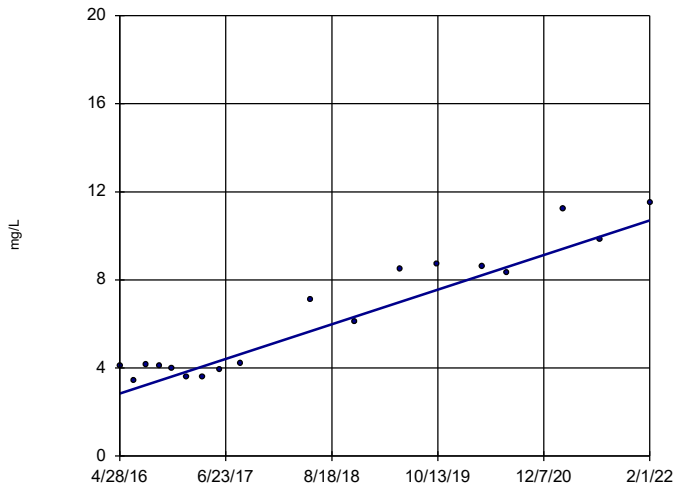
MW-11



Constituent: Chloride Analysis Run 4/12/2022 10:24 PM View: Appendix III - Interwell PL
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sen's Slope Estimator

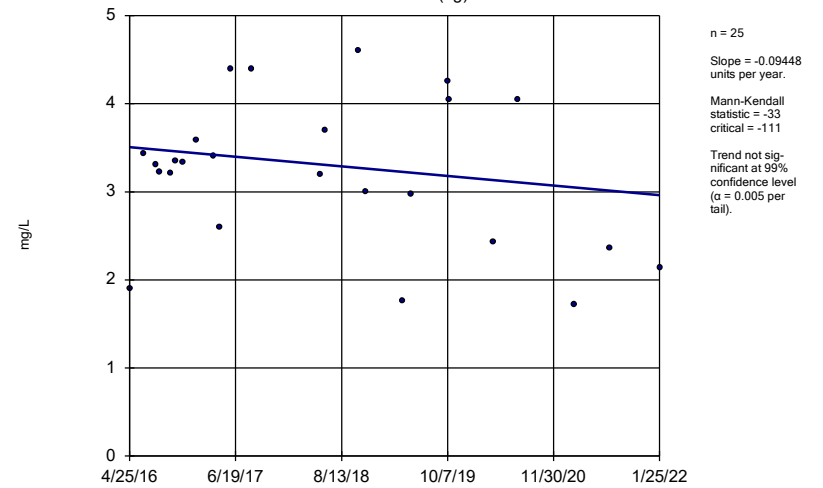
MW-12



Constituent: Chloride Analysis Run 4/12/2022 10:24 PM View: Appendix III - Interwell PL
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

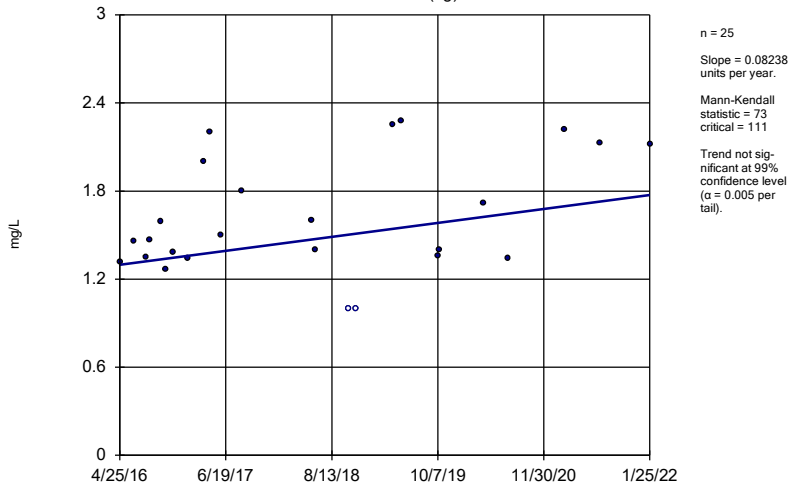
Sen's Slope Estimator

MW-2 (bg)



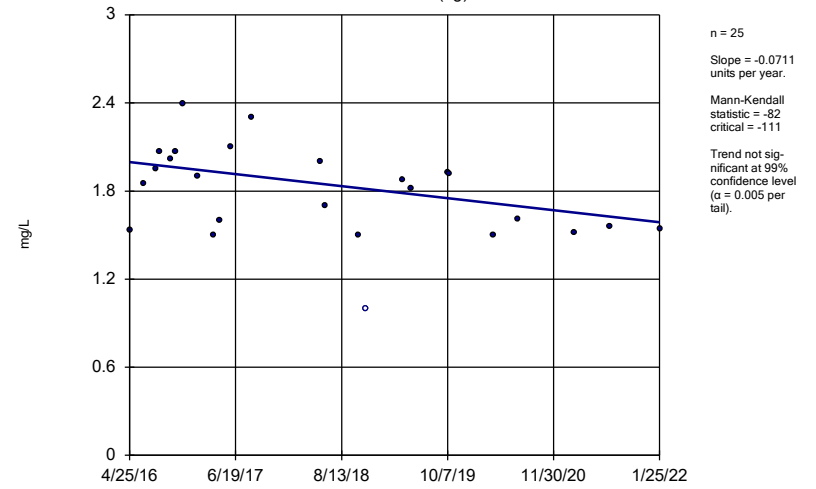
Constituent: Chloride Analysis Run 4/12/2022 10:24 PM View: Appendix III - Interwell PL
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sen's Slope Estimator
MW-3 (bg)



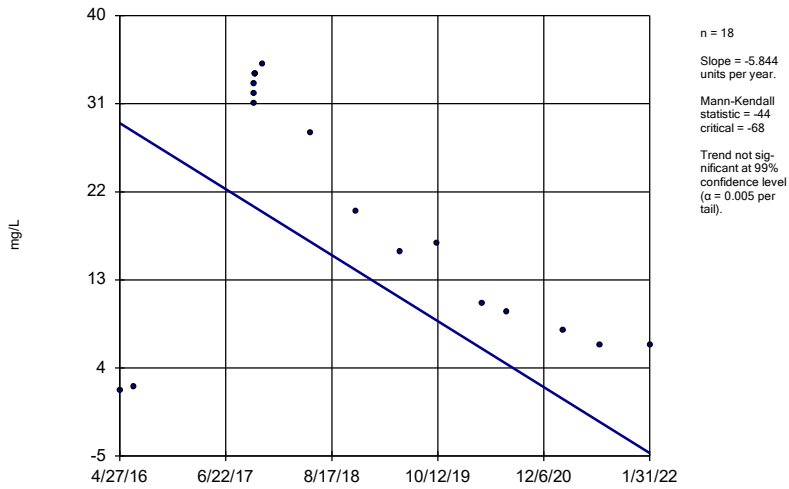
Constituent: Chloride Analysis Run 4/12/2022 10:24 PM View: Appendix III - Interwell PL
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sen's Slope Estimator
MW-4 (bg)



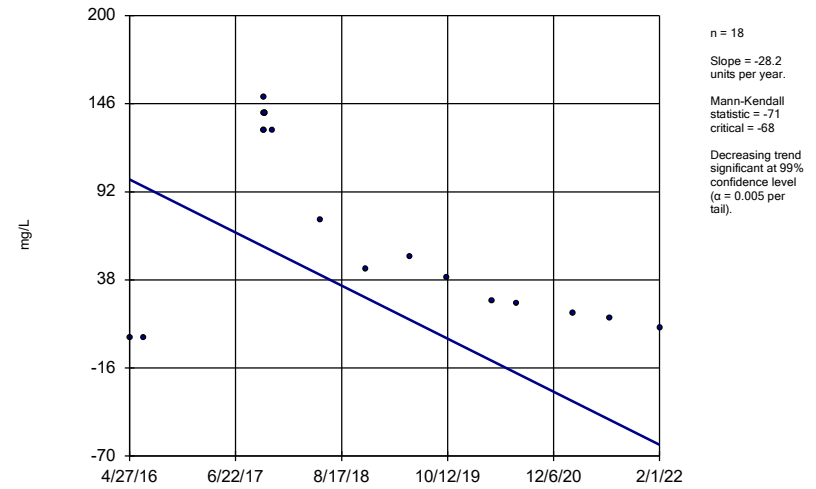
Constituent: Chloride Analysis Run 4/12/2022 10:24 PM View: Appendix III - Interwell PL
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sen's Slope Estimator
MW-7



Constituent: Chloride Analysis Run 4/12/2022 10:24 PM View: Appendix III - Interwell PL
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

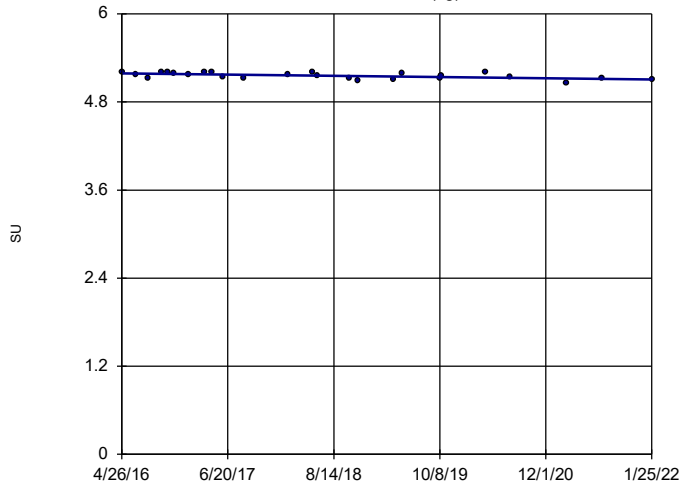
Sen's Slope Estimator
MW-8



Constituent: Chloride Analysis Run 4/12/2022 10:24 PM View: Appendix III - Interwell PL
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sen's Slope Estimator

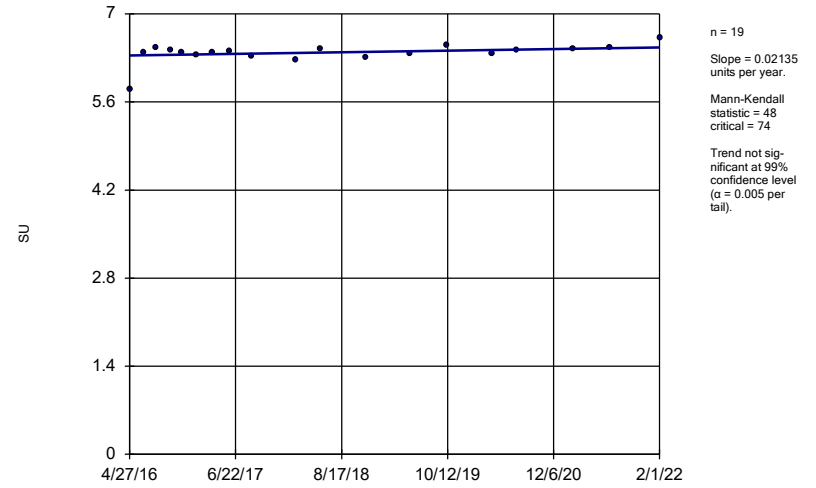
MW-1 (bg)



Constituent: pH Analysis Run 4/12/2022 10:24 PM View: Appendix III - Interwell PL
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sen's Slope Estimator

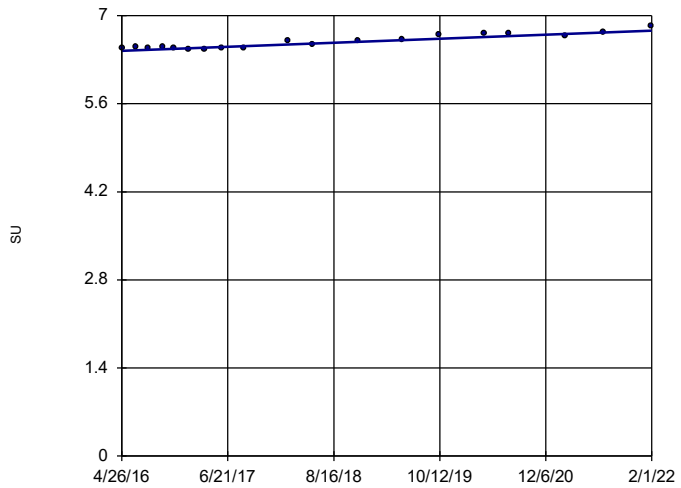
MW-10



Constituent: pH Analysis Run 4/12/2022 10:24 PM View: Appendix III - Interwell PL
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sen's Slope Estimator

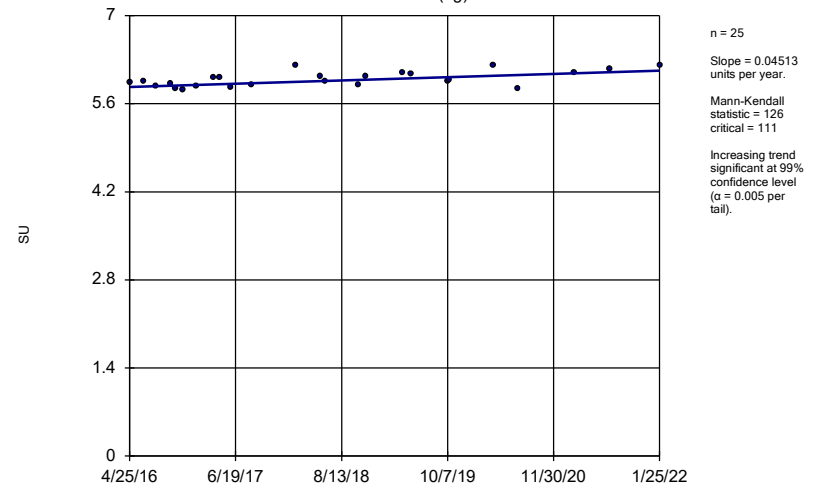
MW-11



Constituent: pH Analysis Run 4/12/2022 10:24 PM View: Appendix III - Interwell PL
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sen's Slope Estimator

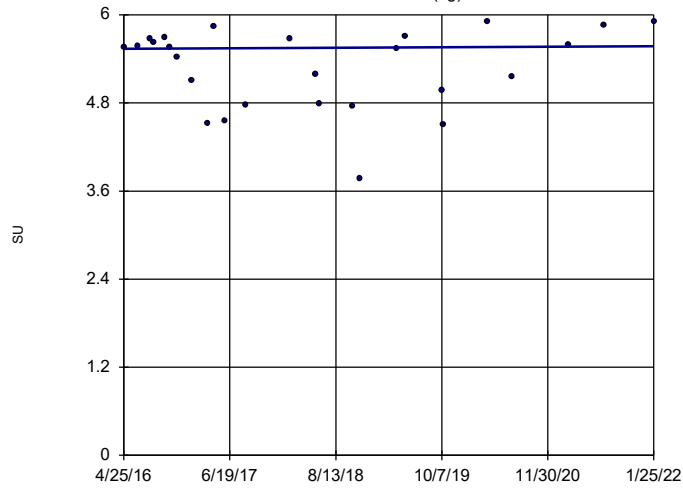
MW-2 (bg)



Constituent: pH Analysis Run 4/12/2022 10:24 PM View: Appendix III - Interwell PL
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sen's Slope Estimator

MW-3 (bg)

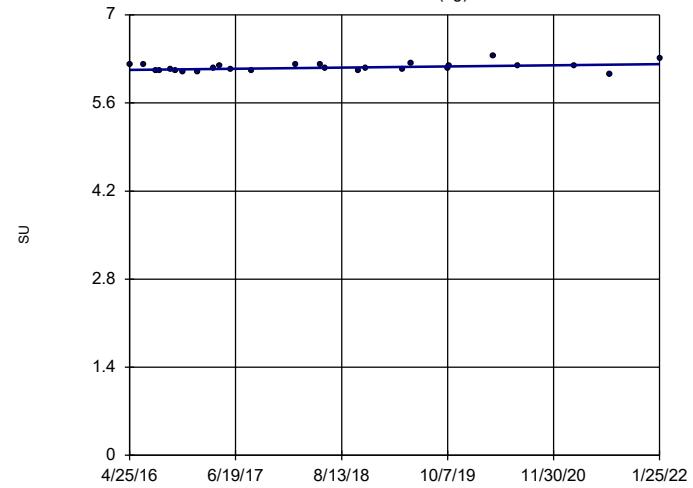


n = 26
 Slope = 0.006207
 units per year.
 Mann-Kendall
 statistic = 7
 critical = 118
 Trend not sig-
 nificant at 99%
 confidence level
 ($\alpha = 0.005$ per
 tail).

Constituent: pH Analysis Run 4/12/2022 10:24 PM View: Appendix III - Interwell PL
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sen's Slope Estimator

MW-4 (bg)

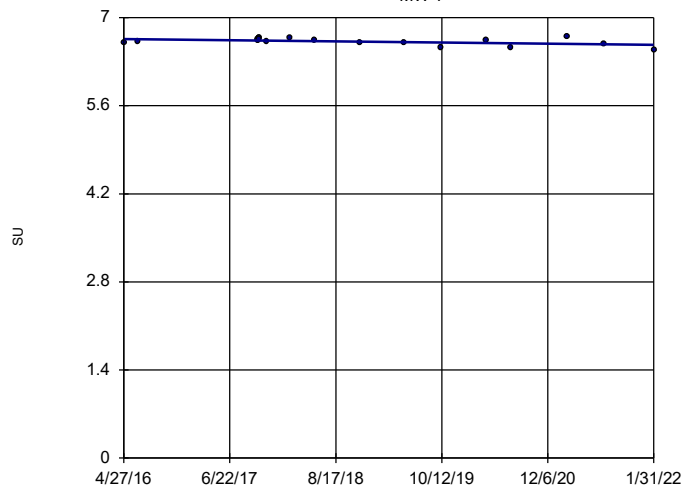


n = 26
 Slope = 0.01606
 units per year.
 Mann-Kendall
 statistic = 80
 critical = 118
 Trend not sig-
 nificant at 99%
 confidence level
 ($\alpha = 0.005$ per
 tail).

Constituent: pH Analysis Run 4/12/2022 10:24 PM View: Appendix III - Interwell PL
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sen's Slope Estimator

MW-7

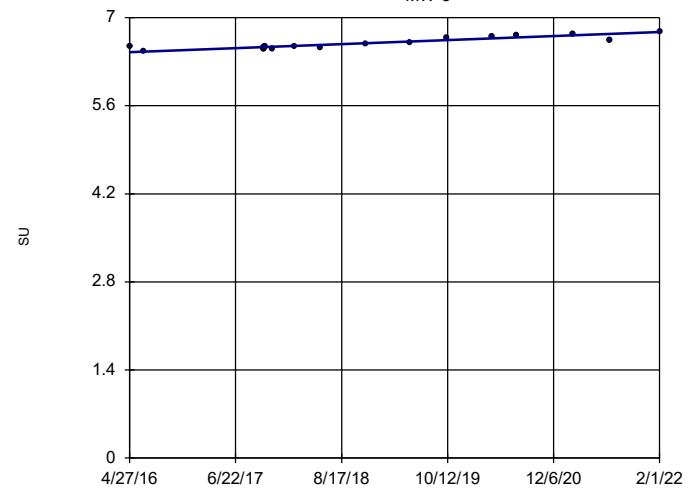


n = 19
 Slope = -0.01581
 units per year.
 Mann-Kendall
 statistic = -39
 critical = -74
 Trend not sig-
 nificant at 99%
 confidence level
 ($\alpha = 0.005$ per
 tail).

Constituent: pH Analysis Run 4/12/2022 10:24 PM View: Appendix III - Interwell PL
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sen's Slope Estimator

MW-8



n = 19
 Slope = 0.05546
 units per year.
 Mann-Kendall
 statistic = 123
 critical = 74
 Increasing trend
 significant at 99%
 confidence level
 ($\alpha = 0.005$ per
 tail).

Constituent: pH Analysis Run 4/12/2022 10:24 PM View: Appendix III - Interwell PL
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

F I G U R E G .

Upper Tolerance Limits Summary Table

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR Printed 12/6/2021, 10:45 AM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Date</u>	<u>Observ.</u>	<u>Sig.</u>	<u>Bg N</u>	<u>Bg Mean</u>	<u>Std. Dev.</u>	<u>%NDs</u>	<u>ND Adj.</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Antimony (mg/L)	n/a	0.00143	n/a	n/a	n/a	96	n/a	n/a	93.75	n/a	n/a	0.007269	NP Inter
Arsenic (mg/L)	n/a	0.005	n/a	n/a	n/a	96	n/a	n/a	83.33	n/a	n/a	0.007269	NP Inter
Barium (mg/L)	n/a	0.0165	n/a	n/a	n/a	96	n/a	n/a	0	n/a	n/a	0.007269	NP Inter
Beryllium (mg/L)	n/a	0.0121	n/a	n/a	n/a	94	n/a	n/a	84.04	n/a	n/a	0.008054	NP Inter
Cadmium (mg/L)	n/a	0.00598	n/a	n/a	n/a	94	n/a	n/a	45.74	n/a	n/a	0.008054	NP Inter
Chromium (mg/L)	n/a	0.0105	n/a	n/a	n/a	96	n/a	n/a	89.58	n/a	n/a	0.007269	NP Inter
Cobalt (mg/L)	n/a	0.49	n/a	n/a	n/a	94	n/a	n/a	26.6	n/a	n/a	0.008054	NP Inter
Combined Radium 226 + 228 (pCi/L)	n/a	1.47	n/a	n/a	n/a	92	n/a	n/a	0	n/a	n/a	0.008924	NP Inter
Fluoride (mg/L)	n/a	0.63	n/a	n/a	n/a	100	n/a	n/a	0	n/a	n/a	0.005921	NP Inter
Lead (mg/L)	n/a	0.00108	n/a	n/a	n/a	95	n/a	n/a	95.79	n/a	n/a	0.007651	NP Inter
Lithium (mg/L)	n/a	0.419	n/a	n/a	n/a	96	n/a	n/a	0	n/a	n/a	0.007269	NP Inter
Mercury (mg/L)	n/a	0.0005	n/a	n/a	n/a	96	n/a	n/a	100	n/a	n/a	0.007269	NP Inter
Molybdenum (mg/L)	n/a	0.0002	n/a	n/a	n/a	96	n/a	n/a	97.92	n/a	n/a	0.007269	NP Inter
Selenium (mg/L)	n/a	0.0209	n/a	n/a	n/a	96	n/a	n/a	60.42	n/a	n/a	0.007269	NP Inter
Thallium (mg/L)	n/a	0.000226	n/a	n/a	n/a	96	n/a	n/a	96.88	n/a	n/a	0.007269	NP Inter

F I G U R E H .

GORGAS BALF GWPS			
Analyte	Units	Background	GWPS
Antimony	mg/L	0.00143	0.006
Arsenic	mg/L	0.005	0.01
Barium	mg/L	0.0165	2
Beryllium	mg/L	0.0121	0.004
Cadmium	mg/L	0.00598	0.005
Chromium	mg/L	0.0105	0.1
Cobalt	mg/L	0.49	0.49
Combined Radium-226/228	pCi/L	1.47	5
Fluoride	mg/L	0.63	4
Lead	mg/L	0.00108	0.015
Lithium	mg/L	0.419	0.419
Mercury	mg/L	0.0005	0.002
Molybdenum	mg/L	0.0002	0.1
Selenium	mg/L	0.0209	0.05
Thallium	mg/L	0.000226	0.002

Notes:

1. mg/L - Milligrams per liter
2. pCi/L - Picocuries per liter
3. The background limits were used as the groundwater protection standard (GWPS) when appropriate under 40 CFR §257.95(h), ADEM Rule 335-13-15-.06(h), and the ADEM Variance.
4. GWPS established during second semi-annual sampling event in 2021.

F I G U R E I .

Confidence Interval Summary Table - Significant Results

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR Printed 4/24/2022, 7:18 PM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig.</u> <u>N</u>	<u>Std. Dev.</u>	<u>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Arsenic (mg/L)	MW-12	0.06611	0.04629	0.01	Yes 8	0.009346	0	No	0.01	Param.

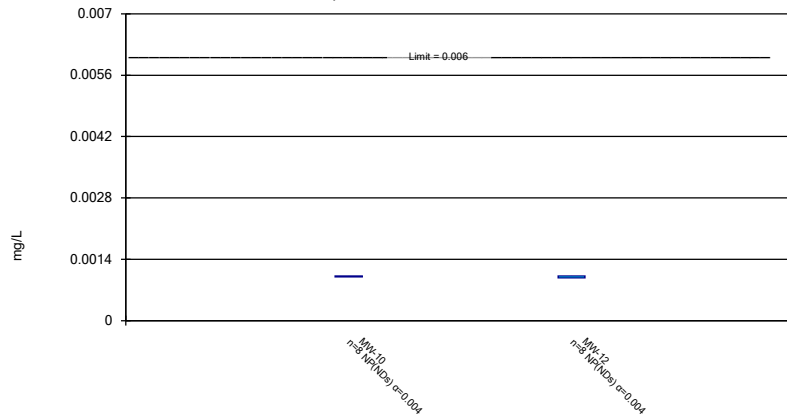
Confidence Interval Summary Table - All Results

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR Printed 4/24/2022, 7:18 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Std. Dev.	%NDs	Transform	Alpha	Method
Antimony (mg/L)	MW-10	0.00102	0.000996	0.006	No	8	0.000008485	87.5	No	0.004	NP (NDs)
Antimony (mg/L)	MW-12	0.00102	0.000977	0.006	No	8	0.0000152	87.5	No	0.004	NP (NDs)
Arsenic (mg/L)	MW-10	0.001736	0.0009229	0.01	No	8	0.001734	25	ln(x)	0.01	Param.
Arsenic (mg/L)	MW-11	0.005	0.000834	0.01	No	8	0.002142	62.5	No	0.004	NP (NDs)
Arsenic (mg/L)	MW-12	0.06611	0.04629	0.01	Yes	8	0.009346	0	No	0.01	Param.
Arsenic (mg/L)	MW-7	0.001562	0.001338	0.01	No	8	0.0001053	0	No	0.01	Param.
Arsenic (mg/L)	MW-8	0.001789	0.001021	0.01	No	8	0.0003623	0	No	0.01	Param.
Barium (mg/L)	MW-10	0.0245	0.0187	2	No	8	0.001799	0	No	0.004	NP (normality)
Barium (mg/L)	MW-11	0.01562	0.01313	2	No	8	0.001178	0	No	0.01	Param.
Barium (mg/L)	MW-12	0.01279	0.01081	2	No	8	0.0009335	0	No	0.01	Param.
Barium (mg/L)	MW-7	0.01463	0.01182	2	No	8	0.001325	0	No	0.01	Param.
Barium (mg/L)	MW-8	0.01428	0.01266	2	No	8	0.0007978	0	x^3	0.01	Param.
Beryllium (mg/L)	MW-10	0.001758	0.0006794	0.004	No	8	0.0005088	12.5	No	0.01	Param.
Cadmium (mg/L)	MW-10	0.001	0.00008	0.005	No	8	0.0004613	62.5	No	0.004	NP (NDs)
Chromium (mg/L)	MW-10	0.00102	0.00021	0.1	No	8	0.0003571	75	No	0.004	NP (NDs)
Chromium (mg/L)	MW-11	0.00102	0.00033	0.1	No	8	0.000244	87.5	No	0.004	NP (NDs)
Chromium (mg/L)	MW-12	0.00102	0.00028	0.1	No	8	0.0003313	75	No	0.004	NP (NDs)
Chromium (mg/L)	MW-7	0.00102	0.00032	0.1	No	8	0.0002475	87.5	No	0.004	NP (NDs)
Chromium (mg/L)	MW-8	0.00102	0.00025	0.1	No	8	0.0002722	87.5	No	0.004	NP (NDs)
Cobalt (mg/L)	MW-10	0.0214	0.01044	0.49	No	8	0.005169	0	No	0.01	Param.
Cobalt (mg/L)	MW-11	0.0025	0.00025	0.49	No	8	0.001128	62.5	No	0.004	NP (NDs)
Cobalt (mg/L)	MW-12	0.05574	0.04496	0.49	No	8	0.005087	0	No	0.01	Param.
Cobalt (mg/L)	MW-7	0.005818	0.002672	0.49	No	8	0.001484	0	No	0.01	Param.
Cobalt (mg/L)	MW-8	0.008447	0.006306	0.49	No	8	0.00101	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-10	0.5435	0.08999	5	No	8	0.2139	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-11	1.078	0.7141	5	No	8	0.1716	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-12	1.254	0.8322	5	No	8	0.2176	0	x^2	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-7	0.6127	0.2985	5	No	8	0.1482	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-8	0.9475	0.3021	5	No	8	0.3453	0	sqrt(x)	0.01	Param.
Fluoride (mg/L)	MW-10	0.2752	0.1678	4	No	8	0.05063	0	No	0.01	Param.
Fluoride (mg/L)	MW-11	0.132	0.08585	4	No	8	0.02311	0	sqrt(x)	0.01	Param.
Fluoride (mg/L)	MW-12	0.228	0.157	4	No	8	0.0335	0	No	0.01	Param.
Fluoride (mg/L)	MW-7	0.2316	0.1563	4	No	8	0.04032	0	ln(x)	0.01	Param.
Fluoride (mg/L)	MW-8	0.262	0.177	4	No	8	0.02596	0	No	0.004	NP (normality)
Lead (mg/L)	MW-10	0.0002	0.00008	0.015	No	8	0.00004243	87.5	No	0.004	NP (NDs)
Lead (mg/L)	MW-11	0.00145	0.0002	0.015	No	8	0.0004419	87.5	No	0.004	NP (NDs)
Lead (mg/L)	MW-12	0.0003	0.000178	0.015	No	8	0.00003766	62.5	No	0.004	NP (NDs)
Lead (mg/L)	MW-8	0.0002	0.00009	0.015	No	8	0.00005092	75	No	0.004	NP (NDs)
Lithium (mg/L)	MW-10	0.244	0.182	0.419	No	8	0.02926	0	No	0.01	Param.
Lithium (mg/L)	MW-11	0.2913	0.2404	0.419	No	8	0.02401	0	No	0.01	Param.
Lithium (mg/L)	MW-12	0.0881	0.07025	0.419	No	8	0.008418	0	No	0.01	Param.
Lithium (mg/L)	MW-7	0.1314	0.09757	0.419	No	8	0.01594	0	No	0.01	Param.
Lithium (mg/L)	MW-8	0.1732	0.1383	0.419	No	8	0.01649	0	No	0.01	Param.
Molybdenum (mg/L)	MW-10	0.0002	0.00008	0.1	No	8	0.00004243	87.5	No	0.004	NP (NDs)
Molybdenum (mg/L)	MW-11	0.00181	0.0002	0.1	No	8	0.0007021	62.5	No	0.004	NP (NDs)
Molybdenum (mg/L)	MW-12	0.0002	0.000088	0.1	No	8	0.00003902	62.5	No	0.004	NP (NDs)
Molybdenum (mg/L)	MW-7	0.00107	0.0002	0.1	No	8	0.0003941	62.5	No	0.004	NP (NDs)
Molybdenum (mg/L)	MW-8	0.0129	0.0002	0.1	No	8	0.004478	62.5	No	0.004	NP (NDs)
Selenium (mg/L)	MW-10	0.00289	0.00098	0.05	No	8	0.0008448	50	No	0.004	NP (normality)
Selenium (mg/L)	MW-12	0.00102	0.00051	0.05	No	8	0.0001803	87.5	No	0.004	NP (NDs)
Thallium (mg/L)	MW-12	0.0002	0.0001	0.002	No	8	0.00003536	87.5	No	0.004	NP (NDs)

Non-Parametric Confidence Interval

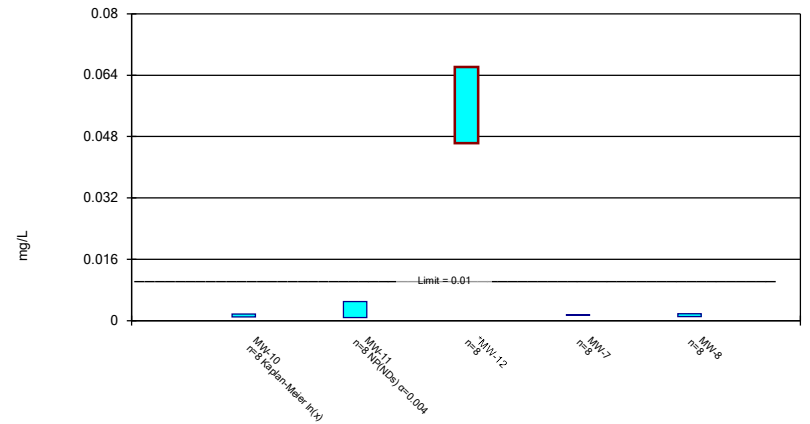
Compliance Limit is not exceeded.



Constituent: Antimony Analysis Run 4/24/2022 7:16 PM View: UTLS
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Parametric and Non-Parametric (NP) Confidence Interval

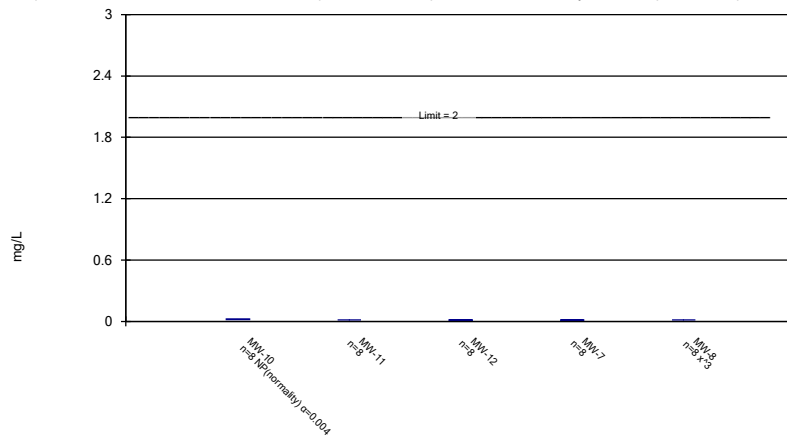
Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Arsenic Analysis Run 4/24/2022 7:16 PM View: UTLS
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Parametric and Non-Parametric (NP) Confidence Interval

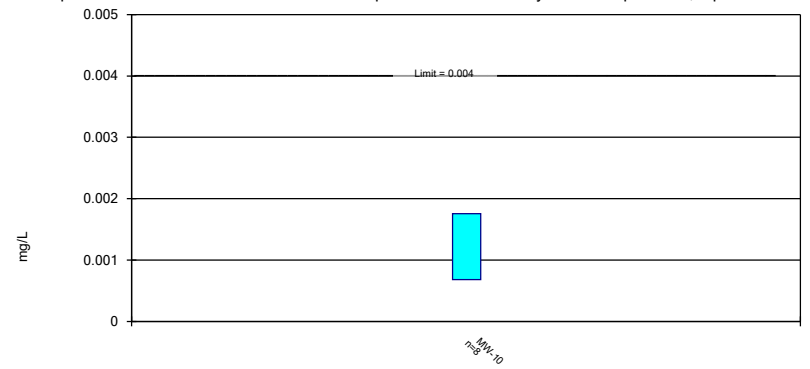
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Barium Analysis Run 4/24/2022 7:16 PM View: UTLS
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

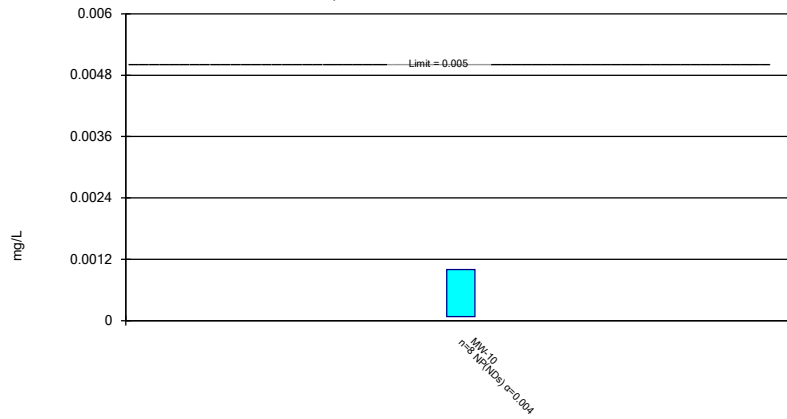
Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



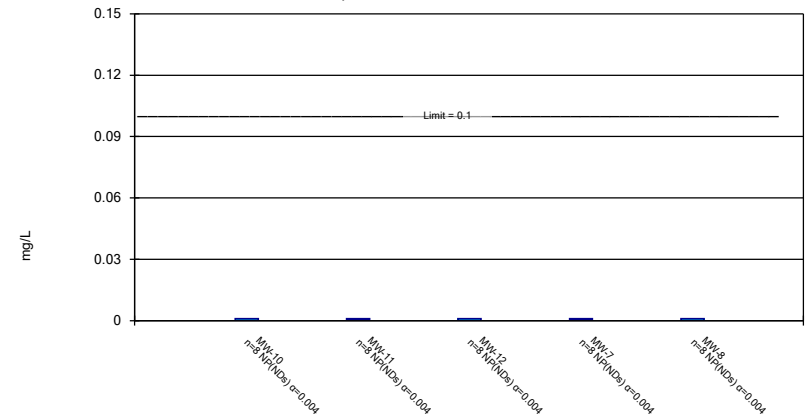
Constituent: Beryllium Analysis Run 4/24/2022 7:16 PM View: UTLS
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Non-Parametric Confidence Interval
Compliance Limit is not exceeded.



Constituent: Cadmium Analysis Run 4/24/2022 7:16 PM View: UTLS
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

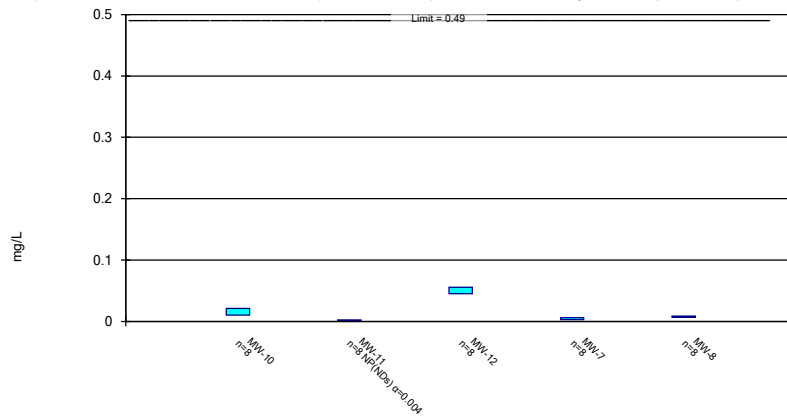
Non-Parametric Confidence Interval
Compliance Limit is not exceeded.



Constituent: Chromium Analysis Run 4/24/2022 7:16 PM View: UTLS
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Parametric and Non-Parametric (NP) Confidence Interval

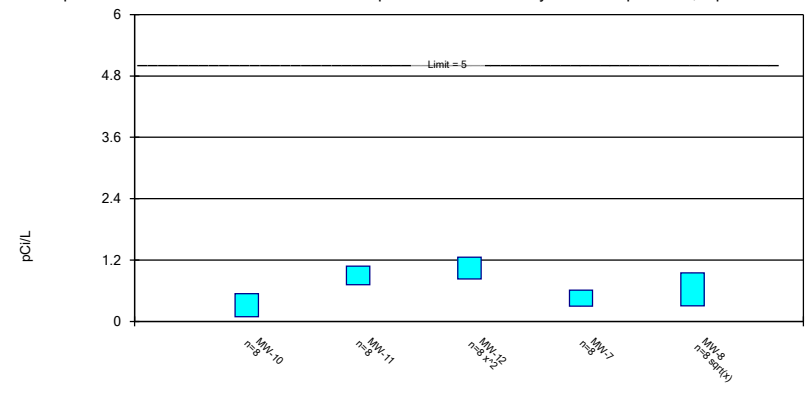
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cobalt Analysis Run 4/24/2022 7:16 PM View: UTLS
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Parametric Confidence Interval

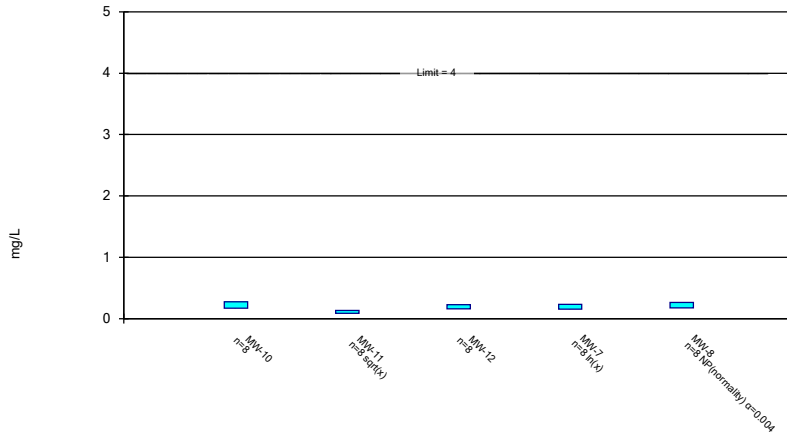
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Combined Radium 226 + 228 Analysis Run 4/24/2022 7:16 PM View: UTLS
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Parametric and Non-Parametric (NP) Confidence Interval

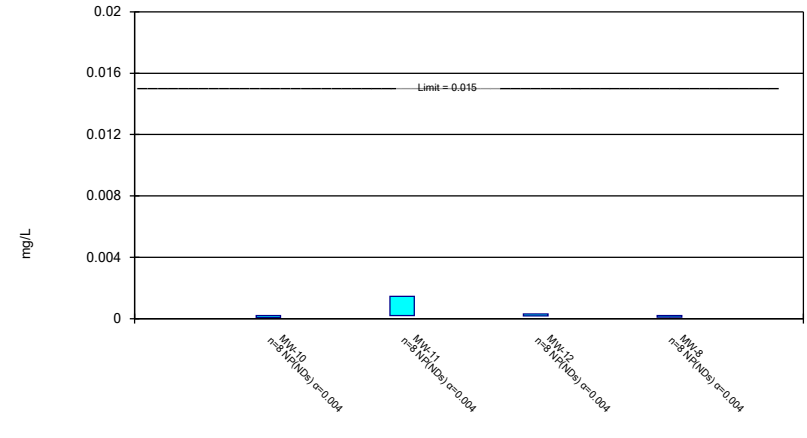
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Fluoride Analysis Run 4/24/2022 7:16 PM View: UTLS
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Non-Parametric Confidence Interval

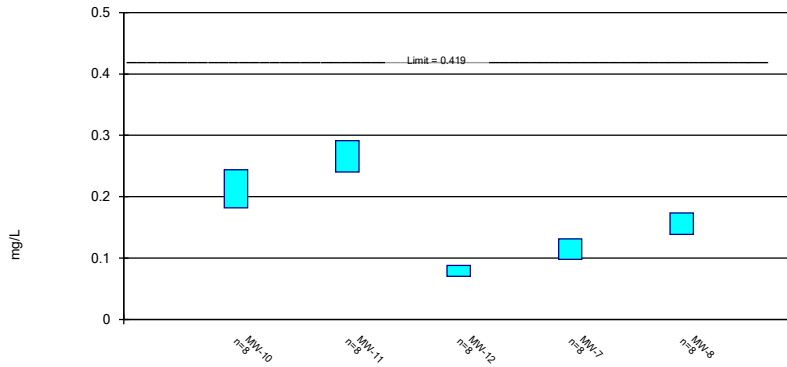
Compliance Limit is not exceeded.



Constituent: Lead Analysis Run 4/24/2022 7:16 PM View: UTLS
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Parametric Confidence Interval

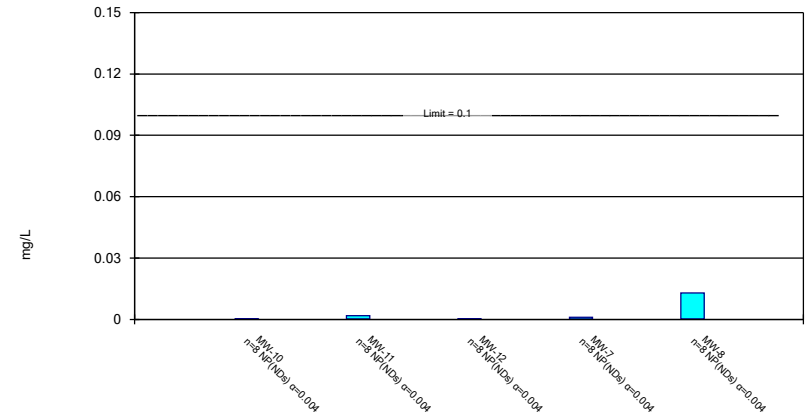
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lithium Analysis Run 4/24/2022 7:16 PM View: UTLS
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Non-Parametric Confidence Interval

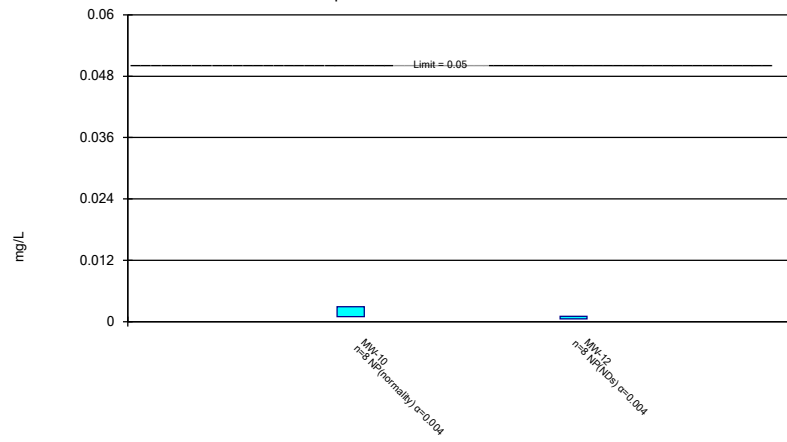
Compliance Limit is not exceeded.



Constituent: Molybdenum Analysis Run 4/24/2022 7:16 PM View: UTLS
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Non-Parametric Confidence Interval

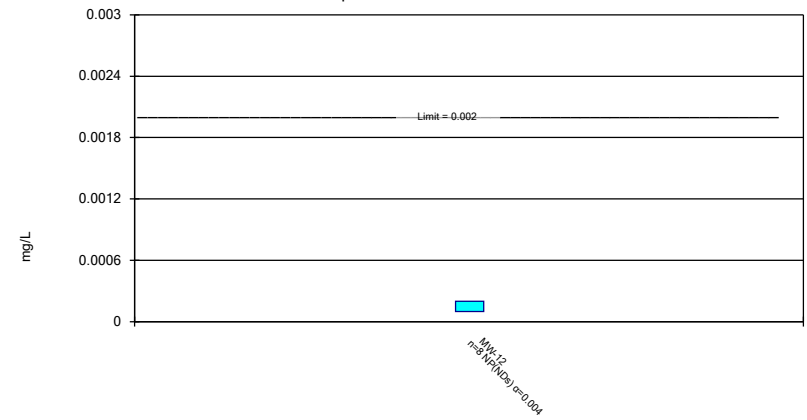
Compliance Limit is not exceeded.



Constituent: Selenium Analysis Run 4/24/2022 7:16 PM View: UTLS
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



Constituent: Thallium Analysis Run 4/24/2022 7:16 PM View: UTLS
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Confidence Interval

Constituent: Antimony (mg/L) Analysis Run 4/24/2022 7:18 PM View: UTLS
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-10	MW-12
11/19/2018	<0.00102	<0.00102
5/15/2019	0.000996 (J)	0.000977 (J)
10/9/2019	<0.00102	<0.00102
4/6/2020		<0.00102
4/8/2020	<0.00102	
7/13/2020		<0.00102
7/14/2020	<0.00102	
2/23/2021	<0.00102	
2/24/2021		<0.00102
7/20/2021	<0.00102	<0.00102
2/1/2022	<0.00102	<0.00102
Mean	0.001017	0.001015
Std. Dev.	8.485E-06	1.52E-05
Upper Lim.	0.00102	0.00102
Lower Lim.	0.000996	0.000977

Confidence Interval

Constituent: Arsenic (mg/L) Analysis Run 4/24/2022 7:18 PM View: UTLS

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-10	MW-11	MW-12	MW-7	MW-8
11/19/2018	<0.005		0.0405		
11/20/2018		<0.005		0.00133 (J)	0.00173 (J)
5/15/2019	0.00162 (J)	<0.005	0.0511	0.00138 (J)	0.00136 (J)
10/8/2019				0.00145 (J)	
10/9/2019	<0.005		0.0507		0.00142 (J)
10/10/2019		<0.005			
4/6/2020		<0.005	0.0597		
4/8/2020	0.0013 (J)			0.00136 (J)	0.00102 (J)
7/13/2020		<0.005	0.0613		
7/14/2020	0.00164 (J)			0.00147 (J)	
7/15/2020					0.00212 (J)
2/23/2021	0.0016			0.00141	0.00117
2/24/2021		0.000834	0.0516		
7/20/2021	0.00102		0.0668	0.00164	0.00111
7/21/2021		0.0009			
1/31/2022				0.00156	
2/1/2022	0.00073	0.00085	0.0679		0.00131
Mean	0.002239	0.003448	0.0562	0.00145	0.001405
Std. Dev.	0.001734	0.002142	0.009346	0.0001053	0.0003623
Upper Lim.	0.001736	0.005	0.06611	0.001562	0.001789
Lower Lim.	0.0009229	0.000834	0.04629	0.001338	0.001021

Confidence Interval

Constituent: Barium (mg/L) Analysis Run 4/24/2022 7:18 PM View: UTLS

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-10	MW-11	MW-12	MW-7	MW-8
11/19/2018	0.0187		0.0108		
11/20/2018		0.0127		0.0116	0.0123
5/15/2019	0.0189	0.0132	0.0113	0.0114	0.0122
10/8/2019				0.0145	
10/9/2019	0.0204		0.0126		0.0137
10/10/2019		0.0154			
4/6/2020		0.0147	0.0128		
4/8/2020	0.0201			0.0127	0.0137
7/13/2020		0.0149	0.0124		
7/14/2020	0.0245			0.0148	
7/15/2020					0.0143
2/23/2021	0.0201			0.014	0.014
2/24/2021		0.015	0.0123		
7/20/2021	0.0208		0.012	0.0142	0.0141
7/21/2021		0.0159			
1/31/2022				0.0126	
2/1/2022	0.0198	0.0132	0.0102		0.0135
Mean	0.02041	0.01438	0.0118	0.01323	0.01348
Std. Dev.	0.001799	0.001178	0.0009335	0.001325	0.0007978
Upper Lim.	0.0245	0.01562	0.01279	0.01463	0.01428
Lower Lim.	0.0187	0.01313	0.01081	0.01182	0.01266

Confidence Interval

Constituent: Beryllium (mg/L) Analysis Run 4/24/2022 7:18 PM View: UTLS
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-10
11/19/2018	0.00203 (J)
5/15/2019	0.00177 (J)
10/9/2019	0.00072 (J)
4/8/2020	0.00114 (J)
7/14/2020	0.00135 (J)
2/23/2021	0.00128
7/20/2021	0.00095 (J)
2/1/2022	<0.00102
Mean	0.001219
Std. Dev.	0.0005088
Upper Lim.	0.001758
Lower Lim.	0.0006794

Confidence Interval

Constituent: Cadmium (mg/L) Analysis Run 4/24/2022 7:18 PM View: UTLS
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-10
11/19/2018	<0.001
5/15/2019	<0.001
10/9/2019	<0.001
4/8/2020	<0.001
7/14/2020	<0.001
2/23/2021	0.000148 (J)
7/20/2021	8E-05 (J)
2/1/2022	0.0001 (J)
Mean	0.000666
Std. Dev.	0.0004613
Upper Lim.	0.001
Lower Lim.	8E-05

Confidence Interval

Constituent: Chromium (mg/L) Analysis Run 4/24/2022 7:18 PM View: UTLS

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-10	MW-11	MW-12	MW-7	MW-8
11/19/2018	<0.00102		<0.00102		
11/20/2018		<0.00102		<0.00102	<0.00102
5/15/2019	<0.00102	<0.00102	<0.00102	<0.00102	<0.00102
10/8/2019				<0.00102	
10/9/2019	<0.00102		<0.00102		<0.00102
10/10/2019		<0.00102			
4/6/2020		<0.00102	<0.00102		
4/8/2020	<0.00102			<0.00102	<0.00102
7/13/2020		<0.00102	<0.00102		
7/14/2020	<0.00102			<0.00102	
7/15/2020					<0.00102
2/23/2021	<0.00102			<0.00102	<0.00102
2/24/2021		<0.00102	<0.00102		
7/20/2021	0.00021 (J)		0.00028 (J)	<0.00102	<0.00102
7/21/2021		<0.00102			
1/31/2022				0.00032 (J)	
2/1/2022	0.00029 (J)	0.00033 (J)	0.00033 (J)		0.00025 (J)
Mean	0.0008275	0.0009337	0.0008412	0.0009325	0.0009237
Std. Dev.	0.0003571	0.000244	0.0003313	0.0002475	0.0002722
Upper Lim.	0.00102	0.00102	0.00102	0.00102	0.00102
Lower Lim.	0.00021	0.00033	0.00028	0.00032	0.00025

Confidence Interval

Constituent: Cobalt (mg/L) Analysis Run 4/24/2022 7:18 PM View: UTLS

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-10	MW-11	MW-12	MW-7	MW-8
11/19/2018	0.0147		0.0485		
11/20/2018		<0.005		0.00306 (J)	0.00551
5/15/2019	0.0226	<0.005	0.0603	0.00234 (J)	0.00643
10/8/2019				0.00408 (J)	
10/9/2019	0.00969		0.0512		0.00864
10/10/2019		<0.005			
4/6/2020		<0.005	0.0537		
4/8/2020	0.0176			0.00394 (J)	0.00762
7/13/2020		<0.005	0.0515		
7/14/2020	0.0232			0.00653	
7/15/2020					0.00821
2/23/2021	0.0167			0.00294	0.00796
2/24/2021		0.00026	0.0442		
7/20/2021	0.0131		0.046	0.00561	0.00714
7/21/2021		0.00025			
1/31/2022				0.00546	
2/1/2022	0.00978	0.00046	0.0474		0.0075
Mean	0.01592	0.001684	0.05035	0.004245	0.007376
Std. Dev.	0.005169	0.001128	0.005087	0.001484	0.00101
Upper Lim.	0.0214	0.0025	0.05574	0.005818	0.008447
Lower Lim.	0.01044	0.00025	0.04496	0.002672	0.006306

Confidence Interval

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 4/24/2022 7:18 PM View: UTLS

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-10	MW-11	MW-12	MW-7	MW-8
11/19/2018	0.167 (U)		0.648		
11/20/2018		1.04		0.494	0.28 (U)
5/15/2019	0.421 (U)	1.18	1	0.61	0.697
10/8/2019				0.345 (U)	
10/9/2019	0.742 (U)		1.18		0.416 (U)
10/10/2019		0.902			
4/6/2020		0.678	1.22		
4/8/2020	0.205 (U)			0.237 (U)	1.38 (U)
7/13/2020		0.665	0.787		
7/14/2020	0.314 (U)			0.434	
7/15/2020					0.398 (U)
2/23/2021	0.329 (U)			0.696 (U)	0.685 (U)
2/24/2021		0.869 (U)	1.24		
7/20/2021	0.344 (U)		1.15 (U)	0.356 (U)	0.42 (U)
7/21/2021		0.951 (U)			
1/31/2022				0.473 (U)	
2/1/2022	0.012 (U)	0.883 (U)	1.13 (U)		0.643 (U)
Mean	0.3168	0.896	1.044	0.4556	0.6149
Std. Dev.	0.2139	0.1716	0.2176	0.1482	0.3453
Upper Lim.	0.5435	1.078	1.254	0.6127	0.9475
Lower Lim.	0.08999	0.7141	0.8322	0.2985	0.3021

Confidence Interval

Constituent: Fluoride (mg/L) Analysis Run 4/24/2022 7:18 PM View: UTLS

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-10	MW-11	MW-12	MW-7	MW-8
11/19/2018	0.26		0.16		
11/20/2018		0.1		0.19	0.21
5/15/2019	0.276	0.1	0.185	0.169	0.192
10/8/2019				0.183	
10/9/2019	0.142		0.215		0.189
10/10/2019		0.0915 (J)			
4/6/2020		0.118	0.254		
4/8/2020	0.243			0.153	0.192
7/13/2020		0.108	0.161		
7/14/2020	0.224			0.193	
7/15/2020					0.196
2/23/2021	0.202			0.2	0.208
2/24/2021		0.107	0.172		
7/20/2021	0.268		0.219	0.286	0.262
7/21/2021		0.16			
1/31/2022				0.173	
2/1/2022	0.157	0.0848 (J)	0.174		0.177
Mean	0.2215	0.1087	0.1925	0.1934	0.2033
Std. Dev.	0.05063	0.02311	0.0335	0.04032	0.02596
Upper Lim.	0.2752	0.132	0.228	0.2316	0.262
Lower Lim.	0.1678	0.08585	0.157	0.1563	0.177

Confidence Interval

Constituent: Lead (mg/L) Analysis Run 4/24/2022 7:18 PM View: UTLS
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-10	MW-11	MW-12	MW-8
11/19/2018	<0.0002		<0.0002	
11/20/2018		<0.0002		<0.0002
5/15/2019	<0.0002	<0.0002	<0.0002	<0.0002
10/9/2019	<0.0002		<0.0002	<0.0002
10/10/2019		0.00145 (J)		
4/6/2020		<0.0002	<0.0002	
4/8/2020	<0.0002			<0.0002
7/13/2020		<0.0002	<0.0002	
7/14/2020	<0.0002			
7/15/2020				<0.0002
2/23/2021	<0.0002			<0.0002
2/24/2021		<0.0002	0.000178 (J)	
7/20/2021	8E-05 (J)		0.00023	9E-05 (J)
7/21/2021		<0.0002		
2/1/2022	<0.0002	<0.0002	0.0003	9E-05 (J)
Mean	0.000185	0.0003562	0.0002135	0.0001725
Std. Dev.	4.243E-05	0.0004419	3.766E-05	5.092E-05
Upper Lim.	0.0002	0.00145	0.0003	0.0002
Lower Lim.	8E-05	0.0002	0.000178	9E-05

Confidence Interval

Constituent: Lithium (mg/L) Analysis Run 4/24/2022 7:18 PM View: UTLS

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-10	MW-11	MW-12	MW-7	MW-8
11/19/2018	0.211		0.0816		
11/20/2018		0.248		0.12	0.181
5/15/2019	0.23	0.251	0.0736	0.127	0.16
10/8/2019				0.131	
10/9/2019	0.202		0.0838		0.163
10/10/2019		0.275			
4/6/2020		0.282	0.0786		
4/8/2020	0.23			0.117	0.149
7/13/2020		0.277	0.0784		
7/14/2020	0.255			0.103	
7/15/2020					0.152
2/23/2021	0.223			0.131	0.166
2/24/2021		0.3	0.0949		
7/20/2021	0.196		0.0769	0.096	0.151
7/21/2021		0.271			
1/31/2022				0.0907	
2/1/2022	0.157	0.223	0.0656		0.124
Mean	0.213	0.2659	0.07918	0.1145	0.1558
Std. Dev.	0.02926	0.02401	0.008418	0.01594	0.01649
Upper Lim.	0.244	0.2913	0.0881	0.1314	0.1732
Lower Lim.	0.182	0.2404	0.07025	0.09757	0.1383

Confidence Interval

Constituent: Molybdenum (mg/L) Analysis Run 4/24/2022 7:18 PM View: UTLS

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-10	MW-11	MW-12	MW-7	MW-8
11/19/2018	<0.0002		<0.0002		
11/20/2018		<0.0002		<0.0002	<0.0002
5/15/2019	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
10/8/2019				<0.0002	
10/9/2019	<0.0002		<0.0002		<0.0002
10/10/2019		<0.0002			
4/6/2020		<0.0002	<0.0002		
4/8/2020	<0.0002			<0.0002	<0.0002
7/13/2020		<0.0002	<0.0002		
7/14/2020	<0.0002			<0.0002	
7/15/2020					<0.0002
2/23/2021	<0.0002			0.00107	0.0129
2/24/2021		0.00148	8.8E-05 (J)		
7/20/2021	8E-05 (J)		0.00017 (J)	0.00086	0.00033
7/21/2021		0.0013			
1/31/2022				0.00093	
2/1/2022	<0.0002	0.00181	0.00019 (J)		0.00031
Mean	0.000185	0.0006987	0.000181	0.0004825	0.001817
Std. Dev.	4.243E-05	0.0007021	3.902E-05	0.0003941	0.004478
Upper Lim.	0.0002	0.00181	0.0002	0.00107	0.0129
Lower Lim.	8E-05	0.0002	8.8E-05	0.0002	0.0002

Confidence Interval

Constituent: Selenium (mg/L) Analysis Run 4/24/2022 7:18 PM View: UTLS

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-10	MW-12
11/19/2018	<0.00102	<0.00102
5/15/2019	0.00289 (J)	<0.00102
10/9/2019	<0.00102	<0.00102
4/6/2020		<0.00102
4/8/2020	<0.00102	
7/13/2020		<0.00102
7/14/2020	0.00273 (J)	
2/23/2021	0.00217	
2/24/2021		<0.00102
7/20/2021	0.00098 (J)	<0.00102
2/1/2022	<0.00102	0.00051 (J)
Mean	0.001606	0.0009562
Std. Dev.	0.0008448	0.0001803
Upper Lim.	0.00289	0.00102
Lower Lim.	0.00098	0.00051

Confidence Interval

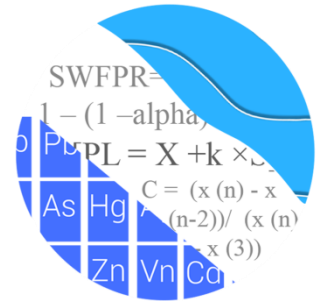
Constituent: Thallium (mg/L) Analysis Run 4/24/2022 7:18 PM View: UTLS
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-12
11/19/2018	<0.0002
5/15/2019	<0.0002
10/9/2019	<0.0002
4/6/2020	<0.0002
7/13/2020	<0.0002
2/24/2021	<0.0002
7/20/2021	<0.0002
2/1/2022	0.0001 (J)
Mean	0.0001875
Std. Dev.	3.536E-05
Upper Lim.	0.0002
Lower Lim.	0.0001

GROUNDWATER STATS CONSULTING

October 12, 2022

Southern Company Services
Attn: Mr. Greg Dyer
3535 Colonnade Parkway
Birmingham, AL 35243



Re: Plant Gorgas Bottom Ash Landfill
2nd 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 2nd semi-annual sample event for Alabama Power Company's Plant Gorgas Bottom Ash Landfill. The analysis complies with the federal rule for the Disposal of Coal Combustion Residuals (CCR) from Electric Utilities (CCR Rule, 2015) as well as with the United States Environmental Protection Agency (USEPA) Unified Guidance (2009).

Sampling began at site for the CCR program in 2016. The monitoring well network, as provided by Southern Company Services, consists of the following:

- **Upgradient wells:** MW-1, MW-2, MW-3, and MW-4
- **Downgradient wells:** MW-7, MW-8, MW-10, MW-11, and MW-12
- **Delineation well:** MW-12V

Note that data from delineation well MW-12V did not require statistics; therefore, data for this well were plotted only on time series and box plots.

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 summary 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): 13
- # Background Samples (Interwell): 103
- # Constituents: 7
- # Downgradient wells: 5

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 calcium, fluoride, sulfate, and TDS
- Interwell prediction limits, combined with a 1-of-2 resample plan for boron, chloride, and pH

Parametric prediction limits are utilized when the screened historical data follow a normal or transformed-normal distribution. When data cannot be normalized or the majority of data are non-detects, a nonparametric test is utilized. While the annual false positive rate associated with parametric limits is fixed at 10% as recommended by the EPA Unified Guidance (2009), the false positive rate associated with nonparametric limits is not fixed and depends upon the available background sample size, number of future comparisons, and verification resample plan. The distribution of data is tested using the Shapiro-Wilk/Shapiro-Francia test for normality. After testing for normality and performing any adjustments as discussed below (US EPA, 2009), data are analyzed using either parametric or non-parametric prediction limits as appropriate.

- 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 screening for any new outliers. While not required for this report, in some cases, deselecting the earlier portion of data may be necessary prior to construction of limits so that resulting statistical limits are conservative (lower) from a regulatory perspective and capable of rapidly detecting changes in groundwater quality. Even though the data are excluded from the calculation, the values will continue to be reported and shown in tables and graphs.

Background Update Summaries

Fall 2019

Intrawell prediction limits, which compare the most recent compliance sample from a given well to historical data from the same well, are updated by testing for the appropriateness of consolidating new sampling observations with the screened background data. As discussed in the Statistical Analysis Plan (August 2020), intrawell prediction limits are used to evaluate calcium, fluoride, sulfate, and TDS at all wells due to natural spatial variation for these parameters. In September 2019, historical data were evaluated for updating with newer data through May 2019 through the use of time series graphs and Tukey's outlier test to identify potential outliers, when necessary, as well as the Mann-Whitney test for equality of medians. This process is described below for the 2021 update and requires a minimum of four new data points. During the 2019 screening, all background data sets for constituents using intrawell prediction limits were updated through May 2019 and a summary of these results was included with the Mann-Whitney test section in that report.

Interwell prediction limits are used to compare the most recent sample from each downgradient well to statistical limits constructed from pooled upgradient well data for boron, chloride, and pH. As mentioned above, these limits are updated following each sampling event after screening for new outliers. Data from upgradient wells are also periodically re-screened for newly developing trends, which may require adjustment of the background period to eliminate the trend. No adjustments were required in upgradient wells for constituents evaluated using interwell prediction limits.

Fall 2021

Outlier Analysis

Prior to constructing prediction limits, proposed background data--through February 2021 for constituents evaluated with intrawell prediction limits and through July 2021 for

constituents evaluated with interwell constituents--were reviewed through the use of time series graphs to identify any newly suspected outliers at all wells for calcium, fluoride, sulfate, and TDS, and at upgradient wells for boron, chloride, and pH. 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 (i.e., lower) from a regulatory perspective.

A high non-detect value was flagged as an outlier for boron in upgradient well MW-4. Additionally, high detected values for boron in downgradient well MW-7, sulfate at upgradient well MW-1 and downgradient wells MW-7 and MW-8, and TDS in upgradient well MW-1 were flagged as outliers since these values were not representative of remaining concentrations within their respective wells. As mentioned above, flagged data are displayed in a lighter font and as a disconnected symbol on the time series reports, as well as in a lighter font on the accompanying data pages. A summary 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 February 2021. When no statistically significant difference in medians between the two groups is found at a 99% confidence level, background data may be updated with newer compliance data. Statistically significant differences (either an increase or decrease in median concentrations) were found between the two groups for the following well/constituent pairs:

Increase

- Fluoride: MW-12
- TDS: MW-12

Decrease

- Fluoride: MW-8
- Sulfate: MW-11
- TDS: MW-11

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.

For well/constituent pairs with statistically significant decreases in medians, the background datasets were updated with new measurements at lower concentrations in order to construct statistical limits that are conservative (i.e., lower) from a regulatory perspective and be representative of present-day groundwater quality.

Regarding well/constituent pairs with statistically significant increases in medians, the group of new measurements for TDS in downgradient MW-12 were similar to those observed historically in upgradient wells and are relatively stable. Therefore, these records were updated with more recent data. For fluoride in well MW-12, however, some of the compliance samples are elevated compared to historical concentrations within this well. In order to maintain statistical limits that are conservative (i.e., lower) from a regulatory perspective, this record was not updated with more recent measurements and will be re-evaluated during the next background update. The Mann-Whitney results were submitted with the report. All records will be re-evaluated during the next background update when a minimum of 4 compliance samples are available. A list of well/constituent pairs with a truncated portion of their record follows this letter. All other records were updated with compliance data through February 2021.

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 an increasing trend for boron in upgradient well MW-2. The increasing trend, however, is a result of historic trace values earlier in the record followed by non-detect values. Therefore, no adjustments were required.

Evaluation of Appendix III Parameters – July 2022

Prediction Limits

Intrawell prediction limits, combined with a 1-of-2 resample plan, were constructed for calcium, fluoride, sulfate, and TDS using screened background data through February 2021 at each well. (Figure D). Intrawell limits constructed from screened background data from within each well serve to provide statistical limits that are representative of the background data population, and that will rapidly identify a change in more recent compliance data from within a given well. This statistical method removes the element of variation across wells and eliminates the chance of mistaking natural spatial variation for a release from the facility. The July 2022 observation is compared to its respective background from the same well to determine whether initial exceedances are present.

Interwell prediction limits combined with a 1-of-2 verification strategy were constructed for boron, chloride, and pH (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:

- Fluoride: MW-12

Interwell:

- Boron: MW-10, MW-11, and MW-12
- Chloride: MW-7, MW-8, MW-11, and MW-12
- pH: MW-7, MW-8, MW-10, and MW-11

Note that boron at wells MW-7 and MW-8 had reported trace values for this event that were higher than the established prediction limits. These were not identified as exceedances by the Sanitas software because the assumption is that the laboratory did not detect any concentrations above the Practical Quantification Limit for these wells.

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 (upgradient), MW-2 (upgradient), and MW-11
- Chloride: MW-11 and MW-12
- Fluoride: MW-2 (upgradient) and MW-12
- pH: MW-2 (upgradient), MW-8, and MW-11

Decreasing

- Chloride: MW-8
- pH: MW-1 (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 flagged outliers follows this report (Figure C).

In accordance with Alabama Department of Environmental Management (ADEM), the Groundwater Protections Standards (GWPS) were updated during the 2021 2nd semi-annual statistical analysis. The GWPS will be updated again during the 2023 2nd semi-

annual statistical analysis. The methodology used to create these GWPS is described below.

Interwell Upper Tolerance Limits

First, background limits were determined using tolerance limits constructed from pooled upgradient well data through July 2021 (Figure G). The tolerance limits contain a known fraction (coverage) of the background population with a known level of confidence. The confidence and coverage levels for nonparametric tolerance limits are dependent upon the number of background samples. As requested by ADEM to eliminate variation among upgradient well data, nonparametric tolerance limits, which use the highest value in background as the statistical limit, were constructed. A summary of the upper tolerance limits follows this report (page 19).

Groundwater Protection Standards

These background limits were then compared to the Maximum Contaminant Levels (MCLs) for each parameter, and the higher of the two was used as the GWPS (Figure H, page 20) in the confidence interval comparisons described below. Exceptions are noted in Figure H for beryllium and cadmium. For these two parameters, the MCLs 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 (pages 21-22). No confidence interval exceedances were noted except for arsenic in well MW-12.

Thank you for the opportunity to assist you in the statistical analysis of groundwater quality for Gorgas Bottom Ash Landfill. If you have any questions or comments, please feel free to contact us.

For Groundwater Stats Consulting,

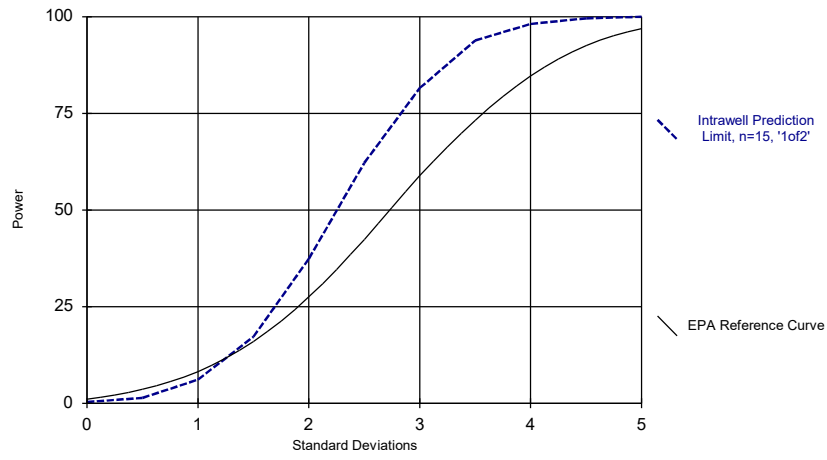


Abdul Diane
Groundwater Analyst



Andrew T. Collins
Project Manager

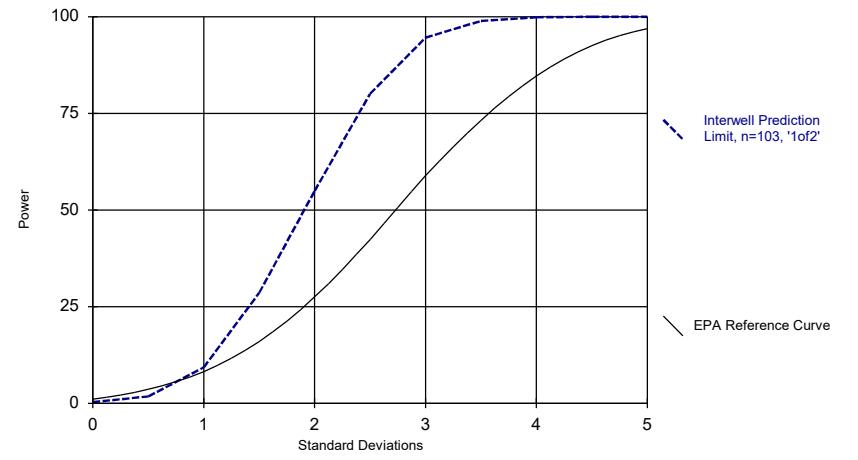
Intrawell Power Curve



Kappa = 2.207, based on 7 compliance wells and 5 constituents, evaluated semi-annually (this report reflects annual total).

Analysis Run 10/10/2022 4:38 AM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Interwell Power Curve



Kappa = 1.812, based on 7 compliance wells and 5 constituents, evaluated semi-annually (this report reflects annual total).

Analysis Run 10/10/2022 4:39 AM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

100% Non-Detects: Appendix IV Downgradient

Analysis Run 10/10/2022 4:21 AM View: Appendix IV
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Antimony (mg/L)
MW-11, MW-7, MW-8

Beryllium (mg/L)
MW-11, MW-12, MW-7, MW-8

Cadmium (mg/L)
MW-11, MW-12, MW-7, MW-8

Lead (mg/L)
MW-7

Mercury (mg/L)
MW-10, MW-11, MW-12, MW-7, MW-8

Selenium (mg/L)
MW-11, MW-8

Thallium (mg/L)
MW-10, MW-11, MW-7, MW-8

Intrawell Prediction Limit - Significant Results

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR Printed 10/4/2022, 7:47 PM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Date</u>	<u>Observ.</u>	<u>Sig.</u>	<u>Bg N</u>	<u>Bg Mean</u>	<u>Std. Dev.</u>	<u>%NDs</u>	<u>ND Adj.</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Fluoride (mg/L)	MW-12	0.2219	n/a	7/5/2022	0.275	Yes	13	0.1188	0.04526	0	None	No	0.001504	Param Intra 1 of 2

Intrawell Prediction Limit - All Results

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR Printed 10/4/2022, 7:47 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Calcium (mg/L)	MW-1	243	n/a	7/5/2022	168	No	23	n/a	n/a	0	n/a	n/a	0.003415	NP Intra (normality) 1 of 2
Calcium (mg/L)	MW-10	280.7	n/a	7/6/2022	150	No	16	184.7	44.65	0	None	No	0.001504	Param Intra 1 of 2
Calcium (mg/L)	MW-11	423.3	n/a	7/5/2022	333	No	16	372.6	23.56	0	None	No	0.001504	Param Intra 1 of 2
Calcium (mg/L)	MW-12	402.8	n/a	7/5/2022	330	No	16	355.6	21.98	0	None	No	0.001504	Param Intra 1 of 2
Calcium (mg/L)	MW-2	216.2	n/a	7/5/2022	172	No	23	174.2	20.8	0	None	No	0.001504	Param Intra 1 of 2
Calcium (mg/L)	MW-3	420.1	n/a	7/5/2022	369	No	23	300	59.54	0	None	No	0.001504	Param Intra 1 of 2
Calcium (mg/L)	MW-4	388.9	n/a	7/5/2022	294	No	23	304.8	41.68	0	None	No	0.001504	Param Intra 1 of 2
Calcium (mg/L)	MW-7	345.2	n/a	7/6/2022	280	No	16	854.34	15683	0	None	x^2	0.001504	Param Intra 1 of 2
Calcium (mg/L)	MW-8	341.3	n/a	7/6/2022	306	No	16	303.1	17.76	0	None	No	0.001504	Param Intra 1 of 2
Fluoride (mg/L)	MW-1	0.1903	n/a	7/5/2022	0.11J	No	24	0.1172	0.03644	0	None	No	0.001504	Param Intra 1 of 2
Fluoride (mg/L)	MW-10	0.3437	n/a	7/6/2022	0.145	No	17	0.1839	0.0751	0	None	No	0.001504	Param Intra 1 of 2
Fluoride (mg/L)	MW-11	0.1477	n/a	7/5/2022	0.124J	No	17	0.09621	0.0242	5.882	None	No	0.001504	Param Intra 1 of 2
Fluoride (mg/L)	MW-12	0.2219	n/a	7/5/2022	0.275	Yes	13	0.1188	0.04526	0	None	No	0.001504	Param Intra 1 of 2
Fluoride (mg/L)	MW-2	0.2565	n/a	7/5/2022	0.2	No	24	0.1456	0.05538	0	None	No	0.001504	Param Intra 1 of 2
Fluoride (mg/L)	MW-3	0.5975	n/a	7/5/2022	0.386	No	24	0.3299	0.1336	0	None	No	0.001504	Param Intra 1 of 2
Fluoride (mg/L)	MW-4	0.4243	n/a	7/5/2022	0.362	No	24	0.1114	0.03425	0	None	x^2	0.001504	Param Intra 1 of 2
Fluoride (mg/L)	MW-7	0.2155	n/a	7/6/2022	0.208	No	17	0.1848	0.01443	0	None	No	0.001504	Param Intra 1 of 2
Fluoride (mg/L)	MW-8	0.2349	n/a	7/6/2022	0.173	No	17	0.21	0.01171	0	None	No	0.001504	Param Intra 1 of 2
Sulfate (mg/L)	MW-1	1672	n/a	7/5/2022	1600	No	22	1461	104.1	0	None	No	0.001504	Param Intra 1 of 2
Sulfate (mg/L)	MW-10	1188	n/a	7/6/2022	635	No	16	807.1	176.9	0	None	No	0.001504	Param Intra 1 of 2
Sulfate (mg/L)	MW-11	2292	n/a	7/5/2022	1250	No	16	1592	325.4	0	None	No	0.001504	Param Intra 1 of 2
Sulfate (mg/L)	MW-12	2822	n/a	7/5/2022	2430	No	16	2315	235.6	0	None	No	0.001504	Param Intra 1 of 2
Sulfate (mg/L)	MW-2	1284	n/a	7/5/2022	819	No	23	997.8	141.7	0	None	No	0.001504	Param Intra 1 of 2
Sulfate (mg/L)	MW-3	3300	n/a	7/5/2022	3110	No	23	2451	421.1	0	None	No	0.001504	Param Intra 1 of 2
Sulfate (mg/L)	MW-4	3165	n/a	7/5/2022	2380	No	23	2511	324	0	None	No	0.001504	Param Intra 1 of 2
Sulfate (mg/L)	MW-7	1614	n/a	7/6/2022	1330	No	15	1324	132.3	0	None	No	0.001504	Param Intra 1 of 2
Sulfate (mg/L)	MW-8	1640	n/a	7/6/2022	1460	No	15	n/a	n/a	0	n/a	n/a	0.007533	NP Intra (normality) 1 of 2
Total Dissolved Solids (mg/L)	MW-1	2530	n/a	7/5/2022	2100	No	22	2197	164	0	None	No	0.001504	Param Intra 1 of 2
Total Dissolved Solids (mg/L)	MW-10	1925	n/a	7/6/2022	967	No	16	7.179	0.1783	0	None	ln(x)	0.001504	Param Intra 1 of 2
Total Dissolved Solids (mg/L)	MW-11	3052	n/a	7/5/2022	2020	No	16	2649	187.2	0	None	No	0.001504	Param Intra 1 of 2
Total Dissolved Solids (mg/L)	MW-12	4477	n/a	7/5/2022	3690	No	16	3598	408.9	0	None	No	0.001504	Param Intra 1 of 2
Total Dissolved Solids (mg/L)	MW-2	2034	n/a	7/5/2022	1250	No	23	1643	193.7	0	None	No	0.001504	Param Intra 1 of 2
Total Dissolved Solids (mg/L)	MW-3	5097	n/a	7/5/2022	4220	No	23	3729	678.1	0	None	No	0.001504	Param Intra 1 of 2
Total Dissolved Solids (mg/L)	MW-4	4623	n/a	7/5/2022	3240	No	23	1.5e7	3201096	0	None	x^2	0.001504	Param Intra 1 of 2
Total Dissolved Solids (mg/L)	MW-7	2598	n/a	7/6/2022	2110	No	16	6.3e16	2.6e16	0	None	x^5	0.001504	Param Intra 1 of 2
Total Dissolved Solids (mg/L)	MW-8	2817	n/a	7/6/2022	2320	No	16	2573	113.3	0	None	No	0.001504	Param Intra 1 of 2

Interwell Prediction Limit - Significant Results

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR Printed 10/4/2022, 7:51 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)	MW-10	0.0596	n/a	7/6/2022	0.144	Yes	103	n/a	n/a	23.3	n/a	n/a	0.0001846	NP Inter (normality) 1 of 2
Boron (mg/L)	MW-11	0.0596	n/a	7/5/2022	0.105	Yes	103	n/a	n/a	23.3	n/a	n/a	0.0001846	NP Inter (normality) 1 of 2
Boron (mg/L)	MW-12	0.0596	n/a	7/5/2022	0.172	Yes	103	n/a	n/a	23.3	n/a	n/a	0.0001846	NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-11	3.853	n/a	7/5/2022	55.2	Yes	104	0.7405	0.337	2.885	None	ln(x)	0.001504	Param Inter 1 of 2
Chloride (mg/L)	MW-12	3.853	n/a	7/5/2022	10.5	Yes	104	0.7405	0.337	2.885	None	ln(x)	0.001504	Param Inter 1 of 2
Chloride (mg/L)	MW-7	3.853	n/a	7/6/2022	6.25	Yes	104	0.7405	0.337	2.885	None	ln(x)	0.001504	Param Inter 1 of 2
Chloride (mg/L)	MW-8	3.853	n/a	7/6/2022	6.5	Yes	104	0.7405	0.337	2.885	None	ln(x)	0.001504	Param Inter 1 of 2
pH (SU)	MW-10	6.35	3.77	7/6/2022	6.64	Yes	106	n/a	n/a	0	n/a	n/a	0.0003518	NP Inter (normality) 1 of 2
pH (SU)	MW-11	6.35	3.77	7/5/2022	6.75	Yes	106	n/a	n/a	0	n/a	n/a	0.0003518	NP Inter (normality) 1 of 2
pH (SU)	MW-7	6.35	3.77	7/6/2022	6.46	Yes	106	n/a	n/a	0	n/a	n/a	0.0003518	NP Inter (normality) 1 of 2
pH (SU)	MW-8	6.35	3.77	7/6/2022	6.72	Yes	106	n/a	n/a	0	n/a	n/a	0.0003518	NP Inter (normality) 1 of 2

Interwell Prediction Limit - All Results

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR Printed 10/10/2022, 4:08 AM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Date</u>	<u>Observ.</u>	<u>Sig.</u>	<u>Bg N</u>	<u>Bg Mean</u>	<u>Std. Dev.</u>	<u>%NDs</u>	<u>ND Adj.</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Boron (mg/L)	MW-10	0.0596	n/a	7/6/2022	0.144	Yes	103	n/a	n/a	23.3	n/a	n/a	0.0001846	NP Inter (normality) 1 of 2
Boron (mg/L)	MW-11	0.0596	n/a	7/5/2022	0.105	Yes	103	n/a	n/a	23.3	n/a	n/a	0.0001846	NP Inter (normality) 1 of 2
Boron (mg/L)	MW-12	0.0596	n/a	7/5/2022	0.172	Yes	103	n/a	n/a	23.3	n/a	n/a	0.0001846	NP Inter (normality) 1 of 2
Boron (mg/L)	MW-7	0.0596	n/a	7/6/2022	0.0752J	No	103	n/a	n/a	23.3	n/a	n/a	0.0001846	NP Inter (normality) 1 of 2
Boron (mg/L)	MW-8	0.0596	n/a	7/6/2022	0.0686J	No	103	n/a	n/a	23.3	n/a	n/a	0.0001846	NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-10	3.853	n/a	7/6/2022	2.79	No	104	0.7405	0.337	2.885	None	ln(x)	0.001504	Param Inter 1 of 2
Chloride (mg/L)	MW-11	3.853	n/a	7/5/2022	55.2	Yes	104	0.7405	0.337	2.885	None	ln(x)	0.001504	Param Inter 1 of 2
Chloride (mg/L)	MW-12	3.853	n/a	7/5/2022	10.5	Yes	104	0.7405	0.337	2.885	None	ln(x)	0.001504	Param Inter 1 of 2
Chloride (mg/L)	MW-7	3.853	n/a	7/6/2022	6.25	Yes	104	0.7405	0.337	2.885	None	ln(x)	0.001504	Param Inter 1 of 2
Chloride (mg/L)	MW-8	3.853	n/a	7/6/2022	6.5	Yes	104	0.7405	0.337	2.885	None	ln(x)	0.001504	Param Inter 1 of 2
pH (SU)	MW-10	6.35	3.77	7/6/2022	6.64	Yes	106	n/a	n/a	0	n/a	n/a	0.0003518	NP Inter (normality) 1 of 2
pH (SU)	MW-11	6.35	3.77	7/5/2022	6.75	Yes	106	n/a	n/a	0	n/a	n/a	0.0003518	NP Inter (normality) 1 of 2
pH (SU)	MW-12	6.35	3.77	7/5/2022	5.82	No	106	n/a	n/a	0	n/a	n/a	0.0003518	NP Inter (normality) 1 of 2
pH (SU)	MW-7	6.35	3.77	7/6/2022	6.46	Yes	106	n/a	n/a	0	n/a	n/a	0.0003518	NP Inter (normality) 1 of 2
pH (SU)	MW-8	6.35	3.77	7/6/2022	6.72	Yes	106	n/a	n/a	0	n/a	n/a	0.0003518	NP Inter (normality) 1 of 2

Appendix III Trend Test Summary - Significant Results

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR Printed 10/4/2022, 8:08 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	MW-1 (bg)	0.004433	127	118	Yes	26	34.62	n/a	n/a	0.01	NP
Boron (mg/L)	MW-11	0.002551	97	74	Yes	19	0	n/a	n/a	0.01	NP
Boron (mg/L)	MW-2 (bg)	0.01142	163	118	Yes	26	30.77	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-11	14.1	124	74	Yes	19	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-12	1.294	119	74	Yes	19	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-8	-25.93	-85	-74	Yes	19	0	n/a	n/a	0.01	NP
Fluoride (mg/L)	MW-12	0.02187	113	81	Yes	20	0	n/a	n/a	0.01	NP
Fluoride (mg/L)	MW-2 (bg)	0.01334	156	124	Yes	27	0	n/a	n/a	0.01	NP
pH (SU)	MW-1 (bg)	-0.01653	-132	-118	Yes	26	0	n/a	n/a	0.01	NP
pH (SU)	MW-11	0.05302	127	81	Yes	20	0	n/a	n/a	0.01	NP
pH (SU)	MW-2 (bg)	0.04331	143	118	Yes	26	0	n/a	n/a	0.01	NP
pH (SU)	MW-8	0.04745	138	81	Yes	20	0	n/a	n/a	0.01	NP

Appendix III Trend Test Summary - All Results

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR Printed 10/4/2022, 8:08 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)	MW-1 (bg)	0.004433	127	118	Yes	26	34.62	n/a	n/a	0.01	NP
Boron (mg/L)	MW-10	-0.00642	-46	-74	No	19	0	n/a	n/a	0.01	NP
Boron (mg/L)	MW-11	0.002551	97	74	Yes	19	0	n/a	n/a	0.01	NP
Boron (mg/L)	MW-12	0.008213	51	74	No	19	0	n/a	n/a	0.01	NP
Boron (mg/L)	MW-2 (bg)	0.01142	163	118	Yes	26	30.77	n/a	n/a	0.01	NP
Boron (mg/L)	MW-3 (bg)	0.005362	100	118	No	26	26.92	n/a	n/a	0.01	NP
Boron (mg/L)	MW-4 (bg)	-0.0003131	-41	-111	No	25	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-1 (bg)	-0.02557	-49	-118	No	26	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-11	14.1	124	74	Yes	19	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-12	1.294	119	74	Yes	19	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-2 (bg)	-0.1181	-46	-118	No	26	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-3 (bg)	0.06413	77	118	No	26	7.692	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-4 (bg)	-0.06663	-87	-118	No	26	3.846	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-7	-5.329	-58	-74	No	19	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-8	-25.93	-85	-74	Yes	19	0	n/a	n/a	0.01	NP
Fluoride (mg/L)	MW-1 (bg)	-0.005146	-60	-124	No	27	0	n/a	n/a	0.01	NP
Fluoride (mg/L)	MW-12	0.02187	113	81	Yes	20	0	n/a	n/a	0.01	NP
Fluoride (mg/L)	MW-2 (bg)	0.01334	156	124	Yes	27	0	n/a	n/a	0.01	NP
Fluoride (mg/L)	MW-3 (bg)	0.0006207	8	124	No	27	0	n/a	n/a	0.01	NP
Fluoride (mg/L)	MW-4 (bg)	0.00622	58	124	No	27	0	n/a	n/a	0.01	NP
pH (SU)	MW-1 (bg)	-0.01653	-132	-118	Yes	26	0	n/a	n/a	0.01	NP
pH (SU)	MW-10	0.03374	67	81	No	20	0	n/a	n/a	0.01	NP
pH (SU)	MW-11	0.05302	127	81	Yes	20	0	n/a	n/a	0.01	NP
pH (SU)	MW-2 (bg)	0.04331	143	118	Yes	26	0	n/a	n/a	0.01	NP
pH (SU)	MW-3 (bg)	0.004279	3	124	No	27	0	n/a	n/a	0.01	NP
pH (SU)	MW-4 (bg)	0.01227	67	124	No	27	0	n/a	n/a	0.01	NP
pH (SU)	MW-7	-0.02063	-58	-81	No	20	0	n/a	n/a	0.01	NP
pH (SU)	MW-8	0.04745	138	81	Yes	20	0	n/a	n/a	0.01	NP

Upper Tolerance Limits Summary Table

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR Printed 12/6/2021, 10:45 AM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Date</u>	<u>Observ.</u>	<u>Sig.</u>	<u>Bg N</u>	<u>Bg Mean</u>	<u>Std. Dev.</u>	<u>%NDs</u>	<u>ND Adj.</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Antimony (mg/L)	n/a	0.00143	n/a	n/a	n/a	96	n/a	n/a	93.75	n/a	n/a	0.007269	NP Inter
Arsenic (mg/L)	n/a	0.005	n/a	n/a	n/a	96	n/a	n/a	83.33	n/a	n/a	0.007269	NP Inter
Barium (mg/L)	n/a	0.0165	n/a	n/a	n/a	96	n/a	n/a	0	n/a	n/a	0.007269	NP Inter
Beryllium (mg/L)	n/a	0.0121	n/a	n/a	n/a	94	n/a	n/a	84.04	n/a	n/a	0.008054	NP Inter
Cadmium (mg/L)	n/a	0.00598	n/a	n/a	n/a	94	n/a	n/a	45.74	n/a	n/a	0.008054	NP Inter
Chromium (mg/L)	n/a	0.0105	n/a	n/a	n/a	96	n/a	n/a	89.58	n/a	n/a	0.007269	NP Inter
Cobalt (mg/L)	n/a	0.49	n/a	n/a	n/a	94	n/a	n/a	26.6	n/a	n/a	0.008054	NP Inter
Combined Radium 226 + 228 (pCi/L)	n/a	1.47	n/a	n/a	n/a	92	n/a	n/a	0	n/a	n/a	0.008924	NP Inter
Fluoride (mg/L)	n/a	0.63	n/a	n/a	n/a	100	n/a	n/a	0	n/a	n/a	0.005921	NP Inter
Lead (mg/L)	n/a	0.00108	n/a	n/a	n/a	95	n/a	n/a	95.79	n/a	n/a	0.007651	NP Inter
Lithium (mg/L)	n/a	0.419	n/a	n/a	n/a	96	n/a	n/a	0	n/a	n/a	0.007269	NP Inter
Mercury (mg/L)	n/a	0.0005	n/a	n/a	n/a	96	n/a	n/a	100	n/a	n/a	0.007269	NP Inter
Molybdenum (mg/L)	n/a	0.0002	n/a	n/a	n/a	96	n/a	n/a	97.92	n/a	n/a	0.007269	NP Inter
Selenium (mg/L)	n/a	0.0209	n/a	n/a	n/a	96	n/a	n/a	60.42	n/a	n/a	0.007269	NP Inter
Thallium (mg/L)	n/a	0.000226	n/a	n/a	n/a	96	n/a	n/a	96.88	n/a	n/a	0.007269	NP Inter

GORGAS BALF GWPS			
Analyte	Units	Background	GWPS
Antimony	mg/L	0.00143	0.006
Arsenic	mg/L	0.005	0.01
Barium	mg/L	0.0165	2
Beryllium	mg/L	0.0121	0.004
Cadmium	mg/L	0.00598	0.005
Chromium	mg/L	0.0105	0.1
Cobalt	mg/L	0.49	0.49
Combined Radium-226/228	pCi/L	1.47	5
Fluoride	mg/L	0.63	4
Lead	mg/L	0.00108	0.015
Lithium	mg/L	0.419	0.419
Mercury	mg/L	0.0005	0.002
Molybdenum	mg/L	0.0002	0.1
Selenium	mg/L	0.0209	0.05
Thallium	mg/L	0.000226	0.002

Notes:

1. mg/L - Milligrams per liter
2. pCi/L - Picocuries per liter
3. The background limits were used as the groundwater protection standard (GWPS) when appropriate under 40 CFR §257.95(h), ADEM Rule 335-13-15-.06(h), and the ADEM Variance.
4. GWPS established during second semi-annual sampling event in 2021.

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6LJ

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:HOO

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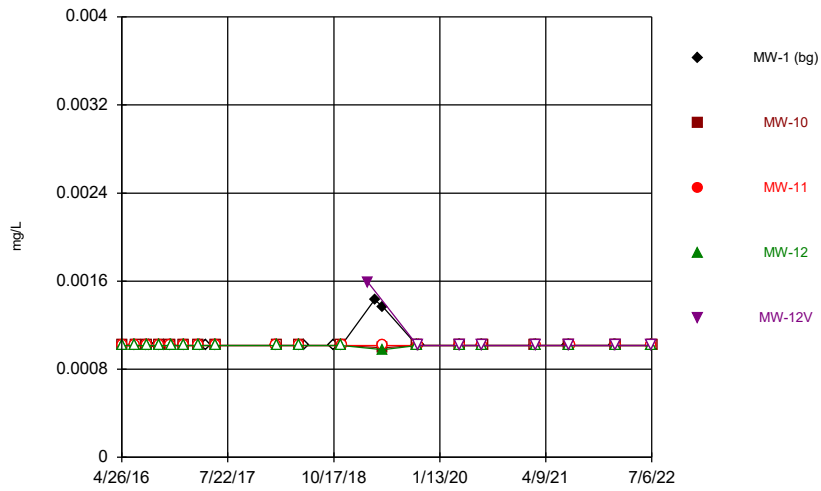
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70yk ° •

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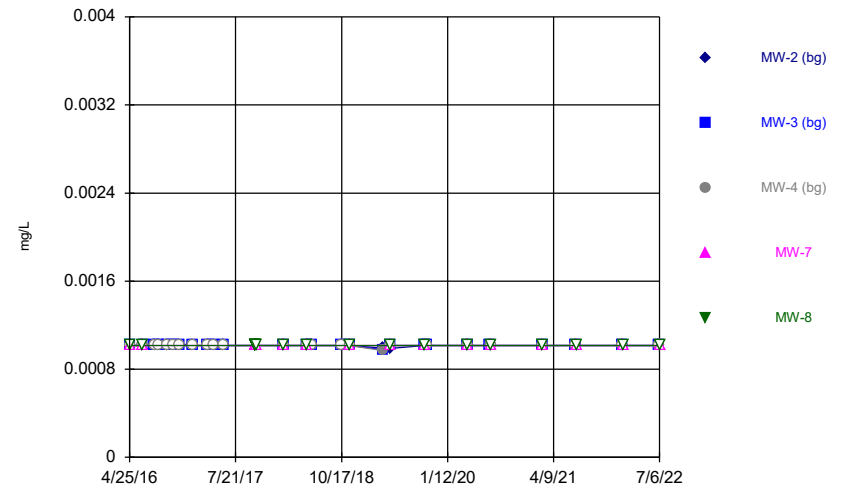
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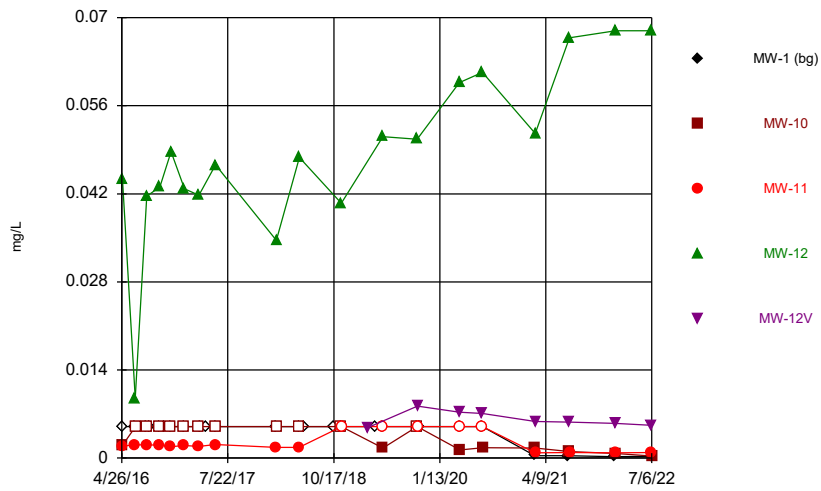
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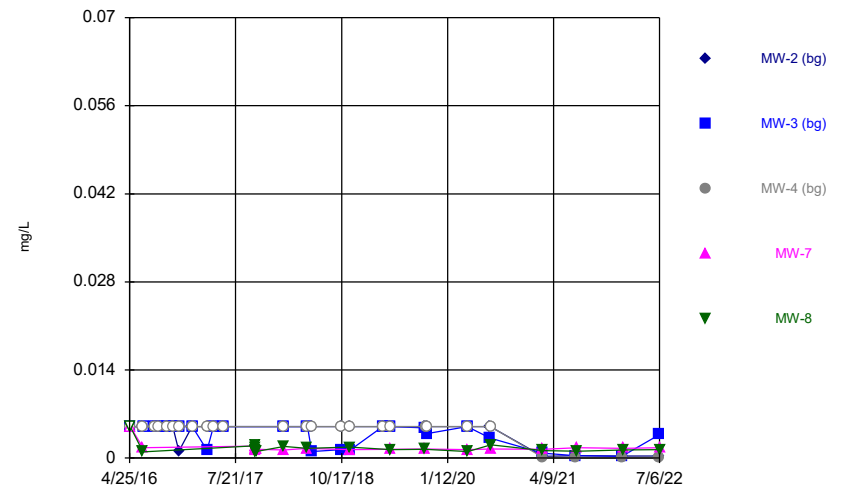
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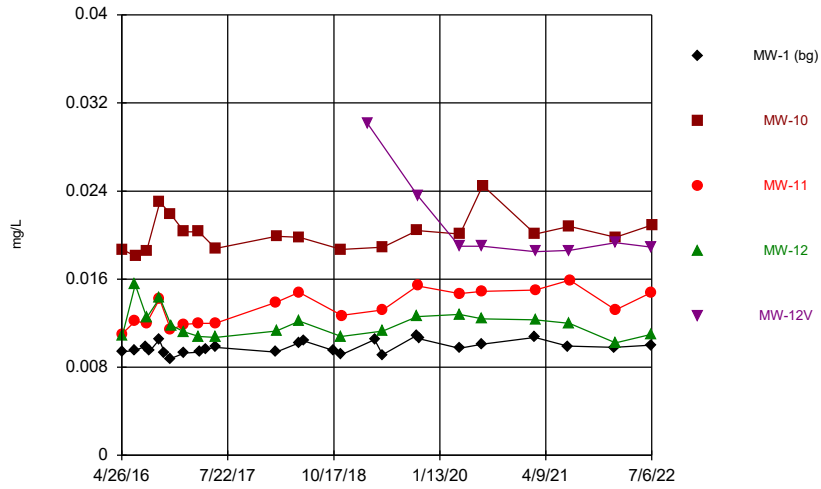
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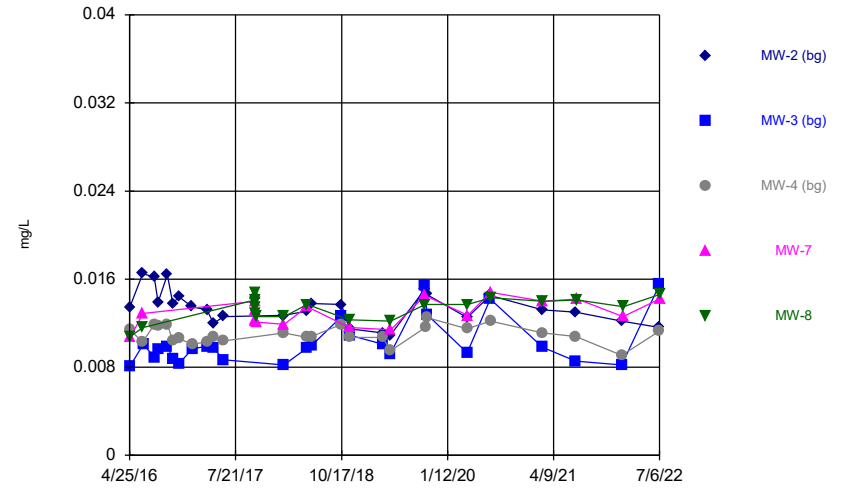
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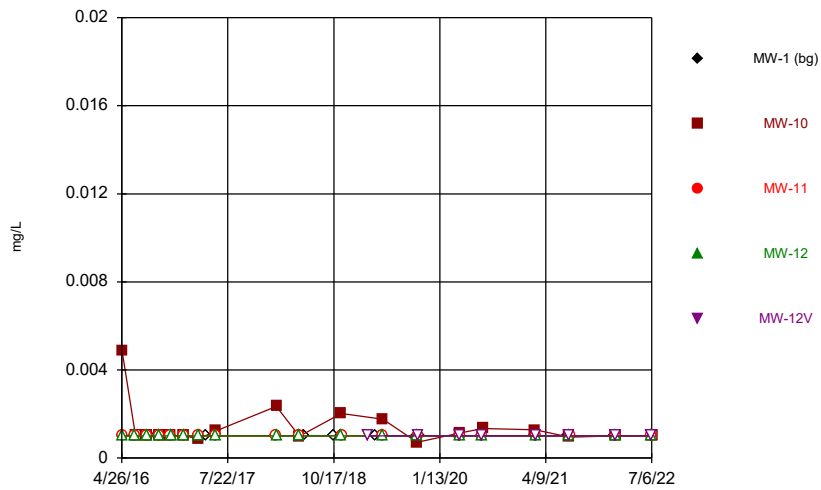
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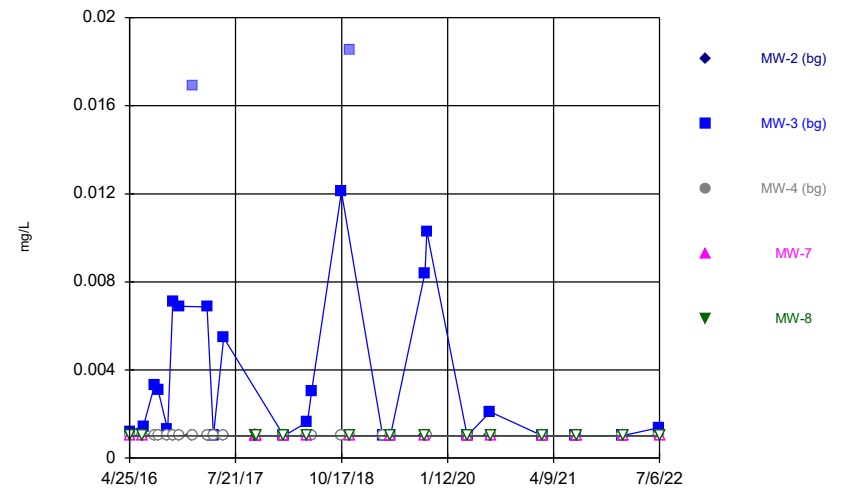
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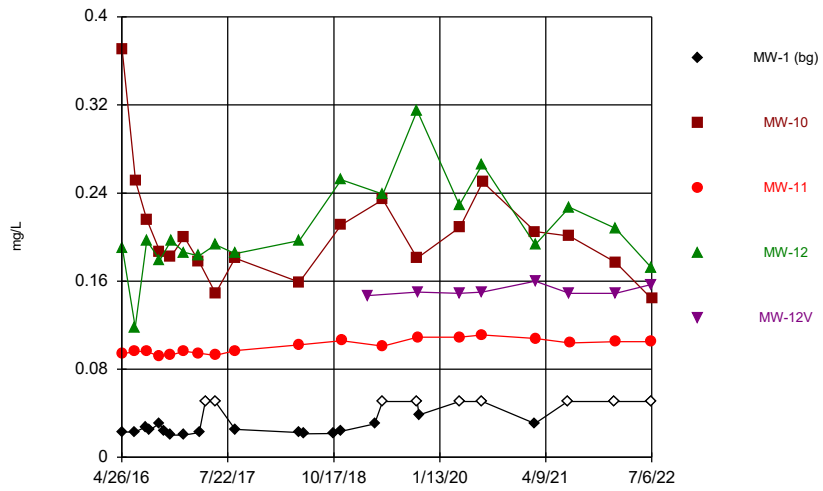
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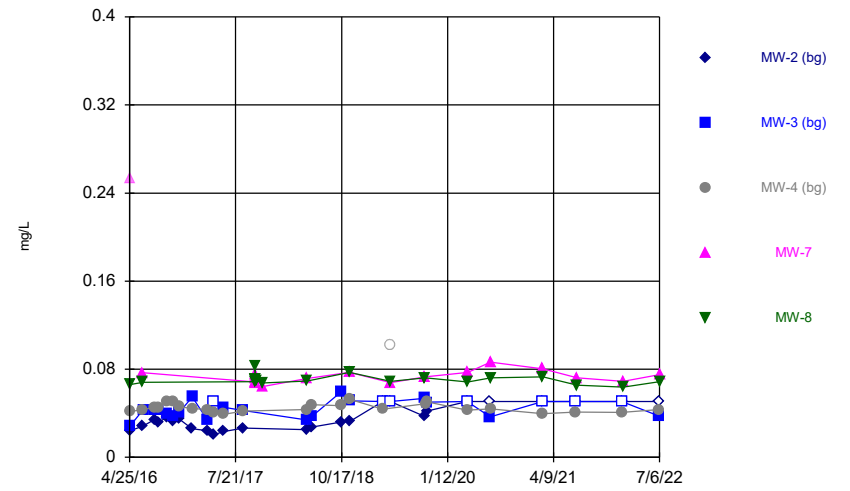
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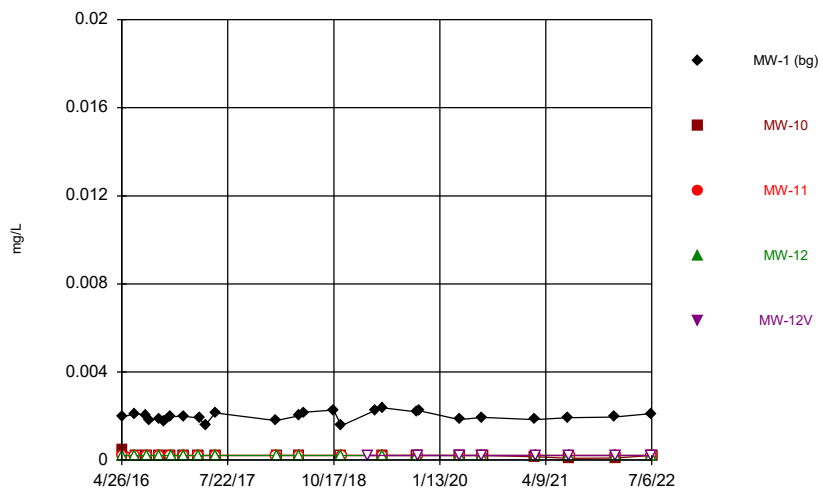
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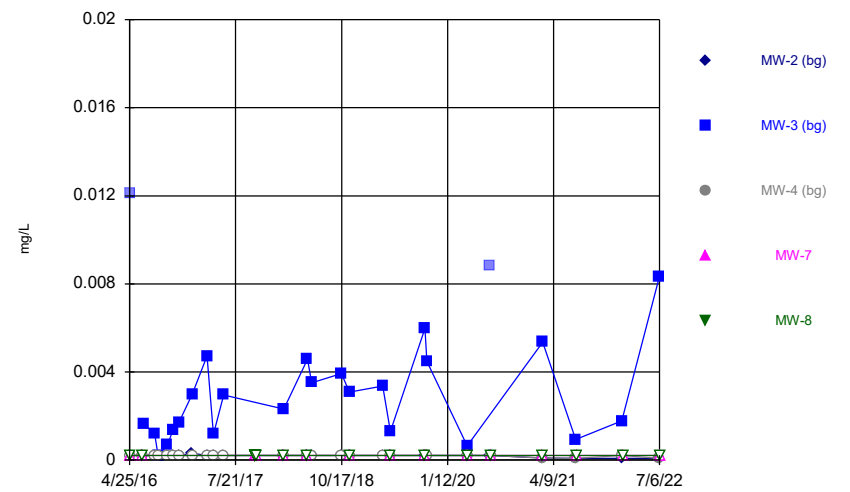
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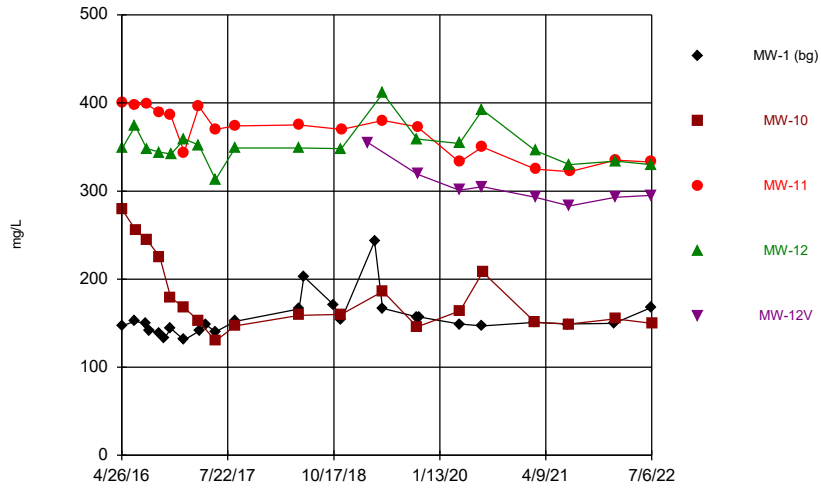
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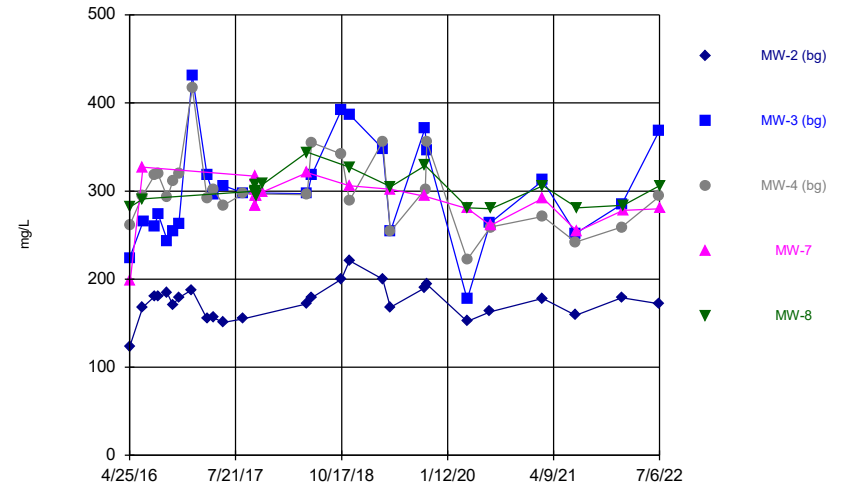
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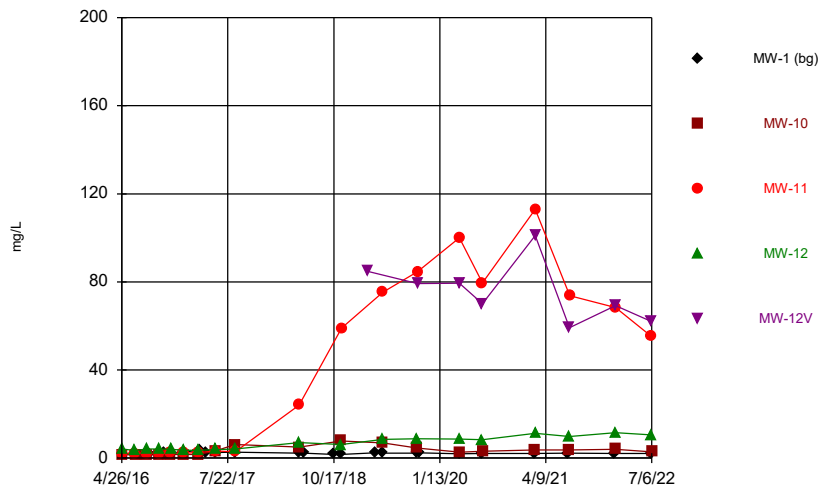
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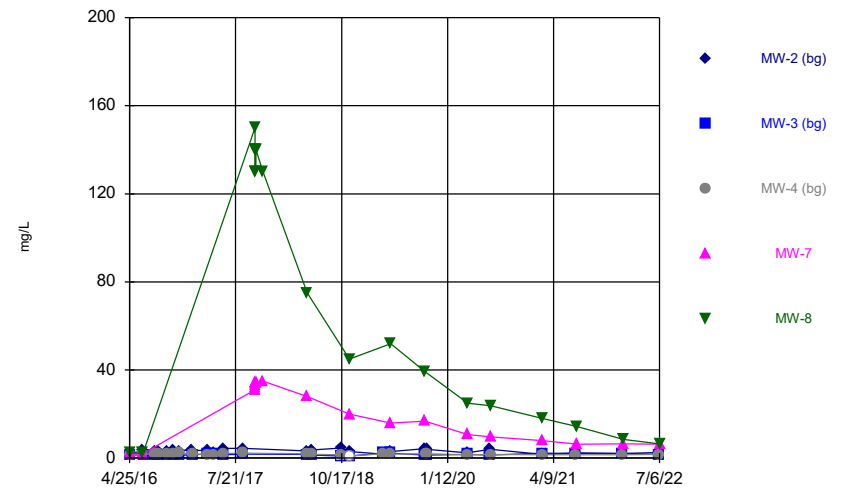
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Time Series



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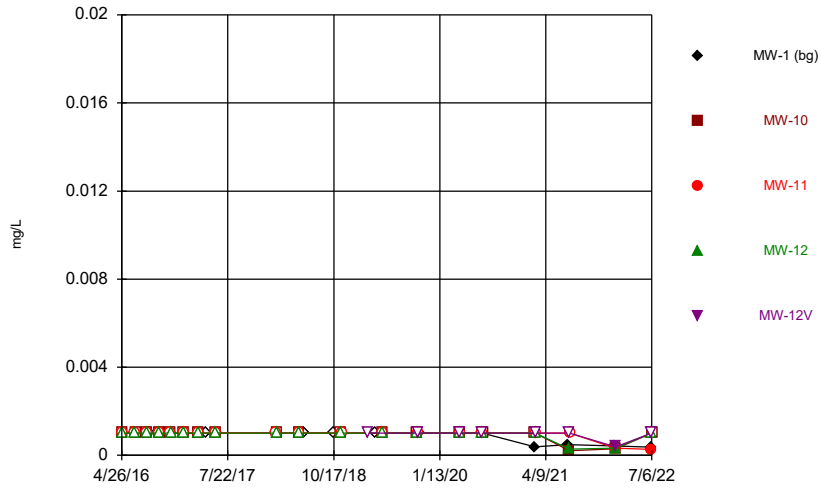
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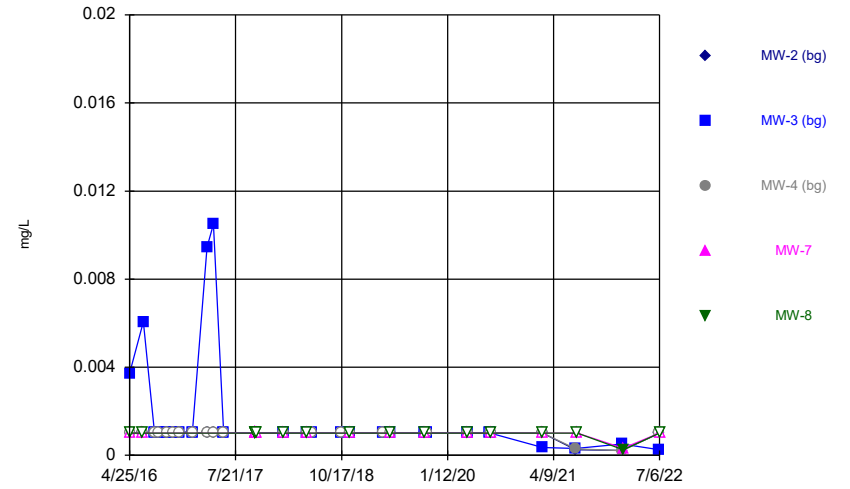
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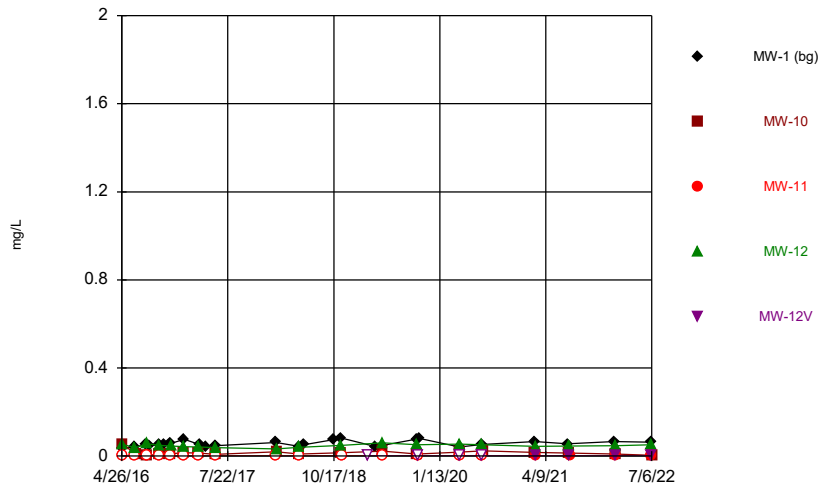
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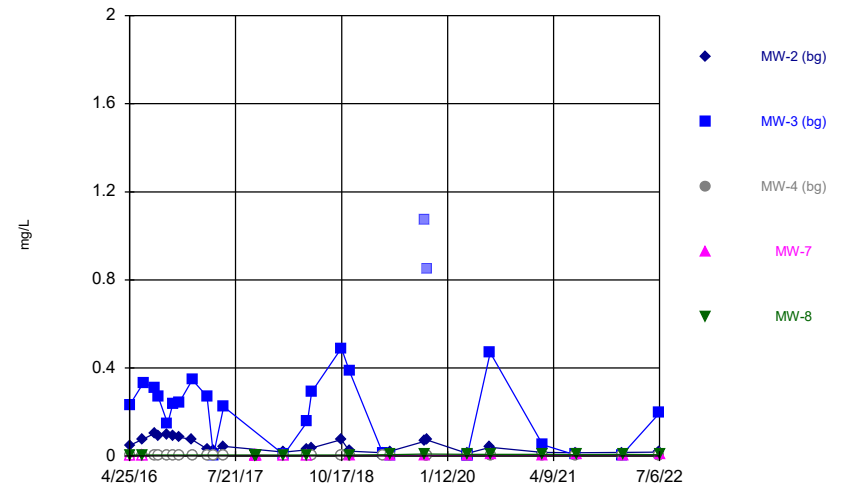
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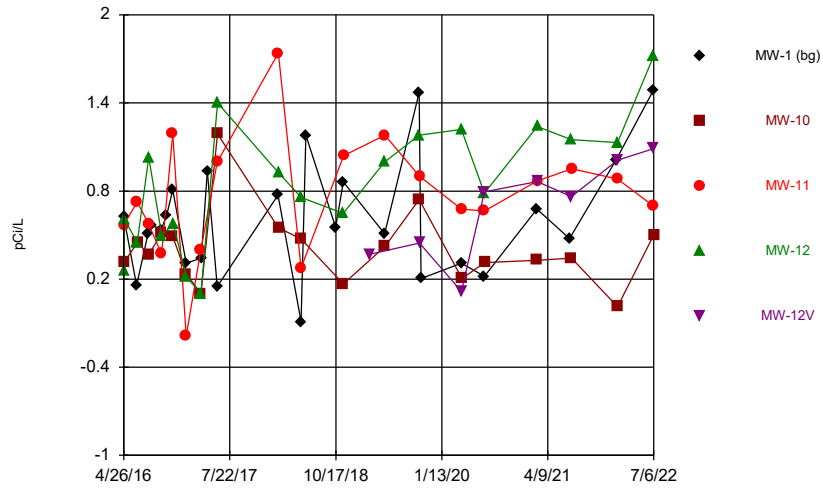
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Time Series



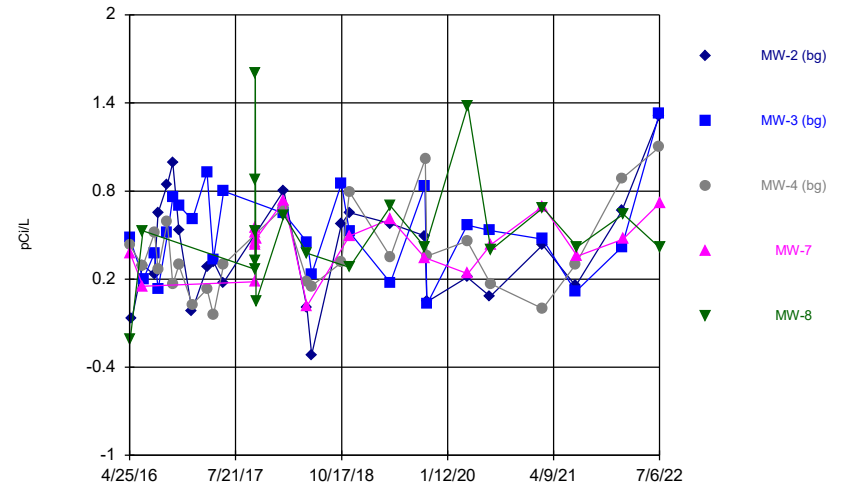
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Time Series



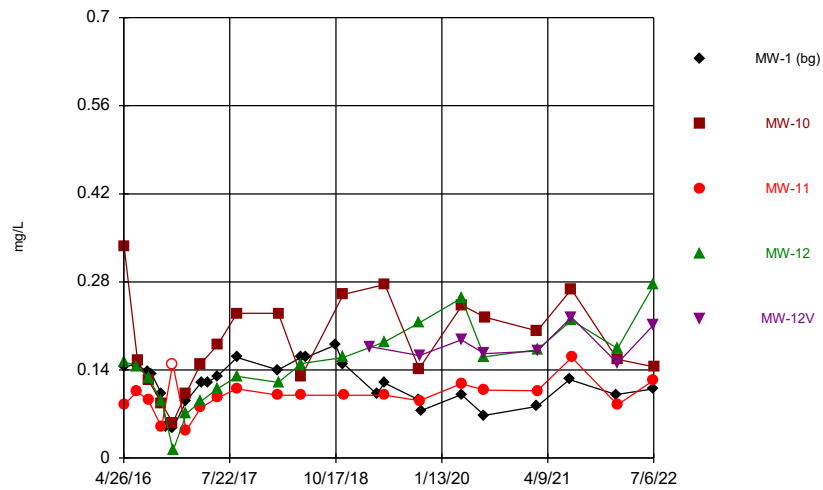
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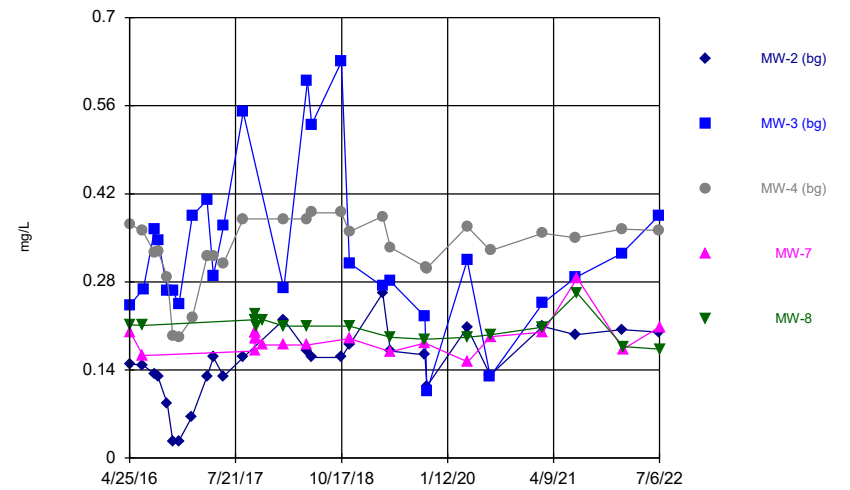
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Time Series



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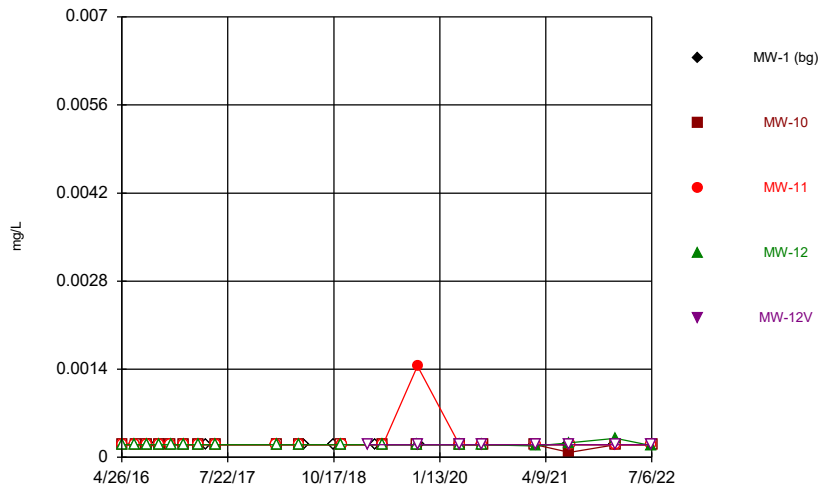
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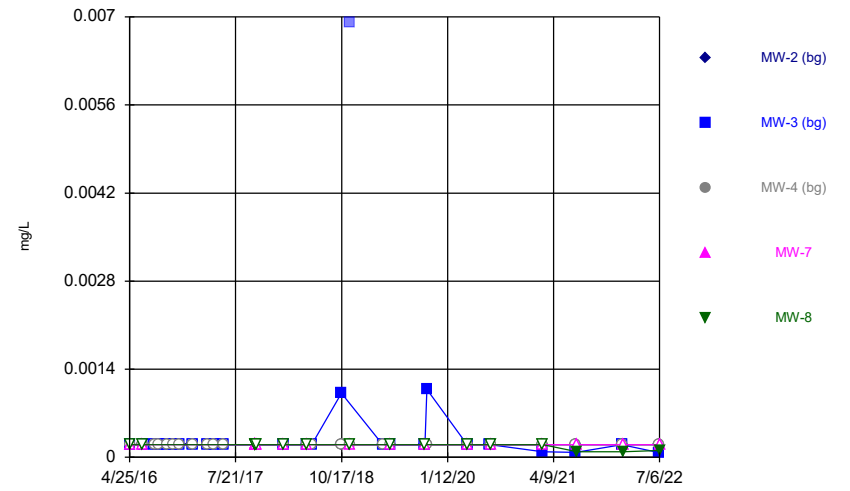
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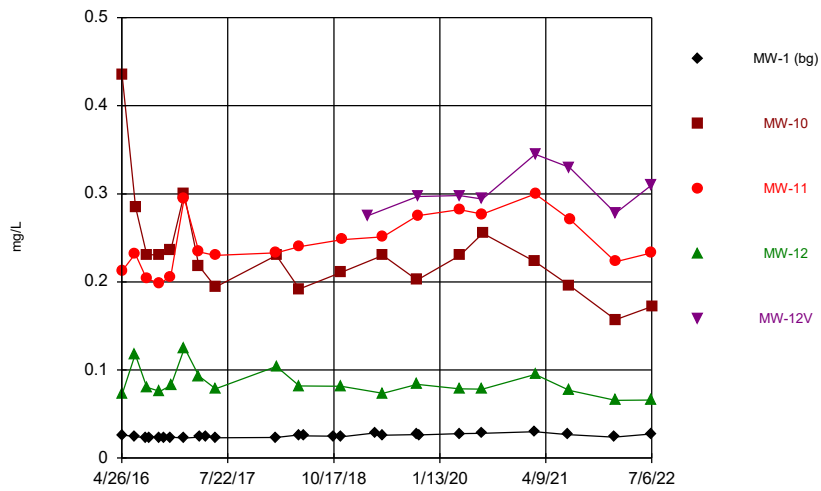
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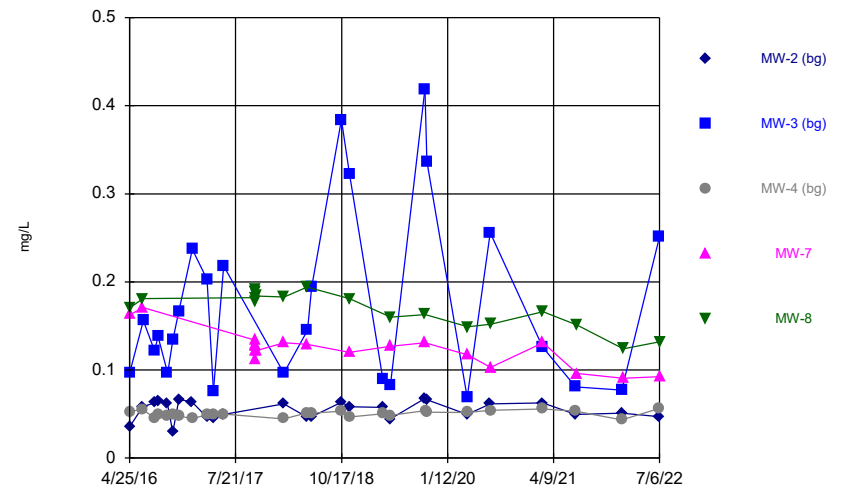
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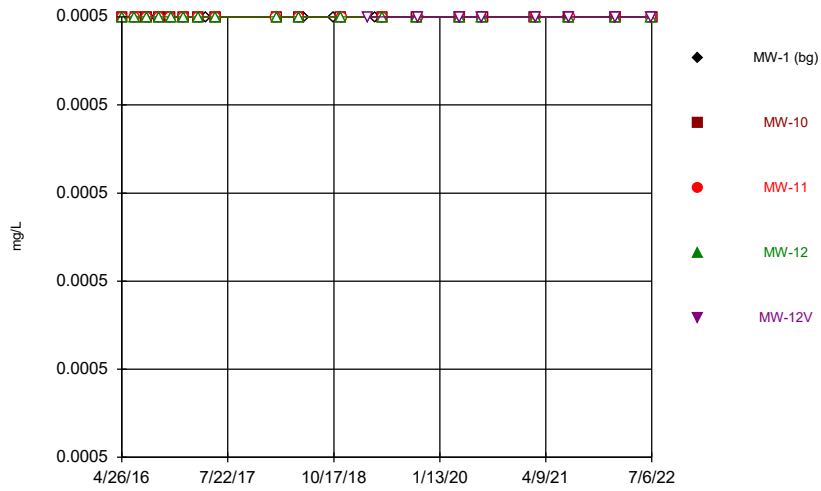
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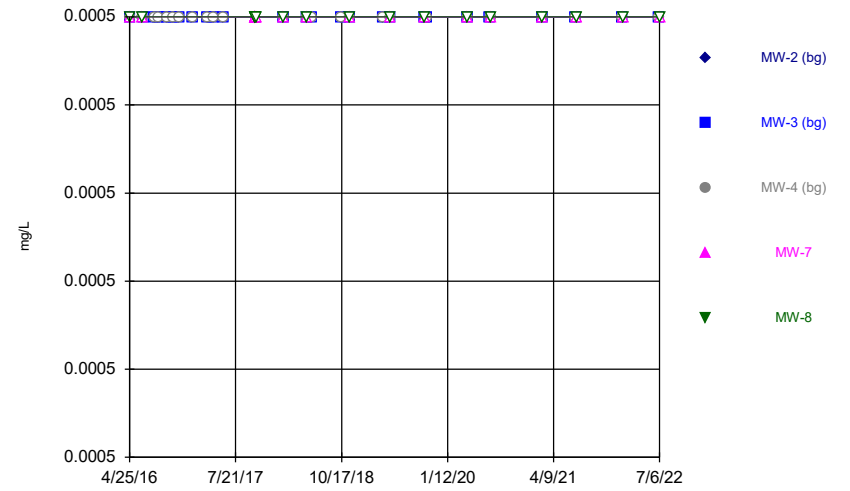
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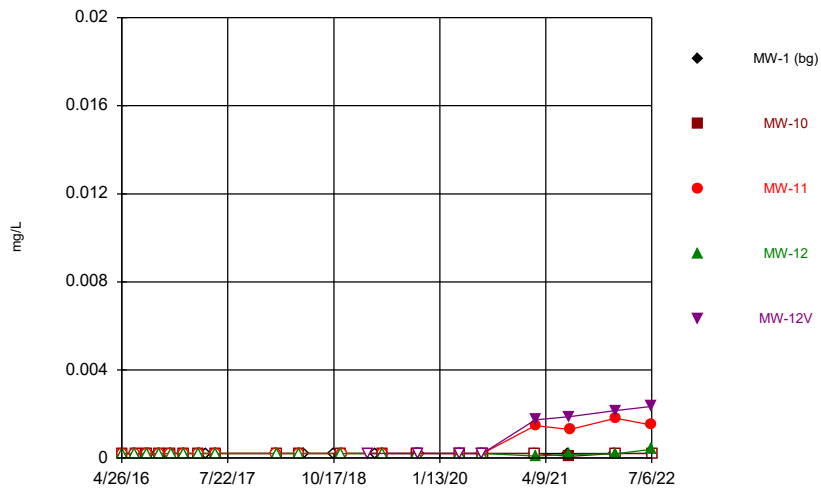
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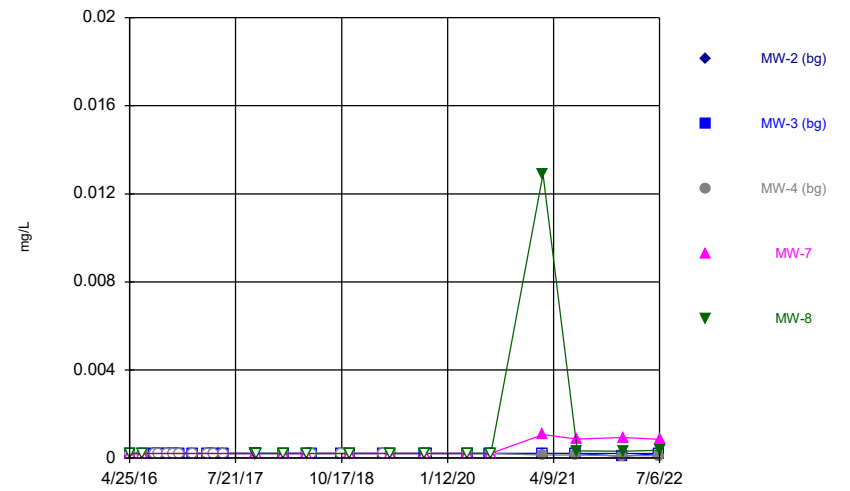
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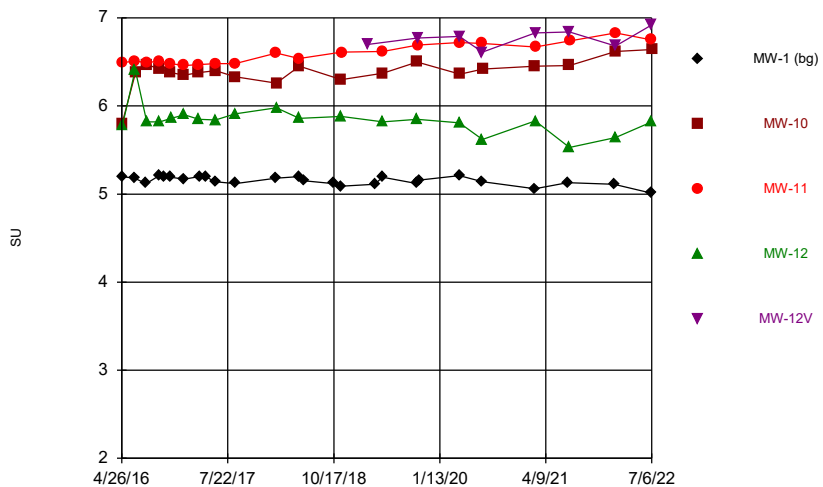
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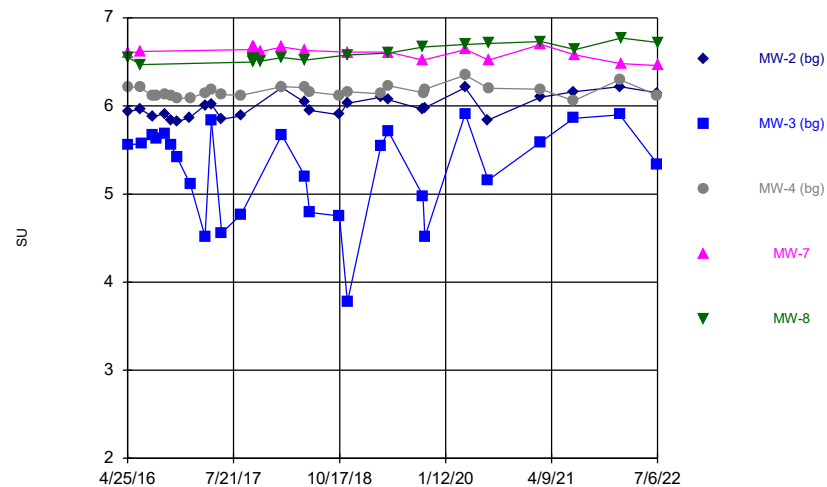
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Time Series



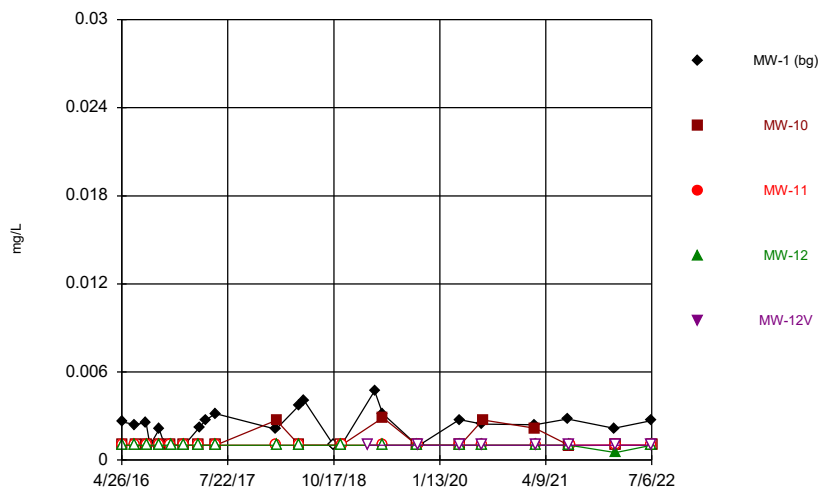
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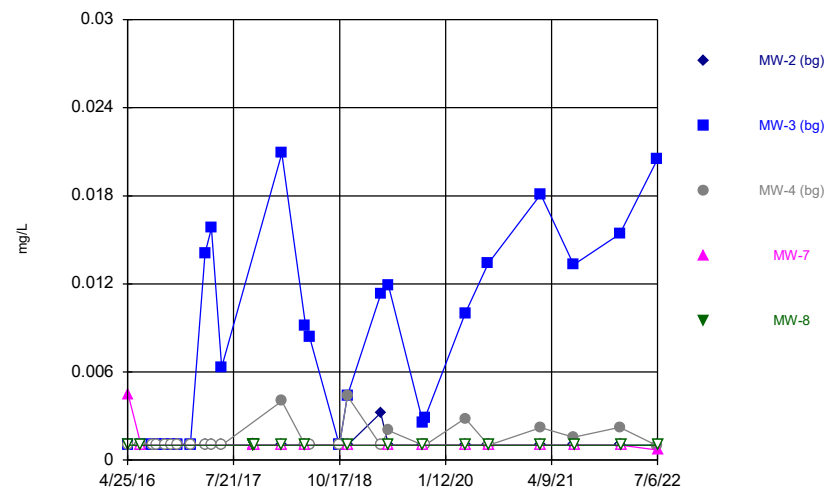
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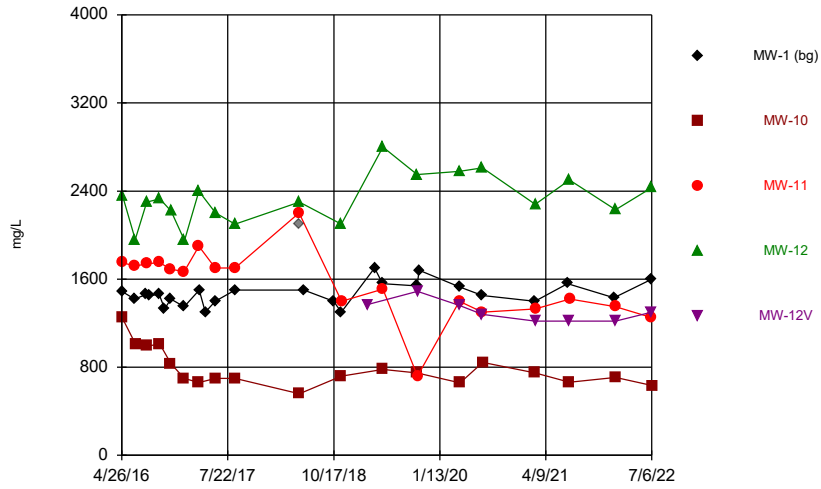
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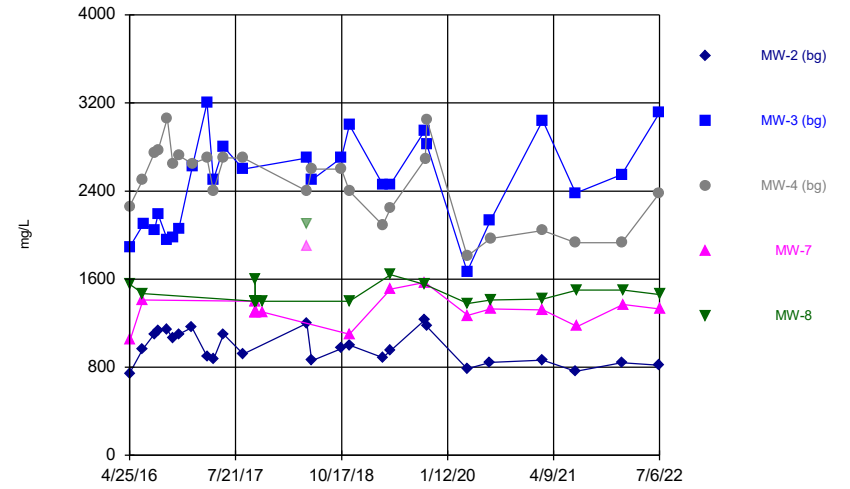
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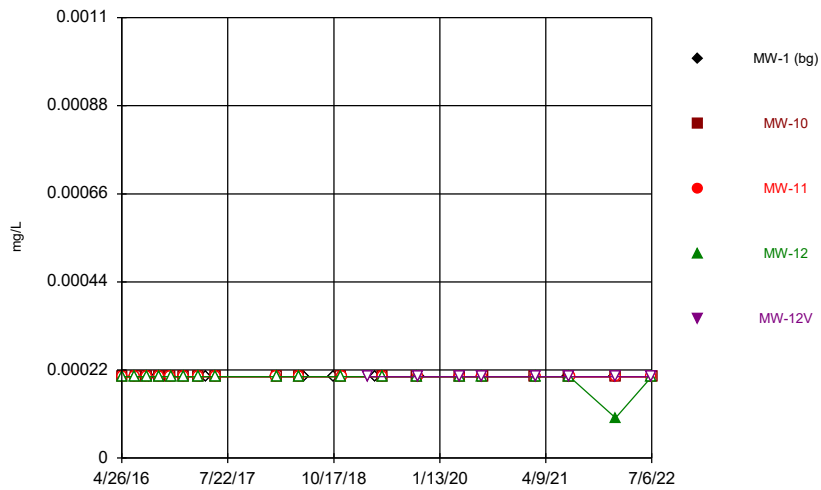
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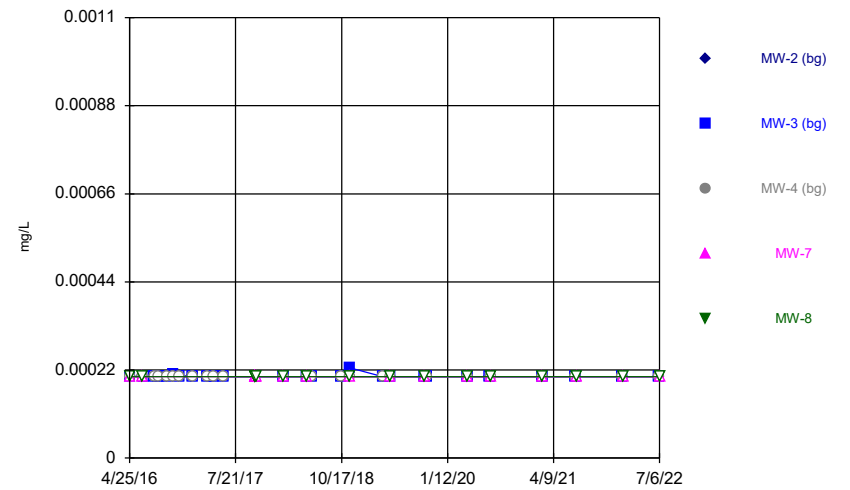
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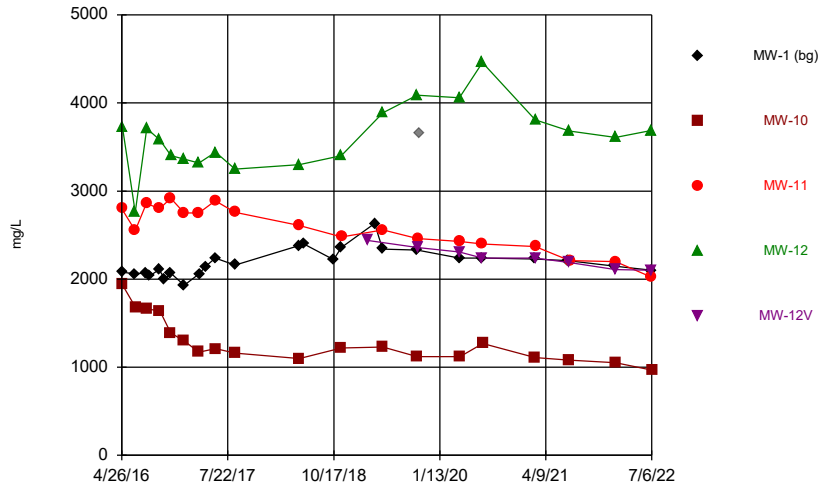
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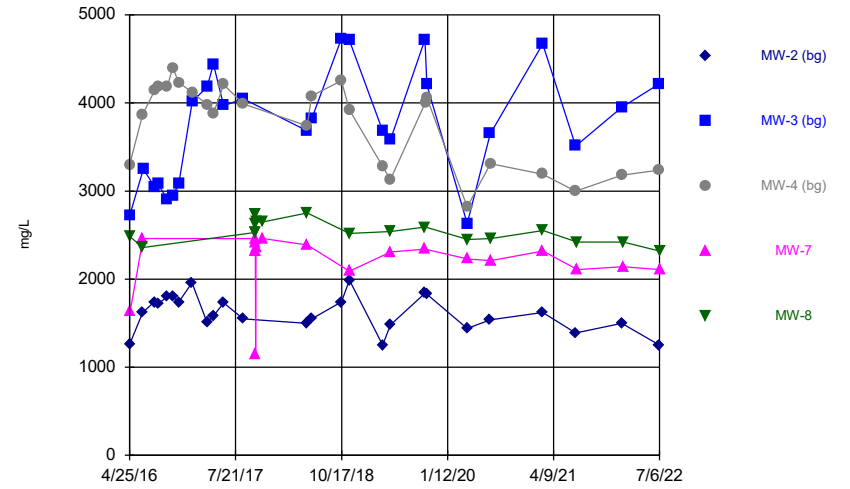
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Time Series

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Time Series

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3ODQW *RUJDV &OLHQW 6RXWKHUQ &RPSDQ\ 'DWD *RUJDV %\$/) &&5

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&RQVWLWXHQW &RPELQHG 5DGLXP S&L / \$QDO\VLV 5XQ 30 9LHZ &RQVWLW
3ODQW *RUJDV &OLHQW 6RXWKHUQ &RPSDQ\ 'DWD *RUJDV %\$/ &&5

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Time Series

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Time Series

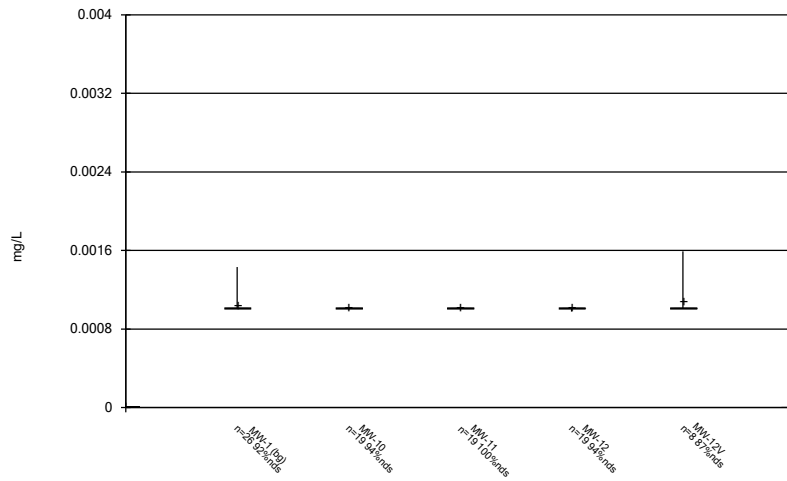
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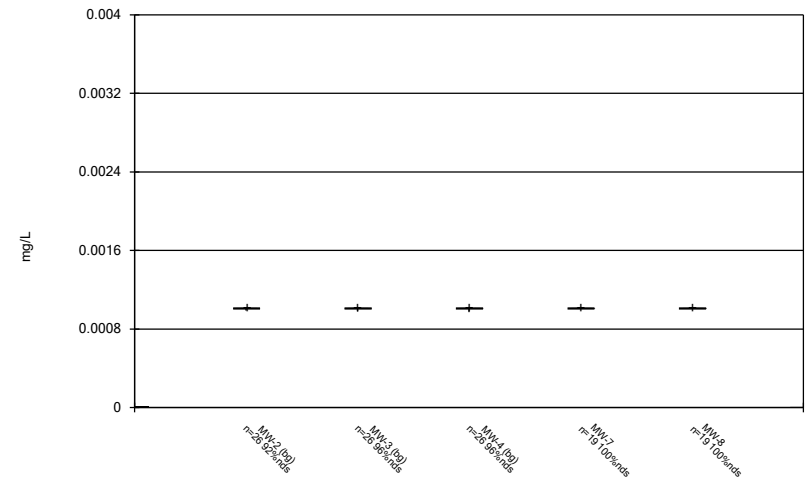
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Box & Whiskers Plot



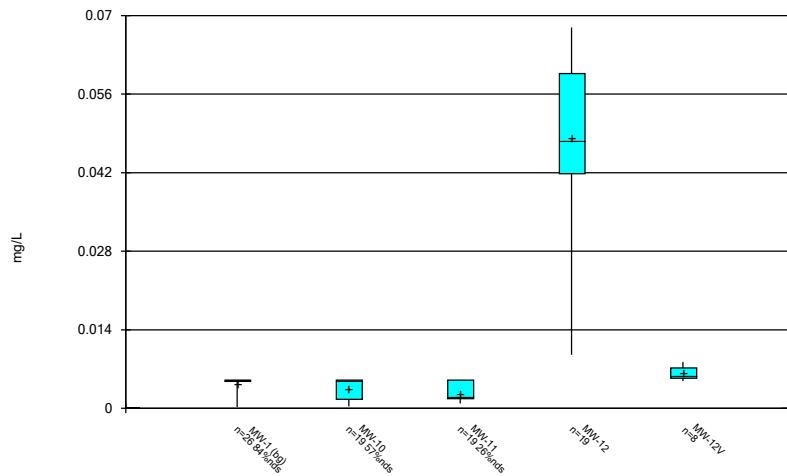
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Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



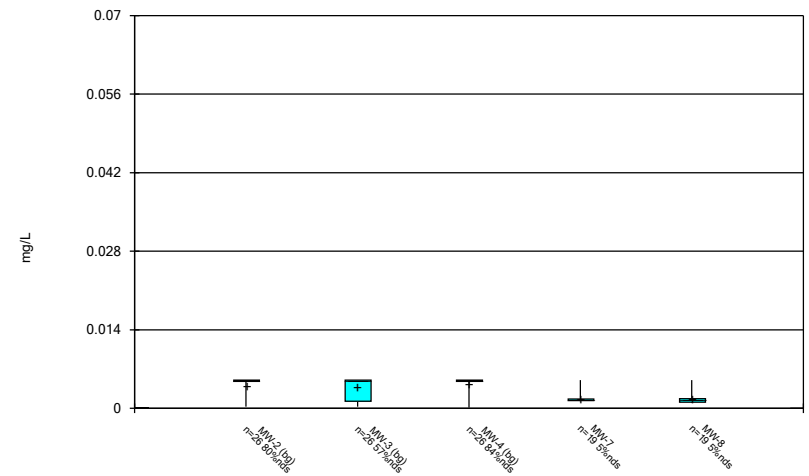
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Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



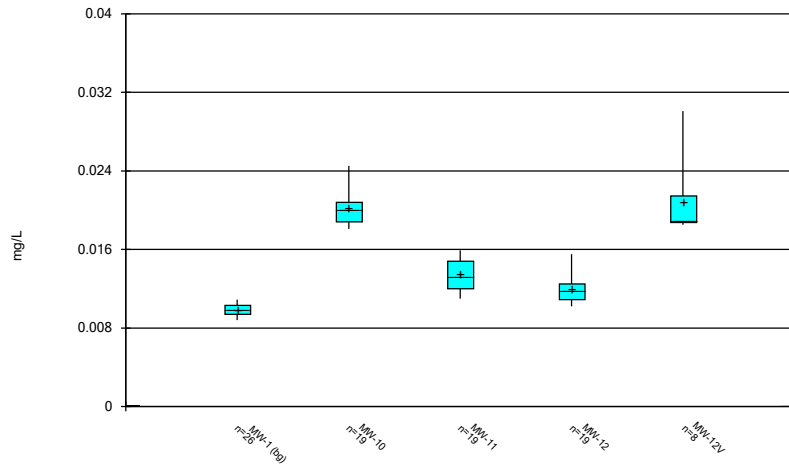
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Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



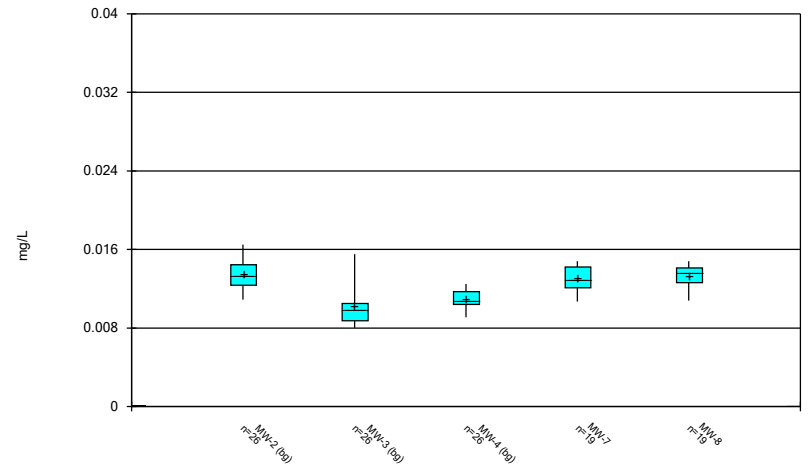
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Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



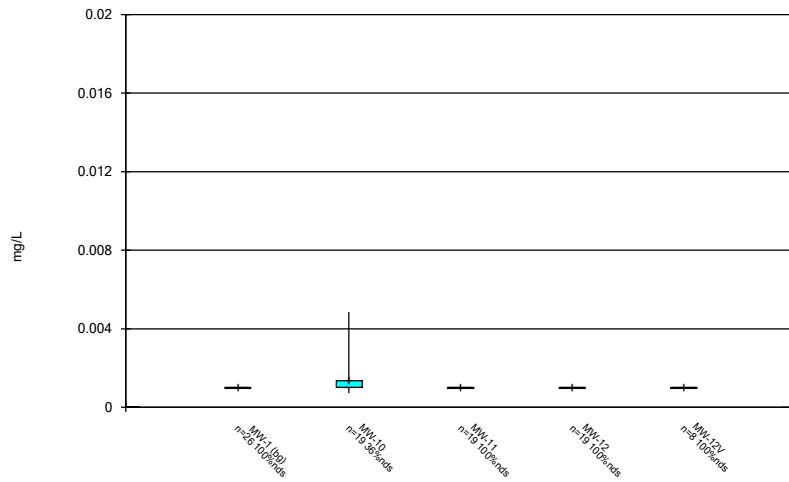
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 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



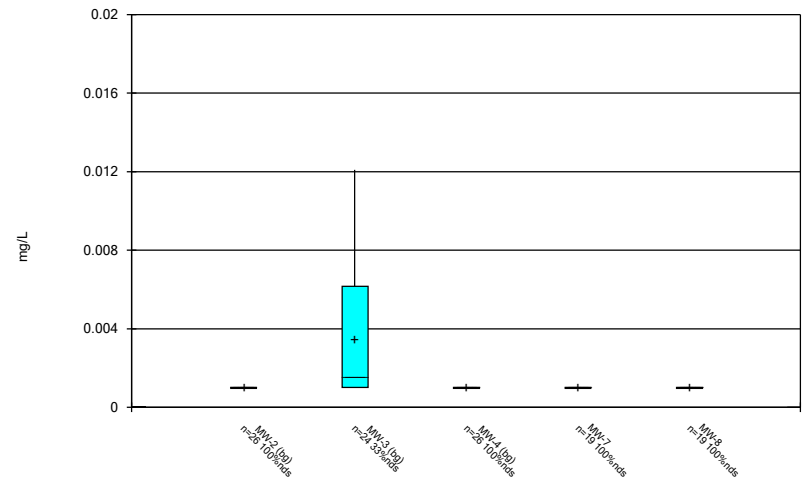
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Box & Whiskers Plot



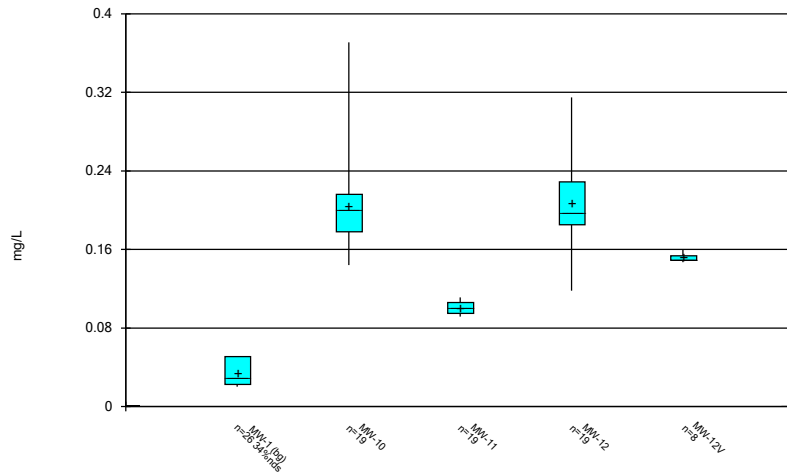
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 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



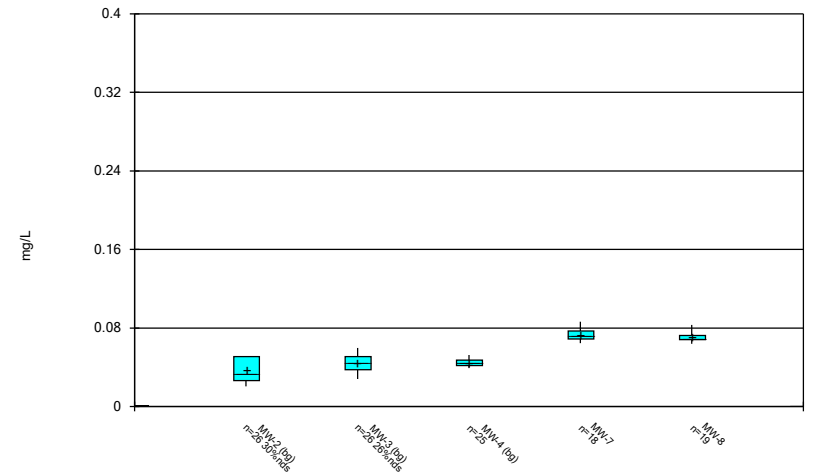
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Box & Whiskers Plot



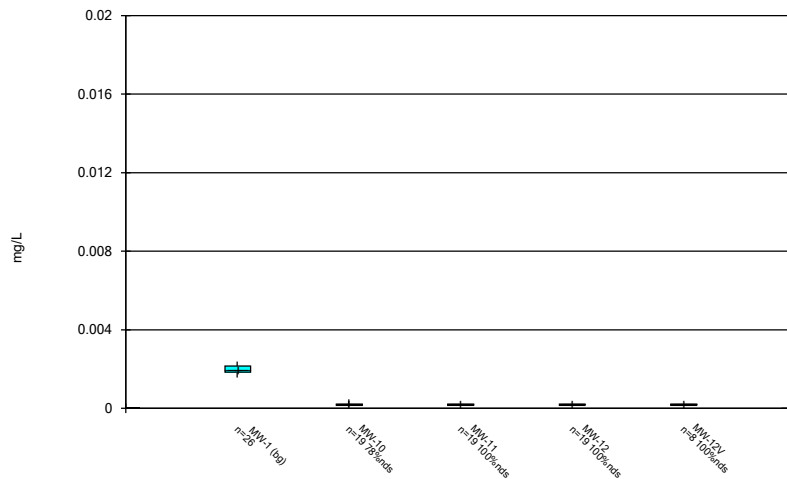
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 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



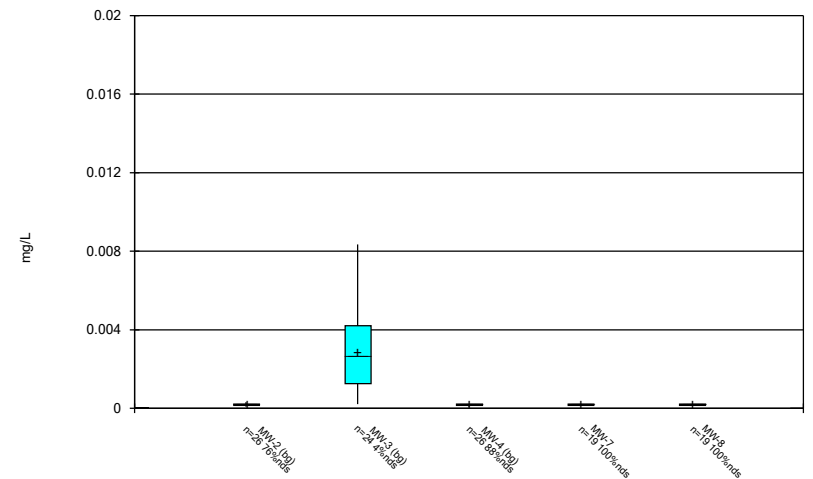
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 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



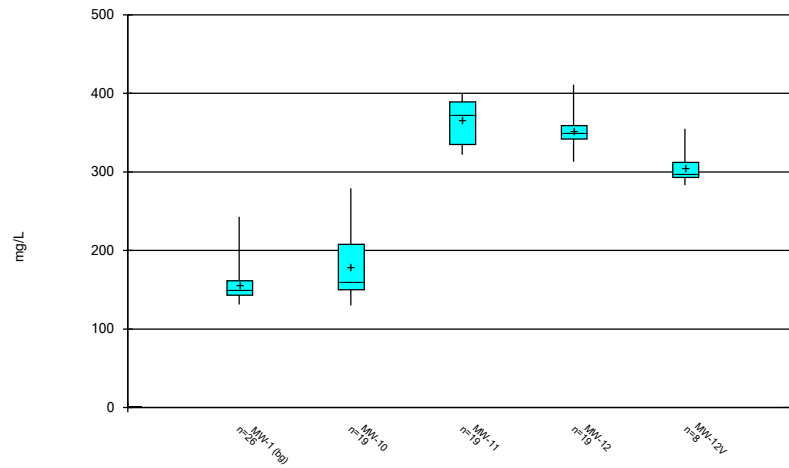
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Box & Whiskers Plot



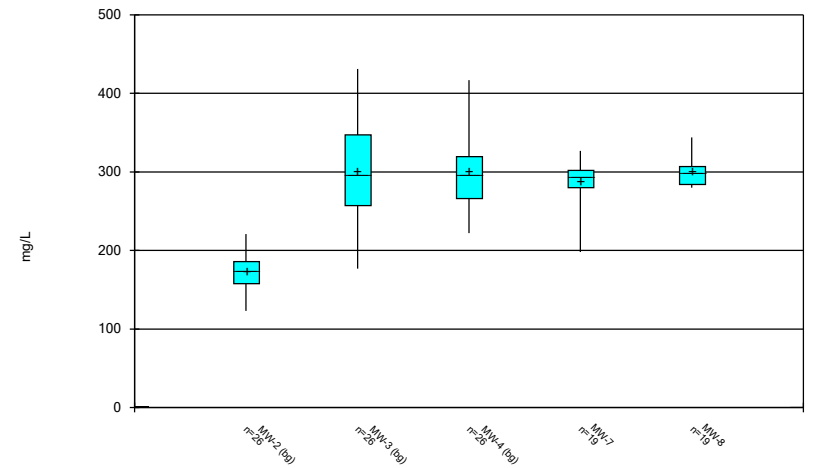
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Box & Whiskers Plot



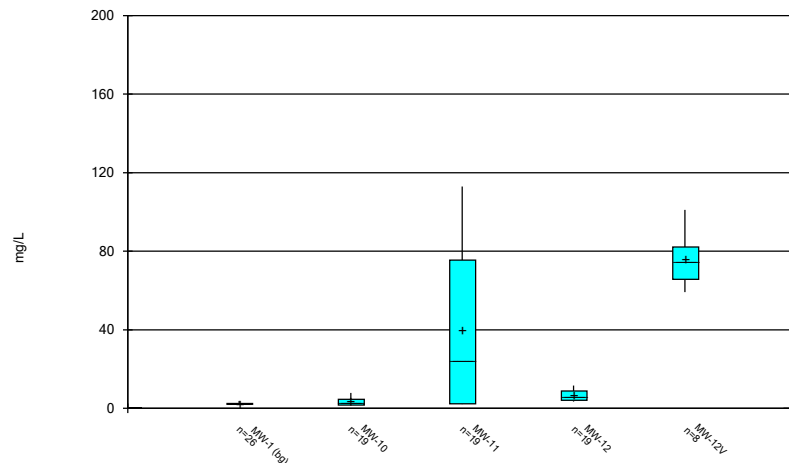
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Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



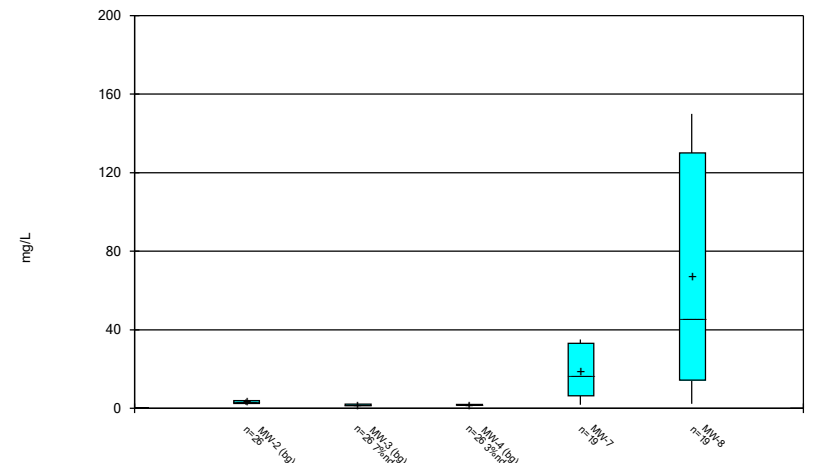
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Box & Whiskers Plot



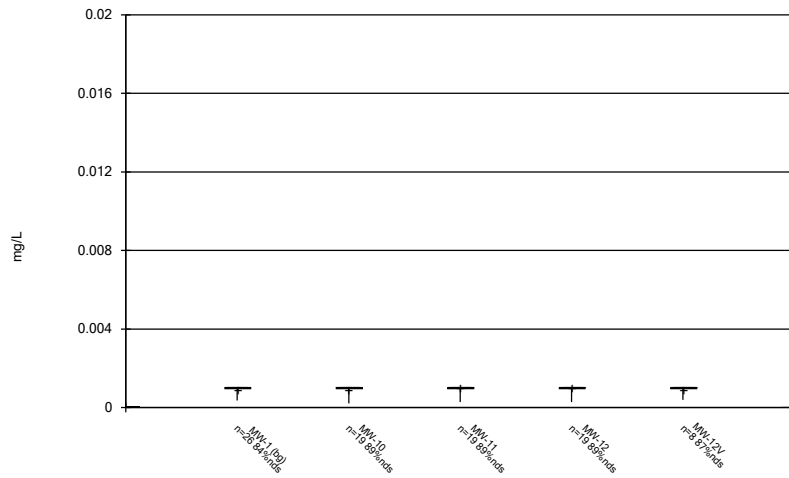
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Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



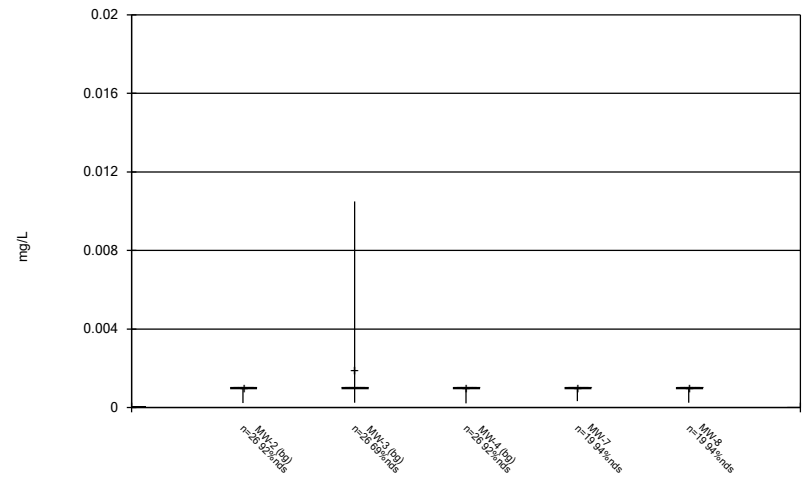
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Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



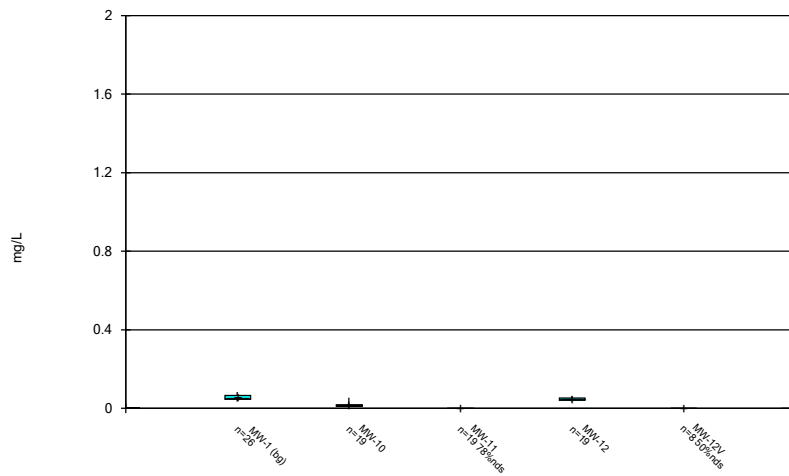
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 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



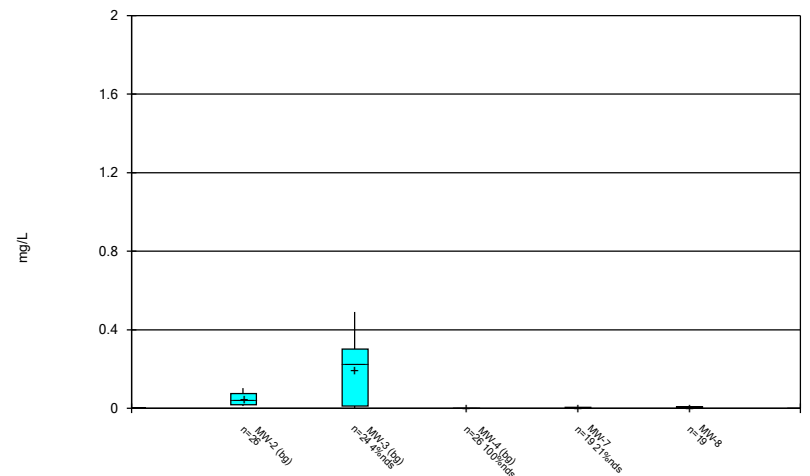
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 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



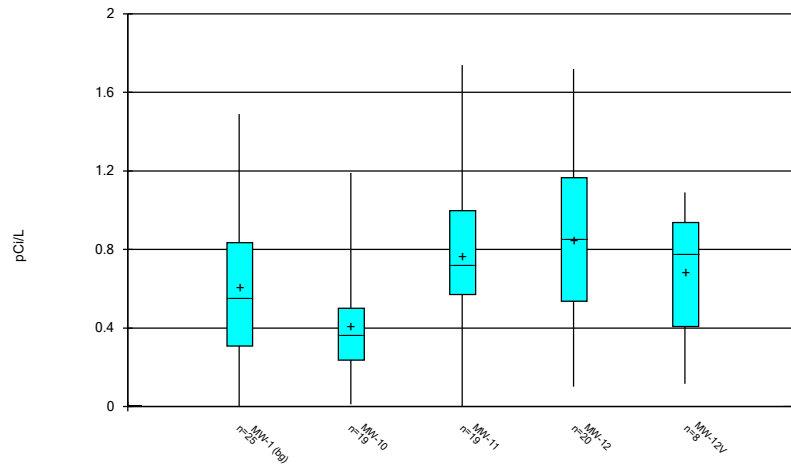
Constituent: Cobalt Analysis Run 10/4/2022 7:44 PM View: Constituents View
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



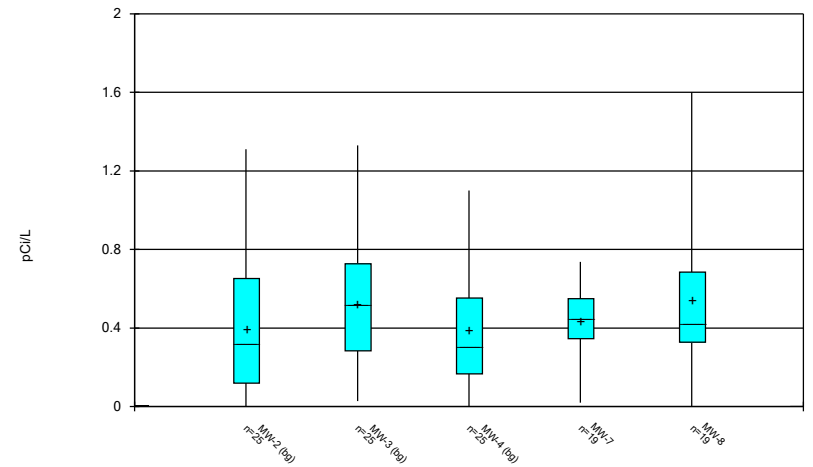
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 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



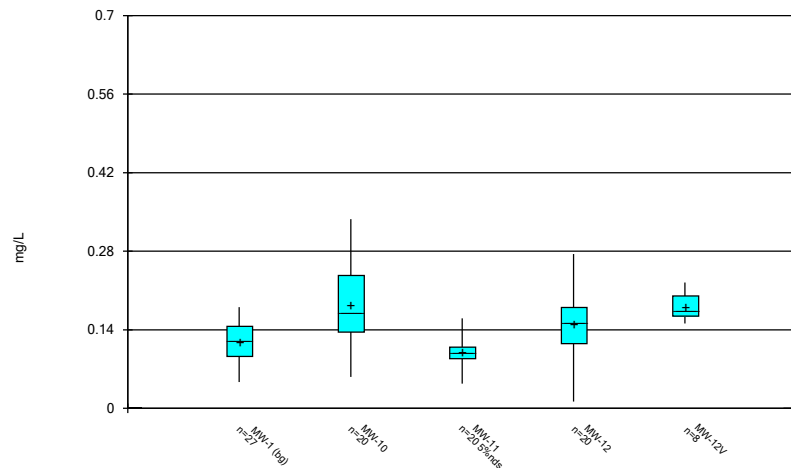
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Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



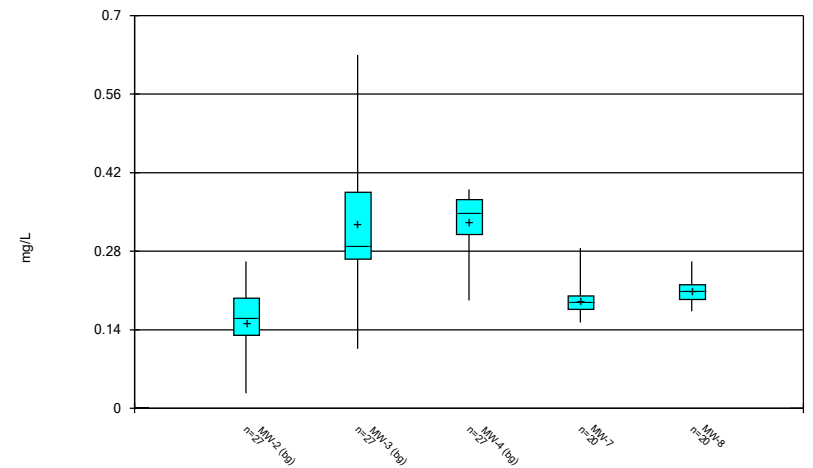
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Box & Whiskers Plot



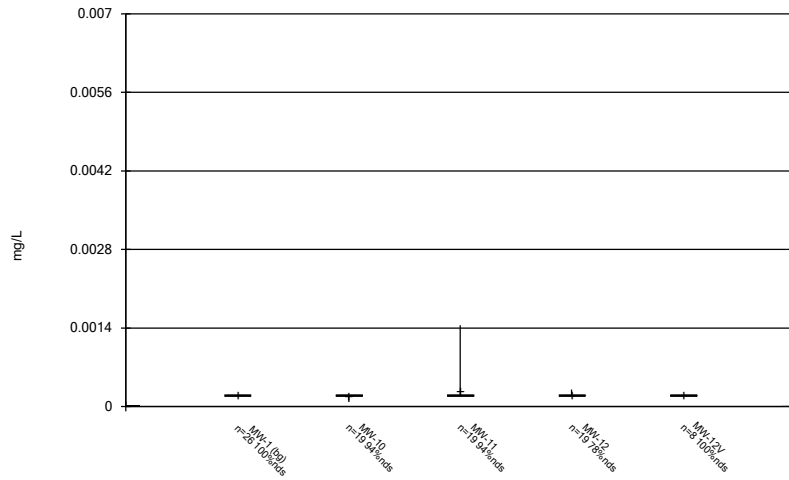
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Box & Whiskers Plot



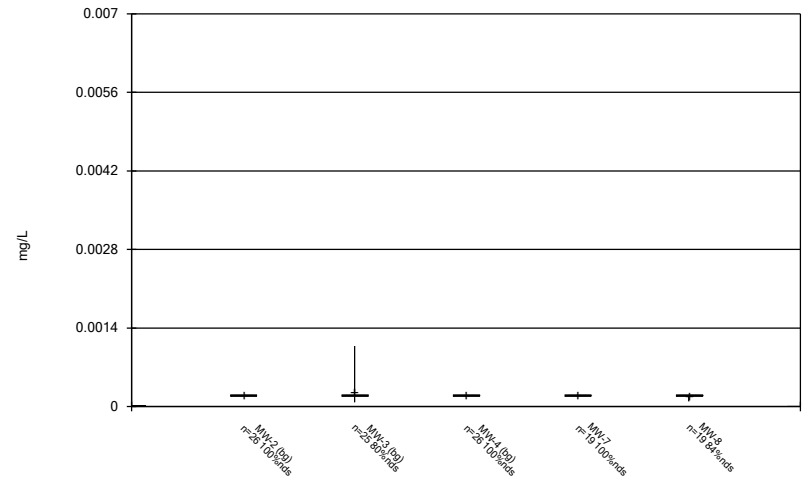
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Box & Whiskers Plot



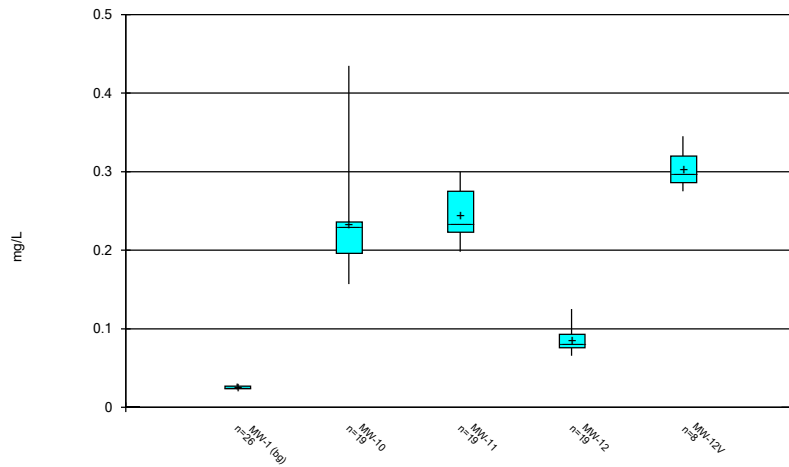
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Box & Whiskers Plot



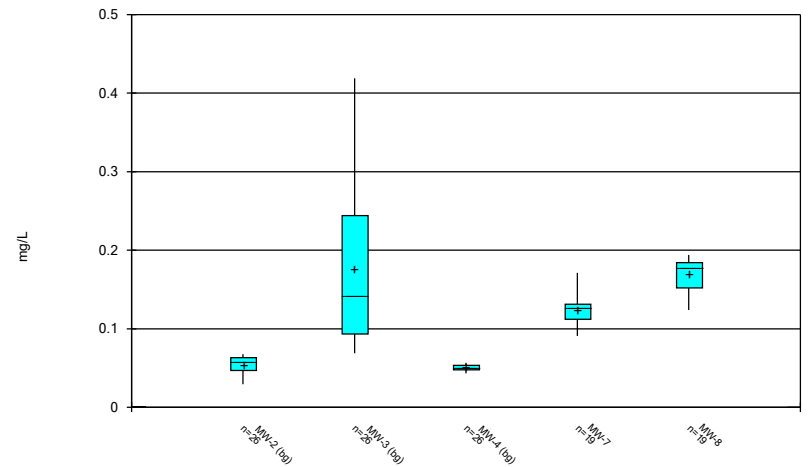
Constituent: Lead Analysis Run 10/4/2022 7:44 PM View: Constituents View
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



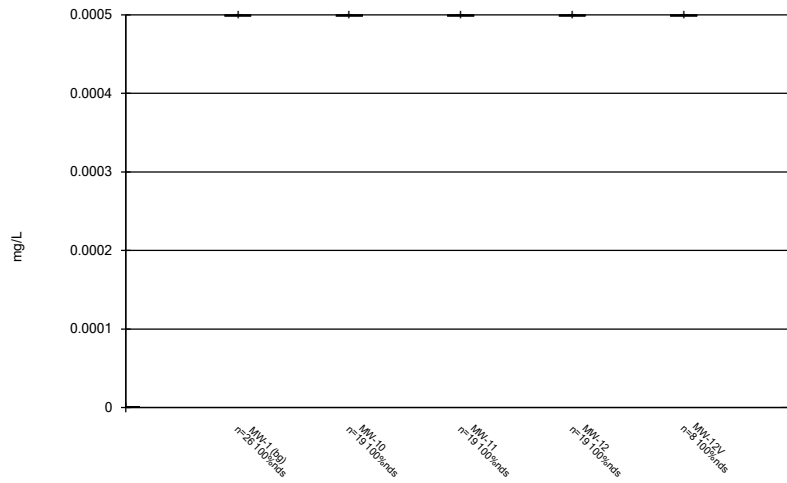
Constituent: Lithium Analysis Run 10/4/2022 7:44 PM View: Constituents View
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



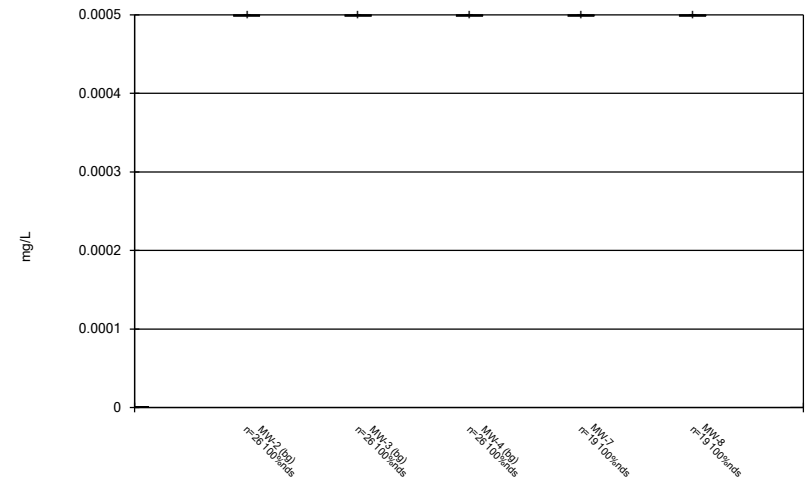
Constituent: Lithium Analysis Run 10/4/2022 7:44 PM View: Constituents View
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



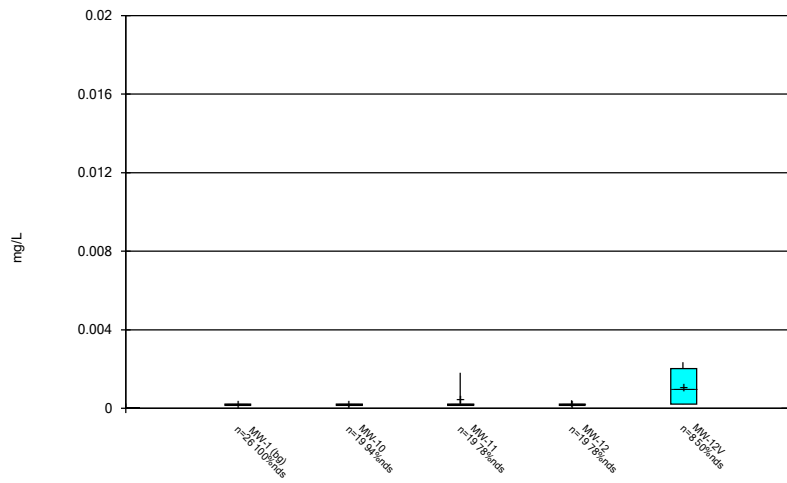
Constituent: Mercury Analysis Run 10/4/2022 7:44 PM View: Constituents View
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



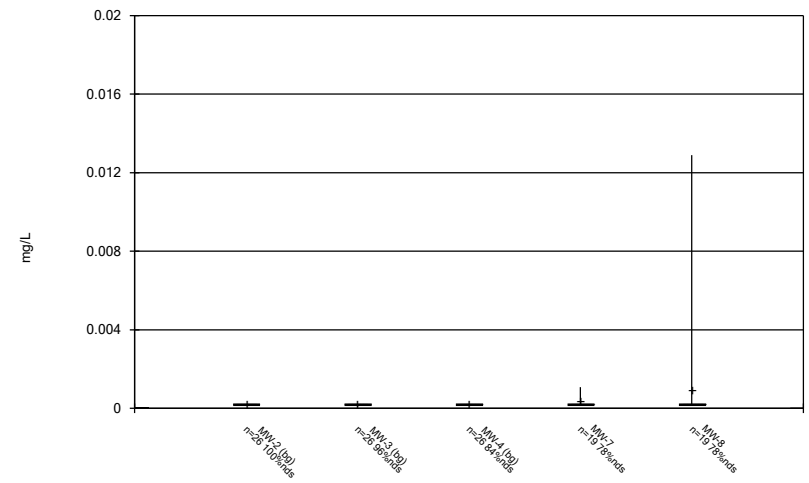
Constituent: Mercury Analysis Run 10/4/2022 7:44 PM View: Constituents View
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



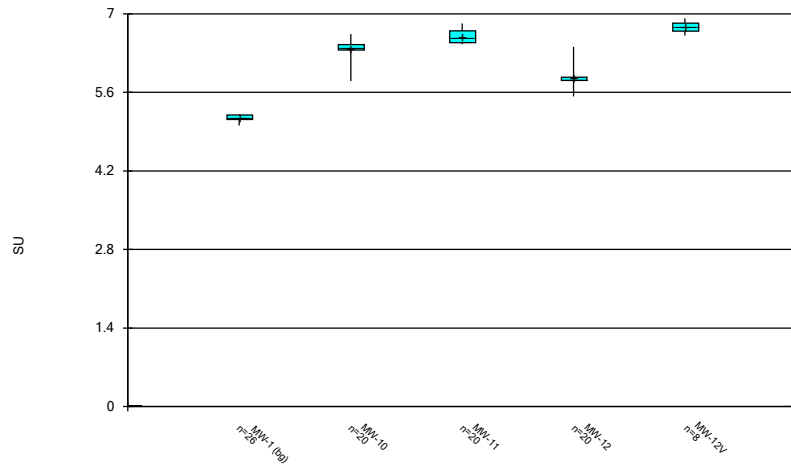
Constituent: Molybdenum Analysis Run 10/4/2022 7:44 PM View: Constituents View
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



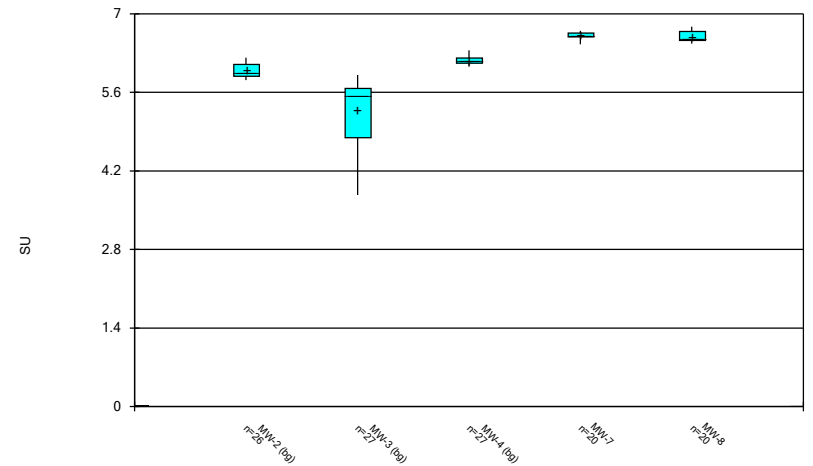
Constituent: Molybdenum Analysis Run 10/4/2022 7:44 PM View: Constituents View
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



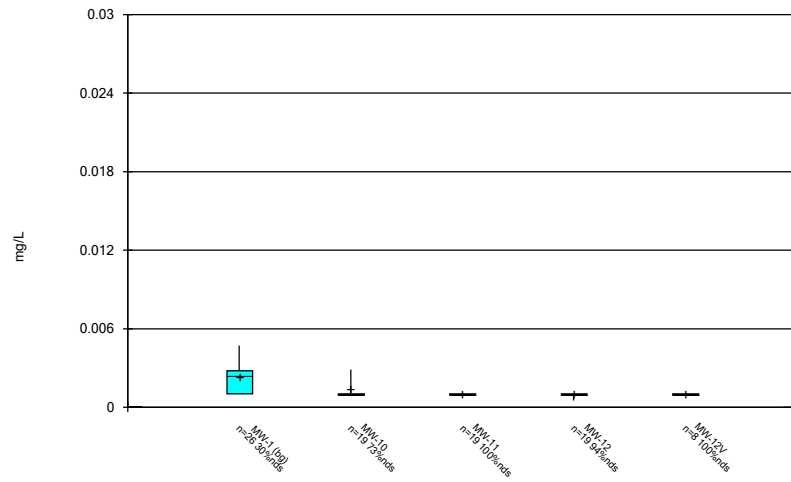
Constituent: pH Analysis Run 10/4/2022 7:44 PM View: Constituents View
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



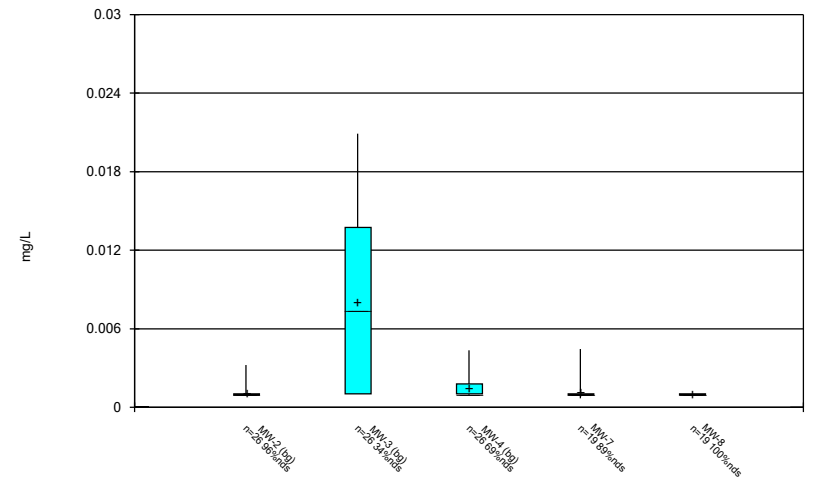
Constituent: pH Analysis Run 10/4/2022 7:44 PM View: Constituents View
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



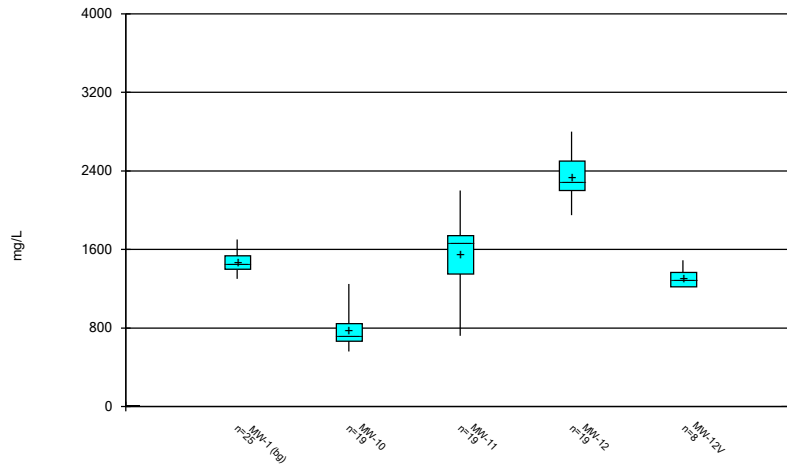
Constituent: Selenium Analysis Run 10/4/2022 7:44 PM View: Constituents View
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



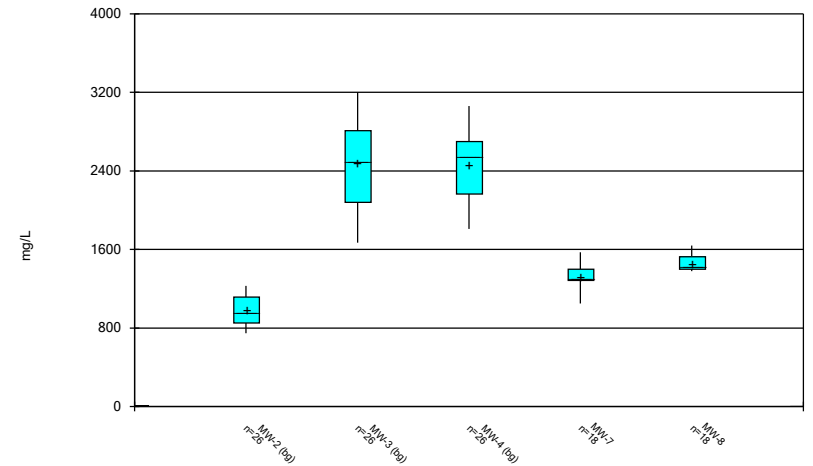
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Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



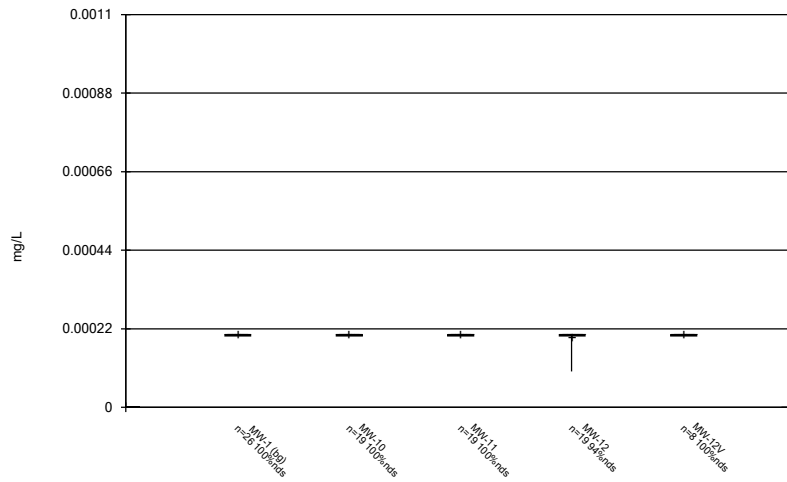
Constituent: Sulfate Analysis Run 10/4/2022 7:45 PM View: Constituents View
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



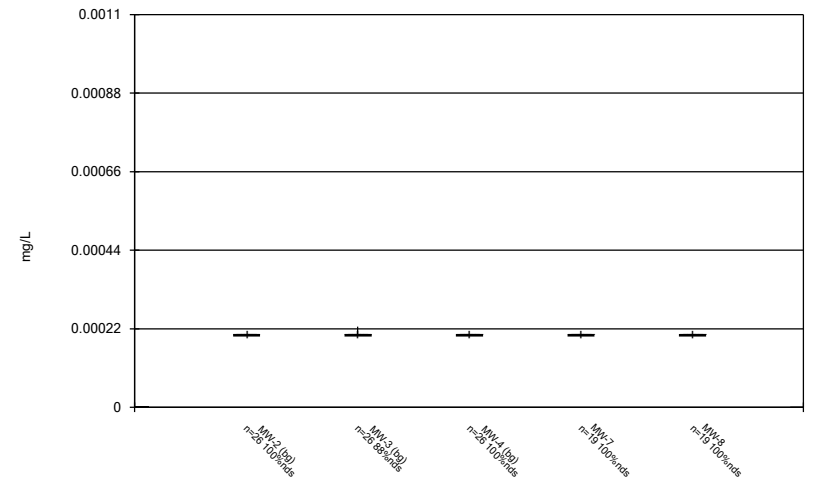
Constituent: Sulfate Analysis Run 10/4/2022 7:45 PM View: Constituents View
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



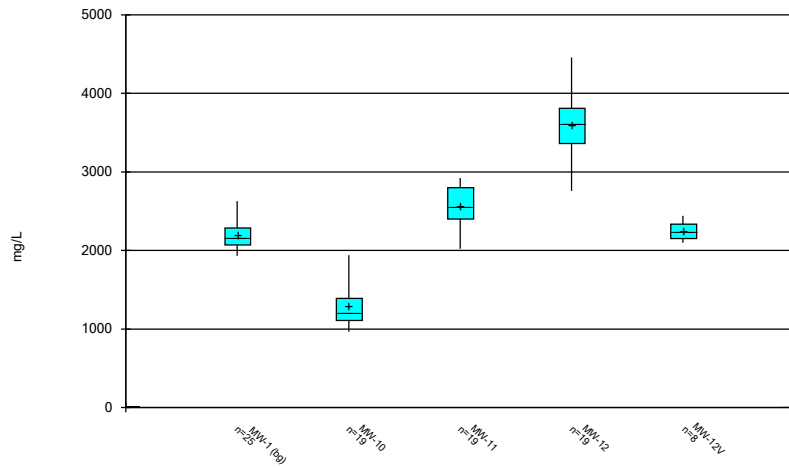
Constituent: Thallium Analysis Run 10/4/2022 7:45 PM View: Constituents View
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



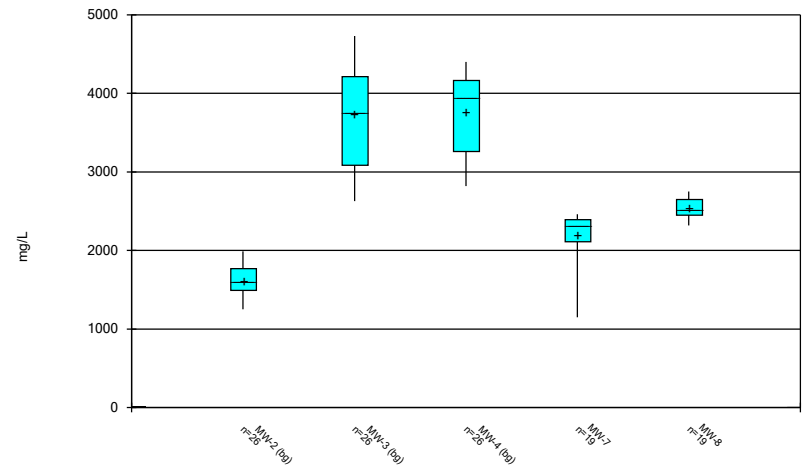
Constituent: Thallium Analysis Run 10/4/2022 7:45 PM View: Constituents View
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



Constituent: Total Dissolved Solids Analysis Run 10/4/2022 7:45 PM View: Constituents View
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Box & Whiskers Plot



Constituent: Total Dissolved Solids Analysis Run 10/4/2022 7:45 PM View: Constituents View
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

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Outlier Summary

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR Printed 10/4/2022, 7:45 PM

	MW-3 Beryllium (mg/L)	MW-4 Boron (mg/L)	MW-7 Boron (mg/L)	MW-3 Cadmium (mg/L)	MW-3 Cobalt (mg/L)	MW-3 Lead (mg/L)	MW-1 Sulfate (mg/L)	MW-7 Sulfate (mg/L)	MW-8 Sulfate (mg/L)	MW-1 Total Dissolved Solids (mg/L)
4/25/2016				0.0121 (O)						
4/27/2016			0.253 (o)							
1/18/2017	0.0169 (O)									
5/22/2018						2100 (o)				
5/23/2018								1900 (o)	2100 (o)	
11/19/2018	0.0185 (O)					0.00692 (o)				
5/14/2019		<0.203 (o)								
10/8/2019					1.07 (o)					
10/16/2019					0.848 (o)					3650 (o)
7/13/2020				0.00885 (O)						

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Intrawell Prediction Limit - Significant Results

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR Printed 10/4/2022, 7:47 PM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Date</u>	<u>Observ.</u>	<u>Sig.</u>	<u>Bg N</u>	<u>Bg Mean</u>	<u>Std. Dev.</u>	<u>%NDs</u>	<u>ND Adj.</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Fluoride (mg/L)	MW-12	0.2219	n/a	7/5/2022	0.275	Yes	13	0.1188	0.04526	0	None	No	0.001504	Param Intra 1 of 2

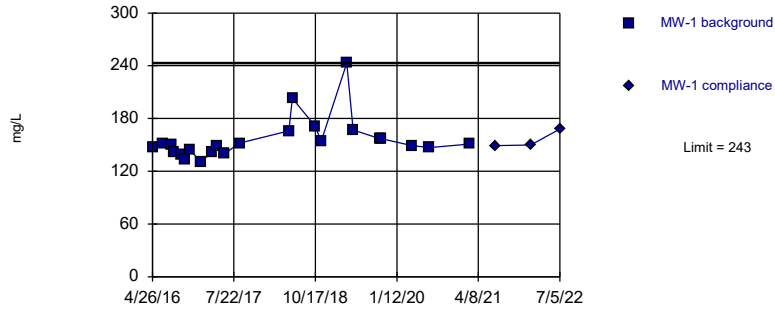
Intrawell Prediction Limit - All Results

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR Printed 10/4/2022, 7:47 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Calcium (mg/L)	MW-1	243	n/a	7/5/2022	168	No	23	n/a	n/a	0	n/a	n/a	0.003415	NP Intra (normality) 1 of 2
Calcium (mg/L)	MW-10	280.7	n/a	7/6/2022	150	No	16	184.7	44.65	0	None	No	0.001504	Param Intra 1 of 2
Calcium (mg/L)	MW-11	423.3	n/a	7/5/2022	333	No	16	372.6	23.56	0	None	No	0.001504	Param Intra 1 of 2
Calcium (mg/L)	MW-12	402.8	n/a	7/5/2022	330	No	16	355.6	21.98	0	None	No	0.001504	Param Intra 1 of 2
Calcium (mg/L)	MW-2	216.2	n/a	7/5/2022	172	No	23	174.2	20.8	0	None	No	0.001504	Param Intra 1 of 2
Calcium (mg/L)	MW-3	420.1	n/a	7/5/2022	369	No	23	300	59.54	0	None	No	0.001504	Param Intra 1 of 2
Calcium (mg/L)	MW-4	388.9	n/a	7/5/2022	294	No	23	304.8	41.68	0	None	No	0.001504	Param Intra 1 of 2
Calcium (mg/L)	MW-7	345.2	n/a	7/6/2022	280	No	16	854.34	15683	0	None	x^2	0.001504	Param Intra 1 of 2
Calcium (mg/L)	MW-8	341.3	n/a	7/6/2022	306	No	16	303.1	17.76	0	None	No	0.001504	Param Intra 1 of 2
Fluoride (mg/L)	MW-1	0.1903	n/a	7/5/2022	0.11J	No	24	0.1172	0.03644	0	None	No	0.001504	Param Intra 1 of 2
Fluoride (mg/L)	MW-10	0.3437	n/a	7/6/2022	0.145	No	17	0.1839	0.0751	0	None	No	0.001504	Param Intra 1 of 2
Fluoride (mg/L)	MW-11	0.1477	n/a	7/5/2022	0.124J	No	17	0.09621	0.0242	5.882	None	No	0.001504	Param Intra 1 of 2
Fluoride (mg/L)	MW-12	0.2219	n/a	7/5/2022	0.275	Yes	13	0.1188	0.04526	0	None	No	0.001504	Param Intra 1 of 2
Fluoride (mg/L)	MW-2	0.2565	n/a	7/5/2022	0.2	No	24	0.1456	0.05538	0	None	No	0.001504	Param Intra 1 of 2
Fluoride (mg/L)	MW-3	0.5975	n/a	7/5/2022	0.386	No	24	0.3299	0.1336	0	None	No	0.001504	Param Intra 1 of 2
Fluoride (mg/L)	MW-4	0.4243	n/a	7/5/2022	0.362	No	24	0.1114	0.03425	0	None	x^2	0.001504	Param Intra 1 of 2
Fluoride (mg/L)	MW-7	0.2155	n/a	7/6/2022	0.208	No	17	0.1848	0.01443	0	None	No	0.001504	Param Intra 1 of 2
Fluoride (mg/L)	MW-8	0.2349	n/a	7/6/2022	0.173	No	17	0.21	0.01171	0	None	No	0.001504	Param Intra 1 of 2
Sulfate (mg/L)	MW-1	1672	n/a	7/5/2022	1600	No	22	1461	104.1	0	None	No	0.001504	Param Intra 1 of 2
Sulfate (mg/L)	MW-10	1188	n/a	7/6/2022	635	No	16	807.1	176.9	0	None	No	0.001504	Param Intra 1 of 2
Sulfate (mg/L)	MW-11	2292	n/a	7/5/2022	1250	No	16	1592	325.4	0	None	No	0.001504	Param Intra 1 of 2
Sulfate (mg/L)	MW-12	2822	n/a	7/5/2022	2430	No	16	2315	235.6	0	None	No	0.001504	Param Intra 1 of 2
Sulfate (mg/L)	MW-2	1284	n/a	7/5/2022	819	No	23	997.8	141.7	0	None	No	0.001504	Param Intra 1 of 2
Sulfate (mg/L)	MW-3	3300	n/a	7/5/2022	3110	No	23	2451	421.1	0	None	No	0.001504	Param Intra 1 of 2
Sulfate (mg/L)	MW-4	3165	n/a	7/5/2022	2380	No	23	2511	324	0	None	No	0.001504	Param Intra 1 of 2
Sulfate (mg/L)	MW-7	1614	n/a	7/6/2022	1330	No	15	1324	132.3	0	None	No	0.001504	Param Intra 1 of 2
Sulfate (mg/L)	MW-8	1640	n/a	7/6/2022	1460	No	15	n/a	n/a	0	n/a	n/a	0.007533	NP Intra (normality) 1 of 2
Total Dissolved Solids (mg/L)	MW-1	2530	n/a	7/5/2022	2100	No	22	2197	164	0	None	No	0.001504	Param Intra 1 of 2
Total Dissolved Solids (mg/L)	MW-10	1925	n/a	7/6/2022	967	No	16	7.179	0.1783	0	None	ln(x)	0.001504	Param Intra 1 of 2
Total Dissolved Solids (mg/L)	MW-11	3052	n/a	7/5/2022	2020	No	16	2649	187.2	0	None	No	0.001504	Param Intra 1 of 2
Total Dissolved Solids (mg/L)	MW-12	4477	n/a	7/5/2022	3690	No	16	3598	408.9	0	None	No	0.001504	Param Intra 1 of 2
Total Dissolved Solids (mg/L)	MW-2	2034	n/a	7/5/2022	1250	No	23	1643	193.7	0	None	No	0.001504	Param Intra 1 of 2
Total Dissolved Solids (mg/L)	MW-3	5097	n/a	7/5/2022	4220	No	23	3729	678.1	0	None	No	0.001504	Param Intra 1 of 2
Total Dissolved Solids (mg/L)	MW-4	4623	n/a	7/5/2022	3240	No	23	1.5e7	3201096	0	None	x^2	0.001504	Param Intra 1 of 2
Total Dissolved Solids (mg/L)	MW-7	2598	n/a	7/6/2022	2110	No	16	6.3e16	2.6e16	0	None	x^5	0.001504	Param Intra 1 of 2
Total Dissolved Solids (mg/L)	MW-8	2817	n/a	7/6/2022	2320	No	16	2573	113.3	0	None	No	0.001504	Param Intra 1 of 2

Within Limit

Prediction Limit Intrawell Non-parametric

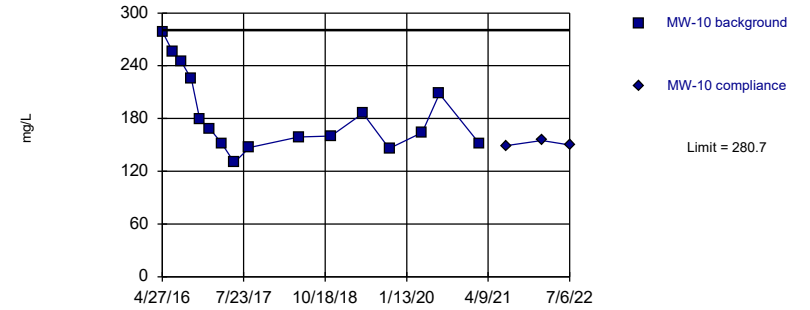


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 23 background values. Well-constituent pair annual alpha = 0.006819. Individual comparison alpha = 0.003415 (1 of 2).

Constituent: Calcium Analysis Run 10/4/2022 7:46 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Within Limit

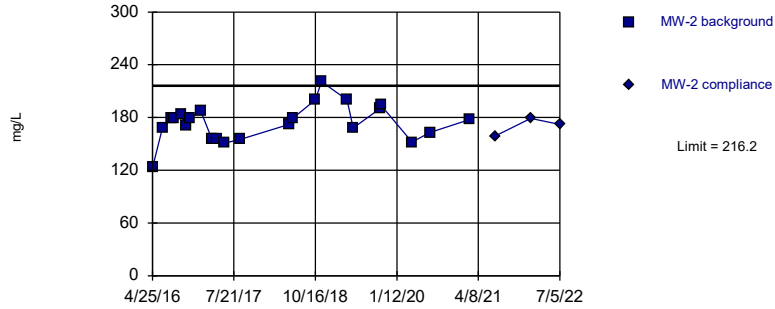
Prediction Limit Intrawell Parametric



Background Data Summary: Mean=184.7, Std. Dev.=44.65, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.884, critical = 0.844. Kappa = 2.15 (

Within Limit

Prediction Limit Intrawell Parametric

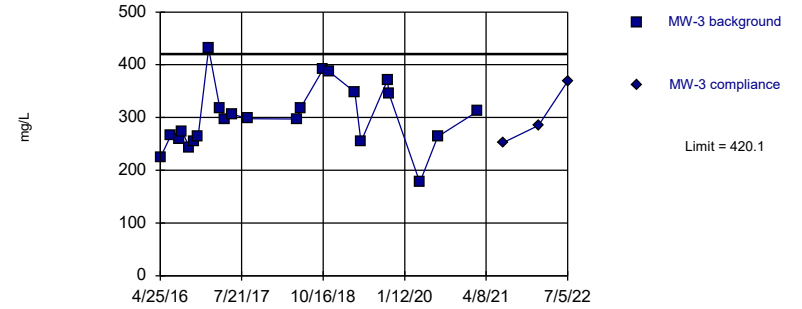


Background Data Summary: Mean=174.2, Std. Dev.=20.8, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9781, critical = 0.881. Kappa = 2.017 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Constituent: Calcium Analysis Run 10/4/2022 7:46 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Within Limit

Prediction Limit Intrawell Parametric

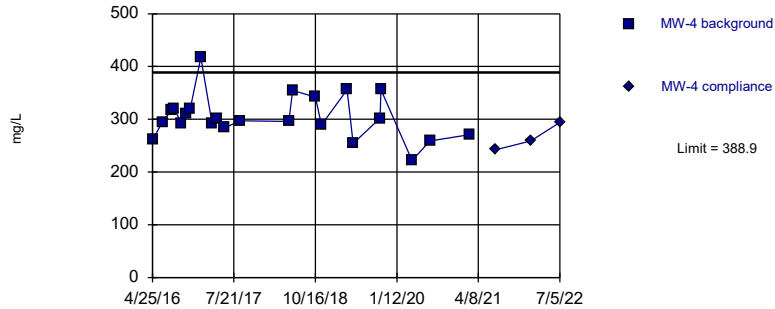


Background Data Summary: Mean=300, Std. Dev.=59.54, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9749, critical = 0.881. Kappa = 2.017 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Constituent: Calcium Analysis Run 10/4/2022 7:46 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Within Limit

Prediction Limit Intrawell Parametric

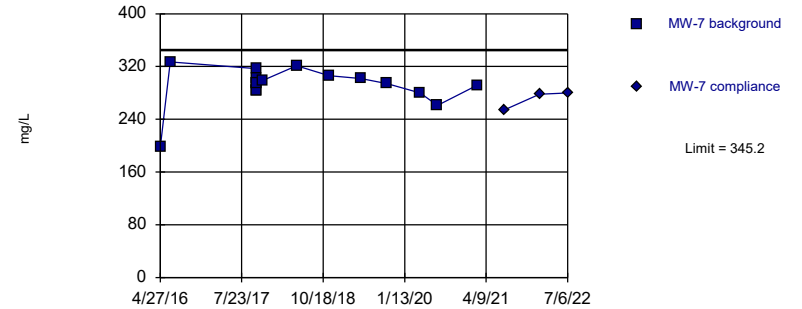


Background Data Summary: Mean=304.8, Std. Dev.=41.68, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9567, critical = 0.881. Kappa = 2.017 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Constituent: Calcium Analysis Run 10/4/2022 7:46 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Within Limit

Prediction Limit Intrawell Parametric

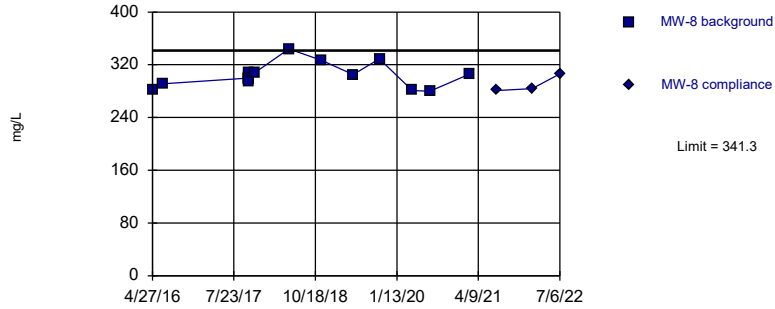


Background Data Summary (based on square transformation): Mean=85434, Std. Dev.=15683, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8569, critical = 0.844. Kappa = 2.15 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Constituent: Calcium Analysis Run 10/4/2022 7:46 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Within Limit

Prediction Limit
Intrawell Parametric

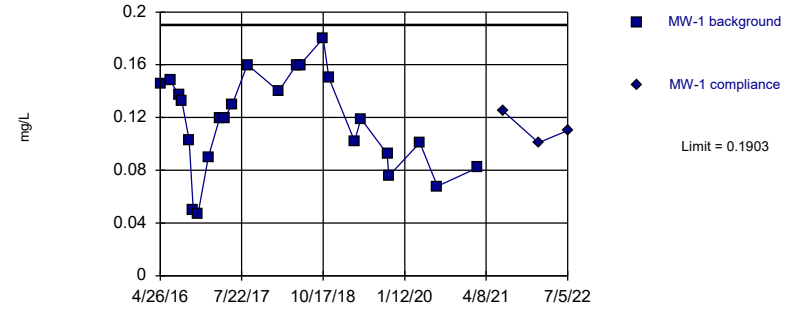


Background Data Summary: Mean=303.1, Std. Dev.=17.76, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9165, critical = 0.844. Kappa = 2.15 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Constituent: Calcium Analysis Run 10/4/2022 7:46 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Within Limit

Prediction Limit
Intrawell Parametric

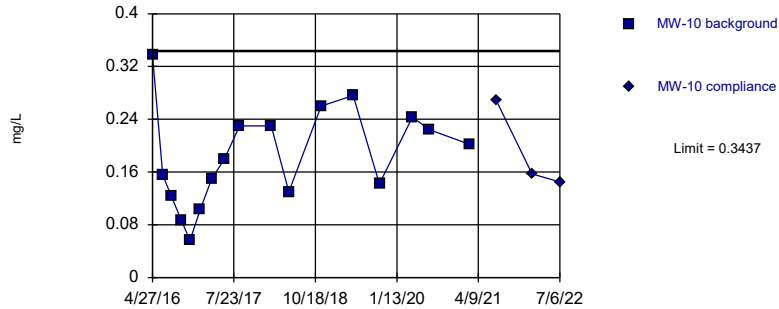


Background Data Summary: Mean=0.1172, Std. Dev.=0.03644, n=24. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9658, critical = 0.884. Kappa = 2.004 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Constituent: Fluoride Analysis Run 10/4/2022 7:46 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Within Limit

Prediction Limit
Intrawell Parametric

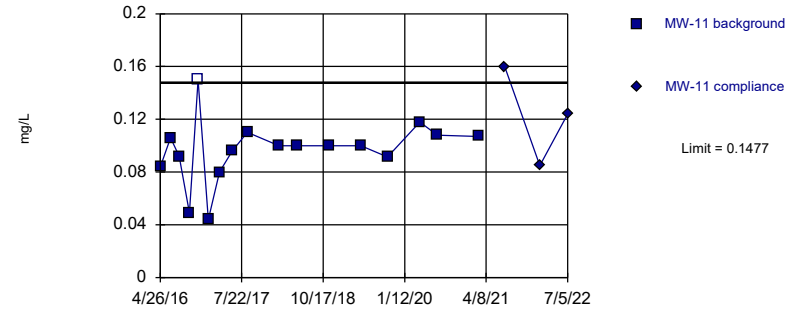


Background Data Summary: Mean=0.1839, Std. Dev.=0.0751, n=17. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9812, critical = 0.851. Kappa = 2.127 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Constituent: Fluoride Analysis Run 10/4/2022 7:46 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Within Limit

Prediction Limit
Intrawell Parametric

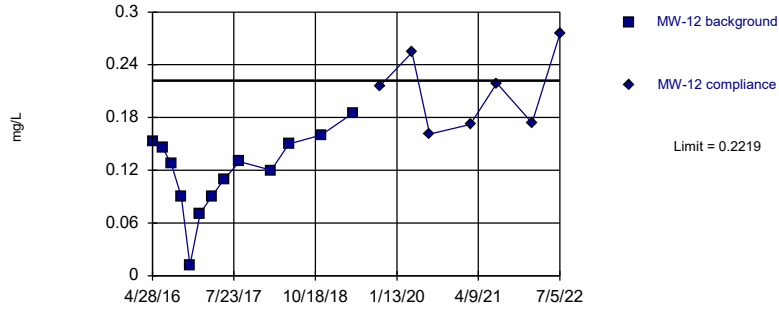


Background Data Summary: Mean=0.09621, Std. Dev.=0.0242, n=17, 5.882% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8998, critical = 0.851. Kappa = 2.127 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Constituent: Fluoride Analysis Run 10/4/2022 7:46 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

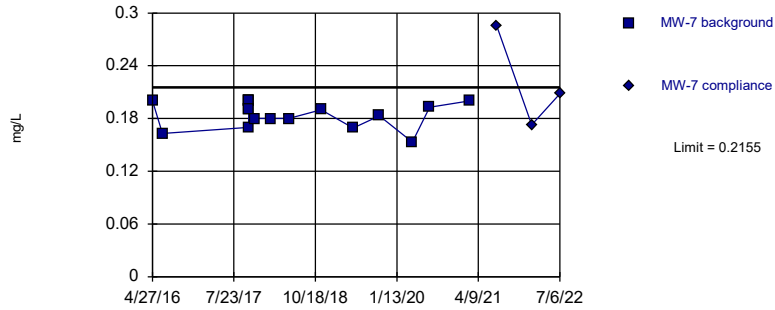
Exceeds Limit

Prediction Limit Intrawell Parametric



Within Limit

Prediction Limit Intrawell Parametric

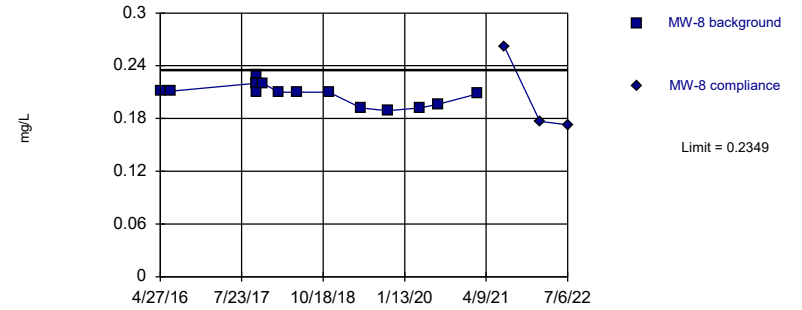


Background Data Summary: Mean=0.1848, Std. Dev.=0.01443, n=17. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9003, critical = 0.851. Kappa = 2.127 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Constituent: Fluoride Analysis Run 10/4/2022 7:46 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Within Limit

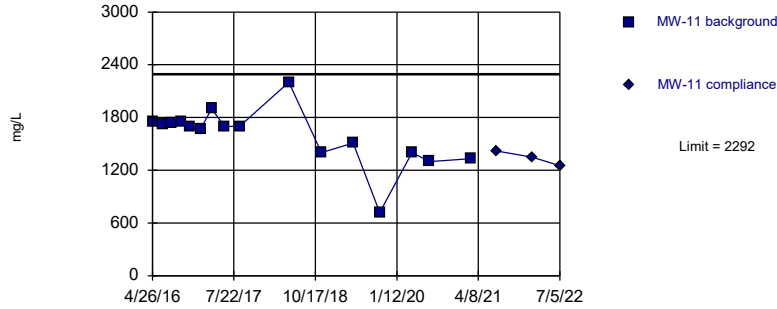
Prediction Limit Intrawell Parametric



Background Data Summary: Mean=0.21, Std. Dev.=0.01171, n=17. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.904, critical = 0.851. Kappa = 2.127 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504

Within Limit

Prediction Limit
Intrawell Parametric

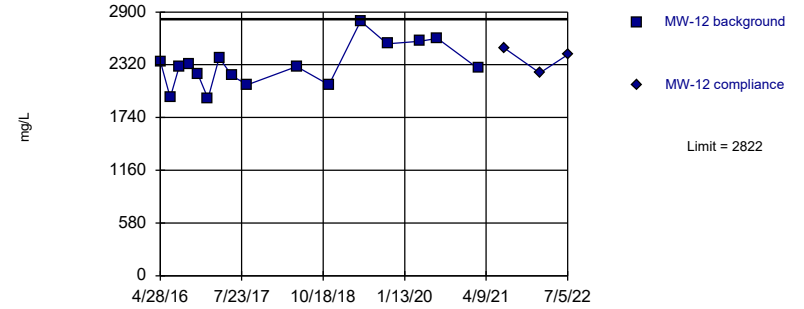


Background Data Summary: Mean=1592, Std. Dev.=325.4, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8949, critical = 0.844. Kappa = 2.15 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Constituent: Sulfate Analysis Run 10/4/2022 7:46 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

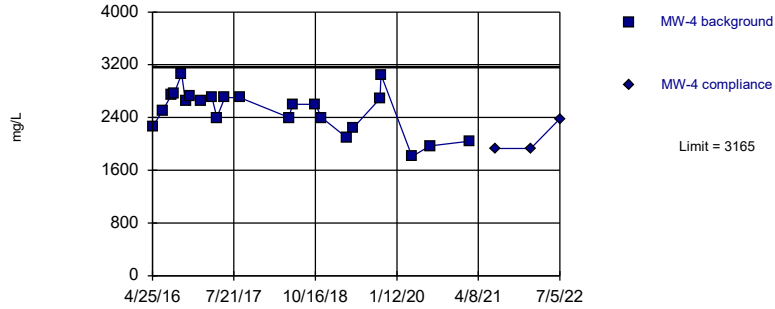
Within Limit

Prediction Limit
Intrawell Parametric



Within Limit

Prediction Limit Intrawell Parametric

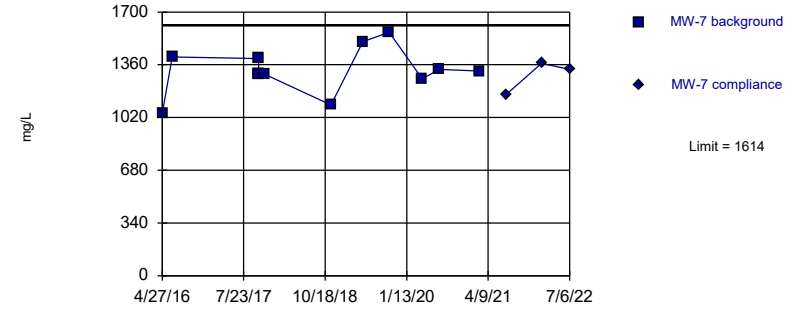


Background Data Summary: Mean=2511, Std. Dev.=324, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9443, critical = 0.881. Kappa = 2.017 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Constituent: Sulfate Analysis Run 10/4/2022 7:46 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Within Limit

Prediction Limit Intrawell Parametric

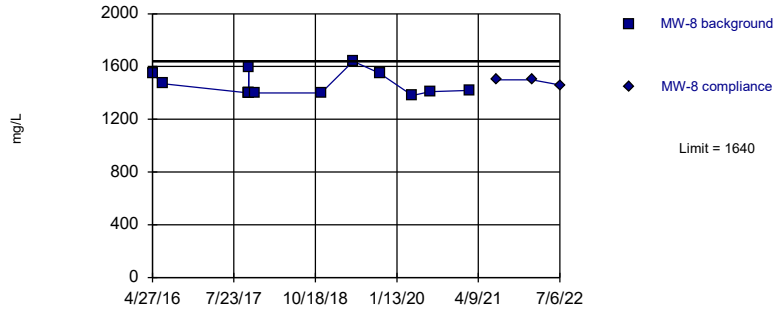


Background Data Summary: Mean=1324, Std. Dev.=132.3, n=15. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9168, critical = 0.835. Kappa = 2.193 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504.

Constituent: Sulfate Analysis Run 10/4/2022 7:46 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

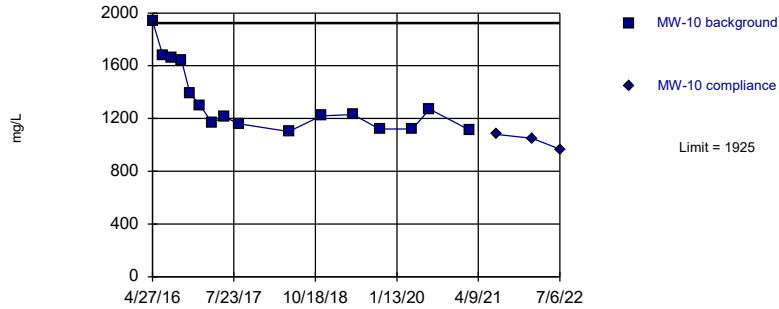
Within Limit

Prediction Limit Intrawell Non-parametric



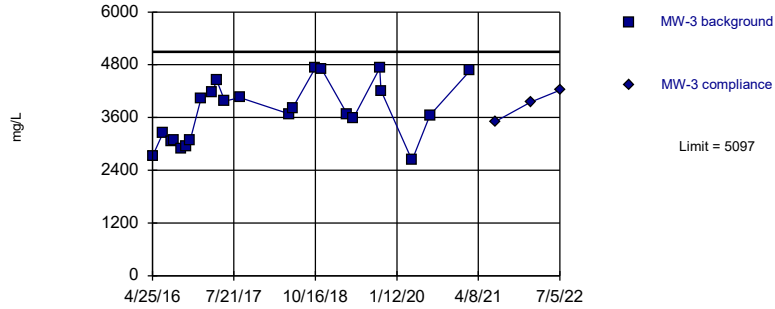
Within Limit

Prediction Limit
Intrawell Parametric



Within Limit

Prediction Limit
Intrawell Parametric



Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 10/4/2022 7:47 PM View: Appendix III - IntraWell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-1	MW-1
4/26/2016	147	
6/20/2016	152	
8/8/2016	150	
8/24/2016	142	
10/3/2016	139	
10/26/2016	133	
11/21/2016	144	
1/17/2017	131	
3/22/2017	141	
4/18/2017	149	
5/30/2017	140	
8/23/2017	152	
5/22/2018	166	
6/12/2018	203	
10/17/2018	171	
11/19/2018	154	
4/10/2019	243	
5/14/2019	167	
10/8/2019	157	
10/16/2019	157	
4/6/2020	149	
7/13/2020	147	
2/22/2021	151	
7/12/2021		149
1/25/2022		150
7/5/2022		168

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 10/4/2022 7:47 PM View: Appendix III - IntraWell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-10	MW-10
4/27/2016	279	
6/23/2016	256	
8/10/2016	245	
10/5/2016	225	
11/21/2016	179	
1/17/2017	168	
3/21/2017	152	
5/31/2017	130	
8/23/2017	147	
5/24/2018	159	
11/19/2018	160	
5/15/2019	186	
10/9/2019	146	
4/8/2020	164	
7/14/2020	208	
2/23/2021	151	
7/20/2021		149
2/1/2022		155
7/6/2022		150

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 10/4/2022 7:47 PM View: Appendix III - IntraWell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-11	MW-11
4/26/2016	400	
6/22/2016	398	
8/9/2016	399	
10/4/2016	389	
11/21/2016	386	
1/17/2017	344	
3/21/2017	396	
5/30/2017	370	
8/23/2017	374	
5/22/2018	375	
11/20/2018	370	
5/15/2019	380	
10/10/2019	373	
4/6/2020	333	
7/13/2020	350	
2/24/2021	325	
7/21/2021		322
2/1/2022		335
7/5/2022		333

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 10/4/2022 7:47 PM View: Appendix III - IntraWell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-12	MW-12
4/28/2016	349	
6/22/2016	374	
8/10/2016	348	
10/5/2016	344	
11/22/2016	342	
1/18/2017	359	
3/21/2017	352	
5/31/2017	313	
8/23/2017	349	
5/24/2018	349	
11/19/2018	348	
5/15/2019	411	
10/9/2019	359	
4/6/2020	354	
7/13/2020	392	
2/24/2021	346	
7/20/2021		330
2/1/2022		334
7/5/2022		330

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 10/4/2022 7:47 PM View: Appendix III - IntraWell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-2	MW-2
4/25/2016	123	
6/20/2016	168	
8/8/2016	180	
8/24/2016	180	
10/3/2016	184	
10/26/2016	171	
11/21/2016	179	
1/17/2017	188	
3/22/2017	155	
4/18/2017	156	
5/31/2017	151	
8/23/2017	155	
5/22/2018	172	
6/12/2018	179	
10/17/2018	200	
11/19/2018	221	
4/10/2019	200	
5/14/2019	168	
10/8/2019	190	
10/16/2019	194	
4/6/2020	152	
7/13/2020	163	
2/22/2021	178	
7/12/2021		159
1/25/2022		179
7/5/2022		172

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 10/4/2022 7:47 PM View: Appendix III - IntraWell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-3	MW-3
4/25/2016	224	
6/22/2016	266	
8/9/2016	260	
8/24/2016	274	
10/4/2016	243	
10/26/2016	254	
11/21/2016	263	
1/18/2017	431	
3/22/2017	318	
4/18/2017	296	
5/31/2017	306	
8/23/2017	298	
5/24/2018	297	
6/12/2018	318	
10/17/2018	392	
11/19/2018	387	
4/10/2019	348	
5/14/2019	254	
10/8/2019	371	
10/16/2019	346	
4/6/2020	177	
7/13/2020	264	
2/22/2021	312	
7/12/2021		252
1/25/2022		285
7/5/2022		369

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 10/4/2022 7:47 PM View: Appendix III - IntraWell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-4	MW-4
4/25/2016	261	
6/20/2016	295	
8/9/2016	318	
8/24/2016	319	
10/3/2016	293	
10/26/2016	311	
11/21/2016	320	
1/18/2017	417	
3/22/2017	292	
4/18/2017	302	
5/31/2017	284	
8/23/2017	297	
5/23/2018	296	
6/12/2018	355	
10/17/2018	342	
11/19/2018	289	
4/10/2019	356	
5/14/2019	254	
10/10/2019	302	
10/16/2019	356	
4/6/2020	222	
7/14/2020	259	
2/22/2021	271	
7/12/2021		242
1/25/2022		259
7/5/2022		294

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 10/4/2022 7:47 PM View: Appendix III - IntraWell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-7	MW-7
4/27/2016	198	
6/21/2016	327	
10/12/2017	317	
10/13/2017	302	
10/14/2017	283	
10/15/2017	294	
10/16/2017	284	
10/17/2017	294	
11/16/2017	299	
5/23/2018	321	
11/20/2018	306	
5/15/2019	302	
10/8/2019	294	
4/8/2020	280	
7/14/2020	261	
2/23/2021	292	
7/20/2021		254
1/31/2022		278
7/6/2022		280

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 10/4/2022 7:47 PM View: Appendix III - IntraWell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-8	MW-8
4/27/2016	282	
6/21/2016	291	
10/12/2017	300	
10/13/2017	298	
10/14/2017	299	
10/15/2017	307	
10/16/2017	299	
10/17/2017	294	
11/16/2017	308	
5/23/2018	344	
11/20/2018	327	
5/15/2019	305	
10/9/2019	329	
4/8/2020	281	
7/15/2020	280	
2/23/2021	306	
7/20/2021		281
2/1/2022		284
7/6/2022		306

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 10/4/2022 7:47 PM View: Appendix III - IntraWell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-1	MW-1
4/26/2016	0.146 (J)	
6/20/2016	0.148 (J)	
8/8/2016	0.137 (J)	
8/24/2016	0.133 (J)	
10/3/2016	0.103 (J)	
10/26/2016	0.05 (J)	
11/21/2016	0.047 (J)	
1/17/2017	0.09 (J)	
3/22/2017	0.12	
4/18/2017	0.12	
5/30/2017	0.13	
8/23/2017	0.16	
2/13/2018	0.14	
5/22/2018	0.16	
6/12/2018	0.16	
10/17/2018	0.18	
11/19/2018	0.15	
4/10/2019	0.102	
5/14/2019	0.119	
10/8/2019	0.0924 (J)	
10/16/2019	0.0756 (J)	
4/6/2020	0.101	
7/13/2020	0.0678 (J)	
2/22/2021	0.082 (J)	
7/12/2021		0.125
1/25/2022		0.101
7/5/2022		0.11 (J)

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 10/4/2022 7:47 PM View: Appendix III - IntraWell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-10	MW-10
4/27/2016	0.337	
6/23/2016	0.155 (J)	
8/10/2016	0.123 (J)	
10/5/2016	0.086 (J)	
11/21/2016	0.056 (J)	
1/17/2017	0.103 (J)	
3/21/2017	0.15	
5/31/2017	0.18	
8/23/2017	0.23	
2/15/2018	0.23	
5/24/2018	0.13	
11/19/2018	0.26	
5/15/2019	0.276	
10/9/2019	0.142	
4/8/2020	0.243	
7/14/2020	0.224	
2/23/2021	0.202	
7/20/2021		0.268
2/1/2022		0.157
7/6/2022		0.145

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 10/4/2022 7:47 PM View: Appendix III - IntraWell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-11	MW-11
4/26/2016	0.084 (J)	
6/22/2016	0.106 (J)	
8/9/2016	0.092 (J)	
10/4/2016	0.049 (J)	
11/21/2016	<0.3	
1/17/2017	0.044 (J)	
3/21/2017	0.08 (J)	
5/30/2017	0.096 (J)	
8/23/2017	0.11	
2/14/2018	0.1	
5/22/2018	0.1	
11/20/2018	0.1	
5/15/2019	0.1	
10/10/2019	0.0915 (J)	
4/6/2020	0.118	
7/13/2020	0.108	
2/24/2021	0.107	
7/21/2021		0.16
2/1/2022		0.0848 (J)
7/5/2022		0.124 (J)

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 10/4/2022 7:47 PM View: Appendix III - IntraWell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-12	MW-12
4/28/2016	0.153 (J)	
6/22/2016	0.146 (J)	
8/10/2016	0.127 (J)	
10/5/2016	0.09 (J)	
11/22/2016	0.012 (J)	
1/18/2017	0.071 (J)	
3/21/2017	0.09 (J)	
5/31/2017	0.11	
8/23/2017	0.13	
2/15/2018	0.12	
5/24/2018	0.15	
11/19/2018	0.16	
5/15/2019	0.185	
10/9/2019		0.215
4/6/2020		0.254
7/13/2020		0.161
2/24/2021		0.172
7/20/2021		0.219
2/1/2022		0.174
7/5/2022		0.275

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 10/4/2022 7:47 PM View: Appendix III - IntraWell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-2	MW-2
4/25/2016	0.149 (J)	
6/20/2016	0.148 (J)	
8/8/2016	0.134 (J)	
8/24/2016	0.129 (J)	
10/3/2016	0.086 (J)	
10/26/2016	0.027 (J)	
11/21/2016	0.027 (J)	
1/17/2017	0.066 (J)	
3/22/2017	0.13	
4/18/2017	0.16	
5/31/2017	0.13	
8/23/2017	0.16	
2/13/2018	0.22	
5/22/2018	0.17	
6/12/2018	0.16	
10/17/2018	0.16	
11/19/2018	0.18	
4/10/2019	0.262	
5/14/2019	0.17	
10/8/2019	0.164	
10/16/2019	0.114	
4/6/2020	0.207	
7/13/2020	0.132	
2/22/2021	0.209	
7/12/2021		0.196
1/25/2022		0.204
7/5/2022		0.2

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 10/4/2022 7:47 PM View: Appendix III - IntraWell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-3	MW-3
4/25/2016	0.243 (J)	
6/22/2016	0.269 (J)	
8/9/2016	0.363	
8/24/2016	0.346	
10/4/2016	0.266 (J)	
10/26/2016	0.266 (J)	
11/21/2016	0.244 (J)	
1/18/2017	0.385	
3/22/2017	0.41	
4/18/2017	0.29	
5/31/2017	0.37	
8/23/2017	0.55	
2/13/2018	0.27	
5/24/2018	0.6	
6/12/2018	0.53	
10/17/2018	0.63	
11/19/2018	0.31	
4/10/2019	0.273	
5/14/2019	0.281	
10/8/2019	0.225	
10/16/2019	0.106	
4/6/2020	0.314	
7/13/2020	0.13	
2/22/2021	0.246	
7/12/2021		0.287
1/25/2022		0.325
7/5/2022		0.386

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 10/4/2022 7:47 PM View: Appendix III - IntraWell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-4	MW-4
4/25/2016	0.372	
6/20/2016	0.361	
8/9/2016	0.326	
8/24/2016	0.329	
10/3/2016	0.287 (J)	
10/26/2016	0.194 (J)	
11/21/2016	0.192 (J)	
1/18/2017	0.223 (J)	
3/22/2017	0.32	
4/18/2017	0.32	
5/31/2017	0.31	
8/23/2017	0.38	
2/13/2018	0.38	
5/23/2018	0.38	
6/12/2018	0.39	
10/17/2018	0.39	
11/19/2018	0.36	
4/10/2019	0.384	
5/14/2019	0.335	
10/10/2019	0.304	
10/16/2019	0.302	
4/6/2020	0.368	
7/14/2020	0.33	
2/22/2021	0.357	
7/12/2021		0.35
1/25/2022		0.364
7/5/2022		0.362

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 10/4/2022 7:47 PM View: Appendix III - IntraWell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-7	MW-7
4/27/2016	0.2 (J)	
6/21/2016	0.163 (J)	
10/12/2017	0.17	
10/13/2017	0.19	
10/14/2017	0.2	
10/15/2017	0.2	
10/16/2017	0.2	
10/17/2017	0.19	
11/16/2017	0.18	
2/14/2018	0.18	
5/23/2018	0.18	
11/20/2018	0.19	
5/15/2019	0.169	
10/8/2019	0.183	
4/8/2020	0.153	
7/14/2020	0.193	
2/23/2021	0.2	
7/20/2021		0.286
1/31/2022		0.173
7/6/2022		0.208

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 10/4/2022 7:47 PM View: Appendix III - IntraWell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-8	MW-8
4/27/2016	0.212 (J)	
6/21/2016	0.211 (J)	
10/12/2017	0.22	
10/13/2017	0.23	
10/14/2017	0.22	
10/15/2017	0.22	
10/16/2017	0.22	
10/17/2017	0.21	
11/16/2017	0.22	
2/14/2018	0.21	
5/23/2018	0.21	
11/20/2018	0.21	
5/15/2019	0.192	
10/9/2019	0.189	
4/8/2020	0.192	
7/15/2020	0.196	
2/23/2021	0.208	
7/20/2021		0.262
2/1/2022		0.177
7/6/2022		0.173

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 10/4/2022 7:47 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-1	MW-1
4/26/2016	1490	
6/20/2016	1420	
8/8/2016	1460	
8/24/2016	1450	
10/3/2016	1460	
10/26/2016	1330	
11/21/2016	1420	
1/17/2017	1350	
3/22/2017	1500	
4/18/2017	1300	
5/30/2017	1400	
8/23/2017	1500	
5/22/2018	2100 (o)	
6/12/2018	1500	
10/17/2018	1400	
11/19/2018	1300	
4/10/2019	1700	
5/14/2019	1560	
10/8/2019	1540	
10/16/2019	1680	
4/6/2020	1530	
7/13/2020	1450	
2/22/2021	1400	
7/12/2021		1560
1/25/2022		1430
7/5/2022		1600

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 10/4/2022 7:47 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-10	MW-10
4/27/2016	1250	
6/23/2016	1010	
8/10/2016	992	
10/5/2016	1010	
11/21/2016	834	
1/17/2017	700	
3/21/2017	660	
5/31/2017	700	
8/23/2017	700	
5/24/2018	560	
11/19/2018	720	
5/15/2019	780	
10/9/2019	748	
4/8/2020	658	
7/14/2020	845	
2/23/2021	747	
7/20/2021		665
2/1/2022		707
7/6/2022		635

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 10/4/2022 7:47 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-11	MW-11
4/26/2016	1750	
6/22/2016	1720	
8/9/2016	1740	
10/4/2016	1750	
11/21/2016	1690	
1/17/2017	1670	
3/21/2017	1900	
5/30/2017	1700	
8/23/2017	1700	
5/22/2018	2200	
11/20/2018	1400	
5/15/2019	1510	
10/10/2019	719	
4/6/2020	1400	
7/13/2020	1300	
2/24/2021	1330	
7/21/2021		1420
2/1/2022		1350
7/5/2022		1250

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 10/4/2022 7:47 PM View: Appendix III - IntraWell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-12	MW-12
4/28/2016	2360	
6/22/2016	1960	
8/10/2016	2300	
10/5/2016	2330	
11/22/2016	2220	
1/18/2017	1950	
3/21/2017	2400	
5/31/2017	2200	
8/23/2017	2100	
5/24/2018	2300	
11/19/2018	2100	
5/15/2019	2800	
10/9/2019	2550	
4/6/2020	2580	
7/13/2020	2610	
2/24/2021	2280	
7/20/2021		2500
2/1/2022		2230
7/5/2022		2430

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 10/4/2022 7:47 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-2	MW-2
4/25/2016	745	
6/20/2016	964	
8/8/2016	1100	
8/24/2016	1130	
10/3/2016	1140	
10/26/2016	1060	
11/21/2016	1100	
1/17/2017	1160	
3/22/2017	900	
4/18/2017	870	
5/31/2017	1100	
8/23/2017	920	
5/22/2018	1200	
6/12/2018	860	
10/17/2018	970	
11/19/2018	1000	
4/10/2019	889	
5/14/2019	948	
10/8/2019	1230	
10/16/2019	1170	
4/6/2020	786	
7/13/2020	843	
2/22/2021	864	
7/12/2021		763
1/25/2022		842
7/5/2022		819

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 10/4/2022 7:47 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-3	MW-3
4/25/2016	1890	
6/22/2016	2100	
8/9/2016	2050	
8/24/2016	2190	
10/4/2016	1950	
10/26/2016	1980	
11/21/2016	2060	
1/18/2017	2620	
3/22/2017	3200	
4/18/2017	2500	
5/31/2017	2800	
8/23/2017	2600	
5/24/2018	2700	
6/12/2018	2500	
10/17/2018	2700	
11/19/2018	3000	
4/10/2019	2460	
5/14/2019	2460	
10/8/2019	2950	
10/16/2019	2820	
4/6/2020	1670	
7/13/2020	2130	
2/22/2021	3040	
7/12/2021		2380
1/25/2022		2550
7/5/2022		3110

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 10/4/2022 7:47 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-4	MW-4
4/25/2016	2260	
6/20/2016	2500	
8/9/2016	2750	
8/24/2016	2770	
10/3/2016	3060	
10/26/2016	2650	
11/21/2016	2720	
1/18/2017	2650	
3/22/2017	2700	
4/18/2017	2400	
5/31/2017	2700	
8/23/2017	2700	
5/23/2018	2400	
6/12/2018	2600	
10/17/2018	2600	
11/19/2018	2400	
4/10/2019	2090	
5/14/2019	2240	
10/10/2019	2690	
10/16/2019	3050	
4/6/2020	1810	
7/14/2020	1970	
2/22/2021	2040	
7/12/2021		1930
1/25/2022		1930
7/5/2022		2380

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 10/4/2022 7:47 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-7	MW-7
4/27/2016	1050	
6/21/2016	1410	
10/12/2017	1400	
10/13/2017	1400	
10/14/2017	1300	
10/15/2017	1300	
10/16/2017	1300	
10/17/2017	1300	
11/16/2017	1300	
5/23/2018	1900 (o)	
11/20/2018	1100	
5/15/2019	1510	
10/8/2019	1570	
4/8/2020	1270	
7/14/2020	1330	
2/23/2021	1320	
7/20/2021		1170
1/31/2022		1370
7/6/2022		1330

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 10/4/2022 7:47 PM View: Appendix III - Intrawell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-8	MW-8
4/27/2016	1550	
6/21/2016	1470	
10/12/2017	1400	
10/13/2017	1600	
10/14/2017	1400	
10/15/2017	1400	
10/16/2017	1400	
10/17/2017	1400	
11/16/2017	1400	
5/23/2018	2100 (o)	
11/20/2018	1400	
5/15/2019	1640	
10/9/2019	1550	
4/8/2020	1380	
7/15/2020	1410	
2/23/2021	1420	
7/20/2021		1500
2/1/2022		1500
7/6/2022		1460

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 10/4/2022 7:47 PM View: Appendix III - IntraWell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-1	MW-1
4/26/2016	2080	
6/20/2016	2060	
8/8/2016	2070	
8/24/2016	2040	
10/3/2016	2110	
10/26/2016	2000	
11/21/2016	2070	
1/17/2017	1930	
3/22/2017	2060	
4/18/2017	2140	
5/30/2017	2240	
8/23/2017	2160	
5/22/2018	2380	
6/12/2018	2400	
10/17/2018	2220	
11/19/2018	2360	
4/10/2019	2630	
5/14/2019	2340	
10/8/2019	2330	
10/16/2019	3650 (o)	
4/6/2020	2240	
7/13/2020	2240	
2/22/2021	2230	
7/12/2021		2210
1/25/2022		2150
7/5/2022		2100

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 10/4/2022 7:47 PM View: Appendix III - IntraWell

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-10	MW-10
4/27/2016	1940	
6/23/2016	1680	
8/10/2016	1660	
10/5/2016	1640	
11/21/2016	1390	
1/17/2017	1300	
3/21/2017	1170	
5/31/2017	1210	
8/23/2017	1160	
5/24/2018	1100	
11/19/2018	1220	
5/15/2019	1230	
10/9/2019	1120	
4/8/2020	1120	
7/14/2020	1270	
2/23/2021	1110	
7/20/2021		1080
2/1/2022		1050
7/6/2022		967

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 10/4/2022 7:47 PM View: Appendix III - IntraWell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-11	MW-11
4/26/2016	2800	
6/22/2016	2550	
8/9/2016	2860	
10/4/2016	2800	
11/21/2016	2920	
1/17/2017	2750	
3/21/2017	2750	
5/30/2017	2890	
8/23/2017	2760	
5/22/2018	2610	
11/20/2018	2480	
5/15/2019	2560	
10/10/2019	2460	
4/6/2020	2430	
7/13/2020	2400	
2/24/2021	2370	
7/21/2021		2210
2/1/2022		2200
7/5/2022		2020

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 10/4/2022 7:47 PM View: Appendix III - IntraWell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-12	MW-12
4/28/2016	3730	
6/22/2016	2760	
8/10/2016	3710	
10/5/2016	3580	
11/22/2016	3400	
1/18/2017	3360	
3/21/2017	3320	
5/31/2017	3440	
8/23/2017	3250	
5/24/2018	3300	
11/19/2018	3400	
5/15/2019	3890	
10/9/2019	4090	
4/6/2020	4060	
7/13/2020	4460	
2/24/2021	3810	
7/20/2021		3680
2/1/2022		3610
7/5/2022		3690

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 10/4/2022 7:47 PM View: Appendix III - IntraWell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-2	MW-2
4/25/2016	1260	
6/20/2016	1620	
8/8/2016	1740	
8/24/2016	1720	
10/3/2016	1800	
10/26/2016	1800	
11/21/2016	1740	
1/17/2017	1960	
3/22/2017	1510	
4/18/2017	1580	
5/31/2017	1730	
8/23/2017	1550	
5/22/2018	1500	
6/12/2018	1550	
10/17/2018	1740	
11/19/2018	1990	
4/10/2019	1250	
5/14/2019	1480	
10/8/2019	1840	
10/16/2019	1830	
4/6/2020	1440	
7/13/2020	1540	
2/22/2021	1620	
7/12/2021		1390
1/25/2022		1500
7/5/2022		1250

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 10/4/2022 7:47 PM View: Appendix III - IntraWell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-3	MW-3
4/25/2016	2720	
6/22/2016	3250	
8/9/2016	3050	
8/24/2016	3080	
10/4/2016	2900	
10/26/2016	2940	
11/21/2016	3090	
1/18/2017	4020	
3/22/2017	4180	
4/18/2017	4440	
5/31/2017	3970	
8/23/2017	4050	
5/24/2018	3680	
6/12/2018	3820	
10/17/2018	4730	
11/19/2018	4710	
4/10/2019	3680	
5/14/2019	3580	
10/8/2019	4720	
10/16/2019	4210	
4/6/2020	2630	
7/13/2020	3650	
2/22/2021	4670	
7/12/2021		3510
1/25/2022		3950
7/5/2022		4220

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 10/4/2022 7:47 PM View: Appendix III - IntraWell

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-4	MW-4
4/25/2016	3300	
6/20/2016	3870	
8/9/2016	4140	
8/24/2016	4190	
10/3/2016	4190	
10/26/2016	4400	
11/21/2016	4230	
1/18/2017	4120	
3/22/2017	3980	
4/18/2017	3880	
5/31/2017	4210	
8/23/2017	3990	
5/23/2018	3740	
6/12/2018	4080	
10/17/2018	4250	
11/19/2018	3920	
4/10/2019	3280	
5/14/2019	3130	
10/10/2019	4000	
10/16/2019	4060	
4/6/2020	2820	
7/14/2020	3310	
2/22/2021	3190	
7/12/2021		3000
1/25/2022		3180
7/5/2022		3240

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 10/4/2022 7:47 PM View: Appendix III - IntraWell
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-7	MW-7
4/27/2016	1640	
6/21/2016	2460	
10/12/2017	2460	
10/13/2017	2420	
10/14/2017	2320	
10/15/2017	1150	
10/16/2017	2320	
10/17/2017	2360	
11/16/2017	2460	
5/23/2018	2390	
11/20/2018	2090	
5/15/2019	2310	
10/8/2019	2340	
4/8/2020	2230	
7/14/2020	2210	
2/23/2021	2320	
7/20/2021		2110
1/31/2022		2140
7/6/2022		2110

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 10/4/2022 7:47 PM View: Appendix III - IntraWell

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-8	MW-8
4/27/2016	2480	
6/21/2016	2360	
10/12/2017	2530	
10/13/2017	2740	
10/14/2017	2630	
10/15/2017	2530	
10/16/2017	2740	
10/17/2017	2650	
11/16/2017	2650	
5/23/2018	2750	
11/20/2018	2520	
5/15/2019	2540	
10/9/2019	2590	
4/8/2020	2450	
7/15/2020	2460	
2/23/2021	2550	
7/20/2021		2420
2/1/2022		2420
7/6/2022		2320

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Interwell Prediction Limit - Significant Results

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR Printed 10/4/2022, 7:51 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)	MW-10	0.0596	n/a	7/6/2022	0.144	Yes	103	n/a	n/a	23.3	n/a	n/a	0.0001846	NP Inter (normality) 1 of 2
Boron (mg/L)	MW-11	0.0596	n/a	7/5/2022	0.105	Yes	103	n/a	n/a	23.3	n/a	n/a	0.0001846	NP Inter (normality) 1 of 2
Boron (mg/L)	MW-12	0.0596	n/a	7/5/2022	0.172	Yes	103	n/a	n/a	23.3	n/a	n/a	0.0001846	NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-11	3.853	n/a	7/5/2022	55.2	Yes	104	0.7405	0.337	2.885	None	ln(x)	0.001504	Param Inter 1 of 2
Chloride (mg/L)	MW-12	3.853	n/a	7/5/2022	10.5	Yes	104	0.7405	0.337	2.885	None	ln(x)	0.001504	Param Inter 1 of 2
Chloride (mg/L)	MW-7	3.853	n/a	7/6/2022	6.25	Yes	104	0.7405	0.337	2.885	None	ln(x)	0.001504	Param Inter 1 of 2
Chloride (mg/L)	MW-8	3.853	n/a	7/6/2022	6.5	Yes	104	0.7405	0.337	2.885	None	ln(x)	0.001504	Param Inter 1 of 2
pH (SU)	MW-10	6.35	3.77	7/6/2022	6.64	Yes	106	n/a	n/a	0	n/a	n/a	0.0003518	NP Inter (normality) 1 of 2
pH (SU)	MW-11	6.35	3.77	7/5/2022	6.75	Yes	106	n/a	n/a	0	n/a	n/a	0.0003518	NP Inter (normality) 1 of 2
pH (SU)	MW-7	6.35	3.77	7/6/2022	6.46	Yes	106	n/a	n/a	0	n/a	n/a	0.0003518	NP Inter (normality) 1 of 2
pH (SU)	MW-8	6.35	3.77	7/6/2022	6.72	Yes	106	n/a	n/a	0	n/a	n/a	0.0003518	NP Inter (normality) 1 of 2

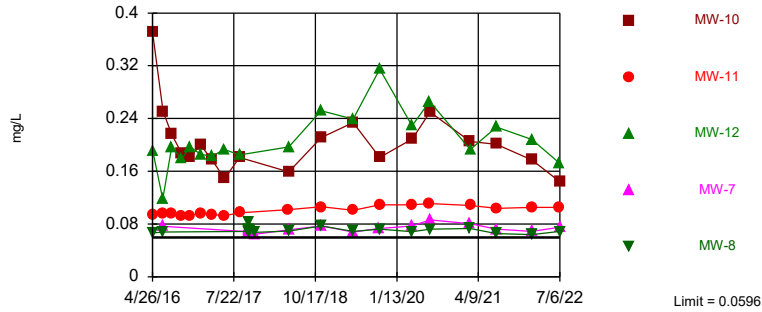
Interwell Prediction Limit - All Results

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR Printed 10/10/2022, 4:08 AM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Date</u>	<u>Observ.</u>	<u>Sig.</u>	<u>Bg N</u>	<u>Bg Mean</u>	<u>Std. Dev.</u>	<u>%NDs</u>	<u>ND Adj.</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Boron (mg/L)	MW-10	0.0596	n/a	7/6/2022	0.144	Yes	103	n/a	n/a	23.3	n/a	n/a	0.0001846	NP Inter (normality) 1 of 2
Boron (mg/L)	MW-11	0.0596	n/a	7/5/2022	0.105	Yes	103	n/a	n/a	23.3	n/a	n/a	0.0001846	NP Inter (normality) 1 of 2
Boron (mg/L)	MW-12	0.0596	n/a	7/5/2022	0.172	Yes	103	n/a	n/a	23.3	n/a	n/a	0.0001846	NP Inter (normality) 1 of 2
Boron (mg/L)	MW-7	0.0596	n/a	7/6/2022	0.0752J	No	103	n/a	n/a	23.3	n/a	n/a	0.0001846	NP Inter (normality) 1 of 2
Boron (mg/L)	MW-8	0.0596	n/a	7/6/2022	0.0686J	No	103	n/a	n/a	23.3	n/a	n/a	0.0001846	NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-10	3.853	n/a	7/6/2022	2.79	No	104	0.7405	0.337	2.885	None	ln(x)	0.001504	Param Inter 1 of 2
Chloride (mg/L)	MW-11	3.853	n/a	7/5/2022	55.2	Yes	104	0.7405	0.337	2.885	None	ln(x)	0.001504	Param Inter 1 of 2
Chloride (mg/L)	MW-12	3.853	n/a	7/5/2022	10.5	Yes	104	0.7405	0.337	2.885	None	ln(x)	0.001504	Param Inter 1 of 2
Chloride (mg/L)	MW-7	3.853	n/a	7/6/2022	6.25	Yes	104	0.7405	0.337	2.885	None	ln(x)	0.001504	Param Inter 1 of 2
Chloride (mg/L)	MW-8	3.853	n/a	7/6/2022	6.5	Yes	104	0.7405	0.337	2.885	None	ln(x)	0.001504	Param Inter 1 of 2
pH (SU)	MW-10	6.35	3.77	7/6/2022	6.64	Yes	106	n/a	n/a	0	n/a	n/a	0.0003518	NP Inter (normality) 1 of 2
pH (SU)	MW-11	6.35	3.77	7/5/2022	6.75	Yes	106	n/a	n/a	0	n/a	n/a	0.0003518	NP Inter (normality) 1 of 2
pH (SU)	MW-12	6.35	3.77	7/5/2022	5.82	No	106	n/a	n/a	0	n/a	n/a	0.0003518	NP Inter (normality) 1 of 2
pH (SU)	MW-7	6.35	3.77	7/6/2022	6.46	Yes	106	n/a	n/a	0	n/a	n/a	0.0003518	NP Inter (normality) 1 of 2
pH (SU)	MW-8	6.35	3.77	7/6/2022	6.72	Yes	106	n/a	n/a	0	n/a	n/a	0.0003518	NP Inter (normality) 1 of 2

Exceeds Limit: MW-10, MW-11, MW-12

Prediction Limit Interwell Non-parametric

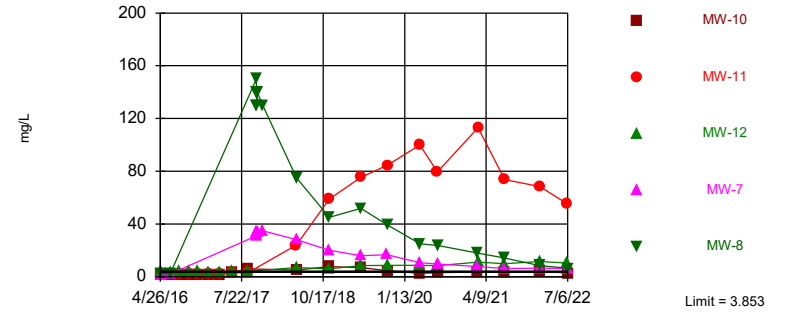


Non-parametric test used in lieu of parametric prediction limit because the Chi Squared normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 103 background values. 23.3% NDs. Annual per-constituent alpha = 0.001845. Individual comparison alpha = 0.0001846 (1 of 2). Comparing 5 points to limit.

Constituent: Boron Analysis Run 10/4/2022 7:49 PM View: Appendix III - Interwell PL
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Exceeds Limit: MW-11, MW-12, MW-7, MW-8

Prediction Limit Interwell Parametric

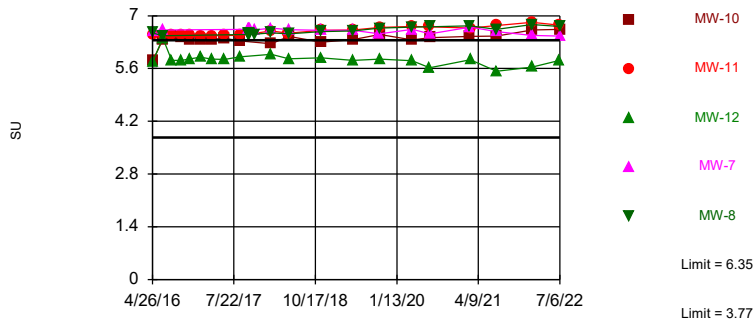


Background Data Summary (based on natural log transformation): Mean=0.7405, Std. Dev.=0.337, n=104, 2.885% NDs. Normality test: Chi Squared @alpha = 0.01, calculated = 11, critical = 14.07. Kappa = 1.806 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.001504. Comparing 5 points to limit.

Constituent: Chloride Analysis Run 10/4/2022 7:49 PM View: Appendix III - Interwell PL
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Exceeds Limits: MW-10, MW-11, MW-7, MW-8

Prediction Limit Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Chi Squared normality test showed the data to be non-normal at the 0.01 alpha level. Limits are highest and lowest of 106 background values. Annual per-constituent alpha = 0.003515. Individual comparison alpha = 0.0003518 (1 of 2). Comparing 5 points to limit.

Constituent: pH Analysis Run 10/4/2022 7:49 PM View: Appendix III - Interwell PL
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Prediction Limit

Constituent: Boron (mg/L) Analysis Run 10/4/2022 7:51 PM View: Appendix III - Interwell PL

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-2 (bg)	MW-4 (bg)	MW-3 (bg)	MW-1 (bg)	MW-11	MW-10	MW-8	MW-12	MW-7
4/25/2016	0.0241 (J)	0.0414 (J)	0.028 (J)						
4/26/2016				0.0231 (J)	0.094 (J)				
4/27/2016						0.371	0.0662 (J)		0.253 (o)
4/28/2016								0.19	
6/20/2016	0.0284 (J)	0.0434 (J)		0.0227 (J)					
6/21/2016							0.0681 (J)		0.0768 (J)
6/22/2016			0.0433 (J)		0.0959 (J)			0.118	
6/23/2016						0.251			
8/8/2016	0.034 (J)			0.0278 (J)					
8/9/2016		0.0453 (J)	0.0429 (J)		0.0964 (J)				
8/10/2016						0.216		0.197	
8/24/2016	0.0316 (J)	0.0451 (J)	0.0431 (J)	0.0247 (J)					
10/3/2016	0.0367 (J)	0.0511 (J)		0.0307 (J)					
10/4/2016			0.04 (J)		0.0916 (J)				
10/5/2016						0.187		0.179	
10/26/2016	0.0331 (J)	0.0507 (J)	0.0375 (J)	0.0241 (J)					
11/21/2016	0.035 (J)	0.0458 (J)	0.0406 (J)	0.0202 (J)	0.0929 (J)	0.182			
11/22/2016								0.197	
1/17/2017	0.0259 (J)			0.0201 (J)	0.0963 (J)	0.2			
1/18/2017		0.0445 (J)	0.0548 (J)					0.186	
3/21/2017					0.0947 (J)	0.178		0.183	
3/22/2017	0.0243 (J)	0.0432 (J)	0.0344 (J)	0.0224 (J)					
4/18/2017	0.0206 (J)	0.0409 (J)	<0.1015	<0.1015					
5/30/2017				<0.1015	0.0926 (J)				
5/31/2017	0.0234 (J)	0.0392 (J)	0.0454 (J)			0.149		0.193	
8/23/2017	0.0267 (J)	0.042 (J)	0.0425 (J)	0.0253 (J)	0.0968 (J)	0.181		0.185	
10/12/2017							0.0687 (J)		0.0685 (J)
10/13/2017							0.0831 (J)		0.0674 (J)
10/14/2017							0.0702 (J)		0.0756 (J)
10/15/2017							0.0702 (J)		0.0719 (J)
10/16/2017							0.0707 (J)		0.0726 (J)
10/17/2017							0.0695 (J)		0.0716 (J)
11/16/2017							0.0675 (J)		0.0644 (J)
5/22/2018	0.0251 (J)			0.0224 (J)	0.102				
5/23/2018		0.0433 (J)					0.0693 (J)		0.0715 (J)
5/24/2018			0.0339 (J)			0.159		0.197	
6/12/2018	0.0275 (J)	0.0478 (J)	0.0371 (J)	0.0214 (J)					
10/17/2018	0.0321 (J)	0.0468 (J)	0.0596 (J)	0.0216 (J)					
11/19/2018	0.0324 (J)	0.0526 (J)	0.0514 (J)	0.0237 (J)		0.211		0.252	
11/20/2018					0.106		0.0771 (J)		0.0772 (J)
4/10/2019	<0.1015	0.0438 (J)	<0.1015	0.0304 (J)					
5/14/2019	<0.1015	<0.203 (o)	<0.1015	<0.1015					
5/15/2019					0.101 (J)	0.234	0.0689 (J)	0.239	0.0678 (J)
10/8/2019	0.0371 (J)		0.0537 (J)	<0.1015					0.073 (J)
10/9/2019						0.181	0.0723 (J)	0.315	
10/10/2019		0.0487 (J)			0.109				
10/16/2019	0.0419 (J)	0.0505 (J)	0.05 (J)	0.0385 (J)					
4/6/2020	<0.1015	0.0428 (J)	<0.1015	<0.1015	0.109			0.229	
4/8/2020						0.209	0.0683 (J)		0.077 (J)
7/13/2020	<0.1015		0.0366 (J)	<0.1015	0.111			0.266	
7/14/2020		0.0441 (J)				0.25			0.0865 (J)
7/15/2020							0.0723 (J)		

Prediction Limit

Constituent: Boron (mg/L) Analysis Run 10/4/2022 7:51 PM View: Appendix III - Interwell PL
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-2 (bg)	MW-4 (bg)	MW-3 (bg)	MW-1 (bg)	MW-11	MW-10	MW-8	MW-12	MW-7
2/22/2021	<0.1015	0.0397 (J)	<0.1015	0.0307 (J)					
2/23/2021						0.205	0.0731 (J)		0.0803 (J)
2/24/2021					0.108			0.193	
7/12/2021	<0.1015	0.0411 (J)	<0.1015	<0.1015					
7/20/2021						0.201	0.0656 (J)	0.227	0.0721 (J)
7/21/2021					0.104				
1/25/2022	<0.1015	0.0408 (J)	<0.1015	<0.1015					
1/31/2022									0.0689 (J)
2/1/2022					0.105	0.177	0.0639 (J)	0.208	
7/5/2022	<0.1015	0.0433 (J)	0.0374 (J)	<0.1015	0.105			0.172	
7/6/2022						0.144	0.0686 (J)		0.0752 (J)

Prediction Limit

Constituent: Chloride (mg/L) Analysis Run 10/4/2022 7:51 PM View: Appendix III - Interwell PL

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-4 (bg)	MW-3 (bg)	MW-2 (bg)	MW-1 (bg)	MW-11	MW-8	MW-7	MW-10	MW-12
4/25/2016	1.53	1.32	1.9						
4/26/2016				1.94	2.16				
4/27/2016						2.34	1.71	1.46	
4/28/2016									4.12
6/20/2016	1.85		3.43	2.09					
6/21/2016						2.29	2.04		
6/22/2016		1.46			2.16				3.44
6/23/2016								1.49	
8/8/2016			3.31	2.18					
8/9/2016	1.95	1.35			2.19				
8/10/2016								1.55	4.15
8/24/2016	2.07	1.47	3.23	2.22					
10/3/2016	2.02		3.21	2.34					
10/4/2016		1.59			2.21				
10/5/2016								1.58	4.12
10/26/2016	2.07	1.27	3.35	2.34					
11/21/2016	2.39	1.38	3.34	2.5	2.24			1.62	
11/22/2016									3.98
1/17/2017			3.58	2.68	2.23			1.61	
1/18/2017	1.9	1.34							3.6
3/21/2017					2.5			1.6 (J)	3.6
3/22/2017	1.5 (J)	2	3.4	3.7					
4/18/2017	1.6 (J)	2.2	2.6	2.4					
5/30/2017				2.6	3.2				
5/31/2017	2.1	1.5 (J)	4.4					3.2	3.9
8/23/2017	2.3	1.8 (J)	4.4	2.7	2.8			6.1	4.2
10/12/2017						150	31		
10/13/2017						130	32		
10/14/2017						140	33		
10/15/2017						130	34		
10/16/2017						140	34		
10/17/2017						140	34		
11/16/2017						130	35		
5/22/2018			3.2	2.3	24				
5/23/2018	2					75	28		
5/24/2018		1.6 (J)						5	7.1
6/12/2018	1.7 (J)	1.4 (J)	3.7	2.3					
10/17/2018	1.5 (J)	<2	4.6	1.7 (J)					
11/19/2018	<2	<2	3	1.7 (J)				7.8	6.1
11/20/2018					59	45	20		
4/10/2019	1.88	2.25	1.76	2.36					
5/14/2019	1.82	2.28	2.98	2.28					
5/15/2019					75.4	52	15.9	6.93	8.51
10/8/2019		1.36	4.26	2.31			16.8		
10/9/2019						39.2		4.51	8.73
10/10/2019	1.93				84.6				
10/16/2019	1.92	1.4	4.04	2.42					
4/6/2020	1.5	1.72	2.43	2.01	100				8.58
4/8/2020						24.9	10.6	2.64	
7/13/2020		1.34	4.05	2.1	79.6				8.35
7/14/2020	1.61						9.68	3.09	
7/15/2020						23.8			

Prediction Limit

Constituent: Chloride (mg/L) Analysis Run 10/4/2022 7:51 PM View: Appendix III - Interwell PL
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-4 (bg)	MW-3 (bg)	MW-2 (bg)	MW-1 (bg)	MW-11	MW-8	MW-7	MW-10	MW-12
2/22/2021	1.52	2.22	1.72	2.16					
2/23/2021						17.9	7.85	3.63	
2/24/2021					113				11.2
7/12/2021	1.56	2.13	2.36	2.19					
7/20/2021						14.3	6.35	3.64	9.85
7/21/2021					73.8				
1/25/2022	1.54	2.12	2.14	2.09					
1/31/2022							6.4		
2/1/2022					68.3	8.56		3.97	11.5
7/5/2022	1.63	1.59	2.53	2.07	55.200001				10.5
7/6/2022						6.5	6.25	2.79	

Prediction Limit

Constituent: pH (SU) Analysis Run 10/4/2022 7:51 PM View: Appendix III - Interwell PL

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-3 (bg)	MW-4 (bg)	MW-2 (bg)	MW-1 (bg)	MW-11	MW-8	MW-10	MW-7	MW-12
4/25/2016	5.56	6.22	5.94						
4/26/2016				5.2	6.49				
4/27/2016						6.55	5.8	6.6	
4/28/2016									5.78
6/20/2016		6.21	5.96	5.18					
6/21/2016						6.47		6.62	
6/22/2016	5.57				6.51				6.41
6/23/2016							6.38		
8/8/2016			5.88	5.12					
8/9/2016	5.67	6.11			6.49				
8/10/2016							6.47		5.82
8/24/2016	5.63	6.11							
10/3/2016		6.13 (D)	5.91 (D)	5.21 (D)					
10/4/2016	5.69 (D)				6.51 (D)				
10/5/2016							6.42 (D)		5.82 (D)
10/26/2016	5.56	6.12	5.84	5.2					
11/21/2016	5.42 (D)	6.09 (D)	5.82 (D)	5.19 (D)	6.48		6.38		
11/22/2016									5.86
1/17/2017			5.87 (D)	5.17 (D)	6.46		6.35		
1/18/2017	5.11 (D)	6.09 (D)							5.9
3/21/2017					6.47		6.38		5.85
3/22/2017	4.52 (D)	6.15 (D)	6.01 (D)	5.2 (D)					
4/18/2017	5.84	6.19	6.02	5.2					
5/30/2017				5.14 (D)	6.48				
5/31/2017	4.56 (D)	6.13 (D)	5.85 (D)				6.4		5.84
8/23/2017	4.77 (D)	6.12 (D)	5.89 (D)	5.12 (D)	6.48		6.33		5.91
10/12/2017						6.5		6.64	
10/13/2017						6.51		6.64	
10/14/2017						6.53		6.66	
10/15/2017						6.53		6.67	
10/16/2017						6.54		6.67	
10/17/2017						6.54		6.66	
11/16/2017						6.51		6.62	
2/13/2018	5.67	6.22	6.21	5.18					
2/14/2018					6.6	6.55		6.67	
2/15/2018							6.26		5.98
5/22/2018			6.04	5.2	6.54				
5/23/2018		6.21				6.52		6.63	
5/24/2018	5.19						6.45		5.86
6/12/2018	4.79	6.16	5.95	5.15					
10/17/2018	4.75	6.12	5.9	5.12					
11/19/2018	3.77 (E)	6.16	6.03	5.09			6.3		5.88
11/20/2018					6.61	6.58		6.61	
4/10/2019	5.54	6.14	6.1	5.11					
5/14/2019	5.71	6.23	6.07	5.19					
5/15/2019					6.62	6.6	6.37	6.61	5.82
10/8/2019	4.98		5.96	5.12				6.52	
10/9/2019						6.67	6.5		5.85
10/10/2019		6.15			6.69				
10/16/2019	4.51	6.19	5.98	5.16					
4/6/2020	5.91	6.35	6.21	5.21	6.72				5.81
4/8/2020						6.7	6.36	6.64	

Prediction Limit

Constituent: pH (SU) Analysis Run 10/4/2022 7:51 PM View: Appendix III - Interwell PL
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-3 (bg)	MW-4 (bg)	MW-2 (bg)	MW-1 (bg)	MW-11	MW-8	MW-10	MW-7	MW-12
7/13/2020	5.16		5.84	5.14	6.71				5.62
7/14/2020		6.2					6.42	6.52	
7/15/2020						6.71			
2/22/2021	5.59	6.19	6.1	5.06					
2/23/2021						6.73	6.45	6.7	
2/24/2021					6.67				5.83
7/12/2021	5.86	6.06	6.16	5.13					
7/20/2021						6.64	6.46	6.58	5.53
7/21/2021					6.74				
1/25/2022	5.9	6.3	6.22	5.11					
1/31/2022								6.48	
2/1/2022					6.83	6.77	6.62		5.64
7/5/2022	5.34	6.12	6.15	5.01	6.75				5.82
7/6/2022						6.72	6.64	6.46	

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Appendix III Trend Test Summary - Significant Results

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR Printed 10/4/2022, 8:08 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)	MW-1 (bg)	0.004433	127	118	Yes	26	34.62	n/a	n/a	0.01	NP
Boron (mg/L)	MW-11	0.002551	97	74	Yes	19	0	n/a	n/a	0.01	NP
Boron (mg/L)	MW-2 (bg)	0.01142	163	118	Yes	26	30.77	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-11	14.1	124	74	Yes	19	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-12	1.294	119	74	Yes	19	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-8	-25.93	-85	-74	Yes	19	0	n/a	n/a	0.01	NP
Fluoride (mg/L)	MW-12	0.02187	113	81	Yes	20	0	n/a	n/a	0.01	NP
Fluoride (mg/L)	MW-2 (bg)	0.01334	156	124	Yes	27	0	n/a	n/a	0.01	NP
pH (SU)	MW-1 (bg)	-0.01653	-132	-118	Yes	26	0	n/a	n/a	0.01	NP
pH (SU)	MW-11	0.05302	127	81	Yes	20	0	n/a	n/a	0.01	NP
pH (SU)	MW-2 (bg)	0.04331	143	118	Yes	26	0	n/a	n/a	0.01	NP
pH (SU)	MW-8	0.04745	138	81	Yes	20	0	n/a	n/a	0.01	NP

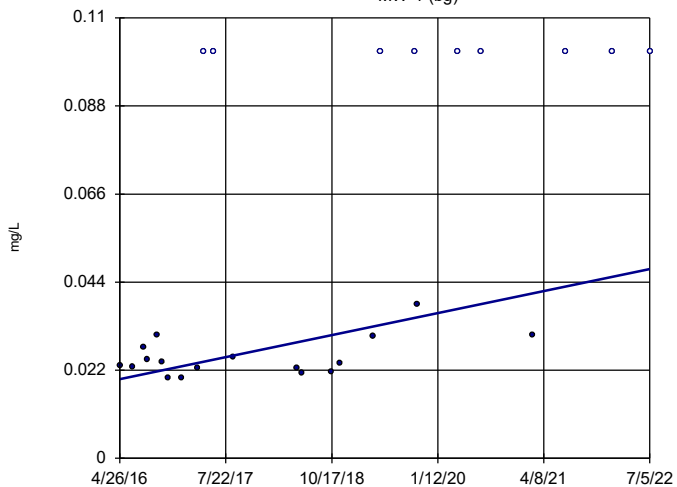
Appendix III Trend Test Summary - All Results

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR Printed 10/4/2022, 8:08 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)	MW-1 (bg)	0.004433	127	118	Yes	26	34.62	n/a	n/a	0.01	NP
Boron (mg/L)	MW-10	-0.00642	-46	-74	No	19	0	n/a	n/a	0.01	NP
Boron (mg/L)	MW-11	0.002551	97	74	Yes	19	0	n/a	n/a	0.01	NP
Boron (mg/L)	MW-12	0.008213	51	74	No	19	0	n/a	n/a	0.01	NP
Boron (mg/L)	MW-2 (bg)	0.01142	163	118	Yes	26	30.77	n/a	n/a	0.01	NP
Boron (mg/L)	MW-3 (bg)	0.005362	100	118	No	26	26.92	n/a	n/a	0.01	NP
Boron (mg/L)	MW-4 (bg)	-0.0003131	-41	-111	No	25	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-1 (bg)	-0.02557	-49	-118	No	26	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-11	14.1	124	74	Yes	19	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-12	1.294	119	74	Yes	19	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-2 (bg)	-0.1181	-46	-118	No	26	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-3 (bg)	0.06413	77	118	No	26	7.692	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-4 (bg)	-0.06663	-87	-118	No	26	3.846	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-7	-5.329	-58	-74	No	19	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-8	-25.93	-85	-74	Yes	19	0	n/a	n/a	0.01	NP
Fluoride (mg/L)	MW-1 (bg)	-0.005146	-60	-124	No	27	0	n/a	n/a	0.01	NP
Fluoride (mg/L)	MW-12	0.02187	113	81	Yes	20	0	n/a	n/a	0.01	NP
Fluoride (mg/L)	MW-2 (bg)	0.01334	156	124	Yes	27	0	n/a	n/a	0.01	NP
Fluoride (mg/L)	MW-3 (bg)	0.0006207	8	124	No	27	0	n/a	n/a	0.01	NP
Fluoride (mg/L)	MW-4 (bg)	0.00622	58	124	No	27	0	n/a	n/a	0.01	NP
pH (SU)	MW-1 (bg)	-0.01653	-132	-118	Yes	26	0	n/a	n/a	0.01	NP
pH (SU)	MW-10	0.03374	67	81	No	20	0	n/a	n/a	0.01	NP
pH (SU)	MW-11	0.05302	127	81	Yes	20	0	n/a	n/a	0.01	NP
pH (SU)	MW-2 (bg)	0.04331	143	118	Yes	26	0	n/a	n/a	0.01	NP
pH (SU)	MW-3 (bg)	0.004279	3	124	No	27	0	n/a	n/a	0.01	NP
pH (SU)	MW-4 (bg)	0.01227	67	124	No	27	0	n/a	n/a	0.01	NP
pH (SU)	MW-7	-0.02063	-58	-81	No	20	0	n/a	n/a	0.01	NP
pH (SU)	MW-8	0.04745	138	81	Yes	20	0	n/a	n/a	0.01	NP

Sen's Slope Estimator

MW-1 (bg)

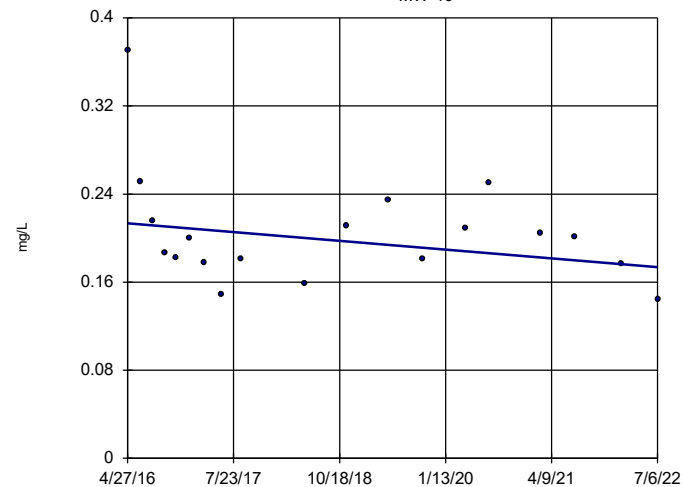


n = 26
Slope = 0.004433
units per year.
Mann-Kendall
statistic = 127
critical = 118
Increasing trend
significant at 99%
confidence level
($\alpha = 0.005$ per
tail).

Constituent: Boron Analysis Run 10/4/2022 7:52 PM View: Trend Test
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sen's Slope Estimator

MW-10

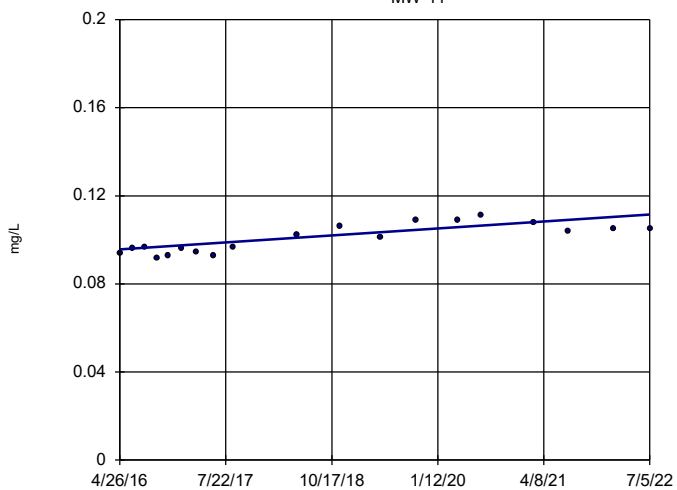


n = 19
Slope = -0.00642
units per year.
Mann-Kendall
statistic = -46
critical = -74
Trend not sig-
nificant at 99%
confidence level
($\alpha = 0.005$ per
tail).

Constituent: Boron Analysis Run 10/4/2022 7:52 PM View: Trend Test
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sen's Slope Estimator

MW-11

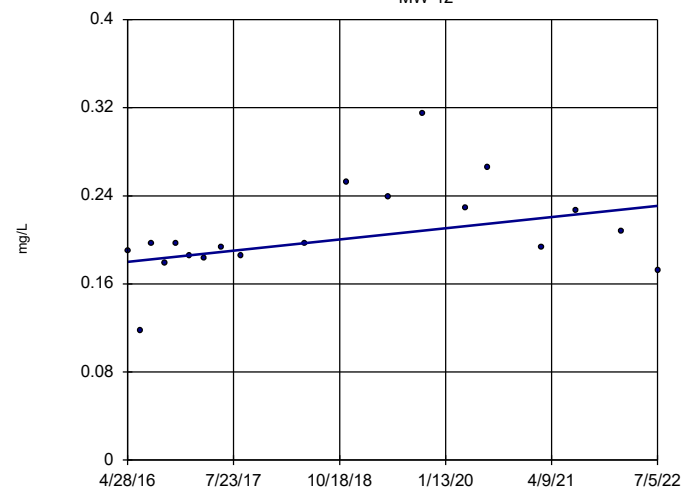


n = 19
Slope = 0.002551
units per year.
Mann-Kendall
statistic = 97
critical = 74
Increasing trend
significant at 99%
confidence level
($\alpha = 0.005$ per
tail).

Constituent: Boron Analysis Run 10/4/2022 7:52 PM View: Trend Test
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sen's Slope Estimator

MW-12

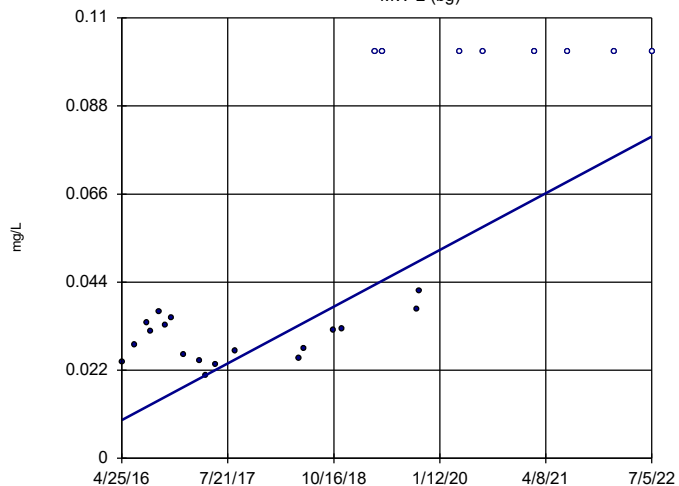


n = 19
Slope = 0.008213
units per year.
Mann-Kendall
statistic = 51
critical = 74
Trend not sig-
nificant at 99%
confidence level
($\alpha = 0.005$ per
tail).

Constituent: Boron Analysis Run 10/4/2022 7:52 PM View: Trend Test
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sen's Slope Estimator

MW-2 (bg)

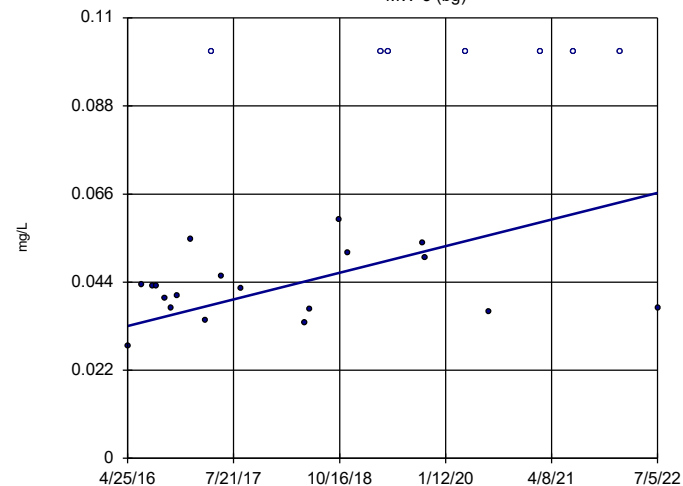


n = 26
Slope = 0.01142
units per year.
Mann-Kendall
statistic = 163
critical = 118
Increasing trend
significant at 99%
confidence level
($\alpha = 0.005$ per
tail).

Constituent: Boron Analysis Run 10/4/2022 7:52 PM View: Trend Test
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sen's Slope Estimator

MW-3 (bg)

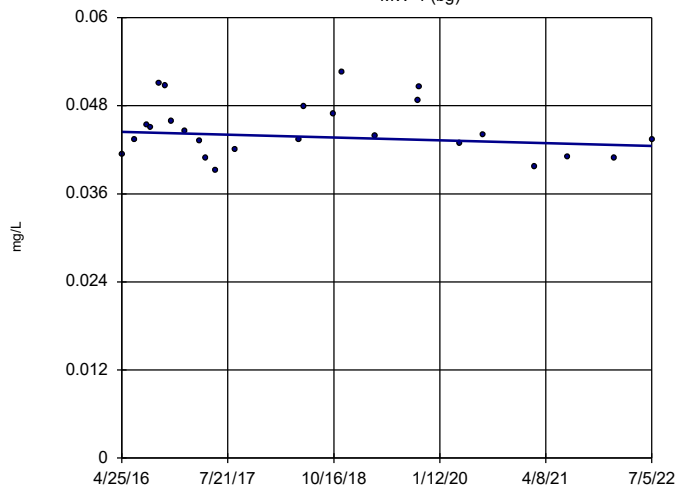


n = 26
Slope = 0.005362
units per year.
Mann-Kendall
statistic = 100
critical = 118
Trend not sig-
nificant at 99%
confidence level
($\alpha = 0.005$ per
tail).

Constituent: Boron Analysis Run 10/4/2022 7:52 PM View: Trend Test
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sen's Slope Estimator

MW-4 (bg)

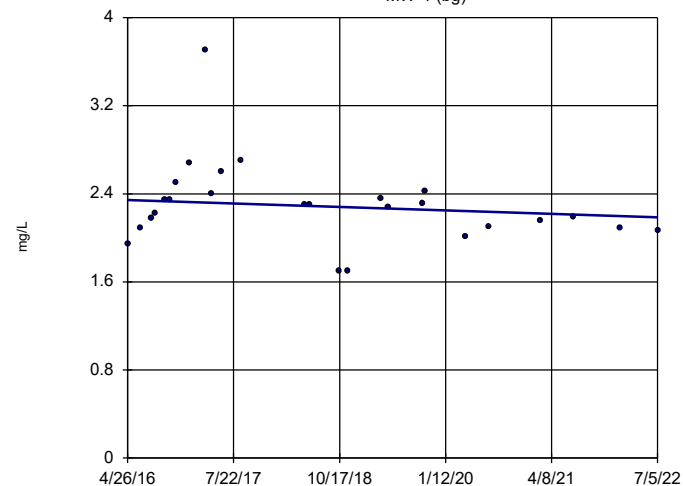


n = 25
Slope = -0.0003131
units per year.
Mann-Kendall
statistic = -41
critical = -111
Trend not sig-
nificant at 99%
confidence level
($\alpha = 0.005$ per
tail).

Constituent: Boron Analysis Run 10/4/2022 7:52 PM View: Trend Test
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sen's Slope Estimator

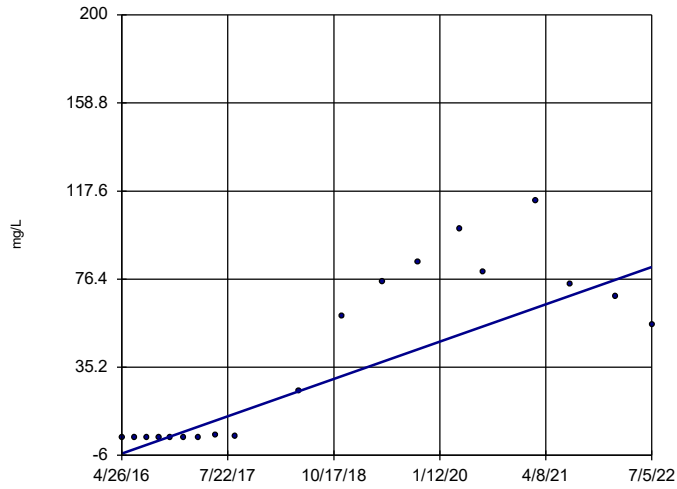
MW-1 (bg)



n = 26
Slope = -0.02557
units per year.
Mann-Kendall
statistic = -49
critical = -118
Trend not sig-
nificant at 99%
confidence level
($\alpha = 0.005$ per
tail).

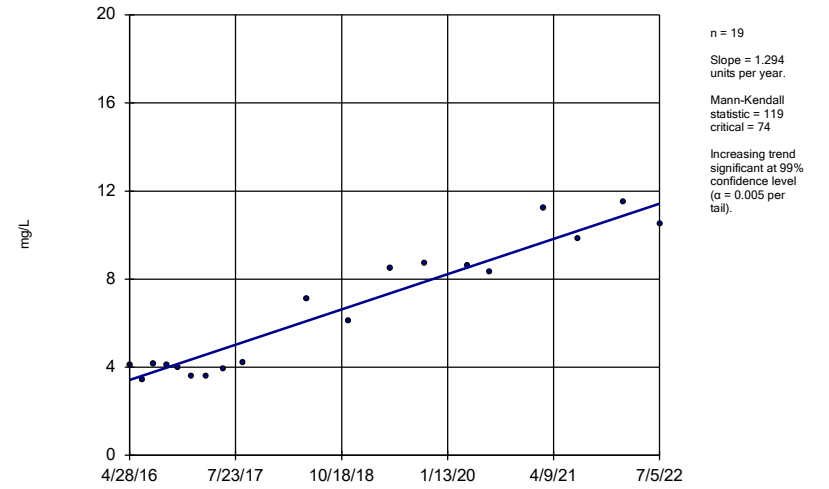
Constituent: Chloride Analysis Run 10/4/2022 7:52 PM View: Trend Test
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sen's Slope Estimator MW-11



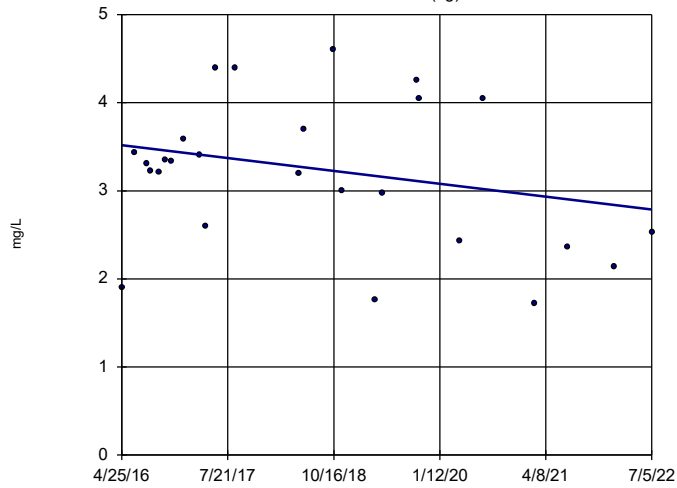
Constituent: Chloride Analysis Run 10/4/2022 7:52 PM View: Trend Test
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sen's Slope Estimator MW-12



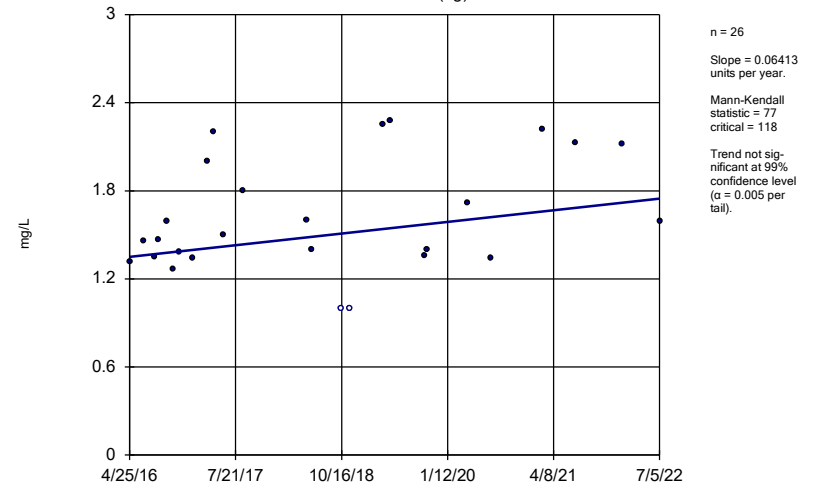
Constituent: Chloride Analysis Run 10/4/2022 7:52 PM View: Trend Test
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sen's Slope Estimator MW-2 (bg)



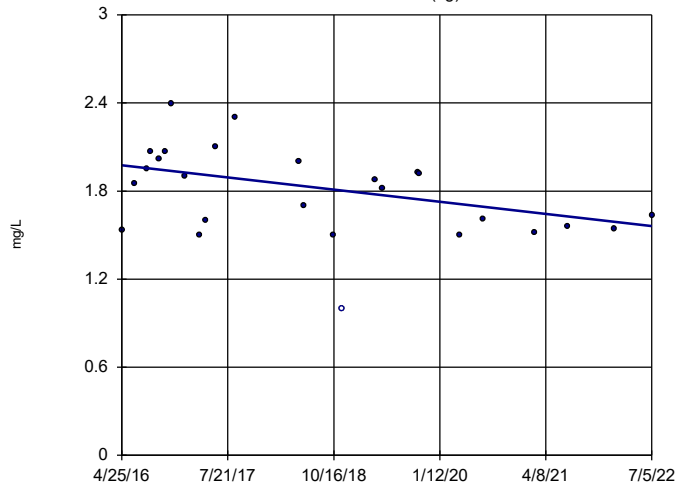
Constituent: Chloride Analysis Run 10/4/2022 7:52 PM View: Trend Test
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sen's Slope Estimator MW-3 (bg)



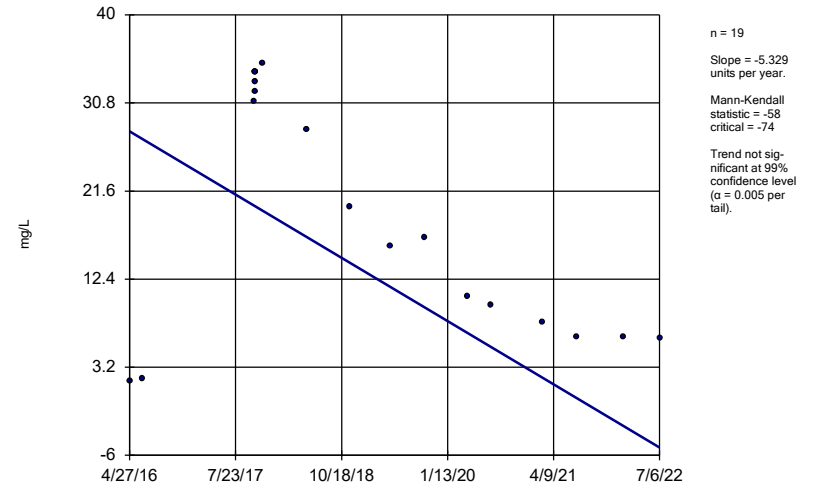
Constituent: Chloride Analysis Run 10/4/2022 7:52 PM View: Trend Test
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sen's Slope Estimator
MW-4 (bg)



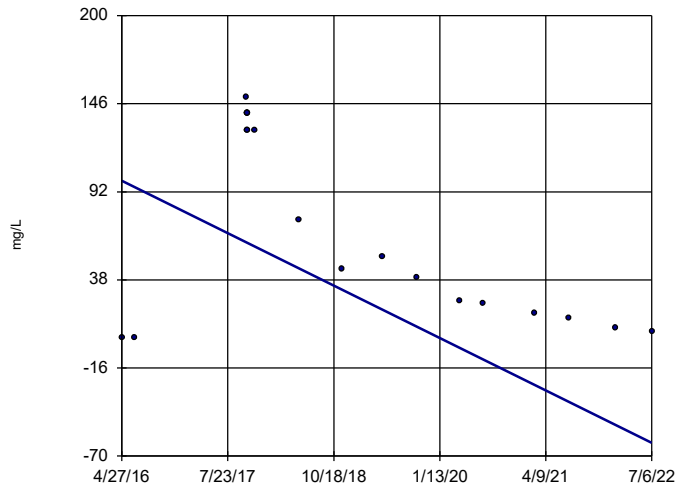
Constituent: Chloride Analysis Run 10/4/2022 7:52 PM View: Trend Test
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sen's Slope Estimator
MW-7



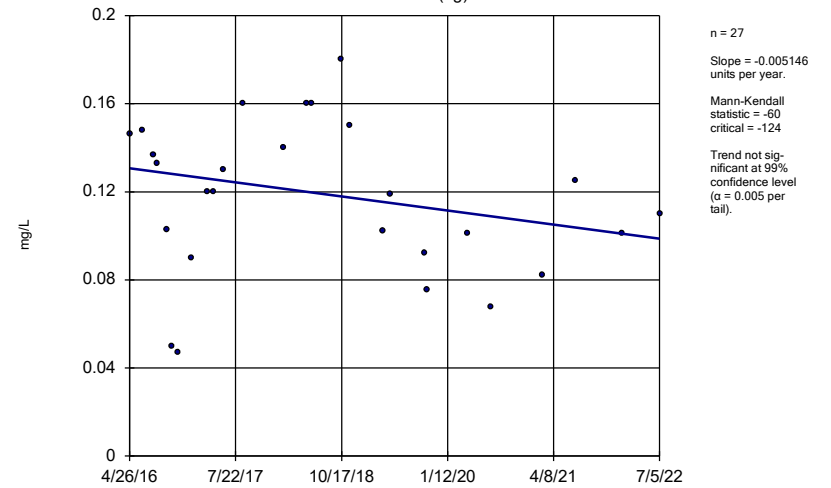
Constituent: Chloride Analysis Run 10/4/2022 7:52 PM View: Trend Test
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sen's Slope Estimator
MW-8



Constituent: Chloride Analysis Run 10/4/2022 7:52 PM View: Trend Test
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

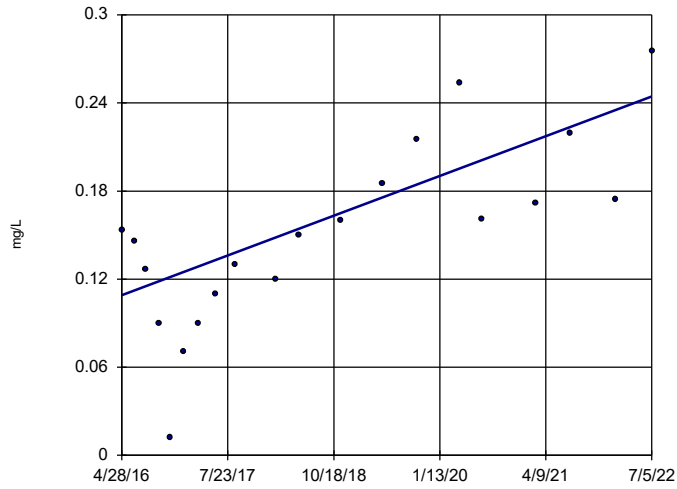
Sen's Slope Estimator
MW-1 (bg)



Constituent: Fluoride Analysis Run 10/4/2022 7:52 PM View: Trend Test
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sen's Slope Estimator

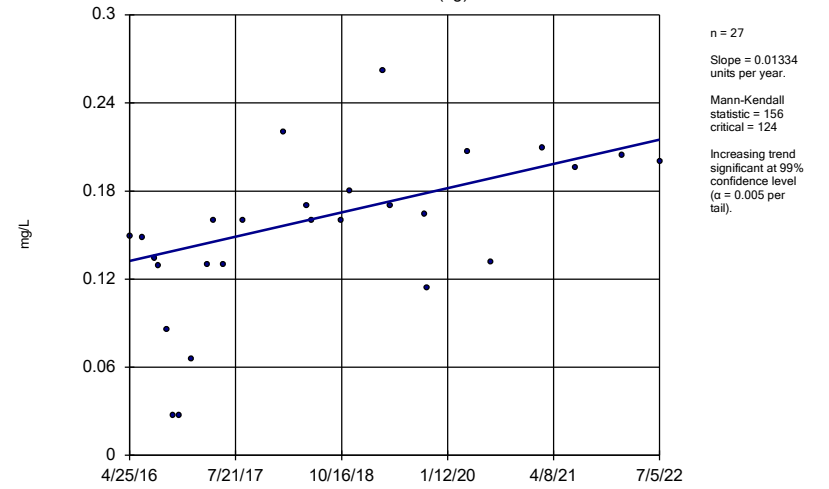
MW-12



Constituent: Fluoride Analysis Run 10/4/2022 7:52 PM View: Trend Test
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sen's Slope Estimator

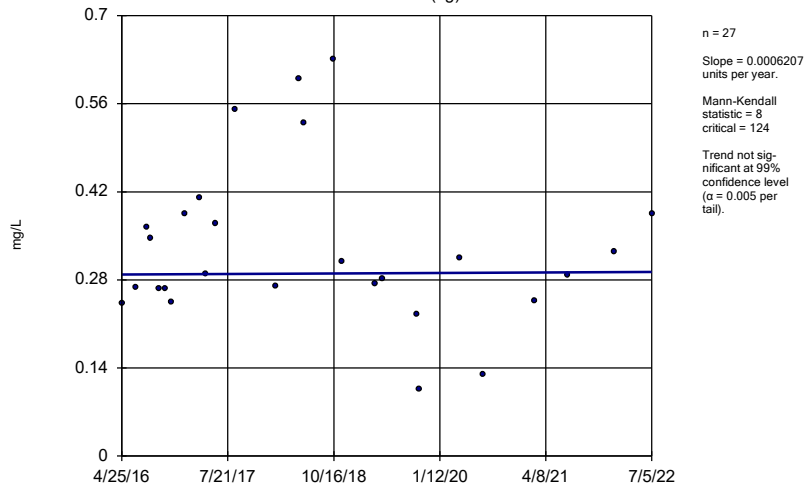
MW-2 (bg)



Constituent: Fluoride Analysis Run 10/4/2022 7:52 PM View: Trend Test
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sen's Slope Estimator

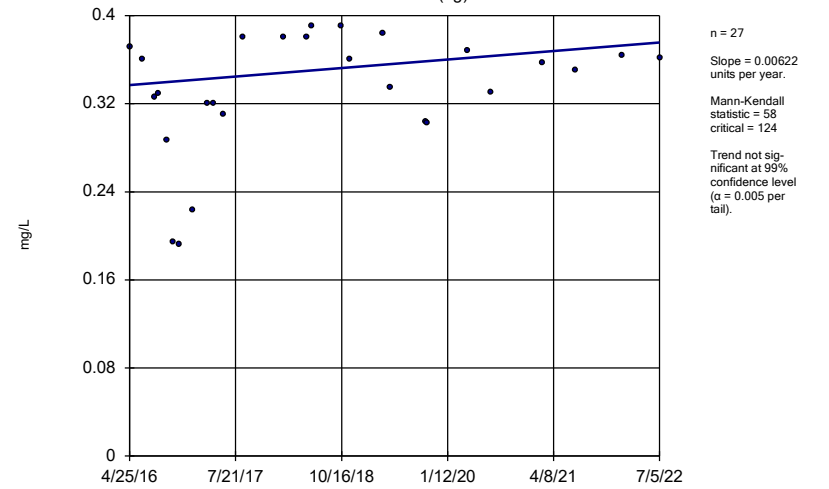
MW-3 (bg)



Constituent: Fluoride Analysis Run 10/4/2022 7:52 PM View: Trend Test
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sen's Slope Estimator

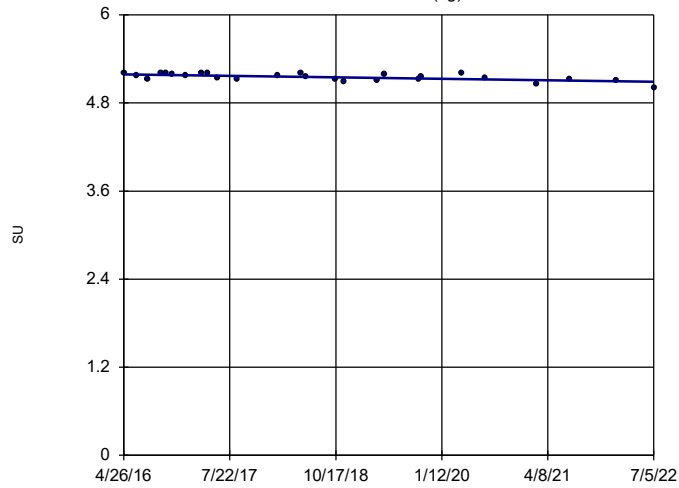
MW-4 (bg)



Constituent: Fluoride Analysis Run 10/4/2022 7:52 PM View: Trend Test
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sen's Slope Estimator

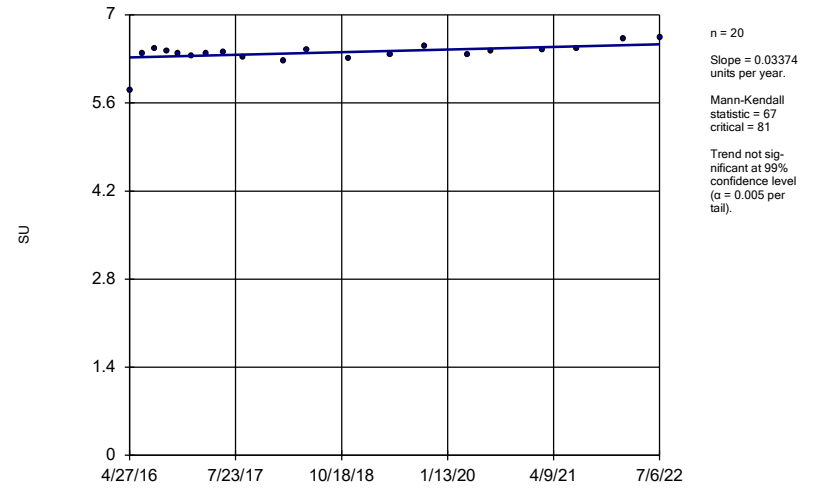
MW-1 (bg)



Constituent: pH Analysis Run 10/4/2022 7:52 PM View: Trend Test
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sen's Slope Estimator

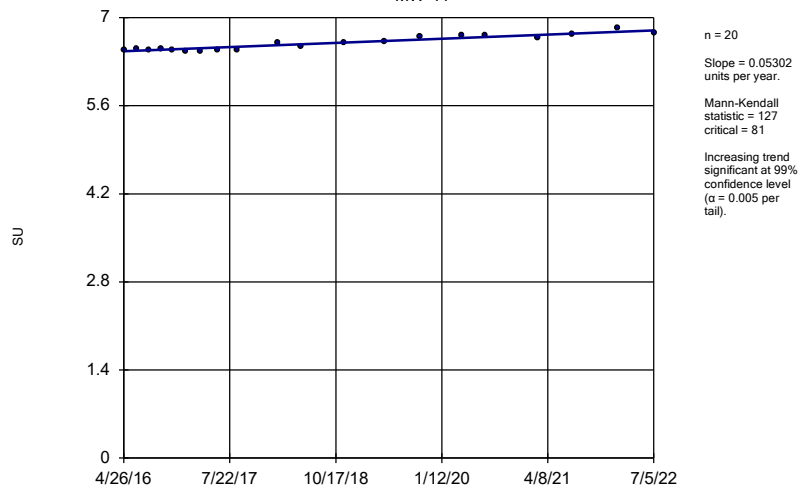
MW-10



Constituent: pH Analysis Run 10/4/2022 7:52 PM View: Trend Test
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sen's Slope Estimator

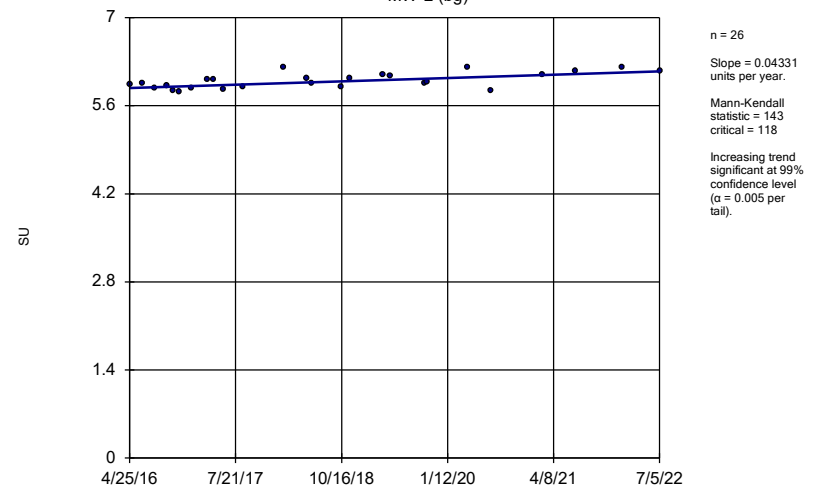
MW-11



Constituent: pH Analysis Run 10/4/2022 7:52 PM View: Trend Test
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sen's Slope Estimator

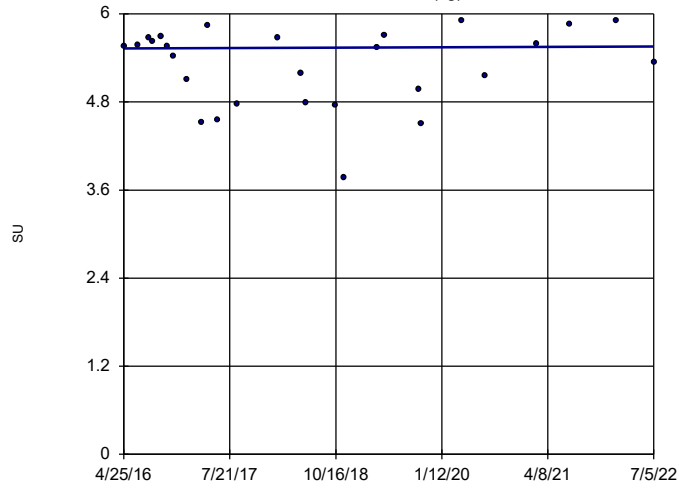
MW-2 (bg)



Constituent: pH Analysis Run 10/4/2022 7:52 PM View: Trend Test
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sen's Slope Estimator

MW-3 (bg)

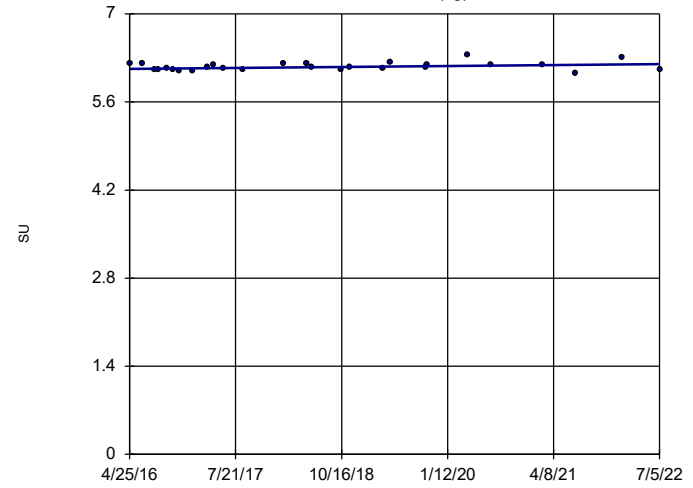


n = 27
 Slope = 0.004279
 units per year.
 Mann-Kendall
 statistic = 3
 critical = 124
 Trend not sig-
 nificant at 99%
 confidence level
 ($\alpha = 0.005$ per
 tail).

Constituent: pH Analysis Run 10/4/2022 7:52 PM View: Trend Test
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sen's Slope Estimator

MW-4 (bg)

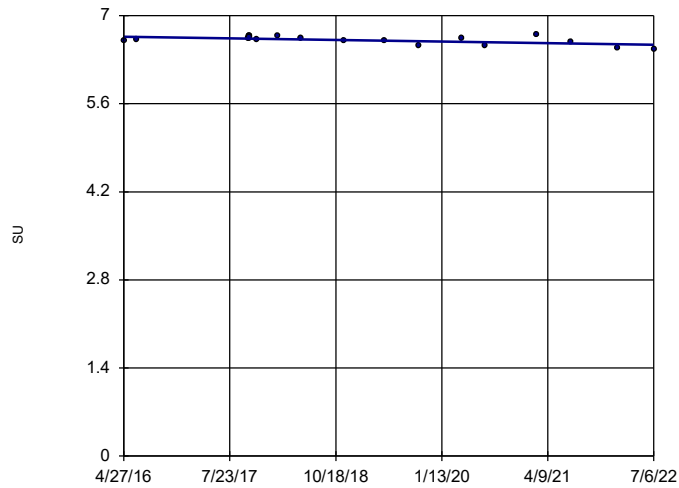


n = 27
 Slope = 0.01227
 units per year.
 Mann-Kendall
 statistic = 67
 critical = 124
 Trend not sig-
 nificant at 99%
 confidence level
 ($\alpha = 0.005$ per
 tail).

Constituent: pH Analysis Run 10/4/2022 7:52 PM View: Trend Test
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sen's Slope Estimator

MW-7

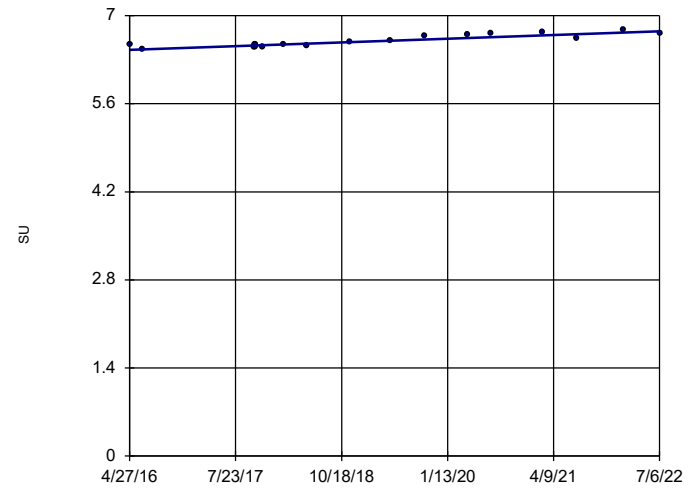


n = 20
 Slope = -0.02063
 units per year.
 Mann-Kendall
 statistic = -58
 critical = -81
 Trend not sig-
 nificant at 99%
 confidence level
 ($\alpha = 0.005$ per
 tail).

Constituent: pH Analysis Run 10/4/2022 7:52 PM View: Trend Test
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Sen's Slope Estimator

MW-8



n = 20
 Slope = 0.04745
 units per year.
 Mann-Kendall
 statistic = 138
 critical = 81
 Increasing trend
 significant at 99%
 confidence level
 ($\alpha = 0.005$ per
 tail).

Constituent: pH Analysis Run 10/4/2022 7:52 PM View: Trend Test
 Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

.

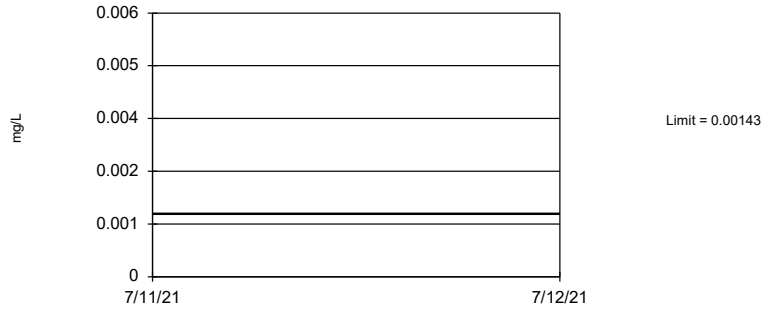
70yk 8'

Upper Tolerance Limits Summary Table

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR Printed 12/6/2021, 10:45 AM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Date</u>	<u>Observ.</u>	<u>Sig.</u>	<u>Bg N</u>	<u>Bg Mean</u>	<u>Std. Dev.</u>	<u>%NDs</u>	<u>ND Adj.</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Antimony (mg/L)	n/a	0.00143	n/a	n/a	n/a	96	n/a	n/a	93.75	n/a	n/a	0.007269	NP Inter
Arsenic (mg/L)	n/a	0.005	n/a	n/a	n/a	96	n/a	n/a	83.33	n/a	n/a	0.007269	NP Inter
Barium (mg/L)	n/a	0.0165	n/a	n/a	n/a	96	n/a	n/a	0	n/a	n/a	0.007269	NP Inter
Beryllium (mg/L)	n/a	0.0121	n/a	n/a	n/a	94	n/a	n/a	84.04	n/a	n/a	0.008054	NP Inter
Cadmium (mg/L)	n/a	0.00598	n/a	n/a	n/a	94	n/a	n/a	45.74	n/a	n/a	0.008054	NP Inter
Chromium (mg/L)	n/a	0.0105	n/a	n/a	n/a	96	n/a	n/a	89.58	n/a	n/a	0.007269	NP Inter
Cobalt (mg/L)	n/a	0.49	n/a	n/a	n/a	94	n/a	n/a	26.6	n/a	n/a	0.008054	NP Inter
Combined Radium 226 + 228 (pCi/L)	n/a	1.47	n/a	n/a	n/a	92	n/a	n/a	0	n/a	n/a	0.008924	NP Inter
Fluoride (mg/L)	n/a	0.63	n/a	n/a	n/a	100	n/a	n/a	0	n/a	n/a	0.005921	NP Inter
Lead (mg/L)	n/a	0.00108	n/a	n/a	n/a	95	n/a	n/a	95.79	n/a	n/a	0.007651	NP Inter
Lithium (mg/L)	n/a	0.419	n/a	n/a	n/a	96	n/a	n/a	0	n/a	n/a	0.007269	NP Inter
Mercury (mg/L)	n/a	0.0005	n/a	n/a	n/a	96	n/a	n/a	100	n/a	n/a	0.007269	NP Inter
Molybdenum (mg/L)	n/a	0.0002	n/a	n/a	n/a	96	n/a	n/a	97.92	n/a	n/a	0.007269	NP Inter
Selenium (mg/L)	n/a	0.0209	n/a	n/a	n/a	96	n/a	n/a	60.42	n/a	n/a	0.007269	NP Inter
Thallium (mg/L)	n/a	0.000226	n/a	n/a	n/a	96	n/a	n/a	96.88	n/a	n/a	0.007269	NP Inter

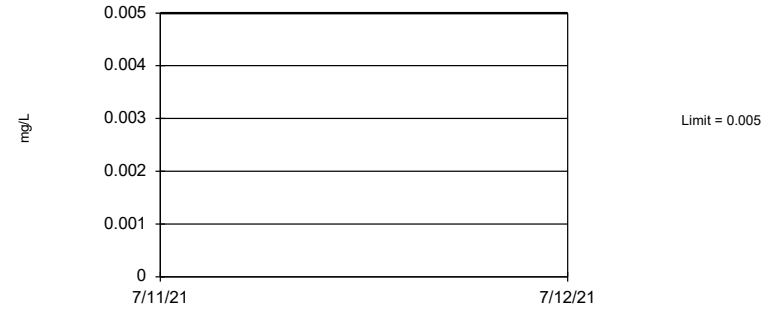
Tolerance Limit
Interwell Non-parametric



NP test selected by user. Limit is highest of 96 background values. 93.75% NDs. 95.51% coverage at alpha=0.01; 97.07% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.007269.

Constituent: Antimony Analysis Run 12/6/2021 10:26 AM View: Appendix IV - UTLs
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

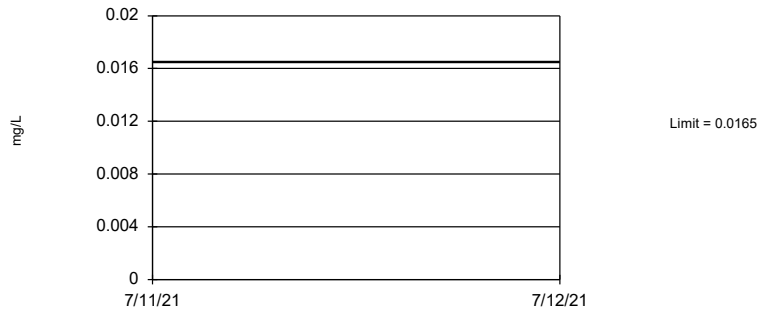
Tolerance Limit
Interwell Non-parametric



NP test selected by user. Limit is highest of 96 background values. 83.33% NDs. 95.51% coverage at alpha=0.01; 97.07% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.007269.

Constituent: Arsenic Analysis Run 12/6/2021 10:26 AM View: Appendix IV - UTLs
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

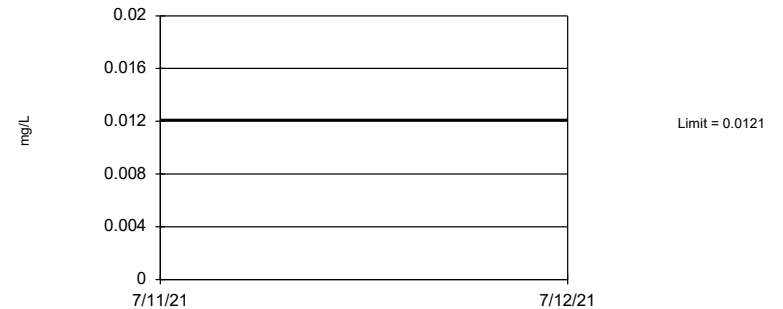
Tolerance Limit
Interwell Non-parametric



NP test selected by user. Limit is highest of 96 background values. 95.51% coverage at alpha=0.01; 97.07% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.007269.

Constituent: Barium Analysis Run 12/6/2021 10:26 AM View: Appendix IV - UTLs
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Tolerance Limit
Interwell Non-parametric



NP test selected by user. Limit is highest of 94 background values. 84.04% 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: Beryllium Analysis Run 12/6/2021 10:26 AM View: Appendix IV - UTLs
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

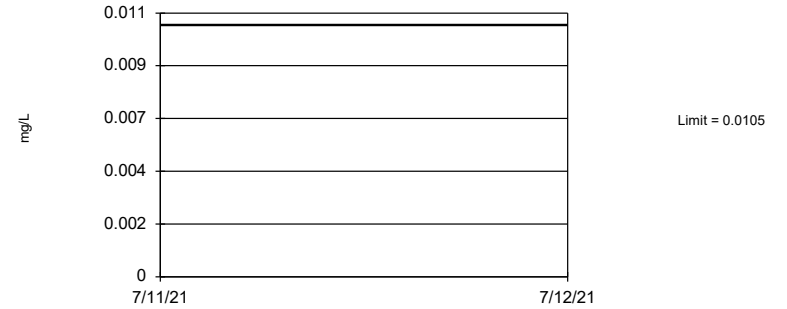
Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 94 background values. 45.74% 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 12/6/2021 10:26 AM View: Appendix IV - UTLs
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 96 background values. 89.58% NDs. 95.51% coverage at alpha=0.01; 97.07% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.007269.

Constituent: Chromium Analysis Run 12/6/2021 10:26 AM View: Appendix IV - UTLs
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

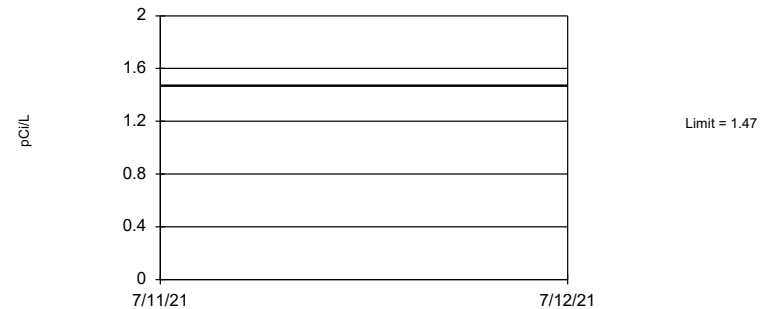
Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 94 background values. 26.6% 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: Cobalt Analysis Run 12/6/2021 10:26 AM View: Appendix IV - UTLs
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

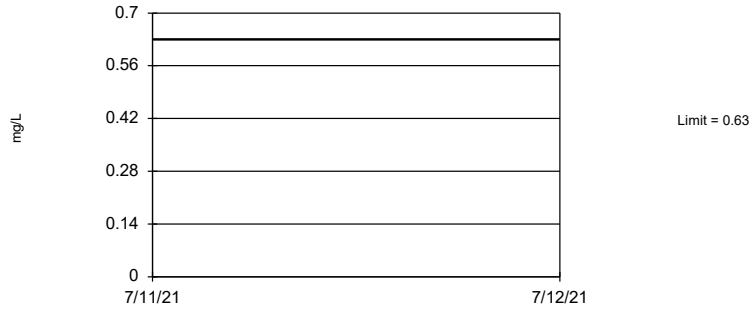
Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 92 background values. 95.12% coverage at alpha=0.01; 96.68% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.008924.

Constituent: Combined Radium 226 + 228 Analysis Run 12/6/2021 10:26 AM View: Appendix IV - UTLs
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

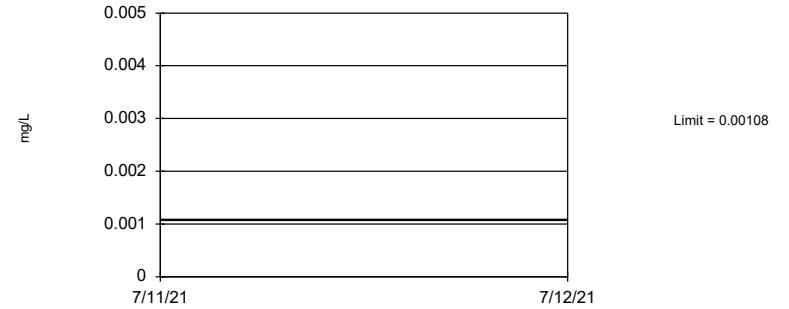
Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 100 background values. 95.51% coverage at alpha=0.01; 97.07% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.005921.

Constituent: Fluoride Analysis Run 12/6/2021 10:26 AM View: Appendix IV - UTLs
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

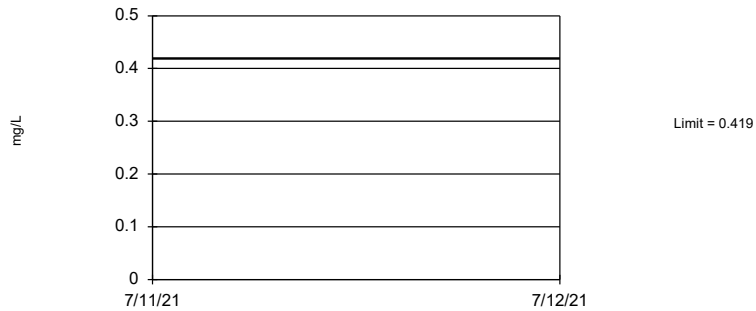
Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 95 background values. 95.79% 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: Lead Analysis Run 12/6/2021 10:26 AM View: Appendix IV - UTLs
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

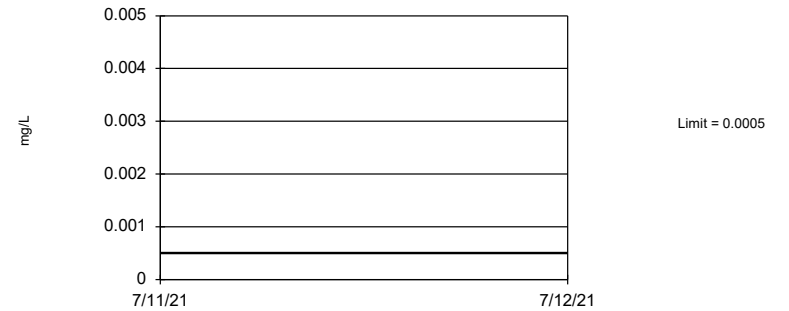
Tolerance Limit Interwell Non-parametric



NP test selected by user. Limit is highest of 96 background values. 95.51% coverage at alpha=0.01; 97.07% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.007269.

Constituent: Lithium Analysis Run 12/6/2021 10:26 AM View: Appendix IV - UTLs
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

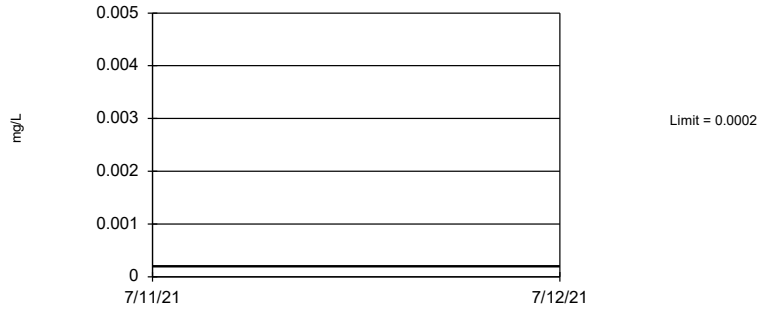
Tolerance Limit Interwell Non-parametric



NP test selected by user. All background values were censored; limit is most recent reporting limit. 95.51% coverage at alpha=0.01; 97.07% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.007269.

Constituent: Mercury Analysis Run 12/6/2021 10:26 AM View: Appendix IV - UTLs
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

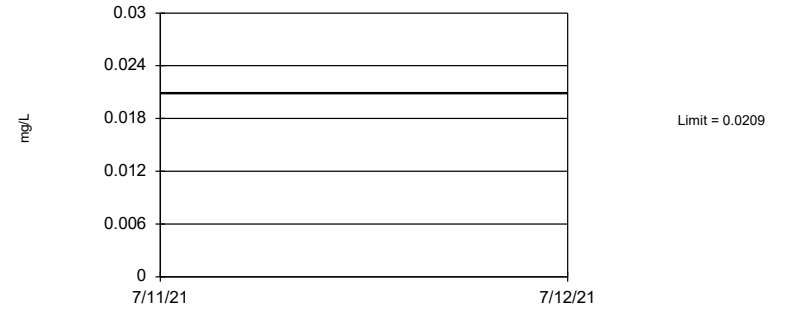
Tolerance Limit
Interwell Non-parametric



NP test selected by user. Limit is highest of 96 background values. 97.92% NDs. 95.51% coverage at alpha=0.01; 97.07% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.007269.

Constituent: Molybdenum Analysis Run 12/6/2021 10:26 AM View: Appendix IV - UTLs
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

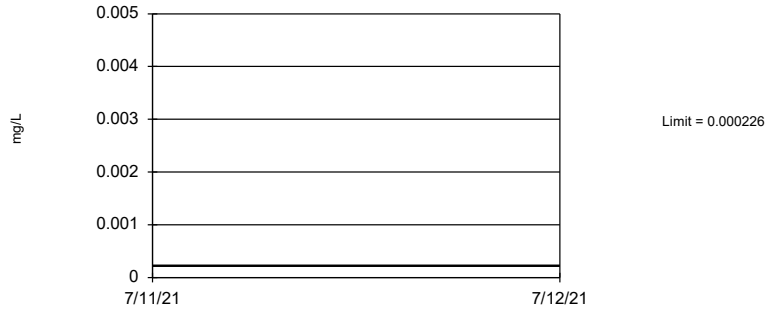
Tolerance Limit
Interwell Non-parametric



NP test selected by user. Limit is highest of 96 background values. 60.42% NDs. 95.51% coverage at alpha=0.01; 97.07% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.007269.

Constituent: Selenium Analysis Run 12/6/2021 10:26 AM View: Appendix IV - UTLs
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Tolerance Limit
Interwell Non-parametric



NP test selected by user. Limit is highest of 96 background values. 96.88% NDs. 95.51% coverage at alpha=0.01; 97.07% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.007269.

Constituent: Thallium Analysis Run 12/6/2021 10:26 AM View: Appendix IV - UTLs
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

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GORGAS BALF GWPS			
Analyte	Units	Background	GWPS
Antimony	mg/L	0.00143	0.006
Arsenic	mg/L	0.005	0.01
Barium	mg/L	0.0165	2
Beryllium	mg/L	0.0121	0.004
Cadmium	mg/L	0.00598	0.005
Chromium	mg/L	0.0105	0.1
Cobalt	mg/L	0.49	0.49
Combined Radium-226/228	pCi/L	1.47	5
Fluoride	mg/L	0.63	4
Lead	mg/L	0.00108	0.015
Lithium	mg/L	0.419	0.419
Mercury	mg/L	0.0005	0.002
Molybdenum	mg/L	0.0002	0.1
Selenium	mg/L	0.0209	0.05
Thallium	mg/L	0.000226	0.002

Notes:

1. mg/L - Milligrams per liter
2. pCi/L - Picocuries per liter
3. The background limits were used as the groundwater protection standard (GWPS) when appropriate under 40 CFR §257.95(h), ADEM Rule 335-13-15-.06(h), and the ADEM Variance.
4. GWPS established during second semi-annual sampling event in 2021.

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Confidence Interval Summary Table - Significant Results

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR Printed 10/10/2022, 4:29 AM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig.</u> <u>N</u>	<u>Std. Dev.</u>	<u>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Arsenic (mg/L)	MW-12	0.0679	0.0507	0.01	Yes 8	0.007634	0	No	0.004	NP (normality)

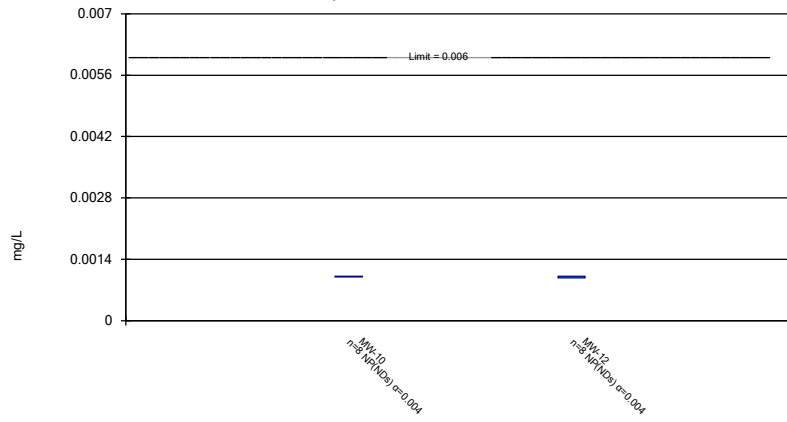
Confidence Interval Summary Table - All Results

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR Printed 10/10/2022, 4:29 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Std. Dev.	%NDs	Transform	Alpha	Method
Antimony (mg/L)	MW-10	0.001015	0.000996	0.006	No	8	0.00006718	87.5	No	0.004	NP (NDs)
Antimony (mg/L)	MW-12	0.001015	0.000977	0.006	No	8	0.00001344	87.5	No	0.004	NP (NDs)
Arsenic (mg/L)	MW-10	0.002945	0.0004846	0.01	No	8	0.001429	12.5	sqrt(x)	0.01	Param.
Arsenic (mg/L)	MW-11	0.005	0.000834	0.01	No	8	0.00221	50	No	0.004	NP (normality)
Arsenic (mg/L)	MW-12	0.0679	0.0507	0.01	Yes	8	0.007634	0	No	0.004	NP (normality)
Arsenic (mg/L)	MW-7	0.001607	0.00137	0.01	No	8	0.0001117	0	No	0.01	Param.
Arsenic (mg/L)	MW-8	0.00169	0.001038	0.01	No	8	0.0003376	0	x^(1/3)	0.01	Param.
Barium (mg/L)	MW-10	0.0245	0.0189	2	No	8	0.001663	0	No	0.004	NP (normality)
Barium (mg/L)	MW-11	0.01566	0.01361	2	No	8	0.0009665	0	No	0.01	Param.
Barium (mg/L)	MW-12	0.01278	0.01087	2	No	8	0.0009051	0	No	0.01	Param.
Barium (mg/L)	MW-7	0.0148	0.0123	2	No	8	0.001181	0	No	0.01	Param.
Barium (mg/L)	MW-8	0.01453	0.01299	2	No	8	0.0007249	0	No	0.01	Param.
Beryllium (mg/L)	MW-10	0.001461	0.0007588	0.004	No	8	0.0003168	25	No	0.01	Param.
Cadmium (mg/L)	MW-10	0.000203	0.00008	0.005	No	8	0.00005195	62.5	No	0.004	NP (NDs)
Chromium (mg/L)	MW-10	0.001015	0.00021	0.1	No	8	0.0003548	75	No	0.004	NP (NDs)
Chromium (mg/L)	MW-11	0.001015	0.000269	0.1	No	8	0.0003316	75	No	0.004	NP (NDs)
Chromium (mg/L)	MW-12	0.001015	0.00028	0.1	No	8	0.0003289	75	No	0.004	NP (NDs)
Chromium (mg/L)	MW-7	0.001015	0.00032	0.1	No	8	0.0002457	87.5	No	0.004	NP (NDs)
Chromium (mg/L)	MW-8	0.001015	0.00025	0.1	No	8	0.0002705	87.5	No	0.004	NP (NDs)
Cobalt (mg/L)	MW-10	0.02181	0.007066	0.49	No	8	0.006957	0	No	0.01	Param.
Cobalt (mg/L)	MW-11	0.0025	0.00025	0.49	No	8	0.00115	50	No	0.004	NP (normality)
Cobalt (mg/L)	MW-12	0.05603	0.04535	0.49	No	8	0.005036	0	No	0.01	Param.
Cobalt (mg/L)	MW-7	0.00619	0.00301	0.49	No	8	0.0015	0	No	0.01	Param.
Cobalt (mg/L)	MW-8	0.008315	0.006813	0.49	No	8	0.0007083	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-10	0.5844	0.1326	5	No	8	0.2131	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-11	1.037	0.6694	5	No	8	0.1734	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-12	1.458	0.8988	5	No	8	0.2638	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-7	0.6687	0.2981	5	No	8	0.1748	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-8	1.38	0.398	5	No	8	0.3295	0	No	0.004	NP (normality)
Fluoride (mg/L)	MW-10	0.2647	0.1495	4	No	8	0.05433	0	No	0.01	Param.
Fluoride (mg/L)	MW-11	0.1364	0.08688	4	No	8	0.02339	0	No	0.01	Param.
Fluoride (mg/L)	MW-12	0.2507	0.1631	4	No	8	0.04133	0	No	0.01	Param.
Fluoride (mg/L)	MW-7	0.2367	0.1555	4	No	8	0.04061	0	sqrt(x)	0.01	Param.
Fluoride (mg/L)	MW-8	0.262	0.173	4	No	8	0.02782	0	No	0.004	NP (normality)
Lead (mg/L)	MW-10	0.000203	0.00008	0.015	No	8	0.00004349	87.5	No	0.004	NP (NDs)
Lead (mg/L)	MW-11	0.00145	0.000203	0.015	No	8	0.0004409	87.5	No	0.004	NP (NDs)
Lead (mg/L)	MW-12	0.0003	0.000178	0.015	No	8	0.0000383	50	No	0.004	NP (normality)
Lead (mg/L)	MW-8	0.000203	0.00009	0.015	No	8	0.00005552	62.5	No	0.004	NP (NDs)
Lithium (mg/L)	MW-10	0.2428	0.1735	0.419	No	8	0.03269	0	No	0.01	Param.
Lithium (mg/L)	MW-11	0.2917	0.2363	0.419	No	8	0.0261	0	No	0.01	Param.
Lithium (mg/L)	MW-12	0.08731	0.06711	0.419	No	8	0.009529	0	No	0.01	Param.
Lithium (mg/L)	MW-7	0.1295	0.09254	0.419	No	8	0.01745	0	No	0.01	Param.
Lithium (mg/L)	MW-8	0.1653	0.134	0.419	No	8	0.01478	0	No	0.01	Param.
Molybdenum (mg/L)	MW-10	0.000203	0.00008	0.1	No	8	0.00004349	87.5	No	0.004	NP (NDs)
Molybdenum (mg/L)	MW-11	0.00181	0.000203	0.1	No	8	0.0007201	50	No	0.004	NP (normality)
Molybdenum (mg/L)	MW-12	0.000402	0.000088	0.1	No	8	0.00008775	50	No	0.004	NP (normality)
Molybdenum (mg/L)	MW-7	0.00107	0.000203	0.1	No	8	0.0003925	50	No	0.004	NP (normality)
Molybdenum (mg/L)	MW-8	0.0129	0.000203	0.1	No	8	0.00447	50	No	0.004	NP (normality)
Selenium (mg/L)	MW-10	0.00289	0.00098	0.05	No	8	0.0008468	50	No	0.004	NP (normality)
Selenium (mg/L)	MW-12	0.001015	0.00051	0.05	No	8	0.0001785	87.5	No	0.004	NP (NDs)
Selenium (mg/L)	MW-7	0.001015	0.000677	0.05	No	8	0.0001195	87.5	No	0.004	NP (NDs)
Thallium (mg/L)	MW-12	0.000203	0.0001	0.002	No	8	0.00003642	87.5	No	0.004	NP (NDs)

Non-Parametric Confidence Interval

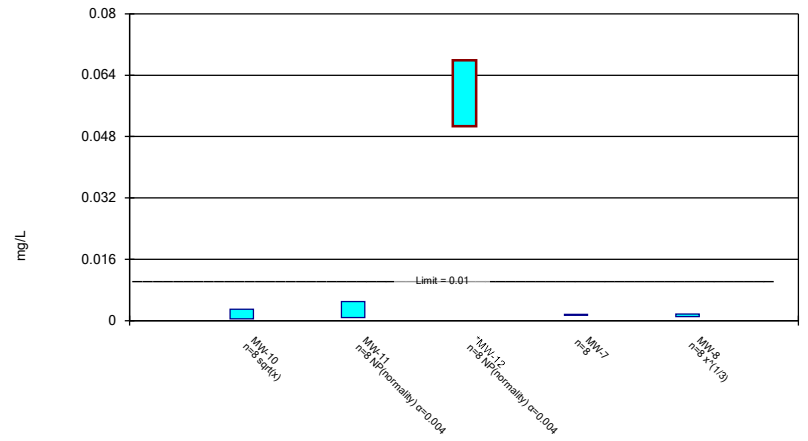
Compliance Limit is not exceeded.



Constituent: Antimony Analysis Run 10/10/2022 4:28 AM View: Appendix IV
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Parametric and Non-Parametric (NP) Confidence Interval

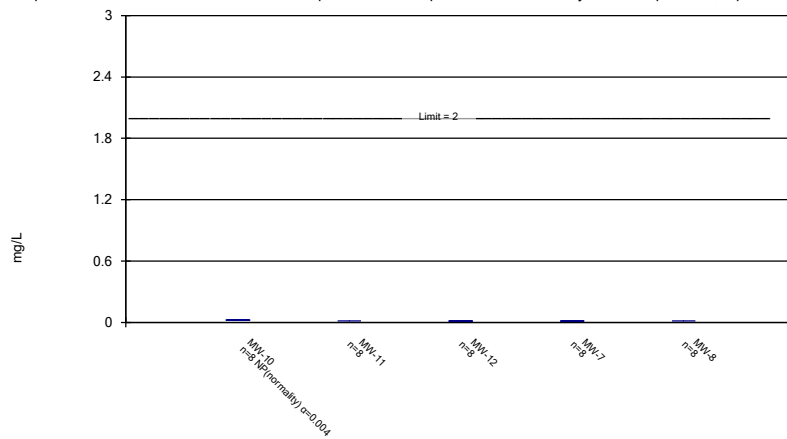
Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Arsenic Analysis Run 10/10/2022 4:28 AM View: Appendix IV
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Parametric and Non-Parametric (NP) Confidence Interval

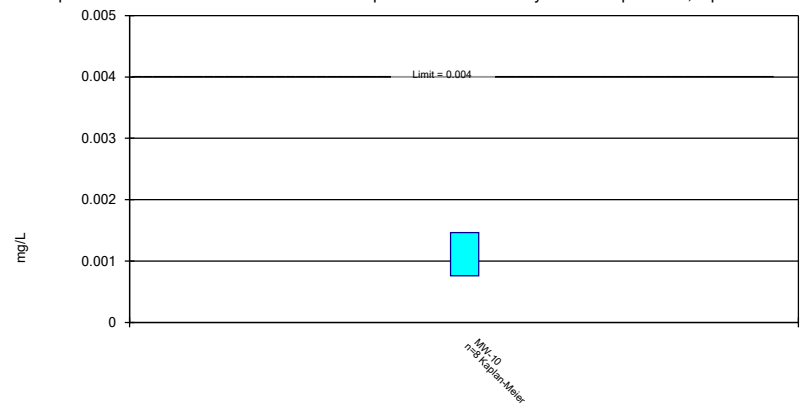
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Barium Analysis Run 10/10/2022 4:28 AM View: Appendix IV
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

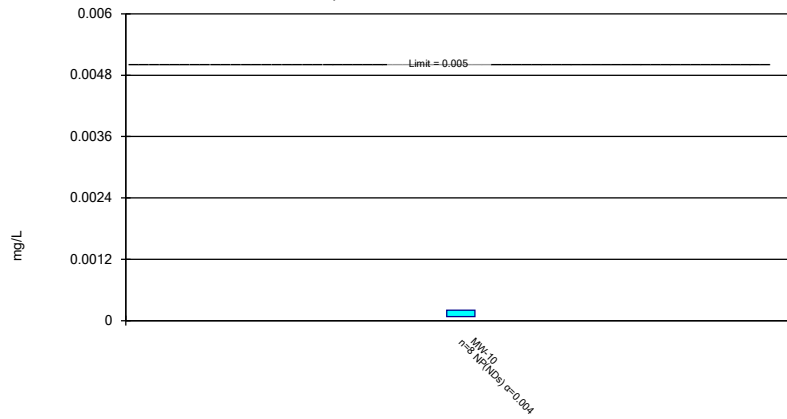
Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



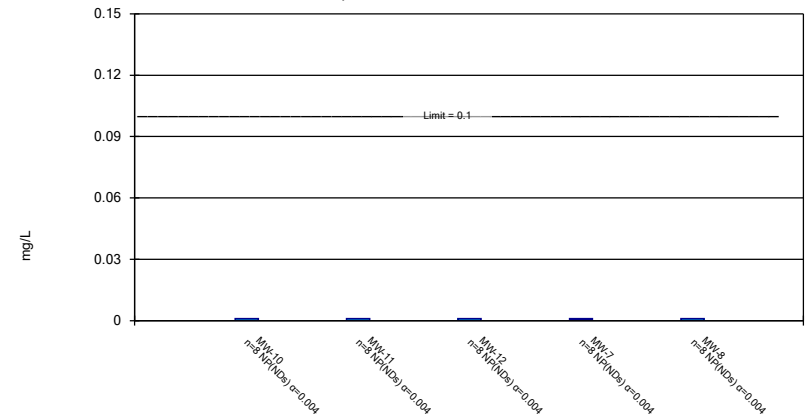
Constituent: Beryllium Analysis Run 10/10/2022 4:28 AM View: Appendix IV
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Non-Parametric Confidence Interval Compliance Limit is not exceeded.



Constituent: Cadmium Analysis Run 10/10/2022 4:28 AM View: Appendix IV
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

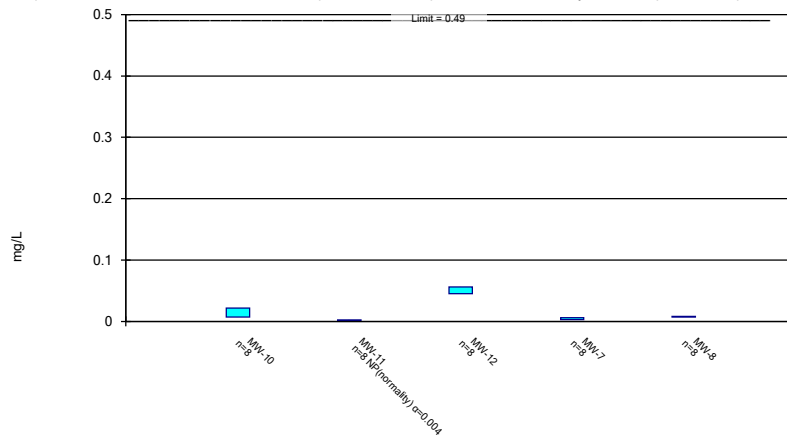
Non-Parametric Confidence Interval Compliance Limit is not exceeded.



Constituent: Chromium Analysis Run 10/10/2022 4:28 AM View: Appendix IV
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Parametric and Non-Parametric (NP) Confidence Interval

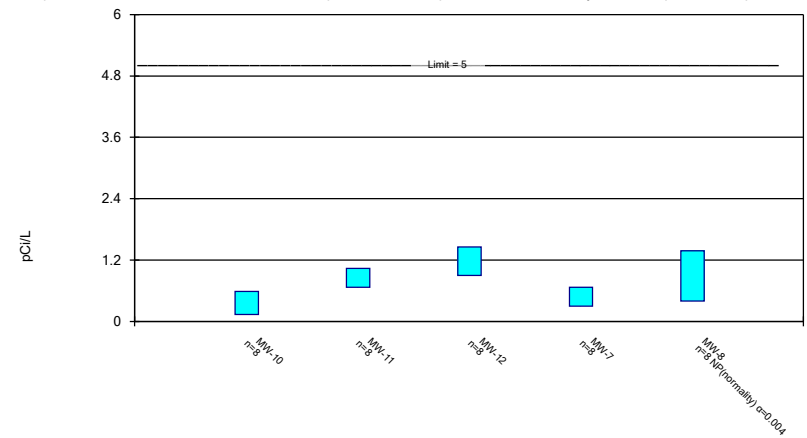
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cobalt Analysis Run 10/10/2022 4:28 AM View: Appendix IV
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Parametric and Non-Parametric (NP) Confidence Interval

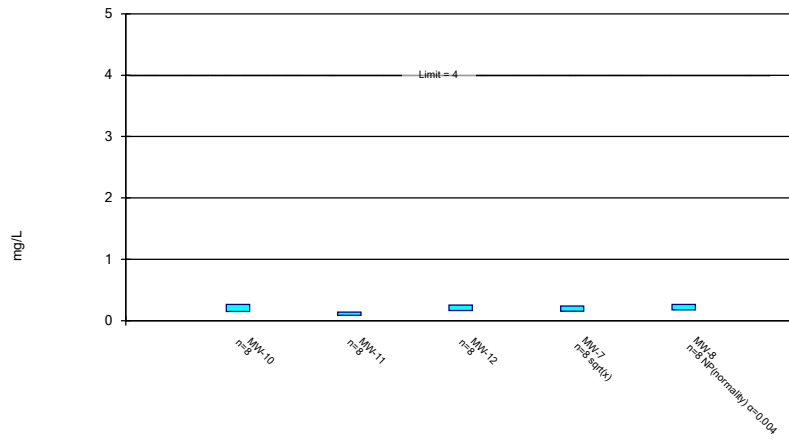
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Combined Radium 226 + 228 Analysis Run 10/10/2022 4:28 AM View: Appendix IV
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Parametric and Non-Parametric (NP) Confidence Interval

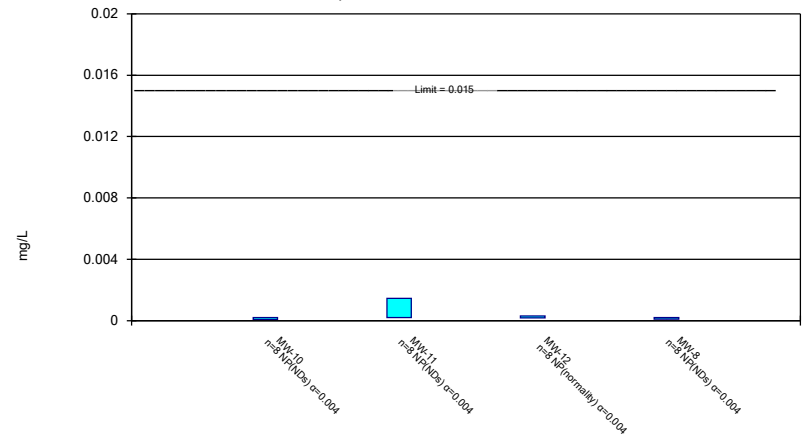
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Fluoride Analysis Run 10/10/2022 4:28 AM View: Appendix IV
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Non-Parametric Confidence Interval

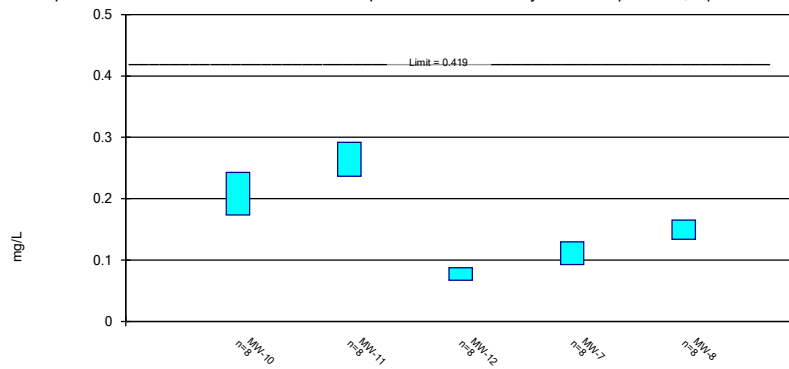
Compliance Limit is not exceeded.



Constituent: Lead Analysis Run 10/10/2022 4:28 AM View: Appendix IV
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Parametric Confidence Interval

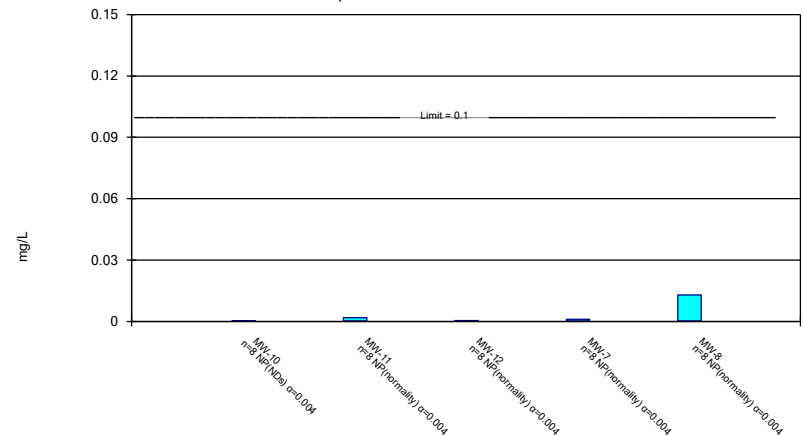
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lithium Analysis Run 10/10/2022 4:28 AM View: Appendix IV
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Non-Parametric Confidence Interval

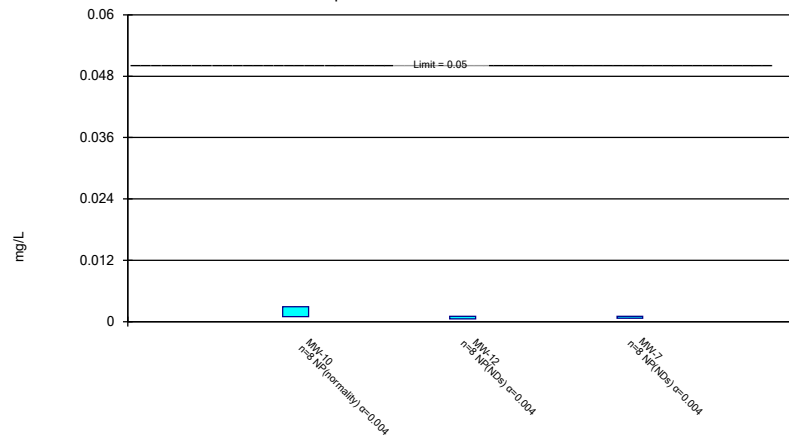
Compliance Limit is not exceeded.



Constituent: Molybdenum Analysis Run 10/10/2022 4:28 AM View: Appendix IV
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Non-Parametric Confidence Interval

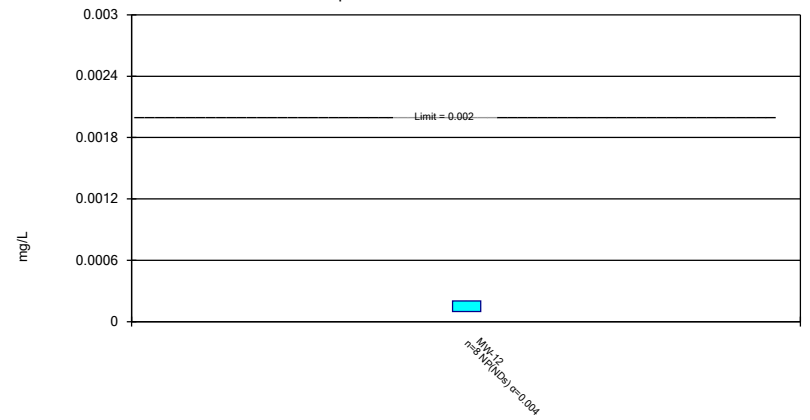
Compliance Limit is not exceeded.



Constituent: Selenium Analysis Run 10/10/2022 4:28 AM View: Appendix IV
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



Constituent: Thallium Analysis Run 10/10/2022 4:28 AM View: Appendix IV
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

Confidence Interval

Constituent: Antimony (mg/L) Analysis Run 10/10/2022 4:29 AM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-10	MW-12
5/15/2019	0.000996 (J)	0.000977 (J)
10/9/2019	<0.001015	<0.001015
4/6/2020		<0.001015
4/8/2020	<0.001015	
7/13/2020		<0.001015
7/14/2020	<0.001015	
2/23/2021	<0.001015	
2/24/2021		<0.001015
7/20/2021	<0.001015	<0.001015
2/1/2022	<0.001015	<0.001015
7/5/2022		<0.001015
7/6/2022	<0.001015	
Mean	0.001013	0.00101
Std. Dev.	6.718E-06	1.344E-05
Upper Lim.	0.001015	0.001015
Lower Lim.	0.000996	0.000977

Confidence Interval

Constituent: Arsenic (mg/L) Analysis Run 10/10/2022 4:29 AM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-10	MW-11	MW-12	MW-7	MW-8
5/15/2019	0.00162 (J)	<0.005	0.0511	0.00138 (J)	0.00136 (J)
10/8/2019				0.00145 (J)	
10/9/2019	<0.005		0.0507		0.00142 (J)
10/10/2019		<0.005			
4/6/2020		<0.005	0.0597		
4/8/2020	0.0013 (J)			0.00136 (J)	0.00102 (J)
7/13/2020		<0.005	0.0613		
7/14/2020	0.00164 (J)			0.00147 (J)	
7/15/2020					0.00212 (J)
2/23/2021	0.0016			0.00141	0.00117
2/24/2021		0.000834	0.0516		
7/20/2021	0.00102		0.0668	0.00164	0.00111
7/21/2021		0.0009			
1/31/2022				0.00156	
2/1/2022	0.00073	0.00085	0.0679		0.00131
7/5/2022		0.000881	0.0679		
7/6/2022	0.000348			0.00164	0.00136
Mean	0.001657	0.002933	0.05963	0.001489	0.001359
Std. Dev.	0.001429	0.00221	0.007634	0.0001117	0.0003376
Upper Lim.	0.002945	0.005	0.0679	0.001607	0.00169
Lower Lim.	0.0004846	0.000834	0.0507	0.00137	0.001038

Confidence Interval

Constituent: Barium (mg/L) Analysis Run 10/10/2022 4:29 AM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-10	MW-11	MW-12	MW-7	MW-8
5/15/2019	0.0189	0.0132	0.0113	0.0114	0.0122
10/8/2019				0.0145	
10/9/2019	0.0204		0.0126		0.0137
10/10/2019		0.0154			
4/6/2020		0.0147	0.0128		
4/8/2020	0.0201			0.0127	0.0137
7/13/2020		0.0149	0.0124		
7/14/2020	0.0245			0.0148	
7/15/2020					0.0143
2/23/2021	0.0201			0.014	0.014
2/24/2021		0.015	0.0123		
7/20/2021	0.0208		0.012	0.0142	0.0141
7/21/2021		0.0159			
1/31/2022				0.0126	
2/1/2022	0.0198	0.0132	0.0102		0.0135
7/5/2022		0.0148	0.011		
7/6/2022	0.0209			0.0142	0.0146
Mean	0.02069	0.01464	0.01183	0.01355	0.01376
Std. Dev.	0.001663	0.0009665	0.0009051	0.001181	0.0007249
Upper Lim.	0.0245	0.01566	0.01278	0.0148	0.01453
Lower Lim.	0.0189	0.01361	0.01087	0.0123	0.01299

Confidence Interval

Constituent: Beryllium (mg/L) Analysis Run 10/10/2022 4:29 AM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-10
5/15/2019	0.00177 (J)
10/9/2019	0.00072 (J)
4/8/2020	0.00114 (J)
7/14/2020	0.00135 (J)
2/23/2021	0.00128
7/20/2021	0.00095 (J)
2/1/2022	<0.001015
7/6/2022	<0.001015
Mean	0.001155
Std. Dev.	0.0003168
Upper Lim.	0.001461
Lower Lim.	0.0007588

Confidence Interval

Constituent: Cadmium (mg/L) Analysis Run 10/10/2022 4:29 AM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-10
5/15/2019	<0.000203
10/9/2019	<0.000203
4/8/2020	<0.000203
7/14/2020	<0.000203
2/23/2021	0.000148 (J)
7/20/2021	8E-05 (J)
2/1/2022	0.0001 (J)
7/6/2022	<0.000203
Mean	0.0001679
Std. Dev.	5.195E-05
Upper Lim.	0.000203
Lower Lim.	8E-05

Confidence Interval

Constituent: Chromium (mg/L) Analysis Run 10/10/2022 4:29 AM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-10	MW-11	MW-12	MW-7	MW-8
5/15/2019	<0.001015	<0.001015	<0.001015	<0.001015	<0.001015
10/8/2019				<0.001015	
10/9/2019	<0.001015		<0.001015		<0.001015
10/10/2019		<0.001015			
4/6/2020		<0.001015	<0.001015		
4/8/2020	<0.001015			<0.001015	<0.001015
7/13/2020		<0.001015	<0.001015		
7/14/2020	<0.001015			<0.001015	
7/15/2020					<0.001015
2/23/2021	<0.001015			<0.001015	<0.001015
2/24/2021		<0.001015	<0.001015		
7/20/2021	0.00021 (J)		0.00028 (J)	<0.001015	<0.001015
7/21/2021		<0.001015			
1/31/2022				0.00032 (J)	
2/1/2022	0.00029 (J)	0.00033 (J)	0.00033 (J)		0.00025 (J)
7/5/2022		0.000269 (J)	<0.001015		
7/6/2022	<0.001015			<0.001015	<0.001015
Mean	0.0008238	0.0008361	0.0008375	0.0009281	0.0009194
Std. Dev.	0.0003548	0.0003316	0.0003289	0.0002457	0.0002705
Upper Lim.	0.001015	0.001015	0.001015	0.001015	0.001015
Lower Lim.	0.00021	0.000269	0.00028	0.00032	0.00025

Confidence Interval

Constituent: Cobalt (mg/L) Analysis Run 10/10/2022 4:29 AM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-10	MW-11	MW-12	MW-7	MW-8
5/15/2019	0.0226	<0.005	0.0603	0.00234 (J)	0.00643
10/8/2019				0.00408 (J)	
10/9/2019	0.00969		0.0512		0.00864
10/10/2019		<0.005			
4/6/2020		<0.005	0.0537		
4/8/2020	0.0176			0.00394 (J)	0.00762
7/13/2020		<0.005	0.0515		
7/14/2020	0.0232			0.00653	
7/15/2020					0.00821
2/23/2021	0.0167			0.00294	0.00796
2/24/2021		0.00026	0.0442		
7/20/2021	0.0131		0.046	0.00561	0.00714
7/21/2021		0.00025			
1/31/2022				0.00546	
2/1/2022	0.00978	0.00046	0.0474		0.0075
7/5/2022		0.000443	0.0512		
7/6/2022	0.00285			0.0059	0.00701
Mean	0.01444	0.001427	0.05069	0.0046	0.007564
Std. Dev.	0.006957	0.00115	0.005036	0.0015	0.0007083
Upper Lim.	0.02181	0.0025	0.05603	0.00619	0.008315
Lower Lim.	0.007066	0.00025	0.04535	0.00301	0.006813

Confidence Interval

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 10/10/2022 4:29 AM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-10	MW-11	MW-12	MW-7	MW-8
5/15/2019	0.421 (U)	1.18	1	0.61	0.697
10/8/2019				0.345 (U)	
10/9/2019	0.742 (U)		1.18		0.416 (U)
10/10/2019		0.902			
4/6/2020		0.678	1.22		
4/8/2020	0.205 (U)			0.237 (U)	1.38 (U)
7/13/2020		0.665	0.787		
7/14/2020	0.314 (U)			0.434	
7/15/2020					0.398 (U)
2/23/2021	0.329 (U)			0.696 (U)	0.685 (U)
2/24/2021		0.869 (U)	1.24		
7/20/2021	0.344 (U)		1.15 (U)	0.356 (U)	0.42 (U)
7/21/2021		0.951 (U)			
1/31/2022				0.473 (U)	
2/1/2022	0.012 (U)	0.883 (U)	1.13 (U)		0.643 (U)
7/5/2022		0.697 (U)	1.72		
7/6/2022	0.501 (U)			0.716 (U)	0.415 (U)
Mean	0.3585	0.8531	1.178	0.4834	0.6318
Std. Dev.	0.2131	0.1734	0.2638	0.1748	0.3295
Upper Lim.	0.5844	1.037	1.458	0.6687	1.38
Lower Lim.	0.1326	0.6694	0.8988	0.2981	0.398

Confidence Interval

Constituent: Fluoride (mg/L) Analysis Run 10/10/2022 4:29 AM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-10	MW-11	MW-12	MW-7	MW-8
5/15/2019	0.276	0.1	0.185	0.169	0.192
10/8/2019				0.183	
10/9/2019	0.142		0.215		0.189
10/10/2019		0.0915 (J)			
4/6/2020		0.118	0.254		
4/8/2020	0.243			0.153	0.192
7/13/2020		0.108	0.161		
7/14/2020	0.224			0.193	
7/15/2020					0.196
2/23/2021	0.202			0.2	0.208
2/24/2021		0.107	0.172		
7/20/2021	0.268		0.219	0.286	0.262
7/21/2021		0.16			
1/31/2022				0.173	
2/1/2022	0.157	0.0848 (J)	0.174		0.177
7/5/2022		0.124 (J)	0.275		
7/6/2022	0.145			0.208	0.173
Mean	0.2071	0.1117	0.2069	0.1956	0.1986
Std. Dev.	0.05433	0.02339	0.04133	0.04061	0.02782
Upper Lim.	0.2647	0.1364	0.2507	0.2367	0.262
Lower Lim.	0.1495	0.08688	0.1631	0.1555	0.173

Confidence Interval

Constituent: Lead (mg/L) Analysis Run 10/10/2022 4:29 AM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-10	MW-11	MW-12	MW-8
5/15/2019	<0.000203	<0.000203	<0.000203	<0.000203
10/9/2019	<0.000203		<0.000203	<0.000203
10/10/2019		0.00145 (J)		
4/6/2020		<0.000203	<0.000203	
4/8/2020	<0.000203			<0.000203
7/13/2020		<0.000203	<0.000203	
7/14/2020	<0.000203			
7/15/2020				<0.000203
2/23/2021	<0.000203			<0.000203
2/24/2021		<0.000203	0.000178 (J)	
7/20/2021	8E-05 (J)		0.00023	9E-05 (J)
7/21/2021		<0.000203		
2/1/2022	<0.000203	<0.000203	0.0003	9E-05 (J)
7/5/2022		<0.000203	0.000185 (J)	
7/6/2022	<0.000203			0.000109 (J)
Mean	0.0001876	0.0003589	0.0002131	0.000163
Std. Dev.	4.349E-05	0.0004409	3.83E-05	5.552E-05
Upper Lim.	0.000203	0.00145	0.0003	0.000203
Lower Lim.	8E-05	0.000203	0.000178	9E-05

Confidence Interval

Constituent: Lithium (mg/L) Analysis Run 10/10/2022 4:29 AM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-10	MW-11	MW-12	MW-7	MW-8
5/15/2019	0.23	0.251	0.0736	0.127	0.16
10/8/2019				0.131	
10/9/2019	0.202		0.0838		0.163
10/10/2019		0.275			
4/6/2020		0.282	0.0786		
4/8/2020	0.23			0.117	0.149
7/13/2020		0.277	0.0784		
7/14/2020	0.255			0.103	
7/15/2020					0.152
2/23/2021	0.223			0.131	0.166
2/24/2021		0.3	0.0949		
7/20/2021	0.196		0.0769	0.096	0.151
7/21/2021		0.271			
1/31/2022				0.0907	
2/1/2022	0.157	0.223	0.0656		0.124
7/5/2022		0.233	0.0659		
7/6/2022	0.172			0.0926	0.132
Mean	0.2081	0.264	0.07721	0.111	0.1496
Std. Dev.	0.03269	0.0261	0.009529	0.01745	0.01478
Upper Lim.	0.2428	0.2917	0.08731	0.1295	0.1653
Lower Lim.	0.1735	0.2363	0.06711	0.09254	0.134

Confidence Interval

Constituent: Molybdenum (mg/L) Analysis Run 10/10/2022 4:29 AM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-10	MW-11	MW-12	MW-7	MW-8
5/15/2019	<0.000203	<0.000203	<0.000203	<0.000203	<0.000203
10/8/2019				<0.000203	
10/9/2019	<0.000203		<0.000203		<0.000203
10/10/2019		<0.000203			
4/6/2020		<0.000203	<0.000203		
4/8/2020	<0.000203			<0.000203	<0.000203
7/13/2020		<0.000203	<0.000203		
7/14/2020	<0.000203			<0.000203	
7/15/2020					<0.000203
2/23/2021	<0.000203			0.00107	0.0129
2/24/2021		0.00148	8.8E-05 (J)		
7/20/2021	8E-05 (J)		0.00017 (J)	0.00086	0.00033
7/21/2021		0.0013			
1/31/2022				0.00093	
2/1/2022	<0.000203	0.00181	0.00019 (J)		0.00031
7/5/2022		0.00151	0.000402		
7/6/2022	<0.000203			0.000846	0.000351
Mean	0.0001876	0.000864	0.0002078	0.0005648	0.001838
Std. Dev.	4.349E-05	0.0007201	8.775E-05	0.0003925	0.00447
Upper Lim.	0.000203	0.00181	0.000402	0.00107	0.0129
Lower Lim.	8E-05	0.000203	8.8E-05	0.000203	0.000203

Confidence Interval

Constituent: Selenium (mg/L) Analysis Run 10/10/2022 4:29 AM View: Appendix IV

Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-10	MW-12	MW-7
5/15/2019	0.00289 (J)	<0.001015	<0.001015
10/8/2019			<0.001015
10/9/2019	<0.001015	<0.001015	
4/6/2020		<0.001015	
4/8/2020	<0.001015		<0.001015
7/13/2020		<0.001015	
7/14/2020	0.00273 (J)		<0.001015
2/23/2021	0.00217		<0.001015
2/24/2021		<0.001015	
7/20/2021	0.00098 (J)	<0.001015	<0.001015
1/31/2022			<0.001015
2/1/2022	<0.001015	0.00051 (J)	
7/5/2022		<0.001015	
7/6/2022	<0.001015		0.000677 (J)
Mean	0.001604	0.0009519	0.0009728
Std. Dev.	0.0008468	0.0001785	0.0001195
Upper Lim.	0.00289	0.001015	0.001015
Lower Lim.	0.00098	0.00051	0.000677

Confidence Interval

Constituent: Thallium (mg/L) Analysis Run 10/10/2022 4:30 AM View: Appendix IV
Plant Gorgas Client: Southern Company Data: Gorgas BALF CCR

	MW-12
5/15/2019	<0.000203
10/9/2019	<0.000203
4/6/2020	<0.000203
7/13/2020	<0.000203
2/24/2021	<0.000203
7/20/2021	<0.000203
2/1/2022	0.0001 (J)
7/5/2022	<0.000203
Mean	0.0001901
Std. Dev.	3.642E-05
Upper Lim.	0.000203
Lower Lim.	0.0001